Terrestrial Animal Health Code

Recommendations applicable to WOAH listed diseases
First edition, 1968
Second edition, 1971
Third edition, 1976
Fourth edition, 1982
Fifth edition, 1986
Sixth edition, 1992
Seventh edition, 1998
Eighth edition, 1999
Ninth edition, 2000
Tenth edition, 2001
Eleventh edition, 2002
Twelfth edition, 2003
Thirteenth edition, 2004
Fourteenth edition, 2005
Fifteenth edition, 2006
Sixteenth edition, 2007
Seventeenth edition, 2008
Eighteenth edition, 2009
Nineteenth edition, 2010
Twentieth edition, 2011
Twenty-first edition, 2012
Twenty-second edition, 2013
Twenty-third edition, 2014
Twenty-fourth edition, 2015
Twenty-fifth edition, 2016
Twenty-sixth edition, 2017
Twenty-seventh edition, 2018
Twenty-eighth edition, 2019
Twenty-ninth edition, 2021
Thirtieth edition, 2022
Thirty-first edition, 2023

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the World Organisation for Animal Health concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by the World Organisation for Animal Health in preference to others of a similar nature that are not mentioned.

© WORLD ORGANISATION FOR ANIMAL HEALTH

All World Organisation for Animal Health (WOAH) publications are protected by international copyright law. Extracts may be copied, reproduced, translated, adapted or published in journals, documents, books, electronic media and any other medium destined for the public, for information, educational or commercial purposes, provided prior written permission has been granted by the WOAH. The designations and denominations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the WOAH concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.
## CONTENTS

**Vol. 2**

- Foreword v
- User’s guide vii
- Glossary xi

### SECTION 8. MULTIPLE SPECIES

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Anthrax</td>
<td>491</td>
</tr>
<tr>
<td>8.2</td>
<td>Infection with Aujeszky's disease virus</td>
<td>494</td>
</tr>
<tr>
<td>8.3</td>
<td>Infection with bluetongue virus</td>
<td>502</td>
</tr>
<tr>
<td>8.4</td>
<td>Infection with <em>Brucella abortus, B. melitensis and B. suis</em></td>
<td>512</td>
</tr>
<tr>
<td>8.5</td>
<td>Infection with <em>Echinococcus granulosus</em></td>
<td>522</td>
</tr>
<tr>
<td>8.6</td>
<td>Infection with <em>Echinococcus multilocularis</em></td>
<td>525</td>
</tr>
<tr>
<td>8.7</td>
<td>Infection with epizootic hemorrhagic disease virus</td>
<td>527</td>
</tr>
<tr>
<td>8.8</td>
<td>Infection with foot and mouth disease virus</td>
<td>533</td>
</tr>
<tr>
<td>8.9</td>
<td>Heartwater</td>
<td>556</td>
</tr>
<tr>
<td>8.10</td>
<td>Japanese encephalitis</td>
<td>557</td>
</tr>
<tr>
<td>8.11</td>
<td>Infection with <em>Leishmania</em> spp. (Leishmaniosis)</td>
<td>558</td>
</tr>
<tr>
<td>8.12</td>
<td>Infection with <em>Mycobacterium tuberculosis</em> complex</td>
<td>559</td>
</tr>
<tr>
<td>8.13</td>
<td>New world screwworm (<em>Cochliomyia hominivorax</em>) and old world screwworm (<em>Chrysomya bezziana</em>)</td>
<td>565</td>
</tr>
<tr>
<td>8.14</td>
<td>Paratuberculosis</td>
<td>567</td>
</tr>
<tr>
<td>8.15</td>
<td>Infection with rabies virus</td>
<td>568</td>
</tr>
<tr>
<td>8.16</td>
<td>Infection with Rift Valley fever virus</td>
<td>574</td>
</tr>
<tr>
<td>8.17</td>
<td>Infection with rinderpest virus</td>
<td>578</td>
</tr>
<tr>
<td>8.18</td>
<td>Infection with <em>Trichinella</em> spp.</td>
<td>584</td>
</tr>
<tr>
<td>8.19</td>
<td>Infection with <em>Trypanosoma brucel, T. congolense, T. simiae and T. vivax</em></td>
<td>588</td>
</tr>
<tr>
<td>8.20</td>
<td>Tularemia</td>
<td>594</td>
</tr>
<tr>
<td>8.21</td>
<td>West Nile fever</td>
<td>596</td>
</tr>
</tbody>
</table>

### SECTION 9. APINAE

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Infestation of honey bees with <em>Acarapis woodi</em></td>
<td>601</td>
</tr>
<tr>
<td>9.2</td>
<td>Infection of honey bees with <em>Paenibacillus larvae</em> (American foulbrood)</td>
<td>604</td>
</tr>
<tr>
<td>9.3</td>
<td>Infection of honey bees with <em>Melissococcus plutonius</em> (European foulbrood)</td>
<td>607</td>
</tr>
<tr>
<td>9.4</td>
<td>Infestation with <em>Aethina tumida</em> (Small hive beetle)</td>
<td>610</td>
</tr>
<tr>
<td>9.5</td>
<td>Infestation of honey bees with <em>Tropilaelaps</em> spp.</td>
<td>615</td>
</tr>
<tr>
<td>9.6</td>
<td>Infestation of honey bees with <em>Varroa</em> spp. (Varroosis)</td>
<td>619</td>
</tr>
</tbody>
</table>

### SECTION 10. AVES

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>Avian chlamydiosis</td>
<td>623</td>
</tr>
<tr>
<td>10.2</td>
<td>Avian infectious bronchitis</td>
<td>624</td>
</tr>
<tr>
<td>10.3</td>
<td>Avian infectious laryngotracheitis</td>
<td>626</td>
</tr>
<tr>
<td>10.4</td>
<td>Infection with high pathogenicity avian influenza viruses</td>
<td>628</td>
</tr>
<tr>
<td>10.5</td>
<td>Infection with <em>Mycoplasma gallisepticum</em> (Avian mycoplasmosis)</td>
<td>639</td>
</tr>
<tr>
<td>10.6</td>
<td>Duck virus hepatitis</td>
<td>641</td>
</tr>
<tr>
<td>10.7</td>
<td>Fowl typhoid and pullorum disease</td>
<td>643</td>
</tr>
<tr>
<td>10.8</td>
<td>Infectious bursal disease (Gumboro disease)</td>
<td>644</td>
</tr>
<tr>
<td>10.9</td>
<td>Infection with Newcastle virus</td>
<td>646</td>
</tr>
<tr>
<td>SECTION 11.</td>
<td>BOVINAE</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Chapter 11.1.</td>
<td>Bovine anaplasmosis</td>
<td>657</td>
</tr>
<tr>
<td>Chapter 11.2.</td>
<td>Bovine babesiosis</td>
<td>658</td>
</tr>
<tr>
<td>Chapter 11.3.</td>
<td>Bovine genital campylobacteriosis</td>
<td>659</td>
</tr>
<tr>
<td>Chapter 11.4.</td>
<td>Bovine spongiform encephalopathy</td>
<td>661</td>
</tr>
<tr>
<td>Chapter 11.5.</td>
<td>Infection with <em>Mycoplasma mycoides</em> subsp. <em>mycoides</em> SC (Contagious bovine pleuropneumonia)</td>
<td>669</td>
</tr>
<tr>
<td>Chapter 11.6.</td>
<td>Enzootic bovine leukosis</td>
<td>676</td>
</tr>
<tr>
<td>Chapter 11.7.</td>
<td>Haemorrhagic septicaemia (<em>Pasteurella multocida</em> serotypes 6:b and 6:e)</td>
<td>679</td>
</tr>
<tr>
<td>Chapter 11.8.</td>
<td>Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis</td>
<td>681</td>
</tr>
<tr>
<td>Chapter 11.9.</td>
<td>Infection with lumpy skin disease virus</td>
<td>684</td>
</tr>
<tr>
<td>Chapter 11.10.</td>
<td>Infection with <em>Theileria annulata</em>, <em>T. orientalis</em> and <em>T. parva</em></td>
<td>690</td>
</tr>
<tr>
<td>Chapter 11.11.</td>
<td>Trichomonosis</td>
<td>693</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 12.</th>
<th>EQUIDAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 12.1.</td>
<td>Infection with African horse sickness virus</td>
</tr>
<tr>
<td>Chapter 12.2.</td>
<td>Infection with <em>Taylorella equigenitalis</em> (Contagious equine metritis)</td>
</tr>
<tr>
<td>Chapter 12.3.</td>
<td>Dourine</td>
</tr>
<tr>
<td>Chapter 12.4.</td>
<td>Equine encephalomyelitis (Eastern and Western)</td>
</tr>
<tr>
<td>Chapter 12.5.</td>
<td>Equine infectious anaemia</td>
</tr>
<tr>
<td>Chapter 12.6.</td>
<td>Infection with equine influenza virus</td>
</tr>
<tr>
<td>Chapter 12.7.</td>
<td>Infection with <em>Theileria equi</em> and <em>Babesia caballi</em> (Equine piroplasmosis)</td>
</tr>
<tr>
<td>Chapter 12.8.</td>
<td>Infection with equid herpesvirus-1 (Equine rhinopneumonitis)</td>
</tr>
<tr>
<td>Chapter 12.9.</td>
<td>Infection with equine arteritis virus</td>
</tr>
<tr>
<td>Chapter 12.10.</td>
<td>Infection with <em>Burkholderia mallei</em> (Glanders)</td>
</tr>
<tr>
<td>Chapter 12.11.</td>
<td>Venezuelan equine encephalomyelitis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 13.</th>
<th>LEPORIDAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 13.1.</td>
<td>Myxomatosis</td>
</tr>
<tr>
<td>Chapter 13.2.</td>
<td>Rabbit haemorrhagic disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 14.</th>
<th>CAPRINAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 14.1.</td>
<td>Caprine arthritis/encephalitis</td>
</tr>
<tr>
<td>Chapter 14.2.</td>
<td>Contagious agalactia</td>
</tr>
<tr>
<td>Chapter 14.3.</td>
<td>Contagious caprine pleuropneumonia</td>
</tr>
<tr>
<td>Chapter 14.4.</td>
<td>Infection with <em>Chlamydia abortus</em> (Enzootic abortion of ewes, ovine chlamydiosis)</td>
</tr>
<tr>
<td>Chapter 14.5.</td>
<td>Maedi-visna</td>
</tr>
<tr>
<td>Chapter 14.6.</td>
<td>Ovine epididymitis (<em>Brucella ovis</em>)</td>
</tr>
<tr>
<td>Chapter 14.7.</td>
<td>Infection with peste des petits ruminants virus</td>
</tr>
<tr>
<td>Chapter 14.8.</td>
<td>Scrapie</td>
</tr>
<tr>
<td>Chapter 14.9.</td>
<td>Sheep pox and goat pox</td>
</tr>
<tr>
<td>Chapter 14.10.</td>
<td>Infection with <em>Theileria lestoquardi</em>, <em>T. luwenshuni</em> and <em>T. uilenbergi</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 15.</th>
<th>SUIDAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 15.1.</td>
<td>Infection with African swine fever virus</td>
</tr>
<tr>
<td>Chapter 15.2.</td>
<td>Infection with classical swine fever virus</td>
</tr>
<tr>
<td>Chapter 15.3.</td>
<td>Infection with porcine reproductive and respiratory syndrome virus</td>
</tr>
<tr>
<td>Chapter 15.4.</td>
<td>Infection with <em>Taenia solium</em> (Porcine cysticercosis)</td>
</tr>
<tr>
<td>Chapter 15.5.</td>
<td>Transmissible gastroenteritis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 16.</th>
<th>CAMELIDAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 16.1.</td>
<td>Infection with Middle East respiratory syndrome coronavirus</td>
</tr>
<tr>
<td>Index</td>
<td>i</td>
</tr>
</tbody>
</table>
The Terrestrial Animal Health Code (the Terrestrial Code) provides standards for the improvement of animal health, animal welfare and veterinary public health worldwide. These standards should be used by Members to set up measures for the prevention, early detection, reporting and control of pathogenic agents in terrestrial animals (mammals, reptiles, birds and bees), including zoonotic agents. Implementation of the recommendations in the Terrestrial Code ensures the safety of international trade in animals and animal products, while avoiding unjustified sanitary barriers.

The World Organisation for Animal Health (WOAH, founded as OIE) has developed and published international standards since 1968. The World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) recognises the role of the Organisation (under its foundational name “Office International des Epizooties”) as the international standard setting organisation for animal health and zoonoses.

The development of new and revised standards for the Terrestrial Code is under the responsibility of the Terrestrial Animal Health Standards Commission (the Code Commission), which comprises six elected members. The Code Commission draws upon the expertise of internationally renowned experts to contribute to standards development to ensure that the standards are based on the latest scientific information. Comments from Members and partner International Organisations are sought through the twice-yearly circulation of new or revised texts. The Code Commission collaborates closely with other Specialist Commissions.

The Terrestrial Code is published annually in English, French and Spanish and may be viewed and downloaded from the World Organisation for Animal Health website (www.woah.org).

This edition includes new and amended texts in the following sections and chapters that were adopted by the World Assembly of Delegates of the World Organisation for Animal Health at the 90th General Session in May 2023:

- User’s Guide
- Glossary
- Chapter 1.3. Diseases, infections and infestations listed by WOAH
- Chapter 1.8. Application for official recognition by WOAH of risk status for bovine spongiform encephalopathy
- Chapter 7.8. Use of animals in research and education
- Infection with Leishmania spp. (Leishmaniosis) (a new Chapter 8.11.)
- Chapter 8.15. Infection with rabies virus
- Chapter 8.16. Infection with Rift Valley fever virus
- Chapter 10.9. Infection with Newcastle disease virus
- Chapter 11.4. Bovine spongiform encephalopathy
- Chapter 12.2. Contagious equine metritis
- Chapter 12.6. Infection with equine influenza virus
- Chapter 12.7. Equine piroplasmosis
- Infection with Theileria lestoquardi, T. luwenshuni and T. uilenbergi (a new Chapter 14.10.)
- Infection with Middle East respiratory syndrome coronavirus (a new Chapter 16.1.)
- Addition of a new Section 16 Camelidae; ‘foetal / foetus’ were replaced with ‘fetal / fetus’ in Article 4.10.3. and ‘enzootic / epizootic’ were replaced with ‘endemic / epidemic’ in Articles 4.19.1. and 9.3.1.

Details of the amendments made in this edition can be found in the 90th General Session report and Specialist Commissions reports, available on the World Organisation for Animal Health website (www.woah.org).

In this edition of the Terrestrial Code, OIE was replaced with WOAH in accordance with Resolution No. 10 that had been adopted by the World Assembly of Delegates at the 89th General Session in May 2022.

I wish to thank the members of the Code Commission, Delegates, international experts and other Specialist Commissions for their expert advice. Thanks also to the World Organisation for Animal Health staff who contributed to the work that has resulted in the publication of this 31st edition of the Terrestrial Code.
Dr Monique Eloit  
Director General  
World Organisation for Animal Health

Members of the Code Commission (2022-2023):
President: Dr Etienne Bonbon  
Vice-President: Dr Gaston Maria Funes  
Vice-President: Prof. Salah Hammami  
Members: Dr Lucio Ignacio Carbajo Goñi, Dr Kiyokazu Murai and Dr Bernardo Todeschini.

July 2023
A. Introduction

1) The WOAH Terrestrial Animal Health Code (hereafter referred to as the Terrestrial Code) establishes standards for the improvement of terrestrial animal health and welfare and veterinary public health worldwide. The purpose of this guide is to advise the Veterinary Authorities of WOAH Member Countries on how to use the Terrestrial Code.

2) Veterinary Authorities should use the standards in the Terrestrial Code to set up measures providing for early detection, internal reporting, notification, control or eradication of pathogenic agents, including zoonotic ones, in terrestrial animals (mammals, birds, reptiles and bees) and preventing their spread via international trade in animals and animal products, while avoiding unjustified sanitary barriers to trade.

3) WOAH standards are based on the most recent scientific and technical information. Correctly applied, they protect animal health and welfare and veterinary public health during production and trade in animals and animal products, and in the use of animals.

4) The absence of chapters, articles or recommendations on particular pathogenic agents or commodities does not preclude the application of appropriate sanitary measures by the Veterinary Authorities, provided they are based on risk analyses conducted in accordance with the Terrestrial Code.

5) The year that a chapter was first adopted and the year of its last revision are noted at the end of each chapter.

6) The complete text of the Terrestrial Code is available on WOAH Web site and individual chapters may be downloaded from: https://www.woah.org/.

B. Terrestrial Code content

1) Key terms and expressions used in more than one chapter in the Terrestrial Code are defined in the Glossary, in the case where common dictionary definitions are not deemed to be adequate. The reader should be aware of the definitions given in the Glossary when reading and using the Terrestrial Code. Defined terms appear in italics. In the on-line version of the Terrestrial Code, a hyperlink leads to the relevant definition.

2) The term "(under study)" is found in some rare instances, with reference to an article or part of an article. This means that this part of the text has not been adopted by the World Assembly of Delegates and the particular provisions are thus not part of the Terrestrial Code.

3) The standards in the chapters of Section 1 are designed for the implementation of measures for the diagnosis, surveillance and notification of diseases, infections and infestations. The standards include procedures for notification to WOAH and procedures for the recognition of the animal health status of a country, zone or compartment.

4) The standards in Section 2 are designed to guide the importing country in conducting import risk analysis in the absence of WOAH recommendations on particular pathogenic agents or commodities. The importing country should also use these standards to justify import measures which are more stringent than existing WOAH standards.

5) The standards in the chapters of Section 3 are designed for the establishment, maintenance and evaluation of Veterinary Services, including veterinary legislation and communication. These standards are intended to assist the Veterinary Services and Veterinary Authority of Member Countries to meet their objectives of improving terrestrial animal health and welfare and veterinary public health, as well as to establish and maintain confidence in their international veterinary certificates.

6) The standards in the chapters of Section 4 are designed for the implementation of measures for the prevention and control of pathogenic agents. Measures in this section include animal identification, traceability, zoning, compartmentalisation, disposal of dead animals, disinfection, disinsection and general hygiene precautions. Some chapters address the specific sanitary measures to be applied for the collection and processing of semen and embryos of animals.

7) The standards in the chapters of Section 5 are designed for the implementation of general sanitary measures for trade. They address veterinary certification and the measures applicable by the exporting, transit and importing countries. A range of model veterinary certificates is provided to facilitate consistent documentation in international trade.
8) The standards in the chapters of Section 6 are designed for the implementation of preventive measures in animal production systems. These measures are intended to assist Member Countries in meeting their veterinary public health objectives. They include ante- and post-mortem inspection, control of hazards in feed, biosecurity at the animal production level, and the control of antimicrobial resistance in animals.

9) The standards in the chapters of Section 7 are designed for the implementation of animal welfare measures. The standards cover production, transport, and slaughter or killing, as well as the animal welfare aspects of free-roaming dog population control and the use of animals in research and education.

10) The standards in each of the chapters of Sections 8 to 16 are designed to prevent the pathogenic agents of WOAH listed diseases, infections or infestations from being introduced into an importing country. The standards take into account the nature of the traded commodity, the animal health status of the exporting country, zone or compartment, and the risk reduction measures applicable to each commodity.

These standards assume that the agent is either not present in the importing country or is the subject of a control or eradication programme. Sections 8 to 16 each relate to the host species of the pathogenic agent: multiple species or species of Apinae, Aves, Bovinae, Equidae, Leporidae, Caprinae, Suidae and Camelidae. Some chapters include specific measures to prevent and control the infections of global concern. Although WOAH aims to include a chapter for each WOAH listed disease, not all WOAH listed diseases have been covered yet by a specific chapter. This is work in progress, depending on available scientific knowledge and the priorities set by the World Assembly of Delegates.

C. Specific issues

1) Notification

Chapter 1.1. describes Member Countries' obligations under Organic Statutes of the Office International des Epizooties. Listed and emerging diseases, as prescribed in Chapter 1.1., are compulsorily notifiable. Member Countries are encouraged to also provide information to WOAH on other animal health events of epidemiological significance.

Chapter 1.2. describes the criteria for the inclusion of an infection or infestation in the WOAH List and Chapter 1.3. gives the current list. Diseases are divided into nine categories based on the host species of the aetiological agents.

2) Diagnostic tests and vaccines

It is recommended that specified diagnostic tests and vaccines in Terrestrial Code chapters be used with a reference to the relevant section in the WOAH Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (hereafter referred to as the Terrestrial Manual). Experts responsible for facilities used for disease diagnosis and vaccine production should be fully conversant with the standards in the Terrestrial Manual.

3) Freedom from a disease, infection or infestation

Article 1.4.6. provides general principles for declaring a country or zone free from a disease, infection or infestation. This article applies when there are no specific requirements in the listed disease-specific chapter.

4) Prevention and control

Chapters 4.4. and 4.5. describe the measures that should be implemented to establish zones and compartments. Zoning and compartmentalisation should be considered as some of the tools used to control diseases and to facilitate safe trade.

Chapters 4.6. to 4.12. describe the measures which should be implemented during collection and processing of semen and embryos of animals, including micromanipulation and cloning, in order to prevent animal health risks, especially when trading these commodities. Although the measures relate principally to WOAH listed diseases or infections, general standards apply to all infectious disease risks. Moreover, in Chapter 4.8. diseases that are not listed are marked as such but are included for the information of Member Countries.

Chapter 4.15. addresses the specific issue of the control of bee diseases and some of its trade implications. This chapter should be read in conjunction with the specific bee disease chapters in Section 9.

Chapter 6.5. is designed for the implementation of general biosecurity measures in intensive poultry production. Chapters 6.6., 6.13. and 6.14. provide recommendations for some specific on-farm prevention and control plans for the unlisted foodborne pathogenic agent Salmonella as part of the Veterinary Services mission to prevent, eliminate or control food safety hazards in animal production.

Chapter 6.12. deals specifically with the zoonotic risk associated with the movements of non-human primates and gives standards for certification, transportation and import conditions for these animals.

5) Trade requirements

Animal health measures related to international trade should be based on WOAH standards. A Member Country may authorise the importation of animals or animal products into its territory under conditions different from those recommended by the Terrestrial Code. To scientifically justify more stringent measures, the importing country
should conduct a risk analysis in accordance with WOAH standards, as described in Chapter 2.1. Members of the WTO should refer to the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). Chapters 5.1. to 5.3. describe the general obligations and ethical responsibilities of importing and exporting countries in international trade. Veterinary Authorities and all veterinarians directly involved in international trade should be familiar with these chapters. Chapter 5.3. also describes the WOAH informal procedure for dispute mediation.

WOAH aims to include an article listing the commodities that are considered safe for trade without the need for risk mitigation measures specifically directed against a particular listed disease, infection or infestation, regardless of the status of the country or zone of origin for the agent in question, at the beginning of each listed disease-specific chapter in Sections 8 to 16. This is work in progress and some chapters do not yet contain articles listing safe commodities. When a list of safe commodities is present in a chapter, importing countries should not apply trade restrictions to such commodities with respect to the agent in question. Chapter 2.2. describes the criteria used to assess the safety of commodities.

6) International veterinary certificates

An international veterinary certificate is an official document that the Veterinary Authority of an exporting country issues in accordance with Chapters 5.1. and 5.2. It lists animal health requirements and, where appropriate, public health requirements for the exported commodity. The quality of the exporting country’s Veterinary Services is essential in providing assurances to trading partners regarding the safety of exported animals and products. This includes the Veterinary Authority’s ethical approach to the provision of veterinary certificates and their history in meeting their notification obligations.

International veterinary certificates underpin international trade and provide assurances to the importing country regarding the health status of the animals and products imported. The measures prescribed should take into account the health status of both exporting and importing countries, and zones or compartments within them, and be based upon the standards in the Terrestrial Code.

The following steps should be taken when drafting international veterinary certificates:

a) identify the diseases, infections or infestations from which the importing country is justified in seeking protection because of its own health status. Importing countries should not impose measures in regards to diseases that occur in their own territory but are not subject to official control programmes;

b) for commodities capable of transmitting these diseases, infections or infestations through international trade, the importing country should apply the relevant articles in the listed disease-specific chapters. The application of the articles should be adapted to the disease status of the country, zone or compartment of origin. Such status should be established according to Article 1.4.6. except when articles of the relevant listed disease chapter specify otherwise;

c) when preparing international veterinary certificates, the importing country should endeavour to use terms and expressions in accordance with the definitions given in the Glossary. International veterinary certificates should be kept as simple as possible and should be clearly worded, to avoid misunderstanding of the importing country’s requirements;

d) Chapters 5.10. to 5.13. provide, as further guidance to Member Countries, model certificates that should be used as a baseline.

7) Guidance notes for importers and exporters

It is recommended that Veterinary Authorities prepare “guidance notes” to assist importers and exporters understand trade requirements. These notes should identify and explain the trade conditions, including the measures to be applied before and after export and during transport and unloading, and the relevant legal obligations and operational procedures. The guidance notes should advise on all details to be included in the health certification accompanying the consignment to its destination. Exporters should also be reminded of the International Air Transport Association rules governing air transport of animals and animal products.
GLOSSARY

For the purposes of the Terrestrial Code:

ANIMAL
means a mammal, reptile, bird or bee.

ANIMAL FOR BREEDING OR REARING
means a domesticated or confined animal which is not intended for slaughter within a short time.

ANIMAL FOR SLAUGHTER
means an animal intended for slaughter within a short time, under the control of the relevant Veterinary Authority.

ANIMAL HANDLER
means a person with a knowledge of the behaviour and needs of animals who, with appropriate experience and a professional and positive response to an animal’s needs, can achieve effective management and good welfare. Competence should be gained through formal training or practical experience.

ANIMAL HEALTH MANAGEMENT
means a system designed to optimise the physical and behavioural health and welfare of animals. It includes the prevention, treatment and control of diseases and conditions affecting the individual animal and herd or flock, including the recording of illness, injuries, mortalities and medical treatments where appropriate.

ANIMAL HEALTH STATUS
means the status of a country, zone or compartment with respect to an animal disease in accordance with the criteria listed in the relevant disease-specific chapter or Chapter 1.4. of the Terrestrial Code.

ANIMAL IDENTIFICATION
means the combination of the identification and registration of an animal individually, with a unique identifier, or collectively by its epidemiological unit or group, with a unique group identifier.

ANIMAL IDENTIFICATION SYSTEM
means the inclusion and linking of components such as identification of establishments or owners, the persons responsible for the animals, movements and other records with animal identification.

ANIMAL TRACEABILITY
means the ability to follow an animal or group of animals during all stages of its life.

ANIMAL WELFARE
means the physical and mental state of an animal in relation to the conditions in which it lives and dies.

ANTIMICROBIAL AGENT
means a naturally occurring, semi-synthetic or synthetic substance that exhibits antimicrobial activity (kill or inhibit the growth of micro-organisms) at concentrations attainable in vivo. Anthelmintics and substances classed as disinfectants or antiseptics are excluded from this definition.

APIARY
means a beehive or group of beehives whose management allows them to be considered as a single epidemiological unit.

APPROVED
means officially approved, accredited or registered by the Veterinary Authority.

ARTIFICIAL INSEMINATION CENTRE
means a facility approved by the Veterinary Authority and which meets the conditions set out in the Terrestrial Code for the collection, processing and/or storage of semen.
BEEHIVE
means a structure for the keeping of honey bee colonies that is being used for that purpose, including frameless hives, fixed frame hives and all designs of moveable frame hives (including nucleus hives), but not including packages or cages used to confine bees for the purposes of transport or isolation.

BIOSECURITY
means a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections or infestations to, from and within an animal population.

BIOSECURITY PLAN
means a plan that identifies potential pathways for the introduction and spread of disease in a zone or compartment, and describes the measures which are being or will be applied to mitigate the disease risks, if applicable, in accordance with the recommendations in the Terrestrial Code.

BORDER POST
means any airport, or any port, railway station or road check-point open to international trade of commodities, where import veterinary inspections can be performed.

CAPTIVE WILD [ANIMAL]
means an animal that has a phenotype not significantly affected by human selection but that is captive or otherwise lives under or requires human supervision or control.

CASE
means an individual animal infected by a pathogenic agent, with or without clinical signs.

CASINGS
means intestines and bladders that, after cleaning, have been processed by tissue scraping, defatting and washing, and have been treated with salt.

COLLECTION CENTRE
means a facility approved by the Veterinary Authority for the collection of oocytes or embryos and used exclusively for donor animals which meet the conditions of the Terrestrial Code.

COMMODITY
means live animals, products of animal origin, animal genetic material, biological products and pathological material.

COMPARTMENT
means an animal subpopulation contained in one or more establishments, separated from other susceptible populations by a common biosecurity management system, and with a specific animal health status with respect to one or more infections or infestations for which the necessary surveillance, biosecurity and control measures have been applied for the purposes of international trade or disease prevention and control in a country or zone.

COMPETENT AUTHORITY
means a Governmental Authority of a Member Country having the responsibility in the whole or part of the territory for the implementation of certain standards of the Terrestrial Code.

CONTAINER
means a non-self-propelled receptacle or other rigid structure for holding animals during a journey by one or several means of transport.

CONTAINMENT ZONE
means an infected zone defined within a previously free country or zone, which includes all suspected or confirmed cases that are epidemiologically linked and where movement control, biosecurity and sanitary measures are applied to prevent the spread of, and to eradicate, the infection or infestation.

DAY-OLD BIRDS
means birds aged not more than 72 hours after hatching.

DEATH
means the irreversible loss of brain activity demonstrable by the loss of brain stem reflexes.
DISINFECTION
means the application, after thorough cleansing, of procedures intended to destroy the infectious or parasitic agents of animal diseases, including zoonoses; this applies to premises, vehicles and different objects which may have been directly or indirectly contaminated.

DISINFESTATION
means the application of procedures intended to eliminate infestation.

DISTRESS
means the state of an animal, that has been unable to adapt to stressors, and that manifests as abnormal physiological or behavioural responses. It can be acute or chronic and may result in pathological conditions.

EARLY WARNING SYSTEM
means a system for the timely detection, reporting and communication of occurrence, incursion or emergence of diseases, infections or infestations in a country, zone or compartment.

EMERGING DISEASE
means a new occurrence in an animal of a disease, infection or infestation, causing a significant impact on animal or public health resulting from:
   a) a change of a known pathogenic agent or its spread to a new geographic area or species; or
   b) a previously unrecognised pathogenic agent or disease diagnosed for the first time.

EPIDEMIOLOGICAL UNIT
means a group of animals with the same likelihood of exposure to a pathogenic agent. In certain circumstances, the epidemiological unit may be a single animal.

ERADICATION
means the elimination of a pathogenic agent from a country or zone.

ESTABLISHMENT
means the premises in which animals are kept.

EUTHANASIA
means the act of inducing death using a method that causes a rapid and irreversible loss of consciousness with minimum pain and distress to animal.

EXPORTING COUNTRY
means a country from which commodities are sent to another country.

FEED
means any material (single or multiple), whether processed, semi-processed or raw, which is intended to be fed directly to terrestrial animals (except bees).

FEED INGREDIENT
means a component part or constituent of any combination or mixture making up a feed, whether or not it has a nutritional value in the animal's diet, including feed additives. Ingredients are of plant (including aquatic plants) or terrestrial or aquatic animal origin, or other organic or inorganic substances.

FERAL [ANIMAL]
means an animal of a domesticated species that lives without requiring human supervision or control.

FLOCK
means a number of animals of one kind kept together under human control or a congregation of gregarious wild animals. A flock is usually regarded as an epidemiological unit.

FREE COMPARTMENT
means a compartment in which the absence of the animal pathogenic agent causing the disease under consideration has been demonstrated by all requirements specified in the Terrestrial Code for free status being met.
FREE-ROAMING DOG
means any owned dog or unowned dog that is without direct human supervision or control, including feral dogs.

FREE ZONE
means a zone in which the absence of a specific infection or infestation in an animal population has been demonstrated in accordance with the relevant requirements of the Terrestrial Code.

FRESH MEAT
means meat that has not been subjected to any treatment irreversibly modifying its organoleptic and physicochemical characteristics. This includes frozen meat, chilled meat, minced meat and mechanically recovered meat.

GOOD MANUFACTURING PRACTICE
means a production and testing practice recognised by the Competent Authority to ensure the quality of a product.

GREAVES
means the protein-containing residue obtained after the partial separation of fat and water during the process of rendering.

HATCHING EGGS
means fertilised bird eggs, suitable for incubation and hatching.

HAZARD
means a biological, chemical or physical agent in, or a condition of, an animal or animal product with the potential to cause an adverse health effect.

HEADQUARTERS
means the Permanent Secretariat of the World Organisation for Animal Health located at:
12, rue de Prony, 75017 Paris, FRANCE
Telephone: 33-(0)1 44 15 18 88
Fax: 33-(0)1 42 67 09 87
Electronic mail: woah@woah.org
WWW: http://www.woah.org

HERD
means a number of animals of one kind kept together under human control or a congregation of gregarious wild animals. A herd is usually regarded as an epidemiological unit.

IMPORTING COUNTRY
means a country that is the final destination to which commodities are sent.

INCIDENCE
means the number of new cases or outbreaks of a disease that occur in a population at risk in a particular geographical area within a defined time interval.

INCUBATION PERIOD
means the longest period that elapses between the introduction of the pathogenic agent into the animal and the occurrence of the first clinical signs of the disease.

INFECTED ZONE
means a zone either in which an infection or infestation has been confirmed, or one that is defined as such in the relevant chapters of the Terrestrial Code.

INFECTION
means the entry and development or multiplication of a pathogenic agent in the body of humans or animals.

INFECTIVE PERIOD
means the longest period during which an affected animal can be a source of infection.
INFESTATION
means the external invasion or colonisation of animals or their immediate surroundings by arthropods, which may cause clinical signs or are potential vectors of pathogenic agents.

INTERNATIONAL TRADE
means importation, exportation and transit of commodities.

INTERNATIONAL VETERINARY CERTIFICATE
means a certificate, issued in accordance with Chapter 5.2., describing the animal health and public health requirements that are fulfilled by the exported commodities.

JOURNEY
An animal transport journey commences when the first animal is loaded onto a vehicle/vessel or into a container and ends when the last animal is unloaded, and includes any stationary resting/holding periods. The same animals do not commence a new journey until after a suitable period for rest and recuperation, with adequate feed and water.

KILLING
means any procedure that causes the death of an animal.

LABORATORY
means a properly equipped institution staffed by technically competent personnel under the control of a specialist in veterinary diagnostic methods, who is responsible for the validity of the results. The Veterinary Authority approves and monitors such laboratories with regard to the diagnostic tests required for international trade.

LAIRAGE
means pens, yards and other holding areas used for accommodating animals in order to give them necessary attention (such as water, feed, rest) before they are moved on or used for specific purposes including slaughter.

LISTED DISEASE
means a disease, infection or infestation listed in Chapter 1.3. after adoption by the World Assembly of Delegates.

LOADING/UNLOADING
Loading means the procedure of moving animals onto a vehicle/vessel or into a container for transport purposes, while unloading means the procedure of moving animals off a vehicle/vessel or out of a container.

MARKET
means a place where animals are assembled for the purposes of trade or sale.

MEAT
means all edible parts of an animal.

MEAT PRODUCTS
means meat that has been subjected to a treatment irreversibly modifying its organoleptic and physicochemical characteristics.

MILK
means the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it.

MILK PRODUCT
means the product obtained by any processing of milk.

MONITORING
means the intermittent performance and analysis of routine measurements and observations, aimed at detecting changes in the environment or health status of a population.

NOTIFIABLE DISEASE
means a disease listed by the Veterinary Authority, and that, as soon as detected or suspected, should be brought to the attention of this Authority, in accordance with national regulations.
NOTIFICATION

means the procedure by which:

a) the Veterinary Authority informs the Headquarters,
b) the Headquarters inform the Veterinary Authority,
of the occurrence of disease, infection or infestation in accordance with Chapter 1.1.

OFFICIAL CONTROL PROGRAMME

means a programme which is approved, and managed or supervised by the Veterinary Authority of a Member Country for the purposes of controlling a vector, pathogenic agent or disease by specific measures applied throughout that Member Country, or within a zone or compartment of that Member Country.

OFFICIAL VETERINARIAN

means a veterinarian authorised by the Veterinary Authority of the country to perform certain designated official tasks associated with animal health or public health and inspections of commodities and, when appropriate, to certify in accordance with Chapters 5.1. and 5.2.

OFFICIAL VETERINARY CONTROL

means the operations whereby the Veterinary Services, knowing the location of the animals and after taking appropriate actions to identify their owner or responsible keeper, are able to apply appropriate animal health measures, as required. This does not exclude other responsibilities of the Veterinary Services e.g. food safety.

OUTBREAK

means the occurrence of one or more cases in an epidemiological unit.

OWNED DOG

means a dog for which a person claims responsibility.

PAIN

means an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It may elicit protective actions, result in learned avoidance and distress and may modify species-specific traits of behaviour, including social behaviour.

PATHOLOGICAL MATERIAL

means samples obtained from live or dead animals, containing or suspected of containing infectious or parasitic agents, to be sent to a laboratory.

PLACE OF SHIPMENT

means the place where the commodities are loaded into the vehicle or handed to the agency that will transport them to another country.

POPULATION

means a group of units sharing a common defined characteristic.

POULTRY

means all birds reared or kept in captivity for the production of any commercial animal products or for breeding for this purpose, fighting cocks used for any purpose, and all birds used for restocking supplies of game or for breeding for this purpose, until they are released from captivity.

Birds that are kept in a single household, the products of which are used within the same household exclusively, are not considered poultry, provided that they have no direct or indirect contact with poultry or poultry facilities.

Birds that are kept in captivity for other reasons, including those that are kept for shows, racing, exhibitions, zoological collections and competitions, and for breeding or selling for these purposes, as well as pet birds, are not considered poultry, provided that they have no direct or indirect contact with poultry or poultry facilities.

PRE-JOURNEY PERIOD

means the period during which animals are identified, and often assembled for the purposes of loading them.

PREVALENCE

means the total number of cases or outbreaks of a disease that are present in a population at risk, in a particular geographical area, at one specified time or during a given period.
PROTEIN MEAL
means any final or intermediate solid protein-containing product, obtained when animal tissues are rendered, excluding peptides of a molecular mass less than 10,000 daltons and amino-acids.

PROTECTION ZONE
means a zone where specific biosecurity and sanitary measures are implemented to prevent the entry of a pathogenic agent into a free country or zone from a neighbouring country or zone of a different animal health status.

QUALITATIVE RISK ASSESSMENT
means an assessment where the outputs on the likelihood of the outcome or the magnitude of the consequences are expressed in qualitative terms such as 'high', 'medium', 'low' or 'negligible'.

QUANTITATIVE RISK ASSESSMENT
means an assessment where the outputs of the risk assessment are expressed numerically.

QUARANTINE STATION
means an establishment under the control of the Veterinary Authority where animals are maintained in isolation with no direct or indirect contact with other animals, to ensure that there is no transmission of specified pathogenic agents outside the establishment while the animals are undergoing observation for a specified length of time and, if appropriate, testing or treatment.

REGISTRATION
is the action by which information on animals (such as identification, animal health, movement, certification, epidemiology, establishments) is collected, recorded, securely stored and made appropriately accessible and able to be utilised by the Competent Authority.

RESPONSIBLE DOG OWNERSHIP
means the situation whereby a person accepts and commits to perform various duties in accordance with the legislation in place and focused on the satisfaction of the behavioural, environmental and physical needs of a dog and to the prevention of risks (aggression, disease transmission or injuries) that the dog may pose to the community, other animals or the environment.

RESTING POINT
means a place where the journey is interrupted to rest, feed or water the animals; the animals may remain in the vehicle/vessel or container, or be unloaded for these purposes.

RESTRAINT
means the application to an animal of any procedure designed to restrict its movements.

RISK
means the likelihood of the occurrence and the likely magnitude of the biological and economic consequences of an adverse event or effect to animal or human health.

RISK ANALYSIS
means the process composed of hazard identification, risk assessment, risk management and risk communication.

RISK ASSESSMENT
means the evaluation of the likelihood and the biological and economic consequences of entry, establishment and spread of a hazard.

RISK COMMUNICATION
is the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk, risk-related factors and risk perceptions among risk assessors, risk managers, risk communicators, the general public and other interested parties.

RISK MANAGEMENT
means the process of identifying, selecting and implementing measures that can be applied to reduce the level of risk.
SAFE COMMODITY
means a commodity that can be traded without the need for risk mitigation measures specifically directed against a particular listed disease, infection or infestation and regardless of the status of the country or zone of origin for that disease, infection or infestation.

SANITARY MEASURE
means a measure, such as those described in various chapters of the Terrestrial Code, designed to protect animal or human health or life within the whole territory or a zone of a Member Country from risks arising from the entry, establishment or spread of a hazard.

SLAUGHTER
means any procedure that causes the death of an animal by bleeding.

SLAUGHTERHOUSE/ABATTOIR
means premises, including facilities for moving or lairaging animals, used for the slaughter of animals to produce animal products and approved by the Veterinary Services or other Competent Authority.

SPACE ALLOWANCE
means the measure of the floor area and height allocated per individual or body weight of animals.

SPECIFIC SURVEILLANCE
means the surveillance targeted to a specific disease or infection.

STAMPING-OUT POLICY
means a policy designed to eliminate an outbreak by carrying out under the authority of the Veterinary Authority the following:
- the killing of the animals which are affected and those suspected of being affected in the herd or flock and, where appropriate, those in other herds or flocks which have been exposed to infection by direct animal to animal contact, or by indirect contact with the causal pathogenic agent; animals should be killed in accordance with Chapter 7.6.;
- the disposal of carcasses and, where relevant, animal products by rendering, burning or burial, or by any other method described in Chapter 4.13.;
- the cleansing and disinfection of establishments through procedures defined in Chapter 4.14.

STOCKING DENSITY
means the number or body weight of animals per unit area on a vehicle/vessel or container.

STUNNING
means any mechanical, electrical, chemical or other procedure that causes immediate loss of consciousness; when used before slaughter, the loss of consciousness lasts until death from the slaughter process; in the absence of slaughter, the procedure would allow the animal to recover consciousness.

SUBPOPULATION
means a distinct part of a population identifiable in accordance with specific common animal health characteristics.

SURVEILLANCE
means the systematic ongoing collection, collation, and analysis of information related to animal health and the timely dissemination of information so that action can be taken.

TERRESTRIAL CODE
means the WOAH Terrestrial Animal Health Code.

TERRESTRIAL MANUAL
means the WOAH Manual of Diagnostic Tests and Vaccines for Terrestrial Animals.

TRANSIT COUNTRY
means a country through which commodities destined for an importing country are transported or in which a stopover is made at a border post.
UNIT
means an individually identifiable element used to describe, for example, the members of a population or the elements selected when sampling; examples of units include individual animals, herds, flocks and apiaries.

VACCINATION
means the administration of a vaccine, in accordance with the manufacturer’s instructions and the Terrestrial Manual, when relevant, with the intention of inducing immunity in an animal or group of animals against one or more pathogenic agents.

VECTOR
means an insect or any living carrier that transports an infectious agent from an infected individual to a susceptible individual or its food or immediate surroundings. The organism may or may not pass through a development cycle within the vector.

VEHICLE/VESSEL
means any means of conveyance including train, truck, aircraft or ship that is used for carrying animals.

VETERINARIAN
means a person with appropriate education, registered or licensed by the relevant veterinary statutory body of a country to practice veterinary medicine/science in that country.

VETERINARY AUTHORITY
means the Governmental Authority of a Member Country having the primary responsibility in the whole territory for coordinating the implementation of the standards of the Terrestrial Code.

VETERINARY LEGISLATION
means laws, regulations and all associated legal instruments that pertain to the veterinary domain.

VETERINARY MEDICINAL PRODUCT
means any product with approved claims to having a prophylactic, therapeutic or diagnostic effect or to alter physiological functions when administered or applied to an animal.

VETERINARY PARAPROFESSIONAL
means a person who, for the purposes of the Terrestrial Code, is authorised by the veterinary statutory body to carry out certain designated tasks (dependent upon the category of veterinary paraprofessional) in a territory, and delegated to them under the responsibility and direction of a veterinarian. The tasks for each category of veterinary paraprofessional should be defined by the veterinary statutory body depending on qualifications and training, and in accordance with need.

VETERINARY SERVICES
means the combination of governmental and non-governmental individuals and organisations that perform activities to implement the standards of the Terrestrial Code.

VETERINARY STATUTORY BODY
means an autonomous regulatory body for veterinarians and veterinary paraprofessionals.

WILD [ANIMAL]
means an animal that has a phenotype unaffected by human selection and lives independently without requiring human supervision or control.

WILDLIFE
means feral animals, captive wild animals and wild animals.

ZONE
means a part of a country defined by the Veterinary Authority, containing an animal population or subpopulation with a specific animal health status with respect to an infection or infestation for the purposes of international trade or disease prevention or control.
NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2023.
SECTION 8.
MULTIPLE SPECIES

CHAPTER 8.1.
ANTHRAX

Article 8.1.1.

General provisions

This chapter is intended to manage the human and animal health risks associated with the presence of *Bacillus anthracis* (*B. anthracis*) in commodities and the environment.

There is no evidence that anthrax is transmitted by animals before the onset of clinical and pathological signs. Early detection of outbreaks, quarantine of affected premises, destruction of diseased animals and fomites, and implementation of appropriate sanitary procedures at abattoirs and dairy factories will ensure the safety of products of animal origin intended for human consumption.

For the purposes of the Terrestrial Code, the incubation period for anthrax shall be 20 days.

Anthrax should be notifiable in the whole country.

When authorising import or transit of commodities covered in the chapter, with the exception of those listed in Article 8.1.2., Veterinary Authorities should require the conditions prescribed in this chapter.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.1.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any anthrax-related conditions: semen and embryos collected and processed in accordance with Chapters 4.6., 4.7., 4.8., 4.9. and 4.10., as relevant.

Article 8.1.3.

Recommendations for the importation of ruminants, equids and pigs

*Veterinary Authorities of importing countries* should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of anthrax on the day of shipment;

AND

2) were kept for the 20 days prior to shipment in an establishment where no case of anthrax was officially declared during that period; or

3) were vaccinated, not less than 20 days and not more than 12 months prior to shipment in accordance with the *Terrestrial Manual*. 
Article 8.1.4.

Recommendations for the importation of fresh meat and meat products destined for human consumption

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products originate from animals that:
1) have shown no sign of anthrax during ante- and post-mortem inspections; and
2) were not vaccinated against anthrax using live vaccine during the 14 days prior to slaughter or a longer period depending on the manufacturer’s recommendations; and
3) come from establishments that are not placed under movement restrictions for the control of anthrax and where there has been no case of anthrax during the 20 days prior to slaughter.

Article 8.1.5.

Recommendations for the importation of hides, skins and hair (from ruminants, equids and pigs)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the products originate from animals that:
   a) have shown no sign of anthrax during ante- and post-mortem inspections; and
   b) come from establishments that are not placed under movement restrictions for the control of anthrax;
OR
2) hair from ruminants or equids has been treated in accordance with the recommendations in Article 8.1.11.

Article 8.1.6.

Recommendations for the importation of wool

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the product:
1) originates from live animals; and
2) originates from animals that, at the time of shearing, were part of a flock that was not subject to movement restrictions for the control of anthrax;
OR
3) has been treated in accordance with the recommendations in Article 8.1.11.

Article 8.1.7.

Recommendations for the importation of milk and milk products intended for human consumption

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the milk originates from animals showing no clinical sign of anthrax at the time of milking;
2) if the milk originates from herds or flocks that have had a case of anthrax within the previous 20 days, it has been chilled promptly and processed using a heat treatment at least equivalent to pasteurisation.

Article 8.1.8.

Recommendations for the importation of bristles (from pigs)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products originate from animals which:
1) have shown no sign of anthrax during ante- and post-mortem inspections; and
2) come from establishments that are not placed under movement restrictions for the control of anthrax;
3) have been processed to ensure the destruction of *B. anthracis* by boiling for 60 minutes.

**Article 8.1.9.**

**Procedures for the inactivation of *B. anthracis* spores in skins and trophies from wild animals**

In situations in which skins and trophies from wild animals may be contaminated with *B. anthracis* spores, the following disinfection procedure is recommended:

1) fumigation with ethylene oxide 500 mg/litre, at relative humidity 20–40%, at 55°C for 30 minutes; or
2) fumigation with formaldehyde 400 mg/m³ at relative humidity 30%, at >15°C for 4 hours; or
3) gamma irradiation with a dose of 40 kilogray.

**Article 8.1.10.**

**Procedures for the inactivation of *B. anthracis* spores in bone-meal and protein meal**

In situations where raw materials used to produce bone-meal or protein meal may be contaminated with *B. anthracis* spores, the following inactivation procedures should be used:

1) the raw material should be reduced to a maximum particle size of 50 mm before heating; and
2) the raw material should be subjected to moist heat at one of the following temperature and time regimes:
   a) 105°C for at least 8 minutes; or
   b) 100°C for at least 10 minutes; or
   c) 95°C for at least 25 minutes; or
   d) 90°C for at least 45 minutes;

OR

3) the raw material should be subjected to dry heat at one of the following temperature and time regimes:
   a) 130°C for at least 20 minutes; or
   b) 125°C for at least 25 minutes; or
   c) 120°C for at least 45 minutes;

OR

4) an industrial process demonstrated to be of equivalent efficacy.

**Article 8.1.11.**

**Procedures for the inactivation of *B. anthracis* spores in wool and hair**

In situations in which wool or hair may be contaminated with *B. anthracis* spores, the following procedures are recommended:

1) gamma irradiation with a dose of 25 kilogray; or
2) a five-step washing procedure:
   a) immersion in 0.25–0.3% soda liquor for 10 minutes at 40.5°C;
   b) immersion in soap liquor for 10 minutes at 40.5°C;
   c) immersion in 2% formaldehyde solution for 10 minutes at 40.5°C;
   d) a second immersion in 2% formaldehyde solution for 10 minutes at 40.5°C;
   e) rinsing on cold water followed by drying in hot air.

NB: First adopted in 1968; most recent update adopted in 2011.
CHAPTER 8.2.

INFECTION WITH AUJESZKY’S DISEASE VIRUS

Article 8.2.1.

General provisions

Pigs are the natural host for Aujeszky’s disease (AD) virus, although it can infect cattle, sheep, cats, dogs and rats causing fatal disease. The definition of pig includes all varieties of Sus scrofa, both domestic and wild.

For the purposes of the Terrestrial Code, AD is defined as an infection of domestic pigs or captive wild pigs, which are under direct human supervision or control.

For the purposes of this chapter, a distinction is made between domestic pig and captive wild pig populations on the one hand, and wild pig and feral pig populations on the other hand.

A Member Country should not impose trade bans in response to a notification of infection with AD virus in wild and feral pigs in accordance with Article 1.1.3.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.2.3, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the AD status of the exporting country or zone.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.2.2.

Determination of the AD status of a country or zone

The AD free or provisionally free status of a country or zone can only be determined after considering the following criteria, as applicable:

1) AD is notifiable in the whole country, and all clinical signs suggestive of AD are subjected to field and laboratory investigations;

2) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of AD;

3) the Veterinary Authority has current knowledge of, and authority over, all domestic and captive wild pig establishments in the country or zone;

4) the Veterinary Authority has current knowledge about the population and habitat of wild and feral pigs in the country or zone;

5) appropriate surveillance, capable of detecting the presence of infection even in the absence of clinical signs, is in place; this may be achieved through a surveillance programme in accordance with Chapter 1.4.

Article 8.2.3.

Safe commodities

When authorising import or transit of the following commodities and any products made from these, Veterinary Authorities should not require any AD-related conditions, regardless of the AD status of the exporting country or zone:

1) fresh meat of domestic and wild pigs not containing offal (head, and thoracic and abdominal viscera);

2) meat products of domestic and wild pigs not containing offal (head, and thoracic and abdominal viscera);

3) products of animal origin not containing offal (head, and thoracic and abdominal viscera).
Chapter 8.2.- Infection with Aujeszky’s disease virus

Article 8.2.4.

AD free country or zone

1. Qualification
   a) A country or zone may be considered free from the disease without formally applying a specific surveillance programme (historical freedom) if the disease has not been reported for at least 25 years, and if for at least the past 10 years:
      i) it has been a notifiable disease;
      ii) an early warning system has been in place;
      iii) measures to prevent the introduction of the AD virus into the country or zone have been in place;
      iv) no vaccination against the disease has been carried out;
      v) infection is not known to be established in wild and feral pigs, or appropriate measures have been implemented to prevent any transmission of the AD virus from wild and feral pigs to domestic and captive wild pigs.
   b) A country or zone which does not meet the conditions of the above paragraph may be considered free from AD when:
      i) animal health regulations to control the movement of commodities with the exception of those listed in Article 8.2.3. in order to prevent the introduction of infection into the establishments of the country or zone have been in place for at least two years;
      ii) vaccination against AD has been banned for all domestic and captive wild pigs in the country or zone for at least two years unless there are means, validated to WOAH standards (Chapter 3.1.2. of the Terrestrial Manual), of distinguishing between vaccinated and infected pigs;
      iii) if AD has never been reported in the country or zone, serological surveys, with negative results, have been conducted on a representative sample of all pig establishments in accordance with the recommendations in Chapter 1.4. at an acceptable level of confidence, no more than three years prior to qualification; the serological surveys should be directed at the detection of antibodies to the whole virus, and based on the breeding pig population or, for establishments that contain no breeding pigs, on a comparable number of fattening pigs; or
      iv) if AD has been reported in the country or zone, a surveillance and control programme has been in place to detect every infected establishment and eradicate AD from it; the surveillance programme should be carried out in accordance with the recommendations in Chapter 1.4. and demonstrate that no establishments within the country or zone have had any clinical, virological or serological evidence of AD for at least two years.
   In countries or zones with wild and feral pigs, measures should be implemented to prevent any transmission of the AD virus from wild and feral pigs to domestic and captive wild pigs.

2. Maintenance of free status
   In order to maintain its free status, a country or zone should comply with the following requirements:
   a) periodic serological surveys directed at the detection of antibodies to the whole AD virus should be carried out on a statistically significant number of breeding pigs in accordance with the recommendations in Chapter 1.4.;
   b) the importation of the commodities with the exception of those listed in Article 8.2.3. into the country or zone is carried out in accordance with the import conditions contained in the relevant articles of the present chapter;
   c) the ban on AD vaccination remains in force;
   d) appropriate measures aimed at preventing the transmission of the AD virus from wild and feral pigs to domestic and captive wild pigs remain in force.

3. Recovery of free status
   Should an AD outbreak occur in an establishment of a free country or zone, the status of the country or zone may be restored if either:
   a) all the pigs in the infected epidemiological units have been slaughtered; and, during and after the application of this measure, an epidemiological investigation including clinical examination, and serological or virological testing has been carried out in all pig establishments which have been directly or indirectly in contact with the infected establishment and in all pig establishments located within a prescribed radius from the infected epidemiological units, demonstrating that these establishments are not infected; or
b) vaccination with gE- deleted vaccines has been applied and:
   i) a serological testing procedure (differential ELISA) has been implemented in the establishments where vaccination has been applied to demonstrate the absence of infection;
   ii) the movement of pigs from these establishments has been banned, except for immediate slaughter, until the above procedure has demonstrated the absence of infection;
   iii) during and after the application of the measures described in points i) to ii) above, a thorough epidemiological investigation including clinical examination and serological or virological testing has been carried out in all pig establishments which have been directly or indirectly in contact with the infected establishment and in all pig establishments located within a prescribed radius from the outbreak, demonstrating that these establishments are not infected.

**Article 8.2.5.**

**AD provisionally free country or zone**

1. **Qualification**
   A country or zone may be considered as provisionally free from AD if the following conditions are complied with:
   a) animal health regulations to control the movement of commodities with the exception of those listed in Article 8.2.3. in order to prevent the introduction of infection into the establishments of the country or zone have been in place for at least two years;
   b) if AD has never been reported in the country or zone, a serological survey, with negative results, has been conducted on a representative sample of all pig establishments in accordance with the recommendations in Chapter 1.4. (but not at an acceptable level of confidence); the serological survey should be directed at the detection of antibodies to the whole virus, and based on the breeding pig population or, for establishments that contain no breeding pigs, on a comparable number of fattening pigs; or
   c) if AD has been reported in the country or zone, a surveillance and control programme has been in place to detect infected establishments and eradicate AD from these establishments, the herd prevalence rate in the country or zone has not exceeded 1% for at least three years (the sampling procedure described in point 1 e) of the definition of ‘AD free establishment’ should be applied within the establishments of the country or zone), and at least 90% of the establishments in the country or zone are qualified free;
   d) in countries or zones with wild and feral pigs, appropriate measures should be taken to prevent any transmission of the AD virus between wild and feral pigs and domestic and captive wild pigs.

2. **Maintenance of provisionally free status**
   In order to maintain its provisionally free status, a country or zone should comply with the following requirements:
   a) the measures described in points 1 b) and 1 d) above should be continued;
   b) the percentage of infected establishments remains < 1%;
   c) the importation of the commodities with the exception of those listed in Article 8.2.3. into the country or zone is carried out in accordance with the import conditions contained in the relevant articles of the present chapter.

3. **Recovery of provisionally free status**
   Should the percentage of infected establishments exceed 1% in a provisionally free country or zone, the status of the country or zone is cancelled and may be restored only once the percentage of infected establishments has remained < 1% for at least six months, and this result is confirmed by a serological survey conducted in accordance with point 1 c) above.

**Article 8.2.6.**

**AD infected country or zone**

For the purposes of this chapter, countries and zones which do not fulfil the conditions to be considered free or provisionally free of AD should be considered as infected.
Article 8.2.7.

AD free establishment

1. Qualification
   
   To qualify as free from AD, an establishment should satisfy the following conditions:
   
   a) it is under the control of the Veterinary Authority;
   
   b) no clinical, virological or serological evidence of AD has been found for at least one year;
   
   c) the introduction of pigs, semen, oocytes and embryos into the establishment is carried out in accordance with the import conditions for these commodities contained in the relevant articles of the present chapter;
   
   d) vaccination against AD has not been carried out in the establishment for at least 12 months, and any previously vaccinated pigs are free from gE antibodies;
   
   e) a representative sample of breeding pigs from the establishment has been subjected, with negative results, to serological tests to the whole AD virus, applying a sampling procedure set out in accordance with the recommendations in Chapter 1.4.; these tests should have been carried out on two occasions, at an interval of two months; for establishments that contain no breeding pigs, the tests should be carried out only once on a comparable number of fattening or weaning pigs;
   
   f) a surveillance and control programme has been in place to detect infected establishments located within a prescribed radius from the establishment and no establishment is known to be infected within this zone.

2. Maintenance of free status
   
   For establishments located in an infected country or zone, the testing procedure described in point 1 e) above should be carried out every four months.
   
   For establishments located in a provisionally free country or zone, the testing procedure described in point 1 e) above should be carried out every year.

3. Recovery of free status
   
   Should a free establishment become infected, or should an outbreak occur within a prescribed radius from a free establishment, the free status of the establishment should be suspended until the following conditions are met:
   
   a) in the infected establishment:
      
      i) all the pigs in the establishment have been slaughtered; or
      
      ii) at least 30 days after removal of all infected animals, all breeding animals have been subjected to a serological test to the whole AD virus, with negative results, on two occasions, at an interval of 2 months;
   
   b) in other establishments located within the prescribed radius: a number of breeding pigs from each establishment has been subjected, with negative results, to serological tests to the whole AD virus (non-vaccinated establishments) or to gE antibodies (vaccinated establishments), applying the sampling procedure described in point 1 e) above.

Article 8.2.8.

Recommendations for importation from AD free countries or zones

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of AD on the day of shipment;

2) come from an establishment located in an AD free country or zone;

3) have not been vaccinated against AD.
Article 8.2.9.

Recommendations for importation from AD provisionally free countries or zones
For domestic and captive wild pigs for breeding or rearing

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of AD on the day of shipment;
2) have been kept exclusively in AD free establishments since birth;
3) have not been vaccinated against AD;
4) were subjected to a serological test to the whole AD virus, with negative results, within 15 days prior to shipment.

Article 8.2.10.

Recommendations for importation from AD infected countries or zones
For domestic and captive wild pigs for breeding or rearing

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of AD on the day of shipment;
2) were kept exclusively in AD free establishments since birth;
3) have not been vaccinated against AD;
4) were isolated in the establishment of origin or a quarantine station, and were subjected to a serological test to the whole AD virus, with negative results, on two occasions, at an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment.

Article 8.2.11.

Recommendations for importation from AD provisionally free countries or zones or AD infected countries or zones
For domestic and captive wild pigs for slaughter

The pigs should be transported directly from the place of shipment to the slaughterhouse/abattoir from immediate slaughter.

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) a surveillance and control programme is in place in the country or zone to detect infected establishments and eradicate AD;
2) the animals:
   a) are not being eliminated as part of an eradication programme;
   b) showed no clinical sign of AD on the day of shipment; and
      i) have been kept exclusively in AD free establishments since birth; or
      ii) have been vaccinated against AD at least 15 days prior to shipment.

Article 8.2.12.

Recommendations for importation from AD free countries or zones
For wild and feral swine

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of AD on the day of shipment;
2) were captured in an AD free country or zone;
3) have not been vaccinated against the disease;
4) were isolated in a quarantine station, and were subjected to a serological test to the whole AD virus, with negative results, on two occasions, at an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment.

Article 8.2.13.

Recommendations for importation from AD free countries or zones

For semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of AD on the day of collection of the semen;
   b) were kept in an establishment or artificial insemination centre located in an AD free country or zone at the time of semen collection;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.2.14.

Recommendations for importation from AD provisionally free countries or zones

For semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) have been kept for at least four months prior to semen collection in an artificial insemination centre which has the status of AD free establishment, and where all boars are subjected to a serological test to the whole AD virus, with negative results, every four months;
   b) showed no clinical sign of AD on the day of collection;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.2.15.

Recommendations for importation from AD infected countries or zones

For semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) were kept in an AD free establishment for at least six months prior to entering the artificial insemination centre;
   b) have been kept for at least four months prior to semen collection in the artificial insemination centre which has the status of AD free establishment, and where all boars are subjected to a serological test to the whole AD virus, with negative results, every four months;
   c) were subjected to a serological test to the whole AD virus, with negative results, within 10 days prior to or 21 days after semen collection;
   d) showed no clinical sign of AD on the day of collection;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.
Chapter 8.2. - Infection with Aujeszky’s disease virus

Article 8.2.16.

Recommendations for importation from AD free countries or zones

For in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an establishment located in an AD free country or zone prior to collection;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.

Article 8.2.17.

Recommendations for importation from AD provisionally free countries or zones

For in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an AD free establishment for at least three months prior to collection;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.

Article 8.2.18.

Recommendations for importation from AD infected countries or zones

For in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an AD free establishment for at least three months prior to collection;
   c) were subjected to a serological test to the whole AD virus, with negative results, within ten days prior to collection;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.

Article 8.2.19.

Recommendations for importation from AD free countries or zones

For offal (head, and thoracic and abdominal viscera) of pigs or products containing pig offal

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of offal or products containing pig offal comes from animals which come from establishments located in an AD free country or zone.

Article 8.2.20.

Recommendations for importation from AD provisionally free countries or zones or from AD infected countries or zones

For offal (head, and thoracic and abdominal viscera) of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of offal comes from animals:

1) which have been kept in an AD free establishment since birth;
2) which have not been in contact with animals from establishments not considered free from AD during their transport to the approved slaughterhouse/abattoir and therein.

Article 8.2.21.

Recommendations for importation from AD provisionally free countries or zones or from AD infected countries or zones

For products containing pig offal (head, and thoracic and abdominal viscera)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) either the entire consignment of offal used to prepare the products complied with the conditions referred to in Article 8.2.20.; or
2) the products have been processed to ensure the destruction of the AD virus; and
3) the necessary precautions were taken after processing to avoid contact of the products with any source of AD virus.

NB: FIRST ADOPTED IN 1986; MOST RECENT UPDATE ADOPTED IN 2012.
CHAPTER 8.3.

INFECTION WITH BLUETONGUE VIRUS

Article 8.3.1.

General provisions

For the purposes of the Terrestrial Code, bluetongue is defined as an infection of ruminants and camelids with bluetongue virus (BTV), that is transmitted by Culicoides vectors.

The following defines the occurrence of infection with BTV:
1) BTV has been isolated from a sample from a ruminant or camelid or a product derived from that ruminant or camelid; or
2) antigen or ribonucleic acid specific to BTV has been identified in a sample from a ruminant or camelid showing clinical signs consistent with bluetongue, or epidemiologically linked to a suspected or confirmed case; or
3) antigen or ribonucleic acid specific to a BTV live vaccine strain has been identified in a sample from a ruminant or camelid that is unvaccinated, or has been vaccinated with an inactivated vaccine, or with a different live vaccine strain, showing clinical signs consistent with bluetongue, or epidemiologically linked to a suspected or confirmed case; or
4) antibodies to structural or nonstructural proteins of BTV that are not a consequence of vaccination have been detected in a sample from a ruminant or camelid that either shows clinical signs consistent with bluetongue, or is epidemiologically linked to a suspected or confirmed case.

For the purposes of the Terrestrial Code, the infective period for bluetongue shall be 60 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.3.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the BTV status of the ruminant and camelid populations of the exporting country or zone.

Article 8.3.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any bluetongue-related conditions regardless of the bluetongue status of the exporting country:
1) milk and milk products;
2) meat and meat products;
3) hides and skins;
4) wool and fibre;
5) in vivo derived bovine embryos collected, processed and stored in accordance with Chapter 4.8.

Article 8.3.3.

Country or zone free from bluetongue
1) Historical freedom as described in Chapter 1.4. does not apply to bluetongue.
2) A country or a zone may be considered free from bluetongue when infection with BTV is notifiable in the entire country and either:
   a) a surveillance programme in accordance with Articles 8.3.14. to 8.3.17. has demonstrated no evidence of infection with BTV in the country or zone during the past two years; or
   b) an ongoing surveillance programme has found no Culicoides for at least two years in the country or zone.
3) A country or zone free from bluetongue in which ongoing vector surveillance, performed in accordance with point 5 of Article 8.3.16., has found no Culicoides will not lose its free status through the introduction of vaccinated, seropositive or infective ruminants or camelids, or their semen or embryos from infected countries or zones.

4) A country or zone free from bluetongue in which surveillance has found evidence that Culicoides are present will not lose its free status through the introduction of seropositive or vaccinated ruminants or camelids, or semen or embryos from infected countries or zones, provided:
   a) an ongoing surveillance programme focused on transmission of BTV and a consideration of the epidemiology of infection with BTV, in accordance with Articles 8.3.14. to 8.3.17. and Chapter 4.4., has demonstrated no evidence of transmission of BTV in the country or zone; or
   b) the ruminants or camelids, their semen and embryos were introduced in accordance with this chapter.

5) A country or zone free from bluetongue adjacent to an infected country or zone should include a zone in which surveillance is conducted in accordance with Articles 8.3.14. to 8.3.17.

Article 8.3.4.

Country or zone seasonally free from bluetongue

1) A country or zone seasonally free from bluetongue is, respectively, an infected country or a part of an infected country or zone, for which surveillance conducted in accordance with Articles 8.3.14. to 8.3.17. demonstrates no evidence either of transmission of BTV or of adult Culicoides for part of a year.

2) For the application of Articles 8.3.7., 8.3.9. and 8.3.11., the free season is taken to commence the day following the last evidence of transmission of BTV (as demonstrated by the surveillance programme), and of the cessation of activity of adult Culicoides.

3) For the application of Articles 8.3.7., 8.3.9. and 8.3.11., the free season is taken to conclude either:
   a) at least 28 days before the earliest date that historical data show transmission of BTV may recommence; or
   b) immediately if current climatic data or data from a surveillance programme indicate transmission of BTV or an earlier resurgence of activity of adult Culicoides.

4) A seasonally free zone in which ongoing surveillance has found no evidence that Culicoides are present will not lose its free status through the introduction of vaccinated, seropositive or infective ruminants or camelids, or semen or embryos from infected countries or zones.

Article 8.3.5.

Country or zone infected with BTV

For the purposes of this chapter, a country or zone infected with BTV is one that does not fulfil the requirements to qualify as either free or seasonally free from bluetongue.

Article 8.3.6.

Recommendations for importation from countries or zones free from bluetongue

For ruminants and camelids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of bluetongue on the day of shipment;

   AND

2) the animals were kept in a country or zone free from bluetongue since birth or for at least 60 days prior to shipment; or

3) the animals were kept in a country or zone free from bluetongue for at least 28 days, then were subjected, with negative results, to a serological test to detect antibodies to the BTV group and remained in the free country or zone until shipment; or

4) the animals were kept in a country or zone free from bluetongue for at least 14 days, then were subjected, with negative results, to an agent identification test, and remained in the free country or zone until shipment; or
Chapter 8.3.- Infection with bluetongue virus

5) the animals:
   a) were vaccinated, at least 60 days before the introduction into the free country or zone, from which they are to be exported, against all serotypes demonstrated to be present in the source population through a surveillance programme as described in Articles 8.3.14. to 8.3.17.;
   b) were identified as having been vaccinated;
   c) remained in the free country or zone for at least seven days until shipment;

AND

6) if the animals were exported from a free zone within an infected country, either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from attacks from Culicoides in accordance with point 2 of Article 8.3.13. at all times when transiting through an infected zone; or
   c) had been vaccinated in accordance with point 5 above.

Article 8.3.7.

Recommendations for importation from countries or zones seasonally free from bluetongue

For ruminants and camelids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of bluetongue on the day of shipment;

AND

2) were kept during the free season in a seasonally free country or zone since birth or for at least 60 days prior to shipment; or

3) were kept during the free season in a seasonally free country or zone for at least 28 days prior to shipment, and were subjected during that residence period to a serological test to detect antibodies to the BTV group, with negative results, carried out at least 28 days after the commencement of the residence period; or

4) were kept during the free season in a seasonally free country or zone for at least 14 days prior to shipment, and were subjected during that residence period to an agent identification test, with negative results, carried out at least 14 days after the commencement of the residence period; or

5) were:
   a) vaccinated, at least 60 days before shipment, against all serotypes demonstrated to be present in the source population through a surveillance programme in accordance with Articles 8.3.14. to 8.3.17.;
   b) identified as having been vaccinated;
   c) kept during the free season in the seasonally free country or zone for at least seven days, and until shipment;

AND

6) either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from attacks from Culicoides in accordance with point 2 of Article 8.3.13. at all times when transiting through an infected zone; or
   c) were vaccinated in accordance with point 5 above.

Article 8.3.8.

Recommendations for importation from countries or zones infected with BTV

For ruminants and camelids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of bluetongue on the day of shipment;
AND

2) were protected from attacks from *Culicoides* in accordance with Article 8.3.13. in a vector-protected establishment for at least 60 days prior to shipment and during transportation to the place of shipment; or

3) were protected from attacks from *Culicoides* in accordance with Article 8.3.13. in a vector-protected establishment for at least 28 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to a serological test to detect antibodies to the BTV group, with negative results, carried out at least 28 days after introduction into the vector-protected establishment; or

4) were protected from attacks from *Culicoides* in accordance with Article 8.3.13. in a vector-protected establishment for at least 14 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to an agent identification test, with negative results, carried out at least 14 days after introduction into the vector-protected establishment; or

5) were:
   a) vaccinated, at least 60 days before shipment, against all serotypes demonstrated to be present in the source population through a surveillance programme in accordance with Articles 8.3.14. to 8.3.17.;
   b) identified as having been vaccinated; or

6) were demonstrated to have antibodies for at least 60 days prior to shipment against all serotypes demonstrated to be present in the source population through a surveillance programme in accordance with Articles 8.3.14. to 8.3.17.

**Article 8.3.9.**

**Recommendations for importation from countries or zones free or seasonally free from bluetongue**

For semen of ruminants and camelids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of bluetongue on the day of collection and were kept in a country or zone free from bluetongue or in a seasonally free country or zone during the free season for at least 60 days before commencement of, and during, collection of the semen; or
   b) comply with point 1 of Article 8.3.10.;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

**Article 8.3.10.**

**Recommendations for importation from countries or zones infected with BTV**

For semen of ruminants and camelids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of bluetongue on the day of collection;
   AND
   b) were kept in a vector-protected establishment in accordance with point 1 of Article 8.3.13. for at least 60 days before commencement of, and during, collection of the semen; or
   c) were subjected to a serological test to detect antibodies to the BTV group, with negative results, between 28 and 60 days after each collection for this consignment; or
   d) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.
Chapter 8.3.- Infection with bluetongue virus

Article 8.3.11.

Recommendations for importation from countries or zones free or seasonally free from bluetongue

For in vivo derived embryos of ruminants (other than bovine embryos) and other BTV susceptible herbivores and for in vitro produced bovine embryos

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of bluetongue on the day of collection and were kept in a country or zone free from bluetongue or in a seasonally free country or zone during the free season for at least the 60 days prior to, and at the time of, collection of the embryos; or
   b) comply with point 1 of Article 8.3.12.;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant;

3) the semen used to fertilise the oocytes complied with Article 8.3.9. or Article 8.3.10.

Article 8.3.12.

Recommendations for importation from countries or zones infected with BTV

For in vivo derived embryos of ruminants (other than bovine embryos) and other BTV susceptible animals and for in vitro produced bovine embryos

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of bluetongue on the day of collection;
   AND
   b) were kept in a vector-protected establishment in accordance with point 1 of Article 8.3.13. for at least 60 days before commencement of, and during, collection of the embryos; or
   c) were subjected to a serological test to detect antibodies to the BTV group, between 28 and 60 days after collection, with negative results; or
   d) were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant;

3) the semen used to fertilise the oocytes complied with Article 8.3.9. or Article 8.3.10.

Article 8.3.13.

Protecting animals from Culicoides attacks

1) Vector-protected establishment or facility

The establishment or facility should be approved by the Veterinary Authority and the means of protection should at least comprise the following:

a) appropriate physical barriers at entry and exit points, such as double-door entry-exit system;

b) openings of the building are vector screened with mesh of appropriate gauge impregnated regularly with an approved insecticide in accordance with manufacturers' instructions;

c) vector surveillance and control within and around the building;

d) measures to limit or eliminate breeding sites for vectors in the vicinity of the establishment or facility;

e) standard operating procedures, including description of back-up and alarm systems, for operation of the establishment or facility and transport of animals to the place of loading.
2) During transportation

When transporting animals through infected countries or zones, Veterinary Authorities should require strategies to protect animals from attacks from Culicoides during transport, taking into account the local ecology of the vector.

a) Transport by road

Risk management strategies may include:

i) treating animals with insect repellents prior to and during transportation;

ii) loading, transporting and unloading animals at times of low vector activity (i.e. bright sunshine, low temperature);

iii) ensuring vehicles do not stop en route during dawn or dusk, or overnight, unless the animals are held behind insect-proof netting;

iv) darkening the interior of the vehicle, for example by covering the roof or sides of vehicles with shade cloth;

v) surveillance for vectors at common stopping and unloading points to gain information on seasonal variations;

vi) using historical information or information from appropriately verified and validated bluetongue epidemiological models to identify low risk ports and transport routes.

b) Transport by air

Prior to loading the animals, the crates, containers or jet stalls should be sprayed with an insecticide approved in the country of dispatch.

Crates, containers or jet stalls in which animals are being transported and the cargo hold of the aircraft should be sprayed with an approved insecticide when the doors have been closed and prior to take-off. All possible insect harbourage should be treated. The spray containers should be retained for inspection on arrival.

In addition, during any stopover in countries or zones not free from bluetongue prior to the opening of any aircraft door and until all doors are closed, netting of appropriate gauge impregnated with an approved insecticide should be placed over crates, containers or jet stalls.

**Article 8.3.14.**

*Introduction to surveillance*

Articles 8.3.14 to 8.3.17 define the principles and provide guidance on *surveillance* for *infection* with BTV, complementary to Chapter 1.4, and for vectors complementary to Chapter 1.5.

Bluetongue is a vector-borne *infection* transmitted by various species of Culicoides in a range of ecosystems.

The purpose of surveillance is the detection of transmission of BTV in a country or zone and not determination of the status of an individual animal or herds or flocks. Surveillance deals with the evidence of *infection* with BTV in the presence or absence of clinical signs.

An important component of the epidemiology of bluetongue is the capacity of its vector, which provides a measure of disease *risk* that incorporates vector competence, abundance, biting rates, survival rates and extrinsic incubation period. However, methods and tools for measuring some of these vector factors remain to be developed, particularly in a field context. Therefore, surveillance for bluetongue should focus on transmission of BTV in domestic ruminants and camelids.

The impact and epidemiology of bluetongue widely differ in different regions of the world and therefore it is not appropriate to provide specific recommendations for all situations. Member Countries should provide scientific data that explain the epidemiology of bluetongue in the country or zone concerned and adapt the surveillance strategies for defining their status to the local conditions. There is considerable latitude available to Member Countries to justify their status at an acceptable level of confidence.

Surveillance for bluetongue should be in the form of a continuing programme.
Chapter 8.3. - Infection with bluetongue virus

Article 8.3.15.  

**General conditions and methods for surveillance**

1) A *surveillance* system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease should be in place;
   b) a procedure should be in place for the rapid collection and transport of samples from suspected cases of infection with BTV to a laboratory for diagnosis;
   c) a system for recording, managing and analysing diagnostic and surveillance data should be in place.

2) The bluetongue surveillance programme should:
   a) in a free country or zone or seasonally free zone, have an early warning system which obliges farmers and workers, who have regular contact with domestic ruminants, as well as diagnosticians, to report promptly any suspicion of bluetongue to the Veterinary Authority.

   An effective surveillance system will periodically identify suspected cases that require follow-up and investigation to confirm or exclude whether the cause of the condition is bluetongue. The rate at which such suspected cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. All suspected cases of bluetongue should be investigated immediately and samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment be available for those responsible for surveillance;

   **AND**

   b) conduct random or targeted serological and virological surveillance appropriate to the status of the country or zone.

**Article 8.3.16.**

**Surveillance strategies**

The target population for surveillance aimed at identification of disease or infection should cover susceptible domestic ruminants and camelids, and other susceptible herbivores of epidemiological significance within the country or zone. Active and passive surveillance for bluetongue should be ongoing as epidemiologically appropriate. Surveillance should be composed of random or targeted approaches using virological, serological and clinical methods appropriate for the status of the country or zone.

It may be appropriate to focus surveillance in an area adjacent to a border of an infected country or zone for up to 100 kilometres, taking into account relevant ecological or geographical features likely to interrupt the transmission of BTV or the presence in the bordering infected country or zone of a bluetongue surveillance programme (in accordance with Articles 8.3.14. to 8.3.17.) that supports a lesser distance.

A Member Country should justify the surveillance strategy chosen as being adequate to detect the presence of infection with BTV in accordance with Chapter 1.4. and the prevailing epidemiological situation. It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clinical signs (e.g. sheep).

Similarly, virological and serological testing may be targeted to species that rarely show clinical signs (e.g. bovines).

In vaccinated populations, serological and virological surveillance is necessary to detect the BTV serotypes circulating to ensure that all circulating serotypes are included in the vaccination programme.

If a Member Country wishes to declare freedom from bluetongue in a specific zone, the design of the surveillance strategy should be aimed at the population within the zone.

For random surveys, the design of the sampling strategy should incorporate epidemiologically appropriate design prevalence. The sample size selected for testing should be large enough to detect evidence of infection if it were to occur at a predetermined minimum rate. The sample size and expected prevalence determine the level of confidence in the results of the survey. The Member Country should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular should be based on the prevailing or historical epidemiological situation.

Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination and infection history and the different species in the target population.
Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following up positive reactions to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as those which may be epidemiologically linked to it.

The principles involved in surveillance for disease or infection are technically well defined. The design of surveillance programmes to prove the absence of infection with, and transmission of, BTV should be carefully followed to avoid producing results that are either insufficiently reliable to be accepted by international trading partners, or excessively costly and logistically complicated.

1. Clinical surveillance

Clinical surveillance aims to detect clinical signs of bluetongue at the herd or flock level, particularly during a newly introduced infection. In sheep and occasionally goats, clinical signs may include oedema, hyperaemia of mucosal membranes, coronitis and cyanotic tongue. Suspected cases of bluetongue detected by clinical surveillance should always be confirmed by laboratory testing.

2. Serological surveillance

An active programme of surveillance of host populations to detect evidence of transmission of BTV is essential to establish the bluetongue status of a country or zone. Serological testing of ruminants is one of the most effective methods of detecting the presence of BTV. The species tested should reflect the epidemiology of bluetongue. Bovines are usually the most sensitive indicator species. Management variables that may influence likelihood of infection, such as the use of insecticides and animal housing, should be considered.

Samples should be examined for antibodies against BTV. Positive test results can have four possible causes:
   a) natural infection,
   b) vaccination,
   c) maternal antibodies,
   d) the lack of specificity of the test.

It may be possible to use sera collected for other survey purposes for bluetongue surveillance. However, the principles of survey design described in these recommendations and the requirements for a statistically valid survey for the presence of infection with BTV should not be compromised.

The results of random or targeted serological surveys are important in providing reliable evidence that no infection with BTV is present in a country or zone. It is, therefore, essential that the survey is thoroughly documented. It is critical to interpret the results in light of the movement history of the animals being sampled.

Serological surveillance in a free zone should target those areas that are at highest risk of transmission of BTV, based on the results of previous surveillance and other information. This will usually be towards the boundaries of the free zone. In view of the epidemiology of bluetongue, either random or targeted sampling is suitable to select herds, flocks or animals for testing.

Serological surveillance in infected zones will identify changes in the boundary of the zone, and can also be used to identify the BTV types circulating. In view of the epidemiology of bluetongue, either random or targeted sampling is suitable.

3. Virological surveillance

Isolation and genetic analysis of BTV from a proportion of infected animals provides information on serotype and genetic characteristics of the viruses concerned.

Virological surveillance can be conducted:
   a) to identify virus transmission in at risk populations,
   b) to confirm clinically suspected cases,
   c) to follow up positive serological results,
   d) to better characterise the genotype of circulating virus in a country or zone.

4. Sentinel animals

Sentinel animals are a form of targeted surveillance with a prospective study design. They are the preferred strategy for bluetongue surveillance. They comprise groups of unexposed animals that have not been vaccinated and are managed at fixed locations and sampled regularly to detect new infections with BTV.

The primary purpose of a sentinel animal programme is to detect infections with BTV occurring at a particular place, for instance sentinel groups may be located on the usual boundaries of infected zones to detect changes in
distribution of BTV. In addition, sentinel animal programmes allow the timing and dynamics of infections to be observed.

A sentinel animal programme should use animals of known source and history of exposure, control management variables such as use of insecticides and animal housing (depending on the epidemiology of bluetongue in the area under consideration), and be flexible in its design in terms of sampling frequency and choice of tests.

Care is necessary in choosing the sites for the sentinel groups. The aim is to maximise the chance of detecting transmission of BTV at the geographical location for which the sentinel site acts as a sampling point. The effect of secondary factors that may influence events at each location, such as climate, may also be analysed. To avoid bias, sentinel groups should comprise animals selected to be of similar age and susceptibility to infection with BTV. Bovines are the most appropriate sentinels but other domestic ruminant species may be used. The only feature distinguishing groups of sentinels should be their geographical location.

Sera from sentinel animal programmes should be stored methodically in a serum bank to allow retrospective studies to be conducted in the event of new serotypes being isolated.

The frequency of sampling will depend on the reason for choosing the sampling site. In endemic areas, virus isolation will allow monitoring of the serotypes and genotypes of BTV circulating during each time period. The borders between infected and uninfected areas can be defined by serological detection of infective period. Monthly sampling intervals are frequently used. Sentinels in declared free zones add to confidence that infection with BTV is not occurring unobserved. In such cases, sampling prior to and after the possible period of transmission is sufficient.

Definitive information on the presence of BTV in a country or zone is provided by isolation and identification of the viruses. If virus isolation is required, sentinels should be sampled at sufficiently frequent intervals to ensure that samples are collected during the period of viraemia.

5. **Vector surveillance**

BTV is transmitted between ruminant hosts by species of *Culicoides* which vary around the world. It is therefore important to be able to identify potential vector species accurately although many such species are closely related and difficult to differentiate with certainty.

Vector surveillance aims to demonstrate the absence of vectors or to determine areas of different levels of risk and local details of seasonality by determining the various vector species present in an area, their respective seasonal occurrence, and abundance. Vector surveillance has particular relevance to potential areas of spread.

Long term surveillance can also be used to assess vector abatement measures or to confirm continued absence of vectors.

The most effective way of gathering this information should take account of the biology and behavioural characteristics of the local vector species of *Culicoides* and may include the use of Onderstepoort-type light traps or similar, operated from dusk to dawn in locations adjacent to domestic ruminants, or the use of drop traps over ruminants.

Vector surveillance should be based on scientific sampling techniques. The choice of the number and type of traps to be used and the frequency of their use should take into account the size and ecological characteristics of the area to be surveyed.

The operation of vector surveillance sites at the same locations as sentinel animals is advisable.

The use of a vector surveillance system to detect the presence of circulating virus is not recommended as a routine procedure as the typically low vector infection rates mean that such detections can be rare.

Animal-based surveillance strategies are preferred to detect virus transmission.

**Article 8.3.17.**

**Documentation of bluetongue free status**

1. **Additional surveillance requirements for Member Countries declaring freedom from bluetongue**

In addition to the general requirements described above, a Member Country declaring freedom from bluetongue for the entire country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and should be planned and implemented in accordance with general conditions and methods described in this chapter, to demonstrate absence of infection with BTV during the preceding 24 months in susceptible domestic ruminant populations. This requires the support of a laboratory able to undertake identification of infection with BTV through virus detection and antibody tests. This surveillance should be targeted to unvaccinated animals. Clinical surveillance may be effective in sheep while serological surveillance is more appropriate in bovines.
2. **Additional requirements for countries or zones that practise vaccination**

*Vaccination* to prevent the transmission of BTV may be part of a disease control programme. The level of *flock* or *herd* immunity required to prevent transmission will depend on the *flock* or *herd* size, composition (e.g. species) and density of the susceptible population. It is therefore impossible to be prescriptive. The vaccine should also comply with the provisions stipulated for BTV vaccines in the *Terrestrial Manual*. Based on the epidemiology of bluetongue in the country or zone, it may be decided to vaccinate only certain species or other subpopulations. In countries or zones that practise *vaccination*, virological and serological tests should be carried out to ensure the absence of virus transmission. These tests should be performed on unvaccinated subpopulations or on sentinels. The tests should be repeated at appropriate intervals in accordance with the purpose of the *surveillance* programme. For example, longer intervals may be adequate to confirm endemicity, while shorter intervals may allow on-going demonstration of absence of transmission.

---

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2018.
CHAPTER 8.4.

INFECTION WITH BRUCELLA ABORTUS, B. MELITENSI S AND B. SUIS

Article 8.4.1.

General provisions

1) The aim of this chapter is to mitigate the risk of spread of, and the risk to human health from, Brucella abortus, B. melitensis and B. suis in animals.

2) For the purposes of this chapter:
   a) 'Brucella' means B. abortus, B. melitensis or B. suis, excluding vaccine strains.
   b) 'Animals' means domestic and captive wild animal populations of the following categories:
      i) bovids: this term means cattle (Bos taurus, B. indicus, B. frontalis, B. javanicus and B. grunniens), bison (Bison bison and B. bonasus) and water buffalo (Bubalus bubalis);
      ii) sheep (Ovis aries) and goats (Capra aegagrus);
      iii) pigs (Sus scrofa);
      iv) camelids: this term means dromedary camel (Camelus dromedarius), Bactrian camel (Camelus bactrianus), llama (Lama glama), alpaca (Lama pacos), guanaco (Lama guanicoe) and vicuna (Vicugna vicugna);
      v) cervids: this term means roe deer (Capreolus capreolus), red deer (Cervus elaphus elaphus), wapiti/elk (C. elaphus canadensis), sika (C. nippon), samba (C. unicolor unicolor), rusa (C. timorensis), fallow deer (Dama dama), white-tailed, black-tailed, mule deer (Odocoileus spp.) and reindeer/caribou (Rangifer tarandus);
      vi) European hare (Lepus europaeus).

3) For the purposes of the Terrestrial Code, a case is an animal infected with Brucella.

4) The chapter deals not only with the occurrence of clinical signs caused by infection with Brucella, but also with the presence of infection with Brucella in the absence of clinical signs.

5) The following defines infection with Brucella:
   a) Brucella has been isolated from a sample from an animal;
   OR
   b) positive results to a diagnostic test have been obtained, and there is an epidemiological link to a case.

6) When authorising import or transit of commodities listed in this chapter, with the exception of those listed in Article 8.4.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the Brucella infection status of the animal population of the exporting country, zone, herd or flock.

7) Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.4.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any Brucella-related conditions, regardless of the Brucella infection status of the animal population of the exporting country:

1) skeletal muscle meat, brain and spinal cord, digestive tract, thymus, thyroid and parathyroid glands and derived products;
2) cured hides and skins;
3) gelatine, collagen, tallow and .
Chapter 8.4. - Infection with Brucella abortus, B. melitensis and B. suis

Article 8.4.3.

Country or zone historically free from infection with *Brucella* in specified animal categories

A country or zone may be considered free from *infection* with *Brucella* in specified animal categories when:

1) *infection* with *Brucella* in animals is a *notifiable disease* in the entire country;
2) historical freedom in the relevant animal categories has been demonstrated as described in Article 1.4.6.

Article 8.4.4.

Country or zone free from infection with *Brucella* in bovids without vaccination

1) To qualify as free from *infection* with *Brucella* in bovids without vaccination, a country or zone should satisfy the following requirements:
   a) *infection* with *Brucella* in animals is a *notifiable disease* in the entire country;
   b) no case has been recorded in bovids for at least the past three years;
   c) regular testing of all herds has been in place for the past three years; and this testing has demonstrated that during this period, *infection* with *Brucella* was not present in at least 99.8% of the herds representing at least 99.9% of bovids in the country or zone;
   d) regulatory measures have been implemented for the early detection of *infection* with *Brucella* in bovids, including at least the regular submission of samples from abortion cases to diagnostic laboratories;
   e) no bovids have been vaccinated against *infection* with *Brucella* for at least the past three years, and no bovids introduced into the country or zone have been vaccinated in the past three years;
   f) bovids and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.

2) To maintain the status as free from *infection* with *Brucella* in bovids without vaccination, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) above are met;
   b) a *surveillance* programme based on regular testing of bovids is in place in the country or zone to detect *infection* with *Brucella* in accordance with Article 1.4.4.;
   c) if the *surveillance* programme described in b) above has not detected *infection* with *Brucella* for two consecutive years, *surveillance* may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from *infection* with *Brucella* in bovids without vaccination is not affected by the occurrence of *infection* with *Brucella* in other animal categories or *feral* or *wild animals* provided that effective measures have been implemented to prevent transmission of *infection* with *Brucella* to bovids.

Article 8.4.5.

Country or zone free from infection with *Brucella* in bovids with vaccination

1) To qualify as free from *infection* with *Brucella* in bovids with vaccination, a country or zone should satisfy the following requirements:
   a) *infection* with *Brucella* in animals is a *notifiable disease* in the entire country;
   b) no case has been recorded in bovids for at least the past three years;
   c) regular testing of all herds has been in place for the past three years; and this testing has demonstrated that during this period, *infection* with *Brucella* was not present in at least 99.8% of the herds representing at least 99.9% of bovids in the country or zone;
   d) regulatory measures have been implemented for the early detection of *infection* with *Brucella* in bovids, including at least the regular submission of samples from abortion cases to diagnostic laboratories;
   e) vaccinated bovids should be permanently identified as such;
   f) bovids and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.

2) To maintain the status as free from *infection* with *Brucella* in bovids with vaccination, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) above are met;
   b) a *surveillance* programme based on regular testing of bovids is in place in the country or zone to detect *infection* with *Brucella* in accordance with Article 1.4.4.;
c) if the surveillance programme described in b) above has not detected infection with Brucella for two consecutive years, surveillance may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from infection with Brucella in bovids with vaccination is not affected by the occurrence of infection with Brucella in other animal categories or feral or wild animals provided that effective measures have been implemented to prevent transmission of infection with Brucella to bovids.

4) The status of a country or zone free from infection with Brucella in bovids with vaccination remains unchanged for a period of three years after vaccination has ceased, provided that the requirements in points 1 a), 1 b) and 1 d) to 1 f) of Article 8.4.4. are met, at which time this status may be changed to free from infection with Brucella in bovids without vaccination.

Article 8.4.6.

Country or zone free from infection with Brucella in sheep and goats without vaccination

1) To qualify as free from infection with Brucella in sheep and goats without vaccination, a country or zone should satisfy the following requirements:
   a) infection with Brucella in animals is a notifiable disease in the entire country;
   b) no case has been recorded in sheep and goats for at least the past three years;
   c) regular testing of all flocks has been in place for the past three years; and this testing has demonstrated that during this period, infection with Brucella was not present in at least 99.8% of the flocks representing at least 99.9% of sheep and goats in the country or zone;
   d) regulatory measures have been implemented for the early detection of infection with Brucella in sheep and goats, including at least the regular submission of samples from abortion cases to diagnostic laboratories;
   e) no sheep and goats have been vaccinated against infection with Brucella for at least the past three years and no sheep and goats introduced into the country or zone have been vaccinated in the past three years;
   f) sheep and goats and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.

2) To maintain the status as free from infection with Brucella in sheep and goats without vaccination, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) of above are met;
   b) a surveillance programme based on regular testing of sheep and goats is in place in the country or zone to detect infection with Brucella in accordance with Article 1.4.4.;
   c) if the surveillance programme described in b) above has not detected infection with Brucella for two consecutive years, surveillance may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from infection with Brucella in sheep and goats without vaccination is not affected by the occurrence of infection with Brucella in other animal categories or feral or wild animals provided that effective measures have been implemented to prevent transmission of infection with Brucella to sheep and goats.

Article 8.4.7.

Country or zone free from infection with Brucella in sheep and goats with vaccination

1) To qualify as free from infection with Brucella in sheep and goats with vaccination, a country or zone should satisfy the following requirements:
   a) infection with Brucella in animals is a notifiable disease in the entire country;
   b) no case has been recorded in sheep and goats for at least the past three years;
   c) regular testing of all flocks has been in place for the past three years; and this testing has demonstrated that during this period, infection with Brucella was not present in at least 99.8% of the flocks representing at least 99.9% of sheep and goats in the country or zone;
   d) regulatory measures have been implemented for the early detection of infection with Brucella in sheep and goats, including at least the regular submission of samples from abortion cases to diagnostic laboratories;
   e) vaccinated sheep and goats should be permanently identified as such;
   f) sheep and goats and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.
Chapter 8.4. - Infection with Brucella abortus, B. melitensis and B. suis

2) To maintain the status as free from infection with Brucella in sheep and goats with vaccination, a country or zone should satisfy the following requirements:

a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) of above are met;

b) a surveillance programme based on regular testing of sheep and goats is in place in the country or zone to detect infection with Brucella in accordance with Article 1.4.4.;

c) if the surveillance programme described in b) above has not detected infection with Brucella for two consecutive years, surveillance may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from infection with Brucella in sheep and goats with vaccination is not affected by the occurrence of infection with Brucella in other animal categories or feral or wild animals provided that effective measures have been implemented to prevent transmission of infection with Brucella to sheep and goats.

4) The status of a country or zone free from infection with Brucella in sheep and goats with vaccination remains unchanged for a period of three years after vaccination has ceased, provided that the requirements in points 1 a), 1 b) and 1 d) to 1 f) of Article 8.4.6. are met, at which time this status may be changed to free from infection with Brucella in sheep and goats without vaccination.

Article 8.4.8.

Country or zone free from infection with Brucella in camelids

1) To qualify as free from infection with Brucella in camelids, a country or zone should satisfy the following requirements:

a) infection with Brucella in animals is a notifiable disease in the entire country;

b) no case has been recorded in camelids for at least the past three years;

c) regular testing of all herds has been in place for the past three years; and this testing has demonstrated that during this period, infection with Brucella was not present in at least 99.8% of the herds representing at least 99.9% of camelids in the country or zone;

d) regulatory measures have been implemented for the early detection of infection with Brucella in camelids, including at least the regular submission of samples of abortion cases to diagnostic laboratories;

e) no camelids have been vaccinated against infection with Brucella for at least the past three years and no camelids introduced into the country or zone have been vaccinated in the past three years;

f) camelids and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.

2) To maintain the status as free from infection with Brucella in camelids, a country or zone should satisfy the following requirements:

a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) of above are met;

b) a surveillance programme based on regular testing of camelids is in place in the country or zone to detect infection with Brucella in accordance with Article 1.4.4.;

c) if the surveillance programme described in b) above has not detected infection with Brucella for two consecutive years, surveillance may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from infection with Brucella in camelids is not affected by the occurrence of infection with Brucella in other animal categories or feral or wild animals provided that effective measures have been implemented to prevent transmission of infection with Brucella to camelids.
Chapter 8.4.- Infection with Brucella abortus, B. melitensis and B. suis

Country or zone free from infection with Brucella in cervids

1) To qualify as free from infection with Brucella in cervids, a country or zone should satisfy the following requirements:
   a) infection with Brucella in animals is a notifiable disease in the entire country;
   b) no case has been recorded in cervids for at least the past three years;
   c) regular testing of all herds has been in place for the past three years; and this testing has demonstrated that during this period, infection with Brucella was not present in at least 99.8% of the herds representing at least 99.9% of cervids in the country or zone;
   d) regulatory measures have been implemented for the early detection of infection with Brucella in cervids, including at least the regular submission of samples from abortion cases to diagnostic laboratories;
   e) no cervids have been vaccinated against infection with Brucella for at least the past three years and no cervids introduced into the country or zone have been vaccinated in the past three years;
   f) cervids and their genetic materials introduced into the country or zone comply with the recommendations in Articles 8.4.14. and 8.4.16. to 8.4.18.

2) To maintain the status as free from infection with Brucella in cervids, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 b) and 1 d) to 1 f) of above are met;
   b) a surveillance programme based on regular testing of cervids is in place in the country or zone to detect infection with Brucella in accordance with Article 1.4.4.;
   c) if the surveillance programme described in b) above has not detected infection with Brucella for two consecutive years, surveillance may be maintained in accordance with Article 1.4.5.

3) The country or zone status of free from infection with Brucella in cervids is not affected by the occurrence of infection with Brucella in other animal categories or feral or wild animals provided that effective measures have been implemented to prevent transmission of infection with Brucella to cervids.

Herd or flock free from infection with Brucella in bovids, sheep and goats, camelids or cervids without vaccination

1) To qualify as free from infection with Brucella without vaccination, a herd or flock of bovids, sheep and goats, camelids or cervids should satisfy the following requirements:

   a) the herd or flock is in a country or zone free from infection with Brucella without vaccination in the relevant animal category and is certified free without vaccination by the Veterinary Authority;
   OR

   b) the herd or flock is in a country or zone free from infection with Brucella with vaccination in the relevant animal category and is certified free without vaccination by the Veterinary Authority; and no animal of the herd or flock has been vaccinated in the past three years;
   OR

   c) the herd or flock met the following conditions:

      i) infection with Brucella in animals is a notifiable disease in the entire country;
      ii) no animal of the relevant category of the herd or flock has been vaccinated in the past three years;
      iii) no case has been detected in the herd or flock for at least the past year;
      iv) animals showing clinical signs consistent with infection with Brucella such as abortions have been subjected to the necessary diagnostic tests with negative results;
      v) for at least the past year, there has been no evidence of infection with Brucella in other herds or flocks of the same establishment, or measures have been implemented to prevent any transmission of the infection with Brucella from these other herds or flocks;
      vi) two tests have been performed with negative results on all sexually mature animals, i.e. except castrated males and spayed females, present in the herd at the time of testing, the first test being performed not before 3 months after the slaughter of the last case and the second test at an interval of more than 6 and less than 12 months.
2) To maintain the free status, the following conditions should be met:

a) the requirements in points 1 a) or 1 b) or 1 c) i) to 1 c) v) above are met;

b) regular tests, at a frequency depending on the prevalence of herd or flock infection in the country or zone, demonstrate the continuing absence of infection with Brucella;

c) animals of the relevant category introduced into the herd or flock are accompanied by a certificate from an Official Veterinarian attesting that they come from:

i) a country or zone free from infection with Brucella in the relevant category without vaccination;

OR

ii) a country or zone free from infection with Brucella with vaccination and the animals of the relevant category have not been vaccinated in the past three years;

OR

iii) a herd or flock free from infection with Brucella with or without vaccination and that the animals have not been vaccinated in the past three years and were tested for infection with Brucella within 30 days prior to shipment with negative results; in the case of post-parturient females, the test is carried out at least 30 days after giving birth. This test is not required for sexually immature animals including castrated males and spayed females.

Article 8.4.11.

Herd or flock free from infection with Brucella in bovids, sheep and goats with vaccination

1) To qualify as free from infection with Brucella with vaccination, a herd of bovids or flock of sheep and goats should satisfy the following requirements:

a) the herd or flock is in a country or zone free from infection with Brucella with vaccination for the relevant animal category and is certified free with vaccination by the Veterinary Authority;

OR

b) the herd or flock met the following conditions:

i) infection with Brucella in animals is a notifiable disease in the entire country;

ii) vaccinated animals of the relevant categories are permanently identified as such;

iii) no case has been detected in the herd or flock for at least the past year;

iv) animals showing clinical signs consistent with infection with Brucella such as abortions have been subjected to the necessary diagnostic tests with negative results;

v) for at least the past year, there has been no evidence of infection with Brucella in other herds or flocks of the same establishment, or measures have been implemented to prevent any transmission of the infection with Brucella from these other herds or flocks;

vi) two tests have been performed with negative results on all sexually mature animals present in the herd at the time of testing, the first test being performed not before 3 months after the slaughter of the last case and the second test at an interval of more than 6 and less than 12 months.

2) To maintain the free status, the following conditions should be met:

a) the requirements in points 1 a) or 1 b) i) to 1 b) v) above are met;

b) regular tests, at a frequency depending on the prevalence of herd or flock infection in the country or zone, demonstrate the continuing absence of infection with Brucella;

c) animals of the relevant category introduced into the herd or flock should be accompanied by a certificate from an Official Veterinarian attesting that they come from either:

i) a country or zone free from infection with Brucella in the relevant category with or without vaccination;

OR

ii) a herd or flock free from infection with Brucella with or without vaccination and that the animals were tested for infection with Brucella within 30 days prior to shipment with negative results; in the case of post-parturient females, the test is carried out at least 30 days after giving birth. This test is not required for sexually immature animals or vaccinated animals less than 18 months of age.
Chapter 8.4.- Infection with Brucella abortus, B. melitensis and B. suis

Article 8.4.12.

Herd free from infection with Brucella in pigs
1) To qualify as free from infection with Brucella, a herd of pigs should satisfy the following requirements:
   a) infection with Brucella in animals is a notifiable disease in the entire country;
   b) no case has been detected in the herd for at least the past three years;
   c) animals showing clinical signs consistent with infection with Brucella such as abortions or orchitis have been subjected to the necessary diagnostic tests with negative results;
   d) no pigs of the herd have been vaccinated for at least the past three years and no pigs introduced into the herd have been vaccinated in the past three years;
   e) for at least the past three years, there has been no evidence of infection with Brucella in other herds of the same establishment, or measures have been implemented to prevent any transmission of infection with Brucella from these other herds.
2) To maintain the free status, the following conditions should be met:
   a) the requirements in point 1 above are met;
   b) animals introduced into the herd are accompanied by a certificate from an Official Veterinarian attesting that:
      i) they come from a herd free from infection with Brucella;
      OR
      ii) they come from a herd in which a statistically valid sample of the breeding pigs, selected in accordance with Article 1.4.4., was tested within 30 days prior to shipment, demonstrating the absence of infection with Brucella;
      OR
      iii) they were tested within 30 days prior to shipment with negative results.

Article 8.4.13.

Recovery of the Brucella infection free status in a country or a zone
Should a case of infection with Brucella in one or more animal categories occur in a free country or zone as described in Articles 8.4.4. to 8.4.9., the free status may be recovered once the following requirements are met:
1) all infected animals of the relevant category have been slaughtered or destroyed as soon as infection with Brucella is confirmed;
2) an epidemiological investigation has been performed within 60 days of confirmation of infection with Brucella in the herd or flock, aiming at identifying the likely source and the distribution of the infection, and shows that the number of outbreaks is limited and all are epidemiologically linked;
3) in the index herd or flock and herds or flocks identified by the epidemiological investigation:
   a) whole herd or flock depopulation has been practised; or
   b) whole herd or flock depopulation has not been practised, and all remaining sexually mature animals except castrated males have been tested, with negative results, on three occasions, at an interval of not less than two months, then a fourth test six months later and a final fifth test a year later;
   AND
   c) no animals are moved from the herds or flocks except directly for slaughter until the processes in point a) or b) above are completed;
4) cleansing and disinfection procedures have been applied at the end of the slaughter process and before new animals are introduced.

If these requirements have not been met, the status is not recovered and Articles 8.4.4. to 8.4.9. apply as relevant.

Article 8.4.14.

Recommendations for the importation of bovids, sheep and goats, camels or cervids for breeding or rearing
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals of the relevant category:
1) showed no clinical sign of infection with Brucella on the day of shipment;
2) originate from:
   a) a country or zone free from infection with Brucella as relevant;
   OR
   b) a herd or flock free from infection with Brucella and all sexually mature animals were tested for infection with Brucella with negative results within 30 days prior to shipment;
   OR
   c) a herd or flock not qualified free from infection with Brucella:
      i) in which no case has been reported during the year prior to shipment;
      ii) the animals were isolated for 30 days prior to shipment and all animals in isolation were tested for infection with Brucella within that period with negative results; in the case of post-parturient females, the test was carried out at least 30 days after giving birth.

Article 8.4.15.

Recommendations for the importation of pigs for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the pigs:
1) showed no clinical sign of infection with Brucella on the day of shipment;
2) EITHER
   a) originate from a herd free from infection with Brucella;
   OR
   b) originate from a herd in which a statistically valid sample of the breeding pigs, selected in accordance with Article 1.4.4., was tested within 30 days prior to shipment, demonstrating the absence of infection with Brucella;
   OR
   c) were isolated for 30 days prior to shipment and all pigs in isolation were tested for infection with Brucella within that period with negative results.

Article 8.4.16.

Recommendations for the importation of animals for slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of infection with Brucella on the day of shipment;
2) originate from a country, zone, herd or flock free from infection with Brucella;
   OR
   3) are not being culled as part of an eradication programme against Brucella infection and in the case of sexually mature bovids, sheep and goats, camelids or cervids, were tested for infection with Brucella with negative results within 30 days prior to shipment.

Article 8.4.17.

Recommendations for the importation of semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the donor animals showed no clinical sign of infection with Brucella on the day of collection of the semen;
2) the donor animals were not vaccinated against infection with *Brucella* and either:
   a) were kept in an *artificial insemination centre* complying with Chapter 4.6. and the semen was collected and processed in accordance with Chapter 4.7.;
   OR
   b) were kept in a *herd or flock* free from *infection* with *Brucella* and tested every six months for *infection* with *Brucella* with negative results, and the semen was collected, processed and stored in accordance with Articles 4.6.3. to 4.6.5., and Articles 4.7.5. to 4.7.7.

**Article 8.4.18.**

**Recommendations for the importation of embryos**

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that:

1) the donor animals showed no clinical sign of *infection* with *Brucella* on the day of collection;

2) the donor animals were not vaccinated against *infection* with *Brucella* in the past three years and either:
   a) were kept in a country or zone free from *infection* with *Brucella*, as relevant;
   OR
   b) were kept in a *herd or flock* free from *infection* with *Brucella* and tested every six months for *infection* with *Brucella* with negative results;

3) the embryos were collected, processed and stored in accordance with Chapters 4.8. to 4.10.

**Article 8.4.19.**

**Recommendations for the importation of fresh meat and meat products other than mentioned in Article 8.4.2.**

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the *meat* and *meat products* come from animals:

1) which have been subjected to ante-and post-mortem inspections as described in Chapter 6.3.;

2) which:
   a) originate from a country or zone free from *infection* with *Brucella*, as relevant;
   OR
   b) originate from a *herd or flock* free from *infection* with *Brucella*;
   OR
   c) have not been culled as part of an eradication programme against *infection* with *Brucella*.

**Article 8.4.20.**

**Recommendations for the importation of milk and milk products**

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the *milk* or the *milk products*:

1) have been derived from animals in a country, zone, herd or flock free from *infection* with *Brucella* as relevant;

OR

2) were subjected to pasteurisation or any combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.

**Article 8.4.21.**

**Recommendations for importation of wool and hair**

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that these products:

1) have not been derived from animals culled as part of an eradication programme against *infection* with *Brucella*;
OR

2) have been processed to ensure the destruction of Brucella.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2018.
CHAPTER 8.5.

INFECTION WITH ECHINOCOCCUS GRANULOSUS

Article 8.5.1.

General provisions

Echinococcus granulosus (E. granulosus) is a widely distributed cestode (tapeworm). The adult worms occur in the small intestine of canids (definitive host). Larval stages (hydatid) occur in tissues of liver, lung and other organs of other mammals (intermediate host), including humans. Infection with the larval stage of the parasite in the intermediate host, referred to as 'cystic echinococcosis' or 'hydatidosis', is associated with significant economic losses in livestock production and causes a major disease burden in humans.

For the purposes of the Terrestrial Code, infection with E. granulosus is defined as a zoonotic parasitic infection of canids, ungulates and macropod marsupials with E. granulosus (ovine, bovine, cervid, camelid and porcine strains).

For the purposes of this chapter, offal is defined as internal organs of ungulates and macropod marsupials.

Transmission of E. granulosus to canids occurs through ingestion of hydatid-infected offal.

Infection in intermediate hosts, as well as in humans, occurs by ingestion of E. granulosus eggs from contaminated environments. In humans, infection may also occur following contact with infected canids or by consumption of food or water contaminated with E. granulosus eggs from canine faeces.

Infection in humans can be prevented by good food hygiene and personal hygiene, community health education and preventing infection of canids. Collaboration between the Competent Authority and the public health authority is an essential component in preventing and controlling E. granulosus transmission.

This chapter provides recommendations for prevention of, control of, and surveillance for infection with E. granulosus in dogs and livestock.

When authorising the import or transit of the commodities covered in this chapter, with the exception of those listed in Article 8.5.2., Veterinary Authorities should apply the recommendations in this chapter.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.5.2.

Safe commodities

When authorising import or transit of the following commodities of livestock, Veterinary Authorities should not require any E. granulosus-related conditions regardless of the status of the animal population of the exporting country or zone:

1) skeletal muscle meat and skeletal muscle meat products;
2) processed fat;
3) casings;
4) milk and milk products;
5) hides and skins;
6) semen, oocytes and embryos.

Article 8.5.3.

Programmes for the prevention and control of infection with E. granulosus

In order to prevent and control infection with E. granulosus, the Veterinary Authority or other Competent Authority should carry out community awareness programmes about the risk factors associated with transmission of E. granulosus, the role of dogs (including free-roaming dogs) and the importance of responsible dog ownership. The
Veterinary Authority or other Competent Authority should also implement the following prevention and control measures.

1) Prevention of infection in dogs
   a) Dogs should not be fed offal unless it has been treated in accordance with Article 8.5.6.
   b) Dogs should be prevented from scavenging on dead ungulates and macropod marsupials. Dead animals should be disposed of in accordance with Article 4.13.6.
   c) The Veterinary Authority or other Competent Authority should ensure that slaughterhouses/abattoirs have implemented measures that prevent access of dogs to the premises, and to animal carcasses and waste containing offal.
   d) When livestock cannot be slaughtered in a slaughterhouse/abattoir and are slaughtered on-farm, dogs should be prevented from having access to raw offal, and not be fed offal unless it has been treated in accordance with Article 8.5.6.

2) Control of infection in dogs
   a) For control of free-roaming dog populations, the Veterinary Authority or other Competent Authority should implement relevant aspects of Chapter 7.7.
   b) Dogs known to be infected or suspected of having access to raw offal or in contact with livestock should be dewormed at least every 4-6 weeks with praziquantel (5 mg/kg) or another cestocidal product with comparable efficacy. Where possible, faeces excreted up to 72 hours post treatment should be disposed of by incineration or burial.
   c) In areas of persistent transmission, the Veterinary Authority and other Competent Authority should collaborate to identify the possible origins of the infection, and review and amend the control programme, as appropriate.

3) Food safety and control of infection in livestock
   a) The Veterinary Authority should ensure that all slaughtered livestock are subjected to post-mortem meat inspection in accordance with Chapter 6.3., including inspection of offal for hydatids.
   b) When hydatids are detected during post-mortem meat inspection:
      i) offal containing hydatids should be disposed of in accordance with Article 4.13.6., or treated in accordance with Article 8.5.6.;
      ii) an investigation should be carried out by the Veterinary Authority and other Competent Authority to identify the possible origin of the infection, and review and amend, as appropriate, the control programme.
   c) Where indicated, control programmes should include the vaccination of livestock with the objective of decreasing the prevalence of infection in livestock.

Article 8.5.4.

Surveillance and monitoring for infection with E. granulosus

An animal identification and animal traceability system should be implemented in accordance with Chapters 4.2. and 4.3.

1) Monitoring in dogs
   a) Monitoring for infection with E. granulosus in dogs should be undertaken at regular intervals as it is an essential activity for assessing the risk of transmission to dog populations and for evaluating the success of control programmes. This can be achieved through testing of faeces from dogs, and canine faecal samples from the environment.
   b) Monitoring strategies should be appropriate to local conditions, in particular where large populations of free-roaming dogs and wild canids exist. Under these circumstances testing of environmental samples (faeces, soil) may provide a useful indicator of infection pressure.

2) Surveillance in slaughterhouses/abattoirs
   a) The Veterinary Services should carry out systematic surveillance for hydatids in livestock in slaughterhouses/abattoirs.
   b) Data collected should be used for the design or amendment of control programmes.

Veterinary Authorities should use information from public health authorities on cases of human hydatidosis in initial design and any subsequent modification of surveillance and monitoring programmes.
Article 8.5.5.

Recommendations for the importation of dogs and wild canids from an infected country

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the animal has been treated between 24 and 72 hours prior to embarkation with praziquantel (5 mg/kg), or another cestocidal product with comparable efficacy against intestinal forms of *E. granulosus*;
2) adequate precautions have been taken to avoid reinfection of the animal between treatment and embarkation.

Article 8.5.6.

Procedures for the inactivation of *E. granulosus* hydatids in offal

For the inactivation of *E. granulosus* hydatids present in offal, one of the following procedures should be used:
1) heat treatment to a core temperature of at least 80°C for ten minutes or an equivalent time and temperature;
2) freezing to minus 20°C or below for at least two days.

---

NB: FIRST ADOPTED IN 1982; MOST RECENT ADOPTION IN 2022.
CHAPTER 8.6.

INFECTION WITH ECHINOCOCCUS MULTILOCULARIS

Article 8.6.1.

General provisions

Echinococcus multilocularis (E. multilocularis) is a cestode (tapeworm) which is widespread in some parts of the Northern Hemisphere, and it is maintained mainly in wild animal populations. The adult worms occur in the small intestine of canids (definitive hosts), particularly foxes. Larval stages (metacestode) occur in tissues of liver and other organs of other mammals (commonly rodents) (intermediate hosts). Humans are infected occasionally with the larval stage, which causes severe disease, referred to as 'alveolar echinococcosis'. Infection does not cause discernible health impacts in livestock.

Foxes and some other wild canids are the most important definitive hosts in maintaining the cycle at the wildlife-human interface through contaminating both rural and urban environments. Dogs may also act as important and efficient definitive hosts in both rural and urban environments, providing an important potential source for human infections. Even though the potential role of felids in transmission of infection to humans cannot be excluded, their epidemiological role is considered negligible. Pigs may become infected but the parasite remains infertile; therefore, they have no role in transmission of the parasite.

For the purposes of the Terrestrial Code, infection with E. multilocularis is defined as a zoonotic parasitic infection of domestic and wild canids, and rodents.

Transmission of E. multilocularis to canids occurs through ingestion of metacestode-infected organs from a range of wild small mammals.

Infection in intermediate hosts, as well as in humans, occurs by ingestion of E. multilocularis eggs from contaminated environments. In humans, infection may also occur following contact with infected definitive hosts or by consumption of food or water contaminated with faeces of canids.

Prevention of infection in humans is difficult, particularly in areas with a high infection pressure maintained by rural and urban foxes. Good food hygiene and personal hygiene, community health education and preventing infection of dogs reduces the risk of human infection. Good communication and collaboration between the Competent Authority and public health authorities is an important component in monitoring the extent of infection with E. multilocularis in human and animal populations.

This chapter provides recommendations for prevention, control and monitoring of infection with E. multilocularis in dogs, and monitoring in wild canids.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.6.2.

Safe commodities

When authorising import or transit of any commodities of livestock, Veterinary Authorities should not require any related conditions regardless of the status of the animal population of the exporting country or zone.

Article 8.6.3.

Programmes for the prevention and control of infection with E. multilocularis in owned and free-roaming dogs

In order to achieve success in the prevention and control of infection with E. multilocularis, the Competent Authority should carry out community awareness programmes to inform people of the risk factors associated with transmission of E. multilocularis. Such programmes should include information on the importance of echinococcosis in animals and...
Chapter 8.6. - Infection with Echinococcus multilocularis

humans, the role of foxes, other wild canids, and dogs, the need to implement preventive and control measures, and the importance of responsible dog ownership.

Whenever the epidemiological situation indicates that a control programme is necessary, the following measures should be undertaken:

1) Owned dogs should not be allowed to roam freely unless treated in accordance with point 3.
2) For control of populations, the Competent Authority should ensure compliance with relevant aspects of Chapter 7.7.
3) Dogs known to be infected should immediately be treated with praziquantel (5 mg/kg) or another cestocidal product with a comparable efficacy; dogs suspected of having access to rodents or other small mammals should be treated every 21-26 days. Where possible, faeces excreted up to 72 hours post treatment should be disposed of by incineration or burial.

Article 8.6.4.

Monitoring for infection with E. multilocularis

1) Monitoring in foxes and other wild canids
   a) Monitoring for infection with E. multilocularis in foxes and other wild canids should be undertaken as it is an essential component for assessing the prevalence of infection.
   b) Monitoring strategies should be appropriate to local conditions, in particular where large populations of definitive hosts exist. Under these circumstances testing of environmental samples (faeces) may provide a useful indicator of infection pressure.

2) Surveillance in slaughterhouses/abattoirs
   As an indicator of the presence of the parasite in the environment, Veterinary Services should consider carrying out targeted surveillance for larval lesions of E. multilocularis in livers of pigs raised in outdoor conditions.

Veterinary Authorities should use information from public health authorities on cases of human infection, in the initial design and any subsequent modification of surveillance and monitoring programmes.

Article 8.6.5.

Recommendations for the importation of dogs and wild canids from an infected country

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the animal has been treated between 24 and 72 hours prior to embarkation with praziquantel (5 mg/kg), or another cestocidal product with a comparable efficacy against intestinal forms of E. multilocularis;
2) adequate precautions have been taken to avoid reinfection of the animal between treatment and embarkation.

NB: FIRST ADOPTED IN 1982.
CHAPTER 8.7.
INFECTION WITH EPIZOOTIC HEMORRHAGIC DISEASE VIRUS

Article 8.7.1.

General provisions

For the purposes of the Terrestrial Code, epizootic hemorrhagic disease (EHD) is defined as an infection of cervids and bovids with epizootic hemorrhagic disease virus (EHDV) that is transmitted by Culicoides vectors.

The following defines the occurrence of infection with EHDV:
1) EHDV has been isolated from a sample from a cervid or bovid; or
2) antigen or ribonucleic acid specific to EHDV has been identified in samples from a cervid or bovid showing clinical signs consistent with EHD, or epidemiologically linked to a suspected or confirmed case; or
3) antibodies to structural or nonstructural proteins of EHDV that are not a consequence of vaccination have been detected in a cervid or bovid that either shows clinical signs consistent with EHD, or is epidemiologically linked to a suspected or confirmed case.

For the purposes of the Terrestrial Code, the infective period for EHD shall be 60 days.

In the absence of clinical disease in a country or zone, its EHD status should be determined by an ongoing surveillance programme in accordance with Article 8.7.14.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.7.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any EHD-related conditions regardless of the EHD status of the ruminant population of the exporting country:
1) milk and milk products;
2) meat and meat products;
3) hides, skins, antlers and hooves;
4) wool and fibre.

Article 8.7.3.

Country or zone free from EHD
1) Historical freedom as described in Chapter 1.4. does not apply to EHD.
2) A country or a zone may be considered free from EHD when infection with EHDV is notifiable in the entire country, importation of animals and their semen or embryos is carried out in accordance with this chapter and either:
   a) a surveillance programme in accordance with Article 8.7.14. has demonstrated no evidence of transmission of EHDV in the country or zone during the past two years; or
   b) an ongoing surveillance programme in accordance with Article 8.7.14. and Chapter 4.4. has found no Culicoides for at least two years in the country or zone.
3) A country or zone free from EHD in which ongoing vector surveillance has found no evidence of Culicoides will not lose its free status through the introduction of seropositive or infective animals, or semen or embryos from countries or zones infected with EHDV.
4) A country or zone free from EHD in which Culicoides are present will not lose its free status through the introduction of seropositive animals, or semen or embryos provided that:
   a) an ongoing surveillance programme has focused on transmission of EHDV in domestic bovids and farmed cervids and has demonstrated no evidence of transmission in the country or zone; or
   b) the animals, semen and embryos were introduced in accordance with this chapter.

Article 8.7.4.

Zone seasonally free from EHD

A seasonally free zone is a part of an infected country or an infected zone in which for part of a year, surveillance demonstrates no evidence either of transmission of EHDV or of adult Culicoides.

For the application of Articles 8.7.7., 8.7.9. and 8.7.11., the seasonally free period is taken to commence the day following the last evidence of transmission of EHDV (as demonstrated by the surveillance programme), and of the cessation of activity of adult Culicoides.

For the application of Articles 8.7.7., 8.7.9. and 8.7.11., the seasonally free period is taken to conclude either:

1) at least 28 days before the earliest date that historical data show vector activity may recommence; or
2) immediately if current climatic data or data from a surveillance programme indicate an earlier resurgence of activity of adult Culicoides.

A seasonally free zone in which ongoing surveillance has found no evidence that Culicoides are present will not lose its free status through the introduction of vaccinated, seropositive or infective animals, or semen or embryos from countries or zones infected with EHDV.

Article 8.7.5.

Country or zone infected with EHDV

For the purposes of this chapter, a country or zone infected with EHDV is one that does not fulfill the requirements to qualify as either a country or zone free from EHD or a zone seasonally free from EHD.

Article 8.7.6.

Recommendations for importation from countries or zones free from EHD

For bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of EHD on the day of shipment;
2) the animals were kept in a country or zone free from EHD since birth or for at least 60 days prior to shipment; or
3) the animals were kept in a country or zone free from EHD for at least 28 days, then were subjected, with negative results, to a serological test to detect antibody to the EHDV group and remained in the free country or zone until shipment; or
4) the animals were kept in a country or zone free from EHD for at least 14 days, then were subjected, with negative results, to an agent identification test and remained in the free country or zone until shipment; or
5) the animals:
   a) were kept in a country or zone free from EHD for at least seven days;
   b) were vaccinated at least 60 days before the introduction into the free country or zone against all serotypes demonstrated to be present in the source population through a surveillance programme as described in Article 8.7.14.;
   c) were identified as having been vaccinated;
   d) remained in the free country or zone until shipment;
Chapter 8.7.- Infection with epizootic hemorrhagic disease virus

AND
6) if the animals were exported from a free zone within an infected country either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from attacks from Culicoides at all times when transiting through an infected zone.

**Article 8.7.7.**

**Recommendations for importation from zones seasonally free from EHD**

For bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of EHD on the day of shipment;
2) were kept in a zone seasonally free from EHD during the seasonally free period since birth or for at least 60 days prior to shipment; or
3) were kept in a zone seasonally free from EHD during the seasonally free period for at least 28 days prior to shipment, and were subjected during the residence period in the zone to a serological test to detect antibodies to the EHDV group with negative results, carried out at least 28 days after the commencement of the residence period; or
4) were kept in a zone seasonally free from EHD during the seasonally free period for at least 14 days prior to shipment, and were subjected during the residence period in the zone to an agent identification test with negative results, carried out at least 14 days after the commencement of the residence period; or
5) were kept in a zone seasonally free from EHD during the seasonally free period and were vaccinated, at least 60 days before the introduction into the free country or zone, against all serotypes the presence of which in the source population has been demonstrated through a surveillance programme in accordance with Article 8.7.14. and were identified as having been vaccinated and remained in the free country or zone until shipment;

AND
6) either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from attacks from Culicoides at all times when transiting through an infected zone; or
   c) were vaccinated in accordance with point 5 above.

**Article 8.7.8.**

**Recommendations for importation from countries or zones infected with EHDV**

For bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of EHD on the day of shipment;
2) were protected from attacks from Culicoides in a vector-protected establishment for at least 60 days prior to shipment and during transportation to the place of shipment; or
3) were protected from attacks from Culicoides in a vector-protected establishment for at least 28 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to a serological test to detect antibodies to the EHDV group, with negative results, carried out at least 28 days after introduction into the vector-protected establishment; or
4) were protected from attacks from Culicoides in a vector-protected establishment for at least 14 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to an agent identification test with negative results, carried out at least 14 days after introduction into the vector-protected establishment; or
5) were demonstrated to have antibodies for at least 60 days prior to dispatch against all serotypes whose presence has been demonstrated in the source population through a surveillance programme in accordance with Article 8.7.14.
Chapter 8.7.- Infection with epizootic hemorrhagic disease virus

Article 8.7.9.

Recommendations for importation from countries or zones free or zones seasonally free from EHD

For semen of bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of EHD on the day of collection;
   b) were kept in a country or zone free from EHD or in a seasonally free zone during the seasonally free period for at least 60 days before commencement of, and during, collection of the semen; or
   c) were subjected to a serological test to detect antibodies to the EHDV group, between 28 and 60 days after the last collection for this consignment, with negative results; or
   d) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.7.10.

Recommendations for importation from countries or zones infected with EHDV

For semen of bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of EHD on the day of collection;
   b) were kept in a vector-protected establishment for at least 60 days before commencement of, and during, collection of the semen; or
   c) were subjected to a serological test to detect antibodies to the EHDV group, with negative results, at least every 60 days throughout the collection period and between 28 and 60 days after the final collection for this consignment; or
   d) were subjected to an agent identification test on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.7.11.

Recommendations for importation from countries or zones free or zones seasonally free from EHD

For embryos of bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of EHD on the day of collection;
   b) were kept in a country or zone free from EHD or in a seasonally free zone during the seasonally free period for at least 60 days prior to, and at the time of, collection of the embryos; or
   c) were subjected to a serological test to detect antibodies to the EHDV group, between 28 and 60 days after collection, with negative results; or
   d) were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.
Article 8.7.12.

Recommendations for importation from countries or zones infected with EHDV

For embryos of bovids and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of EHD on the day of collection;
   b) were kept in a vector-protected establishment for at least 60 days before commencement of, and during, collection of the embryos; or
   c) were subjected to a serological test to detect antibodies to the EHDV group, between 28 and 60 days after collection, with negative results; or
   d) were subjected to an agent identification test on a blood sample taken on the day of collection, with negative results;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

Article 8.7.13.

Protecting animals from Culicoides attacks

1) Vector-protected establishment or facility

   The establishment or facility should be approved by the Veterinary Authority and the means of protection should at least comprise the following:

   a) appropriate physical barriers at entry and exit points, such as double-door entry-exit system;
   b) openings of the building are vector screened with mesh of appropriate gauge impregnated regularly with an approved insecticide in accordance with the manufacturers' instructions;
   c) vector surveillance and control within and around the building;
   d) measures to limit or eliminate breeding sites for vectors in the vicinity of the establishment or facility;
   e) standard operating procedures, including description of back-up and alarm systems, for operation of the establishment or facility and transport of animals to the place of loading.

2) During transportation

   When transporting animals through countries or zones infected with EHDV, Veterinary Authorities should require strategies to protect animals from attacks from Culicoides during transport., taking into account the local ecology of the vector.

   a) Transport by road

      Risk management strategies may include:

      i) treating animals with insect repellents prior to and during transportation;
      ii) loading, transporting and unloading animals at times of low vector activity (i.e. bright sunshine, low temperature);
      iii) ensuring vehicles do not stop en route during dawn or dusk, or overnight, unless the animals are held behind insect-proof netting;
      iv) darkening the interior of the vehicle, for example by covering the roof or sides of vehicles with shade cloth;
      v) surveillance for vectors at common stopping and unloading points to gain information on seasonal variations;
      vi) using historical information or information from appropriately verified and validated EHD epidemiological models to identify low risk ports and transport routes.
b) Transport by air

Prior to loading the animals, the crates, containers or jet stalls should be sprayed with an insecticide approved in the country of dispatch.

Crates, containers or jet stalls in which animals are being transported and the cargo hold of the aircraft should be sprayed with an approved insecticide when the doors have been closed and prior to take-off. All possible insect harbourage should be treated. The spray containers should be retained for inspection on arrival.

In addition, during any stopover in countries or zones not free from EHD, prior to the opening of any aircraft door and until all doors are closed, netting of appropriate gauge impregnated with an approved insecticide should be placed over crates, containers or jet stalls.

**Article 8.7.14.**

**Surveillance**

This article is complementary to Chapter 1.4. and, for vectors, complementary to Chapter 1.5. and outlines the principles for surveillance for EHD applicable to Member Countries seeking to determine the EHD status of a country or a zone.

EHD is a vector-borne infection transmitted by different species of Culicoides in a range of ecosystems.

An important component of the epidemiology of EHD is the capacity of its vector, which provides a measure of disease risk that incorporates vector competence, abundance, seasonal incidence, biting rates, survival rates and extrinsic incubation period. However, methods and tools for measuring some of these vector factors remain to be developed, particularly in a field context. Therefore, surveillance for EHD should focus on transmission of EHDV in domestic bovids and farmed cervids.

The purpose of surveillance is the detection of transmission of EHDV in a country or zone and not determination of the status of an individual animal or herd.

The impact and epidemiology of EHD differ widely in different regions of the world and it is not appropriate to provide specific recommendations for all situations. Member Countries should provide scientific data that explain the epidemiology of EHD in the country or zone concerned and adapt the surveillance strategies for defining their status to the local conditions. There is considerable latitude available to Member Countries to justify their status at an acceptable level of confidence.

**Surveillance** for EHD should be in the form of a continuing programme.

General provisions on surveillance for arthropod vectors are in Chapter 1.5.

More specific approaches to surveillance for Culicoides transmitted Orbivirus infections are described in Chapters 8.3. and 12.1. Passive surveillance for clinical cases of EHD in wild cervids can be a useful tool for detecting disease, based on lesions of haemorrhagic disease combined with appropriate diagnostic tests.

**NB:** FIRST ADOPTED IN 2015; MOST RECENT UPDATE ADOPTED IN 2016.
CHAPTER 8.8.

INFECTION WITH FOOT AND MOUTH DISEASE VIRUS

Article 8.8.1.

1) Many different species belonging to diverse taxonomic orders are known to be susceptible to infection with foot and mouth disease virus (FMDV). Their epidemiological significance depends upon the degree of susceptibility, the husbandry system, the density and extent of populations and the contacts between them. Amongst Camelidae, only Bactrian camels (Camelus bactrianus) are sufficiently susceptible to have potential for epidemiological significance. Dromedaries (Camelus dromedarius) are not susceptible to infection with FMDV while South American camelids are not considered to be of epidemiological significance.

2) For the purposes of the Terrestrial Code, foot and mouth disease (FMD) is defined as an infection of animals of the suborder ruminantia and of the family suidae of the order Artiodactyla, and Camelus bactrianus with FMDV.

3) The following defines the occurrence of infection with FMDV:
   a) FMDV has been isolated from a sample from an animal listed in point 2; or
   b) viral antigen or viral ribonucleic acid specific to FMDV has been identified in a sample from an animal listed in point 2, showing clinical signs consistent with FMD, or epidemiologically linked to a suspected or confirmed outbreak of FMD, or giving cause for suspicion of previous association or contact with FMDV; or
   c) antibodies to structural or nonstructural proteins of FMDV, that are not a consequence of vaccination, have been detected in a sample from an animal listed in point 2, showing clinical signs consistent with FMD, or epidemiologically linked to a suspected or confirmed outbreak of FMD, or giving cause for suspicion of previous association or contact with FMDV.

4) Transmission of FMDV in a vaccinated population is demonstrated by change in virological or serological evidence indicative of recent infection, even in the absence of clinical signs.

5) For the purposes of the Terrestrial Code, the incubation period of FMD shall be 14 days.

6) Infection with FMDV can give rise to disease of variable severity and to FMDV transmission. FMDV may persist in the pharynx and associated lymph nodes of ruminants for a variable but limited period of time beyond 28 days. Such animals have been termed carriers. However, the only persistently infected species from which transmission of FMDV has been proven is the African buffalo (Syncerus caffer).

7) This chapter deals not only with the occurrence of clinical signs caused by FMDV, but also with the presence of infection with FMDV and transmission, in the absence of clinical signs.

8) Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.8.2.

FMD free country or zone where vaccination is not practised

In defining a zone where vaccination is not practised the principles of Chapter 4.4. should be followed.

Susceptible animals in the FMD free country or zone where vaccination is not practised should be protected by the application of biosecurity measures that prevent the entry of FMDV into the free country or zone. Taking into consideration physical or geographical barriers with any neighbouring infected country or zone, these measures may include a protection zone.

To qualify for inclusion in the list of FMD free countries or zones where vaccination is not practised, a Member Country should:

1) have a record of regular and prompt animal disease reporting;

2) send a declaration to WOAH stating that during the past 12 months, within the proposed FMD free country or zone:
   a) there has been no case of FMD;
   b) no vaccination against FMD has been carried out;
3) supply documented evidence that for the past 12 months:
   a) surveillance in accordance with Articles 8.8.40. to 8.8.42. has been implemented to detect clinical signs of FMD and demonstrate no evidence of:
      i) infection with FMDV in unvaccinated animals;
      ii) FMDV transmission in previously vaccinated animals when the FMD free country or zone where vaccination is practised is seeking to become one where vaccination is not practised;
   b) regulatory measures for the prevention and early detection of FMD have been implemented;

4) describe in detail and supply documented evidence that for the past 12 months the following have been properly implemented and supervised:
   a) in the case of a FMD free zone, the boundaries of the proposed FMD free zone;
   b) the boundaries and measures of a protection zone, if applicable;
   c) the system for preventing the entry of FMDV into the proposed FMD free country or zone;
   d) the control of the movement of susceptible animals, their meat and other products into the proposed FMD free country or zone, in particular the measures described in Articles 8.8.8., 8.8.9. and 8.8.12.;
   e) no vaccinated animal has been introduced except in accordance with Articles 8.8.8. and 8.8.9.

The Member Country or the proposed free zone will be included in the list of FMD free countries or zones where vaccination is not practised only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

Retention on the list requires that the information in points 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3 b) and 4 should be reported to WOAH in accordance with the requirements in Chapter 1.1.

Provided the conditions of points 1 to 4 are fulfilled, the status of a country or zone will not be affected by applying official emergency vaccination to FMD susceptible animals in zoological collections in the face of a FMD threat identified by the Veterinary Authorities, provided that the following conditions are met:
   – the zoological collection has the primary purpose of exhibiting animals or preserving rare species, has been identified, including the boundaries of the facility, and is included in the country's contingency plan for FMD;
   – appropriate biosecurity measures are in place, including effective separation from other susceptible domestic populations or wildlife;
   – the animals are identified as belonging to the collection and any movements can be traced;
   – the vaccine used complies with the standards described in the Terrestrial Manual;
   – vaccination is conducted under the supervision of the Veterinary Authority;
   – the zoological collection is placed under surveillance for at least 12 months after vaccination.

In the event of the application for the status of a FMD free zone where vaccination is not practised to be assigned to a new zone adjacent to another FMD free zone where vaccination is not practised, it should be stated if the new zone is being merged with the adjacent zone to become one enlarged zone. If the two zones remain separate, details should be provided on the control measures to be applied for the maintenance of the status of the separate zones and particularly on the identification and the control of the movement of animals between the zones of the same status in accordance with Chapter 4.4.

**Article 8.8.3.**

**FMD free country or zone where vaccination is practised**

In defining a zone where vaccination is practised the principles of Chapter 4.4. should be followed.

Susceptible animals in the FMD free country or zone where vaccination is practised should be protected by the application of biosecurity measures that prevent the entry of FMDV into the free country or zone. Taking into consideration physical or geographical barriers with any neighbouring infected country or zone, these measures may include a protection zone.

Based on the epidemiology of FMD in the country, it may be decided to vaccinate only a defined subpopulation comprised of certain species or other subsets of the total susceptible population.
To qualify for inclusion in the list of FMD free countries or zones where vaccination is practised, a Member Country should:

1) have a record of regular and prompt animal disease reporting;

2) send a declaration to WOAH stating that, based on the surveillance described in point 3, within the proposed FMD free country or zone:
   a) there has been no case of FMD during the past two years;
   b) there has been no evidence of FMDV transmission during the past 12 months;

3) supply documented evidence that:
   a) surveillance in accordance with Articles 8.8.40. to 8.8.42. has been implemented to detect clinical signs of FMD and demonstrate no evidence of:
      i) infection with FMDV in unvaccinated animals;
      ii) FMDV transmission in vaccinated animals;
   b) regulatory measures for the prevention and early detection of FMD have been implemented;
   c) compulsory systematic vaccination in the target population has been carried out to achieve adequate vaccination coverage and population immunity;
   d) vaccination has been carried out following appropriate vaccine strain selection;

4) describe in detail and supply documented evidence that the following have been properly implemented and supervised:
   a) in case of FMD free zone, the boundaries of the proposed FMD free zone;
   b) the boundaries and measures of a protection zone, if applicable;
   c) the system for preventing the entry of FMDV into the proposed FMD free country or zone, in particular the measures described in Articles 8.8.8., 8.8.9. and 8.8.12.;
   d) the control of the movement of susceptible animals and their products into the proposed FMD free country or zone.

The Member Country or the proposed free zone will be included in the list of FMD free countries or zones where vaccination is practised only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

Retention on the list requires that the information in points 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3 b) and 4 should be reported to WOAH in accordance with the requirements in Chapter 1.1.

If a Member Country that meets the requirements of a FMD free country or zone where vaccination is practised wishes to change its status to FMD free country or zone where vaccination is not practised, it should notify WOAH in advance of the intended date of cessation of vaccination and apply for the new status within 24 months of the cessation. The status of this country or zone remains unchanged until compliance with Article 8.8.2. is approved by WOAH. If the dossier for the new status is not provided within 24 months then the status of the country or zone as being free with vaccination will be suspended. If the country does not comply with requirements of Article 8.8.2., evidence should be provided within three months that it complies with Article 8.8.3. Otherwise the status will be withdrawn.

In the event of the application for the status of a FMD free zone where vaccination is practised to be assigned to a new zone adjacent to another FMD free zone where vaccination is practised, it should be stated if the new zone is being merged with the adjacent zone to become one enlarged zone. If the two zones remain separate, details should be provided on the control measures to be applied for the maintenance of the status of the separate zones and particularly on the identification and the control of the movement of animals between the zones of the same status in accordance with Chapter 4.4.

**Article 8.8.4.**

**FMD free compartment**

A FMD free compartment can be established in either a FMD free country or zone or in an infected country or zone. In defining such a compartment the principles of Chapters 4.4. and 4.5. should be followed. Susceptible animals in the FMD free compartment should be separated from any other susceptible animals by the application of an effective biosecurity management system.
Chapter 8.8.- Infection with foot and mouth disease virus

A Member Country wishing to establish a FMD free compartment should:

1) have a record of regular and prompt animal disease reporting and, if not FMD free, have an official control programme and a surveillance system for FMD in place in accordance with Articles 8.8.40. to 8.8.42. that allows knowledge of the prevalence, distribution and characteristics of FMD in the country or zone;

2) declare for the FMD free compartment that:
   a) there has been no case of FMD during the past 12 months;
   b) no evidence of infection with FMDV has been found during the past 12 months;
   c) vaccination against FMD is prohibited;
   d) no animal vaccinated against FMD within the past 12 months is in the compartment;
   e) animals, semen, embryos and animal products may only enter the compartment in accordance with relevant articles in this chapter;
   f) documented evidence shows that surveillance in accordance with Articles 8.8.40. to 8.8.42. is in operation;
   g) an animal identification and traceability system in accordance with Chapters 4.2. and 4.3. is in place;

3) describe in detail:
   a) the animal subpopulation in the compartment;
   b) the biosecurity plan to mitigate the risks identified by the surveillance carried out in accordance with point 1.

The compartment should be approved by the Veterinary Authority. The first approval should only be granted when no case of FMD has occurred within a ten-kilometre radius of the compartment during the past three months.

Article 8.8.5.

FMD infected country or zone

For the purposes of this chapter, a FMD infected country or zone is one that does not fulfil the requirements to qualify as either FMD free where vaccination is not practised or FMD free where vaccination is practised.

Article 8.8.6.

Establishment of a containment zone within a FMD free country or zone

In the event of limited outbreaks within a FMD free country or zone, including within a protection zone, with or without vaccination, a single containment zone, which includes all outbreaks, may be established for the purpose of minimising the impact on the entire country or zone.

For this to be achieved and for the Member Country to take full advantage of this process, the Veterinary Authority should submit as soon as possible to WOAH, in support of the application, documented evidence that:

1) on suspicion, a strict standstill has been imposed on the suspected establishments and in the country or zone animal movement control has been imposed and effective controls on the movement of other commodities mentioned in this chapter are in place;

2) on confirmation, an additional standstill of susceptible animals has been imposed in the entire containment zone and the movement controls described in point 1 have been reinforced;

3) the definitive boundaries of the containment zone have been established after an epidemiological investigation (trace-back, trace-forward) has demonstrated that the outbreaks are epidemiologically related and limited in number and geographic distribution;

4) investigations into the likely source of the outbreaks have been carried out;

5) a stamping-out policy, with or without the use of emergency vaccination, has been applied;

6) no new cases have been found in the containment zone within a minimum of two incubation periods as defined in Article 8.8.1. after the application of a stamping-out policy to the last detected case;

7) the susceptible domestic and captive wild animal populations within the containment zone are clearly identified as belonging to the containment zone;

8) surveillance in accordance with Articles 8.8.40. to 8.8.42. is in place in the containment zone and in the rest of the country or zone;

9) measures that prevent the spread of FMDV to the rest of the country or zone, taking into consideration physical and geographical barriers, are in place.
The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of these areas may be reinstated irrespective of the provisions of Article 8.8.7., once the containment zone has been approved by WOAH as complying with points 1 to 9 above. Commodities from susceptible animals for international trade should be identified as to their origin, either from inside or outside the containment zone.

In the event of recurrence of infection with FMDV in unvaccinated animals or FMDV transmission in vaccinated animals in the containment zone, the approval of the containment zone is withdrawn and the FMD status of the whole country or zone is suspended until the relevant requirements of Article 8.8.7. are fulfilled.

The recovery of the FMD free status of the containment zone should be achieved within 12 months of its approval and follow the provisions of Article 8.8.7.

Article 8.8.7.

Recovery of free status (see Figures 1 and 2)

1) When a FMD case occurs in a FMD free country or zone where vaccination is not practised, one of the following waiting periods is required to regain this free status:
   a) three months after the disposal of the last animal killed where a stamping-out policy, without emergency vaccination, and surveillance are applied in accordance with Articles 8.8.40. to 8.8.42.; or
   b) three months after the disposal of the last animal killed or the slaughter of all vaccinated animals, whichever occurred last, where a stamping-out policy, emergency vaccination and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied; or
   c) six months after the disposal of the last animal killed or the last vaccination whichever occurred last, where a stamping-out policy, emergency vaccination not followed by the slaughtering of all vaccinated animals, and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied. However, this requires a serological survey based on the detection of antibodies to nonstructural proteins of FMDV to demonstrate no evidence of infection in the remaining vaccinated population.

The country or zone will regain the status of FMD free country or zone where vaccination is not practised only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

The time periods in points 1 a) to 1 c) are not affected if official emergency vaccination of zoological collections has been carried out following the relevant provisions of Article 8.8.2.

Where a stamping-out policy is not practised, the above waiting periods do not apply, and Article 8.8.2. applies.

2) When a FMD case occurs in a FMD free country or zone where vaccination is not practised, the following waiting period is required to gain the status of FMD free country or zone where vaccination is practised: six months after the disposal of the last animal killed where a stamping-out policy has been applied and a continued vaccination policy has been adopted, provided that surveillance is applied in accordance with Articles 8.8.40. to 8.8.42., and a serological survey based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of FMDV transmission.

The country or zone can gain the status of FMD free country or zone where vaccination is practised only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

Where a stamping-out policy is not practised, the above waiting periods do not apply, and Article 8.8.3. applies.

3) When a case of FMD occurs in a FMD free country or zone where vaccination is practised, one of the following waiting periods is required to regain this free status:
   a) six months after the disposal of the last animal killed where a stamping-out policy, with emergency vaccination, and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied, provided that serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of virus transmission; or
   b) 12 months after the detection of the last case where a stamping-out policy is not applied, but where emergency vaccination and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied, provided that serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of virus transmission.

Where emergency vaccination is not applied, the above waiting periods do not apply, and Article 8.8.3. applies.

The country or zone will regain the status of FMD free country or zone where vaccination is practised only after the submitted evidence, based on the provisions of Chapter 1.11., has been accepted by WOAH.

4) When a FMD case occurs in a FMD free compartment, Article 8.8.4. applies.
5) Member Countries applying for the recovery of status should do so only when the respective requirements for the recovery of status are met. When a containment zone has been established, the restrictions within the containment zone should be lifted in accordance with the requirements of this article only when the disease has been successfully eradicated within the containment zone.

For Member Countries not applying for recovery within 24 months after suspension, the provisions of Article 8.8.2., Article 8.8.3. or Article 8.8.4. apply.

**Article 8.8.8.**

**Direct transfer of FMD susceptible animals from an infected zone for slaughter in a free zone (whether vaccination is practised or not)**

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the infected zone if transported directly to slaughter in the nearest designated slaughterhouse/abattoir under the following conditions:

1) no FMD susceptible animal has been introduced into the establishment of origin and no animal in the establishment of origin has shown clinical signs of FMD for at least 30 days prior to movement;

2) the animals were kept in the establishment of origin for at least three months prior to movement;

3) FMD has not occurred within a 10 kilometre radius of the establishment of origin for at least four weeks prior to movement;

4) the animals should be transported under the supervision of the Veterinary Authority in a vehicle, which was cleansed and disinfected before loading, directly from the establishment of origin to the slaughterhouse/abattoir without coming into contact with other susceptible animals;

5) such a slaughterhouse/abattoir is not approved for the export of fresh meat during the time it is handling the meat of animals from the infected zone;

6) vehicles and the slaughterhouse/abattoir should be subjected to thorough cleansing and disinfection immediately after use.

The animals should have been subjected to ante- and post-mortem inspection within 24 hours before and after slaughter with no evidence of FMD, and the meat derived from them treated in accordance with point 2 of Article 8.8.22. or Article 8.8.23. Other products obtained from the animals and any products coming into contact with them should be treated in accordance with Articles 8.8.31. to 8.8.38. in order to destroy any FMDV potentially present.

**Article 8.8.9.**

**Direct transfer of FMD susceptible animals from a containment zone for slaughter in a free zone (whether vaccination is practised or not)**

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the containment zone if transported directly to slaughter in the nearest designated slaughterhouse/abattoir under the following conditions:

1) the containment zone has been officially established in accordance with the requirements in Article 8.8.6.;

2) the animals should be transported under the supervision of the Veterinary Authority in a vehicle, which was cleansed and disinfected before loading, directly from the establishment of origin to the slaughterhouse/abattoir without coming into contact with other susceptible animals;

3) such a slaughterhouse/abattoir is not approved for the export of fresh meat during the time it is handling the meat of animals from the containment zone;

4) vehicles and the slaughterhouse/abattoir should be subjected to thorough cleansing and disinfection immediately after use.

The animals should have been subjected to ante- and post-mortem inspection within 24 hours before and after slaughter with no evidence of FMD and the meat derived from them treated in accordance with point 2 of Article 8.8.22. or Article 8.8.23. Other products obtained from the animals and any products coming into contact with them should be treated in accordance with Articles 8.8.31. to 8.8.38. in order to destroy any FMDV potentially present.
Article 8.8.10.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

For FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of FMD on the day of shipment;
2) were kept since birth or for at least the past three months in a FMD free country or zone where vaccination is not practised or a FMD free compartment;
3) if transiting an infected zone, were not exposed to any source of FMDV during transportation to the place of shipment.

Article 8.8.11.

Recommendations for importation from FMD free countries or zones where vaccination is practised

For domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of FMD on the day of shipment;
2) were kept since birth or for at least the past three months in a FMD free country or zone where vaccination is practised;
3) were subjected to a test for FMD with negative results;
4) if transiting an infected zone, were not exposed to any source of FMDV during transportation to the place of shipment.

Article 8.8.12.

Recommendations for importation from FMD infected countries or zones where an official control programme exists

For domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of FMD on the day of shipment;
2) prior to isolation, the animals were kept in the establishment of origin:
   a) for 30 days, or since birth if younger than 30 days, if a stamping-out policy is applied to control FMD in the exporting country or zone, or
   b) for three months, or since birth if younger than three months if a stamping-out policy is not applied to control FMD in the exporting country or zone;
3) FMD has not occurred within the establishment of origin for the relevant period as defined in points 2 a) and 2 b) above;
4) the animals were isolated in an establishment for the 30 days prior to shipment, and all animals in isolation were subjected to diagnostic virological and serological tests for evidence of FMDV with negative results on samples collected at least 28 days after the start of isolation period, and that FMD did not occur within a 10 kilometre radius of the establishment during that period, or the establishment is a quarantine station;
5) the animals were not exposed to any source of FMDV during their transportation from the establishment to the place of shipment.
Article 8.8.13.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

For fresh semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of FMD on the day of collection of the semen;
   b) were kept for at least three months prior to collection in a FMD free country or zone where vaccination is not practised or FMD free compartments;
   c) were kept in an artificial insemination centre where none of the animals had a history of infection with FMDV;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.8.14.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

For frozen semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
   b) were kept for at least three months prior to collection in a FMD free country or zone where vaccination is not practised or FMD free compartments;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 8.8.15.

Recommendations for importation from FMD free countries or zones where vaccination is practised

For frozen semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
   b) were kept for at least three months prior to collection in a FMD free country or zone where vaccination is practised;
   c) either
      i) have been vaccinated at least twice, with the last vaccination not less than one month and not more than six months prior to collection, unless protective immunity has been demonstrated for more than six months;
      or
      ii) were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMDV, with negative results;

2) the semen:
   a) was collected, processed and stored in accordance with Chapters 4.6. and 4.7.;
   b) was stored in the country of origin for a period of at least one month following collection, and during this period no animal on the establishment where the donor animals were kept showed any sign of FMD.
Chapter 8.8.- Infection with foot and mouth disease virus

Article 8.8.16.

Recommendations for importation from FMD infected countries or zones

For frozen semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
   b) were kept in an artificial insemination centre where no animal had been added in the 30 days before collection, and that FMD has not occurred within a 10 kilometre radius of the artificial insemination centre for the 30 days before and after collection;
   c) either
      i) have been vaccinated at least twice, with the last vaccination not less than one month and not more than six months prior to collection, unless protective immunity has been demonstrated for more than six months;
      or
      ii) were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMDV, with negative results;

2) the semen:
   a) was collected, processed and stored in accordance with Chapters 4.6. and 4.7.;
   b) was subjected, with negative results, to a test for evidence of FMDV if the donor male has been vaccinated within the 12 months prior to collection;
   c) was stored in the country of origin for a period of at least one month following collection, and that during this period no animal on the establishment where the donor males were kept showed any sign of FMD.

Article 8.8.17.

Recommendations for the importation of in vivo derived embryos of cattle

Irrespective of the FMD status of the exporting country, zone or compartment, Veterinary Authorities should authorise without restriction on account of FMD the import or transit through their territory of in vivo derived embryos of cattle subject to the presentation of an international veterinary certificate attesting that the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.

Article 8.8.18.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

For in vitro produced embryos of cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of FMD at the time of collection of the oocytes;
   b) were kept for at least three months prior to collection in a FMD free country or zone where vaccination is not practised or FMD free compartments;

2) fertilisation was achieved with semen meeting the conditions referred to in Articles 8.8.13., 8.8.14., 8.8.15. or 8.8.16., as relevant;

3) the oocytes were collected, and the embryos were processed and stored in accordance with Chapters 4.9. and 4.10., as relevant.
Article 8.8.19.

Recommendations for importation from FMD free countries or zones where vaccination is practised

For in vitro produced embryos of cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of FMD at the time of collection of the oocytes;
   b) were kept for at least three months prior to collection in a FMD free country or zone where vaccination is practised;
   c) either
      i) have been vaccinated at least twice, with the last vaccination not less than one month and not more than six months prior to collection, unless protective immunity has been demonstrated for more than six months;
      or
      ii) were subjected, not less than 21 days after collection, to tests for antibodies against FMDV, with negative results;

2) fertilisation was achieved with semen meeting the conditions referred to in Articles 8.8.13., 8.8.14., 8.8.15. or 8.8.16., as relevant;

3) the oocytes were collected, and the embryos were processed and stored in accordance with Chapters 4.9. and 4.10., as relevant.

Article 8.8.20.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

For fresh meat or meat products of FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:

1) have been kept in a FMD free country or zone where vaccination is not practised or FMD free compartment, or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.;

2) have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results.

Article 8.8.21.

Recommendations for importation from FMD free countries or zones where vaccination is practised

For fresh meat and meat products of ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:

1) have been kept in the FMD free country or zone where vaccination is practised, or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.;

2) have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections for FMD with favourable results;

3) for ruminants the head, including the pharynx, tongue and associated lymph nodes, has been excluded from the shipment.
Chapter 8.8.- Infection with foot and mouth disease virus

Article 8.8.22.

Recommendations for importation from FMD infected countries or zones where an official control programme exists

For fresh meat of cattle and water buffaloes (Bubalus bubalis) (excluding feet, head and viscera)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat:

1) comes from animals which:
   a) have remained, for at least three months prior to slaughter, in a zone of the exporting country where cattle and water buffaloes are regularly vaccinated against FMD and where an official control programme is in operation;
   b) have been vaccinated at least twice with the last vaccination not more than six months, unless protective immunity has been demonstrated for more than six months, and not less than one month prior to slaughter;
   c) were kept for the past 30 days in an establishment, and that FMD has not occurred within a 10 kilometre radius of the establishment during that period, or the establishment is a quarantine station;
   d) have been transported, in a vehicle which was cleansed and disinfected before the cattle and water buffaloes were loaded, directly from the establishment of origin or quarantine station to the approved slaughterhouse/abattoir without coming into contact with other animals which do not fulfil the required conditions for export;
   e) have been slaughtered in an approved slaughterhouse/abattoir:
      i) which is officially designated for export;
      ii) in which no FMD has been detected during the period between the last disinfection carried out before slaughter and the shipment for export has been dispatched;
   f) have been subjected to ante- and post-mortem inspections within 24 hours before and after slaughter with no evidence of FMD;

2) comes from deboned carcasses:
   a) from which the major lymphatic nodes have been removed;
   b) which, prior to deboning, have been submitted to maturation at a temperature greater than + 2°C for a minimum period of 24 hours following slaughter and in which the pH value was less than 6.0 when tested in the middle of both the longissimus dorsi muscle.

Article 8.8.23.

Recommendations for importation from FMD infected countries or zones

For meat products of FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the entire consignment of meat products come from animals which have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections for FMD with favourable results;
2) the meat products have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Article 8.8.31;
3) the necessary precautions were taken after processing to avoid contact of the meat products with any potential source of FMDV.

Article 8.8.24.

Recommendations for importation from FMD free countries or zones where vaccination either is or is not practised or FMD free compartments

For milk and milk products intended for human consumption and for products of animal origin (from FMD susceptible animals) intended for use in animal feeding or for agricultural or industrial use

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products come from animals which have been kept in a FMD free country, zone or compartment, or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.
Article 8.8.25.

Recommendations for importation from FMD infected countries or zones where an official control programme exists
For milk and milk products

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) these products:
   a) originate from establishments which were not infected or suspected of being infected with FMD at the time of milk collection;
   b) have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Article 8.8.35. and in Article 8.8.36.;
2) the necessary precautions were taken after processing to avoid contact of the products with any potential source of FMDV.


Recommendations for importation from FMD infected countries
For blood-meal and meat-meals from FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the manufacturing method for these products included heating to a minimum core temperature of 70°C for at least 30 minutes.

Article 8.8.27.

Recommendations for importation from FMD infected countries
For wool, hair, bristles, raw hides and skins from FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) these products have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Articles 8.8.32., 8.8.33. and 8.8.34.;
2) the necessary precautions were taken after collection or processing to avoid contact of the products with any potential source of FMDV.

Veterinary Authorities should authorise, without restriction, the import or transit through their territory of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather such as wet blue and crust leather), provided that these products have been submitted to the usual chemical and mechanical processes in use in the tanning industry.

Article 8.8.28.

Recommendations for importation from FMD infected countries or zones
For straw and forage

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these commodities:
1) are free of grossly identified contamination with material of animal origin;
2) have been subjected to one of the following treatments, which, in the case of material sent in bales, has been shown to penetrate to the centre of the bale:
   a) either to the action of steam in a closed chamber such that the centre of the bales has reached a minimum temperature of 80°C for at least ten minutes,
   b) or to the action of formalin fumes (formaldehyde gas) produced by its commercial solution at 35-40% in a chamber kept closed for at least eight hours and at a minimum temperature of 19°C;
OR
3) have been kept in bond for at least four months before being released for export.
Article 8.8.29.
Recommendations for importation from FMD free countries or zones where vaccination either is or is not practised
For skins and trophies derived from FMD susceptible wildlife
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products are derived from animals that have been killed in such a country or zone or which have been imported from a country, zone or compartment free from FMD.

Article 8.8.30.
Recommendations for importation from FMD infected countries or zones
For skins and trophies derived from FMD susceptible wildlife
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products have been processed to ensure the destruction of FMDV in accordance with the procedures in Article 8.8.37.

Article 8.8.31.
Procedures for the inactivation of FMDV in meat and meat products
For the inactivation of FMDV present in meat and meat products, one of the following procedures should be used:

1. Canning
Meat and meat products are subjected to heat treatment in a hermetically sealed container to reach an internal core temperature of at least 70°C for a minimum of 30 minutes or to any equivalent treatment which has been demonstrated to inactivate FMDV.

2. Thorough cooking
Meat, previously deboned and defatted, and meat products are subjected to a heat treatment that results in a core temperature of at least 70°C for a minimum of 30 minutes.
After cooking, they should be packed and handled in such a way they are not exposed to a source of FMDV.

3. Drying after salting
When rigor mortis is complete, the meat is deboned, treated with salt (NaCl) and 'completely dried'. It should not deteriorate at ambient temperature.
'Completely dried' is defined as a moisture protein ratio that is not greater than 2.25:1 or a water activity (Aw) that is not greater than 0.85.

Article 8.8.32.
Procedures for the inactivation of FMDV in wool and hair
For the inactivation of FMDV present in wool and hair for industrial use, one of the following procedures should be used:
1) industrial washing, which consists of the immersion of the wool in a series of baths of water, soap and sodium hydroxide (soda) or potassium hydroxide (potash);
2) chemical depilation by means of slaked lime or sodium sulphide;
3) fumigation with formaldehyde in a hermetically sealed chamber for at least 24 hours;
4) industrial scouring which consists of the immersion of wool in a water-soluble detergent held at 60-70°C;
5) storage of wool at 4°C for four months, 18°C for four weeks or 37°C for eight days.
Article 8.8.33.

Procedures for the inactivation of FMDV in bristles

For the inactivation of FMDV present in bristles for industrial use, one of the following procedures should be used:

1) boiling for at least one hour; or
2) immersion for at least 24 hours in a 1% aqueous solution of formaldehyde.

Article 8.8.34.

Procedures for the inactivation of FMDV in raw hides and skins

For the inactivation of FMDV present in raw hides and skins for industrial use, the following procedure should be used:

Treatment for at least 28 days with salt (NaCl) containing 2% sodium carbonate (Na$_2$CO$_3$).

Article 8.8.35.

Procedures for the inactivation of FMDV in milk and cream for human consumption

For the inactivation of FMDV present in milk and cream for human consumption, one of the following procedures should be used:

1) a process applying a minimum temperature of 132°C for at least one second (ultra-high temperature [UHT]), or
2) if the milk has a pH less than 7.0, a process applying a minimum temperature of 72°C for at least 15 seconds (high temperature - short time pasteurisation [HTST]), or
3) if the milk has a pH of 7.0 or greater, the HTST process applied twice.

Article 8.8.36.

Procedures for the inactivation of FMDV in milk for animal consumption

For the inactivation of FMDV present in milk for animal consumption, one of the following procedures should be used:

1) the HTST process applied twice; or
2) HTST combined with another physical treatment, e.g. maintaining a pH 6 for at least one hour or additional heating to at least 72°C combined with desiccation; or
3) UHT combined with another physical treatment referred to in point 2 above.

Article 8.8.37.

Procedures for the inactivation of FMDV in skins and trophies from wildlife susceptible to the disease

For the inactivation of FMDV present in skins and trophies from wild animals susceptible to FMD, one of the following procedures should be used prior to complete taxidermal treatment:

1) boiling in water for an appropriate time so as to ensure that any matter other than bone, horns, hooves, claws, antlers or teeth is removed; or
2) gamma irradiation at a dose of at least 20 kilogram at room temperature (20°C or higher); or
3) soaking, with agitation, in a 4% (weight/volume) solution of sodium carbonate (Na$_2$CO$_3$) maintained at pH 11.5 or greater for at least 48 hours; or
4) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained at pH less than 3.0 for at least 48 hours; wetting and dressing agents may be added; or
5) in the case of raw hides, treating for at least 28 days with salt (NaCl) containing 2% sodium carbonate (Na$_2$CO$_3$).
Chapter 8.8.- Infection with foot and mouth disease virus

Article 8.8.38.

Procedures for the inactivation of FMDV in casings of ruminants and pigs

For the inactivation of FMDV present in casings of ruminants and pigs, the following procedures should be used: treating for at least 30 days either with dry salt (NaCl) or with saturated brine (NaCl, aw< 0.80), or with phosphate supplemented salt containing 86.5% NaCl, 10.7% Na2HPO4 and 2.8% Na3PO4 (weight/weight/weight), either dry or as a saturated brine (aw< 0.80), and kept at a temperature of greater than 12°C during this entire period.

Article 8.8.39.

WOAH endorsed official control programme for FMD

The overall objective of a WOAH endorsed official control programme for FMD is for countries to progressively improve the situation and eventually attain FMD free status. The official control programme should be applicable to the entire country even if certain measures are directed towards defined subpopulations only.

Member Countries may, on a voluntary basis, apply for endorsement of their official control programme for FMD when they have implemented measures in accordance with this article.

For a Member Country's official control programme for FMD to be endorsed by WOAH, the Member Country should:

1) have a record of regular and prompt animal disease reporting in accordance with the requirements in Chapter 1.1.;

2) submit documented evidence of the capacity of the Veterinary Services to control FMD; one way of providing this evidence is through WOAH PVS Pathway;

3) submit a detailed plan of the programme to control and eventually eradicate FMD in the country or zone including:
   a) the timeline;
   b) the performance indicators for assessing the efficacy of the control measures to be implemented;
   c) documentation indicating that the official control programme for FMD is applicable to the entire country;

4) submit a dossier on the epidemiology of FMD in the country describing the following:
   a) the general epidemiology in the country highlighting the current knowledge and gaps and the progress that has been made in controlling FMD;
   b) the measures implemented to prevent introduction of infection, the rapid detection of, and response to, all FMD outbreaks in order to reduce the incidence of FMD outbreaks and to eliminate FMDV transmission in at least one zone in the country;
   c) the main livestock production systems and movement patterns of FMD susceptible animals and their products within and into the country;

5) submit evidence that FMD surveillance is in place:
   a) taking into account provisions in Chapter 1.4. and the provisions on surveillance of this chapter;
   b) have diagnostic capability and procedures, including regular submission of samples to a laboratory that carries out diagnosis and further characterisation of strains;

6) where vaccination is practised as a part of the official control programme for FMD, provide:
   a) evidence (such as copies of legislation) that vaccination of selected populations is compulsory;
   b) detailed information on vaccination campaigns, in particular on:
      i) target populations for vaccination;
      ii) monitoring of vaccination coverage, including serological monitoring of population immunity;
      iii) technical specification of the vaccines used, including matching with the circulating FMDV strains, and description of the licensing procedures in place;
      iv) the proposed timeline for the transition to the use of vaccines fully compliant with the standards and methods described in the Terrestrial Manual;

7) provide an emergency preparedness and response plan to be implemented in case of outbreaks.

The Member Country's official control programme for FMD will be included in the list of programmes endorsed by WOAH only after the submitted evidence, based on the provisions of Article 1.11.5., has been accepted by WOAH. Retention on the list requires an annual update on the progress of the official control programme and information on significant changes concerning the points above. Changes in the epidemiological situation and other significant events should be reported to WOAH in accordance with the requirements in Chapter 1.1.
WOAH may withdraw the endorsement of the official control programme if there is evidence of:
- non-compliance with the timelines or performance indicators of the programme; or
- significant problems with the performance of the Veterinary Services; or
- an increase in the incidence of FMD that cannot be addressed by the programme.

**Article 8.8.40.**

**General principles of surveillance**

Articles 8.8.40. to 8.8.42. define the principles and provide a guide for the surveillance of FMD in accordance with Chapter 1.4. applicable to Member Countries seeking establishment, maintenance or recovery of freedom from FMD at the country, zone or compartment level or seeking endorsement by WOAH of their official control programme for FMD, in accordance with Article 8.8.39. Surveillance aimed at identifying disease and FMDV infection or transmission should cover domestic and, where appropriate, wildlife species as indicated in point 2 of Article 8.8.1.

1. **Early detection**

   A surveillance system in accordance with Chapter 1.4. should be the responsibility of the Veterinary Authority and should provide an early warning system to report suspected cases throughout the entire production, marketing and processing chain. A procedure should be in place for the rapid collection and transport of samples to a laboratory for FMD diagnosis. This requires that sampling kits and other equipment be available to those responsible for surveillance. Personnel responsible for surveillance should be able to seek assistance from a team with expertise in FMD diagnosis and control.

2. **Demonstration of freedom**

   The impact and epidemiology of FMD widely differ in different regions of the world and therefore it is inappropriate to provide specific recommendations for all situations. Surveillance strategies employed for demonstrating freedom from FMD in the country, zone or compartment at an acceptable level of confidence should be adapted to the local situation. For example, the approach to demonstrating freedom from FMD following an outbreak caused by a pig-adapted strain of FMDV should differ significantly from an approach designed to demonstrate freedom from FMD in a country or zone where African buffaloes (Syncerus caffer) provide a potential reservoir of infection.

   Surveillance for FMD should be in the form of a continuing programme. Programmes to demonstrate no evidence of infection with FMDV and transmission should be carefully designed and implemented to avoid producing results that are insufficient to be accepted by WOAH or trading partners, or being excessively costly and logistically complicated.

   The strategy and design of the surveillance programme will depend on the historical epidemiological circumstances including whether or not vaccination has been used.

   A Member Country wishing to substantiate FMD freedom where vaccination is not practised should demonstrate no evidence of infection with FMDV.

   A Member Country wishing to substantiate FMD freedom where vaccination is practised should demonstrate that FMDV has not been transmitted in any susceptible populations. Within vaccinated populations, serological surveys to demonstrate no evidence of FMDV transmission should target animals that are less likely to show vaccine-derived antibodies to nonstructural proteins, such as young animals vaccinated a limited number of times, or unvaccinated animals. In any unvaccinated subpopulation, surveillance should demonstrate no evidence of infection with FMDV.

   Surveillance strategies employed for establishing and maintaining a compartment should identify the prevalence, distribution and characteristics of FMD outside the compartment.

3. **WOAH endorsed official control programme**

   Surveillance strategies employed in support of a WOAH endorsed official control programme should demonstrate evidence of the effectiveness of any vaccination used and of the ability to rapidly detect all FMD outbreaks.

   Therefore considerable latitude is available to Member Countries to design and implement surveillance to establish that the whole territory or part of it is free from FMDV infection and transmission and to understand the epidemiology of FMD as part of the official control programme.

   The Member Country should submit a dossier to WOAH in support of its application that not only explains the epidemiology of FMD in the region concerned but also demonstrates how all the risk factors, including the role of wildlife, if appropriate, are identified and managed. This should include provision of scientifically based supporting data.
4. Surveillance strategies

The strategy employed to establish the prevalence of infection with FMDV or to substantiate freedom from FMDV infection or transmission may be based on randomised or targeted clinical investigation or sampling at an acceptable level of statistical confidence, as described in Chapter 1.4. If an increased likelihood of infection in particular localities or species can be identified, targeted sampling may be appropriate. Clinical inspection may be targeted at particular species likely to exhibit clear clinical signs (e.g. cattle and pigs). The Member Country should justify the surveillance strategy chosen and the frequency of sampling as adequate to detect the presence of FMDV infection or transmission in accordance with Chapter 1.4. and the epidemiological situation.

The design of the sampling strategy should incorporate an epidemiologically appropriate design prevalence. The sample size selected for testing should be adequate to detect infection or transmission if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The Member Country should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the prevailing or historical epidemiological situation, in accordance with Chapter 1.4.

5. Follow-up of suspected cases and interpretation of results

An effective surveillance system will identify suspected cases that require immediate follow-up and investigation to confirm or exclude that the cause of the condition is FMDV. Samples should be taken and submitted for diagnostic testing, unless the suspected case can be confirmed or ruled out by epidemiological and clinical investigation. Details of the occurrence of suspected cases and how they were investigated and dealt with should be documented. This should include the results of diagnostic testing and the control measures to which the animals concerned were subjected during the investigation.

The sensitivity and specificity of the diagnostic tests employed, including the performance of confirmatory tests, are key factors in the design, sample size determination and interpretation of the results obtained. The sensitivity and specificity of the tests used should be validated for the vaccination or infection history and production class of animals in the target population.

The surveillance design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following-up positives to determine with a high level of confidence, whether or not they are indicative of infection or transmission. This should involve supplementary tests and follow-up investigation to collect diagnostic material from the original epidemiological unit and herds or flocks which may be epidemiologically linked to it.

Laboratory results should be examined in the context of the epidemiological situation. Corollary information needed to complement the serological survey and assess the possibility of viral transmission includes but is not limited to:

- characterisation of the existing production systems;
- results of clinical surveillance of the suspects and their cohorts;
- description of number of, and protocol for, vaccinations performed in the area under assessment;
- biosecurity and history of the establishments with reactors;
- identification and traceability of animals and control of their movements;
- other parameters of regional significance in historic FMDV transmission.

6. Demonstration of population immunity

Following routine vaccination, evidence should be provided to demonstrate the effectiveness of the vaccination programme such as adequate vaccination coverage and population immunity. This can help to reduce reliance on
post-vaccination surveys for residual infection and transmission.

In designing serological surveys to estimate population immunity, blood sample collection should be stratified by age to take account of the number of vaccinations the animals have received. The interval between last vaccination and sampling depends upon the intended purpose. Sampling at one or two months after vaccination provides information on the efficiency of the vaccination programme, while sampling before or at the time of revaccination provides information on the duration of immunity. When multivalent vaccines are used, tests should be carried out to determine the antibody level at least for each serotype, if not for each antigen blended into the vaccine. The test cut-off for an acceptable level of antibody should be selected with reference to protective levels demonstrated by vaccine-challenge test results for the antigen concerned. Where the threat from circulating virus has been characterised as resulting from a field virus with significantly different antigenic properties from the vaccine virus, this should be taken into account when interpreting the protective effect of population immunity. Figures for population immunity should be quoted with reference to the total of susceptible animals in a given subpopulation and in relation to the subset of vaccinated animals.

The entire investigative process should be documented within the surveillance programme.

All the epidemiological information should be substantiated, and the results should be collated in the final report.

Article 8.8.41.

Methods of surveillance

1. Clinical surveillance

Farmers and workers who have day-to-day contact with livestock, as well as veterinary paraprofessionals, veterinarians and diagnosticians, should report promptly any suspicion of FMD. The Veterinary Authority should implement programmes to raise awareness among them.

Clinical surveillance requires the physical examination of susceptible animals. Although significant emphasis is placed on the diagnostic value of mass serological screening, surveillance based on clinical inspection may provide a high level of confidence of detection of disease if a sufficient number of clinically susceptible animals is examined at an appropriate frequency and investigations are recorded and quantified.

Clinical examination and diagnostic testing should be applied to clarify the status of suspected cases. Diagnostic testing may confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive laboratory test results. Clinical surveillance may be insufficient in wildlife and domestic species that usually do not show clinical signs or husbandry systems that do not permit sufficient observations. In such situations, serological surveillance should be used. Hunting, capture and non-invasive sampling and observation methods can be used to obtain information and diagnostic samples from wildlife species.

2. Virological surveillance

Establishment of the molecular, antigenic and other biological characteristics of the causative virus, as well as its source, is mostly dependent upon clinical surveillance to provide samples. FMDV isolates should be sent regularly to a WOAH Reference Laboratory.

Virological surveillance aims to:

a) confirm clinically suspected cases;
b) follow up positive serological results;
c) characterise isolates for epidemiological studies and vaccine matching;
d) monitor populations at risk for the presence and transmission of the virus.
3. **Serological surveillance**

Serological **surveillance** aims to detect antibodies resulting from infection or vaccination using nonstructural protein tests or structural protein tests.

Serological surveillance may be used to:

a) estimate the prevalence or substantiate freedom from FMDV infection or transmission;

b) monitor population immunity.

Serum collected for other purposes can be used for FMD surveillance, provided the principles of survey design described in this chapter are met.

The results of random or targeted serological surveys are important in providing reliable evidence of the FMD situation in a country, zone or compartment. It is therefore essential that the survey be thoroughly documented.

**Article 8.8.42.**

**The use and interpretation of serological tests (see Figure 3)**

The selection and interpretation of serological tests should be considered in the context of the epidemiological situation. Test protocols, reagents, performance characteristics and validation of all tests used should be known. Where combinations of tests are used, the overall test system performance characteristics should also be known.

Animals infected with FMDV produce antibodies to both the structural proteins and the nonstructural proteins of the virus. Vaccinated animals produce antibodies mainly or entirely to the structural proteins of the virus depending upon vaccine purity. The structural protein tests are serotype specific and for optimal sensitivity one should select an antigen or virus closely related to the field strain expected. In unvaccinated populations, structural protein tests may be used to screen sera for evidence of FMDV infection or transmission or to detect the introduction of vaccinated animals. In vaccinated populations, structural protein tests may be used to monitor the serological response to the vaccination.

Nonstructural protein tests may be used to screen sera for evidence of infection or transmission of all serotypes of FMDV regardless of the vaccination status of the animals provided the vaccines comply with the standards of the Terrestrial Manual with respect to purity. However, although animals vaccinated and subsequently infected with FMDV develop antibodies to nonstructural proteins, the levels may be lower than those found in infected animals that have not been vaccinated. To ensure that all animals that had contact with FMDV have seroconverted, it is recommended that for each vaccination area samples for nonstructural protein antibody testing are taken not earlier than 30 days after the last case and in any case not earlier than 30 days after the last vaccination.

Positive FMDV antibody test results can have four possible causes:

- infection with FMDV;
- vaccination against FMD;
- maternal antibodies (maternal antibodies in cattle are usually found only up to six months of age but in some individuals and in some other species, maternal antibodies can be detected for longer periods);
- non-specific reactivity of the serum in the tests used.

1. **Procedure in case of positive test results**

The proportion and strength of seropositive reactors should be taken into account when deciding if they are laboratory confirmed reactors or further investigation and testing are required.

When false positive results are suspected, seropositive reactors should be retested in the laboratory using repeat and confirmatory tests. Tests used for confirmation should be of high diagnostic specificity to minimise false positive test results. The diagnostic sensitivity of the confirmatory test should approach that of the screening test. All herds or flocks with at least one laboratory confirmed reactor should be investigated. The investigation should examine all evidence, which may include the results of virological tests and of any further serological tests that
might confirm or refute the hypothesis that the positive results to the serological tests employed in the initial survey were due to FMDV transmission. This investigation should document the status for each positive herd. Epidemiological investigation should be continued concurrently.

Clustering of seropositive results within herds or flocks or within a region should be investigated as it may reflect any of a series of events, including the demographics of the population sampled, vaccinal exposure or the presence of infection or transmission. As clustering may signal infection or transmission, the investigation of all instances should be incorporated in the survey design.

Paired serology can be used to identify FMDV transmission by demonstrating an increase in the number of seropositive animals or an increase in antibody titre at the second sampling.

The investigation should include the reactor animals, susceptible animals of the same epidemiological unit and susceptible animals that have been in contact or otherwise epidemiologically associated with the reactor animals. The animals sampled should remain in the establishment pending test results, should be clearly identified, accessible and should not be vaccinated during the investigations, so that they can be retested after an appropriate period of time. Following clinical examination, a second sample should be taken, after an appropriate time has lapsed, from the animals tested in the initial survey with emphasis on animals in direct contact with the reactors. If the animals are not individually identified, a new serological survey should be carried out in the establishments after an appropriate time, repeating the application of the primary survey design. If FMDV is not circulating, the magnitude and prevalence of antibody reactivity observed should not differ in a statistically significant manner from that of the primary sample.

In some circumstances, unvaccinated sentinel animals may also be used. These can be young animals from unvaccinated dams or animals in which maternally conferred immunity has lapsed and preferably of the same species as in the positive sampling units. If other susceptible, unvaccinated animals are present, they could act as sentinels to provide additional serological evidence. The sentinels should be kept in close contact with the animals of the epidemiological unit under investigation for at least two incubation periods and should remain serologically negative if FMDV is not circulating.

2. Follow-up of field and laboratory findings

If transmission is demonstrated, an outbreak is declared.

The significance of small numbers of seropositive animals in the absence of current FMDV transmission is difficult to determine. Such findings may be an indication of past infection followed by recovery or by the development of a carrier state, in ruminants, or due to non-specific serological reactions. Antibodies to nonstructural proteins may be induced by repeated vaccination with vaccines that do not comply with the requirements for purity. However, the use of such vaccines is not permissible in countries or zones applying for an official status. In the absence of evidence of FMDV infection and transmission, such findings do not warrant the declaration of a new outbreak and the follow-up investigations may be considered complete.

However, if the number of seropositive animals is greater than the number of false positive results expected from the specificity of the diagnostic tests used, susceptible animals that have been in contact or otherwise epidemiologically associated with the reactor animals should be investigated further.

<table>
<thead>
<tr>
<th>Abbreviations and acronyms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
</tr>
<tr>
<td>VNT</td>
</tr>
<tr>
<td>NSP</td>
</tr>
<tr>
<td>3ABC</td>
</tr>
<tr>
<td>SP</td>
</tr>
</tbody>
</table>
Fig. 1. Schematic representation of the minimum waiting periods and pathways for recovery of FMD free status after an outbreak in a free country or zone where vaccination is not practised.

Waiting periods are minima depending upon outcome of surveillance specified in respective articles. If there are multiple waiting periods because of different control measures, the longest applies.
Fig. 2. Schematic representation of the minimum waiting periods and pathways for recovery of FMD free status after an outbreak in a free country or zone where vaccination is practised.

Waiting periods are minima depending upon outcome of surveillance specified in respective articles. If there are multiple waiting periods because of different control measures, the longest applies.
Fig. 3. Schematic representation of laboratory tests for determining evidence of infection with FMDV by means of serological surveys.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2015.
CHAPTER 8.9.

HEARTWATER

Article 8.9.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.9.2.

Trade in commodities

Veterinary Authorities of countries free from heartwater may prohibit importation or transit through their territory, from countries considered infected with heartwater, of domestic and wild ruminants.

Article 8.9.3.

Recommendations for importation from countries considered infected with heartwater

For domestic and wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of heartwater on the day of shipment;
2) were subjected to a diagnostic test for heartwater with negative results during the 15 days prior to shipment;
3) were treated with acaricides prior to shipment and were completely free of ticks.

CHAPTER 8.10.

JAPANESE ENCEPHALITIS

Article 8.10.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for Japanese encephalitis shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.10.2.

Recommendations for importation from countries or zones infected with Japanese encephalitis

For horses

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of Japanese encephalitis on the day of shipment; and

EITHER

2) were kept for the 21 days prior to shipment, in an insect-proof quarantine station and were protected from insect vector attacks during their transportation from the quarantine station to the place of shipment;

OR

3) were vaccinated against Japanese encephalitis not less than 7 days and no more than 12 months prior to shipment.

CHAPTER 8.11.

INFECTION WITH LEISHMANIA SPP.
(LEISHMANIOSIS)

Article 8.11.1.

General provisions

For the purposes of the Terrestrial Code, leishmaniosis is defined as an infection of dogs and cats (hereafter 'susceptible animal') by protozoan parasites of the genus Leishmania, family Trypanosomatidae, order Kinetoplastida.

The infection is usually transmitted by the bite of an infected phlebotomine sand fly belonging to the genera Phlebotomus (Old World) or Lutzomyia (New World).

The following defines the occurrence of infection with Leishmania spp.:

1) Leishmania spp. amastigotes have been observed and identified as such in a sample from a susceptible animal; or
2) nucleic acid specific to Leishmania spp. has been detected in a sample from a susceptible animal showing clinical signs or pathological lesions consistent with infection with Leishmania spp., or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association or contact with Leishmania spp.; or
3) antibodies specific to Leishmania spp. that are not the consequence of vaccination have been detected in a sample from a susceptible animal showing clinical signs or pathological lesions consistent with infection with Leishmania spp., or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association or contact with Leishmania spp.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

NB: FIRST ADOPTED IN 2023.
CHAPTER 8.12.

INFECTION WITH MYCOBACTERIUM TUBERCULOSIS COMPLEX

Article 8.12.1.

General provisions

The recommendations in this chapter are intended to manage the human and animal health risks associated with infection of animals with a member of the Mycobacterium tuberculosis (M. tuberculosis) complex.

For the purposes of the Terrestrial Code, M. tuberculosis complex comprises M. bovis, M. caprae and M. tuberculosis, but excludes vaccine strains.

Many different domestic and wild animal species belonging to diverse mammalian taxa are known to be susceptible to infection with M. tuberculosis complex. Their epidemiological significance depends on the degree of susceptibility, the husbandry system, the density, spatial distribution and ecology of populations as well as the pathogenesis and transmission pathways. In some geographical regions, certain wild animal species can act as reservoirs.

For the purposes of this chapter, 'animals' means domestic and captive wild animal populations of the following categories:

1) bovids: this term means bovines (Bos taurus, B. indicus, B. frontalis, B. javanicus and B. grunniens), water buffaloes (Bubalus bubalis), and bison (Bison bison and B. bonasus);
2) cervids: this term means red deer (Cervus elaphus elaphus), wapiti/elk (C. elaphus canadensis), sika (C. nippon), samba (C. unicolor unicolor), rusà (C. timorenisis), roe deer (Capreolus capreolus), fallow deer (Dama dama), white-tailed, black-tailed and mule deer (Odocoileus spp.) and reindeer/caribou (Rangifer tarandus);
3) goats (Capra hircus);
4) New World camelids: this term means alpacas (Lama guanicoe pacos) and llamas (Lama guanicoe glama).

The chapter deals not only with the occurrence of clinical signs caused by infection with M. tuberculosis complex, but also with the presence of infection with M. tuberculosis complex in the absence of clinical signs.

For the purposes of the Terrestrial Code, the following defines the occurrence of infection with M. tuberculosis complex:

– a member of M. tuberculosis complex has been identified in a sample from an animal or a product derived from that animal;

OR

– positive results to a diagnostic test have been obtained and there is an epidemiological link to a case of infection with M. tuberculosis complex or there is other reason to suspect infection with M. tuberculosis complex.

When authorising import or transit of commodities listed in this chapter, with the exception of those listed in Article 8.12.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the M. tuberculosis complex infection status of the animal population of the country, zone or herd of origin.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.12.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any M. tuberculosis complex-related conditions, regardless of the M. tuberculosis complex infection status of the animal populations of the country, zone or herd of origin:

1) fresh meat and meat products originating from animals that have been subjected to ante- and post-mortem inspections as described in Chapter 6.3.;
2) cured hides, skins and trophies.
3) gelatine, collagen, tallow and protein meal.

Article 8.12.3.
Country or zone historically free from infection with *M. tuberculosis* complex in specified animal categories

A country or zone may be considered historically free from infection with *M. tuberculosis* complex in specified animal categories when the requirements in Article 1.4.6. have been met for the relevant animal categories.

Article 8.12.4.
Country or zone free from infection with *M. tuberculosis* complex in bovids

1) To qualify as free from infection with *M. tuberculosis* complex in bovids, a country or zone should satisfy the following requirements:
   a) infection in animals is a notifiable disease in the entire country;
   b) a surveillance programme based on regular testing of all herds has been in place for at least three years and for the past three years this testing has demonstrated that infection with *M. tuberculosis* complex was not present in at least 99.9% of the herds representing at least 99.9% of the bovids in the country or zone;
   c) a surveillance programme in accordance with Chapter 1.4. is in place to detect infection with *M. tuberculosis* complex in the country or zone through ante- and post-mortem inspections of bovids as described in Chapter 6.3.;
   d) regulatory measures have been implemented for the early detection of infection with *M. tuberculosis* complex in bovids;
   e) bovids and their germplasm introduced into the country or zone comply with the recommendations in Articles 8.12.7., 8.12.10. and 8.12.12.

2) To maintain the status as free from infection with *M. tuberculosis* complex in bovids, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 c), 1 d) and 1 e) above are met;
   b) a surveillance programme based on regular testing of bovids is in place in the country or zone to detect infection with *M. tuberculosis* complex in accordance with Article 1.4.4.;
   c) once the surveillance programme described in point b) has demonstrated that infection with *M. tuberculosis* complex has not been present in at least 99.8% of the herds representing 99.9% of the bovids in the country or zone for two consecutive years, surveillance may be maintained through ante- and post-mortem inspections as described in Chapter 6.3.

3) The country or zone status of free from infection with *M. tuberculosis* complex in bovids is not affected by the occurrence of infection with *M. tuberculosis* complex in other animal categories or feral or wild animals provided that measures intended to prevent transmission of infection with *M. tuberculosis* complex to bovids have been implemented and are periodically reassessed.

Article 8.12.5.
Country or zone free from infection with *M. tuberculosis* complex in cervids

1) To qualify as free from infection with *M. tuberculosis* complex in cervids, a country or zone should satisfy the following requirements:
   a) infection with *M. tuberculosis* complex in animals is a notifiable disease in the entire country;
   b) regular testing of all cervid herds has been in place for at least three years and for the past three years this testing has demonstrated that infection with *M. tuberculosis* complex was not present in at least 99.9% of the herds representing at least 99.9% of the cervids in the country or zone;
   c) a surveillance programme is in place to detect infection with *M. tuberculosis* complex in the country or zone through ante- and post-mortem inspections as described in Chapter 6.3.;
   d) regulatory measures have been implemented for the early detection of infection with *M. tuberculosis* complex in cervids;
   e) cervids and their germplasm introduced into the country or zone comply with the recommendations in Articles 8.12.7., 8.12.11. and 8.12.12.
Chapter 8.12.- Infection with Mycobacterium tuberculosis complex

2) To maintain the status as free from infection with M. tuberculosis complex in cervids, a country or zone should satisfy the following requirements:
   a) the requirements in points 1 a), 1 c), 1 d) and 1 e) above are met;
   b) a surveillance programme based on regular testing of cervids is in place in the country or zone to detect infection with M. tuberculosis complex in accordance with Article 1.4.4.;
   c) once the surveillance programme described in point b) has demonstrated that infection with M. tuberculosis complex has not been present in at least 99.8% of the herds representing 99.9% of the cervids in the country or zone for two consecutive years, surveillance may be maintained through ante- and post-mortem inspections as described in Chapter 6.3.

3) The country or zone status free from infection with M. tuberculosis complex in cervids is not affected by the occurrence of infection with M. tuberculosis complex in other animal categories or feral or wild animals provided that measures intended to prevent transmission of infection with M. tuberculosis complex to cervids have been implemented and are periodically reassessed.

Article 8.12.6.

Herd free from infection with M. tuberculosis complex in bovids or cervids

1) To qualify as free from infection with M. tuberculosis complex, a herd of bovids or cervids should satisfy the following requirements:
   a) the herd is in a country or zone free from infection with M. tuberculosis complex in bovids or in cervids and is certified free by the Veterinary Authority;
   OR
   b) the herd satisfies the following requirements:
      i) infection with M. tuberculosis complex in animals is a notifiable disease in the entire country;
      ii) no occurrence of infection with M. tuberculosis complex has been detected in the herd for at least the past 12 months;
      iii) bovids or cervids in the herd have shown no clinical signs of infection with M. tuberculosis complex or lesions at ante- or post-mortem inspections for at least the past 12 months;
      iv) two tests have been performed with negative results at a minimum interval of six months on all bovids or cervids over six weeks of age present in the herd at the time of testing. The first test was performed at least six months after the removal of the last case;
      v) bovids or cervids and their germplasm introduced into the herd comply with Articles 8.12.7., 8.12.10., 8.12.11. and 8.12.12.;
      vi) for at least the past 12 months, there has been no occurrence of infection with M. tuberculosis complex in other herds of the same establishments or measures have been implemented to prevent any transmission of infection with M. tuberculosis complex from these other herds.

2) To maintain the free status, either:
   a) the requirements in point 1 a) are met;
   OR
   b) the requirements in points 1 b) i) to iii), v) and vi) are met and bovids or cervids in the herd:
      i) showed a negative result to an annual test to ensure the continuing absence of infection with M. tuberculosis complex; OR
      ii) showed a negative result to a test every two years to ensure the continuing absence of infection with M. tuberculosis complex if it has been confirmed that the annual percentage of herds infected with M. tuberculosis complex is not more than 1% of all herds in the country or zone during the past two years; OR
      iii) showed a negative result to a test every three years to ensure the continuing absence of infection with M. tuberculosis complex if it has been confirmed that the annual percentage of herds infected with M. tuberculosis complex is not more than 0.2% of all herds in the country or zone during the past four years; OR
      iv) showed a negative result to a test every four years to ensure the continuing absence of infection with M. tuberculosis complex if it has been confirmed that the annual percentage of herds infected with
Chapter 8.12.- Infection with Mycobacterium tuberculosis complex

M. tuberculosis complex is not more than 0.1% of all herds in the country or zone during the past six years;

OR

c) the requirements in points 1 b) i) to iii), v) and vi) are met; and

i) the risk of transmission of infection with M. tuberculosis complex from known wildlife reservoirs has been assessed through active surveillance;

ii) all herds identified as being at risk are subjected to a testing programme commensurate with the assessed epidemiological risk of infection with M. tuberculosis complex. In identifying herds at risk, the following should be considered:

– a location associated with suspected or confirmed infection with M. tuberculosis complex in wildlife; or

– a history of infection with M. tuberculosis complex within last five years; or

– an epidemiological link with herds in either of the two points above.

Article 8.12.7.

Recommendations for the importation of bovids or cervids for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bovids or cervids:

1) showed no clinical signs of infection with M. tuberculosis complex on the day of shipment;

2) a) originate from a herd free from infection with M. tuberculosis complex that is in a country or zone free from infection with M. tuberculosis complex; or

b) originate from a herd free from infection with M. tuberculosis complex and have been tested for infection with M. tuberculosis complex with negative results within 30 days prior to shipment; or

c) have been isolated for at least six months prior to shipment including protection from contact with any reservoir of M. tuberculosis complex and all isolated animals showed negative results to at least two consecutive tests carried out at a six-month interval, with the second test performed within 30 days prior to shipment.

Article 8.12.8.

Recommendations for the importation of goats for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) infection with M. tuberculosis complex in animals is a notifiable disease in the entire country;

2) the goats showed no clinical signs of infection with M. tuberculosis complex on the day of shipment;

3) either:

a) the goats have been kept since birth in herds in which no case of infection with M. tuberculosis complex has been detected for the past three years; or

b) have been isolated for at least six months prior to shipment including protection from contact with any reservoir of M. tuberculosis complex and all isolated animals showed negative results to at least two consecutive tests carried out at a six-month interval, with the second test performed within 30 days prior to shipment.

Article 8.12.9.

Recommendations for the importation of bovids or cervids for slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bovids or cervids:

1) showed no clinical signs of infection with M. tuberculosis complex on the day of shipment;
Chapter 8.12.- Infection with Mycobacterium tuberculosis complex

2) either:
   a) originate from a country, zone or herd free from infection with M. tuberculosis complex; or
   b) are not being culled as part of an eradication programme against infection with M. tuberculosis complex and were tested for infection with M. tuberculosis complex with negative results within 30 days prior to shipment.

Article 8.12.10.

Recommendations for the importation of semen of bovids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor males showed no clinical signs of infection with M. tuberculosis complex on the day of collection of the semen;

2) the donor males:
   a) were kept in an artificial insemination centre complying with the provisions of Chapter 4.6. and complied with Article 4.7.2.; or
   b) were kept in a herd free from infection with M. tuberculosis complex that is in a country or zone free from infection with M. tuberculosis complex; or
   c) were kept in a herd free from infection with M. tuberculosis complex and showed negative results to a test performed within 30 days prior to collection of the semen, which was collected, processed and stored in accordance with Articles 4.6.4., 4.6.5., and 4.7.5. to 4.7.7.

Article 8.12.11.

Recommendations for the importation of semen of cervids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor males showed no clinical signs of infection with M. tuberculosis complex on the day of collection of the semen;

2) the donor males either:
   a) were kept in a herd free from infection with M. tuberculosis complex in a country or zone free from infection with M. tuberculosis complex; or
   b) were kept in a herd free from infection with M. tuberculosis complex and showed negative results to a test performed within 30 days prior to collection of the semen, which was collected, processed and stored in accordance with Articles 4.6.4., 4.6.5., and 4.7.5. to 4.7.7.

Article 8.12.12.

Recommendations for the importation of embryos of bovids or cervids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor females either:
   a) originated from a herd free from infection with M. tuberculosis complex in a country or zone free from infection with M. tuberculosis complex; or
   b) were kept in a herd free from infection with M. tuberculosis complex, and were subjected to a test for infection with M. tuberculosis complex with negative results during an isolation period of 30 days in the establishment of origin prior to collection;

2) the semen used for embryo production complied with Article 8.12.10. or Article 8.12.11.;

3) the embryos were collected, processed and stored in accordance with the relevant provisions of Chapters 4.8. to 4.10.

Recommendations for the importation of milk and milk products of bovids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the milk or milk products:

1) have been derived from bovids in a herd free from infection with M. tuberculosis complex; or
2) were subjected to pasteurisation or any combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2017.
CHAPTER 8.13.

NEW WORLD SCREWWORM
(COCHLIOMYIA HOMINIVORAX)
AND OLD WORLD SCREWWORM
(CHRYZOMYIA BEZZIANA)

Article 8.13.1.

Recommendations for importation from countries considered infested with New World or Old World screwworm

For domestic and wild mammals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) immediately prior to loading, the animals to be exported have been inspected, on the premises of origin, by an official veterinarian. After inspection for wounds with egg masses or larvae of New World or Old World screwworm, any infested animal has been rejected for export;

2) immediately prior to entering the quarantine pens in the exporting country:
   a) each animal has been thoroughly examined for infested wounds, under the direct supervision of an official veterinarian, and that no infestation has been found in any animal; and
   b) any wounds have been prophylactically treated with an officially approved oily larvicide at the recommended dose; and
   c) all animals have been dipped, sprayed, or otherwise treated, immediately after inspection, with a product officially approved by the importing and exporting countries for the control of New World or Old World screwworm, under the supervision of an official veterinarian and in accordance with the manufacturer's recommendations;

3) at the end of the quarantine and immediately prior to shipment for export:
   a) all animals have been re-examined for the presence of infestation and all animals have been found free of infestation;
   b) all wounds have been prophylactically treated with an approved oily larvicide under the supervision of an official veterinarian;
   c) all animals have been prophylactically treated again by dipping or spraying as in point 2 above.

Article 8.13.2.

Quarantine and transportation recommendations

1) The floor of the quarantine area and the vehicles must be thoroughly sprayed with an officially approved larvicide before and after each use.

2) The transit route must be the most direct, with no stopover without prior permission of the importing country.

Article 8.13.3.

Post importation inspection

1) On arrival at the importation point, all animals must be thoroughly inspected for wounds and possible New World or Old World screwworm infestation under the supervision of an official veterinarian.

2) The bedding material of the vehicle and the quarantine area should immediately be gathered and burned following each consignment.
Article 8.13.4.

Import/export of animal products

The larval stage of the New World or Old World screwworm fly is dependent on live animals and cannot survive for any length of time in dead tissue or animal products; therefore, restrictions on these products are not considered necessary.

CHAPTER 8.14.

PARATUBERCULOSIS


General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2004.
CHAPTER 8.15.

INFECTION WITH RABIES VIRUS

Article 8.15.1.

General provisions

Rabies is a disease caused by neurotropic viruses of the Genus *Lyssavirus* in the family *Rhabdoviridae* of the order Mononegavirales and is transmissible to all mammals. Populations of the orders Carnivora and Chiroptera are considered to be the main reservoir hosts.

Rabies virus, the taxonomic prototype species in the *Lyssavirus* Genus formerly referred to as ‘classical rabies virus, genotype-1’, is found in most parts of the world, and is responsible for the vast majority of reported animal and human rabies cases. The most common source of exposure of humans to rabies virus is the dog.

Other *Lyssavirus* species can cause clinical signs similar to those caused by rabies virus, but have more restricted geographical and host range, with the majority having been isolated only from bats, thus having limited public and animal health implications.

The aim of this chapter is to mitigate the risk to the public and animal health posed by infection with rabies virus and to prevent the international spread of rabies virus.

Official control programmes to reduce the economic and public health burden of rabies are recommended, even in those countries where only bat-mediated rabies or wild carnivore-mediated rabies are present.

The incubation period for rabies is highly variable depending on viruses, hosts and sites of entry, and the majority of infected animals will develop disease within six months of exposure.

The infective period for rabies virus is variable and can start before the onset of clinical signs. In dogs, cats and ferrets virus shedding can start up to ten days before the onset of the first clinical signs and last until death.

For the purposes of the Terrestrial Code:
- a case is any animal infected with rabies virus;
- dog-mediated rabies is defined as any case caused by rabies virus maintained in the dog population (*Canis lupus familiaris*) independently of other animal reservoir species, as determined by epidemiological studies;
- the incubation period of infection with rabies virus shall be six months.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.15.2.

Country or zone free from infection with rabies virus

1) A country or zone may be considered free from infection with rabies virus when:
   a) it has a record of regular and prompt animal disease reporting in accordance with Chapter 1.1.;
   b) infection with rabies virus is a notifiable disease in the entire country and any change in the epidemiological situation or relevant events are reported in accordance with Chapter 1.1.;
   c) all susceptible animals showing clinical signs suggestive of rabies are subjected to appropriate field and laboratory investigations;
   d) an ongoing system of surveillance in accordance with Chapter 1.4. and Article 8.15.13. has been in place for the past 24 months, with a minimum requirement being an early warning system to ensure investigation and reporting of animals suspected of being infected;
   e) regulatory measures for the prevention of infection with rabies virus are implemented in accordance with the relevant recommendations in the Terrestrial Code including Articles 8.15.5. to 8.15.10.;
   f) no case of indigenously acquired infection with rabies virus has been confirmed during the past 24 months;
   g) if an imported case is confirmed outside a quarantine station, epidemiological investigations have ruled out the possibility of secondary cases.
2) Preventive vaccination of animals does not affect the free status.
3) An imported human case of rabies does not affect the free status.

**Article 8.15.3.**

**Country or zone infected with rabies virus**

A country or zone that does not fulfil the requirements of Article 8.15.2. is considered to be infected with rabies virus.

**Article 8.15.4.**

**Country or zone free from dog-mediated rabies**

1) A country or zone may be considered free from dog-mediated rabies when:
   a) it has a record of regular and prompt animal disease reporting in accordance with Chapter 1.1.;
   b) dog-mediated rabies is a **notifiable disease** in the entire country and any change in the epidemiological situation or relevant events are reported in accordance with Chapter 1.1.;
   c) an ongoing system of **surveillance** in accordance with Chapter 1.4. and Article 8.15.13. has been in place for the past 24 months, with a minimum requirement being an **early warning system** to ensure investigation and reporting of animals suspected of **infection** with rabies virus;
   d) regulatory measures for the prevention of **infection** with rabies virus are implemented in accordance with the relevant recommendations in the **Terrestrial Code** including Articles 8.15.5. to 8.15.10.;
   e) no case of indigenously acquired dog-mediated rabies has occurred during the past 24 months;
   f) a dog population control programme has been implemented and maintained in accordance with Chapter 7.7.

2) The following do not affect the status of a country or zone free from dog-mediated rabies:
   - preventive vaccination;
   - presence of rabies virus in **wild animals**;
   - imported human cases of rabies;
   - imported case outside a **quarantine station** whenever epidemiological investigations have ruled out the possibility of secondary cases.

**Article 8.15.5.**

**Recommendations for importation of domestic and captive wild mammals from countries or zones free from infection with rabies virus**

Veterinary Authorities should require the presentation of an **international veterinary certificate** attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) and either:
   a) were kept since birth or at least six months prior to shipment in a free country or zone; or
   b) were imported in accordance with Articles 8.15.7., 8.15.8., 8.15.9. or 8.15.10.

**Article 8.15.6.**

**Recommendations for importation of wild and feral mammals from countries or zones free from infection with rabies virus**

Veterinary Authorities should require the presentation of an **international veterinary certificate** attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) and either:
   a) have been captured at a distance that precludes any contact with animals in an infected country or zone. The distance should be defined in accordance with the biology of the species exported, including home range and long distance movements; or
b) have been kept in captivity for the six months prior to shipment in a country or zone free from infection with rabies virus.

Article 8.15.7.

Recommendations for importation of dogs, cats and ferrets from countries or zones infected with rabies virus

Veterinary Authorities should require the presentation of an international veterinary certificate complying with the model of Chapter 5.11. attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) were permanently identified and their identification number stated in the certificate;
3) and either:
   a) were vaccinated or revaccinated in accordance with the recommendations of the manufacturer, with a vaccine that was produced in accordance with the Terrestrial Manual and were subjected not less than 3 months and not more than 12 months prior to shipment to an antibody titration test as prescribed in the Terrestrial Manual with a positive result of at least 0.5 IU/ml;
   or
   b) were kept in a quarantine station for six months prior to shipment.

Article 8.15.8.

Recommendations for importation of domestic ruminants, equids, camelids and suids from countries considered infected with rabies

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) were permanently identified and the identification number stated in the certificate;
3) EITHER
   a) were kept for the 6 months prior to shipment in an establishment where there has been no case of rabies for at least 12 months prior to shipment;
   OR
   b) were vaccinated or revaccinated in accordance with the recommendations of the manufacturer. The vaccine was produced and used in accordance with the Terrestrial Manual.

Article 8.15.9.

Recommendations for importation of susceptible laboratory animals from countries or zones infected with rabies virus

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) were born and kept since birth in a biosecure facility as described in the Terrestrial Manual chapter on Management of veterinary diagnostic laboratories, and where there has been no case for at least 12 months prior to shipment.

Article 8.15.10.

Recommendations for importation of wildlife from countries considered infected with rabies

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of rabies the day prior to or on the day of shipment;
2) were kept for the six months prior to shipment in an establishment where separation from susceptible animals was maintained and where there has been no case of rabies for at least 12 months prior to shipment.

Article 8.15.11.

WOAH endorsed official control programme for dog-mediated rabies

The overall objective of a WOAH endorsed official control programme for dog-mediated rabies is for Member Countries to progressively improve their dog-mediated rabies situation and eventually be able to make a self-declaration in accordance with Chapter 1.6. as a country free from dog-mediated rabies. The official control programme should be applicable to the entire country even if certain measures are directed towards defined subpopulations only.

Member Countries may, on a voluntary basis, apply for endorsement of their official control programme for dog-mediated rabies when they have implemented measures in accordance with this article.

For its official control programme for dog-mediated rabies to be endorsed by WOAH, the Member Country should:

1) have a record of regular and prompt animal disease reporting in accordance with Chapter 1.1.;
2) submit documented evidence (including relevant legislation) of its capacity to control dog-mediated rabies. This evidence may be provided using data generated by the PVS Pathway;
3) submit a detailed plan of the programme to control and eventually eradicate dog-mediated rabies in the country including:
   a) the timeline;
   b) the performance indicators for assessing the effectiveness of the control measures to be implemented;
   c) documentation indicating that dog-mediated rabies is a notifiable disease and that the official control programme for dog-mediated rabies is applicable to the entire country;
4) submit a dossier on dog-mediated rabies in the country describing the following:
   a) the general epidemiology in the country highlighting the current knowledge and gaps in knowledge and the progress that has been made in controlling dog-mediated rabies;
   b) the measures implemented to prevent introduction of infection;
   c) the rapid detection of, and response to, dog-mediated rabies cases, to reduce the incidence and to eliminate transmission in at least one zone in the country;
   d) dog population control programme in accordance with Chapter 7.7.;
   e) collaboration agreements or programmes with other Competent Authorities such as those responsible for public health and management of wild and feral animals;
5) submit evidence that surveillance of dog-mediated rabies is in place:
   a) by taking into account provisions in Chapter 1.4. and Article 8.15.13.;
   b) by having diagnostic capability and procedures, including regular submission of samples to a laboratory that carries out diagnosis to support epidemiological investigation;
6) where vaccination is practised as part of the official control programme for dog-mediated rabies, provide:
   a) evidence (such as copies of legislation) that vaccination of selected populations is compulsory and the vaccines are produced in accordance with the Terrestrial Manual;
   b) detailed information on vaccination campaigns, in particular on:
      i) target populations;
      ii) monitoring of vaccination coverage;
      iii) technical specifications of the vaccines used and description of the regulatory procedures in place;
7) provide preparedness and contingency plans.

The Member Country's official control programme for dog-mediated rabies will be included in the list of programmes endorsed by WOAH only after the submitted evidence has been accepted by WOAH. Retention on the list requires an annual update on the progress of the official control programme and information on significant changes concerning the points above. Changes in the epidemiological situation and other significant events should be reported to WOAH in accordance with Chapter 1.1.

WOAH may withdraw the endorsement of the official control programme if there is evidence of:
– non-compliance with the timelines or performance indicators of the programme; or
– significant problems with the quality of the Veterinary Services as per Section 3 of the Terrestrial Code; or
Chapter 8.15. - Infection with rabies virus

an increase in the incidence of dog-mediated rabies that cannot be explained or addressed by the programme.

Article 8.15.12.

Recommendations for dog-mediated rabies vaccination programmes

When developing and implementing vaccination programmes for dog-mediated rabies, in addition to provisions in Chapter 4.18., Member Countries should:

1. Prepare for the vaccination programme:
   a) consult with all relevant stakeholders, including target communities to define the most appropriate time to increase community participation and reduce the time required to complete vaccination;
   b) ensure safety of vaccination teams including training in humane dog capture and handling, and a strategy to manage exposure to suspect rabid animals.

2. Choose a vaccine and the vaccination strategy:
   a) Priority should be given to vaccinating free-roaming dogs, including puppies, to quickly interrupt the rabies virus transmission cycle.
   b) Vaccination campaigns should be conducted recurrently (usually annually). More frequent vaccination campaigns may be considered in especially high-risk areas, or to quickly interrupt the cycle of virus transmission.
   c) The vaccination strategy should take into account simultaneous dog population management programmes as described in Chapter 7.7.

3. Monitor the vaccination programme:
   a) To monitor the vaccination coverage, vaccinated dogs should be identified and registered in an animal identification system.
   b) Vaccination certificates which state identification of the dog, date of vaccination and product should be provided to dog owners as proof of vaccination.
   c) Vaccination coverage should be monitored at the smallest administrative level possible.

Article 8.15.13.

Surveillance

1) A Member Country should justify the surveillance strategy chosen in accordance with Chapter 1.4., as being adequate to detect the presence of infection with rabies virus, given the prevailing epidemiological situation. Surveillance should be under the responsibility of the Veterinary Authority.

For the purposes of rabies surveillance a suspected case is a susceptible animal that shows any change in behaviour followed by death within ten days or that displays any of the following clinical signs: hypersalivation, paralysis, lethargy, abnormal aggression, abnormal vocalisation.

In particular, Member Countries should have in place:
   a) a formal and ongoing system for detecting and investigating suspected cases;
   b) a procedure for the rapid collection and transport of samples from suspected cases to a laboratory for diagnosis;
   c) a system for recording, managing and analysing diagnostic and surveillance data.

Rabies surveillance provides data that are indicators of the effectiveness of a rabies control programme and of the maintenance of freedom from infection with rabies virus in a country or zone.

2) In addition to principles in Chapter 1.4. the following are critical for rabies surveillance:
   a) Public awareness
      The Veterinary Services should implement programmes to raise awareness among the public, as well as veterinary paraprofessionals, veterinarians and diagnosticians, who should report promptly any cases or suspected cases.
   b) Clinical surveillance
      Clinical surveillance is a critical component of rabies surveillance and essential for detecting suspected cases. Therefore, a process should be in place and documented for the identification and investigation of suspected cases as well as for sample collection for laboratory diagnosis when rabies cannot be ruled out.
Animals (especially carnivores and bats) found dead are recognised as an important source of information for rabies surveillance and should be part of the clinical surveillance. Laboratory testing should use the recommended sampling techniques, types of samples and tests described in the Terrestrial Manual.

c) Sampling
Surveillance should target suspected cases. Probability sampling strategies are not always useful, as sampling of healthy animals (e.g. not involved in human exposure) rarely returns useful surveillance data.

d) Epidemiological investigation
In all situations, especially in countries or zones considering self-declaration of freedom, routine epidemiological investigation of cases and molecular characterisation of virus isolates from human and animal cases is encouraged. Such an investigation allows identification of sources of infection, their geographic origin and their epidemiological significance.

**Article 8.15.14.**

**Cooperation with other Competent Authorities**

The Veterinary Authority should coordinate in a timely manner with public health and other Competent Authorities and share information to support the decision-making process for the management of human and animal exposure.

In all regions, Veterinary Authorities of neighbouring countries should cooperate in the control of dog-mediated rabies.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2023.
CHAPTER 8.16.

INFECTION WITH RIFT VALLEY FEVER VIRUS

Article 8.16.1.

General provisions

1) The aim of this chapter is to mitigate the animal and public health risks posed by Rift Valley fever (RVF) and to prevent its international spread.

2) For the purposes of this chapter:
   a) 'epidemic area' means a part of a country or zone in which an epidemic of RVF is occurring, and which does not correspond to the definition of zone;
   b) 'epidemic of RVF' means a sudden and unexpected change in the distribution or increase in incidence of, or morbidity or mortality of RVF;
   c) 'inter-epidemic period' means a period between two epidemics;
   d) 'susceptible animals' means ruminants and dromedary camels.

3) Humans and many animal species can be affected by RVF. For the purposes of the Terrestrial Code, RVF is defined as an infection of susceptible animals with Rift Valley fever virus (RVFV).

4) The following defines the occurrence of infection with RVFV:
   a) RVFV, excluding vaccine strains, has been isolated and identified as such from a sample from a susceptible animal; or
   b) antigen or nucleic acid specific to RVFV, excluding vaccine strains, has been detected in a sample from a susceptible animal showing clinical signs or pathological lesions consistent with RVF, or with epidemiological links either to a confirmed or suspected case of RVF or to a human infected with RVFV, or giving cause for suspicion of association or contact with RVFV; or
   c) antibodies specific to RVFV that are not the consequence of vaccination, have been detected in a sample from a susceptible animal showing clinical signs or pathological lesions consistent with RVF, or with epidemiological links either to a confirmed or suspected case of RVF or to a human infected with RVFV, or giving cause for suspicion of association or contact with RVFV.

5) For the purposes of the Terrestrial Code, the infective period for RVF shall be 14 days and the incubation period shall be seven days.

6) In areas where RVFV is present, epidemics of RVF may occur following favourable climatic and other environmental conditions and availability of susceptible animal and competent vector populations. Epidemics are separated by inter-epidemic periods. The transition from an inter-epidemic period to an epidemic complies with point 1 e) of Article 1.1.3. in terms of notification.

7) When authorising importation or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.16.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the RVF status of the susceptible animal population of the exporting country.

8) Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.16.2.

Safe commodities

When authorising the importation or transit of the following commodities, Veterinary Authorities should not require any RVF-related conditions, regardless of the animal health status of the exporting country or zone:

1) hides and skins;
2) wool and fibre;
3) extruded dry pet food;
4) heat-treated meat products in a hermetically sealed container with an F0 value of 3 or above.
Chapter 8.16 - Infection with Rift Valley fever virus

Article 8.16.3.

Country or zone free from RVF

A country or a zone may be considered free from RVF when infection with RVFV is notifiable in the entire country and either:

1) it meets the requirements for historical freedom in Article 1.4.6; or

2) it meets the following conditions:
   a) an on-going specific surveillance programme in accordance with Chapter 1.4. has demonstrated no evidence of infection with RVFV in susceptible animals in the country or zone for a minimum of ten years; and
   b) during that period no indigenous infections in humans have been reported by the public health authorities in the country or zone.

A country or zone free from RVF will not lose its free status through the importation of susceptible animals that are seropositive, so long as they are either permanently identified as such or destined for immediate slaughter.

Article 8.16.4.

Country or zone infected with RVFV

A country or zone infected with RVFV is one that does not meet the requirements of Article 8.16.3.

Article 8.16.5.

Strategies to protect from vector attacks during transport

Strategies to protect susceptible animals from vector attacks during transport should take into account the local ecology and potential insecticide resistance of the vectors. Protection measures include:

1) treating animals and vehicles/vessels with insect repellents and insecticides prior to and during transportation;

2) loading, transporting and unloading animals at times of low vector activity;

3) ensuring vehicles/vessels do not stop en route unless the animals are protected from vector attacks;

4) using historical and current information to identify lower risk ports and transport routes.

Article 8.16.6.

Recommendations for importation of susceptible animals from countries or zones free from RVF

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the susceptible animals:

1) were kept in a country or zone free from RVF since birth or for at least 14 days prior to shipment;

AND

2) either:
   a) were vaccinated at least 14 days prior to leaving the free country or zone; or
   b) did not transit through an epidemic area.

Article 8.16.7.

Recommendations for importation of susceptible animals from countries or zones infected with RVFV

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the susceptible animals:

1) showed no clinical signs of RVF on the day of shipment;

2) met one of the following conditions:
   a) were vaccinated against RVF at least 14 days prior to shipment; or
b) were held for at least 14 days prior to shipment in a vector-protected quarantine station, which is located in an area of demonstrated low vector activity. During this period the animals showed no clinical sign of RVF;

AND

3) did not originate in or transit through an epidemic area.

Article 8.16.8.

Recommendations for importation of semen and in vivo derived embryos of susceptible animals from countries or zones infected with RVFV

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1) showed no clinical signs of RVF within the period from 14 days prior to and 14 days following collection of the semen or embryos;

AND

2) either:
   a) were vaccinated against RVF at least 14 days prior to collection; or
   b) were subjected to a serological test on the day of collection, with positive result; or
   c) were subjected to a serological test on two occasions with negative results on the day of collection and at least 14 days after collection.

Article 8.16.9.

Recommendations for importation of fresh meat and meat products from susceptible animals from countries or zones infected with RVFV

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the entire consignment of meat or meat products comes from:
   a) susceptible animals that showed no clinical signs of RVF within 24 hours before slaughter;
   b) susceptible animals that were slaughtered in an approved slaughterhouse/abattoir and were subjected to ante- and post-mortem inspections in accordance with Chapter 6.3. with favourable results;
   c) carcasses that were submitted to maturation at a temperature above 2°C for a minimum period of 24 hours following slaughter;

2) the necessary precautions were taken to avoid contact of the meat or meat products with any potential source of RVFV.

Article 8.16.10.

Recommendations for importation of milk and milk products from susceptible animals from countries or zones infected with RVFV

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the consignment:

1) was subjected to pasteurisation; or

2) was subjected to a combination of treatments with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.

Article 8.16.11.

Surveillance

Surveillance for RVF should be carried out in accordance with Chapter 1.4.

Surveillance for arthropod vectors should be carried out in accordance with Chapter 1.5., especially to determine areas of low vector activity.
Detection of RVFV in vectors has low sensitivity and therefore is not a recommended surveillance method.

An epidemic should be suspected in countries or zones infected with RVFV, or countries or zones adjacent to a country or zone in which epidemics have been notified, when ecological conditions favour the breeding of large numbers of mosquitoes and other vectors with concurrent or consequent occurrence of an increased number of abortions, and mortality particularly in new-born susceptible animals showing clinical signs or pathological lesions consistent with RVF, or reports of indigenous infection in humans.

Ecological conditions can be assessed through the sharing and analysis of meteorological data, and data on precipitation and water levels, as well as the monitoring of vector activity. Clinical surveillance targeted at abortions and the use of sentinel herds can support detection of epidemics. Serological surveillance can also be used to assess the increase in the number of seroconversions.

During an epidemic, surveillance should be conducted to define the extent of the epidemic area for the purpose of disease prevention and control as well as the extent of movements and trade of susceptible animals.

During inter-epidemic periods:
1) the level of virus transmission should be assessed and determined by surveillance in sentinel herds of susceptible animals;
2) monitoring of ecological and meteorological factors should be carried out.

Countries or zones adjacent to a country or zone in which epidemics have been notified should determine their RVF status through an on-going specific surveillance programme.

The Veterinary Authority should coordinate in a timely manner with public health and other relevant authorities and share information to support the surveillance outcomes, the use of public health messages to prevent human exposure and the decision-making process for the prevention and control of RVF.

NB: FIRST ADOPTED IN 1986; MOST RECENT UPDATE ADOPTED IN 2023.
CHAPTER 8.17.
INFECTION WITH RINDERPEST VIRUS

Article 8.17.1.

General provisions

1) The global eradication of rinderpest has been achieved and was announced in mid-2011 based on the following:
   a) Evidence demonstrating that there is no significant likelihood that rinderpest virus (RPV) remains in susceptible domesticated or wildlife host populations anywhere in the world.
   b) WOAH Member and non-member countries have completed the pathway defined by WOAH for recognition of national rinderpest freedom and have been officially recognised by WOAH as free from infection with RPV.
   c) All vaccinations against rinderpest are banned and have ceased throughout the world. A ban on vaccination against rinderpest means a ban on administering any vaccine containing RPV or any components derived from RPV to any animal.

However, RPV-containing material including live vaccines continues to be held in a number of institutions around the world and this poses a risk of virus re-introduction into susceptible animals. Therefore, Member Countries should not manipulate existing RPV-containing material, or synthesise or produce RPV-containing material, unless authorised by the FAO and WOAH.

As sequestration and destruction of virus stocks proceed, the risks of re-occurrence of infection are expected to diminish progressively. The possibility of deliberate or accidental release of virus demands continuing vigilance, especially in the case of those countries hosting an institution holding RPV-containing material.

This chapter takes into account the global freedom status of rinderpest and provides recommendations to prevent re-emergence of the disease, to ensure adequate surveillance and protection of livestock and to manage any re-emergence and facilitate recovery of global freedom from rinderpest.

A case of infection with RPV shall be confirmed in a WOAH Reference Laboratory for rinderpest.

2) For the purposes of the Terrestrial Code:
   a) Rinderpest is defined as an infection of susceptible animals with RPV, with or without clinical signs.
   b) The following defines the occurrence of a case of infection with RPV:
      i) RPV has been isolated from a susceptible animal or a product derived from that animal and identified; or
      ii) viral antigen or viral RNA specific to RPV has been identified in samples from a susceptible animal; or
      iii) antibodies to RPV, that are not a consequence of vaccination, have been identified in a susceptible animal with either epidemiological links to a confirmed or suspected outbreak of rinderpest, or showing clinical signs consistent with recent infection with RPV.
   c) The following defines a 'suspected case' of infection with RPV:
      i) a potential case for which other diseases compatible with 'stomatitis-enteritis syndrome' have been ruled out by clinical and laboratory investigation; or
      ii) a potential case which has given a positive reaction in a diagnostic test for RPV conducted outside of a WOAH Reference Laboratory for rinderpest; or
      iii) the detection of RPV-specific antibodies that are not a consequence of vaccination in a susceptible animal without clinical signs.
   d) The incubation period for infection with RPV shall be 21 days.
   e) RPV-containing material means field and laboratory strains of RPV; vaccine strains of RPV including valid and expired vaccine stocks; tissues, sera and other material from animals known or suspected to be infected; laboratory-generated diagnostic material containing live virus, recombinant morbilliviruses (segmented or nonsegmented) containing unique RPV nucleic acid or amino acid sequences; and full length genomic material including viral RNA and its cDNA copies.

Subgenomic fragments of RPV genome (either as plasmids or incorporated into recombinant viruses) that cannot be incorporated into a replicating morbillivirus or morbillivirus-like virus are not considered to be RPV-containing material, neither are sera that have been either heat-treated to at least 56°C for at least two hours, or shown to be free from RPV genome sequences by a validated RT-PCR assay.

3) For the purposes of this chapter:
   a) ‘Susceptible animals’ means domestic, feral, captive wild and wild artiodactyls.
b) A ‘potential case’ of infection with RPV means a susceptible animal showing clinical signs consistent with ‘stomatitis-enteritis syndrome’ and where these signs cannot be ascribed to another disease compatible with ‘stomatitis-enteritis syndrome’ by clinical or epidemiological investigation.

The occurrence of a potential case should draw special attention if it is linked to identified risks such as proximity to facilities holding RPV-containing material.

c) ‘Stomatitis-enteritis syndrome’ is defined as fever with ocular and nasal discharges in combination with clinical signs of erosions in the oral cavity with diarrhoea, dysentery, dehydration or death or necropsy findings of haemorrhages on serosal surfaces, haemorrhages and erosions on alimentary mucosal surfaces and lymphadenopathy.

4) Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.17.2.

Safe commodities

1. Safe commodities during global freedom

When authorising import or transit of commodities of susceptible animals, Veterinary Authorities should not require any conditions related to rinderpest.

2. Safe commodities in the event of re-emergence of rinderpest

Regardless of the rinderpest status of the exporting country, Veterinary Authorities should not require any conditions related to rinderpest for:

a) semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather);

b) meat products in hermetically sealed containers with a F0 value of 3 or above;

c) gelatine.

Article 8.17.3.

Article 8.17.4., Article 8.17.5. and point 1 of Article 8.17.6. apply during global freedom.

Point 2 of Article 8.17.6. and Articles 8.17.7. to 8.17.14. apply in the event of re-emergence of rinderpest.

Article 8.17.4.

Ongoing surveillance during global freedom

All countries in the world, whether or not Member Countries of WOAH, have completed all the procedures necessary to be recognised as free from rinderpest, and annual re-confirmation of absence of infection with RPV is no longer required. However, rinderpest should still be notifiable in the whole territory and countries are still required to carry out general surveillance in accordance with Chapter 1.4. to detect rinderpest should it recur and to comply with WOAH reporting obligations concerning the occurrence of unusual epidemiological events in accordance with Chapter 1.1. Countries should either maintain the capacity for local investigation of potential cases or have protocols in place to send samples from such potential cases to an approved laboratory, which can be a WOAH Reference Laboratory for rinderpest. Countries should also maintain national contingency plans for responding to events suggestive of rinderpest including the checking of potential cases and the prompt identification of suspected cases.

The Global Rinderpest Action Plan (GRAP) complements all national and regional contingency plans and lays out the roles and responsibilities of all relevant stakeholders to prepare for, prevent, detect, respond to and recover from a rinderpest outbreak. If needed, expertise from the region or continent, or international organisations may be requested to provide resources to help confirm or rule out whether the potential case meets the definition for a suspected case or a case.
Chapter 8.17. Infection with rinderpest virus

Article 8.17.5.

Annual update on RPV-containing material

Annual reports on RPV-containing material should be submitted to WOAH each year by the Veterinary Authority of a Member Country hosting an institution or institutions holding RPV-containing material, using the online platform designated for such a purpose. A final report should be submitted to WOAH for each institution when all RPV-containing materials have been destroyed and no new related activities are foreseen.

Article 8.17.6.

Response to a recurrence of rinderpest

1. Procedures to be followed in the event of the suspicion of rinderpest

Any suspected case of infection with RPV should be immediately reported to the Veterinary Authority. Veterinary Authorities shall immediately notify any suspected case of infection with RPV to WOAH. Upon detection of a suspected case, the national contingency plan should be implemented immediately. If the presence of rinderpest cannot be ruled out or if there is a positive reaction in a diagnostic test for RPV conducted outside of a WOAH Reference Laboratory for rinderpest, samples should be collected in accordance with the Terrestrial Manual and dispatched to one of WOAH Reference Laboratories for rinderpest for confirmation and, if applicable, for molecular characterisation of the virus to facilitate identification of its source. A full epidemiological investigation should be conducted simultaneously to provide supporting information and to assist in identifying the possible source and spread of the virus.

2. Procedures to be followed after confirmation of rinderpest

Veterinary Authorities shall immediately notify any case of infection with RPV to WOAH. A case of infection with RPV shall constitute a global emergency requiring immediate, concerted action for its investigation and elimination. Immediately following the confirmation of the presence of RPV, viral RNA or antibody as described in Article 8.17.1., the WOAH Reference Laboratory for rinderpest should inform the country concerned, the WOAH and the FAO, allowing the initiation of the response operations described in the GRAP.

When epidemiological investigation has indicated the extent of the infected area, zoning can be implemented for the purposes of disease control. In the event of a limited outbreak, a containment zone should be established in accordance with Article 8.17.9.

Emergency vaccination is acceptable only with rinderpest vaccines produced in accordance with the Terrestrial Manual. Vaccinated animals should always be clearly and permanently identified at the individual level.

Global rinderpest freedom is suspended and the sanitary measures for trade shall be those in Articles 8.17.13. and 8.17.14.

Article 8.17.7.

Country free from rinderpest

In the event of re-emergence of rinderpest, all WOAH Member Countries without a case will remain free from rinderpest. However, all WOAH Member Countries will be asked to provide a risk assessment to WOAH and free status will be suspended if their risk assessment is not accepted by WOAH.

Some countries will be at heightened risk. In particular, countries meeting the conditions below would be regarded as being at heightened risk and should carry out appropriate surveillance, capable of detecting the presence of infection with RPV even in the absence of clinical signs; this may be achieved through a surveillance programme in accordance with Article 8.17.12. in addition to ongoing surveillance in accordance with Article 8.17.4.

1) Countries that are adjacent to a country infected with RPV; or

2) Countries that have relevant epidemiological or ecological links through trade or animal movements to a country infected with RPV.
Chapter 8.17.- Infection with rinderpest virus

Article 8.17.8.

Country infected with RPV

A country infected with RPV is one in which a case of infection with RPV has occurred.

Article 8.17.9.

Establishment of a containment zone within a country previously free from rinderpest

In the event of a limited outbreak within a country previously free from rinderpest, a containment zone for the purposes of disease control and eradication should be established in accordance with Article 4.4.7. Notwithstanding the establishment of a containment zone for disease control and eradication, international trade of commodities of susceptible species from the entire country will be limited to the commodities listed in point 2 of Article 8.17.2. until free status is recovered for the whole country in accordance with Article 8.17.10.

Article 8.17.10.

Recovery of free status for a country

Should a case of infection with RPV occur, a country is considered infected with RPV until shown to be free from rinderpest in accordance with the procedures below.

The time needed to recover free status of a country depends on the methods employed to achieve the elimination of infection.

One of the following waiting periods is applicable:

1) when a stamping-out policy has been applied:
   a) three months after the disinfection of the last affected establishment where a stamping-out policy without vaccination and targeted surveillance in accordance with Article 8.17.12. have been applied; or
   b) three months after the disinfection of the last affected establishment and the slaughter of all vaccinated animals, where a stamping-out policy, emergency vaccination and targeted surveillance in accordance with Article 8.17.12. have been applied; or
   c) 18 months after the disinfection of the last affected establishment and the last vaccination, where a stamping-out policy, emergency vaccination not followed by the slaughter of all vaccinated animals, and targeted surveillance in accordance with Article 8.17.12. have been applied;

2) when a stamping-out policy is not practised, the above waiting periods do not apply. Instead, the country must be in compliance with the requirements below:
   a) have a record of regular and prompt disease notification in accordance with Chapter 1.1.;
   b) send a declaration to WOAH stating that:
      i) there has been no case of infection with RPV during the past 24 months;
      ii) no suspected case of infection with RPV has been found during the past 24 months;
      iii) no vaccination against rinderpest has been carried out during the past 24 months;
   c) supply documented evidence that targeted surveillance for infection with RPV in accordance with Chapter 1.4. and Article 8.17.12. is in operation and that regulatory measures for the prevention and control of rinderpest have been implemented;
   d) not have imported, since the cessation of vaccination, any animals vaccinated against rinderpest.

In point 1 and point 2 above, the recovery of free status requires an international expert mission to verify the successful application of containment and eradication measures, as well as a review of documented evidence by WOAH. The country shall be considered free only after the outcome of the mission and submitted evidence have been accepted by WOAH.
Article 8.17.11.

Recovery of global freedom

The suspension of global freedom will be lifted when all countries infected with RPV have recovered freedom in accordance with Article 8.17.10.

Unless it is verified through a WOAH expert mission that the conditions below are met for all countries having experienced an outbreak within 12 months of suspension, then global rinderpest freedom is lost and recovery of freedom would require an assessment of free status of all countries by WOAH. If the conditions below are met within 12 months, then global freedom will remain suspended, subject to periodic review by WOAH.

1) The outbreak is limited to a country or zone, without any further outbreaks outside the ecosystem of the first outbreak.

2) The outbreak is handled in a prompt and efficient manner, with robust control measures including movement controls, which were rapidly implemented and were shown to be successful in mitigating the spread of rinderpest and reducing its incidence.

Article 8.17.12.

Surveillance for recovery of free status

A country infected with RPV applying for recovery of free status in accordance with Article 8.17.10. should provide evidence demonstrating effective surveillance in accordance with Chapter 1.4. and the points below.

1) The target for surveillance should be all populations of susceptible animals within the country. In certain areas some wildlife populations, such as African buffaloes, act as sentinels for infection with RPV.

2) An awareness programme should be established for all animal health professionals including veterinarians, both official and private, and livestock owners to ensure that clinical and epidemiological characteristics of rinderpest and risks of its recurrence are understood. Farmers and workers who have day-to-day contact with livestock, as well as diagnosticians, should report promptly any potential case.

3) Differing clinical presentations can result from variations in levels of innate host resistance (Bos indicus breeds being more resistant than B. taurus), and variations in the virulence of the attacking strain. In the case of sub-acute (mild) cases, clinical signs are irregularly displayed and difficult to detect. Experience has shown that syndromic surveillance strategies, i.e. surveillance based on a predefined set of clinical signs ('stomatitis-enteritis syndrome'), are useful to increase the sensitivity of the system.

4) Given these differing clinical presentations, virological surveillance should be conducted in addition to clinical surveillance. A procedure should be established for the rapid collection and transport of samples from suspected cases to a WOAH Reference Laboratory for rinderpest.

5) Since rinderpest is an acute infection with no known carriers, serological surveillance should be conducted to detect mild infections that are not detected clinically. There are no serological means to differentiate animals infected with field virus from vaccinated animals. Consequently, serological surveys should target unvaccinated animals and young animals devoid of maternal antibodies.

Article 8.17.13.

Recommendations for importation of susceptible animals and their products from countries free from rinderpest

1) For susceptible animals, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals remained in a country free from rinderpest since birth or for at least 30 days prior to shipment. Animals must not transit through a country infected with RPV, in accordance with Chapter 5.7.

2) For fresh meat or meat products (except those listed in point 2 of Article 8.17.2.) of susceptible animals, milk or milk products from susceptible animals, and for all products of animal origin intended for use in animal feeding, for agricultural use or for industrial use, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of product is derived from animals that remained in a country free from rinderpest since birth or for at least 30 days prior to slaughter or harvesting of the product.

3) For semen and oocytes of susceptible animals, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

   a) the donor animals showed no clinical signs of infection with RPV on the day of collection and had been kept in a country free from rinderpest for at least 30 days prior to collection;
b) the semen and oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.6., 4.7. or 4.9., as relevant.

4) For in vivo derived embryos of susceptible animals, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
   a) the donor females showed no clinical signs of infection with RPV on the day of collection and had been kept in a country free from rinderpest for at least 30 days prior to collection;
   b) the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.8. and 4.10., as relevant.

**Article 8.17.14.**

Recommendations for importation from countries not free from rinderpest

From countries not free from rinderpest, only commodities listed in point 2 of Article 8.17.2. can be traded.

---

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2022.
CHAPTER 8.18.

INFECTION WITH TRICHINELLA SPP.

Article 8.18.1.

General provisions

Trichinellosis is a widely distributed zoonosis caused by eating raw or undercooked meat from Trichinella infected food-producing animals or wildlife. Given that clinical signs of trichinellosis are not generally recognised in animals, the importance of trichinellosis lies exclusively in the risk posed to humans and costs of control in slaughter populations.

The adult parasite and the larval forms live in the small intestine and muscles (respectively) of many mammalian, avian and reptile host species. Within the genus Trichinella, twelve genotypes have been identified, nine of which have been designated as species. There is geographical variation amongst the genotypes.

Prevention of infection in susceptible species of domestic animals intended for human consumption relies on the prevention of exposure of those animals to the meat and meat products of Trichinella infected animals. This includes consumption of food waste of domestic animal origin, rodents and wildlife.

Meat and meat products derived from wildlife should be considered a potential source of infection for humans. Therefore untested meat and meat products of wildlife may pose a public health risk.

For the purposes of the Terrestrial Code, infection with Trichinella spp. is defined as an infection of suids or equids by parasites of the genus Trichinella.

This chapter provides recommendations for on-farm prevention of Trichinella infection in domestic pigs (Sus scrofa domesticus), and safe trade of meat and meat products derived from suids and equids. This chapter should be read in conjunction with the Codex Alimentarius Code of Hygienic Practice for Meat (CAC/RCP 58-2005) and Guidelines for the control of Trichinella spp. in meat of Suidae (CAC/GL 86-2015).

Methods for the detection of Trichinella infection in pigs and other animal species include direct demonstration of Trichinella larvae in muscle samples. Demonstration of the presence of Trichinella-specific circulating antibodies using a validated serological test may be useful for epidemiological purposes.

When authorising the import or transit of the commodities covered in this chapter, with the exception of those listed in Article 8.18.2., Veterinary Authorities should apply the recommendations in this chapter.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.18.2.

Safe commodities

When authorising the import or transit of the following commodities, Veterinary Authorities should not require any Trichinella-related conditions, regardless of the status of the animal population of the exporting country or zone:

1) hides, skins, hair and bristles;
2) semen, oocytes and embryos.
Chapter 8.18.- Infection with Trichinella spp.

Article 8.18.3.

Measures to prevent infection in domestic pig herds kept under controlled management conditions

1) Prevention of infection is dependent on minimising exposure to potential sources of Trichinella:
   a) facilities and the surrounding environment should be managed to prevent exposure of pigs to rodents and wildlife;
   b) raw food waste of animal origin should not be present on pig establishments and should not be fed to pigs;
   c) feed should comply with the requirements in Chapter 6.4. and should be stored in a manner to prevent access by rodents and wildlife;
   d) a rodent control programme should be in place;
   e) dead animals should be immediately removed and disposed of in accordance with Chapter 4.13.;
   f) introduced pigs should originate from herds officially recognised as being under controlled management conditions as described in point 2, or from herds of a compartment with a negligible risk of Trichinella infection, as described in Article 8.18.5.

2) The Veterinary Authority may officially recognise pig herds as being under controlled management conditions if:
   a) all management practices described in point 1 are complied with and recorded;
   b) visits by approved auditors have been made periodically to verify compliance with good management practices described in point 1; the frequency of inspections should be risk-based, taking into account historical information, slaughterhouse/abattoir monitoring results, knowledge of established farm management practices and the presence of susceptible wildlife;
   c) a subsequent programme of audits is conducted, taking into account the factors described in point b).

Article 8.18.4.

Prerequisite criteria for the establishment of compartments with a negligible risk of Trichinella infection in domestic pigs kept under controlled management conditions

Compartments with a negligible risk of Trichinella infection in domestic pigs kept under controlled management conditions can only be established in countries, in which the following criteria, as applicable, are met:

1) Trichinella infection is notifiable in the whole territory and communication procedures on the occurrence of Trichinella infection are established between the Veterinary Authority and the public health authority;
2) the Veterinary Authority has knowledge of, and authority over, all domestic pigs;
3) the Veterinary Authority has current knowledge of the distribution of susceptible species of wildlife;
4) an animal identification and animal traceability system for domestic pigs is implemented in accordance with Chapters 4.2. and 4.3.;
5) Veterinary Services have the capability to assess the epidemiological situation, detect the presence of Trichinella infection (including genotype, if relevant) in domestic pigs and identify exposure pathways.

Article 8.18.5.

Compartment with a negligible risk of Trichinella infection in domestic pigs kept under controlled management conditions

The Veterinary Authority may recognise a compartment in accordance with Chapter 4.5. as having negligible risk of Trichinella infection in domestic pigs kept under controlled management conditions if the following conditions are met:

1) all herds of the compartment comply with the requirements in Article 8.18.3.;
2) Article 8.18.4. has been complied with for at least 24 months;
3) the absence of Trichinella infection in the compartment has been demonstrated by a surveillance programme which takes into account current and historical information, and slaughterhouse/abattoir monitoring results, as appropriate, in accordance with Chapter 1.4.;
4) once a compartment is established, a subsequent programme of audits of all herds within the compartment is in place to ensure compliance with Article 8.18.3.;
5) if an audit identifies a lack of compliance with the criteria described in Article 8.18.3. and the Veterinary Authority determines this to be a significant breach of biosecurity, the herd(s) concerned should be removed from the compartment until compliance is re-established.
Article 8.18.6.

Recommendations for the importation of meat or meat products of domestic pigs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat or meat products:

1) has been produced in accordance with the Codex Code of Hygienic Practice for Meat (CAC/RCP 58-2005);

AND

2) either:
   a) comes from domestic pigs originating from a compartment with a negligible risk for Trichinella infection in accordance with Article 8.18.5.;
   OR
   b) comes from domestic pigs that tested negative by an approved method for the detection of Trichinella larvae;
   OR
   c) was processed to ensure the inactivation of Trichinella larvae in accordance with the Codex Guidelines for the control of Trichinella spp. in meat of Suidae (CAC/GL 86-2015).

Article 8.18.7.

Recommendations for the importation of meat or meat products of wild or feral pigs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat or meat products:

1) has been produced in accordance with the Codex Code of Hygienic Practice for Meat (CAC/RCP 58-2005);

AND

2) either:
   a) comes from wild or feral pigs that tested negative by an approved method for the detection of Trichinella larvae;
   OR
   b) was processed to ensure the inactivation of Trichinella larvae in accordance with the Codex Guidelines for the control of Trichinella spp. in meat of Suidae (CAC/GL 86-2015).

Article 8.18.8.

Recommendations for the importation of meat or meat products of domestic equids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat or meat products:

1) has been produced in accordance with the Codex Code of Hygienic Practice for Meat (CAC/RCP 58-2005);

AND

2) comes from domestic equids that tested negative by an approved method for the detection of Trichinella larvae.

Article 8.18.9.

Recommendations for the importation of meat or meat products of wild and feral equids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat or meat products:

1) has been inspected in accordance with Chapter 6.3.;
AND

2) comes from wild or feral equids that tested negative by an approved method for the detection of Trichinella larvae.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2016.
CHAPTER 8.19.

INFECTION WITH TRYPANOSONA BRUCEI, T. CONGOLENSE, T. SIMIAE AND T. VIVAX

Article 8.19.1.

General provisions

1) This chapter addresses a disease complex caused by several protozoan parasites of the genus Trypanosoma, transmitted mainly cyclically by the genus Glossina (tsetse flies), but also mechanically by several biting flies (e.g. tabanids, Stomoxys spp.). The disease can be caused by many different trypanosomes and can affect various mammals such as horses, donkeys, camels, goats, sheep, pigs, dogs, cats and non-human primates. The disease has a significant socio-economic impact on animal production. Trypanosoma brucei gambiense and T. brucei rhodesiense can also affect humans and are responsible for a disease known as sleeping sickness or human African trypanosomosis, which is almost always fatal if untreated.

2) Infection with several trypanosome species in the same animal may occur although this may not always be detected using routine testing methods.

3) For the purposes of this chapter, “susceptible animals” means domestic and wild animals from the following families: bovidae, suidae, equidae, camelidae, canidae, felidae and non-human primates.

4) For the purposes of the Terrestrial Code, infection with Trypanosoma brucei, T. congolense, T. simiae and T. vivax is defined as an infection of susceptible animals with one or more salivarian trypanosomes of the subgenera Duttonella (only T. vivax), Nannomonas (only T. congolense and T. simiae) and Trypanozoon (T. brucei sspp. excluding T. evansi and T. equiperdum), hereafter referred to as “pathogenic agent”.

5) Infections of susceptible animals with T. evansi and T. equiperdum are covered by Chapter 8.X. and Chapter 12.3., respectively.

6) Other trypanosomes including T. uniforme, T. godfreyi and T. suis, which are rarely reported and of limited distribution and impact, do not play a significant role in the epidemiology of the disease; however, they should be considered in the surveillance system owing to their interference (hidden infection) with the diagnosis of infection with T. brucei, T. congolense, T. simiae and T. vivax.

7) The following defines the occurrence of infection with T. brucei, T. congolense, T. simiae and T. vivax:
   a) the pathogenic agent has been observed in a sample from a susceptible animal; or
   b) genetic material specific to the pathogenic agent has been detected in a sample from a susceptible animal showing clinical signs consistent with infection with T. brucei, T. congolense, T. simiae and T. vivax or which has an epidemiological link to a confirmed case; or
   c) antibodies have been detected in a sample from a susceptible animal showing clinical signs consistent with infection with T. brucei, T. congolense, T. simiae and T. vivax or which has an epidemiological link to a confirmed case.

8) For the purposes of the Terrestrial Code, the incubation period of infection with T. brucei, T. congolense, T. simiae and T. vivax shall be 90 days.

9) Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.19.2.

Safe commodities

When authorising the import or transit of the following commodities from susceptible animals, Veterinary Authorities should not require conditions related to infection with T. brucei, T. congolense, T. simiae and T. vivax regardless of the status of the exporting country or zone:

1) pasteurised milk and pasteurised milk products;
2) hair, wool and fibre;
3) gelatine and collagen;
4) horns, hooves and claws;
5) meat from animals that have been slaughtered in a slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results;

6) meat products;

7) hides and skins (except raw);

8) semen collected and processed in accordance with Chapter 4.6.;

9) embryos.

**Article 8.19.3.**

**Country or zone free from infection with** *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax*

A country or zone may be considered free from infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* when:

1) the infection is notifiable in the entire country;

2) measures to prevent the introduction of the infection have been in place; in particular, the importations or movements of susceptible animals and other commodities into the country or zone have been carried out in accordance with this chapter and other relevant chapters of the Terrestrial Code;

3) and either:
   a) the relevant provisions in point 2 of Article 1.4.6. have been complied with; or
   b) for at least the past two years, there has been no case in the country or zone and
      i) surveillance in accordance with Articles 8.19.7. to 8.19.10. has been in place in the entire country; or
      ii) the absence of competent vectors has been demonstrated by a surveillance programme in accordance with Chapter 1.5. and Article 8.19.9.

A country or zone free from infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* adjacent to an infected country or zone should include a zone in which surveillance is conducted in accordance with Articles 8.19.7. to 8.19.10.

**Article 8.19.4.**

**Compartment free from infection with** *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax*

The establishment and bilateral recognition of a compartment free from infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* should follow the provisions laid down in this chapter and in Chapters 4.4. and 4.5.

Susceptible animals in the free compartment should be protected against the vectors by the application of an effective biosecurity management system.

**Article 8.19.5.**

**Recovery of free status**

Should a case of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* occur in a previously free country or zone, its status may be recovered after the following:

1) infected animals have been isolated and then immediately treated, slaughtered or killed and appropriately disposed of;

2) animals in contact with infected animals have been put immediately under protection from vector attacks and tested;

AND

3) for six consecutive months, either:
   a) after the last case was slaughtered or killed, the animals in contact have undergone monthly repeated serological and agent detection tests with negative results in both tests; or
   b) when treatment is applied to the infected animals, both treated and in contact animals have undergone monthly repeated serological and agent detection tests with negative results in both tests;

AND

4) surveillance in accordance with Articles 8.19.7. to 8.19.10. has been carried out with negative results;
5) appropriate biosecurity is in place, including vector control or protection from vector attacks in the affected area. Otherwise, Article 8.19.3. applies.

**Article 8.19.6.**

**Recommendations for importation of susceptible animals from countries, zones or compartments free from infection with T. brucei, T. congolense, T. simiae and T. vivax**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical signs of infection with T. brucei, T. congolense, T. simiae and T. vivax on the day of shipment;
2) were kept since birth in a free country, zone or compartment or were imported from a free country, zone or compartment;
3) did not transit through an infected zone during transportation to the place of shipment or were protected from vectors or any source of the pathogenic agent by the application of effective biosecurity during transportation to the place of shipment.

**Article 8.19.7.**

**Introduction to surveillance**

Articles 8.19.7. to 8.19.10. define the principles and provide guidance on surveillance for infection with T. brucei, T. congolense, T. simiae and T. vivax, complementary to Chapter 1.4. and to Chapter 1.5.

The purposes of surveillance could be the demonstration of the absence of infection, the early detection of cases, or the measurement and monitoring of the prevalence and distribution of the infection in a country, zone or compartment.

Vectors are an essential component of the epidemiology of the salivarian trypanosomes. Therefore, the surveillance system should include a vector surveillance component to detect the presence and estimate the abundance of tsetse flies. When appropriate, it should also allow estimation of the vector infection rate with the pathogenic agent. Vector surveillance may also assist with estimation of the abundance of mechanical vectors.

The impact and epidemiology of the pathogenic agent widely differs between different regions of the world and therefore, it is not appropriate to provide specific recommendations for all situations. Member Countries should provide scientific data explaining the epidemiology of the disease in the country or zone concerned and adapt the surveillance strategies for defining their status to the local conditions. There is considerable latitude available to Member Countries to justify their status at an acceptable level of confidence.

Although surveillance in wildlife presents challenges that may differ significantly from those in domestic animals, wildlife should be considered in the surveillance system because they can serve as reservoirs of infection and as indicators of risk to humans and domestic animals.

**Article 8.19.8.**

**General conditions and methods for surveillance**

1) A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular, it should include:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease;
   b) a procedure for the rapid diagnosis in the field or for the collection and transport of samples from suspected cases to a laboratory for diagnosis;
   c) a system for recording, managing, reporting and analysing diagnostic and surveillance data.

2) The surveillance programme for the pathogenic agent should, at least:
   a) in a free country or zone, have an early warning system which obliges animal owners and keepers and other stakeholders who have regular contact with susceptible animals, as well as veterinarians or veterinary paraprofessionals, to report promptly any suspicion of infection with T. brucei, T. congolense, T. simiae and T. vivax to the Veterinary Authority.

An effective surveillance system will periodically identify suspected cases that require follow-up and investigation to confirm or exclude whether the cause of the condition is the pathogenic agent. The rate at
which such suspected cases are likely to occur will differ between epidemiological situations and cannot therefore be reliably predicted. All suspected cases should be investigated immediately, and samples should be taken and submitted to a laboratory;

b) include random or targeted serological or parasitological surveys appropriate to the status of the country or zone.

**Article 8.19.9.**

**Surveillance strategies**

The target population should include domestic and wild susceptible animals of epidemiological significance within the country or zone. Active and passive surveillance for the pathogenic agent should be ongoing as epidemiologically appropriate. Surveillance should be composed of random or targeted approaches using parasitological, serological, clinical and entomological methods appropriate for the status of the country or zone.

In a free country or zone, it is appropriate to focus surveillance in an area adjacent to an infected country or zone, considering relevant ecological or geographical features likely to interrupt the transmission of the pathogenic agent.

A Member Country should justify the surveillance strategy chosen as being adequate to detect the presence of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* in accordance with Chapter 1.4. and Chapter 1.5., and with the prevailing epidemiological situation.

If a Member Country wishes to declare freedom from infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* in a specific zone, the design of the surveillance strategy should be targeted to the susceptible population within the zone.

For random surveys, the sample size selected for testing should be large enough to detect evidence of infection if it were to occur at a predetermined minimum expected prevalence. The sample size and expected prevalence determine the level of confidence in the results of the survey. The Member Country should justify the choice of the minimum expected prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the infection history and the different species in the target population.

Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following up positive reactions to determine, with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as those which may be epidemiologically linked to it.

The principles involved in surveillance are technically well defined. The design of surveillance programmes to prove the absence of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* should be carefully followed to avoid producing results that are either insufficiently reliable to be accepted by international trading partners, or excessively costly and logistically complicated.

The results of random or targeted surveys are important in providing reliable evidence that no infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* is present in a country or zone. It is, therefore, essential that the survey is thoroughly documented. It is critical to consider the movement history of the animals being sampled when interpreting the results.

An active programme of surveillance of susceptible populations to detect evidence of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* is essential to establish the animal health status of a country or zone.

1. **Clinical surveillance**

Clinical surveillance aims to detect clinical signs of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* in susceptible animals, particularly during a newly introduced infection. However, neither clinical nor post-mortem signs of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* origin are pathognomonic. Therefore, suspected cases of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax* detected by clinical surveillance should always be confirmed by direct or indirect laboratory tests that confirm the presence of the pathogenic agent.
2. Parasitological surveillance

Parasitological surveillance can be conducted to:

a) confirm clinically suspected cases,
b) identify parasites at the subgenus level,
c) confirm active infection after positive serological results.

3. Molecular techniques

Molecular techniques increase the sensitivity of the detection of active infections. They can also be applied to identify the parasite and to better characterise the genotype of circulating parasites in a country or zone.

Molecular techniques can be used to:

a) detect an active infection,
b) characterise the parasite at the species, subspecies, group and population level.

4. Serological surveillance

a) Serological testing of susceptible animals is one of the most effective methods for detecting exposure to the pathogenic agent. The host species tested should reflect the epidemiology of the disease. Management variables that may influence likelihood of infection, such as the use of insecticides or animal treatment, should be considered.

b) Owing to cross reactions with T. evansi, T. equiperdum, T. cruzi and Leishmania spp., the presence of these pathogenic agents should be considered when interpreting the results of the serological surveillance system.

c) Serological surveillance can be used to:

i) demonstrate individual or population freedom;

ii) detect subclinical or latent infection with T. brucei, T. congolense, T. simiae and T. vivax;

iii) determine by seroprevalence the magnitude of infection with T. brucei, T. congolense, T. simiae and T. vivax in the host population.

d) Positive test results can have different possible causes:

i) infection;

ii) antibodies from previous infection (after effective treatment or self-cure);

iii) maternal antibodies;

iv) cross reactions with T. evansi, T. equiperdum, T. cruzi and Leishmania spp.

5. Sentinel animals

Sentinel surveillance may provide evidence of freedom from infection or provide data on prevalence and incidence as well as the distribution of disease or infection. Sentinel surveillance may consist of:

a) the identification and regular testing of one or more of sentinel animal units of known health or immune status in a specified geographical location to detect the occurrence of infection with T. brucei, T. congolense, T. simiae and T. vivax;

b) the investigation of clinical suspect cases targeting highly susceptible animals such as dogs, donkeys or horses.

6. Vector surveillance

This point should be read in conjunction with Chapter 1.5.
For the purposes of this chapter, vector surveillance aims at determining different levels of risk by identifying the presence and abundance of various vector species in an area or by demonstrating the absence of vectors. Demonstration of the absence of competent vectors may support the claim of freedom from infection with *Trypanosoma brucei*, *T. congolense*, *T. simiae* and *T. vivax*.

The most effective way of gathering vector surveillance data should consider the biology and behavioural characteristics of the local vector species and include traps, fly rounds, sticky targets or other collection tools. The choice of the number and type of collecting tools to be used and the frequency of their use should be made by considering the size and ecological characteristics of the area to be surveyed.

When sentinel animals are used, vector surveillance should be conducted at the same locations.

**Article 8.19.10.**

**Additional surveillance procedures for recovery of free status**

In addition to the general conditions described in this chapter, a Member Country seeking recovery of country or zone free status, including a containment zone established in accordance with Article 4.4.7., should show evidence of an active surveillance programme to demonstrate absence of infection with *T. brucei*, *T. congolense*, *T. simiae* and *T. vivax*.

Populations under this surveillance programme should include:

1) establishments in the proximity of the outbreak;
2) establishments epidemiologically linked to the outbreak;
3) animals moved from or used to re-populate affected establishments.

**NB: FIRST ADOPTED IN 2021**
CHAPTER 8.20.

TULAREMIA

Article 8.20.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for tularemia (in hares, genus Lepus) shall be 15 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.20.2.

Tularemia free country

A country may be considered free from tularemia when it has been shown that tularemia has not been present for at least the past two years and when bacteriological or serological surveys in previously infected zones have given negative results.

Article 8.20.3.

Tularemia infected zone

A zone should be considered as infected with tularemia until:

1) at least one year has elapsed after the last case has been confirmed;

AND

2) a bacteriological survey on ticks within the infected zone has given negative results; or

3) regular serological testing of hares and rabbits from that zone have given negative results.

Article 8.20.4.

Trade in commodities

Veterinary Authorities of tularemia free countries may prohibit importation or transit through their territory, from countries considered infected with tularemia, of live hares.

Article 8.20.5.

Recommendations for importation from countries considered infected with tularemia

For live hares

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of tularemia on the day of shipment;
2) were not kept in a tularemia infected zone;
3) have been treated against ectoparasites; and
4) were kept in a quarantine station for the 15 days prior to shipment.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2014.
CHAPTER 8.21.

WEST NILE FEVER

Article 8.21.1.

General provisions

West Nile fever (WNF) is a zoonotic disease caused by certain strains of the mosquito transmitted West Nile virus (WNV).

For the purposes of this chapter, the susceptible species are equidae, geese, ducks (under study) and birds other than poultry.

WNV is maintained in a mosquito–bird–mosquito transmission cycle, whereas humans and equidae are considered dead-end hosts. Most human infections occur by natural transmission from mosquitoes.

In relation to domestic animal trade, geese and ducks pose a risk for the spread of the WNV as some species have been documented to develop a viraemia sufficient to infect mosquitoes.

Surveillance for WNF should be carried out in accordance with Chapter X.X.

The following criteria define the occurrence of WNF:

1) WNV has been isolated from an animal that shows signs consistent with WNF; or
2) antigen or ribonucleic acid specific to WNV has been identified in samples from one or more animals that show clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected outbreak of WNF; or
3) antibodies to WNV have been detected in an unvaccinated animal that shows clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected outbreak of WNF.

For the purposes of the Terrestrial Code, the incubation period for WNF shall be 15 days.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.21.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the WNF status of the exporting country or zone.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.21.2.

Safe commodities

Member Countries should not impose trade restrictions on dead-end hosts such as horses.

When authorising import or transit of the following commodities and any products made from these, Veterinary Authorities should not require any WNV-related conditions, regardless of the WNF status of the exporting country or zone:

1) hatching eggs;
2) eggs for human consumption;
3) egg products;
4) poultry semen;
5) fresh meat and meat products of poultry;
6) products of poultry origin intended for use in animal feeding, or for agricultural or industrial use;
7) feathers and down from poultry;
8) semen of horses;
9) meat and meat products of horses.
Article 8.21.3.

WNF free country or zone

1) A country or zone may be considered free from WNF when WNF is notifiable in the whole country and either:
   a) no occurrence of WNF cases, where infection occurred within the territory of the Member Country, have been recorded for the past two years; or
   b) a surveillance programme in accordance with Chapter X.X. has demonstrated no evidence of WNV in the country or zone during the past two years.

2) A WNF free country or zone will not lose its free status through the importation from WNF infected countries or zones of:
   a) seropositive animals;
   b) semen, oocyte or embryo;
   c) animals vaccinated in accordance with the Terrestrial Manual at least 30 days prior to dispatch, and are identified in the accompanying certification as having been vaccinated; or
   d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

Article 8.21.4.

WNF seasonally free country or zone

1) A WNF seasonally free country or zone is one in which for part of a year, surveillance demonstrates no evidence either of WNV transmission or presence of mosquitoes likely to be competent WNV vectors.

2) For the application of Article 8.21.6., the seasonally free period is taken to commence 21 days following the last evidence of WNV transmission (as demonstrated by the surveillance programme), or the cessation of activity of mosquitoes likely to be competent WNV vectors.

3) For the application of Article 8.21.6., the seasonally free period is taken to conclude either:
   a) at least 21 days before the earliest date that historical data show WNV transmission cycle has recommenced; or
   b) immediately if current climatic data or data from a surveillance programme indicate an earlier resurgence of activity of mosquitoes likely to be competent WNV vectors.

4) A WNF seasonally free country or zone will not lose its free status through the importation from WNF infected countries or zones of:
   a) seropositive animals;
   b) semen, oocyte or embryo;
   c) animals vaccinated in accordance with the Terrestrial Manual at least 30 days prior to dispatch, and are identified in the accompanying certification as having been vaccinated; or
   d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

Article 8.21.5.

Recommendations for importation from WNF free countries or zones

For ducks (under study), geese and birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals were kept in a WNF free country or zone since birth or for at least 30 days prior to shipment; or
2) the animals were kept in a WNF free country or zone for at least 15 days, were subjected, with negative results, to an agent identification test in accordance with the Terrestrial Manual carried out on a sample collected at least 3 days after the commencement of the residence period and remained in the WNF free country or zone until shipment; or
3) the animals:
   a) were vaccinated in accordance with the Terrestrial Manual 30 days before introduction into the free country or zone; and
b) were identified as having been vaccinated; and

c) were kept in a WNF free country or zone for at least 15 days; and

d) remained in the WNF free country or zone until shipment;

AND

4) if the animals were exported from a WNF free zone, either:

a) did not transit through an infected country or zone during transportation to the place of shipment; or

b) were protected from mosquito attacks at all times when transiting through an infected country or zone; or

c) had been vaccinated in accordance with point 3 above.

Article 8.21.6.

Recommendations for importation from WNF seasonally free countries or zones

For ducks (under study), geese and birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) were kept during the seasonally free period in a WNF seasonally free country or zone since birth or for at least
30 days prior to shipment; or

2) were kept during the WNF seasonally free period in a WNF seasonally free country or zone for at least 15 days prior
    to shipment, and were subjected during the residence period in the country or zone to an agent identification test
    in accordance with the Terrestrial Manual, with negative results, carried out on a sample collected at least 3 days
    after the commencement of the residence period and remained in the WNF seasonally free country or zone until
    shipment; or

3) were kept during the seasonally free period in a WNF seasonally free country or zone for at least 15 days prior to
    shipment, and were vaccinated in accordance with the Terrestrial Manual 30 days before introduction into the free
    country or zone against WNF, were identified as having been vaccinated and remained in the WNF seasonally free
    country or zone until shipment;

AND

4) if the animals were exported from a WNF seasonally free country or zone, either:

a) did not transit through an infected country or zone during transportation to the place of shipment; or

b) were protected from mosquito attacks at all times when transiting through an infected country or zone; or

c) were vaccinated in accordance with point 3 above.

Article 8.21.7.

Recommendations for importation from WNF infected countries or infected zones

For ducks (under study) and geese

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) were protected from mosquito attacks for at least 30 days prior to shipment; or

2) were subjected to a serological test in accordance with the Terrestrial Manual to detect WNV neutralising
    antibodies with positive results; or

3) were protected from mosquito attacks for at least 15 days prior to shipment, and were subjected during that period
    to an agent identification test in accordance with the Terrestrial Manual, with negative results, carried out on a
    sample collected at least 3 days after being introduced in the mosquito-free zone; or

4) were vaccinated at least 30 days before shipment in accordance with the Terrestrial Manual against WNV and were
    identified in the accompanying certification as having been vaccinated; or

5) are not vaccinated and a surveillance programme in accordance with Chapter X.X. has been in place in the source
    population for a period of 30 days immediately prior to shipment, and no evidence of WNV transmission has been
    detected;

AND

6) were protected from mosquito attacks during transportation to the place of shipment.
Article 8.21.8.

Recommendations for the importation from WNF infected countries or zones
For birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the birds showed no clinical sign of WNF on the day of shipment; and
2) the birds were kept in a quarantine station in a mosquito-free environment for 30 days prior to shipment and a statistically valid sample was subjected, with negative results, to an agent identification test in accordance with the Terrestrial Manual at least 3 days after the commencement of the residence period.

Article 8.21.9.

Protecting animals from mosquito attacks

When transporting animals through WNF infected countries or zones, Veterinary Authorities should require strategies to protect susceptible animals from mosquito attacks during transport, taking into account the local ecology of the mosquitoes.

Potential risk management strategies include:
1) treating animals with insect repellents prior to and during transportation;
2) ensuring vehicles do not stop en route unless the animals are held behind insect-proof netting;
3) surveillance for vectors at common stopping and offloading points to gain information on seasonal variations;
4) integrated pest management practices at holding, common stopping and offloading points;
5) using historical, ongoing and/or WNF modelling information to identify low risk ports and transport routes.

NB: FIRST ADOPTED IN 2009.
SECTION 9.

APINAE

CHAPTER 9.1.

INFESTATION OF HONEY BEES WITH ACARAPIS WOOIDI

Article 9.1.1.

General provisions

For the purposes of the Terrestrial Code, acarapisosis, also known as acarine disease or tracheal mite infestation, is an infestation of adult honey bees (species of the genus Apis), primarily *Apis mellifera* L. with the mite *Acarapis woodi*, an internal obligate parasite of the respiratory system which spreads by direct contact from adult honey bee to adult honey bee.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 9.1.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the acarapisosis status of the honey bee population of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.1.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any acarapisisis-related conditions, regardless of the acarapisosis status of the honey bee population of the exporting country or zone:

1) pre-imago (eggs, larvae and pupae) of honey bees;
2) honey bee semen;
3) honey bee venom;
4) used apicultural equipment;
5) honey;
6) bee-collected pollen;
7) propolis;
8) beeswax;
9) royal jelly.
**Article 9.1.3.**

**Determination of the acarapisosis status of a country or zone**

The acarapisosis status of a country or zone can only be determined after considering the following criteria:

1) a *risk assessment* has been conducted, identifying all potential factors for acarapisosis occurrence and their historic perspective;

2) acarapisosis is notifiable in the whole country or zone, and all clinical signs suggestive of acarapisosis are subjected to field and *laboratory* investigations;

3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of acarapisosis;

4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated *apiaries* in the whole country.

**Article 9.1.4.**

**Country or zone free from acarapisosis**

1) **Historically free status**

   A country or zone may be considered free from acarapisosis after conducting a *risk assessment* as referred to in Article 9.1.3. but without formally applying a specific *surveillance* programme if the country or zone complies with Chapter 1.4.

2) **Free status as a result of an eradication programme**

   A country or zone which does not meet the conditions of point 1 above may be considered free from acarapisosis after conducting a *risk assessment* as referred to in Article 9.1.3. and when:

   a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated *apiaries* existing in the country or zone;

   b) acarapisosis is notifiable in the whole country or zone, and any clinical cases suggestive of acarapisosis are subjected to field and *laboratory* investigations;

   c) for the three years following the past reported case of acarapisosis, annual surveys supervised by the Veterinary Authority or other Competent Authority, with no positive results, have been carried out on a representative sample of *apiaries* in the country or zone to provide a confidence level of at least 95% of detecting acarapisosis if at least 1% of the *apiaries* were infected at a within-*apiary* prevalence rate of at least 5% of the hives; such surveys may be targeted towards *apiaries*, areas and seasons with a higher likelihood of disease;

   d) to maintain free status, an annual survey supervised by the Veterinary Authority, with no positive results, is carried out on a representative sample of *apiaries* in the country or zone to indicate that there has been no new cases; such surveys may be targeted towards areas with a higher likelihood of disease;

   e) either there is no wild or self-sustaining *feral* population of species of the genus *Apis* in the country or zone, or there is an ongoing *surveillance* programme of the wild or self-sustaining *feral* population of species of the genus *Apis* which demonstrates no evidence of the presence of the disease in the country or zone;

   f) the importation of the *commodities* listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

**Article 9.1.5.**

**Recommendations for the importation of live queen, worker and drone honey bees with or without associated brood combs**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the honey bees come from *apiaries* situated in a country or zone free from acarapisosis or the *apiaries*
meet the conditions prescribed in Chapter 4.15. (Article 4.15.5.). With regards to the provisions detailed in point 2 of Article 4.15.5., this will be achieved by a statistically valid number of honey bees per colony being examined by any method complying with the relevant chapter of the *Terrestrial Manual* and found free of all life stages of *A. woodi*.

---

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2013.
CHAPTER 9.2.

INFECTION OF HONEY BEES WITH
PAENIBACILLUS LARVAE
(AMERICAN FOULBROOD)

Article 9.2.1.

General provisions

For the purposes of the Terrestrial Code, American foulbrood is a disease of the larval and pupal stages of honey bees (species of the genus *Apis*) caused by *Paenibacillus larvae* (*P. larvae*), which is widely distributed. *P. larvae* is a bacterium that can produce over one billion spores in each infected larva. The spores are very long-living and extremely resistant to heat and chemical agents, and only the spores are capable of inducing the disease.

Combs with American foulbrood infected pre-imago of honey bees show distinctive clinical signs which can allow the disease to be diagnosed in the field. However, subclinical infections are common and require laboratory diagnosis.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 9.2.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the American foulbrood status of the honey bee population of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.2.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any American foulbrood-related conditions, regardless of the American foulbrood status of the honey bee population of the exporting country or zone:

1) honey bee semen;
2) honey bee venom;
3) honey bee eggs.

Article 9.2.3.

Determination of the American foulbrood status of a country or zone

The American foulbrood status of a country or zone can only be determined after considering the following criteria:

1) a risk assessment has been conducted, identifying all potential factors for American foulbrood occurrence and their historic perspective;
2) American foulbrood is notifiable in the whole country or zone, and all clinical signs suggestive of American foulbrood are subjected to field and laboratory investigations;
3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of American foulbrood;
4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries in the country.
Article 9.2.4.

Country or zone free from American foulbrood

1) Historically free status

A country or zone may be considered free from the disease after conducting a risk assessment as referred to in Article 9.2.3. but without formally applying a specific surveillance programme if the country or zone complies with Chapter 1.4.

2) Free status as a result of an eradication programme

A country or zone which does not meet the conditions of point 1 above may be considered free from American foulbrood after conducting a risk assessment as referred to in Article 9.2.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;

b) American foulbrood is notifiable in the whole country or zone, and any clinical cases suggestive of American foulbrood are subjected to field and laboratory investigations;

c) for the five years following the last reported isolation of the American foulbrood agent, annual surveys supervised by the Veterinary Authority or other Competent Authority, with no positive results, have been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting American foulbrood if at least 1% of the apiaries were infected at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with the last reported isolation of the American foulbrood agent;

d) to maintain free status, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, is carried out on a representative sample of hives in the country or zone to indicate that there has been no new isolations; such surveys may be targeted towards areas with a higher likelihood of isolation;

e) either there is no wild or self-sustaining feral population of species of the genus Apis in the country or zone, or there is an ongoing surveillance programme of the wild or self-sustaining feral population of species of the genus Apis which demonstrates no evidence of the presence of the disease in the country or zone;

f) all equipment associated with previously infected apiaries has been sterilised or destroyed;

g) the importation of the commodities listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

Article 9.2.5.

Recommendations for the importation of live queen, worker and drone honey bees with or without associated brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the honey bees come from apiaries situated in a country or zone free from American foulbrood; or

2) the shipment comprises only honey bees without associated brood combs and:

a) the honey bees come from apiaries meeting the conditions prescribed in Article 4.15.5.; and

b) the apiaries where the honey bees come from are situated in the centre of an area with a radius of 3 kilometres where there has been no outbreak of American foulbrood during the past 30 days.

Article 9.2.6.

Recommendations for the importation of larvae and pupae of honey bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:

1) come from apiaries situated in a country or zone free from American foulbrood; or

2) have been isolated from queens in a quarantine station, and all workers which accompanied the queen or a representative sample of larvae were examined for the presence of P. larvae by bacterial culture or PCR in accordance with the Terrestrial Manual.
Article 9.2.7.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the equipment:

1) comes from apiaries situated in a country or zone free from American foulbrood; or

2) was sterilised under the supervision of the Veterinary Authority in accordance with one of the following procedures:
   a) by irradiation with 10 kilogray (suitable for all the used equipment); or
   b) by either immersion in 1% sodium hypochlorite for at least 30 minutes (suitable only for non-porous materials such as plastic and metal); or
   c) by immersion for at least 10 minutes in molten paraffin wax heated to 160°C (suitable only for wooden equipment); or
   d) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

Article 9.2.8.

Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly for use in apiculture

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:

1) come from apiaries situated in a country or zone free from American foulbrood; or

2) have been processed to ensure the destruction of both bacillary and spore forms of Paenibacillus larvae by irradiation with ten kilogray or any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries; or

3) have been found free from spore forms of Paenibacillus larvae by a test method described in the relevant chapter of the Terrestrial Manual.

Article 9.2.9.

Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly for human consumption

Veterinary Authorities of importing countries free from American foulbrood should require the presentation of an international veterinary certificate attesting that the products:

1) come from apiaries situated in a country or zone free from American foulbrood; or

2) have been processed to ensure the destruction of both bacillary and spore forms of Paenibacillus larvae by irradiation with ten kilogray or any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries; or

3) have been found free from spore forms of Paenibacillus larvae by a test method described in the relevant chapter of the Terrestrial Manual.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2013.
CHAPTER 9.3.

INFECTION OF HONEY BEES WITH MELISSOCOCCUS PLUTONIUS (EUROPEAN FOULBROOD)

Article 9.3.1.

General provisions

For the purposes of the Terrestrial Code, European foulbrood is a disease of the larval and pupal stages of honey bees (species of the genus Apis), caused by Melissococcus plutonius (M. plutonius), a non-sporulating bacterium, which is widely distributed. Subclinical infections are common and require laboratory diagnosis. Infection remains endemic because of mechanical contamination of the honeycombs. Recurrences of disease can therefore be expected in subsequent years.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 9.3.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the European foulbrood status of the honey bee population of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.3.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any European foulbrood-related conditions, regardless of the European foulbrood status of the honey bee population of the exporting country or zone:
1) honey bee semen;
2) honey bee venom.

Article 9.3.3.

Determination of the European foulbrood status of a country or zone

The European foulbrood status of a country or zone can only be determined after considering the following criteria:
1) a risk assessment has been conducted, identifying all potential factors for European foulbrood occurrence and their historic perspective;
2) European foulbrood is notifiable in the whole country or zone, and all clinical signs suggestive of European foulbrood are subjected to field and laboratory investigations;
3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of European foulbrood;
4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all apiaries in the whole country.

Article 9.3.4.

Country or zone free from European foulbrood

1) Historically free status
   A country or zone may be considered free from the disease after conducting a risk assessment as referred to in Article 9.3.3. but without formally applying a specific surveillance programme if the country or zone complies with Chapter 1.4.
Chapter 9.3. - Infection of honey bees with Melissococcus plutonius

2) Free status as a result of an eradication programme
   A country or zone which does not meet the conditions of point 1 above may be considered free from European foulbrood after conducting a risk assessment as referred to in Article 9.3.3. and when:
   a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;
   b) European foulbrood is notifiable in the whole country or zone, and any clinical cases suggestive of European foulbrood are subjected to field and laboratory investigations;
   c) for the three years following the last reported isolation of the European foulbrood agent, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, have been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting European foulbrood if at least 1% of the apiaries were infected at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with the last reported isolation of the European foulbrood agent;
   d) to maintain free status, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, is carried out on a representative sample of hives in the country or zone to indicate that there has been no new isolations; such surveys may be targeted towards areas with a higher likelihood of isolation;
   e) either there is no wild or self-sustaining feral population of species of the genus Apis in the country or zone, or there is an ongoing surveillance programme of the wild or self-sustaining feral population of species of the genus Apis which demonstrates no evidence of the presence of the disease in the country or zone;
   f) the importation of the commodities listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

Article 9.3.5.

Recommendations for the importation of live queen, worker and drone honey bees with or without associated brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the honey bees come from apiaries situated in a country or zone free from European foulbrood; or
2) the shipment comprises only honey bees without associated brood combs and:
   a) the honey bees come from apiaries meeting the conditions prescribed in Article 4.15.5.; and
   b) the apiaries where the honey bees come from are situated in the centre of an area with a radius of 3 kilometres where there has been no outbreak of European foulbrood during the past 30 days.

Article 9.3.6.

Recommendations for the importation of eggs, larvae and pupae of honey bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:

1) come from apiaries situated in a country or zone free from European foulbrood; or
2) have been isolated from queens in a quarantine station, and all workers which accompanied the queen or a representative sample of eggs or larvae were examined for the presence of M. plutonius by bacterial culture or PCR in accordance with the Terrestrial Manual.

Article 9.3.7.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the equipment:

1) comes from apiaries situated in a country or zone free from European foulbrood; or
2) was sterilised under the supervision of the Veterinary Authority in accordance with one of the following procedures:
   a) by immersion in 0.5% sodium hypochlorite for at least 20 minutes (suitable only for non-porous materials such as plastic and metal); or
   b) by irradiation with 15 kilogray; or
   c) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

Article 9.3.8.

Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly for use in apiculture

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:
   1) come from apiaries situated in a country or zone free from European foulbrood; or
   2) have been processed to ensure the destruction of M. plutonius by irradiation with 15 kilogray or any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries; or
   3) have been found free of M. plutonius by a test method described in the relevant chapter of the Terrestrial Manual.

Article 9.3.9.

Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly for human consumption

Veterinary Authorities of importing countries free from European foulbrood should require the presentation of an international veterinary certificate attesting that the commodities:
   1) come from apiaries situated in a country or zone free from European foulbrood; or
   2) have been processed to ensure the destruction of M. plutonius by irradiation with 15 kilogray or any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries; or
   3) have been found free of M. plutonius by a test method described in the relevant chapter of the Terrestrial Manual.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2023.
Chapter 9.4.

Infestation with Aethina tumida
(Small Hive Beetle)

Article 9.4.1.

General provisions

For the purposes of the Terrestrial Code, infestation with Aethina tumida (also known as small hive beetle) is an infestation of bee colonies (species of the genera Apis and Bombus and also stingless bees) by the beetle A. tumida, which is a free-living predator and scavenger affecting bee populations.

The adult beetle is attracted to bee colonies to reproduce, although it can potentially survive and reproduce independently in other natural environments, using other food sources, including certain types of fruit. Hence once it is established within a localised environment, it is extremely difficult to eradicate.

The life span of an adult beetle depends on environmental conditions such as temperature and humidity but, in practice, adult female beetles can live for at least six months and, in favourable reproductive conditions, the female is capable of producing up to a thousand eggs over a lifespan of four to six months. The beetle is able to survive at least two weeks without food.

Early signs of infestation and reproduction may go unnoticed. When the bees cannot prevent beetle mass reproduction on the combs, this leads to abandonment or collapse of the colony. Because A. tumida can be found and can thrive within the natural environment, and can fly up to 6-13 km from its nest site, it is capable of dispersing rapidly and directly invading new hives. Spread of infestation does not require contact between adult bees. The movement of adult bees, honeycomb and other apiculture products and used apicultural equipment may all cause infestations to spread to previously unaffected colonies.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 9.4.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the A. tumida status of the honey bee and bumble bee population of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.4.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any A. tumida-related conditions, regardless of the A. tumida status of the exporting country or zone:
1) honey bee semen;
2) honey bee venom.

Article 9.4.3.

Determination of the A. tumida status of a country or zone

The A. tumida status of a country or zone can only be determined after considering the following criteria:
1) a risk assessment has been conducted, identifying all potential factors for A. tumida occurrence and their historic perspective;
2) the presence of A. tumida is notifiable in the whole country, and all signs suggestive of A. tumida infestation are subjected to field and laboratory investigations;
3) ongoing awareness and training programmes are in place to encourage reporting of all cases suggestive of A. tumida infestation;
4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.4.4.

Country or zone free from A. tumida

1) Historically free status
A country or zone may be considered free from A. tumida after conducting a risk assessment as referred to in Article 9.4.3. but without formally applying a specific surveillance programme if the country or zone complies with Chapter 1.4.

2) Free status as a result of an eradication programme
A country or zone which does not meet the conditions of point 1 above may be considered free from A. tumida after conducting a risk assessment as referred to in Article 9.4.3. and when:
   a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;
   b) the presence of A. tumida is notifiable in the whole country or zone, and any clinical cases suggestive of A. tumida infestation are subjected to field and laboratory investigations; a contingency plan is in place describing controls and inspection activities;
   c) for the five years following the last report of the presence of A. tumida, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, has been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting A. tumida if at least 1% of the apiaries were infested at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with a higher likelihood of infestation;
   d) to maintain free status, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, is carried out on a representative sample of apiaries to indicate that there have been no presence of A. tumida; such surveys may be targeted towards areas with a higher likelihood of infestation;
   e) all equipment associated with previously infested apiaries has been destroyed, or cleaned and sterilised to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) heating to 50°C core temperature and holding at that temperature for 24 hours; or
      ii) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      iii) irradiation with 400 Gray; or
      iv) by any procedure of equivalent efficacy recognised by the Veterinary Authority of the importing and exporting countries;
   f) the soil and undergrowth in the immediate vicinity of all infested apiaries has been treated with a soil drench or similar suitable treatment that is efficacious in destroying incubating A. tumida larvae and pupae;
   g) the importation of the commodities listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

Article 9.4.5.

Recommendations for the importation of individual consignments containing a single live queen bee, accompanied by a small number of associated attendants (a maximum of 20 attendants per queen)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the bees come from apiaries situated in a country or zone free from A. tumida;

OR

2) the bees come from hives or colonies which were inspected immediately prior to packing, with no evidence of A. tumida based on a visual inspection and one of the methods described in the relevant chapter of the Terrestrial Manual; and

3) the bees come from an area of at least 50 km radius where no apiary has been subject to any restrictions associated with the occurrence of A. tumida for the previous six months; and
4) the bees and accompanying packaging presented for export have been thoroughly and individually inspected and do not contain A. tumida; and
5) the packaging material, containers, accompanying products and food are new; and
6) all precautions have been taken to prevent infestation or contamination with A. tumida, in particular, measures that prevent infestation of queen cages such as no long-term storage of queens prior to shipment and covering the cages or the whole consignment of bees immediately after the packing with fine mesh through which a live beetle cannot enter.

Article 9.4.6.

Recommendations for the importation of live worker and drone bees with or without associated brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bees come from apiaries situated in a country or zone free from A. tumida.

Article 9.4.7.

Recommendations for the importation of eggs, larvae and pupae of bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the commodities come from apiaries situated in a country or zone free from A. tumida;
OR
2) the commodities have been bred and kept under a controlled environment within a recognised establishment which is supervised and controlled by the Veterinary Authority or other Competent Authority; and
3) the establishment was inspected immediately prior to dispatch and all eggs, larvae and pupae show no evidence of the presence of A. tumida; and
4) the packaging material, containers, accompanying products and food are new and all precautions have been taken to prevent infestation or contamination with A. tumida.

Article 9.4.8.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the equipment:
   EITHER
   a) comes from apiaries situated in a country or zone free from A. tumida;
   OR
   b) has been thoroughly cleaned, and treated to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) heating to 50°C core temperature and holding at that temperature for 24 hours; or
      ii) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      iii) irradiation with 400 Gray; or
      iv) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries;
   AND
2) all precautions have been taken to prevent contamination with A. tumida.
Article 9.4.9.

Recommendations for the importation of honey

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the honey:
   EITHER
   a) comes from apiaries situated in a country or zone free from A. tumida;
   OR
   b) has been strained through a filter of pore size no greater than 0.42 mm;
   OR
   c) has been treated to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) heating to 50°C core temperature and holding at that temperature for 24 hours; or
      ii) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      iii) irradiation with 400 Gray; or
      iv) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries;

   AND

2) all precautions have been taken to prevent contamination with A. tumida.

Article 9.4.10.

Recommendations for the importation of bee-collected pollen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the bee-collected pollen:
   EITHER
   a) comes from apiaries situated in a country or zone free from A. tumida;
   OR
   b) contains no live bees or bee brood; and
   c) has been treated to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      ii) irradiation with 400 Gray; or
      iii) desiccation by freeze drying or equivalent; or
      iv) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries;

   AND

2) all precautions have been taken to prevent contamination with A. tumida.
Article 9.4.11.

Recommendations for the importation of beeswax and propolis

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the commodities:
   EITHER
   a) come from apiaries situated in a country or zone free from A. tumida;
   OR
   b) contain no live bees or bee brood; and
   c) are processed propolis or processed beeswax;
   OR
   d) contain no live bees or bee brood; and
   e) have been treated to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      ii) irradiation with 400 Gray; or
      iii) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries;

   AND

2) all precautions have been taken to prevent contamination with A. tumida.

Article 9.4.12.

Recommendations for the importation of royal jelly

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the royal jelly:
   EITHER
   a) comes from apiaries situated in a country or zone free from A. tumida;
   OR
   b) is encapsulated for human consumption;
   OR
   c) has been treated to ensure the destruction of A. tumida in accordance with one of the following procedures:
      i) heating to 50°C core temperature and holding at that temperature for 24 hours; or
      ii) freezing at core temperature of minus 12°C or less for at least 24 hours; or
      iii) desiccation by freeze drying or equivalent; or
      iv) irradiation with 400 Gray; or
      v) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries;

   AND

2) all precautions have been taken to prevent contamination with A. tumida.

NB: FIRST ADOPTED IN 2008; MOST RECENT UPDATE ADOPTED IN 2021.
CHAPTER 9.5.

INFESTATION OF HONEY BEES WITH TROPILAEELAPS SPP.

Article 9.5.1.

General provisions

For the purposes of the Terrestrial Code, Tropilaelaps infestation of honey bees (species of the genus Apis) is caused by different species of Tropilaelaps mites (including the mites Tropilaelaps clareae, T. koenigerum, T. thai and T. mercedesae). The mite is an ectoparasite of brood of honey bees, and cannot survive for periods of more than 21 days away from bee brood.

Early signs of infestation normally go unnoticed, but the growth in the mite population is rapid leading to high hive mortality. The infestation spreads by direct contact from adult honey bee to adult honey bee, and by the movement of infested honey bees and bee brood. The mite can also act as a vector for viruses of the honey bee.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 9.5.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the Tropilaelaps spp. status of the honey bee population of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.5.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any Tropilaelaps spp.-related conditions, regardless of the Tropilaelaps spp. status of the exporting country or zone:

1) honey bee semen;
2) honey bee venom;
3) honey bee eggs;
4) royal jelly.

Article 9.5.3.

Determination of the Tropilaelaps spp. status of a country or zone

The Tropilaelaps spp. status of a country or zone can only be determined after considering the following criteria:

1) a risk assessment has been conducted, identifying all potential factors for Tropilaelaps spp. occurrence and their historic perspective;
2) the presence of Tropilaelaps spp. is notifiable in the whole country or zone, and all clinical signs suggestive of Tropilaelaps spp. infestation are subjected to field and laboratory investigations;
3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of Tropilaelaps spp. infestation;
4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries in the country.
Article 9.5.4.

Country or zone free from Tropilaelaps spp.

1) Historically free status

A country or zone may be considered free from Tropilaelaps spp. after conducting a risk assessment as referred to in Article 9.5.3. but without formally applying a specific surveillance programme if the country or zone complies with Chapter 1.4.

2) Free status as a result of an eradication programme

A country or zone which does not meet the conditions of point 1 above may be considered free from Tropilaelaps spp. after conducting a risk assessment as referred to in Article 9.5.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;

b) the presence of Tropilaelaps spp. is notifiable in the whole country or zone, and any clinical cases suggestive of Tropilaelaps spp. infestation are subjected to field and laboratory investigations;

c) for the three years following the last report of the presence of Tropilaelaps spp., an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, have been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting Tropilaelaps spp. if at least 1% of the apiaries were infested at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with a higher likelihood of infestation;

d) to maintain free status, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, is carried out on a representative sample of apiaries in the country or zone to indicate that there has been no new cases; such surveys may be targeted towards areas with a higher likelihood of infestation;

e) either there is no wild or self-sustaining feral population of species of the genus Apis in the country or zone, or there is an ongoing surveillance programme of the wild or self-sustaining feral population of species of the genus Apis which demonstrates no evidence of the presence of the mite in the country or zone;

f) the importation of the commodities listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

Article 9.5.5.

Recommendations for the importation of live queen honey bees, worker honey bees, drone honey bees, larvae of honey bees, pupae of honey bees, and brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the commodities come from apiaries situated in a country or zone free from Tropilaelaps spp.;

OR

2) the shipment comprises only queen honey bees with attendant worker honey bees without associated brood combs and the honey bees:

a) come from an artificial broodless swarm with the caged queen;

b) caged queen and swarm have been treated with an effective veterinary medicinal product and kept isolated for 21 days from brood prior to the shipment;

3) the honey bee queens were inspected by a representative of the Veterinary Services prior to the shipment and showed no evidence of the presence of the mites.

Article 9.5.6.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the equipment:

1) comes from apiaries situated in a country or zone free from Tropilaelaps spp.; or
2) contains no live honey bees or bee brood and has been held in a bee-proof environment for at least 21 days prior to shipment; or
3) has been treated to ensure the destruction of *Tropilaelaps* spp. in accordance with one of the following procedures:
   a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
   b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   c) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
   d) irradiation with 350 Gray; or
   e) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

**Article 9.5.7.**

**Recommendations for the importation of honey**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the honey:
1) comes from *apiaries* situated in a country or zone free from *Tropilaelaps* spp.; or
2) has been strained through a filter of pore size no greater than 0.42 mm; or
3) has been treated to ensure the destruction of *Tropilaelaps* spp. in accordance with one of the following procedures:
   a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
   b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   c) irradiation with 350 Gray; or
   d) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

**Article 9.5.8.**

**Recommendations for the importation of bee-collected pollen**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the bee-collected pollen:
1) comes from *apiaries* situated in a country or zone free from *Tropilaelaps* spp.; or
2) has been treated to ensure the destruction of *Tropilaelaps* spp. in accordance with one of the following procedures:
   a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   b) irradiation with 350 Gray; or
   c) desiccation by freeze drying or equivalent; or
   d) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

**Article 9.5.9.**

**Recommendations for the importation of beeswax and propolis**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the commodities:
1) come from *apiaries* situated in a country or zone free from *Tropilaelaps* spp.; or
2) are processed beeswax or processed propolis; or
3) have been treated to ensure the destruction of *Tropilaelaps* spp. in accordance with one of the following procedures:
   a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
b) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
c) irradiation with 350 Gray; or
d) desiccation by freeze drying or equivalent; or
e) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

NB: FIRST ADOPTED IN 2004; MOST RECENT UPDATE ADOPTED IN 2013.
CHAPTER 9.6.

INFECTION OF HONEY BEES WITH VARROA SPP. (VARROOSIS)

Article 9.6.1.

General provisions

For the purposes of the Terrestrial Code, varroosis is a disease of honey bees (species of the genus *Apis*) caused by mites in the genus *Varroa*, primarily *Varroa destructor*. The mite is an ectoparasite of adults and brood of honey bees and spreads by direct contact from adult honey bee to adult honey bee, and by the movement of infested honey bees, bee brood, bee products and used apicultural equipment.

The number of mites steadily increases with increasing brood production and the growth of the honey bee population, especially late in the season when clinical signs of *infestation* can first be recognised. The lifespan of an individual mite depends on temperature and humidity but, in practice, it can be said to last from some days to a few months.

Honey bee colonies are often carriers of viruses. The mite acts as a vector for viruses (particularly deformed wing virus) facilitating their penetration and the *infection* of the honey bees. Most of the symptoms of varroosis are therefore the results of the combined action of *Varroa* spp. mites and viruses. The viral load within the colony increases with the mite *infestation*. Insufficient or late treatments lead to the killing of mites but the virus load remains high for several weeks with deleterious effects on the honey bee population. The control of the varroosis is mainly performed by the control of *Varroa* spp. and the diagnosis of varroosis is also performed by measuring the parasitic load.

When authorising import or transit of the *commodities* covered in the chapter, with the exception of those listed in Article 9.6.2., *Veterinary Authorities* should require the conditions prescribed in this chapter relevant to the varroosis status of the honey bee population of the *exporting country* or *zone*.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.6.2.

Safe commodities

When authorising import or transit of the following *commodities*, *Veterinary Authorities* should not require any *Varroa* spp.-related conditions, regardless of the *Varroa* spp. status of the honey bee population of the *exporting country* or *zone*:

1) honey bee semen;
2) honey bee venom;
3) honey bee eggs;
4) royal jelly;

Article 9.6.3.

Determination of *Varroa* spp. status of a country or zone

The *Varroa* spp. status of a country or *zone* can only be determined after considering the following criteria:

1) a *risk assessment* has been conducted, identifying all potential factors for *Varroa* spp. occurrence and their historic perspective;
2) the presence of *Varroa* spp. is notifiable in the whole country or *zone*, and all clinical signs suggestive of varroosis are subjected to field and laboratory investigations;
3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of varroosis;
4) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.6.4.

Country or zone free from Varroa spp.

1) Historically free status

A country or zone may be considered free from Varroa spp. after conducting a risk assessment as referred to in Article 9.6.3. but without formally applying a specific surveillance programme (historical freedom) if the country or zone complies with Chapter 1.4.

2) Free status as a result of an eradication programme

A country or zone which does not meet the conditions of point 1 above may be considered free from Varroa spp. after conducting a risk assessment as referred to in Article 9.6.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;

b) the presence of Varroa spp. is notifiable in the whole country or zone, and any clinical cases suggestive of varroosis are subjected to field and laboratory investigations;

c) for the three years following the last report of the presence of Varroa spp., an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, have been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting Varroa spp. if at least 1% of the apiaries were infested at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with a higher likelihood of infestation;

d) to maintain free status, an annual survey supervised by the Veterinary Authority or other Competent Authority, with no positive results, is carried out on a representative sample of apiaries in the country or zone to indicate there has been no new cases; such surveys may be targeted towards areas with a higher likelihood of infestation;

e) either there is no wild or self-sustaining feral population of species of the genus Apis in the country or zone, or there is an ongoing surveillance programme of the wild or self-sustaining feral population of species of the genus Apis which demonstrates no evidence of the presence of the mite in the country or zone;

f) the importation of the commodities listed in this chapter into the country or zone is carried out in accordance with the recommendations of this chapter.

Article 9.6.5.

Recommendations for the importation of live queen honey bees, worker honey bees, drone honey bees, larvae of honey bees, pupae of honey bees and brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the commodities come from apiaries situated in a country or zone free from Varroa spp.; or

2) the shipment comprises only queen honey bees with attendant worker honey bees without associated brood combs and:

a) the honey bees come from an artificial broodless swarm with the caged queen;

b) the caged queen and swarm have been treated with an effective veterinary medicinal product;

c) the honey bees were inspected by a representative of the Veterinary Services prior to the shipment and showed no evidence of the presence of the mites;

d) the queen honey bees were inspected by the Veterinary Services of the importing country based on a visual inspection described in the relevant chapter of the Terrestrial Manual and the attendant worker honey bees were killed.
Article 9.6.6.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the equipment:

1) comes from apiaries situated in a country or zone free from Varroa spp.; or
2) contains no live honey bees or bee brood and has been held in a bee-proof environment for at least 21 days prior to shipment; or
3) has been treated to ensure the destruction of Varroa spp. in accordance with one of the following procedures:
   a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
   b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   c) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
   d) irradiation with 350 Gray; or
   e) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

Article 9.6.7.

Recommendations for the importation of honey

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the honey:

1) comes from apiaries situated in a country or zone free from Varroa spp.; or
2) has been strained through a filter of pore size no greater than 0.42 mm; or
3) has been treated to ensure the destruction of Varroa spp. in accordance with one of the following procedures:
   a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
   b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   c) irradiation with 350 Gray; or
   d) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

Article 9.6.8.

Recommendations for the importation of bee-collected pollen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bee-collected pollen:

1) comes from apiaries situated in a country or zone free from Varroa spp.; or
2) has been treated to ensure the destruction of Varroa spp. in accordance with one of the following procedures:
   a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   b) irradiation with 350 Gray; or
   c) desiccation by freeze drying or equivalent; or
   d) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

Article 9.6.9.

Recommendations for the importation of beeswax and propolis

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:

1) come from apiaries situated in a country or zone free from Varroa spp.; or
2) are processed beeswax or processed propolis; or
3) have been treated to ensure the destruction of Varroa spp. in accordance with one of the following procedures:
   a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
   b) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
   c) irradiation with 350 Gray; or
   d) desiccation by freeze drying or equivalent; or
   e) by any procedure of equivalent efficacy recognised by the Veterinary Authorities of the importing and exporting countries.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2013.
SECTION 10.

AVES

CHAPTER 10.1.

AVIAN CHLAMYDIOSIS

Article 10.1.1.

General provisions
Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.1.2.

Trade in commodities
Veterinary Authorities of countries free from avian chlamydiosis may prohibit importation or transit through their territory, from countries considered infected with avian chlamydiosis, of birds of the Psittacidae family.

Article 10.1.3.

Recommendations for the importation of birds of the Psittacidae family
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:
1) showed no clinical sign of avian chlamydiosis on the day of shipment;
2) were kept under veterinary supervision for the 45 days prior to shipment and were treated against avian chlamydiosis using chlortetracycline.

NB: FIRST ADOPTED IN 1998.
CHAPTER 10.2.

AVIAN INFECTIOUS BRONCHITIS

Article 10.2.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for avian infectious bronchitis shall be 50 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.2.2.

Recommendations for the importation of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1) showed no clinical sign of avian infectious bronchitis on the day of shipment;
2) come from establishments which are recognised as being free from avian infectious bronchitis, based on the results of serological tests;
3) have not been vaccinated against avian infectious bronchitis; or
4) were vaccinated against avian infectious bronchitis (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.2.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1) come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) have not been vaccinated against avian infectious bronchitis; or
3) were vaccinated against avian infectious bronchitis (the nature of the vaccine used and the date of vaccination shall also be stated in the certificate);
4) are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from avian infectious bronchitis, based on the results of serological tests;
   b) come from establishments in which vaccination against avian infectious bronchitis is not practised on the parent stock; or
   c) come from establishments in which vaccination against avian infectious bronchitis is practised on the parent stock;
5) were shipped in clean and unused packages.

Article 10.2.4.

Recommendations for the importation of hatching eggs of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1) have been disinfected in accordance with the standards referred to in Chapter 6.5;
2) come from establishments and/or hatcheries which are recognised as being free from avian infectious bronchitis and from hatcheries which comply with the standards referred to in Chapter 6.5;
3) were shipped in clean and unused packages.

CHAPTER 10.3.

AVIAN INFECTIOUS LARYNGOTRACHEITIS

Article 10.3.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for avian infectious laryngotracheitis (ILT) shall be 14 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.3.2.

Recommendations for the importation of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1) showed no clinical sign of ILT on the day of shipment;
2) come from establishments which are recognised as being free from ILT, based on the results of serological tests;
3) have not been vaccinated against ILT; or
4) were vaccinated against ILT (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.3.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1) come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) have not been vaccinated against ILT; or
3) were vaccinated against ILT (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4) are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from ILT, based on the results of serological tests;
   b) come from establishments in which vaccination against ILT is not practised on the parent stock; or
   c) come from establishments in which vaccination against ILT is practised on the parent stock;
5) were shipped in clean and unused packages.

Article 10.3.4.

Recommendations for the importation of hatching eggs of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1) have been disinfected in accordance with the standards referred to in Chapter 6.5.;
2) come from establishments and/or hatcheries which are recognised as being free from ILT and from hatcheries which comply with the standards referred to in Chapter 6.5.;
3) were shipped in clean and unused packages.

CHAPTER 10.4.

INFECTION WITH HIGH PATHOGENICITY AVIAN INFLUENZA VIRUSES

Article 10.4.1.

General provisions

1) This chapter deals with the listed disease, infection with high pathogenicity avian influenza viruses.

2) For the purposes of the Terrestrial Code:
   a) High pathogenicity avian influenza means an infection of poultry by any influenza A virus that has been determined as high pathogenicity in accordance with the Terrestrial Manual.
   b) An occurrence of infection with a high pathogenicity avian influenza virus is defined by the isolation and identification of the virus or the detection of specific viral ribonucleic acid, in one or more samples from poultry.
   c) The incubation period at the flock-level for high pathogenicity avian influenza is 14 days.

3) Although the objective of this chapter is to mitigate animal and public health risks posed by infection with high pathogenicity avian influenza viruses, other influenza A viruses of avian host origin (i.e. low pathogenicity avian influenza viruses) may have the potential to exert a negative impact on animal and public health. A sudden and unexpected increase in virulence of low pathogenicity avian influenza viruses in poultry is notifiable as an emerging disease in accordance with Article 1.1.4. Infection of domestic and captive wild birds with low pathogenicity avian influenza viruses having proven natural transmission to humans associated with severe consequences, and infection of birds other than poultry, including wild birds, with influenza A viruses of high pathogenicity, are notifiable in accordance with Article 1.3.6.

4) A notification of infection of birds other than poultry, including wild birds, with influenza A viruses of high pathogenicity, or of infection of domestic or captive wild birds with low pathogenicity avian influenza viruses does not affect the high pathogenicity avian influenza status of the country or zone. A Member Country should not impose bans on the international trade of poultry commodities in response to such notifications, or to other information on the presence of any non-notifiable influenza A virus in birds.

5) This chapter includes monitoring considerations for low pathogenicity avian influenza viruses because some, especially H5 and H7 subtypes, have the potential to mutate into high pathogenicity avian influenza viruses.

6) The use of vaccination against avian influenza may be recommended under specific conditions. Any vaccine used should comply with the standards described in the Terrestrial Manual. Vaccination will not affect the high pathogenicity avian influenza status of a free country or zone if surveillance supports the absence of infection, in accordance with Article 10.4.28., in particular point 2. Vaccination can be used as an effective complementary control tool when a stamping-out policy alone is not sufficient. Whether to vaccinate or not should be decided by the Veterinary Authority on the basis of the avian influenza situation as well as the ability of the Veterinary Services to implement the vaccination strategy, as described in Chapter 4.18.

7) Standards for diagnostic tests and vaccines, including pathogenicity testing, are described in the Terrestrial Manual.

Article 10.4.2.

Safe commodities

When authorising importation or transit of the following commodities, Veterinary Authorities should not require any conditions related to high pathogenicity avian influenza, regardless of the high pathogenicity avian influenza status of the exporting country or zone:

1) heat-treated poultry meat products in a hermetically sealed container with an F0 value of 3 or above;
2) extruded dry pet food and coated ingredients after extrusion;
3) rendered protein meal, blood meal, feather meal, and poultry oil;
4) washed and steam-dried feathers and down from poultry and other birds.
Other commodities of poultry and other birds can be traded safely if in accordance with the relevant articles of this chapter.

**Article 10.4.3.**

**Country or zone free from high pathogenicity avian influenza**

A country or zone may be considered free from high pathogenicity avian influenza when:

- infection with high pathogenicity avian influenza viruses is a notifiable disease in the entire country;
- an ongoing awareness programme is in place to encourage reporting of suspicions of high pathogenicity avian influenza;
- absence of infection with high pathogenicity avian influenza viruses, based on surveillance, in accordance with Chapter 1.4. and Articles 10.4.26. to 10.4.30., has been demonstrated in the country or zone for the past 12 months;
- an ongoing awareness programme is in place related to avian influenza viruses risks and the specific biosecurity and management measures to address them;
- commodities are imported in accordance with Articles 10.4.7. to 10.4.22.

Surveillance should be adapted to parts of the country or existing zones depending on historical or geographical factors, industry structure, population data and proximity to recent outbreaks or the use of vaccination.

**Article 10.4.4.**

**Compartment free from high pathogenicity avian influenza**

The establishment of a compartment free from high pathogenicity avian influenza should be in accordance with relevant requirements of this chapter and the principles described in Chapters 4.4. and 4.5.

**Article 10.4.5.**

**Establishment of a containment zone within a country or zone free from high pathogenicity avian influenza**

In the event of outbreaks of high pathogenicity avian influenza within a previously free country or zone, a containment zone, which includes all epidemiologically linked outbreaks, may be established for the purpose of minimising the impact on the rest of the country or zone.

In addition to the requirements for the establishment of a containment zone outlined in Article 4.4.7., the surveillance programme should take into account the density of poultry production, types of poultry, local management practices (including inter-premises movement patterns of poultry, people and equipment), relevant biosecurity, the presence and potential role of birds other than poultry, including wild birds, and the proximity of poultry establishments to permanent and seasonal water bodies.

The free status of the areas outside the containment zone is suspended while the containment zone is being established. It may be reinstated, irrespective of the provisions of Article 10.4.6., once the containment zone is established. It should be demonstrated that commodities for international trade have originated from outside the containment zone or comply with the relevant articles of this chapter.

**Article 10.4.6.**

**Recovery of free status**

If infection with high pathogenicity avian influenza virus has occurred in poultry in a previously free country or zone, the free status may be regained after a minimum period of 28 days (i.e. two flock-level incubation periods) after a stamping-out policy has been completed (i.e. after the disinfection of the last affected establishment), provided that surveillance in accordance with Articles 10.4.26. to 10.4.30., in particular point 3 of Article 10.4.28., has been carried out during that period and has demonstrated the absence of infection.

If a stamping-out policy is not implemented, Article 10.4.3. applies.
Article 10.4.7.

Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza

For live poultry (other than day-old poultry)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the poultry showed no clinical signs of avian influenza on the day of shipment;
2) the poultry originated from a country, zone or compartment free from high pathogenicity avian influenza;
3) the poultry originated from a flock that was monitored for avian influenza viruses and was found to be negative;
4) the poultry are transported in new or appropriately sanitised containers.

If the poultry have been vaccinated against avian influenza viruses, the nature of the vaccine used and the date of vaccination should be stated in the *international veterinary certificate*.

Article 10.4.8.

Recommendations for the importation of live birds other than poultry

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) on the day of shipment, the birds showed no clinical signs of avian influenza;
2) the birds had been kept in isolation facilities approved by the Veterinary Services since they were hatched or for at least 28 days (i.e. two flock-level incubation periods) prior to shipment and showed no clinical signs of avian influenza during the isolation period;
3) a statistically appropriate sample of the birds was subjected, with negative results, to a diagnostic test for avian influenza within 14 days prior to shipment;
4) the birds are transported in new or appropriately sanitised containers.

If the birds have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be stated in the *international veterinary certificate*.

Article 10.4.9.

Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza

For day-old live poultry

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

1) the day-old live poultry had been kept in a country, zone or compartment free from high pathogenicity avian influenza since they were hatched;
   and
   a) the day-old live poultry were derived from parent flocks that were monitored for avian influenza viruses and were found to be negative at the time of collection of the eggs from which the day-old poultry hatched; or
   b) the day-old live poultry that hatched from eggs that had had their surfaces sanitised in accordance with point 4 d) of Article 6.5.5.;

   AND

2) the day-old live poultry were transported in new or appropriately sanitised containers.

If the day-old live poultry or the parent flocks have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be stated in the *international veterinary certificate*.
Chapter 10.4.- Infection with high pathogenicity avian influenza viruses

Article 10.4.10.
Recommendations for the importation of day-old live birds other than poultry
Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) on the day of shipment, the birds showed no clinical signs of avian influenza;
2) the birds were hatched and kept in isolation facilities approved by the Veterinary Services;
3) a statistically appropriate sample of the parent flock birds were subjected, with negative results, to a diagnostic test for avian influenza at the time of collection of the eggs;
4) the birds were transported in new or appropriately sanitised containers.
If the birds or parent flocks have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be stated in the international veterinary certificate.

Article 10.4.11.
Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza
For hatching eggs of poultry
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the hatching eggs came from a country, zone or compartment free from high pathogenicity avian influenza;
2) a) the hatching eggs were derived from parent flocks that were monitored for avian influenza viruses and were found to be negative at the time of collection of the hatching eggs; or
   b) the hatching eggs have had their surfaces sanitised in accordance with point 4 d) of Article 6.5.5.;
3) the hatching eggs are transported in new or appropriately sanitised packaging materials and containers.
If the parent flocks have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be stated in the international veterinary certificate.

Article 10.4.12.
Recommendations for the importation of hatching eggs from birds other than poultry
Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) a statistically appropriate sample of the parent flock birds was subjected, with negative results, to a diagnostic test for avian influenza 14 days prior to and at the time of collection of the hatching eggs;
2) the hatching eggs have had their surfaces sanitised in accordance with point 4 d) of Article 6.5.5.;
3) the hatching eggs are transported in new or appropriately sanitised packaging materials and containers.
If the parent flocks have been vaccinated against avian influenza, the nature of the vaccine used and the date of vaccination should be stated in the international veterinary certificate.

Article 10.4.13.
Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza
For poultry semen
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor poultry:
1) showed no clinical signs of avian influenza on the day of semen collection;
2) were kept in a country, zone or compartment free from high pathogenicity avian influenza.
Article 10.4.14.

Recommendations for the importation of semen from birds other than poultry

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor birds:

1) were kept in isolation facilities approved by the Veterinary Services for at least 28 days (i.e. two flock-level incubation periods) prior to semen collection;
2) showed no clinical signs of avian influenza during the isolation period;
3) were subjected, with negative results, to a diagnostic test for avian influenza within 14 days prior to semen collection.

Article 10.4.15.

Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza

For eggs for human consumption

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the eggs for human consumption were produced and packed in a country, zone or compartment free from high pathogenicity avian influenza;
2) the eggs for human consumption were transported in new or appropriately sanitised packaging materials and containers.

Article 10.4.16.

Recommendations for the importation of egg products from poultry

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the egg products are derived from eggs which meet the requirements of Article 10.4.15.; or
2) the egg products have been processed to ensure the inactivation of high pathogenicity avian influenza viruses, in accordance with Article 10.4.23.;

AND

3) the necessary precautions were taken to avoid contact of the egg products with any source of high pathogenicity avian influenza viruses.

Article 10.4.17.

Recommendations for importation from a country, zone or compartment free from high pathogenicity avian influenza

For fresh meat of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from poultry:

1) which originated from a country, zone or compartment free from high pathogenicity avian influenza;
2) which were slaughtered in an approved slaughterhouse/abattoir in a country, zone or compartment free from high pathogenicity avian influenza and were subjected to ante- and post-mortem inspections in accordance with Chapter 6.3., with favourable results.

Article 10.4.18.

Recommendations for the importation of meat products from poultry

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the meat products from poultry are derived from fresh meat which meets the requirements of Article 10.4.17.; or
Chapter 10.4. - Infection with high pathogenicity avian influenza viruses

2) the meat products from poultry have been processed to ensure the inactivation of high pathogenicity avian influenza viruses in accordance with Article 10.4.24.;

AND

3) the necessary precautions were taken to avoid contact of the meat products from poultry with any source of high pathogenicity avian influenza viruses.

Article 10.4.19.

Recommendations for the importation of poultry products not listed in Article 10.4.2. and intended for use in animal feeding, or for agricultural or industrial use

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities were obtained from poultry which originated in a country, zone or compartment free from high pathogenicity avian influenza and that the necessary precautions were taken to avoid contamination during processing with any source of high pathogenicity avian influenza viruses;

OR

2) these commodities have been processed to ensure the inactivation of high pathogenicity avian influenza viruses using:
   a) moist heat treatment for 30 minutes at 56°C; or
   b) heat treatment where the internal temperature throughout the product reached at least 74°C; or
   c) any equivalent treatment that has been demonstrated to inactivate avian influenza viruses;

AND

3) the necessary precautions were taken to avoid contact of the commodity with any source of high pathogenicity avian influenza viruses.

Article 10.4.20.

Recommendations for the importation of feathers and down from poultry not listed in Article 10.4.2.

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities originated from poultry as described in Article 10.4.17. and were processed in a country, zone or compartment free from high pathogenicity avian influenza; or

2) these commodities have been processed to ensure the inactivation of high pathogenicity avian influenza viruses using one of the following:
   a) fumigation with formalin (10% formaldehyde) for 8 hours;
   b) irradiation with a dose of 20 kGy;
   c) any equivalent treatment which has been demonstrated to inactivate avian influenza viruses;

AND

3) the necessary precautions were taken to avoid contact of the commodity with any source of high pathogenicity avian influenza viruses.

Article 10.4.21.

Recommendations for the importation of feathers and down of birds other than poultry not listed in Article 10.4.2.

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities have been processed to ensure the inactivation of high pathogenicity avian influenza viruses using one of the following:
   a) fumigation with formalin (10% formaldehyde) for 8 hours;
   b) irradiation with a dose of 20 kGy;
   c) any equivalent treatment which has been demonstrated to inactivate avian influenza viruses;
2) the necessary precautions were taken to avoid contact of the commodity with any source of high pathogenicity avian influenza viruses.

**Article 10.4.22.**

**Recommendations for the importation of collection specimens, skins and trophies of birds other than poultry**

Regardless of the high pathogenicity avian influenza status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities have been processed to ensure the inactivation of high pathogenicity avian influenza viruses in accordance with Article 10.4.25.;

AND

2) the necessary precautions were taken to avoid contact of the commodity with any source of high pathogenicity avian influenza viruses.

**Article 10.4.23.**

**Procedures for the inactivation of high pathogenicity avian influenza viruses in egg products from poultry**

The following time/temperature combinations are suitable for the inactivation of high pathogenicity avian influenza viruses present in egg products:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Core temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole egg</td>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>61.1</td>
<td>94 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>55.6</td>
<td>870 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>56.7</td>
<td>232 seconds</td>
</tr>
<tr>
<td>Plain or pure egg yolk</td>
<td>60</td>
<td>288 seconds</td>
</tr>
<tr>
<td>10% salted yolk</td>
<td>62.2</td>
<td>138 seconds</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>67</td>
<td>20 hours</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>54.4</td>
<td>50.4 hours</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>51.7</td>
<td>73.2 hours</td>
</tr>
</tbody>
</table>

These time/temperature combinations are indicative of a range that achieves a 7-log_{10} reduction of avian influenza virus infectivity. These are examples for a variety of egg products but, when supported by scientific evidence, variations of these time/temperature combinations may be used, and they may be used for other egg products, if they achieve equivalent inactivation of the virus.

**Article 10.4.24.**

**Procedures for the inactivation of high pathogenicity avian influenza viruses in meat products from poultry**

The following time/temperature combinations are suitable for the inactivation of high pathogenicity avian influenza viruses in meat products.
Chapter 10.4.- Infection with high pathogenicity avian influenza viruses

These time/temperature combinations are indicative of a range that achieves a $7\log_{10}$ reduction of avian influenza virus infectivity. When supported by scientific evidence, variations of these time/temperature combinations may be used if they achieve equivalent inactivation of the virus.

### Article 10.4.25.

**Procedures for the inactivation of high pathogenicity avian influenza viruses in collection specimens and in skins and trophies**

For the inactivation of high pathogenicity avian influenza viruses in collection specimens and in skins and trophies, one of the following procedures should be used:

1) boiling in water for an appropriate time to ensure that any material other than bone, claws or beaks is removed; or
2) soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate-Na$_2$CO$_3$) maintained at pH 11.5 or above for at least 48 hours; or
3) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained below pH 3.0 for at least 48 hours; wetting and dressing agents may be added; or
4) in the case of raw hides, treatment for at least 28 days with salt (NaCl) containing 2% washing soda (sodium carbonate-Na$_2$CO$_3$); or
5) treatment with 1% formalin for a minimum of six days; or
6) any equivalent treatment which has been demonstrated to inactivate the virus.

### Article 10.4.26.

**Principles of surveillance for avian influenza**

The following are complementary to Chapter 1.4. and should be applied by Member Countries seeking to determine their high pathogenicity avian influenza status.

These principles are also necessary to support vaccination programmes, to monitor low pathogenicity avian influenza viruses, especially H5 and H7, in poultry and to detect high pathogenicity avian influenza in wild birds.

The impact and epidemiology of avian influenza differ widely among different regions of the world and therefore it is impossible to provide detailed recommendations for all situations. Variables such as the frequency of contacts between poultry and wild birds, different biosecurity levels and production systems, and the commingling of different susceptible species including domestic waterfowl, may require different surveillance strategies to address each situation. Furthermore, domestic waterfowl typically do not show clinical signs and have longer infective periods than gallinaceous poultry. It is therefore incumbent upon the Member Country to provide scientific data that explain the epidemiology of avian influenza in the region of concern and also to demonstrate how all the risk factors have been taken into account. Member Countries have flexibility to provide a science-based approach to demonstrate absence of infection with high pathogenicity avian influenza viruses at an appropriate level of confidence, as described in Chapter 1.4.

There is an increased recognition of the value of the application of sequencing technologies and phylogenetic analyses to determine routes of introduction, transmission pathways and epidemiological patterns of infection. When avian influenza viruses are detected, Member Countries should apply these technologies, when possible, to enhance the evidence used to develop specific surveillance strategies and control activities.
A monitoring system for low pathogenicity avian influenza viruses in poultry should be in place for the following reasons:

1) H5 and H7 low pathogenicity avian influenza viruses have the potential to mutate into high pathogenicity avian influenza viruses, but it is not possible to predict which viruses will mutate or when these mutations will occur.

2) The detection of sudden and unexpected increases in virulence of low pathogenicity avian influenza viruses in poultry is notifiable as an emerging disease in accordance with Article 1.1.4.

3) The detection, in domestic or captive wild birds, of low pathogenicity avian influenza viruses that have been proven to be transmitted naturally to humans with severe consequences is notifiable in accordance with Article 1.1.3.

**Article 10.4.27.**

**Surveillance for early warning of high pathogenicity avian influenza**

1) An ongoing surveillance programme for avian influenza should be in place and be designed to detect the presence of infection with high pathogenicity avian influenza viruses in the country or zone in a timely manner.

2) The high pathogenicity avian influenza surveillance programme should include the following.
   a) An early warning system for reporting suspected cases, in accordance with Article 1.4.5. throughout the production, marketing and processing chain. Farmers and workers who have day-to-day contact with poultry, as well as diagnosticians, should report promptly any suspicion of avian influenza to the Veterinary Authority. All suspected cases of high pathogenicity avian influenza should be investigated immediately and samples should be taken and submitted to a laboratory for appropriate tests.
   b) Implementation, as relevant, of regular and frequent clinical inspection, or serological and virological testing of high-risk groups of animals, such as those adjacent to a country or zone infected with high pathogenicity avian influenza, places where birds and poultry of different origins are mixed, such as live bird markets, and poultry in close proximity to waterfowl or other potential sources of influenza A viruses. This activity is particularly applicable to domestic waterfowl, where detection of high pathogenicity avian influenza via clinical suspicion can be of low sensitivity.
   c) Immediate investigation of the presence of antibodies against influenza A viruses that have been detected in poultry and are not a consequence of vaccination. In the case of single or isolated serological positive results, infection with high pathogenicity avian influenza viruses may be ruled out on the basis of a thorough epidemiological and laboratory investigation that does not demonstrate further evidence of such an infection.

**Article 10.4.28.**

**Surveillance for demonstrating freedom from infection with high pathogenicity avian influenza**

1) A Member Country declaring freedom of the entire country, a zone or a compartment from high pathogenicity avian influenza in poultry should provide evidence of an effective surveillance programme.

   Transparency in the application of different methodologies is essential to ensure consistency in decision-making, ease of understanding, fairness and rationality. The assumptions made, the uncertainties, and the effect of these on the interpretation of the results, should be documented.

   The design of the surveillance programme will depend on the epidemiological circumstances and it should be planned and implemented in accordance with this chapter and Article 1.4.6. This requires the availability of demographic data on the poultry population and the support of a laboratory able to undertake identification of infection with avian influenza viruses through virus detection and antibody tests.

   The surveillance programme should demonstrate absence of infection with high pathogenicity avian influenza viruses during the preceding 12 months in susceptible poultry populations (vaccinated and non-vaccinated).

   The design of the sampling strategy should include an epidemiologically appropriate design prevalence. The design prevalence and desired level of confidence in the results will determine the sample size. The Member Country should justify the choice of design prevalence and confidence level used on the basis of the stated objectives of the surveillance and the epidemiological situation.

   The sampling strategy may be risk-based if scientific evidence is available, and provided, for the quantification of risk factors. Specific risks could include those linked to the types of production, possible direct or indirect contact with wild birds, multi-age flocks, local trade patterns including live bird markets, use of possibly contaminated surface water, the presence of more than one species at the establishment and poor biosecurity in place.

   Data from different surveillance activities can be included to increase the sensitivity of the surveillance system. If this is to be done, data from structured (e.g. surveys and active surveillance) and non-structured (e.g. passive
surveillance) sources should be combined and the sensitivity of each activity should be quantified in order to be able to quantify the sensitivity of the overall surveillance system.

The surveillance programme should include surveillance for high pathogenicity avian influenza viruses in birds other than poultry, including wild birds, and monitoring of low pathogenicity avian influenza viruses in poultry, in order to ensure that biosecurity and control measures are fit for purpose.

Documentation of freedom from infection with high pathogenicity avian influenza should provide details of the poultry population, the occurrence of suspected cases and how they were investigated and dealt with. This should include the results of laboratory testing and the biosecurity and control measures to which the animals concerned were subjected during the investigation.

2. Additional requirements for countries, zones or compartments that practise vaccination

Vaccination to prevent the transmission of high pathogenicity avian influenza virus may be part of a disease control programme. The level of flock immunity required to prevent transmission depends on the flock size, composition (e.g. species) and density of the susceptible poultry population. Based on the epidemiology of avian influenza in the country, zone or compartment, a decision may be reached to vaccinate only certain species or other poultry subpopulations.

In all vaccinated flocks tests should be performed to ensure the absence of virus circulation. The tests should be repeated at a frequency that is proportionate to the risk in the country, zone or compartment. The use of sentinel poultry may provide further confidence in the absence of virus circulation.

Member Countries seeking the demonstration of freedom from high pathogenicity avian influenza in vaccinated population should refer to the chapter on avian influenza (infection with avian influenza viruses) in the Terrestrial Manual.

Evidence to show the effectiveness of the vaccination programme should also be provided.

3. Additional requirements for recovery of free status

In addition to the conditions described in the point above, a Member Country declaring that it has regained country, zone or compartment freedom after an outbreak of high pathogenicity avian influenza in poultry should show evidence of an active surveillance programme, depending on the epidemiological circumstances of the outbreak, to demonstrate the absence of the infection. This will require surveillance incorporating virus detection and antibody tests. The Member Country should report the results of an active surveillance programme in which the susceptible poultry population undergoes regular clinical examination and active surveillance planned and implemented according to the general conditions and methods described in these recommendations. The surveillance samples should be representative of poultry populations at risk. The use of sentinel birds may facilitate the interpretation of surveillance results.

Populations under this surveillance programme should include:

a) establishments in the proximity of the outbreaks;

b) establishments epidemiologically linked to the outbreaks;

c) poultry used to re-populate affected establishments;

d) any establishments where preventive depopulation has been carried out.

Article 10.4.29.

Surveillance of wild bird populations

Passive surveillance, i.e. sampling of birds found dead, is an appropriate method of surveillance in wild birds because infection with high pathogenicity avian influenza can be associated with mortality in some species. Mortality events, or clusters of birds found dead should be reported to the local Veterinary Authorities and investigated, including through the collection and submission of samples to a laboratory for appropriate tests.

Active surveillance, i.e. sampling of live wild birds, may be necessary for detection of some strains of high pathogenicity avian influenza viruses that produce infection without mortality in wild birds. Furthermore, it increases knowledge of the ecology and evolution of avian influenza viruses.

Surveillance in wild birds should be targeted towards times of year, species and locations in which infection is more likely.

Surveillance in wild birds should be enhanced by raising awareness, and by active searching and monitoring for dead or moribund wild birds when high pathogenicity avian influenza has been detected in the region. The movements of
migratory water birds, in particular ducks, geese and swans, should be taken into account as a potential pathway for introduction of virus to uninfected areas.

Article 10.4.30.

Monitoring of low pathogenicity avian influenza in poultry populations

Outbreaks of low pathogenicity avian influenza viruses can be managed at the establishment level; however, spread to other poultry establishments increases the risk of virus mutation, particularly if it is not detected and managed. Therefore, a monitoring system should be in place.

Monitoring the presence and types of low pathogenicity avian influenza viruses can be achieved through a combination of clinical investigation when infection is suspected because of changes in production parameters, such as reductions in egg production or feed and water intake, and active serological and virological surveillance, which can be supported by the information obtained by the surveillance system for high pathogenicity avian influenza.

Serological and virological monitoring should aim at detecting clusters of infected flocks to identify spread between establishments. Epidemiological follow-up (tracing forward and back) of serologically positive flocks should be carried out to determine whether there is clustering of infected flocks regardless of whether the seropositive birds are still present at the establishment or whether active virus infection has been detected. Hence, monitoring of low pathogenicity avian influenza will also enhance early detection of high pathogenicity avian influenza.

NB: FIRST ADOPTED IN 1998; MOST RECENT UPDATE ADOPTED IN 2021.
CHAPTER 10.5.

INFECTION WITH MYCOPLASMA GALLISEPTICUM
(AVIAN MYCOPLASMOSIS)

Article 10.5.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.5.2.

Establishment free from avian mycoplasmosis

To qualify as free from avian mycoplasmosis, an establishment should satisfy the following requirements:

1) it is under official veterinary control;
2) it contains no bird which has been vaccinated against avian mycoplasmosis;
3) 5% of the birds, with a maximum of 100 birds of different age groups present in the establishment, are subjected to:
   a) an agent identification test with negative results at the age of 10, 18 and 26 weeks, and thereafter at 4-week intervals; or
   b) a serological test with negative results at the age of 10, 18 and 26 weeks, and thereafter at 4-week intervals;
4) all birds introduced into the flocks come from an establishment free from avian mycoplasmosis.

Article 10.5.3.

Recommendations for the importation of chickens and turkeys

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1) showed no clinical sign of avian mycoplasmosis on the day of shipment; and
2) come from an establishment free from avian mycoplasmosis; or
3) were kept in a quarantine station for the 28 days prior to shipment and were subjected to a serological test and an agent identification test for avian mycoplasmosis with negative results, at the beginning and at the end of the 28-day period.

Article 10.5.4.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1) come from establishments free from avian mycoplasmosis and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) were shipped in clean and unused packages.
Article 10.5.5.

Recommendations for the importation of hatching eggs of chickens and turkeys

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1) have been disinfected in accordance with the standards referred to in Chapter 6.5.;
2) come from establishments free from avian mycoplasmosis and from hatcheries which comply with the standards referred to in Chapter 6.5.;
3) were shipped in clean and unused packages.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2021.
CHAPTER 10.6.

DUCK VIRUS HEPATITIS

Article 10.6.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for duck virus hepatitis (DVH) shall be seven days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.6.2.

Recommendations for the importation of ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1) showed no clinical sign of DVH on the day of shipment;
2) come from establishments which are recognised as being free from DVH;
3) have not been vaccinated against DVH; or
4) were vaccinated against DVH (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.6.3.

Recommendations for the importation of day-old ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1) come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) have not been vaccinated against DVH; or
3) were vaccinated against DVH (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4) are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from DVH;
   b) come from establishments and/or hatcheries in which vaccination against DVH is not practised on the parent stock; or
   c) come from establishments and/or hatcheries in which vaccination against DVH is practised on the parent stock;
5) were shipped in clean and unused packages.

Article 10.6.4.

Recommendations for the importation of hatching eggs of ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1) have been disinfected in accordance with the standards referred to in Chapter 6.5.;
2) come from establishments and/or hatcheries which are recognised as being free from DVH and from hatcheries which comply with the standards referred to in Chapter 6.5.;
3) were shipped in clean and unused packages.

CHAPTER 10.7.

FOWL TYPHOID AND PULLORUM DISEASE

Article 10.7.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.7.2.

Recommendations for the importation of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:
1) showed no clinical sign of fowl typhoid and pullorum disease on the day of shipment;
2) come from establishments which are recognised as being free from fowl typhoid and pullorum disease; and/or
3) have been subjected to a diagnostic test for fowl typhoid and pullorum disease with negative results; and/or
4) were kept in a quarantine station for not less than 21 days prior to shipment.

Article 10.7.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:
1) come from establishments and/or hatcheries which are recognised as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) were shipped in clean and unused packages.

Article 10.7.4.

Recommendations for the importation of hatching eggs of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:
1) have been disinfected in accordance with the standards referred to in Chapter 6.5.;
2) come from establishments and/or hatcheries which are recognised as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.5.;
3) were shipped in clean and unused packages.

NB: FIRST ADOPTED IN 1998.
CHAPTER 10.8.

INFECTIOUS BURSAL DISEASE
(GUMBORO DISEASE)

Article 10.8.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for infectious bursal disease shall be seven days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.8.2.

Recommendations for the importation of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:
1) showed no clinical sign of infectious bursal disease on the day of shipment;
2) come from an establishment which is regularly inspected by the Veterinary Authority;
3) have not been vaccinated against infectious bursal disease and come from an establishment free from infectious bursal disease as demonstrated by the AGP test; or
4) were vaccinated against infectious bursal disease (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.8.3.

Recommendations for importation from countries considered infected with infectious bursal disease

For day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:
1) come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.5.;
2) have not been vaccinated against infectious bursal disease; or
3) were vaccinated against infectious bursal disease (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4) are the progeny of parent flocks which come from establishments:
   a) which are recognised as being free from infectious bursal disease as demonstrated by the AGP test;
   b) in which vaccination against infectious bursal disease is not practised on the parent stock; or
   c) in which vaccination against infectious bursal disease is practised on the parent stock;
5) were shipped in clean and unused packages.

Article 10.8.4.

Recommendations for the importation of hatching eggs of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:
1) have been disinfected in accordance with the standards referred to in Chapter 6.5.;
2) come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.5;
3) were shipped in clean and unused packages.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 1998.
CHAPTER 10.9.
INFECTION WITH NEWCASTLE VIRUS

Article 10.9.1.

General provisions

1) For the purposes of the Terrestrial Code, Newcastle disease (ND) is defined as an infection of poultry caused by Newcastle disease virus (NDV), which is an avian paramyxovirus serotype 1 (APMV-1) that meets one of the following criteria for virulence:
   a) the virus has an intracerebral pathogenicity index (ICPI) in day-old chicks (Gallus gallus) of 0.7 or greater; or
   b) multiple basic amino acids have been demonstrated in the virus (either directly or by deduction) at the C-terminus of the F2 protein and phenylalanine at residue 117, which is the N-terminus of the F1 protein. The term ‘multiple basic amino acids’ refers to at least three arginine or lysine residues between residues 113 and 116. Failure to demonstrate the characteristic pattern of amino acid residues as described above would require characterisation of the isolated virus by an ICPI test.

In this definition, amino acid residues are numbered from the N-terminus of the amino acid sequence deduced from the nucleotide sequence of the F0 gene, 113–116 corresponds to residues –4 to –1 from the cleavage site.

2) For the purposes of the Terrestrial Code, the incubation period for ND shall be 21 days.

3) This chapter deals with NDV infection of poultry in the presence or absence of clinical signs.

4) The occurrence of infection with NDV is defined as the isolation and identification of NDV as such or the detection of viral ribonucleic acid specific for NDV.

5) A Member Country should not impose bans on the trade in poultry commodities in response to information on the presence of any APMV-1 in birds other than poultry, including wild birds.

6) Standards for diagnostic tests, including pathogenicity testing, are described in the Terrestrial Manual. When the use of ND vaccines is appropriate, those vaccines should comply with the standards described in the Terrestrial Manual.

Article 10.9.2.

Determination of the Newcastle disease status of a country, zone or compartment

The ND status of a country, a zone or a compartment can be determined on the basis of the following criteria:

1) ND is notifiable in the whole country, an ongoing ND awareness programme is in place, and all notified suspect occurrences of ND are subjected to field and, where applicable, laboratory investigations;

2) appropriate surveillance is in place to demonstrate the presence of NDV infection in the absence of clinical signs in poultry; this may be achieved through an ND surveillance programme in accordance with Articles 10.9.22. to 10.9.26.;

3) consideration of all epidemiological factors for ND occurrence and their historical perspective.

Article 10.9.3.

Newcastle disease free country, zone or compartment

A country, zone or compartment may be considered free from ND when it has been shown that NDV infection in poultry has not been present in the country, zone or compartment for the past 12 months, based on surveillance in accordance with Articles 10.9.22. to 10.9.26.

If infection has occurred in poultry in a previously free country, zone or compartment, ND free status can be regained three months after a stamping-out policy (including disinfection of all affected establishments) is applied, providing that surveillance in accordance with Articles 10.9.22. to 10.9.26. has been carried out during that three-month period.
Article 10.9.4.

Recommendations for importation from a Newcastle disease free country, zone or compartment as defined in Article 10.9.3.

For live poultry (other than day-old poultry)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the poultry showed no clinical sign suggestive of ND on the day of shipment;
2) the poultry were kept in an ND free country, zone or compartment since they were hatched or for at least the past 21 days;
3) the poultry are transported in new or appropriately sanitized containers.

If the poultry have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.5.

Recommendations for the importation of live birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the birds showed no clinical sign suggestive of infection by NDV on the day of shipment;
2) the birds were kept in isolation approved by the Veterinary Services since they were hatched or for at least 21 days prior to shipment and showed no clinical sign of infection during the isolation period;
3) a statistically valid sample of the birds, selected in accordance with Article 10.9.24., was subjected to a diagnostic test within 14 days prior to shipment to demonstrate freedom from infection with NDV;
4) the birds are transported in new or appropriately sanitized containers.

If the birds have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.6.

Recommendations for importation from a Newcastle disease free country, zone or compartment

For day-old live poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the poultry were hatched and kept in an ND free country, zone or compartment since they were hatched;
2) the poultry were derived from parent flocks which had been kept in an ND free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
3) the poultry are transported in new or appropriately sanitized containers.

If the poultry or parent flocks have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.7.

Recommendations for the importation of day-old live birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the birds showed no clinical sign suggestive of infection by NDV on the day of shipment;
2) the birds were hatched and kept in isolation approved by the Veterinary Services;
3) the parent flock birds were subjected to a diagnostic test at the time of the collection of the eggs to demonstrate freedom from infection with NDV;
4) the birds are transported in new or appropriately sanitized containers.
Chapter 10.9.- Infection with Newcastle virus

If the birds or parent flocks have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.8.

Recommendations for importation from a Newcastle disease free country, zone or compartment

For hatching eggs of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the eggs came from an ND free country, zone or compartment;
2) the eggs were derived from parent flocks which had been kept in an ND free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
3) the eggs are transported in new or appropriately sanitized packaging materials.

If the parent flocks have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.9.

Recommendations for the importation of hatching eggs from birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the parent flock birds were subjected to a diagnostic test seven days prior to and at the time of the collection of the eggs to demonstrate freedom from infection with NDV;
2) the eggs have had their surfaces sanitized (in accordance with Chapter 6.5.);
3) the eggs are transported in new or appropriately sanitized packaging materials.

If the parent flocks have been vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Article 10.9.10.

Recommendations for importation from a Newcastle disease free country, zone or compartment

For eggs for human consumption

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the eggs were produced and packed in an ND free country, zone or compartment;
2) the eggs are transported in new or appropriately sanitized packaging materials.

Article 10.9.11.

Recommendations for importation of egg products of poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the commodity is derived from eggs which meet the requirements of Article 10.9.10.; or
2) the commodity has been processed to ensure the destruction of NDV in accordance with Article 10.9.20.;

AND

3) the necessary precautions were taken to avoid contact of the egg products with any source of NDV.
Chapter 10.9.- Infection with Newcastle virus

Article 10.9.12.

Recommendations for importation from a Newcastle disease free country, zone or compartment

For poultry semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor poultry:

1) showed no clinical sign suggestive of ND on the day of semen collection;
2) were kept in an ND free country, zone or compartment for at least 21 days prior to and at the time of semen collection.

Article 10.9.13.

Recommendations for the importation of semen of birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor birds:

1) were kept in isolation approved by the Veterinary Services for at least 21 days prior to and on the day of semen collection;
2) showed no clinical sign suggestive of infection with NDV during the isolation period and on the day of semen collection;
3) were subjected to a diagnostic test within 14 days prior to semen collection to demonstrate freedom from infection with NDV.

Article 10.9.14.

Recommendations for importation from a Newcastle disease free country, zone or compartment

For fresh meat of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from poultry:

1) which have been kept in an ND free country, zone or compartment since they were hatched or for at least the past 21 days;
2) which have been slaughtered in an approved abattoir in an ND free country, zone or compartment and have been subjected to ante- and post-mortem inspections in accordance with Chapter 6.3. and have been found free of any sign suggestive of ND.

Article 10.9.15.

Recommendations for importation of meat products of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the commodity is derived from fresh meat which meet the requirements of Article 10.9.14.; or
2) the commodity has been processed to ensure the destruction of NDV in accordance with Article 10.9.21.;
AND
3) the necessary precautions were taken to avoid contact of the commodity with any source of NDV.
Chapter 10.9.- Infection with Newcastle virus

Article 10.9.16.

Recommendations for the importation of products of poultry origin, other than feather meal and poultry meal, intended for use in animal feeding, or for agricultural or industrial use

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities were processed in a ND free country, zone or compartment from poultry which were kept in a ND free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or

2) these commodities have been processed to ensure the destruction of NDV using:
   a) moist heat treatment for 30 minutes at 56°C; or
   b) any equivalent treatment which has been demonstrated to inactivate NDV;

AND

3) the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.9.17.

Recommendations for the importation of feathers and down of poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities originated from poultry as described in Article 10.9.14. and were processed in a ND free country, zone or compartment; or

2) these commodities have been processed to ensure the destruction of NDV using one of the following:
   a) washed and steam-dried at 100°C for 30 minutes;
   b) fumigation with formalin (10% formaldehyde) for 8 hours;
   c) irradiation with a dose of 20 kilogram;
   d) any equivalent treatment which has been demonstrated to inactivate NDV;

AND

3) the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.9.18.

Recommendations for the importation of feathers and down of birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities have been processed to ensure the destruction of NDV using one of the following:
   a) washed and steam-dried at 100°C for 30 minutes;
   b) fumigation with formalin (10% formaldehyde) for 8 hours;
   c) irradiation with a dose of 20 kilogram;
   d) any equivalent treatment which has been demonstrated to inactivate NDV;

2) the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.9.19.

Recommendations for the importation of feather meal and poultry meal

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these commodities were processed in a ND free country, zone or compartment from poultry which were kept in a ND free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or
2) these commodities have been processed either:
   a) with moist heat at a minimum temperature of 118°C for minimum of 40 minutes; or
   b) with a continuous hydrolysing process under at least 3.79 bar of pressure with steam at a minimum temperature of 122°C for a minimum of 15 minutes; or
   c) with an alternative rendering process that ensures that the internal temperature throughout the product reaches at least 74°C for a minimum of 280 seconds;

AND

3) the necessary precautions were taken to avoid contact of the commodity with any source of ND virus.

**Article 10.9.20.**

**Procedures for the inactivation of Newcastle disease virus in eggs and egg products**

The following times and temperatures are suitable for the inactivation of ND virus present in eggs and egg products:

<table>
<thead>
<tr>
<th>Core temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole egg</td>
<td>55</td>
</tr>
<tr>
<td>Whole egg</td>
<td>57</td>
</tr>
<tr>
<td>Whole egg</td>
<td>59</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>55</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>57</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>59</td>
</tr>
<tr>
<td>10% salted yolk</td>
<td>55</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>57</td>
</tr>
</tbody>
</table>

The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.

**Article 10.9.21.**

**Procedures for the inactivation of Newcastle disease virus in meat**

The following times for industry standard temperatures are suitable for the inactivation of ND virus present in meat.

<table>
<thead>
<tr>
<th>Core temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry meat</td>
<td>65.0</td>
</tr>
<tr>
<td></td>
<td>70.0</td>
</tr>
<tr>
<td></td>
<td>74.0</td>
</tr>
<tr>
<td></td>
<td>80.0</td>
</tr>
</tbody>
</table>

The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.
Chapter 10.9 - Infection with Newcastle virus

Article 10.9.22.

Introduction to surveillance

Articles 10.9.22. to 10.9.26. define the principles and provide a guide on the surveillance for ND as defined in Article 10.9.1. and is complementary to Chapter 1.4. It is applicable to Member Countries seeking to determine their ND status. This may be for the entire country, zone or compartment. Guidance for Member Countries seeking free status following an outbreak and for the maintenance of ND status is also provided.

Surveillance for ND is complicated by the known occurrence of APMV-1 infections in many bird species, both domestic and wild, and the widespread utilisation of ND vaccines in domestic poultry.

The impact and epidemiology of ND differ widely in different regions of the world and therefore it is not possible to provide specific recommendations for all situations. Therefore, surveillance strategies employed for demonstrating freedom from ND at an acceptable level of confidence should be adapted to the local situation. Variables such as the frequency of contacts of poultry with wild birds, different biosecurity levels, production systems and the commingling of different susceptible species require specific surveillance strategies to address each specific situation. It is incumbent upon the Member Country to provide scientific data that explains the epidemiology of ND in the region concerned and also demonstrates how all the risk factors are managed. There is, therefore, considerable latitude available to Member Countries to provide a well-reasoned argument to prove freedom from NDV infection.

Surveillance for ND should be in the form of a continuing programme designed to establish that the country, zone or compartment, for which application is made, is free from NDV infection.

Article 10.9.23.

General conditions and methods for surveillance

1) A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular there should be in place:

a) a formal and ongoing system for detecting and investigating outbreaks of disease or NDV infection;

b) a procedure for the rapid collection and transport of samples from suspect cases of ND to a laboratory for ND diagnosis;

c) a system for recording, managing and analysing diagnostic and surveillance data.

2) The ND surveillance programme should:

a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers, who have day-to-day contact with poultry, as well as diagnosticians, should report promptly any suspicion of ND to the Veterinary Authority. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary paraprofessionals) by government information programmes and the Veterinary Authority. All suspected cases of ND should be investigated immediately. As suspicion cannot be resolved by epidemiological and clinical investigation alone, samples should be taken and submitted to a laboratory for appropriate tests. This requires that sampling kits and other equipment are available to those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in ND diagnosis and control;

b) implement, when relevant, regular and frequent clinical, virological and serological surveillance of high risk groups of poultry within the target population (e.g. those adjacent to an ND infected country, zone, compartment, places where birds and poultry of different origins are mixed, or other sources of NDV).

An effective surveillance system may identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is due to NDV infection. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from NDV infection should provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).
Article 10.9.24.

Surveillance strategies

1. Introduction

Any surveillance programme requires inputs from professionals competent and experienced in this field and should be thoroughly documented. The design of surveillance programmes to prove the absence of NDV infection or circulation should be carefully followed to avoid producing results that are either unreliable, or excessively costly and logistically complicated.

If a Member Country wishes to declare freedom from NDV infection in a country, zone or compartment, the subpopulation used for the surveillance for the disease and infection should be representative of all poultry within the country, zone or compartment. Multiple surveillance methods should be used concurrently to accurately define the true ND status of poultry populations. Active and passive surveillance for ND should be ongoing with the frequency of active surveillance being appropriate to the disease situation in the country. Surveillance should be composed of random or targeted approaches, dependent on the local epidemiological situation and using clinical, virological and serological methods. If alternative tests are used they should have been validated as fit-for-purpose in accordance with WOAH standards. A Member Country should justify the surveillance strategy chosen as adequate to detect the presence of NDV infection in accordance with Chapter 1.4. and the prevailing epidemiological situation.

In surveys, the sample size selected for testing should be statistically justified to detect infection at a predetermined target prevalence. The sample size and expected prevalence determine the level of confidence in the results of the survey. The survey design and frequency of sampling should be dependent on the historical and current local epidemiological situation. The Member Country should justify the choice of survey design and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4.

Targeted surveillance (e.g. based on the increased likelihood of infection in a population) may be an appropriate strategy.

It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clear clinical signs (e.g. unvaccinated chickens). Similarly, virological and serological testing could target species that may not show clinical signs (Article 10.9.2) of ND and are not routinely vaccinated (e.g. ducks). Surveillance may also target poultry populations at specific risk, for example direct or indirect contact with wild birds, multi-age flocks, local trade patterns including live poultry markets, the presence of more than one species on the holding and poor biosecurity measures in place. In situations where wild birds have been shown to play a role in the local epidemiology of ND, surveillance of wild birds may be of value in alerting Veterinary Services to the possible exposure of poultry and, in particular, of free ranging poultry.

The sensitivity and specificity of the diagnostic tests are key factors in the choice of survey design, which should anticipate the occurrence of false positive and false negative reactions. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination and infection history and for the different species in the target population. If the characteristics of the testing system are known, the rate at which these false reactions are likely to occur can be calculated in advance. There should be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as flocks which may be epidemiologically linked to it.

The results of active and passive surveillance are important in providing reliable evidence that no NDV infection is present in a country, zone or compartment.

2. Clinical surveillance

Clinical surveillance aims to detect clinical signs suggestive of ND at the flock level and should not be underestimated as an early indication of infection. Monitoring of production parameters (e.g. a drop in feed or water consumption or egg production) is important for the early detection of NDV infection in some populations, as there may be no, or mild, clinical signs, particularly if they are vaccinated. Any sampling unit within which suspicious animals are detected should be considered as infected until evidence to the contrary is produced. Identification of infected flocks is vital to the identification of sources of NDV.

A presumptive diagnosis of clinical ND in suspect infected populations should always be confirmed by virological testing in a laboratory. This will enable the molecular, antigenic and other biological characteristics of the virus to be determined.

It is desirable that NDV isolates are sent promptly to a WOAH Reference Laboratory for archiving and further characterisation if required.
3. **Virological surveillance**

Virological surveillance should be conducted to:

a) monitor at risk populations;

b) confirm suspect clinical cases;

c) follow up positive serological results in unvaccinated populations or sentinel birds;

d) test ‘normal’ daily mortalities (if warranted by an increased risk e.g. *infection* in the face of *vaccination* or in establishments epidemiologically linked to an *outbreak*).

4. **Serological surveillance**

Where vaccination is carried out, serological surveillance is of limited value. Serological surveillance cannot be used to discriminate between NDV and other APMV-1. Positive NDV antibody test results can have five possible causes:

a) natural *infection* with APMV-1;

b) *vaccination* against ND;

c) exposure to vaccine virus;

d) maternal antibodies derived from a vaccinated or infected parent flock are usually found in the yolk and can persist in progeny for up to four weeks;

e) non-specific test reactions.

It may be possible to use serum collected for other survey purposes for ND surveillance. However, the principles of survey design described in these recommendations and the requirement for a statistically valid survey for the presence of NDV should not be compromised.

Discovery of seropositive, unvaccinated flocks should be investigated further by conducting a thorough epidemiological investigation. Since seropositive results are not necessarily indicative of *infection*, virological methods should be used to confirm the presence of NDV in such populations. Until validated strategies and tools to differentiate vaccinated animals from those infected with field APMV-1 are available, serological tools should not be used to identify NDV *infection* in vaccinated populations.

5. **Use of sentinel poultry**

There are various applications of the use of sentinel poultry as a surveillance tool to detect virus circulation. They may be used to monitor vaccinated populations or species which are less susceptible to the development of clinical disease for the circulation of virus. Sentinel poultry should be immunologically naïve and may be used in vaccinated flocks. In case of the use of sentinel poultry, the structure and organisation of the poultry sector, the type of vaccine used and local epidemiological factors will determine the type of production systems where sentinels should be placed, the frequency of placement and monitoring of the sentinels.

Sentinel poultry should be in close contact with, but should be identified to be clearly differentiated from, the target population. Sentinel poultry should be observed regularly for evidence of clinical disease and any disease incidents investigated by prompt laboratory testing. The species to be used as sentinels should be proven to be highly susceptible to *infection* and ideally develop clear signs of clinical disease. Where the sentinel poultry do not necessarily develop overt clinical disease a programme of regular active testing by virological and serological tests should be used (the development of clinical disease may be dependent on the sentinel species used or use of live vaccine in the target population that may infect the sentinel poultry). The testing regime and the interpretation of the results will depend on the type of vaccine used in the target population. Sentinel birds should be used only if no appropriate laboratory procedures are available.

**Article 10.9.25.**

**Additional surveillance requirements for declaration of freedom**

The requirements for a country, zone or compartment to declare freedom from ND are given in Article 10.9.3.

A Member Country declaring freedom of a country, zone or compartment (with or without vaccination) should report the results of a surveillance programme in which the ND susceptible poultry population undergoes regular surveillance planned and implemented in accordance with the general conditions and methods described in these recommendations.

1. **Member Countries declaring freedom from Newcastle disease for the country, zone or compartment**

   In addition to the general conditions described in the *Terrestrial Code*, a Member Country declaring freedom from ND for the entire country, or a zone or a compartment should provide evidence for the existence of an effective
surveillance programme. The surveillance programme should be planned and implemented in accordance with general conditions and methods described in this chapter to demonstrate absence of NDV infection in poultry during the preceding 12 months.

2. Additional requirements for countries, zones or compartments that practice vaccination

Vaccination against ND may be used as a component of a disease prevention and control programme. In vaccinated populations there is a need to perform surveillance to ensure the absence of NDV circulation. The use of sentinel poultry may provide further confidence of the absence of virus circulation. The surveillance should be repeated at least every six months or at shorter intervals in accordance with the risk in the country, zone or compartment, or evidence to show the effectiveness of the vaccination programme is regularly provided.

**Article 10.9.26.**

**Additional surveillance requirements for regaining freedom**

A Member Country regaining country, zone or compartment freedom from ND should show evidence of an active surveillance programme depending on the epidemiological circumstances of the outbreak to demonstrate the absence of the infection.

A Member Country declaring freedom of a country, zone or compartment after an outbreak of ND (with or without vaccination) should report the results of a surveillance programme in which the ND susceptible poultry population undergoes regular surveillance planned and implemented in accordance with the general conditions and methods described in these recommendations.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2023.
S E C T I O N  1 1.

BOVINAE

C H A P T E R  1 1. 1.

BOVINE ANAPLASMOSIS

Article 11.1.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.1.2.

Recommendations for importation from countries considered infected with bovine anaplasmosis

For cattle

Veterinary Authorities of free countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of bovine anaplasmosis on the day of shipment; and
2) were, since birth, kept in a zone known to be free from bovine anaplasmosis for the previous two years;

OR
3) showed no clinical sign of bovine anaplasmosis on the day of shipment; and
4) were subjected to a diagnostic test for bovine anaplasmosis with negative results during 30 days prior to shipment; and
5) were treated with an effective drug such as oxytetracycline for five consecutive days at a dose of 22 mg/kg (under study);

AND

in either of the above cases:

6) were treated with an acaricide and, if necessary, a repellent against biting insects prior to shipment and were completely free of ticks.

CHAPTER 11.2.

BOVINE BABESIOSIS

Article 11.2.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.2.2.

Recommendations for importation from countries considered infected with bovine babesiosis

For cattle

Veterinary Authorities of free countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of bovine babesiosis on the day of shipment; and
2) were, since birth, resident in a zone known to be free of bovine babesiosis for the previous two years;

OR

3) showed no clinical sign of bovine babesiosis on the day of shipment; and
4) were subjected to a diagnostic test for bovine babesiosis with negative results during 30 days prior to shipment; and
5) were treated with an effective drug such as imidocarb as a single dose injection at 2 mg/kg or amicarbalide at 10 mg/kg (under study);

AND

in either of the above cases:
6) were treated with an acaricide prior to shipment and were completely free of ticks.

CHAPTER 11.3.

BOVINE GENITAL CAMPYLOBACTERIOSIS

Article 11.3.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 11.3.2.

Recommendations for the importation of female bovines for breeding

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that:

1) the animals are virgin heifers; or
2) the animals were kept in a herd in which no case of bovine genital campylobacteriosis has been declared; and/or
3) for animals which have been mated, the culture of vaginal mucus for the presence of the causal agent of bovine genital campylobacteriosis proved negative.

Article 11.3.3.

Recommendations for the importation of bulls for breeding

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that:

1) the animals:
   a) have never been used for natural service; or
   b) have only mated virgin heifers; or
   c) were kept in an establishment in which no case of bovine genital campylobacteriosis has been declared;
2) the semen and preputial specimen cultures and/or the associated tests for the presence of the causal agent of bovine genital campylobacteriosis were negative.

Article 11.3.4.

Recommendations for the importation of bovine semen

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that:

1) the donor animals:
   a) have never been used for natural service; or
   b) have only mated virgin heifers; or
   c) were kept in an establishment or artificial insemination centre where no case of bovine genital campylobacteriosis has been reported;
2) the culture of semen and preputial specimens for the presence of the causal agent of bovine genital campylobacteriosis proved negative.

NB: FIRST ADOPTED IN 1986.
CHAPTER 11.4.

BOVINE SPONGIFORM ENCEPHALOPATHY

Article 11.4.1.

General provisions

1) Bovine spongiform encephalopathy (BSE) is an invariably fatal neurological prion disease of bovines caused by a misfolded form of the prion protein (PrP$^{Sc}$), which includes both C-type (classical BSE) and H- and L-type (atypical BSE) agents. Oral exposure to contaminated feed is the main route of transmission of classical BSE. Atypical BSE is a condition that occurs at a very low rate and is assumed to occur spontaneously in any bovine population. A bovine has been experimentally infected by the oral route with a low molecular weight type of atypical BSE (L-type BSE) and the potential for recycling of atypical BSE cannot be ruled out, although there is no evidence that it plays a significant role in the epidemiology of BSE.

2) BSE primarily affects bovines. Other animal species may be naturally and experimentally susceptible to BSE, but they are not regarded as being epidemiologically significant, particularly when feeding ruminants with ruminant-derived protein meal is not practised. The recommendations in this chapter are intended to mitigate the human and animal health risks associated with BSE in bovines only.

3) For the purposes of the Terrestrial Code, the occurrence of a case of BSE is defined by the detection of the classical BSE agent in brain tissue of a bovine.

4) For the purposes of this chapter, 'bovine' means an animal of the species Bos taurus or Bos indicus.

5) When commodities are imported in accordance with this chapter, the BSE risk of the importing country or zone is not affected by the BSE risk of the exporting country, zone or compartment.

6) Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.4.2.

Safe commodities

When authorising the importation or transit of the following commodities derived from bovines, Veterinary Authorities should not require any conditions related to BSE, regardless of the BSE risk posed by the bovine population of the exporting country, zone or compartment:

1) milk and milk products;
2) semen and in vivo derived bovine embryos collected and handled in accordance with the relevant chapters of the Terrestrial Code;
3) hides and skins;
4) gelatine and collagen;
5) tallow with maximum level of insoluble impurities of 0.15% in weight and derivatives made from this tallow;
6) dicalcium phosphate (with no trace of protein or fat);
7) fetal blood.

Other commodities of bovines can be traded safely if in accordance with the relevant articles of this chapter.

Article 11.4.3.

General criteria for the determination of the BSE risk of a country, zone or compartment

Owing to its specific etiological and epidemiological features, the BSE risk of a country, zone or compartment is determined on the basis of the following:

1) A BSE risk assessment, in accordance with the provisions of the 'Application for official recognition by WOAH of risk status for bovine spongiform encephalopathy' that evaluates the risk of the classical BSE agent being recycled within the bovine population by identifying all potential factors associated with the occurrence of BSE and their
Chapter 11.4.- Bovine spongiform encephalopathy

historic perspective. Member Countries should review the risk assessment annually to determine whether the situation has changed.

The risk assessment for the purpose of BSE, based on the framework provided by Article 2.1.4., consists of:

a) Entry assessment

The entry assessment evaluates the likelihood that the classical BSE agent has been introduced into the country, zone or compartment through the importation of the following commodities in the preceding eight years:

i) bovines;
ii) ruminant-derived protein meal;
iii) feed (except packaged and labelled pet food) that contains ruminant-derived protein meal;
iv) fertilisers that contain ruminant-derived protein meal;
v) any other commodity that either is or could be contaminated by commodities listed in Article 11.4.15.

b) Exposure assessment

The exposure assessment evaluates the likelihood of bovines being exposed to the classical BSE agent during the preceding eight years, either through imported commodities or as a result of the presence of the classical BSE agent within the indigenous bovine population of the country, zone or compartment.

The first step in the exposure assessment involves an evaluation of livestock industry practices through a consideration of the impact of:

i) Livestock industry practices preventing bovines from being fed ruminant-derived protein meal, taking account of:
   - demographics of the bovine population and production and farming systems;
   - feeding practices, including the use of fertilisers containing ruminant proteins on land for grazing or harvesting forage;
   - slaughtering and waste management practices;
   - rendering practices;
   - feed production, labelling, distribution and storage.

Depending on the outcome from this step, an evaluation of risk mitigation measures specifically targeting BSE may also need to be included through consideration of the impact of:

ii) Specific risk mitigation measures preventing bovines from being fed ruminant-derived protein meal, taking account of:
   - the nature and scope of a feed ban on feeding ruminants with protein meal derived from ruminants;
   - the fate of commodities with the greatest BSE infectivity as listed in point 1 of Article 11.4.15.;
   - parameters of the rendering process;
   - prevention of cross-contamination during rendering, feed production, transport, storage and feeding;
   - an awareness programme under the scope of the feed ban;
   - monitoring and enforcement of the feed ban.

Depending on the outcome of the exposure assessment, a consequence assessment (in point c) below) may not be required.

c) Consequence assessment

The consequence assessment evaluates the likelihood of bovines becoming infected following exposure to the classical BSE agent together with the likely extent and duration of any subsequent recycling and amplification within the bovine population during the preceding eight years. The factors to be considered in the consequence assessment are:

i) age at exposure;
ii) production type;
iii) the impact of bovine industry practices or the implementation of BSE-specific mitigation measures under a feed ban.

d) Risk estimation

The risk estimation combines the results and conclusions arising from the entry, exposure and consequence assessments to provide an overall measure of the risk of the classical BSE agent being recycled within the bovine population.

2) The ongoing implementation of a surveillance programme for BSE in the bovine population in accordance with Article 11.4.20.
3) The history of occurrence and management of cases of BSE and bovines affected by atypical BSE. Determination of the date from which the risk of BSE agents being recycled within the bovine population has been negligible is based on points 1 to 3 above.

Article 11.4.4.

Negligible BSE risk

The BSE risk of a country or zone can be considered to be negligible if all the following conditions for the bovine population are met for at least the preceding eight years:

1) A risk assessment as described in point 1 of Article 11.4.3. has identified all potential risk factors associated with classical BSE and has been conducted, and the Member Country has demonstrated through documented evidence that any identified risk factors have been adequately managed and that the risk of the classical BSE agent being recycled within the bovine population has been negligible as a result of:

   EITHER
   a) livestock industry practices ensuring that protein meal derived from ruminants has not been fed to ruminants;
   OR
   b) effective and continuous mitigation of each identified risk ensuring that protein meal derived from ruminants has not been fed to ruminants.

2) The surveillance provisions as described in Article 11.4.20. have been implemented.

3) EITHER:
   a) there has been no case of BSE or, if there has been a case, each case of BSE has been demonstrated to have been imported;
   OR
   b) if there has been an indigenous case of BSE:
      either:
      i) all cases were born before the date from which the risk of BSE agents being recycled within the bovine population has been negligible;
      or
      ii) where a case was born after that date, subsequent investigations have confirmed that any identified source of infection has been controlled and the risk of BSE agents being recycled within the bovine population has continued to be negligible.

4) Any cases of BSE or any bovines affected by atypical BSE that have been detected have been completely destroyed or disposed of to ensure that they do not enter the feed or food chain.

The country or the zone will be included in the list of countries or zones posing a negligible risk for BSE in accordance with Chapter 1.6. Retention on the list requires annual confirmation of the conditions in points 1 to 4 above. Documented evidence should be resubmitted annually for points 1 to 4 above.

Any changes in the epidemiological situation or other significant events should be notified to WOAH in accordance with Chapter 1.1.

Article 11.4.5.

Controlled BSE risk

The BSE risk of a country or zone can be considered to be controlled provided all of the conditions of Article 11.4.4. are met, but one or more of these conditions has not been met for the preceding eight years.

The country or the zone will be included in the list of countries or zones posing a controlled risk for BSE in accordance with Chapter 1.6. Retention on the list requires annual confirmation of the conditions in points 1 to 4 of Article 11.4.4. Documented evidence should be resubmitted annually for points 1 to 4 of Article 11.4.4.

Any changes in the epidemiological situation or other significant events should be notified to WOAH in accordance with Chapter 1.1.
Article 11.4.6.

Compartment with negligible or controlled BSE risk

The establishment and bilateral recognition of a compartment posing negligible or controlled BSE risk should follow the relevant requirements of this chapter and the principles laid down in Chapters 4.4. and 4.5.

Article 11.4.7.

Undetermined BSE risk

The BSE risk of a country or zone is considered to be undetermined if it cannot be demonstrated that it meets the requirements for negligible or controlled BSE risk.

Article 11.4.8.

Maintenance of BSE risk status

The BSE risk status of a country or zone is not affected by imported cases of BSE or cases of BSE born before the date from which the risk of BSE agents being recycled within the bovine population has been negligible, or by any bovine affected by atypical BSE, as long as managed in accordance with point 4 of Article 11.4.4.

Should an indigenous case of BSE in a bovine born after the date from which the risk of BSE agents being recycled within the bovine population has been negligible occur in a country or zone recognised as posing a negligible or controlled risk for BSE, the status of the country or zone is maintained, provided that documented evidence regarding the outcome of subsequent investigations is submitted to WOAH within 90 days demonstrating that any identified source of infection has been controlled and the risk of BSE agents being recycled within the bovine population has continued to be negligible.

If no documented evidence is provided or if it is not accepted by WOAH, the provisions of Article 11.4.4. or Article 11.4.5. apply.

Article 11.4.9.

Recommendations for importation of bovines from a country, zone or compartment posing a negligible or controlled BSE risk

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) The bovines selected for export are identified through an animal identification system enabling them to be traced throughout their lifetime.

AND EITHER:

2) The bovines selected for export were born and kept in a country, zone or compartment posing a negligible or controlled BSE risk after the date from which the risk of BSE agents being recycled within the bovine population has been demonstrated to be negligible.

OR

3) It is demonstrated that the bovines selected for export have never been fed protein meal derived from ruminants.

Article 11.4.10.

Recommendations for importation of bovines from a country or zone posing an undetermined BSE risk

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) The bovines selected for export are identified through an animal identification system enabling them to be traced throughout their lifetime.

2) It is demonstrated that the bovines selected for export have never been fed protein meal derived from ruminants.
Chapter 11.4. - Bovine spongiform encephalopathy

Article 11.4.11.

Recommendations for importation of fresh meat and meat products from a country, zone or compartment posing a negligible or controlled BSE risk

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the bovine from which the fresh meat and meat products were derived are identified through an animal identification system;

2) they have been subjected to an ante-mortem inspection with favourable results;

3) they were born and kept in:
   a) a country, zone or compartment posing a negligible BSE risk; or
   b) a country, zone or compartment posing a controlled BSE risk after the date from which the risk of the BSE agents being recycled within the bovine population has been demonstrated to be negligible; or
   c) a country, zone or compartment posing a controlled BSE risk before the date from which the risk of the BSE agents being recycled within the bovine population has been demonstrated to be negligible, and the fresh meat and meat products:
      i) were derived from bovines not subjected to a stunning process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate blood with nervous tissue, prior to slaughter; and
      ii) were produced and handled in a manner which ensures that such products do not contain and are not contaminated with the commodities listed in point 1 of Article 11.4.15. or mechanically separated meat from the skull or from the vertebral column of bovines over 30 months of age.

Article 11.4.12.

Recommendations for importation of fresh meat and meat products from a country or zone posing an undetermined BSE risk

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the bovines from which the fresh meat and meat products were derived are identified through an animal identification system;

2) it is demonstrated that the bovines from which the fresh meat and meat products were derived have never been fed protein meal derived from ruminants;

3) the bovines from which the fresh meat and meat products were derived:
   a) were subjected to an ante-mortem inspection with favourable results;
   b) were not subjected to a stunning process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate blood with nervous tissue, prior to slaughter;

4) the fresh meat and meat products were produced and handled in a manner which ensures that such products do not contain and are not contaminated with:
   a) the commodities listed in point 1 of Article 11.4.15.;
   b) mechanically separated meat from the skull or from the vertebral column of bovines over 30 months of age.

Article 11.4.13.

Recommendations for importation of bovine-derived protein meal from a country, zone or compartment posing a negligible BSE risk

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the bovines from which the protein meal was derived were identified through an animal identification system and were born and kept in a country, zone or compartment posing a negligible BSE risk, and

EITHER

1) they were born after the date from which the risk of BSE agents being recycled within the bovine population has been demonstrated to be negligible;
2) the protein meal was processed in accordance with Article 11.4.19.

Article 11.4.14.

Recommendations for importation of blood and blood products derived from bovines (except fetal blood)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

EITHER
1) the blood and blood products were derived from bovines that were identified through an animal identification system and were born and kept in a country, zone or compartment posing a negligible risk, or a country, zone or compartment posing a controlled BSE risk after the date from which the risk of BSE agents being recycled within the bovine population has been demonstrated to be negligible;

OR
2) the blood and blood products were:
   a) collected from bovines not subjected to a stunning process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate the blood with nervous tissue, prior to slaughter; and
   b) collected and processed in a manner that ensures they are not contaminated with nervous tissue.

Article 11.4.15.

Recommendations in relation to the trade of the commodities with the greatest BSE infectivity

Unless covered by other articles in this chapter, the following commodities should not be traded:

1) Distal ileum from bovines of any age; skull, brain, eyes, vertebral column and spinal cord from bovines that were at the time of slaughter over 30 months of age, or any commodity contaminated by them, which originate from a country, zone or compartment posing:
   a) an undetermined BSE risk;
   b) a controlled BSE risk if they are derived from bovines born before the date from which the risk of BSE agents being recycled within the bovine population has been demonstrated to be negligible.

2) Food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, medical devices or any other product containing proteins prepared using commodities listed in point 1 above.

3) Bovine-derived protein meal or any commodities containing such product which originate from a country, zone or compartment posing a controlled or undetermined BSE risk.

Article 11.4.16.

Recommendations for importation of tallow (other than as defined in Article 11.4.2.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the tallow:

1) came from a country, zone or compartment posing a negligible BSE risk; or

2) is derived from bovines which have been subjected to an ante-mortem inspection with favourable results, and has not been prepared using the commodities listed in point 1 of Article 11.4.15.

Article 11.4.17.

Recommendations for importation of tallow derivatives (other than as defined in Article 11.4.2.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the tallow derivatives either:

1) originate from a country, zone or compartment posing a negligible BSE risk; or

2) are derived from tallow that meets the conditions referred to in Article 11.4.16.; or

3) have been produced by hydrolysis, saponification, or transesterification that uses high temperature and pressure.
Chapter 11.4. - Bovine spongiform encephalopathy

Article 11.4.18.

Recommendations for importation of dicalcium phosphate (other than as defined in Article 11.4.2.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the dicalcium phosphate:
1) came from a country, zone or compartment posing a negligible BSE risk; or
2) is a co-product of bone gelatine.

Article 11.4.19.

Procedures for reduction of BSE infectivity in bovine protein meal

The following procedure should be used to reduce the infectivity of any BSE agents that may be present during the production of protein meal containing bovine proteins:
1) the raw material should be reduced to a maximum particle size of 50 mm before heating and the raw material should be heated under saturated steam conditions to a temperature of not less than 133°C for a minimum of 20 minutes at an absolute pressure of 3 bar; or
2) an alternative procedure that has been demonstrated to achieve at least an equivalent level of reduction in BSE infectivity.

Article 11.4.20.

Surveillance

The objective of BSE surveillance is to detect occurrence of BSE within the bovine population.
1) BSE is a progressive, fatal disease of the nervous system of bovines that usually has an insidious onset and that is refractory to treatment. A range of clinical signs that vary in severity and between animals have been described for classical BSE:
   a) progressive behavioural changes that are refractory to treatment such as increased excitability, depression, nervousness, excessive and asymmetrical ear and eye movements, apparent increased salivation, increased licking of the muzzle, teeth grinding, hypersensitivity to touch and/or sound (hyperaesthesia), tremors, excessive vocalisation, panic-stricken response and excessive alertness;
   b) postural and locomotory changes such as abnormal posture (dog sitting), abnormal gait (particularly pelvic limb ataxia), low carriage of the head, head shyness, difficulty avoiding obstacles, inability to stand and recumbency;
   c) generalised non-specific signs such as reduced milk yield, loss of body condition, weight loss, bradycardia and other disturbances of cardiac rhythm.

Some of these signs are also likely to be relevant for atypical BSE, particularly those associated with difficulty in rising and recumbency. A nervous form of atypical BSE resembling classical BSE may be observed with over-reactivity to external stimuli, unexpected startle responses and ataxia. In contrast, a dull form of atypical BSE may be observed, with dullness combined with a low head carriage and compulsive behaviour (licking, chewing, pacing in circles).

The clinical signs of BSE usually progress on a spectrum over a few weeks to several months, but on rare occasions cases can develop acutely and progress rapidly. The final stages of the disease are characterised by recumbency, coma and death.

Since these signs are not pathognomonic for either classical or atypical BSE, all Member Countries with bovine populations are likely to observe individual animals displaying clinical signs suggestive of BSE. General statements about the likely frequency of occurrence of such animals cannot be made as they will vary depending on the epidemiological situation in a particular country.
2) Surveillance for BSE includes all bovines that show signs of the clinical spectrum of BSE.

In production and farming systems that allow bovines to be subjected to regular observation, it is likely that animals that display clinical signs suggestive of BSE will be more readily seen. Behavioural changes, which may be very subtle in the early clinical phase, are best identified by those who handle animals on a daily basis and who can monitor them closely for a progression of the signs. In production and farming systems, where bovines are not monitored as closely, situations may arise where an animal might be considered as a clinical suspect, yet if it has
not been observed for a period of time, it may only be initially seen as unable to rise or walk without assistance or found dead (fallen stock).

The surveillance programme should take into account that the vast majority of cases of BSE arise as single, isolated events. The concurrence of multiple animals with behavioural or neurological signs, or non-ambulatory or fallen stock is most likely associated with other causes.

The animals that lie on the clinical spectrum of BSE should be targeted for BSE surveillance and the following animals should be reported and followed up with appropriate laboratory testing in accordance with the Terrestrial Manual to accurately confirm or rule out the presence of BSE agents, including discrimination between atypical and classical BSE strains:

a) those displaying progressive clinical signs suggestive of BSE mentioned in point 1 that are refractory to treatment, and where the clinical presentation cannot be attributed to other common causes of behavioural or neurological signs (e.g. infectious, metabolic, traumatic, neoplastic or toxic causes);

b) those showing behavioural or neurological signs at ante-mortem inspection at slaughterhouses/abattoirs;

c) those unable to rise or walk without assistance, with an appropriate supporting clinical history (i.e. the clinical presentation cannot be attributed to other common causes of recumbency);

d) those found dead (fallen stock), with an appropriate supporting clinical history (i.e. the clinical presentation cannot be attributed to other common causes of death).

3) The credibility of the surveillance programme is supported by:

a) ongoing awareness and training programmes to ensure that all those stakeholders involved in the rearing and production of livestock, including bovine breeders, owners and keepers, veterinarians, transporters and slaughterhouse/abattoir workers are familiar with the clinical signs suggestive of BSE as well as the statutory reporting requirements;

b) the fact that BSE is a notifiable disease throughout the whole territory;

c) appropriate laboratory testing in accordance with the Terrestrial Manual;

d) robust, documented, evaluation procedures and protocols for:

– the definition of the target population for BSE surveillance,

– the reporting of bovines described in points 2 a) to 2 d),

– the determination of animals to be subjected to laboratory testing,

– the collection and submission of samples for laboratory testing,

– the follow-up epidemiological investigations for BSE positive findings.

CHAPTER 11.5.

INFECTION WITH MYCOPLASMA MYCOIDES
SUBSP. MYCOIDES SC
(CONTAGIOUS BOVINE PLEUROPNEUMONIA)

Article 11.5.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for contagious bovine pleuropneumonia (CBPP) shall be six months.

For the purposes of this chapter, a case of CBPP means an animal infected with Mycoplasma mycoides subspecies mycoides SC (MmmSC), and freedom from CBPP means freedom from MmmSC infection.

For the purposes of this chapter, susceptible animals include bovids (Bos indicus, B. taurus and B. grunniens) and water buffaloes (Bubalus bubalis).

For the purposes of international trade, this chapter deals not only with the occurrence of clinical signs caused by MmmSC, but also with the presence of infection with MmmSC in the absence of clinical signs.

The following defines the occurrence of MmmSC infection:

1) MmmSC has been isolated and identified as such from an animal, semen, oocytes or embryos; or
2) antibodies to MmmSC antigens which are not the consequence of vaccination, or MmmSC deoxyribonucleic acid have been detected in one or more animals showing pathological lesions consistent with infection with MmmSC with or without clinical signs, and epidemiological links to a confirmed outbreak of CBPP in susceptible animals.

When authorising import or transit of the commodities listed in this chapter, with the exception of those listed in Article 11.5.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the CBPP status of the domestic bovids and water buffalo population of the exporting country, zone or compartment.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.5.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any CBPP-related conditions, regardless of the CBPP status of the domestic bovids and water buffalo population of the exporting country, zone or compartment:

1) milk and milk products;
2) hides and skins;
3) meat and meat products (excluding lung).

Article 11.5.3.

CBPP free country or zone

To qualify for inclusion in the existing list of CBPP free countries and zones, a Member Country should:

1) have a record of regular and prompt animal disease reporting;
2) send a declaration to WOAH stating that:
   a) there has been no outbreak of CBPP during the past 24 months;
   b) no evidence of CBPP infection has been found during the past 24 months;
c) no vaccination against CBPP has been carried out during the past 24 months,
and supply documented evidence that surveillance for CBPP in accordance with this chapter is in operation and
that regulatory measures for the prevention and control of CBPP have been implemented;
3) not have imported since the cessation of vaccination any animals vaccinated against CBPP.

The country or zone will be included in the list only after the submitted evidence has been accepted by WOAH. Retention
on the list requires that the information in points 2 a), 2 b), 2 c) and 3 above be re-submitted annually and changes in the
epidemiological situation or other significant events should be reported to WOAH in accordance with the requirements
in Chapter 1.1.

Article 11.5.4.

Recovery of free status

When a CBPP outbreak occurs in a CBPP free country or zone, one of the following waiting periods is required to regain
the status of CBPP free country or zone:
1) 12 months after the last case where a stamping-out policy and serological surveillance and strict movement control
are applied in accordance with this chapter;
2) if vaccination was used, 12 months after the slaughter of the last vaccinated animal.

Where a stamping-out policy is not practised, the above waiting periods do not apply but Article 11.5.3. applies.

Article 11.5.5.

CBPP infected country or zone

When the requirements for acceptance as a CBPP free country or zone are not fulfilled, a country or zone shall be
considered as infected.

Article 11.5.6.

CBPP free compartment

The bilateral recognition of a CBPP free compartment should follow the principles laid down in this chapter and in
Chapters 4.4. and 4.5.

Article 11.5.7.

Recommendations for importation from CBPP free countries or zones, or from CBPP free compartments

For domestic bovids and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the
animals:
1) showed no clinical sign of CBPP on the day of shipment;
2) were kept in a CBPP free country, zone or compartment since birth or for at least the past six months.

Article 11.5.8.

Recommendations for importation from CBPP infected countries or zones

For domestic bovids and water buffaloes for slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the
animals:
1) showed no clinical sign of CBPP on the day of shipment;
2) originate from an establishment where no case of CBPP was officially reported for the past six months; and
3) are transported directly to the slaughterhouse/abattoir in sealed vehicles.
Article 11.5.9.

Recommendations for importation from CBPP free countries or zones, or from CBPP free compartments

For bovine semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the semen;
   b) were kept in a CBPP free country, zone or compartment since birth or for at least the past six months;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 11.5.10.

Recommendations for importation from CBPP infected countries

For bovine semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the semen;
   b) were subjected to the complement fixation test for CBPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to collection;
   c) were isolated from other domestic bovids and water buffaloes from the day of the first complement fixation test until collection;
   d) were kept since birth, or for the past six months, in an establishment where no case of CBPP was reported during that period, and that the establishment was not situated in a CBPP infected zone;
   e) AND EITHER:
      i) have not been vaccinated against CBPP;
      OR
      ii) were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not more than four months prior to collection; in this case, the condition laid down in point b) above is not required;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 11.5.11.

Recommendations for importation from CBPP free countries or zones, or from CBPP free compartments

For in vivo derived or in vitro produced oocytes or embryos of domestic bovids and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the oocytes or embryos;
   b) were kept in a CBPP free country, zone or compartment since birth or for at least the past six months;

2) the oocytes were fertilised with semen meeting the conditions of Article 11.5.9;

3) the oocytes or embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.
Chapter 11.5. - Infection with Mycoplasma mycoides subsp. mycoides SC

Article 11.5.12.

Recommendations for importation from CBPP infected countries
For in vivo derived or in vitro produced oocytes or embryos of domestic bovids and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the oocytes or embryos;
   b) were subjected to the complement fixation test for CBPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to collection;
   c) were isolated from other domestic bovids and water buffaloes from the day of the first complement fixation test until collection;
   d) were kept since birth, or for the past six months, in an establishment where no case of CBPP was reported during that period, and that the establishment was not situated in a CBPP infected zone;
   e) AND EITHER:
      i) have not been vaccinated against CBPP;
      OR
      ii) were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not more than four months prior to collection; in this case, the condition laid down in point b) above is not required;

2) the oocytes were fertilised with semen meeting the conditions of Article 11.5.10.;

3) the oocytes or embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

Article 11.5.13.

Introduction to surveillance

Articles 11.5.13. to 11.5.17. define the principles and provide a guide for the surveillance of CBPP in accordance with Chapter 1.4. applicable to Member Countries seeking establishment of freedom from CBPP. Guidance is provided for Member Countries seeking reestablishment of freedom from CBPP for the entire country or for a zone, following an outbreak and for the maintenance of CBPP free status.

The impact and epidemiology of CBPP differ widely in different regions of the world and therefore it is impossible to provide specific recommendations for all situations. Surveillance strategies employed for demonstrating freedom from CBPP at an acceptable level of confidence should be adapted to the local situation. It is incumbent upon the applicant Member Country to submit a dossier to WOAH in support of its application that not only explains the epidemiology of CBPP in the region concerned but also demonstrates how all the risk factors are managed. This should include provision of scientifically-based supporting data. There is therefore considerable latitude available to Member Countries to provide a well-reasoned argument to prove that the absence of CBPP infection is assured at an acceptable level of confidence.

Surveillance for CBPP should be in the form of a continuing programme designed to establish that the whole territory or part of it is free from CBPP infection.

Article 11.5.14.

General conditions and methods for surveillance

1) A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples from suspect cases of CBPP to a laboratory for CBPP diagnoses.

2) The CBPP surveillance programme should:
   a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers (such as community animal health workers) who have day-to-day contact with livestock, meat inspectors as well as laboratory diagnosticians, should report promptly any suspicion of CBPP. They should be integrated directly or indirectly (e.g. through private veterinarians or veterinary paraprofessionals) into the surveillance system. All suspect cases of CBPP should be investigated.
immediately. Where suspicion cannot be resolved by epidemiological and clinical investigation, samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment are available for those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in CBPP diagnosis and control;

b) implement, when relevant, regular and frequent clinical inspection and testing of high-risk groups of animals, such as those adjacent to a CBPP infected country or zone (for example, areas of transhumant production systems);

c) take into consideration additional factors such as animal movement, different production systems, geographical and socio-economic factors that may influence the risk of disease occurrence.

An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is CBPP. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from CBPP infection should, in consequence, provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).

Article 11.5.15.

Surveillance strategies

1. Introduction

The target population for surveillance aimed at identifying disease and infection should cover all the susceptible species (Bos taurus, B. indicus, B. grunniens and Bubalus bubalis) within the country or zone.

Given the limitations of the diagnostic tools available, the interpretation of surveillance results should be at the herd level rather than at the individual animal level.

Randomised surveillance may not be the preferred approach given the epidemiology of the disease (usually uneven distribution and potential for occult foci of infection in small populations) and the limited sensitivity and specificity of currently available tests. Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species, focusing on slaughter findings, and active clinical surveillance) may be the most appropriate strategy. The applicant Member Country should justify the surveillance strategy chosen as adequate to detect the presence of CBPP infection in accordance with Chapter 1.4. and the epidemiological situation.

Targeted surveillance may involve testing of the entire target subpopulation or a sample from it. In the latter case the sampling strategy should incorporate an epidemiologically appropriate design prevalence. The sample size selected for testing should be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The applicant Member Country should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular should be clearly based on the prevailing or historical epidemiological situation.

Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated.

Irrespective of the surveillance system employed, the design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following-up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve follow-up with supplementary tests, clinical investigation and post-mortem examination in the original sampling unit as well as herds which may be epidemiologically linked to it.

2. Clinical surveillance

Clinical surveillance aims at detecting clinical signs of CBPP in a herd by close physical examination of susceptible animals. Clinical inspection is an important component of CBPP surveillance contributing to reach the desired level of confidence of detection of disease if a sufficiently large number of clinically susceptible animals is examined.

Clinical surveillance and laboratory testing should always be applied in series to clarify the status of CBPP suspects detected by either of these complementary diagnostic approaches. Laboratory testing and post-mortem examination may contribute to confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive serology. Any sampling unit within which suspicious animals are detected should be classified as infected until contrary evidence is produced.
Chapter 11.5. - Infection with Mycoplasma mycoides subsp. mycoides SC

3. Pathological surveillance

Systematic pathological surveillance for CBPP is the most effective approach and should be conducted at slaughterhouses/abattoirs and other slaughter facilities. Suspect pathological findings should be confirmed by agent identification. Training courses for slaughter personnel and meat inspectors are recommended.

4. Serological testing

Serological surveillance is not the preferred strategy for CBPP. However, in the framework of epidemiological investigations, serological testing may be used.

The limitations of available serological tests for CBPP make the interpretation of results difficult and useful only at the herd level. Positive findings should be followed up by clinical and pathological investigations and agent identification.

Clustering of seropositive reactions should be expected in CBPP infections and is usually accompanied by clinical signs. As clustering may signal field strain infection, the investigation of all instances should be incorporated in the surveillance strategy.

Following the identification of a CBPP infected herd, contact herds should be tested serologically. Repeated testing may be necessary to reach an acceptable level of confidence in herd classification.

5. Agent surveillance

Agent surveillance should be conducted to follow up and confirm or exclude suspect cases. Isolates should be typed to confirm MmmSC.

Article 11.5.16.

Countries or zones applying for recognition of freedom from CBPP

In addition to the general conditions described in this chapter, a Member Country applying for recognition of CBPP freedom for the country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme depend on the prevailing epidemiological circumstances and should be planned and implemented in accordance with general conditions and methods in this chapter, to demonstrate absence of CBPP infection, during the preceding 24 months in susceptible populations. This requires the support of a national or other laboratory able to undertake identification of CBPP infection.

Article 11.5.17.

Countries or zones re-applying for recognition of freedom from CBPP following an outbreak

In addition to the general conditions described in this chapter, a Member Country re-applying for recognition of country or zone freedom from CBPP should show evidence of an active surveillance programme for CBPP, following the recommendations of this chapter.

Two strategies are recognised by WOAH in a programme to eradicate CBPP infection following an outbreak:
1) slaughter of all clinically affected and in-contact susceptible animals;
2) vaccination used without subsequent slaughter of vaccinated animals.

The time periods before which an application can be made for re-instatement of freedom from CBPP depends on which of these alternatives is followed. The time periods are prescribed in Article 11.5.4.

Article 11.5.18.

WOAH endorsed official control programme for CBPP

The overall objective of a WOAH endorsed official control programme for CBPP is for Member Countries to progressively improve their situation and eventually attain CBPP free status. The official control programme should be applicable to the entire country even if certain measures are directed towards defined subpopulations.

Member Countries may, on a voluntary basis, apply for endorsement of their official control programme for CBPP when they have implemented measures in accordance with this article.
For an official control programme for CBPP to be endorsed by WOAH, the Member Country should:

1) have a record of regular and prompt animal disease reporting in accordance with the requirements in Chapter 1.1;

2) submit documented evidence of the capacity of Veterinary Services to control CBPP; this evidence can be provided by countries following the PVS Pathway;

3) submit a detailed plan of the programme to control and eventually eradicate CBPP in the country or zone including:
   a) the timeline;
   b) the performance indicators for assessing the efficacy of the control measures to be implemented;
   c) submit documentation indicating that the official control programme for CBPP has been implemented and is applicable to the entire territory;

4) submit a dossier on the epidemiology of CBPP in the country describing the following:
   a) the general epidemiology in the country highlighting the current knowledge and gaps;
   b) the measures to prevent introduction of infection, the rapid detection of, and response to, all CBPP outbreaks in order to reduce the incidence of CBPP outbreaks and to eliminate CBPP in at least one zone in the country;
   c) the main livestock production systems and movement patterns of CBPP susceptible animals and their products within and into the country;

5) submit evidence that CBPP surveillance is in place,
   a) taking into account provisions in Chapter 1.4. and the provisions on surveillance of this chapter;
   b) have diagnostic capability and procedures, including regular submission of samples to a laboratory that carries out diagnosis and further characterisation of strains in accordance with the Terrestrial Manual including procedures to isolate and identify M. mycoides subsp. mycoides SC as opposed to M. mycoides subsp. mycoides LC;

6) where vaccination is practised as a part of the official control programme for CBPP, provide:
   a) evidence (such as copies of legislation) that vaccination of selected populations is compulsory;
   b) detailed information on vaccination campaigns, in particular on:
      i) target populations for vaccination;
      ii) monitoring of vaccination coverage;
      iii) technical specification of the vaccines used and description of the licensing procedures in place;
      iv) the proposed timeline and strategy for the cessation of vaccination;

7) provide an emergency preparedness and contingency response plan to be implemented in case of CBPP outbreaks.

The Member Country's official control programme for CBPP will be included in the list of programmes endorsed by WOAH only after the submitted evidence has been accepted by WOAH. Retention on the list requires an annual update on the progress of the official control programme and information on significant changes concerning the points above. Changes in the epidemiological situation and other significant events should be reported to WOAH in accordance with the requirements in Chapter 1.1.

WOAH may withdraw the endorsement of the official control programme if there is evidence of:

- non-compliance with the timelines or performance indicators of the programme; or
- significant problems with the performance of the Veterinary Services; or
- an increase in the incidence of CBPP that cannot be addressed by the programme.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2014.
CHAPTER 11.6.

ENZOOTIC BOVINE LEUKOSIS

Article 11.6.1.

General provisions

For the purposes of this chapter, susceptible animals include cattle (Bos indicus and B. taurus).

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.6.2.

EBL free country or zone

1. Qualification

To qualify as free from enzootic bovine leukosis (EBL), a country or zone should satisfy the following requirements for at least three years:

a) all tumours, suspected to be lymphosarcoma, are reported to the Veterinary Authority, and are examined at a laboratory by appropriate diagnostic techniques;

b) all cattle with tumours in which EBL has been confirmed or cannot be ruled out are traced back to the herds in which they have been kept since birth; all cattle over 24 months of age in these herds are subjected to an individual diagnostic test for EBL;

c) at least 99.8% of the herds are qualified as EBL free.

2. Maintenance of free status

For a country or zone to maintain its EBL free status:

a) a serological survey should be carried out annually on a random sample of the cattle population of the country or zone sufficient to provide a 99% level of confidence of detecting EBL if it is present at a prevalence rate exceeding 0.2% of the herds;

b) all imported cattle (except for slaughter) comply with Article 11.6.5.;

c) all imported bovine semen and oocytes or embryos fulfil the requirements referred to in Article 11.6.6. and in Article 11.6.7., respectively.

Article 11.6.3.

EBL free compartment

1. Qualification

To qualify as free from EBL, a compartment should satisfy the following requirements.

All herds in the compartment have satisfied the requirements of Article 11.6.4., and:

a) all cattle introduced into the compartment come from a free herd;

b) all bovine semen and oocytes or embryos introduced into the compartment after the first test have fulfilled the conditions referred to in Article 11.6.6. and in Article 11.6.7., respectively;

c) the compartment is managed under a common biosecurity plan complying with Chapters 4.4. and 4.5., which protects the cattle from contact with EBL virus, which might occur from introduction of infected cattle, cattle products or material and through practices such as vaccinations and other injections, collection of blood and other biological samples, dehorning, ear-tagging, pregnancy diagnosis, etc.;

d) the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.4. and 4.5.
2. Maintenance of free status
   For a compartment to maintain its EBL free status, all herds in the compartment should remain free in accordance with Article 11.6.4. and specific surveillance implemented in accordance with Article 4.5.5. has not detected the agent.

3. Revocation and re-approval of free status
   If in an EBL free compartment any cattle react positively to a diagnostic test for EBL as described in the Terrestrial Manual, the status of the compartment shall be revoked until all herds have recovered their free status in accordance with Article 11.6.4. and the compartment has been re-approved in accordance with Chapters 4.4. and 4.5.

Article 11.6.4.

EBL free herd

1. Qualification
   To qualify as free from EBL, a herd should satisfy the following requirements:
   a) there has been no evidence of EBL either clinical, post-mortem, or as a result of a diagnostic test for EBL within the previous two years;
   b) all cattle over 24 months of age have been subjected to a diagnostic test for EBL on two occasions with negative results, at an interval of not less than 4 months during the preceding 12 months;
   c) cattle introduced into the herd after the first test have fulfilled the conditions of Article 11.6.5.;
   d) all bovine semen and oocytes or embryos introduced into the herd after the first test have fulfilled the conditions referred to in Article 11.6.6. and in Article 11.6.7., respectively.

2. Maintenance of free status
   For a herd to maintain its EBL free status, the cattle in the herd over 24 months of age on the day of sampling should be subjected to a diagnostic test for EBL with negative results at intervals of no more than 36 months and the conditions referred to in points 1 a), 1 c) and 1 d) above continue to be fulfilled.

3. Suspension and restoration of free status
   If in an EBL free herd any cattle react positively to a diagnostic test for EBL as described in the Terrestrial Manual, the status of the herd shall be suspended until the following measures have been taken:
   a) the cattle which have reacted positively, and their progeny since the last negative test, should be removed from the herd immediately; however, any cattle within the progeny which has been subjected to a PCR test with negative results (under study) may be retained in the herd;
   b) the remaining cattle should have been subjected to a diagnostic test for EBL carried out as described in point 1 b) above with negative results at least four months after removal of the positive cattle and their progeny.

Article 11.6.5.

Recommendations for the importation of cattle for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the cattle:
1) come from a country, zone or compartment free from EBL; or
2) come from an EBL free herd; or
3) meet the following three conditions:
   a) the cattle were kept in a herd in which:
      i) there has been no evidence of EBL either clinical, post-mortem, or as a result of a diagnostic test for EBL within the previous two years;
      ii) all cattle over 24 months of age have been subjected to a diagnostic test for EBL on a blood sample on two occasions with negative results during the preceding 12 months, at an interval of at least 4 months, or were tested on two occasions while segregated from the herd in an isolation unit approved by the Veterinary Authority at an interval of at least 4 months;
b) the cattle were subjected to a diagnostic test for EBL within 30 days prior to shipment with negative results;
c) if less than two years of age, the cattle come from ‘uterine’ dams which have been subjected to a diagnostic
test for EBL on a blood sample on two occasions at intervals of at least 4 months within the preceding
12 months, with negative results.

**Article 11.6.6.**

**Recommendations for the importation of bovine semen**

*Veterinary Authorities of importing countries* should require the presentation of an international veterinary certificate
attesting that:
1) the donor bull was resident at the time of semen collection in an EBL free herd; and
2) if less than two years of age, the bull came from a serologically negative ‘uterine’ dam; or
3) the bull was subjected to diagnostic tests for EBL on blood samples on two occasions with negative results, the first
test being carried out at least 30 days before and the second test at least 90 days after collection of the semen;
4) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

**Article 11.6.7.**

**Recommendations for the importation of bovine oocytes or embryos**

*Veterinary Authorities of importing countries* should require the presentation of an international veterinary certificate
attesting that the oocytes or embryos have been collected, processed and stored in accordance with Chapters 4.8.,
4.9. and 4.10., as relevant.

---

*NB: FIRST ADOPTED IN 1971; MOST RECENT UPDATE ADOPTED IN 1998.*
CHAPTER 11.7.

HAEMORRHAGIC SEPTICAEMIA
(PASTEURELLA MULTOCIDA SEROTYPES 6:B AND 6:E)

Article 11.7.1.

General provisions

For the purposes of the Terrestrial Code, haemorrhagic septicaemia (HS) is defined as a highly fatal disease in cattle and buffaloes caused by specific serotypes of Pasteurella multocida designated as 6:B and 6:E. The incubation period for the disease shall be 90 days (active and latent carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.7.2.

HS free country

A country may be considered free from HS when:
1) the disease is notifiable in the country;
2) no case of HS has occurred during the past three years.

This period shall be six months after the slaughter of the last affected animal for countries in which a stamping-out policy is practised with or without vaccination against HS.

Article 11.7.3.

HS free zone

A zone may be considered free from the disease if it can be established that HS has not been present for at least the past three years and if the following conditions are met:
1) the disease is notifiable in the whole country;
2) the zone shall be delineated by natural or artificial barriers;
3) the introduction of animals into the zone shall be carried out in accordance with Article 11.7.6. or Article 11.7.7.

Article 11.7.4.

HS infected zone

A zone shall be considered as infected with HS until at least six months have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures.

Article 11.7.5.

Trade in commodities

Veterinary Authorities of HS free countries may prohibit importation or transit through their territory, from countries considered infected with HS, of cattle and buffaloes.
Article 11.7.6.

Recommendations for importation from HS free countries or zones

For cattle and buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of HS on the day of shipment; and
2) were kept in a country or zone free from HS since birth or for at least six months.

Article 11.7.7.

Recommendations for importation from countries considered infected with HS

For cattle and buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of HS on the day of shipment; and
2) were kept in a quarantine station for three months prior to shipment; and
3) were examined for the presence of the pathogenic agent in the naso-pharynx in accordance with the procedures described in the Terrestrial Manual, on four occasions, at weekly intervals during the last month in quarantine with negative results; and
4) were vaccinated not less than 30 days prior to shipment (under study); or
5) showed a positive reaction to the passive mouse protection test (under study) conducted during pre-shipment quarantine.

CHAPTER 11.8.

INFECTIOUS BOVINE RHINOTRACHEITIS/
INFECTIOUS PUSTULAR VULVOVAGINITIS

Article 11.8.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for infectious bovine rhinotracheitis/infectious pustular vulvo vaginitis (IBR/IPV) shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.8.2.

Country or zone free from IBR/IPV

1. Qualification
   To qualify as free from IBR/IPV, a country or zone should satisfy the following requirements:
   a) the disease or suspicion of the disease is notifiable;
   b) no animal has been vaccinated against IBR/IPV for at least three years;
   c) at least 99.8% of the herds are qualified as free from IBR/IPV.

2. Maintenance of free status
   For a country or zone to maintain its status free from IBR/IPV:
   a) a serological survey should be carried out annually on a random sample of the cattle population of the country or zone sufficient to provide a 99% level of confidence of detecting IBR/IPV if it is present at a prevalence rate exceeding 0.2% of the herds;
   b) all imported bovines comply with Article 11.8.4.;
   c) all imported bovine semen and oocytes or embryos fulfil the requirements referred to in Article 11.8.6. or Article 11.8.7., and in Article 11.8.8., respectively.

Article 11.8.3.

Herd free from IBR/IPV

1. Qualification
   To qualify as free from IBR/IPV, a herd of cattle should satisfy the following requirements:
   a) all the animals in the herd have been subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 2 months and not more than 12 months; or
   b) if the herd contains only dairy cattle of which at least a quarter are lactating cows, each of the latter has been subjected to a diagnostic test on individual milk samples carried out on three occasions at intervals of two months with negative results;
   c) animals introduced into the herd after the first tests referred to in point a) or point b) as relevant have been:
      i) kept in an IBR/IPV free herd; or
      ii) placed in isolation for a period of 30 days, and during this period have been subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 21 days;
   d) all bovine semen and oocytes or embryos introduced into the herd after the first tests referred to in point a) or point b) as relevant have fulfilled the conditions provided in Article 11.8.6. or Article 11.8.7. and in Article 11.8.8., respectively.
2. Maintenance of free status

For a herd to maintain its status free from IBR/IPV, it should be subjected to the following tests with negative results:

EITHER

a) diagnostic tests for IBR/IPV on blood samples for all the animals repeated at maximum intervals of 12 months; in herds composed entirely of fattening animals, blood sampling may be limited to animals sent for slaughter;

OR

b) diagnostic tests on individual milk samples from all lactating cows repeated at intervals of six months; Veterinary Authorities applying an IBR/IPV eradication programme may extend these intervals (under study) if more than 98% of herds have been free from the disease for at least three years; and

c) diagnostic tests on blood samples for IBR/IPV of all breeding bulls repeated at maximum intervals of 12 months;

AND

d) diagnostic tests on blood samples for IBR/IPV of all cattle having aborted after more than three months of gestation.

Animals introduced into the herd should satisfy the conditions provided in point 1 c) above, and semen and oocytes or embryos used in the herd should satisfy the conditions provided in Article 11.8.6. or Article 11.8.7. and in Article 11.8.8., respectively.

Article 11.8.4.

Recommendations for the importation of cattle destined for herds free from IBR/IPV

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of IBR/IPV on the day of shipment;
2) come from an IBR/IPV free herd; or
3) were kept in a quarantine station for the 30 days prior to shipment and were subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 21 days.

Article 11.8.5.

Recommendations for the importation of cattle intended for herds not qualified as free from IBR/IPV

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of IBR/IPV on the day of shipment;
2) were vaccinated with an inactivated virus vaccine not less than one month and not more than six months prior to shipment.

Article 11.8.6.

Recommendations for the importation of fresh semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor animals were kept in an IBR/IPV free herd at the time of collection of the semen;
2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.
Article 11.8.7.  
Recommendations for the importation of frozen semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor animals were kept in an IBR/IPV free herd at the time of collection of the semen; or

2) the donor animals were held in isolation during the period of collection and for the 30 days following collection and were subjected to a diagnostic test for IBR/IPV on a blood sample taken at least 21 days after collection of the semen, with negative results; or

3) if the serological status of the bull is unknown or if the bull is serologically positive, an aliquot of each semen collection was subjected to a virus isolation test or PCR, performed in accordance with the Terrestrial Manual, with negative results; and

4) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 11.8.8.  
Recommendations for the importation of oocytes or embryos

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the oocytes or embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 1998.
CHAPTER 11.9.

INFECTION WITH LUMPY SKIN DISEASE VIRUS

Article 11.9.1. General provisions

Lumpy skin disease (LSD) susceptible animals are bovines (Bos indicus and B. taurus) and water buffaloes (Bubalus bubalis) and certain wild ruminants.

For the purposes of the Terrestrial Code, LSD is defined as an infection of bovines and water buffaloes with lumpy skin disease virus (LSDV).

The following defines the occurrence of infection with LSDV:
1) LSDV has been isolated from a sample from a bovine or a water buffalo; or
2) antigen or nucleic acid specific to LSDV, excluding vaccine strains, has been identified in a sample from a bovine or a water buffalo showing clinical signs consistent with LSD, or epidemiologically linked to a suspected or confirmed case, or giving cause for suspicion of previous association or contact with LSDV; or
3) antibodies specific to LSDV have been detected in a sample from a bovine or a water buffalo that either shows clinical signs consistent with LSD, or is epidemiologically linked to a suspected or confirmed case.

For the purposes of the Terrestrial Code, the incubation period for LSD shall be 28 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.9.2. Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any LSD-related conditions regardless of the status of the animal population of the exporting country:
1) skeletal muscle meat;
2) casings;
3) gelatine and collagen;
4) tallow;
5) hooves and horns.

Article 11.9.3. Country or zone free from LSD

A country or a zone may be considered free from LSD when infection with LSDV is notifiable in the entire country, importation of bovines and water buffaloes and their commodities is carried out in accordance with this chapter, and either:
1) the country or zone is historically free as described in Article 1.4.6.; or
2) for at least three years, vaccination has been prohibited in the country or zone and a clinical surveillance programme in accordance with Article 11.9.15. has demonstrated no occurrence of infection with LSDV; or
3) for at least two years, vaccination has been prohibited in the country or zone and a clinical, virological and serological surveillance programme in accordance with Article 11.9.15. has demonstrated no occurrence of infection with LSDV.

A country or zone free from LSD that is adjacent to an infected country or zone should include a zone in which surveillance is conducted in accordance with Article 11.9.15.
A country or zone free from LSD will not lose its status as a result of introduction of seropositive or vaccinated bovines or water buffaloes or their commodities, provided they were introduced in accordance with this chapter.

**Article 11.9.4.**

**Recovery of free status**

1) When a case of LSD occurs in a country or zone previously free from LSD, one of the following waiting periods is applicable to regain free status:
   a) when a stamping-out policy has been applied;
      i) 14 months after the slaughter or killing of the last case, or after the last vaccination if emergency vaccination has been used, whichever occurred last, and during which period clinical, virological and serological surveillance conducted in accordance with Article 11.9.15. has demonstrated no occurrence of infection with LSDV;
      ii) 26 months after the slaughter or killing of the last case, or after the last vaccination if emergency vaccination has been used, whichever occurred last, and during which period clinical surveillance alone conducted in accordance with Article 11.9.15. has demonstrated no occurrence of infection with LSDV;
   b) when a stamping-out policy is not applied, Article 11.9.3. applies.

2) When preventive vaccination is conducted in a country or zone free from LSD, in response to a threat but without the occurrence of a case of LSD, free status may be regained eight months after the last vaccination when clinical, virological and serological surveillance conducted in accordance with Article 11.9.15. has demonstrated no occurrence of infection with LSDV.

**Article 11.9.5.**

**Recommendations for importation from countries or zones free from LSD**

For bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of LSD on the day of shipment;
2) come from a country or zone free from LSD.

**Article 11.9.6.**

**Recommendations for importation from countries or zones not free from LSD**

For bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of LSD on the day of shipment;
2) were kept since birth, or for the past 60 days prior to shipment, in an epidemiological unit where no case of LSD occurred during that period;
3) were vaccinated against LSD according to manufacturer's instructions between 60 days and one year prior to shipment;
4) were demonstrated to have antibodies at least 30 days after vaccination;
5) were kept in a quarantine station for the 28 days prior to shipment during which time they were subjected to an agent identification test with negative results.
Article 11.9.7.

**Recommendations for importation from countries or zones free from LSD**

**For semen of bovines and water buffaloes**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals:
   a) showed no clinical sign of LSD on the day of collection;
   b) were kept in a free country or zone for at least 28 days prior to collection;

2. the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 11.9.8.

**Recommendations for importation from countries or zones not free from LSD**

**For semen of bovines and water buffaloes**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor males:
   a) showed no clinical sign of LSD on the day of collection and the following 28 days;
   b) were kept for the 60 days prior to collection in an *artificial insemination centre* where no case of LSD occurred during that period;
   c) EITHER:
      i) were vaccinated regularly against LSD according to manufacturer's instructions, the first *vaccination* being administrated at least 60 days prior to the first semen collection; and
      ii) were demonstrated to have antibodies against LSDV at least 30 days after *vaccination*;
      OR
      iii) were subjected to a serological test to detect antibodies specific to LSDV, with negative results, at least every 28 days throughout the collection period and one test 21 days after the final collection for this consignment; and
      iv) were subjected to agent detection by PCR conducted on blood samples collected at commencement and conclusion of, and at least every 28 days during, semen collection for this consignment, with negative results;

2. the semen to be exported was subjected to agent detection by PCR;

3. the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 11.9.9.

**Recommendations for importation from countries or zones free from LSD**

**For embryos of bovines and water buffaloes**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females:
   a) showed no clinical sign of LSD on the day of collection of the embryos;
   b) kept for at least 28 days prior to collection in a free country or zone;

2. the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant;

3. the semen used for the production of the embryos complied with Articles 11.9.7. and 11.9.8., as relevant.
Article 11.9.10.

Recommendations for importation from countries or zones not free from LSD

For embryos of bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) showed no clinical sign of LSD on the day of collection and the following 28 days;
   b) were kept in an establishment where no case of LSD occurred during the 60 days prior to collection;
   c) EITHER:
      i) were vaccinated regularly against LSD according to manufacturer’s instructions, the first vaccination being administrated at least 60 days prior to the first collection; and
      ii) were demonstrated to have antibodies against LSDV at least 30 days after vaccination;
      OR
      iii) were subjected to a serological test to detect antibodies specific to LSDV, with negative results, on the day of collection and at least 21 days after collection;
   d) were subjected to agent detection by PCR with negative results on a blood sample on the day of collection;

2) the semen used for the production of the embryos complied with Articles 11.9.7. and 11.9.8., as relevant;

3) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10.

Article 11.9.11.

Recommendations for the importation of milk and milk products

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the milk or the milk products:

1) have been derived from animals in a country or zone free from LSD;

OR

2) were subjected to pasteurisation or any combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.

Article 11.9.12.

Recommendations for importation of meal and flour from blood, meat other than skeletal muscle, or bones from bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting:

1) that these products were derived from animals in a country or zone free from LSD; or

2) that
   a) the products were processed using heat treatment to a minimum internal temperature of 65°C for at least 30 minutes;
   b) the necessary precautions were taken after processing to avoid contact of the commodities with any potential source of LSDV.

Article 11.9.13.

Recommendations for importation of hides of bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these products were derived from animals that had been kept in a country or zone free from LSD since birth or for at least the past 28 days;
OR

2) these products were:
   a) derived from animals which had undergone ante- and post-mortem inspections in accordance with Chapter 6.3. with favourable results; and
   b) dry-salted or wet-salted for a period of at least 14 days prior to dispatch; or
   c) treated for a period of at least seven days in salt (NaCl) with the addition of 2% sodium carbonate (Na₂CO₃); or
   d) dried for a period of at least 42 days at a temperature of at least 20°C; and

3) the necessary precautions were taken after processing to avoid contact of the commodities with any potential source of LSDV.


Recommendations for importation of other products of animal origin from bovines and water buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) these products were derived from animals that have been kept in a country or zone free from LSD since birth or for at least the past 28 days; or

2) these products were processed to ensure the destruction of the LSDV and the necessary precautions were taken after processing to avoid contact of the commodities with any potential source of LSDV.

Article 11.9.15.

Surveillance

1. General principles of surveillance

   A Member Country should justify the surveillance strategy chosen as being adequate to detect the presence of infection with LSDV even in the absence of clinical signs, given the prevailing epidemiological situation in accordance with Chapter 1.4. and Chapter 1.5. and under the responsibility of the Veterinary Authority.

   The Veterinary Services should implement programmes to raise awareness among farmers and workers who have day-to-day contact with livestock, as well as veterinary paraprofessionals, veterinarians and diagnosticians, who should report promptly any suspicion of LSD.

   In particular Member Countries should have in place:
   a) a formal and ongoing system for detecting and investigating cases;
   b) a procedure for the rapid collection and transport of samples from suspected cases to a laboratory for diagnosis;
   c) a system for recording, managing and analysing diagnostic and surveillance data.

2. Clinical surveillance

   Clinical surveillance is essential for detecting cases of infection with LSDV and requires the physical examination of susceptible animals.

   Surveillance based on clinical inspection provides a high level of confidence of detection of disease if a sufficient number of clinically susceptible animals is examined regularly at an appropriate frequency and investigations are recorded and quantified. Clinical examination and laboratory testing should be pre-planned and applied using appropriate types of samples to clarify the status of suspected cases.

3. Virological and serological surveillance

   An active programme of surveillance of susceptible populations to detect evidence of infection with LSDV is useful to establish the status of a country or zone. Serological and molecular testing of bovines and water buffaloes may be used to detect presence of infection with LSDV in naturally infected animals.

   The study population used for a serological survey should be representative of the population at risk in the country or zone and should be restricted to susceptible unvaccinated animals. Identification of vaccinated animals may minimise interference with serological surveillance and assist with recovery of free status.

4. Surveillance in high-risk areas

   Disease-specific enhanced surveillance in a free country or zone should be carried out over an appropriate distance from the border with an infected country or zone, based upon geography, climate, history of infection and
other relevant factors. The surveillance should be carried out over a distance of at least 20 kilometres from the border with that country or zone, but a lesser distance could be acceptable if there are relevant ecological or geographical features likely to interrupt the transmission of LSDV. A country or zone free from LSD may be protected from an adjacent infected country or zone by a protection zone.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2018.
CHAPTER 11.10.

INFECTION WITH THEILERIA ANNULATA, T. ORIENTALIS AND T. PARVA

Article 11.10.1.

General provisions

Theileriosis is a disease of bovines (Bos indicus, B. taurus and B. grunniens), water buffaloes (Bubalus bubalis), African buffaloes (Syncerus caffer), sheep (Ovis aries), goats (Capra hircus), camels (Camelus dromedarius and C. bactrianus) and some wild ruminants.

Theileriosis can give rise to disease of variable severity and the pathogenic agent may persist in ruminants for their lifetime. Such animals are considered carriers.

Only bovines and water buffaloes play a significant epidemiological role in the infection with Theileria annulata, T. orientalis and T. parva.

For the purposes of the Terrestrial Code, infection with Theileria annulata, T. orientalis and T. parva is defined as a tickborne infection of bovines and water buffaloes with T. annulata, T. orientalis Ikeda, T. orientalis Chitose or T. parva.

For the purposes of this chapter, Theileria means T. annulata, T. orientalis Ikeda, T. orientalis Chitose and T. parva.

The following defines the occurrence of infection with Theileria:

1) Theileria has been identified in a sample from a bovine or water buffalo; or
2) antigen or nucleic acid specific to Theileria has been identified in a sample from a bovine or water buffalo showing clinical signs consistent with infection with Theileria, or epidemiologically linked to a suspected or confirmed case, or giving cause for suspicion of previous association with Theileria; or
3) antibodies specific to Theileria, that are not the consequence of vaccination, have been detected in a sample from a bovine or water buffalo showing clinical signs consistent with infection with Theileria, or epidemiologically linked to a suspected or confirmed case or giving cause for suspicion of previous association with Theileria.

For the purposes of the Terrestrial Code, the incubation period for infection with Theileria shall be 35 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.10.2.

Safe commodities

When authorising the importation or transit of the following commodities, Veterinary Authorities should not require any Theileria-related conditions regardless of the health status of the animal population of the exporting country or zone:

1) meat and meat products;
2) casings;
3) milk and milk products;
4) gelatine and collagen;
5) tallow;
6) semen and embryos;
7) hooves and horns;
8) bones.
Article 11.10.3.

Country or zone free from infection with *Theileria*

1) A country or a zone may be considered free from infection with *Theileria* when the disease is notifiable in the entire country, importation of bovines and water buffaloes and their commodities is carried out in accordance with this chapter, and:

   a) the country or zone is historically free as described in Article 1.4.6.; or

   b) a surveillance programme in accordance with Chapter 1.4. has demonstrated no evidence of infection with *Theileria* in the country or zone for at least two years; or

   c) an ongoing surveillance programme in accordance with Chapter 1.5. has found no competent tick vectors for at least two years in the country or zone.

2) A country or zone free from infection with *Theileria* in which ongoing vector surveillance, performed in accordance with Chapter 1.5., has found no competent tick vectors will not lose its free status through the introduction of vaccinated, test-positive or infected bovines or water buffaloes from infected countries or zones.

3) A country or zone free from infection with *Theileria* will not lose its status as a result of introduction of seropositive or vaccinated bovines, water buffaloes or their commodities, provided they were introduced in accordance with this chapter.

Article 11.10.4.

Recommendations for importation of bovines and water buffaloes from countries or zones free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of infection with *Theileria* on the day of shipment;

2) come from a country or zone free from infection with *Theileria*.

Article 11.10.5.

Recommendations for importation of bovines and water buffaloes from countries or zones not free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of infection with *Theileria* and no infestation with tick vectors on the day of shipment;

2) were kept isolated for at least 35 days prior to shipment, in an establishment where no case of infection with *Theileria* has occurred during the preceding two years;

3) were treated with a registered acaricide, the efficacy of which has been confirmed in relation to the area of origin of the animals, at the time of entry to the isolation establishment and then at regular intervals, according to the manufacturer’s instructions, allowing continuous protection against ticks until their shipment;

4) were subjected to serological and agent detection tests with negative results on samples taken immediately prior to entry and at least 25 days after entry to the isolation establishment.

Article 11.10.6.

Recommendations for importation of hides and skins from countries or zones not free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products have been:

1) dry-salted or wet-salted for a period of at least 14 days prior to dispatch; or

2) treated for a period of at least seven days in salt (NaCl) with the addition of 2% sodium carbonate (Na₂CO₃); or

3) dried for a period of at least 42 days at a temperature of at least 20°C; or

4) frozen to at least -20°C for at least 48 hours.
Article 11.10.7.

Recommendations for importation of trophies derived from susceptible ruminants from countries or zones not free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products have been processed to ensure the destruction of tick vectors.

NB: FIRST ADOPTED IN 1992; MOST RECENT UPDATE ADOPTED IN 2022.
CHAPTER 11.11.

TRICHCHEMOMONOSIS

Article 11.11.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.11.2.

Recommendations for the importation of cattle for breeding

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:
1) the animals showed no clinical sign of trichomonosis on the day of shipment;
2) the animals were kept in a *herd* in which no case of trichomonosis has been reported; and/or
3) for females which have been mated, direct microscopic examination and culture of vaginal mucus were negative.

Article 11.11.3.

Recommendations for the importation of bulls for breeding (natural service or artificial insemination)

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:
1) the animals showed no clinical sign of trichomonosis on the day of shipment;
2) the animals were kept in a *herd* in which no case of trichomonosis has been reported; and/or
3) the animals have never been used for natural service; or
4) the animals have only mated virgin heifers; or
5) the animals were subjected to a direct microscopic and cultural examination of preputial specimens with negative results.

Article 11.11.4.

Recommendations for the importation of bovine semen

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:
1) the donor animals have never been used for natural service; or
2) the donor animals have only mated virgin heifers; or
3) the donor animals were kept in an *establishment or artificial insemination centre* where no case of trichomonosis has been reported;
4) the donor animals were subjected to a direct microscopic and cultural examination of preputial specimens with negative results;
5) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

NB: FIRST ADOPTED IN 1968.
SECTION 12.

EQUIDAE

CHAPTER 12.1.

INFECTION WITH AFRICAN HORSE SICKNESS VIRUS

Article 12.1.1.

General provisions

For the purposes of the Terrestrial Code, African horse sickness (AHS) is defined as an infection of equids with African horse sickness virus (AHSV).

The following defines an infection with AHSV:

1) AHSV has been isolated and identified from an equid or a product derived from that equid; or
2) antigen or ribonucleic acid specific to AHSV has been identified in samples from an equid showing clinical signs consistent with AHS, or epidemiologically linked to a suspected or confirmed case; or
3) serological evidence of active infection with AHSV by detection of seroconversion with production of antibodies against structural or nonstructural proteins of AHSV that are not a consequence of vaccination have been identified in an equid that either shows clinical signs consistent with AHS, or is epidemiologically linked to a suspected or confirmed case.

For the purposes of the Terrestrial Code, the infective period for AHS is 40 days for domestic horses. Although critical information is lacking for some species, this chapter applies to all equidae.

All countries or zones adjacent to a country or zone not having free status should determine their AHSV status from an ongoing surveillance programme. Throughout the chapter, surveillance is in all cases understood as being conducted as described in Articles 12.1.11. to 12.1.13.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.1.2.

AHS free country or zone

1) A country or zone may be considered free from AHS when infection with AHSV is notifiable in the whole country, systematic vaccination is prohibited, importation of equids and their semen, oocytes or embryos are carried out in accordance with this chapter, and either:
   a) historical freedom as described in Chapter 1.4. has demonstrated no evidence of AHSV in the country or zone; or
   b) the country or zone has not reported any case of AHS for at least two years and is not adjacent to an infected country or zone; or
   c) a surveillance programme has demonstrated no evidence of AHSV in the country or zone for at least two years; or
   d) the country or zone has not reported any case of AHS for at least 40 days and a surveillance programme has demonstrated no evidence of Culicoides for at least two years in the country or zone.
2) An AHS free country or zone which is adjacent to an infected country or zone should include a zone in which surveillance is conducted in accordance with Articles 12.1.11. to 12.1.13., as relevant.

3) An AHS free country or zone will not lose its free status through the importation of seropositive or vaccinated equids and their semen, oocytes or embryos from infected countries or zones, provided these imports are carried out in accordance with this chapter.

4) To qualify for inclusion in the list of AHS free countries or zones, a Member Country should:
   a) have a record of regular and prompt animal disease reporting;
   b) send a declaration to WOAH stating:
      i) the section under point 1 on which the application is based;
      ii) no routine vaccination against AHS has been carried out during the past year in the country or zone;
      iii) equids are imported in accordance with this chapter;
   c) supply documented evidence that:
      i) surveillance in accordance with Articles 12.1.11. to 12.1.13. is applied, unless historically free in accordance with Article 1.4.6.;
      ii) regulatory measures for the early detection, prevention and control of infection with AHSV have been implemented.

5) The Member Country will be included in the list only after the submitted evidence has been accepted by WOAH. Retention on the list requires that the information in points 4 b) ii) and iii) and 4 c) above be annually re-submitted and changes in the epidemiological situation or other significant events be reported to WOAH in accordance with the requirements in Chapter 1.1., and in particular, formally state that:
   a) there has been no outbreak of AHS during the past year in the country or zone;
   b) no evidence of infection with AHSV has been found during the past year in the country or zone.

Article 12.1.3.

AHS infected country or zone

For the purposes of this chapter, an AHS infected country or zone is one that does not fulfil the requirements to qualify as AHS free.

Article 12.1.4.

Establishment of a containment zone within an AHS free country or zone

In the event of limited outbreaks within an AHS free country or zone, a single containment zone can be established for the purpose of minimising the impact on the entire country or zone. Such a zone should include all cases and can be established within a protection zone. For this to be achieved, the Veterinary Authority should provide documented evidence that:

1) the outbreaks are limited based on the following factors:
   a) immediately on suspicion, a rapid response including notification has been made;
   b) standstill of movements of equids has been imposed, and effective controls on the movement of equids and their products specified in this chapter are in place;
   c) epidemiological investigation (trace-back, trace-forward) has been completed;
   d) the infection has been confirmed;
   e) investigations on the likely source of the outbreak have been carried out;
   f) all cases have been shown to be epidemiologically linked;
   g) no new cases have been found in the containment zone within a minimum of two infective periods as defined in Article 12.1.1.;

2) the equids within the containment zone are clearly identifiable as belonging to the containment zone;

3) increased passive and targeted surveillance in accordance with Articles 12.1.11. to 12.1.13. in the rest of the country or zone has not detected any evidence of infection;

4) animal health measures are in place to effectively prevent the spread of AHSV infection to the rest of the country or zone, taking into consideration the establishment of a protection zone within the containment zone, the seasonal vector conditions and existing physical, geographical and ecological barriers;

5) ongoing surveillance in accordance with Articles 12.1.11. to 12.1.13. is in place in the containment zone.
The free status of the areas outside the containment zone is suspended while the containment zone is being established in accordance with points 1 to 5 above. The free status of the areas outside the containment zone may be reinstated irrespective of Article 12.1.5, once the containment zone is recognised by WOAH.

In the event of the recurrence of AHSV infection in the containment zone, the approval of the containment zone is withdrawn.

The recovery of the AHS free status of the containment zone should follow Article 12.1.5.

**Article 12.1.5.**

**Recovery of free status**

To regain free status when an AHS outbreak occurs in a country or zone previously free, Article 12.1.2. applies, irrespective of whether emergency vaccination has been applied or not.

**Article 12.1.6.**

**Recommendations for importation from AHS free countries or zones**

For equids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of AHS on the day of shipment;
2) have not been vaccinated against AHS within the last 40 days;
3) were kept in an AHS free country or zone since birth or for at least 40 days prior to shipment;
4) either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from Culicoides attacks at all times when transiting through an infected zone.

**Article 12.1.7.**

**Recommendations for importation from AHS infected countries or zones**

For equids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of AHS on the day of shipment;
2) have not been vaccinated against AHS within the last 40 days;
3) were held in isolation in a vector-protected establishment:
   a) for a period of at least 28 days and a serological test to detect antibodies against the AHSV group, was carried out with a negative result on a blood sample collected at least 28 days after introduction into the vector-protected establishment; or
   b) for a period of at least 40 days and serological tests to detect antibodies against AHSV were carried out with no significant increase in antibody titre on blood samples collected on two occasions, with an interval of not less than 21 days, the first sample being collected at least 7 days after introduction into the vector-protected establishment; or
   c) for a period of at least 14 days and an agent identification test was carried out with a negative result on a blood sample collected not less than 14 days after introduction into the vector-protected establishment; or
   d) for a period of at least 40 days and were vaccinated, at least 40 days before shipment, against all serotypes whose presence in the source population has been demonstrated through a surveillance programme in accordance with Articles 12.1.12. and 12.1.13., and were identified in the accompanying certification as having been vaccinated;
4) were protected from Culicoides attacks at all times during transportation (including transportation to and at the place of shipment).
Article 12.1.8.

Recommendations for the importation of equine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals:

1) showed no clinical sign of AHS on the day of collection of the semen and for the following 40 days;
2) had not been immunised against AHS with a live attenuated vaccine within 40 days prior to the day of collection;
3) were either:
   a) kept in an AHS free country or zone for at least 40 days before commencement of, and during collection of the semen; or
   b) kept in an AHS free vector-protected artificial insemination centre throughout the collection period, and subjected to either:
      i) a serological test to detect antibodies against the AHSV group, carried out with a negative result on a blood sample collected at least 28 days and not more than 90 days after the last collection of semen; or
      ii) agent identification tests carried out with negative results on blood samples collected at commencement and conclusion of, and at least every seven days, during semen collection for this consignment.

Article 12.1.9.

Recommendations for the importation of in vivo derived equine oocytes or embryos

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of AHS on the day of collection of the oocytes or embryos and for the following 40 days;
   b) had not been immunised against AHS with a live attenuated vaccine within 40 days prior to the day of collection;
   c) were either:
      i) kept in an AHS free country or zone for at least 40 days before commencement of, and during collection of the oocytes or embryos, or
      ii) kept in an AHS free vector-protected collection centre throughout the collection period, and subjected to either:
         – a serological test to detect antibodies against the AHSV group carried out with a negative result on a blood sample collected at least 28 days and not more than 90 days after the last collection of oocytes or embryos; or
         – agent identification tests carried out with negative results on blood samples collected at commencement and conclusion of, and at least every seven days during oocytes or embryos collection for this consignment;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant;
3) the semen used to fertilise the oocytes complies at least with the requirements in Article 12.1.8.
Chapter 12.1.- Infection with African horse sickness virus

Protecting animals from Culicoides attacks

1. Vector-protected establishment or facility

The establishment or facility should be approved by the Veterinary Authority and the means of protection should at least comprise the following:

a) appropriate physical barriers at entry and exit points, for example double-door entry-exit system;
b) openings of the building are vector screened with mesh of appropriate gauge impregnated regularly with an approved insecticide in accordance with the instructions of the manufacturer;
c) vector surveillance and control within and around the building;
d) measures to limit or eliminate breeding sites for vectors in vicinity of the establishment or facility;
e) Standard Operating Procedure, including description of back-up and alarm systems, for operation of the establishment or facility and transport of equids to the place of loading.

2. During transportation

When transporting equids through AHS infected countries or zones, Veterinary Authorities should require strategies to protect animals from Culicoides attacks during transport, taking into account the local ecology of the vector.

a) Transport by road

Potential risk management strategies include a combination of:

i) treating animals with chemical repellents prior to and during transportation, in sanitized vehicles treated with appropriate residual contact insecticide;
ii) loading, transporting and unloading animals at times of low vector activity (i.e. bright sunshine and low temperature);
iii) ensuring vehicles do not stop en route during dawn or dusk, or overnight, unless the animals are held behind insect proof netting;
iv) darkening the interior of the vehicle, for example by covering the roof or sides of vehicles with shade cloth;
v) surveillance for vectors at common stopping and offloading points to gain information on seasonal variations;
vii) using historical, ongoing or modelling information on AHS to identify low risk ports and transport routes.

b) Transport by air

Prior to loading the equids, the crates, containers or jet stalls are sprayed with an insecticide approved in the country of dispatch.

Crates, containers or jet stalls in which equids are being transported and the cargo hold of the aircraft should be sprayed with an approved insecticide when the doors have been closed and prior to take off. All possible insect harbourage should be treated. The spray containers should be retained for inspection on arrival.

In addition, during any stopover in countries or zones not free from AHS, prior to the opening of any aircraft door and until all doors are closed, netting of appropriate gauge impregnated with an approved insecticide should be placed over all crates, containers or jet stalls.

Introduction to surveillance

Articles 12.1.11. to 12.1.13. define the principles and provide guidance on surveillance for AHS, complementary to Chapter 1.4. and, for vectors, complementary to Chapter 1.5.

AHS is a vector-borne infection transmitted by a limited number of species of Culicoides insects. Unlike the related bluetongue virus, AHSV is so far geographically restricted to sub Saharan Africa with periodic excursions into North Africa, southwest Europe, the Middle East and adjacent regions of Asia. An important component of AHSV epidemiology is vectorial capacity which provides a measure of disease risk that incorporates vector competence, abundance, seasonal incidence, biting rates, survival rates and the extrinsic incubation period. However, methods and tools for measuring some of these vector factors remain to be developed, particularly in a field context.

According to this chapter, a Member Country demonstrating freedom from infection with AHSV for the entire country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of the
surveillance programme will depend on the prevailing epidemiological circumstances and should be planned and implemented in accordance with general conditions and methods described in this chapter. This requires the support of a laboratory able to undertake identification of infection with AHSV through the virus detection and antibody tests.

Susceptible captive wild, feral and wild equine populations should be included in the surveillance programme.

The purpose of surveillance is to determine if a country or zone is free from AHS. Surveillance deals not only with the occurrence of clinical signs caused by AHSV, but also with evidence of infection with AHSV in the absence of clinical signs.

**Article 12.1.12.**

**General conditions and methods for surveillance**

1) A surveillance system should be under the responsibility of the Veterinary Authority. In particular the following should be in place:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease;
   b) a procedure for the rapid collection and transport of samples from suspected cases of AHS to a laboratory for diagnosis;
   c) a system for recording, managing and analysing diagnostic, epidemiological and surveillance data.

2) In a free country or zone, the surveillance programme for AHS should include an early warning system for reporting suspected cases. Persons who have regular contact with equids, as well as diagnosticians, should report promptly any suspicion of AHS to the Veterinary Authority. An effective surveillance system will periodically identify suspected cases that are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. All suspected cases of AHS should be investigated immediately and samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment be available to those responsible for surveillance.

3) In an AHS infected country or zone, random or targeted serological and virological surveillance, appropriate to the epidemiological situation, should be conducted in accordance with Chapter 1.4.

**Article 12.1.13.**

**Surveillance strategies**

The target population for surveillance aimed at identification of disease or infection should cover susceptible equids within the country or zone. Active and passive surveillance for infection with AHSV should be ongoing. Surveillance should be composed of random or targeted approaches using virological, serological and clinical methods appropriate to the epidemiological situation.

A Member Country should justify the surveillance strategy chosen as appropriate to detect the presence of infection with AHSV in accordance with Chapter 1.4. and the prevailing epidemiological situation. It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clinical signs (e.g. horses). Similarly, virological and serological testing may be targeted to species that rarely show clinical signs (e.g. donkeys).

In vaccinated populations serological and virological surveillance is necessary to detect the AHSV types circulating to ensure that all circulating types are included in the vaccination programme.

For random surveys, the design of the sampling strategy should incorporate epidemiologically appropriate design prevalence. The sample size selected for testing should be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size, expected prevalence and diagnostic sensitivity of the tests determine the level of confidence in the results of the survey. The Member Country should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence, in particular, should be based on the prevailing or historical epidemiological situation.

Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination or infection history and the different species in the target population.
Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as those which may be epidemiologically linked to it.

The principles for surveillance for disease or infection are technically well defined. Surveillance programmes to prove the absence of AHSV infection or transmission, should be carefully designed to avoid producing results that are insufficiently reliable to be accepted by WOAH for official recognition of status. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

1. Clinical surveillance
Clinical surveillance aims at the detection of clinical signs of AHS in equids particularly during a newly introduced infection. In horses, clinical signs may include pyrexia, oedema, hyperaemia of mucous membranes and dyspnoea. Suspected cases detected by clinical surveillance should always be confirmed by laboratory testing.

2. Serological surveillance
Serological surveillance of equine populations is an important tool to confirm absence of AHSV transmission in a country or zone. The species tested should reflect the local epidemiology of infection with AHSV, and the equine species available. Management variables that may reduce the likelihood of infection, such as the use of insecticides and animal housing, should be taken into account when selecting equids to be included in the surveillance system. Samples should be examined for antibodies against AHSV. Positive AHSV antibody tests results can have four possible causes:
   a) natural infection with AHSV;
   b) vaccination against AHS;
   c) maternal antibodies;
   d) lack of specificity of the test.
Sera collected for other purposes may be used for AHSV surveillance. However, the principles of survey design described in these recommendations and the requirements for a statistically valid survey for the presence of infection with AHSV should not be compromised.

The results of random or targeted serological surveys are important in providing reliable evidence that no infection with AHSV is present in a country or zone. It is, therefore, essential that the survey is thoroughly documented. It is critical to interpret the results in light of the movement history of the animals being sampled.

Serological surveillance in a free zone should target those areas that are at highest risk of AHSV transmission, based on the results of previous surveillance and other information. This will usually be towards the boundaries of the free zone. In view of the epidemiology of AHSV, either random or targeted sampling is suitable to select herds or animals for testing.

Serological surveillance in a free country or zone should be carried out over an appropriate distance from the border with an infected country or zone, based upon geography, climate, history of infection and other relevant factors. The surveillance should be carried out over a distance of at least 100 kilometres from the border with that country or zone, but a lesser distance could be acceptable if there are relevant ecological or geographical features likely to interrupt the transmission of AHSV. An AHS free country or zone may be protected from an adjacent infected country or zone by a protection zone.

Serological surveillance in infected zones will identify changes in the boundary of the zone, and can also be used to identify the AHSV types circulating. In view of the epidemiology of infection with AHSV, either random or targeted sampling is suitable.

3. Virological surveillance
Isolation and genetic analysis of AHSV from a proportion of infected animals is beneficial in terms of providing information on serotype and genetic characteristics of the viruses concerned.

Virological surveillance can be conducted:
   a) to identify virus transmission in at risk populations;
   b) to confirm clinically suspected cases;
   c) to follow up positive serological results;
   d) to better characterise the genotype of circulating virus in a country or zone.
4. Sentinel animals

Sentinel animals are a form of targeted surveillance with a prospective study design. They comprise groups of unexposed equids that have not been vaccinated and are managed at fixed locations and observed and tested regularly to detect new infections with AHSV.

The primary purpose of a sentinel equid programme is to detect infections with AHSV occurring at a particular place, for instance sentinel groups may be located on the boundaries of infected zones to detect changes in distribution of AHSV. In addition, sentinel equid programmes allow the timing and dynamics of infections to be observed.

A sentinel equid programme should use animals of known source and history of exposure, control management variables such as use of insecticides and animal housing (depending on the epidemiology of AHSV in the area under consideration), and be flexible in its design in terms of sampling frequency and choice of tests.

Care is necessary in choosing the sites for the sentinel groups. The aim is to maximise the chance of detecting AHSV activity at the geographical location for which the sentinel site acts as a sampling point. The effect of secondary factors that may influence events at each location, such as climate, may also be analysed. To avoid confounding factors sentinel groups should comprise animals selected to be of similar age and susceptibility to infection with AHSV. The only feature distinguishing groups of sentinels should be their geographical location. Sera from sentinel animal programmes should be stored methodically in a serum bank to allow retrospective studies to be conducted in the event of new serotypes being isolated.

The frequency of sampling should reflect the equine species used and the reason for choosing the sampling site. In endemic areas virus isolation will allow monitoring of the serotypes and genotypes of AHSV circulating during each time period. The borders between infected and non-infected areas can be defined by serological detection of infection with AHSV. Monthly sampling intervals are frequently used. Sentinels in declared free zones add to confidence that infections with AHSV are not occurring unobserved. Here sampling prior to and after the possible period of transmission is sufficient.

Definitive information on AHSV circulating in a country or zone is provided by isolation and identification of the viruses. If virus isolation is required sentinels should be sampled at sufficiently frequent intervals to ensure that some samples are collected during the period of viraemia.

5. Vector surveillance

AHSV is transmitted between equine hosts by species of Culicoides which vary across the world. It is therefore important to be able to identify potential vector species accurately although many such species are closely related and difficult to differentiate with certainty.

Vector surveillance is aimed at demonstrating the absence of vectors or defining high, medium and low-risk areas and local details of seasonality by determining the various species present in an area, their respective seasonal occurrence, and abundance. Vector surveillance has particular relevance to potential areas of spread. Long term surveillance can also be used to assess vector abatement measures or to confirm continued absence of vectors.

The most effective way of gathering this information should take account of the biology and behavioural characteristics of the local vector species of Culicoides and may include the use of Onderstepoort-type light traps or similar, operated from dusk to dawn in locations adjacent to equids.

Vector surveillance should be based on scientific sampling techniques. The choice of the number and types of traps to be used in vector surveillance and the frequency of their use should take into account the size and ecological characteristics of the area to be surveyed.

The operation of vector surveillance sites at the same locations as sentinel animals is advisable.

The use of a vector surveillance system to detect the presence of circulating viruses is not recommended as a routine procedure as the typically low vector infection rates mean that such detections can be rare. Animal-based surveillance strategies are preferred to detect virus transmission.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2014.
CHAPTER 12.2.

INFECTION WITH TAYLORELLA EQUIGENITALIS
(CONTAGIOUS EQUINE METRITIS)

Article 12.2.1.

General provisions

This chapter addresses the occurrence of clinical or asymptomatic infection of a mare caused by Taylorella equigenitalis as well as the presence of T. equigenitalis on the genital mucous membrane surface in the male horse.

For the purposes of the Terrestrial Code, the following defines infection with T. equigenitalis:

1) T. equigenitalis has been isolated and identified as such from a genital swab sample from a horse; or
2) nucleic acid specific to T. equigenitalis has been detected in a sample from a horse; or
3) antigen specific to T. equigenitalis has been detected in a sample from a horse showing clinical or pathological signs consistent with infection with T. equigenitalis, or epidemiologically linked to a confirmed or suspected case of infection with T. equigenitalis.

For the purposes of the Terrestrial Code:

– due to long-term persistence of T. equigenitalis in horses, in the absence of effective treatment, the infective period shall be lifelong;
– the incubation period in mares shall be 14 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

For the purposes of this chapter, a temporary importation refers to the introduction of horses into a country or zone, for a defined period of time, not exceeding 90 days, during which the risk of transmission of the infection is mitigated through specific measures under the supervision of the Veterinary Authority. Temporary imported horses are re-exported at the end of this period. The duration of the temporary importation period and the destination after this period, as well as the conditions required to leave the country or zone, should be defined in advance.

When authorising the importation or transit of the commodities listed in this chapter, with the exception of those listed in Article 12.2.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the T. equigenitalis status of the exporting country, zone or herd.

Article 12.2.2.

Safe commodities

When authorising importation or transit of the following commodities, Veterinary Authorities should not require any T. equigenitalis-related conditions, regardless of the animal health status of the exporting country, zone or herd:

1) geldings;
2) milk and milk products;
3) meat and meat products;
4) hides and skins;
5) hooves;
6) gelatine and collagen.
Chapter 12.2. - Infection with *Taylorella equigenitalis*

**Article 12.2.3.**

**Herd free from infection with *T. equigenitalis***

1. **Prerequisite**
   
   *Infection* with *T. equigenitalis* has been a *notifiable disease* in the entire country for at least the past two years.

2. **Qualification**
   
   To qualify as free from *infection* with *T. equigenitalis*, a *herd* should satisfy the following conditions:
   
   a) it is under the control of the *Veterinary Authority*;
   
   b) no case has occurred for at least two years;
   
   c) all horses from the *herd* have been subjected to *T. equigenitalis* tests, with negative results, on samples collected on three occasions within a 12-day period, with an interval of no less than three days between sample collections. Horses must have not been treated with antibiotics for at least 7 days prior to the first sampling, nor subjected to antiseptic washing of genital mucous membrane for at least 21 days prior to the first sampling;
   
   d) any stored semen was subjected to a test for detection of nucleic acid of *T. equigenitalis* with negative results, carried out on an aliquot of the stored semen.

3. **Maintenance of freedom**

   a) the requirements in points 1, 2 a) and 2 b) of Article 12.2.3. are met;
   
   b) appropriate *surveillance* capable of detecting *infection* with *T. equigenitalis* even in the absence of clinical signs is in place; this may be achieved through a *surveillance* programme in accordance with Chapter 1.4. and this chapter;
   
   c) the introduction of horses and their germinal products into the *herd* is carried out in accordance with the importation conditions for these *commodities* listed in this chapter.

4. **Recovery of freedom**

   When a case is detected in a previously free *herd* the free status should be suspended until the following conditions are met:
   
   a) the *disinfection* of the *establishment* has been applied;
   
   b) not before 21 days after the last removal or the last treatment of an infected horse, all horses have been subjected to a test for the detection of the agent, with negative results, on samples collected on three occasions, within a 12-day period with an interval of no less than three days between sample collections;
   
   c) any fresh semen from all infected horses in the *herd* has been destroyed; aliquots of each collection of stored semen from all infected horses in the *herd* were subjected to a test for detection of nucleic acid of *T. equigenitalis* with negative results; and all positive stored semen has been destroyed;
   
   d) the introduction of horses and their germinal products into the *herd* is carried out in accordance with the importation conditions for these *commodities* listed in this chapter.

**Article 12.2.4.**

**Recommendations for importation of stallions or mares**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1) mares showed no clinical sign of *infection* with *T. equigenitalis* on the day of shipment;
Chapter 12.2 - Infection with Taylorella equigenitalis

AND

2) horses have been:
   a) kept since birth or for at least two years prior to shipment in a herd that has been free from infection with T. equigenitalis;
   OR
   b) kept for at least the last 60 days in a herd in which no case has been reported during that period;
   AND
   i) subjected to tests for the detection of the agent, with negative results, carried out on samples collected on three occasions within a 12-day period, with an interval of no less than three days between sample collections, the last one being carried out within 30 days prior to shipment. Horses have not been treated with antibiotics for at least 7 days nor subjected to antiseptic washing of genital mucous membranes for at least 21 days prior to the first sample collection, and have not been mated or inseminated after the first sampling.

Article 12.2.5.

Recommendations for temporary importation of stallions and mares

When importing on a temporary basis stallions or mares that do not comply with recommendations in Article 12.2.4. for purposes other than breeding and rearing, Veterinary Authorities should:
1) require:
   a) the horses be accompanied by a passport in accordance with the model contained in Chapter 5.12. or be individually identified as belonging to a high health status subpopulation as defined in Chapter 4.17.;
   b) the presentation of an international veterinary certificate attesting that the mares showed no clinical sign of infection with T. equigenitalis on the day of shipment;
   c) the duration of the temporary importation period, the destination after this period, and the conditions required to leave the country or zone be defined;
2) ensure that during their stay in the country or zone, the horses:
   a) are not used for breeding (including artificial insemination, semen collection, use as teasers) and do not have any sexual contact with other horses;
   b) are not subjected to any practice that may represent a risk of transmission of infection with T. equigenitalis;
   c) are kept and transported individually in stalls and vehicles/vessels which are subsequently cleaned and disinfected before re-use.

Article 12.2.6.

Recommendations for importation of semen from stallions

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) semen was collected in an approved centre and collection, processing and storing were done in accordance with Chapter 4.6.; and
EITHER
2) the donor stallion was kept in a herd free from infection with T. equigenitalis;
OR
3) a) the donor stallion was kept for at least 60 days prior to semen collection in a herd in which no case has been reported during that period; and
   b) the donor stallion was subjected to tests for the detection of the agent, with negative results, carried out on samples collected on three occasions, within a 12-day period with an interval of no less than three days between sample collections, the last one being carried out within 30 days prior to shipment. Horses have not been treated with antibiotics for at least 7 days nor subjected to antiseptic washing of genital mucous membranes for at least 21 days prior to the first sample collection, and have not been mated or inseminated after the first sampling;
OR

4) aliquots of fresh semen were subjected to culture and a test for detection of nucleic acid of T. equigenitalis with negative results, carried out immediately prior to processing and on an aliquot of semen collected within 15-30 days after the first collection of the semen to be exported;

OR

5) aliquots of stored semen corresponding to the oldest and the most recent collection were subjected to culture and a test for detection of nucleic acid for T. equigenitalis with negative results.

Article 12.2.7.

Recommendations for importation of oocytes or embryos of horses

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the oocytes and embryos were collected, processed and stored in approved centres following the general provisions in accordance with Chapters 4.8., 4.9. and 4.10.;

2) the donor mare showed no clinical signs of infection with T. equigenitalis on the day of collection;

AND

for the importation of embryos:

3) the semen used for embryo production complied with Article 12.2.6. and Chapters 4.6. and 4.7.

Article 12.2.8.

Surveillance

1. General principles of surveillance

Surveillance for infection with T. equigenitalis is relevant for establishments seeking to achieve and demonstrate freedom from infection, as well as being part of an official control programme in countries where the disease is endemic.

The surveillance strategy chosen should be adequate to detect infection with T. equigenitalis even in the absence of clinical signs.

The Veterinary Services should implement programmes to raise awareness among owners, breeders and workers who have day-to-day contact with horses, as well as veterinarians, veterinary paraprofessionals and diagnosticians, who should report promptly any suspicion of infection with T. equigenitalis to the Veterinary Authority.

Under the responsibility of the Veterinary Authority, Member Countries should have in place an early warning system in accordance with Article 1.4.5. and a system for recording, managing and analysing diagnostic and surveillance data.

2. Clinical surveillance

Clinical surveillance aims at detecting clinical signs by close physical examination of horses and based on reproductive performance. However, clinical surveillance should be complemented by culture for T. equigenitalis and molecular testing, as asymptomatic carriers play an important role in the maintenance and transmission of the infection.

3. Agent surveillance

An active programme of surveillance of horses to detect cases should be implemented to establish the status of a country, zone or herd. Culture for T. equigenitalis and molecular testing are the most effective methods of detection of a case.

Stored semen should be included in surveillance programmes. It represents a valuable source of material and may be very helpful in contributing to retrospective studies, including providing support for claims of freedom from infection and may allow certain studies to be conducted more quickly and at lower cost than other approaches. Samples can be gathered through representative sampling or following a risk-based approach.
4. **Serological surveillance**

   Serological surveillance is not the preferred strategy for detecting *T. equigenitalis*. If used, serology should be done in conjunction with agent identification in assessing the status of a mare that may have been infected with *T. equigenitalis*. The usefulness of serological tests is further described in the *Terrestrial Manual*.

---

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2023.
CHAPTER 12.3.

DOURINE

Article 12.3.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for dourine shall be six months.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.3.2.

Dourine free country

A country formerly infected with dourine may be considered free again when:

1) a stamping-out policy has been practised for affected animals;
2) no clinical case of dourine has been observed during the past two years;
3) breeding horses have been subjected to a diagnostic test for dourine with negative results performed annually over a two-year period.

Article 12.3.3.

Recommendations for importation from dourine free countries for the past six months

For equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of dourine on the day of shipment;
2) were kept since birth, or for the six months prior to shipment, in a country which has been free from dourine for not less than the past six months.

Article 12.3.4.

Recommendations for importation from countries considered infected with dourine

For equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of dourine on the day of shipment;
2) were kept for the six months prior to shipment in an establishment where no case of dourine was officially reported during that period;
3) were subjected to a diagnostic test for dourine with negative results during the 15 days prior to shipment.

Article 12.3.5.

Recommendations for importation from dourine free countries for the past six months

For semen of equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals were kept since birth, or for the six months prior to collection of the semen, in a country which has been free from dourine for not less than the past six months.
Article 12.3.6.

Recommendations for importation from countries considered infected with dourine

For semen of equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) were kept for the six months prior to collection of the semen in an establishment or artificial insemination centre where no case of dourine was reported during that period;
   b) were subjected to a diagnostic test for dourine with negative results;

2) the microscopic examination of the semen for dourine was negative.

NB: FIRST ADOPTED IN 1968.
CHAPTER 12.4.

EQUINE ENCEPHALOMYELITIS (EASTERN AND WESTERN)

Article 12.4.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.4.2.

Recommendations for the importation of equines

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of equine encephalomyelitis on the day of shipment and during the three months prior to shipment;

2) were kept for the three months prior to shipment in an establishment where no case of equine encephalomyelitis was officially reported during that period; or

3) were kept in a quarantine station for the 21 days prior to shipment and were protected from insect vectors during quarantine and transportation to the place of shipment; or

4) were vaccinated not less than 15 days and not more than one year prior to shipment.

NB: FIRST ADOPTED IN 1968.
CHAPTER 12.5.

EQUINE INFECTIOUS ANAEMIA

Article 12.5.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.5.2.

Recommendations for the importation of equines

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of equine infectious anaemia (EIA) on the day of shipment and during the 48 hours prior to shipment; and

2) no case of EIA has been associated with any premises where the animals were kept during the three months prior to shipment; and

3) if imported on a permanent basis, the animals were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 30 days prior to shipment; or

4) if imported on a temporary basis, the animals were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 90 days prior to shipment.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2007.
CHAPTER 12.6.

INFECTION WITH EQUINE INFLUENZA VIRUS

Article 12.6.1.

General provisions

For the purposes of the Terrestrial Code, equine influenza (EI) is defined as an infection of domestic and captive wild equids with equine influenza virus (EIV), i.e. subtypes H3N8 and H7N7 of influenza A viruses.

This chapter deals not only with the occurrence of clinical signs caused by infection with EIV, but also with the presence of infection with EIV in the absence of clinical signs.

The following defines the occurrence of infection with EIV:

1) EIV, excluding modified-live virus vaccine strains following recent vaccination, has been isolated and identified as such in a sample from a domestic or captive wild equid; or
2) antigen or nucleic acid specific to EIV has been detected in a sample from a domestic or captive wild equid showing clinical signs or pathological lesions consistent with equine influenza, or epidemiologically linked to a confirmed or suspected case of equine influenza; or
3) seroconversion due to recent exposure to EIV which is not the consequence of vaccination, has been detected in paired samples from a domestic or captive wild equid showing clinical signs or pathological lesions consistent with equine influenza, or epidemiologically linked to a confirmed or suspected case of infection with EIV.

For the purposes of the Terrestrial Code, the infective period for EI shall be 14 days.

For the purposes of this chapter, a temporary importation refers to the introduction of horses into a country or zone, for a defined period of time, not exceeding 90 days, during which the risk of transmission of the infection is mitigated through specific measures under the supervision of the Veterinary Authority. Temporarily imported horses are re-exported at the end of this period. The duration of the temporary importation period and the destination after this period, as well as the conditions required to leave the country or zone, should be defined in advance.

When authorising the importation or transit of the commodities listed in this chapter, with the exception of those listed in Article 12.6.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the EI status of the equine population of the exporting country, zone or compartment.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.6.2.

Safe commodities

When authorising the importation or transit of the following commodities, Veterinary Authorities should not require any EIV-related conditions, regardless of the animal health status of the exporting country, zone or compartment:

1) equine semen;
2) in vivo derived equine embryos collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant;
3) meat and meat products from equids that have been slaughtered in a slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results.

Article 12.6.3.

Determination of the EI status of a country, a zone or a compartment

The EI status of a country, a zone or a compartment can be determined on the basis of the following criteria:

1) the outcome of a risk assessment identifying all risk factors and their historic relevance;
2) whether EI is notifiable in the whole country, an ongoing EI awareness programme is in place, and all notified suspect occurrences of EI are subjected to field and, where applicable, laboratory investigations;

3) appropriate surveillance is in place to demonstrate the presence of infection in the absence of clinical signs in domestic and captive wild equids.

**Article 12.6.4.**

**Country, zone or compartment free from EI**

A country, zone or compartment may be considered free from EI provided that infection with EIV is notifiable in the whole country and it shows evidence, through an effective surveillance programme, planned and implemented in accordance with the general principles in Chapter 1.4., that no case of infection with EIV occurred in the past two years. The surveillance may need to be adapted to parts of the country, zone or compartment depending on historical or geographical factors, industry structure, population data, movements of equids within and into the country, zone or compartment, wild equine populations or proximity to recent outbreaks.

A country, zone or compartment seeking freedom from EI, in which vaccination is practised, should also demonstrate that EIV has not been circulating in the population of domestic, captive wild, feral, and wild equids during the past 12 months, through surveillance, in accordance with Chapter 1.4.

In a country in which vaccination is not practised, surveillance may be conducted using serological testing alone. In countries where vaccination is practised, the surveillance should include agent identification methods described in the Terrestrial Manual for evidence of infection.

A country, zone or compartment seeking freedom from EI should apply appropriate movement controls to minimise the risk of introduction of EIV in accordance with this chapter and should be in accordance with relevant requirements and principles described in Chapter 4.4. and Chapter 4.5.

**Article 12.6.5.**

**Recovery of free status**

If a case of infection with EIV occurs in a previously free country, zone or compartment, free status can be regained 12 months after the last case, provided that outbreaks were managed in accordance with Chapter 4.19. and that surveillance, in accordance with Article 12.6.4., has been carried out during that 12-month period, with negative results.

**Article 12.6.6.**

**Recommendations for the importation of domestic and captive wild equids for immediate slaughter**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the domestic or captive wild equids showed no clinical sign of EI on the day of shipment.

**Article 12.6.7.**

**Recommendations for the importation of domestic and captive wild equids**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the domestic or captive wild equids:

1) came from an EI free country, zone or compartment in which they had been resident for at least 14 days; in the case of vaccinated equids, information on their vaccination status should be included in the veterinary certificate;
Chapter 12.6: Infection with equine influenza virus

2)

a) were subjected to pre-export isolation for 14 days and showed no clinical sign of EI during isolation nor on the day of shipment; and

b) were vaccinated in accordance with the recommendations of the manufacturer with a vaccine complying with the standards described in the Terrestrial Manual and considered effective against the epidemiologically relevant virus strains, in accordance with one of the following procedures:

i) between 14 and 90 days before shipment with either a primary course or a booster; or

ii) between 14 and 180 days before shipment, if they are older than four years of age, having received up to the date of this pre-shipment vaccination, at least four doses of vaccine at intervals not greater than 180 days.

Information on the vaccination status should be included in the international veterinary certificate or the passport in accordance with Chapter 5.12. as relevant.

Countries that are free from EI or undertaking an eradication programme may also request that the equids were subjected to an agent identification test for EI described in the Terrestrial Manual with negative results, conducted on samples collected on two occasions, four to six days after commencement of pre-export isolation and within four days prior to shipment.

Article 12.6.8.

Recommendations for the temporary importation of horses

If the importation of horses on a temporary basis does not comply with the recommendations in Article 12.6.7., Veterinary Authorities of importing countries should:

1) require:

a) that the horses be accompanied by a passport in accordance with the model contained in Chapter 5.12. or be individually identified as belonging to a high health status subpopulation as defined in Chapter 4.17.;

b) the presentation of an international veterinary certificate attesting that the horses:

i) came from a country, zone or compartment free from EI, in which they had been resident for at least 14 days; in the case of vaccinated horses, information on their vaccination status should be included in the veterinary certificate;

OR

ii) showed no clinical sign of EI in any premises in which the horses had been resident for the 14 days prior to shipment nor on the day of shipment; and

iii) were vaccinated with a vaccine complying with the standards described in the Terrestrial Manual; information on their vaccination status should be included in the veterinary certificate or the passport in accordance with Chapter 5.12.;

2) ensure that during their stay in the country or zone horses are kept separated from domestic and captive wild equids of a different EI health status through appropriate biosecurity.

NB: FIRST ADOPTED IN 1986; MOST RECENT UPDATE ADOPTED IN 2023.
CHAPTER 12.7.

INFECTION WITH THEILERIA EQUI AND BABESIA CABALLI
(EQUINE PIROPLASMOSIS)

Article 12.7.1.

General provisions

The infection with Theileria equi (T. equi) or Babesia caballi (B. caballi) established after transmission of these pathogenic agents through competent ticks or iatrogenic practices may be asymptomatic or may cause a clinical disease known as equine piroplasmosis. Vertical transmission from mares to foals has also been reported. This chapter deals not only with clinical disease, but also with asymptomatic infections.

Animals susceptible to infection with T. equi or B. caballi are primarily domestic and wild equids. Although old-world camelids are susceptible to infection and are potential reservoirs, they are not found to play a significant role in the epidemiology of the disease.

Equids infected with T. equi or B. caballi may remain carriers of these blood parasites for long periods, sometimes lifelong and act as sources of infection for competent tick vectors, including species of the genera Dermacentor, Rhipicephalus, Hyalomma and Amblyomma.

For the purposes of the Terrestrial Code, the following defines infection with T. equi or B. caballi:
1) T. equi or B. caballi has been observed and identified as such in a sample from an equid; or
2) nucleic acid specific to T. equi or B. caballi has been detected in a sample from an equid showing clinical or pathological signs consistent with infection with T. equi or B. caballi, or epidemiologically linked to a confirmed or suspected case of infection with T. equi or B. caballi; or
3) antibodies specific to T. equi or B. caballi have been detected in a sample from an equid showing clinical or pathological signs consistent with infection with T. equi or B. caballi, or epidemiologically linked to a confirmed or suspected case of infection with T. equi or B. caballi.

For the purposes of the Terrestrial Code, the incubation period of infection with T. equi or B. caballi in equids shall be 30 days and the infective period shall be lifelong.

For the purposes of this chapter, a temporary importation refers to the introduction of horses into a country or zone, for a defined period of time not exceeding 90 days, during which the risk of transmission of the infection is mitigated through specific measures under the supervision of the Veterinary Authority. Temporarily imported horses are re-exported at the end of this period. The duration of the temporary importation period and the destination after this period, as well as the conditions required to leave the country or zone, should be defined in advance.

When authorising the importation or transit of the commodities listed in this chapter, with the exception of those listed in Article 12.7.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the status of infection with T. equi and B. caballi of the exporting country or zone.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.7.2.

Safe commodities

When authorising importation or transit of the following commodities, Veterinary Authorities should not require any conditions related to infection with T. equi or B. caballi, regardless of the animal health status of the exporting country or zone:
1) milk and milk products;
2) meat and meat products;
3) hides and skins;
Chapter 12.7. - Infection with Theileria equi and Babesia caballi

4) hooves;
5) gelatine and collagen;
6) semen collected in accordance with the relevant chapters of the Terrestrial Code;
7) sterile filtered horse serum;
8) embryos collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10.

Article 12.7.3.

Country or zone free from infection with *T. equi* and *B. caballi*

1) Historical freedom as described in Chapter 1.4. does not apply to infection with *T. equi* and *B. caballi*.
2) A country or a zone may be considered free from infection with *T. equi* and *B. caballi* when:
   a) infection with *T. equi* and infection with *B. caballi* have been notifiable diseases in the entire country for at least the past 10 years and, in the country or zone:
      i) there has been no case of infection with *T. equi* and no case of infection with *B. caballi* during the past six years; and
      ii) a surveillance programme performed in accordance with Article 12.7.8. has demonstrated no evidence of infection with *T. equi* and no evidence of infection with *B. caballi* for the past six years and has considered the presence or absence of competent vectors in the epidemiological situation;
   b) importation of equids into the country or zone is carried out in accordance with this chapter. A country or zone free from infection with *T. equi* and *B. caballi* in which seropositive or infective horses were imported temporarily in accordance with Article 12.7.6. will not lose its free status provided an epidemiological investigation demonstrates that there has been no transmission of infection;
   c) a country or zone free from infection with *T. equi* and *B. caballi* adjacent to an infected country or zone should include a high-risk area in which surveillance is conducted in accordance with Article 12.7.8.

Article 12.7.4.

Recovery of a free status

When infection with *T. equi* or *B. caballi* is detected in a previously free country or zone, Article 12.7.3. applies.

Article 12.7.5.

Recommendations for the importation of equids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical signs of infection with *T. equi* or *B. caballi* on the day of shipment, and
2) EITHER:
   a) the animals were kept in a country or zone free from infection with *T. equi* and *B. caballi* since birth;
   OR
   b) 
      i) were subjected to serological and agent identification tests with molecular techniques for the detection of *T. equi* and *B. caballi* with negative results carried out on a blood sample taken within the 14 days prior to shipment; and
      ii) were maintained free from competent ticks in accordance with Article 12.7.7. and not subjected to any practice that may present a risk of iatrogenic transmission of infection with *T. equi* or *B. caballi* during the 30 days prior to sampling and after sampling until shipment; and
      iii) have not been treated with antiparasitic drugs capable of masking an infection with *T. equi* and *B. caballi*, for at least six months prior to sampling.
Article 12.7.6.

Recommendations for the temporary importation of horses

If the importation of horses on a temporary basis does not comply with the recommendations in Article 12.7.5., Veterinary Authorities of importing countries should:

1) require:
   a) that the horses be accompanied by a passport in accordance with the model contained in Chapter 5.12. or be individually identified as belonging to a high health status subpopulation as defined in Chapter 4.17.;
   b) the presentation of an international veterinary certificate attesting that the horses:
      i) showed no clinical sign of infection with *T. equi* or *B. caballi* on the day of shipment;
      ii) were maintained free from ticks in accordance with Article 12.7.7. during the 30 days prior to shipment and during transport;
   c) that the duration of the temporary importation period and the destination after this period, as well as the conditions required to leave the country or zone, be defined;

2) ensure that during their stay in the country or zone:
   a) the horses are protected from ticks in accordance with Article 12.7.7.;
   b) horses are examined daily for the presence of ticks with particular attention to the ears, false nostrils, inter-mandibular space, mane, lower body areas, including the axillae, and inguinal region, and the perineum and tail, with negative results;
   c) the horses are not subjected to any practice that may represent a risk of iatrogenic transmission of infection with *T. equi* or *B. caballi*.

Article 12.7.7.

Protecting equids from ticks

1) Under the direct supervision of the Veterinary Authority:
   a) equids are kept in tick-protected facilities and transported in protected vehicles/vessels according to point 3;
   b) equids have received preventive treatment in accordance with the manufacturer's recommendations with an acaricide effective against the competent ticks.

2) The establishment or facility should be approved by the Veterinary Authority and the means of protection should at least comprise the following:
   a) measures to limit or eliminate habitats for competent tick vectors should be implemented for an appropriate time and over an appropriate distance in the vicinity of the area where equids are kept;
   b) the facility and immediate surroundings of the stables and exercise or competition areas should be treated with an effective acaricide before the arrival of equids.

3) When transporting equids through infected countries or zones:
   a) the vehicle/vessel should be treated with an effective acaricide before transporting the animals;
   b) preventive treatment of the equids with an acaricide with an extended residual effect that lasts at least for the duration of any stopover during the trip should be conducted.

Article 12.7.8.

Surveillance strategies

1. General principles of surveillance

A Member Country should justify the surveillance strategy chosen as being adequate to detect the presence of infection with *T. equi* and the presence of infection with *B. caballi*, given the prevailing epidemiological situation in accordance with Chapter 1.4. and Chapter 1.5. and under the responsibility of the Veterinary Authority.

An active programme of surveillance of equids to detect evidence of infection with *T. equi* and evidence of infection with *B. caballi* by serological or agent identification molecular testing is required to establish the status of a country or zone, considering that asymptomatic carriers play an important role in the maintenance and transmission of the infection.

The Veterinary Services should implement programmes to raise awareness among veterinarians, horse breeders, owners, keepers, and riders who have day-to-day contact with equids, as well as veterinary paraprofessionals and
diagnosticians, who should report promptly any suspicion of infection with *T. equi* and any suspicion of infection with *B. caballi* to the Veterinary Authority.

Under the responsibility of the Veterinary Authority, Member Countries should have in place an early warning system in accordance with Article 1.4.5. and a system for recording, managing and analysing diagnostic and surveillance data.

2. **Clinical surveillance**

Clinical surveillance aims at detecting clinical signs by close physical examination of equids.

3. **Serological and agent surveillance**

An active programme of surveillance of equids to detect evidence of infection with *T. equi* and evidence of infection with *B. caballi* by serological or agent identification testing with molecular techniques is required to establish the status of a country or zone considering that asymptomatic carriers play an important role in the maintenance and transmission of the infection.

The study population used for a serological survey should be representative of the population at risk in the country or zone.

4. **Surveillance in high-risk areas**

Disease-specific enhanced surveillance in a free country or zone should be carried out over an appropriate distance from the border with an infected country or zone, based upon geography, climate, history of infection and other relevant factors. The surveillance should be carried out particularly over the border with that country or zone unless there are relevant ecological or geographical features likely to limit the spatial distribution and thereby prevent the infestation of equids from competent ticks and interrupt the transmission of infection with *T. equi* or *B. caballi*.

5. **Vector surveillance**

Infection with *T. equi* or *B. caballi* is transmitted between equine hosts by species of competent ticks including species of the genera *Dermacentor*, *Rhipicephalus*, *Hyalomma*, and *Amblyomma*.

Vector surveillance is aimed at demonstrating the absence of tick vectors or defining high, medium and low-risk areas and local details of seasonality by determining the various species present in an area, their respective seasonal occurrence, and abundance. Vector surveillance has particular relevance to potential areas of spread. Long term surveillance can also be used to assess vector abatement measures or to confirm the continued absence of vectors.

Vector surveillance sampling should be scientifically based. The choice of collection methods to be used in vector surveillance and the frequency of their use should consider the size and ecological characteristics of the area to be surveyed as well as the biology and behavioural characteristics of the local vector species of competent ticks.

The use of a vector surveillance system to detect the presence of circulating *T. equi* or *B. caballi* is not recommended as a routine procedure. Rather, animal-based surveillance strategies are preferred to detect *T. equi* or *B. caballi* transmission.

---

**NB:** FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2023.
CHAPTER 12.8.

INFECTION WITH EQUID HERPESVIRUS-1
(EQUINE RHINOPNEUMONITIS)

Article 12.8.1.

General provisions

Equine rhinopneumonitis is a collective term for any one of several highly contagious, clinical disease entities of equids that may occur as a result of infection with equid herpesvirus-1 (EHV-1).

Infection with EHV-1 is characterised by a primary respiratory tract disease of varying severity that is related to the age and immunological status of the infected animal. Infections with EHV-1 are capable of progression beyond the respiratory mucosa to cause abortion, perinatal foal death, or neurological dysfunction.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.8.2.

Recommendations for the importation of equids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of EHV-1 infection on the day of shipment;
2) were kept for the 21 days prior to shipment in an establishment where no case of EHV-1 infection was reported during that period.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2014.
CHAPTER 12.9.

INFECTION WITH EQUINE ARTERITIS VIRUS

Article 12.9.1.

General provisions

For the purposes of the Terrestrial Code, equine viral arteritis (EVA) is defined as an infection of domestic equids with equine arteritis virus.

This chapter deals not only with the occurrence of clinical signs caused by equine arteritis virus, but also with the presence of infection with equine arteritis virus in the absence of clinical signs.

For the purposes of this chapter, isolation is defined as the separation of domestic equids from those of a different EVA health status, utilising appropriate biosecurity measures, with the objective of preventing the transmission of infection.

The infective period for EVA shall be 28 days for all categories of equids except sexually mature stallions where the infective period may be for the life of the animal. Because the infective period may be extended in the case of virus shedding in semen, the status of seropositive stallions should be checked to ensure that they do not shed virus in their semen.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.9.2.

Recommendations for the importation of uncastrated male equids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals showed no clinical sign of EVA on the day of shipment and during the 28 days prior to shipment and met one of the following requirements:

1) were isolated for the 28 days prior to shipment and were subjected to a test for EVA carried out on a single blood sample collected during the 21 days prior to shipment with a negative result; or

2) were subjected between six and nine months of age to a test for EVA:
   EITHER:
   a) with a negative result,
   OR
   b) with a positive result, followed at least 14 days later by a second test showing a stable or decreasing titre;
   and were immediately vaccinated against EVA and regularly revaccinated in accordance with the recommendations of the manufacturer; or

3) met the following requirements:
   a) were isolated; and
   b) not earlier than seven days of commencing isolation were subjected to a test for EVA on a blood sample with a negative result; and
   c) were then immediately vaccinated; and
   d) were kept separated from other equids for 21 days following vaccination; and
   e) were regularly revaccinated in accordance with the recommendations of the manufacturer; or

4) have been subjected to a test for EVA carried out on a blood sample with a positive result and then: either
   a) were subsequently test mated to two mares within six months prior to shipment which were subjected to two tests for EVA with negative results on blood samples collected at the time of test mating and again 28 days after the mating; or
   b) were subjected to a test for EVA with a negative result, carried out on semen collected during the six months prior to shipment; or
c) were subjected to a test for EVA with a negative result, carried out on semen collected within six months after the blood sample was tested, then immediately vaccinated, and regularly revaccinated in accordance with the recommendations of the manufacturer.

Article 12.9.3.

Recommendations for the importation of equids other than uncastrated males

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals showed no clinical sign of EVA on the day of shipment; and

EITHER

1) were kept in an establishment where no animals have shown any signs of EVA for the 28 days prior to shipment; and
   a) were subjected to a test for EVA carried out on blood samples collected either once within 21 days prior to shipment with a negative result, or on two occasions at least 14 days apart within 28 days prior to shipment, which demonstrated stable or declining antibody titres; or
   b) were regularly vaccinated in accordance with the recommendations of the manufacturer;

OR

2) were isolated for the 28 days prior to shipment and during this period the animals showed no sign of EVA.

Article 12.9.4.

Recommendations for the importation of equine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donors were kept for the 28 days prior to semen collection in an establishment where no equid has shown any clinical sign of EVA during that period and showed no clinical sign of EVA on the day of semen collection; and

1) were subjected between six and nine months of age to a test for EVA:
   EITHER:
   a) with a negative result,
   OR
   b) with a positive result, followed at least 14 days later by a second test showing a stable or decreasing titre;
   and were immediately vaccinated against EVA and regularly revaccinated in accordance with the recommendations of the manufacturer; or

2) were isolated and not earlier than 7 days of commencing isolation were subjected to a test for EVA on a blood sample with a negative result, immediately vaccinated for EVA, kept for 21 days following vaccination separated from other equids and regularly revaccinated in accordance with the recommendations of the manufacturer; or

3) were subjected to a test for EVA on a blood sample with a negative result within 14 days prior to semen collection, and had been separated from other equids not of an equivalent EVA status for 14 days prior to blood sampling until the end of semen collection; or

4) have been subjected to a test for EVA carried out on a blood sample with a positive result and then: either
   a) were subsequently test mated to two mares within six months prior to semen collection, which were subjected to two tests for EVA with negative results on blood samples collected at the time of test mating and again 28 days after the test mating; or
   b) were subjected to a test for EVA with a negative result, carried out on semen collected within six months prior to collection of the semen to be exported; or
   c) were subjected to a test for EVA with a negative result, carried out on semen collected within six months after the blood sample was collected, then immediately vaccinated, and regularly revaccinated; or

5) for frozen semen, were subjected with negative results either:
   a) to a test for EVA carried out on a blood sample taken not earlier than 14 days and not later than 12 months after the collection of the semen for export; or
   b) to a test for EVA carried out on an aliquot of the semen collected immediately prior to processing or on an aliquot of semen collected within 14 to 30 days after the first collection of the semen to be exported.
Article 12.9.5.

Recommendations for the importation of *in vivo* derived equine embryos

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals showed no clinical sign of EVA on the day of embryo collection; and

**EITHER**

1) were kept in an establishment where no animals have shown any signs of EVA for the 28 days prior to collection; and
   a) were subjected to a test for EVA carried out on blood samples collected either once within 21 days prior to collection with negative results, or on two occasions at least 14 days apart within 28 days prior to collection, which demonstrated stable or declining antibody titres; or
   b) were regularly vaccinated in accordance with the recommendations of the manufacturer;

**OR**

2) were isolated for the 28 days prior to collection and during this period the animals showed no sign of EVA;

**AND**

3) semen used to fertilise the oocytes complies with the requirements in Article 12.9.4.

**NB:** FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2014.
CHAPTER 12.10.

INFECTION WITH BURKHOLDERIA MALLEI
(GLANDERS)

Article 12.10.1.

General provisions

Equids are the major hosts and reservoirs of glanders although scientific data are not available on the occurrence of infection in zebras. Camelids, goats and various carnivores including bears, canids and felids can also be infected but play no significant role in the epidemiology of the disease. Glanders in humans is a rare but potentially fatal disease.

For the purposes of the Terrestrial Code, glanders is defined as an infection of equids with Burkholderia mallei with or without the presence of clinical signs.

The following defines the occurrence of infection with B. mallei:
1) B. mallei has been isolated from a sample from an equid; or
2) antigen or genetic material specific to B. mallei has been identified in a sample from an equid showing clinical or pathological signs consistent with glanders, or epidemiologically linked to a confirmed or suspected case of infection with B. mallei, or giving cause for suspicion of previous contact with B. mallei; or
3) antibodies specific to B. mallei have been detected by a testing regime appropriate to the species in a sample from an equid showing clinical or pathological signs consistent with glanders, or epidemiologically linked to a confirmed or suspected case of infection with B. mallei, or giving cause for suspicion of previous contact with B. mallei.

For the purposes of the Terrestrial Code, the infective period of B. mallei in equids is lifelong and the incubation period shall be six months.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.10.2.

Country or zone free from infection with B. mallei

A country or a zone that does not comply with Article 1.4.6. may be considered free from infection with B. mallei when:
1) infection with B. mallei has been a notifiable disease in the entire country for at least the past three years;
2) there has been no case of infection with B. mallei during the past three years;
3) a surveillance programme in accordance with Article 12.10.8. has demonstrated no evidence of infection with B. mallei in the past 12 months;
4) imports of equids and their germplasm into the country or zone are carried out in accordance with this chapter.

Article 12.10.3.

Recovery of free status

When a case is detected in a previously free country or zone, freedom from infection with B. mallei can be regained after the following:
1) a standstill of equids and their germplasm from establishments affected or suspected of being affected has been imposed until the destruction of the last case;
2) an epidemiological investigation, including trace-back and trace-forward to determine the likely source of the outbreak, has been carried out;
3) a stamping-out policy, which includes at least the destruction of all infected equids and the disinfection of the affected establishments, has been applied;
4) surveillance in accordance with Article 12.10.8. has been carried out and has demonstrated no evidence of infection in the 12 months after disinfection of the last affected establishment and during that period measures have been in place to control the movement of equids.

When the measures above are not carried out, Article 12.10.2. applies.

Article 12.10.4.

Recommendations for importation of equids from countries or zones free from infection with *B. mallei*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the equid:
1) showed no clinical signs of infection with *B. mallei* on the day of shipment;
2) either:
   a) was kept for six months prior to shipment, or since birth, in a country or zone or countries or zones free from infection with *B. mallei*; or
   b) if kept at any time in the past six months in a country or zone not free from infection with *B. mallei*, was imported in accordance with Article 12.10.5 into a country or zone free from infection with *B. mallei*.

Article 12.10.5.

Recommendations for importation of equids from countries or zones not free from infection with *B. mallei*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the equid:
1) showed no clinical signs of infection with *B. mallei* on the day of shipment;
2) was kept for six months prior to shipment, or since birth, in an establishment where no case of infection with *B. mallei* was reported during the 12 months prior to shipment;
3) was isolated for at least 30 days prior to shipment, and during that time was subjected to a test for infection with *B. mallei* with negative result carried out on two samples taken 21 to 30 days apart.

Article 12.10.6.

Recommendations for the importation of equine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) on the day of collection, the donor males:
   a) showed no clinical signs of infection with *B. mallei*;
   b) were examined clinically for signs of orchitis and cutaneous lesions on the penis or other parts of the body, with negative results;
2) the semen was collected, processed and stored in accordance with the relevant recommendations in Chapter 4.6. and in Articles 4.7.5. to 4.7.7.

Article 12.10.7.

Recommendations for the importation of *in vivo* derived equine embryos

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the donor females showed no clinical signs of infection with *B. mallei* on the day of collection;
2) the embryos were collected, processed and stored in accordance with the relevant recommendations in Chapters 4.8. and 4.10.;
3) the semen used for embryo production complies with Article 12.10.6.
Chapter 12.10. - Infection with Burkholderia mallei

Article 12.10.8.

General principles of surveillance

This article and Article 12.10.9. provide recommendations for surveillance for infection with *B. mallei* and are complementary to Chapter 1.4. The impact and epidemiology of infection with *B. mallei* vary in different regions of the world. The surveillance strategies employed should be adapted to the respective epidemiological situation.

Surveillance should address not only the occurrence of clinical signs caused by *B. mallei*, but also evidence of infection with *B. mallei* in the absence of clinical signs.

The surveillance systems should be designed:
- to demonstrate that equine populations in a country or zone show no evidence of infection with *B. mallei*; or
- to detect its introduction into a free population; or
- if *B. mallei* is known to be present, to allow the estimation of the prevalence and the determination of the distribution of the infection.

The surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority and should have in place:
1) a system for detecting and investigating outbreaks;
2) a procedure for the collection and transport of samples from suspected cases to a laboratory with appropriate testing capability for diagnosis of infection with *B. mallei*;
3) a system for recording, managing and analysing diagnostic, epidemiological and surveillance data;
4) a procedure for confirmation of inconclusive test results in a WOAH Reference Laboratory.

Diagnosticians and those with regular contact with equids, including private veterinarians, veterinary paraprofessionals and animal handlers should report promptly any suspicion of infection with *B. mallei*. The reporting system efficacy should be enhanced by awareness programmes and animal identification of equids.

The Veterinary Services should implement, when relevant and taking into account the results of previous surveillance, regular and frequent clinical inspections of equids and targeted serological surveys of high-risk subpopulations or those neighbouring a country or zone infected with *B. mallei*.

An effective surveillance system is likely to identify suspected cases that require follow-up investigation to confirm or exclude that the cause of the condition is infection with *B. mallei*. All suspected cases should be investigated as soon as possible and samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment be available to those responsible for the surveillance. Details of the occurrence of suspected cases and how they were investigated and dealt with should be documented. This should include the results of diagnostic testing and the control measures to which the equids concerned or affected establishments were subjected during the investigation (quarantine, movement control, euthanasia).

Captive wild, feral and wild equine populations should be included in the surveillance.

Article 12.10.9.

Surveillance strategies

The strategy employed should be based on the current knowledge of the epidemiological situation, and the expected results of the surveillance, such as the demonstration of a supposed free status. The populations of equids subject to the surveillance can be covered by passive clinical surveillance, active investigation of suspected cases, or randomised or targeted sampling.

Because infection with *B. mallei* usually occurs at a very low prevalence, randomised samples should be collected in high numbers. If an increased likelihood of infection in particular geographical locations or subpopulations can be identified, targeted sampling may be more appropriate.

To substantiate freedom from infection in a country or zone, surveillance should be conducted in accordance with the relevant provisions in Article 1.4.6. The relatively high rate of occurrence of false positive reactions to tests for *B. mallei* should be considered and the rate at which these false positives are likely to occur should be calculated in advance. Every positive result should be investigated to determine whether it is indicative of infection or not. This involves supplementary tests, trace-back and trace-forward, and inspection of individual animals and herds for clinical signs.
Clinical or pathological surveillance and laboratory testing are complementary diagnostic approaches that should always be applied in series to clarify the status of suspected cases. Agent identification should be carried out on any equid serologically positive or showing clinical signs consistent with glanders. Any suspected cases should be considered infected until contrary evidence is produced.

1. **Clinical surveillance**
   Clinical surveillance aims at detecting clinical signs by close physical examination of equids. However, systematic clinical surveillance is of limited use only, as asymptomatic carrier animals are the main reservoir of the disease.

2. **Pathological surveillance**
   Systematic pathological surveillance is an effective approach for the detection of infection with B. mallei and should be conducted on dead equids on farms, at slaughterhouses/abattoirs and facilities for the disposal of carcasses of equids. Pathological findings indicating possible infection with B. mallei should be confirmed by agent identification and any isolate should be characterised.

3. **Serological surveillance**
   Serological surveillance for infection with B. mallei is the preferred strategy. Animal identification and repeated testing of the population are necessary to establish its infection status.

4. **Malleinisation**
   Frequently used as a surveillance method, malleinisation demonstrates hypersensitivity to antigens of B. mallei. However, this method has shortcomings, such as low sensitivity, interference with other tests and animal welfare concerns.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2018.
CHAPTER 12.11.

VENezuelAn equine encephalomYelitis

Article 12.11.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for Venezuelan equine encephalomyelitis (VEE) shall be 14 days, and the incubation period 5 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.11.2.

VEE free country

A country formerly infected with VEE may be considered free when:

1) VEE is notifiable and a surveillance system is in place and provides that all VEE suspected animals are investigated promptly; specimens are collected, and all specimens are submitted for laboratory examination, including virus isolation;

2) no case of VEE has been confirmed for the past two years;

3) no equine animal has been imported from any country where VEE has been confirmed during the past two years.

If a country considered free from VEE imports horses from an infected country, the importing country will not be considered infected, provided that the importation has been carried out in accordance with Article 12.11.5.

Article 12.11.3.

Trade in commodities

Veterinary Authorities of VEE free countries may prohibit importation or transit through their territory, from countries considered infected with VEE, of domestic and wild equines, and may prohibit the importation into their territory, from countries considered infected with VEE, of semen and oocytes or embryos of domestic and wild equines.

Article 12.11.4.

Recommendations for importation from VEE free countries

For domestic and wild equines

The Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of VEE on the day of shipment;

2) have not, during the past six months, been in any country in which VEE has occurred in the last two years;

3) have not been vaccinated against VEE within 60 days prior to shipment.
Article 12.11.5.

Recommendations for importation from countries considered infected with VEE
For domestic and wild equines

The Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) vaccinated animals:
   a) were vaccinated against VEE not less than 60 days prior to shipment and were clearly identified with a permanent mark at the time of vaccination;
   b) were kept in a quarantine station in the country of origin under official veterinary supervision for three weeks prior to shipment and remained clinically healthy during that period; any animal which showed a rise in temperature (taken daily) was subjected to a blood test for virus isolation, with negative results;
   c) were protected from insect vectors during transportation to and from the quarantine station and during the quarantine period;
   d) showed no clinical sign of VEE on the day of shipment;

2) unvaccinated animals:
   a) were kept in a quarantine station in the country of origin under official veterinary supervision for three weeks prior to shipment and remained clinically healthy during that period; any animal which showed a rise in temperature (taken daily) was subjected to a blood test for virus isolation, with negative results;
   b) were subjected to a diagnostic test for VEE with negative results conducted not less than 14 days after the commencement of quarantine;
   c) were protected from insect vectors during transportation to and from the quarantine station and during the quarantine period;
   d) showed no clinical sign of VEE on the day of shipment.

In addition, animals may be isolated in the importing country for seven days under official veterinary supervision. Any animal which shows a rise in temperature (taken daily) shall be subjected to a blood test for virus isolation.

SECTION 13.
LEPORIDAE

CHAPTER 13.1.
MYXOMATOSIS

Article 13.1.1.
General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 13.1.2.
Recommendations for the importation of domestic rabbits

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of myxomatosis on the day of shipment;
2) were kept since birth, or for the six months prior to shipment, in an establishment where no case of myxomatosis was officially reported during that period.

Article 13.1.3.
Recommendations for the importation of skins and fur of domestic and wild rabbits

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the skins and fur were treated (dried and tanned) to ensure the destruction of the myxomatosis virus.

NB: FIRST ADOPTED IN 1968.
CHAPTER 13.2.

RABBIT HAEMORRHAGIC DISEASE

Article 13.2.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for rabbit haemorrhagic disease (RHD) shall be 60 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 13.2.2.

RHD free country

A country may be considered free from RHD when it has been shown that the disease has not been present for at least one year, that no vaccination has been carried out in the previous 12 months, and that virological or serological surveys in both domestic and wild rabbits have confirmed the absence of the disease.

This period may be reduced to six months after the last case has been eliminated and disinfection procedures completed in countries adopting a stamping-out policy, and where the serological survey confirmed that the disease had not occurred in the wild rabbits.

Article 13.2.3.

RHD free establishment

An establishment may be considered free from RHD when it has been shown, by serological testing, that the disease has not been present for at least one year, and that no vaccination has been carried out in the previous 12 months. Such establishments should be regularly inspected by the Veterinary Authority.

A previously infected establishment may be considered free when six months have elapsed after the last case has been eliminated, and after:

1) a stamping-out policy has been adopted and carcasses have been disposed of by burning;
2) the rabbitry has been thoroughly disinfected and kept empty for at least six weeks;
3) the rabbitry is properly fenced to prevent the straying of wild lagomorphs into the rabbitry.

Article 13.2.4.

Trade in commodities

Veterinary Authorities of RHD free countries may prohibit importation or transit through their territory, from countries considered infected with RHD, of live rabbits, semen, meat and non-treated pelts.

Article 13.2.5.

Recommendations for importation from RHD free countries

For domestic rabbits destined for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of RHD on the day of shipment;
2) were kept in a RHD free country since birth or for at least the past 60 days.
Chapter 13.2.- Rabbit haemorrhagic disease

Article 13.2.6.

Recommendations for importation from RHD free countries

For day-old rabbits destined for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of RHD on the day of shipment;
2) were born from female rabbits which had been kept in a country free from RHD for at least the past 60 days.

Article 13.2.7.

Recommendations for importation from countries considered infected with RHD

For domestic rabbits destined for breeding or pharmaceutical or surgical or agricultural or industrial use

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of RHD on the day of shipment;

AND

2) were kept in a RHD free establishment where no clinical case of RHD was found when inspected by an Official Veterinarian immediately prior to shipment;

OR

3) were kept in an establishment where no case of RHD was reported during the 30 days prior to shipment and no clinical case of RHD was found when inspected by an Official Veterinarian immediately prior to shipment; and
4) were kept in an establishment where no animal has been vaccinated against RHD; and
5) were kept in an establishment where breeding rabbits (at least 10% of the animals) were subjected to the serological test for RHD with negative results during the 60 days prior to shipment; and
6) have not been vaccinated against RHD; or
7) were vaccinated against RHD immediately before shipment (the nature of the vaccine used and the date of vaccination shall also be stated in the certificate).

Article 13.2.8.

Recommendations for importation from countries considered infected with RHD

For day-old rabbits destined for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) were kept in a RHD free establishment where no clinical case of RHD was found when inspected by an Official Veterinarian immediately prior to shipment;

OR

2) were kept in an establishment where no case of RHD was reported during the 30 days prior to shipment and no clinical case of RHD was found when inspected by an Official Veterinarian immediately before shipment; and
3) have not been vaccinated against RHD; and
4) were born from female rabbits which were subjected to the serological test for RHD with negative results during the 60 days prior to shipment.
Article 13.2.9.

Recommendations for importation from countries considered infected with RHD

For domestic rabbits destined for immediate slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of RHD on the day of shipment;
2) were kept in an establishment where no case of RHD was reported during the 60 days prior to shipment.

Article 13.2.10.

Recommendations for importation from countries considered infected with RHD

For semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals:
1) showed no clinical sign of RHD on the day of collection of the semen;
2) were subjected to the serological test for RHD with negative results during the 30 days prior to collection.

Article 13.2.11.

Recommendations for importation from countries considered infected with RHD

For domestic rabbit meat

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the meat comes from animals which:
1) were kept in an establishment where no case of RHD was reported during the 60 days prior to transport to the approved slaughterhouse/abattoir;
2) were subjected to ante-mortem inspections for RHD with favourable results;
3) showed no lesions of RHD at post-mortem inspections.

Article 13.2.12.

Recommendations for importation from RHD free countries

For non-treated pelts

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the pelts come from rabbits which had been kept in a country free from RHD for at least 60 days before slaughter.

Article 13.2.13.

Recommendations for importation from countries considered infected with RHD

For pelts

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the pelts were subjected to a drying treatment for at least one month and a formalin-based treatment by spraying at a 3% concentration, or by fumigation carried out, not more than seven days prior to shipment.

NB: FIRST ADOPTED IN 1992; MOST RECENT UPDATE ADOPTED IN 2012.
SECTION 14.
CAPRINAE

CHAPTER 14.1.
CAPRINE ARTHRITIS/ENCEPHALITIS

Article 14.1.1.
General provisions
Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.1.2.
Recommendations for the importation of goats for breeding
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of caprine arthritis/encephalitis on the day of shipment;
2) animals over one year of age were subjected to a diagnostic test for caprine arthritis/encephalitis with negative results during the 30 days prior to shipment; or
3) caprine arthritis/encephalitis was neither clinically nor serologically diagnosed in the sheep and goats present in the flocks of origin during the past three years, and also that no sheep or goat from a flock of inferior health status was introduced into these flocks during that period.

CHAPTER 14.2.

CONTAGIOUS AGALACTIA

Article 14.2.1.

Recommendations for the importation of sheep and goats

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of contagious agalactia on the day of shipment;
2) were kept since birth or for the six months prior to shipment in an establishment where no case of contagious agalactia was officially reported during that period;
3) were kept in a quarantine station for the 21 days prior to shipment.

______________________________

NB: FIRST ADOPTED IN 1968.
CHAPTER 14.3.

CONTAGIOUS CAPRINE PLEUROPNEUMONIA

Article 14.3.1.

General provisions

For the purposes of the Terrestrial Code, contagious caprine pleuropneumonia (CCPP) is defined as a disease of goats caused by Mycoplasma capricolum subspecies capripneumoniae. The incubation period for the disease shall be 45 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.3.2.

CCPP free country

A country may be considered free from CCPP when it has been shown that CCPP is not present and that one year has elapsed after the slaughter of the last affected animal for countries in which a stamping-out policy is practised.

Article 14.3.3.

CCPP infected zone

A zone shall be considered as infected with CCPP until at least 45 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures.

Article 14.3.4.

Trade in commodities

Veterinary Authorities of CCPP free countries may prohibit importation or transit through their territory, from countries considered infected with CCPP, of domestic and wild goats, and may prohibit importation into their territory, from countries considered infected with CCPP, of semen of domestic and wild goats and of oocytes or embryos of domestic goats.

Article 14.3.5.

Recommendations for importation from CCPP free countries

For domestic goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of CCPP on the day of shipment;

2) were kept in a CCPP free country since birth or for at least three months.
Chapter 14.3 - Contagious caprine pleuropneumonia

Article 14.3.6.

Recommendations for importation from CCPP free countries

For wild goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of CCPP on the day of shipment;
2) were kept in a CCPP free country;

if the animals originated from an area adjacent to a country considered infected with CCPP:
3) were kept in a quarantine station for at least the 45 days prior to shipment.

Article 14.3.7.

Recommendations for importation from countries considered infected with CCPP

For domestic goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of CCPP on the day of shipment;
2) were subjected to a complement fixation test for CCPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to shipment (under study);
3) were isolated from other domestic goats from the day of the first complement fixation test until shipment;
4) were kept since birth, or for at least the past 45 days, in an establishment where no case of CCPP was officially reported during that period, and that the establishment of origin was not situated in a CCPP infected zone;
5) have not been vaccinated against CCPP; or
6) were vaccinated not more than four months prior to shipment. In this case, point 2 above is not required (under study).

Article 14.3.8.

Recommendations for importation from countries considered infected with CCPP

For goats for immediate slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of CCPP on the day of shipment;
2) were kept since birth, or for at least the past 45 days, in an establishment where no case of CCPP was officially reported during that period, and that the establishment of origin was not situated in a CCPP infected zone.

Article 14.3.9.

Recommendations for importation from countries considered infected with CCPP

For wild goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of CCPP on the day of shipment;
2) were kept, for at least the past 45 days prior to shipment, in a quarantine station where no case of CCPP was officially reported during that period, and that the quarantine station was not situated in a CCPP infected zone;
3) have not been vaccinated against CCPP; or
4) were vaccinated not more than four months prior to shipment (under study).
Chapter 14.3. - Contagious caprine pleuropneumonia

**Article 14.3.10.**

**Recommendations for importation from CCPP free countries**

For oocytes or embryos of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CCPP on the day of collection;
   b) were kept in a CCPP free country;
2) the oocytes or embryos were collected in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

**Article 14.3.11.**

**Recommendations for importation from countries considered infected with CCPP**

For oocytes or embryos of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of CCPP on the day of collection; and
   b) were isolated from other domestic goats from the day of the test until collection;
   c) were kept since birth, or for at least the 45 days prior to collection, in an establishment where no case of CCPP was officially reported during that period, and that the establishment of origin was not situated in a CCPP infected zone;
2) the collection fluids and/or degenerated and unfertilised oocytes were subjected to a validated culture or PCR test for CCPP with negative results;
3) the oocytes or embryos were collected in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

**Article 14.3.12.**

**Recommendations for importation from countries considered infected with CCPP**

For fresh meat of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals:

1) which originate from establishments free of CCPP;
2) which have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to an ante-mortem inspection for CCPP with favourable results; and
3) which showed no lesions of CCPP at the post-mortem inspection.

CHAPTER 14.4.

INFECTION WITH
CHLAMYDIA ABORTUS
(ENZOOTTIC ABORTION OF EWES, OVINE CHLAMYDIOsis)

Article 14.4.1.

General provisions

For the purposes of the Terrestrial Code, enzootic abortion of ewes (EAE), also known as ovine chlamydiosis or ovine enzootic abortion, is an infection of domestic sheep and goats by the bacterium Chlamydia abortus.

Susceptible animals become infected through ingestion of infectious materials. In lambs and non-pregnant ewes, the infection remains latent until conception. Ewes exposed to infection late in pregnancy may not exhibit signs of infection until the subsequent pregnancy. Countries should take account of these risk factors.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.4.2.

Recommendations for the importation of sheep or goats for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1) have remained since birth, or for the previous two years, in establishments where no EAE has been diagnosed during the past two years;
2) showed no clinical sign of EAE on the day of shipment;
3) were subjected to a diagnostic test for EAE with negative results within the 30 days prior to shipment.

Article 14.4.3.

Sheep or goat flocks free from EAE infection

To qualify as free from EAE infection, a sheep or goat flock shall satisfy the following requirements:

1) it is under official veterinary surveillance;
2) all sheep and goats showed no clinical evidence of EAE infection during the past two years;
3) a statistically valid number of sheep and goats over six months of age were subjected to a diagnostic test for EAE with negative results within the past six months;
4) all sheep or goats are permanently identified;
5) no sheep or goat has been added to the flock since 30 days prior to the flock test referred to in point 3 above unless:
   a) either the additions were isolated from other members of the flock in the establishment of origin for a minimum period of 30 days and then were subjected to a diagnostic test for EAE with negative results, before entry into the new flock; or
   b) they originated from an establishment of equal health status.
Article 14.4.4.

Recommendations for the importation of semen of sheep or goats

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals showed no clinical sign on the day of the semen collection; and

1) have been kept in establishments or artificial insemination centres free from EAE in accordance with Article 14.4.3. for the two years prior to collection, and have not been in contact with animals of a lower health status; or

2) have remained since birth, or for the two years prior to collection, in establishments where no EAE has been diagnosed and were subjected to a diagnostic test for EAE with negative results two to three weeks after collection of the semen.

Article 14.4.5.

Recommendations for the importation of embryos of sheep or goats

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals showed no clinical sign on the day of collection; and

1) have been kept in establishments free from EAE in accordance with Article 14.4.3. for the two years prior to collection, and have not been in contact with animals of a lower health status; or

2) have remained since birth, or for the two years prior to collection, in establishments where no EAE has been diagnosed and were subjected to a diagnostic test for EAE with negative results two to three weeks after collection.

The embryos should be collected, processed and stored in accordance with Chapter 4.8.

CHAPTER 14.5.

MAEDI-VISNA

Article 14.5.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.5.2.

Recommendations for the importation of sheep and goats for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of maedi-visna on the day of shipment;
2) animals over one year of age were subjected to a diagnostic test for maedi-visna with negative results during the 30 days prior to shipment;
3) maedi-visna was neither clinically nor serologically diagnosed in the sheep and goats present in the flocks of origin during the past three years, and also that no sheep or goat from a flock of inferior health status was introduced into these flocks during that period.

CHAPTER 14.6.

OVINE EPIDIDYMITS
(BRUCELLA OVIS)

Article 14.6.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.6.2.

Sheep flock free from ovine epididymitis

To qualify as free from ovine epididymitis, a sheep flock shall satisfy the following requirements:

1) it is under official veterinary control;
2) all sheep in the flock showed no clinical evidence of ovine epididymitis during the past year;
3) all sheep in the flock are permanently identified.

If some or all the males in the flock are vaccinated, the flock should still be regarded as free.

Article 14.6.3.

Recommendations for the importation of sheep for breeding or rearing (except castrated males)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of ovine epididymitis on the day of shipment;
2) the animals come from a sheep flock free from ovine epididymitis;
3) for sheep over six months of age, the animals were isolated in the establishment of origin for the 30 days prior to shipment and were subjected to the diagnostic tests for Brucella ovis (B. ovis) with negative results; or
4) for sheep from a flock other than that stated in point 2 above, the animals were isolated prior to shipment and were subjected to the diagnostic tests for B. ovis with negative results on two occasions, with an interval of 30 to 60 days between each test, the second test being performed during the 15 days prior to shipment.

Article 14.6.4.

Recommendations for the importation of semen of sheep

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) showed no clinical sign of ovine epididymitis on the day of collection of the semen;
   b) come from a sheep flock free from ovine epididymitis;
   c) were kept in the exporting country for the 60 days prior to collection, in an establishment or artificial insemination centre where all animals are free from ovine epididymitis;
   d) were subjected to the diagnostic tests for B. ovis with negative results during the 30 days prior to collection;
Chapter 14.6. - Ovine epididymitis

2) the semen does not contain \textit{B. ovis} or other \textit{Brucella} antibodies.

\textbf{NB: FIRST ADOPTED IN 1982.}
CHAPTER 14.7.
INFECTION WITH PESTE DES PETITS RUMINANTS VIRUS

Article 14.7.1.

General provisions

Peste des petits ruminants (PPR) susceptible animals are primarily domestic sheep and goats although cattle, camels, buffaloes and some wild ruminant species can also be infected and may act as sentinels indicating the spill over of peste des petits ruminants virus (PPRV) from domestic small ruminants. Even if some wild small ruminants can be infective, only domestic sheep and goats play a significant epidemiological role.

For the purposes of the Terrestrial Code, PPR is defined as an infection of domestic sheep and goats with PPRV.

This chapter deals not only with the occurrence of clinical signs caused by PPRV, but also with the presence of infection with PPRV in the absence of clinical signs.

The following defines the occurrence of PPRV infection:

1) PPRV, excluding vaccine strains, has been isolated and identified as such from a domestic sheep or goat or a product derived from it; or

2) antigen or ribonucleic acid specific to PPRV, excluding vaccine strains, has been identified in samples from a domestic sheep or goat showing clinical signs consistent with PPR, or epidemiologically linked to an outbreak of PPR, or giving cause for suspicion of association or contact with PPR; or

3) antibodies to PPRV antigens which are not the consequence of vaccination, have been detected in a domestic sheep or goat with either epidemiological links to a confirmed or suspected outbreak of PPR or showing clinical signs consistent with recent infection of PPRV.

For the purposes of the Terrestrial Code, the incubation period for PPR shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.7.2.

Safe commodities

When authorising import or transit through their territory of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather, e.g. wet blue and crust leather) which have been submitted to the usual chemical and mechanical processes in use in the tanning industry, Veterinary Authorities should not require any PPR-related conditions regardless of PPR status of the exporting country or zone.

Article 14.7.3.

Country or zone free from PPR

A country or zone may be considered free from PPR when the relevant provisions in point 2 of Article 1.4.6. have been complied with, and when within the proposed free country or zone for at least the past 24 months:

1) there has been no case of infection with PPRV;

2) the Veterinary Authority has current knowledge of, and authority over, all domestic sheep and goats in the country or zone;
3) appropriate surveillance has been implemented in accordance with:
   a) Article 1.4.6. where historical freedom can be demonstrated; or
   b) Articles 14.7.27. to 14.7.33. where historical freedom cannot be demonstrated;
4) measures to prevent the introduction of the infection have been in place: in particular, the importations or movements of commodities into the country or zone have been carried out in accordance with this chapter and other relevant chapters of the Terrestrial Code;
5) no vaccination against PPR has been carried out;
6) no animals vaccinated against PPR have been introduced since the cessation of vaccination.

The country or zone will be included in the list of countries or zones free from PPR in accordance with Chapter 1.6.

Retention on the list requires annual reconfirmation of compliance with all points above and relevant provisions under point 4 of Article 1.4.6. Documented evidence should be resubmitted annually for points 1 to 4 above. Any changes in the epidemiological situation or other significant events should be notified to WOAH in accordance with Chapter 1.1.

**Article 14.7.4.**

**PPR free compartment**

A PPR free compartment can be established in either a PPR free country or zone or in an infected country or zone. In defining such a compartment the principles of Chapters 4.4. and 4.5. should be followed. Domestic sheep and goats in the PPR free compartment should be separated from any other susceptible animals by the application of an effective biosecurity management system.

A Member Country wishing to establish a PPR free compartment should:

1) have a record of regular and prompt animal disease reporting and if not PPR free, have an official control programme and a surveillance system for PPR in place in accordance with Articles 14.7.27. to 14.7.33. that allows an accurate knowledge of the prevalence of PPR in the country or zone;
2) declare for the PPR free compartment that:
   a) there has been no outbreak of PPR during the past 24 months;
   b) no evidence of PPRV infection has been found during the past 24 months;
   c) vaccination against PPR is prohibited;
   d) no small ruminant in the compartment has been vaccinated against PPR within the past 24 months;
   e) animals, semen and embryos only enter the compartment in accordance with relevant articles in this chapter;
   f) documented evidence shows that surveillance in accordance with Articles 14.7.27. to 14.7.33. is in place;
   g) an animal identification and traceability system in accordance with Chapters 4.2. and 4.3. is in place;
3) describe in detail the animal subpopulation in the compartment and the biosecurity plan for PPRV infection.

The compartment should be approved by the Veterinary Authority.

**Article 14.7.5.**

**PPRV infected country or zone**

A country or zone shall be considered as PPRV infected when the requirements for acceptance as a PPR free country or zone are not fulfilled.

**Article 14.7.6.**

**Establishment of a containment zone within a PPR free country or zone**

In the event of limited outbreaks within a PPR free country or zone, including within a protection zone, a single containment zone, which includes all cases, can be established for the purposes of minimising the impact on the entire country or zone.
Chapter 14.7.- Infection with peste des petits ruminants virus

For this to be achieved and for the Member Country to take full advantage of this process, the Veterinary Authority should submit documented evidence as soon as possible to WOAH that:

1) the outbreaks are limited based on the following factors:
   a) immediately on suspicion, a rapid response including notification has been made;
   b) standstill of animal movements has been imposed, and effective controls on the movement of other commodities mentioned in this chapter are in place;
   c) epidemiological investigation (trace-back, trace-forward) has been completed;
   d) the infection has been confirmed;
   e) the primary outbreak has been identified, and investigations on the likely source of the outbreak have been carried out;
   f) all cases have been shown to be epidemiologically linked;
   g) no new cases have been found in the containment zone with a minimum of two incubation periods as defined in Article 14.7.1. after the stamping-out of the last detected case is completed;

2) a stamping-out policy has been applied;

3) the susceptible animal population within the containment zones is clearly identifiable as belonging to the containment zone;

4) increased passive and targeted surveillance in accordance with Articles 14.7.27. to 14.7.33. in the rest of the country or zone has not detected any evidence of infection;

5) animal health measures that effectively prevent the spread of the PPRV to the rest of the country or zone, taking into consideration physical and geographical barriers, are in place;

6) ongoing surveillance is in place in the containment zone.

The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of these areas may be reinstated irrespective of Article 14.7.7., once the containment zone is clearly established, by complying with points 1 to 6 above. It should be demonstrated that commodities for international trade have originated outside the containment zone.

The recovery of the PPR free status of the containment zone should follow Article 14.7.7.

Article 14.7.7.

Recovery of free status

Should an outbreak of PPR occur in a previously free country or zone, its status may be recovered six months after the disinfection of the last affected establishment, provided that:

1) a stamping-out policy has been implemented;

2) surveillance in accordance with Article 14.7.32. has been carried out with negative results.

Otherwise, Article 14.7.3. applies.

The PPR free status of the country or zone will be reinstated only after the submitted evidence has been accepted by WOAH.

Article 14.7.8.

Recommendations for importation from PPR free countries or zones

For domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of PPR on the day of shipment;

2) were kept in a PPR free country or zone since birth or for at least the past 21 days.
Chapter 14.7. - Infection with peste des petits ruminants virus

Article 14.7.9.

Recommendations for importation from PPR free countries or zones

For wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign suggestive of PPRV infection on the day of shipment;
2) come from a PPR free country or zone;
3) if the country or zone of origin has a common border with a country considered infected with PPRV:
   a) were captured at a distance from the border that precludes any contact with animals in an infected country, the distance should be defined in accordance with the biology of the species exported, including home range and long distance movements;
   OR
   b) were kept in a quarantine station for at least 21 days prior to shipment.

Article 14.7.10.

Recommendations for importation from countries or zones considered infected with PPRV

For domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign suggestive of PPRV infection for at least the 21 days prior to shipment;
2) either:
   a) were kept since birth, or for at least the 21 days prior to shipment, in an establishment where no case of PPR was reported during that period, and that the establishment was not situated in a PPRV infected zone; or
   b) were kept in a quarantine station for at least the 21 days prior to shipment;
3) either:
   a) were not vaccinated against PPR and were submitted to a diagnostic test for PPRV infection with negative result no more than 21 days prior to shipment; or
   b) were vaccinated against PPR with live attenuated PPRV vaccines at least 21 days prior to shipment.

Article 14.7.11.

Recommendations for importation from countries or zones considered infected with PPRV

For wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign suggestive of PPRV infection for at least the 21 days prior to shipment;
2) were submitted to a diagnostic test for PPRV infection with negative results no more than 21 days prior to shipment;
3) were kept in a quarantine station for at least the 21 days prior to shipment.

Article 14.7.12.

Recommendations for importation from PPR free countries or zones

For semen of domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:
1) showed no clinical sign of PPR on the day of the collection of the semen and during the following 21 days;
2) were kept in a PPR free country or zone for at least the 21 days prior to collection.
**Article 14.7.13.**

**Recommendations for importation from countries or zones considered infected with PPRV**

For semen of domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1) showed no clinical sign suggestive of PPRV infection for at least the 21 days prior to collection of the semen and during the following 21 days;

2) were kept, for at least the 21 days prior to collection, in an establishment or artificial insemination centre where no case of PPR was reported during that period, which was not situated in a PPRV infected zone and to which no animals had been added during the 21 days prior to collection;

3) were not vaccinated against PPR and were submitted to a diagnostic test for PPRV infection with negative results at least 21 days prior to collection of the semen;

OR

4) were vaccinated against PPR with live attenuated PPRV vaccines at least 21 days prior to semen collection.

**Article 14.7.14.**

**Recommendations for importation from PPR free countries or zones**

For embryos of domestic sheep and goats and captive wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals were kept in an establishment located in a PPR free country or zone at least 21 days prior to embryo collection;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant;

3) semen of domestic sheep and goats used to fertilise the oocytes complies at least with the requirements in Article 14.7.12. or Article 14.7.13.

**Article 14.7.15.**

**Recommendations for importation from countries or zones considered infected with PPRV**

For embryos of domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) and all other animals in the establishment showed no clinical sign suggestive of PPRV infection at the time of collection and during the following 21 days;
   b) were kept, for at least the 21 days prior to collection, in an establishment where no case of PPR was reported during that period, and to which no susceptible animals had been added during the 21 days prior to collection;
   c) were not vaccinated against PPR and were subjected to a diagnostic test for PPRV infection with negative results at least 21 days prior to collection;
   OR
   d) were vaccinated against PPR with live attenuated PPRV vaccines at least 21 days prior to embryo collection;

2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant;

3) semen of domestic sheep and goats used to fertilise the oocytes complies at least with the requirements in Article 14.7.12. or Article 14.7.13.
Article 14.7.16.

Recommendations for importation from countries or zones considered infected with PPRV
For embryos of captive wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the donor animals:
   a) showed no clinical sign suggestive of infection with PPRV for at least the 21 days prior to embryo collection;
   b) were not vaccinated against PPR and were subjected to a diagnostic test for PPRV infection with negative results at least 21 days prior to collection;
   c) were kept, for at least the 21 days prior to collection, in an establishment where no case of PPR or of infection with PPRV was reported during that period, and to which no susceptible animals had been added during the 21 days prior to collection;
2) the embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

Article 14.7.17.

Recommendations for importation of fresh meat and meat products from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:
1) showed no clinical sign of PPR within 24 hours before slaughter;
2) have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results.

Article 14.7.18.

Recommendations for importation from PPR free countries or zones
For milk and milk products from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products come from animals which have been kept in a PPR free country or zone for at least the 21 days prior to milking.

Article 14.7.19.

Recommendations for importation from countries or zones considered infected with PPRV
For milk from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the milk:
   a) originates from flocks which were not subjected to any restrictions due to PPR at the time of milk collection; OR
   b) has been processed to ensure the destruction of the PPRV in accordance with one of the procedures referred to in Articles 8.8.35. and 8.8.36.;
2) the necessary precautions were taken to avoid contact of the products with any potential source of PPRV.

Article 14.7.20.

Recommendations for importation from countries or zones considered infected with PPRV
For milk products from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) these products are derived from milk complying with the requirements of Article 14.7.19.;
2) the necessary precautions were taken after processing to avoid contact of the milk products with any potential source of PPRV.
Article 14.7.21.

Recommendations for importation from PPR free countries or zones
For products of sheep and goats, other than milk, fresh meat and their products

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products are derived from animals:
1) which have been kept in a PPR free country or zone since birth or for at least the past 21 days;
2) which have been slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results.

Article 14.7.22.

Recommendations for importation from countries or zones considered infected with PPRV
For meal and flour from blood, meat, defatted bones, hooves, claws and horns from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the products were processed using heat treatment to a minimum internal temperature of 70°C for at least 30 minutes;
2) the necessary precautions were taken after processing to avoid contact of the commodities with any potential source of PPRV.

Article 14.7.23.

Recommendations for importation from countries or zones considered infected with PPRV
For hooves, claws, bones and horns, hunting trophies and preparations destined for museums from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the products were completely dried and had no trace on them of skin, flesh or tendon or were adequately disinfected; and
2) the necessary precautions were taken after processing to avoid contact of the commodities with any potential source of PPRV.

Article 14.7.24.

Recommendations for importation from countries or zones infected with PPRV
For wool, hair, raw hides and skins from sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products were processed in accordance with one of the following, in premises controlled and approved by the Veterinary Authority of the exporting country:

1. For wool and hair:
   a) industrial washing, which consists of the immersion of the wool in a series of baths of water, soap and sodium hydroxide (soda) or potassium hydroxide (potash);
   b) chemical depilation by means of slaked lime or sodium sulphide;
   c) fumigation with formaldehyde in a hermetically sealed chamber for at least 24 hours;
   d) industrial scouring which consists of the immersion of wool in a water-soluble detergent held at 60-70°C;
   e) storage of wool at 4°C for four months, 18°C for four weeks or 37°C for eight days.

2. For raw hides and skins:
   a) treatment for at least 28 days with salt (NaCl) containing 2% sodium carbonate (Na₂CO₃).

And

The necessary precautions were taken after processing to avoid contact of the commodities with any potential source of PPRV.
Article 14.7.25.

Recommendations for importation from countries or zones considered infected with PPRV

For products of animal origin from sheep and goats intended for pharmaceutical or surgical use

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:
1) come from animals which were slaughtered in an approved slaughterhouse/abattoir and have been subjected to ante- and post-mortem inspections with favourable results;
2) were processed to ensure the destruction of the PPRV in accordance with one of the procedures referred to in Article 8.8.26. or in Articles 8.8.31. to 8.8.34. as appropriate and in premises controlled and approved by the Veterinary Authority of the exporting country.


Procedures for the inactivation of the PPRV in casings of sheep and goats

For the inactivation of PPRV in casings of sheep and goats, the following procedures should be used: treatment for at least 30 days either with dry salt (NaCl) or with saturated brine ($a_w < 0.80$), or with phosphate supplemented salt containing 86.5% NaCl, 10.7% Na$_2$HPO$_4$ and 2.8% Na$_3$PO$_4$ (weight/weight/weight), either dry or as a saturated brine ($a_w < 0.80$), and kept at a temperature of 20°C or more during this entire period.

Article 14.7.27.

Introduction to surveillance

Articles 14.7.27. to 14.7.33. define the principles and provide a guide for the surveillance of PPR in accordance with Chapter 1.4. applicable to Member Countries seeking recognition of country or zonal freedom from PPR. Guidance is provided for Member Countries seeking reestablishment of freedom following an outbreak and for the maintenance of PPR free status.

Surveillance strategies employed for demonstrating freedom from PPR at an acceptable level of confidence should be adapted to the local situation. Outbreaks of PPR may vary in severity with differing clinical presentations believed to reflect variations in host resistance and variations in the virulence of the attacking strain. Experience has shown that surveillance based on a predefined set of clinical signs (e.g. searching for ‘pneumo-enteritis syndrome’) increases the sensitivity of the system. In the case of peracute cases the presenting sign may be sudden death. In the case of sub-acute (mild) cases, clinical signs are displayed irregularly and are difficult to detect.

Where they exist, susceptible domestic species, and feral populations of these species, should be included in the design of the surveillance strategy.

Surveillance for PPR should be in the form of a continuing programme designed to establish that the whole country or zone is free from PPRV infection.

Article 14.7.28.

General conditions and methods for surveillance

1) A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples from suspected cases to a laboratory for PPR diagnosis.

2) The PPR surveillance programme should:
   a) include an early warning system throughout the production, marketing and processing chain for reporting suspected cases. Farmers and workers who have day-to-day contact with livestock, as well as diagnosticians, should report promptly any suspicion of PPR. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary paraprofessionals) by government information programmes and the Veterinary Authority. All significant epidemiological events consistent with PPR, such as pneumo-enteritis syndrome, should be reported and investigated immediately. Where suspicion cannot be resolved by epidemiological and clinical investigation, samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment be available to those responsible for surveillance. Personnel
Chapter 14.7. - Infection with peste des petits ruminants virus

Responsible for surveillance should be able to call for assistance from a team with expertise in PPR diagnosis and control;

b) implement, when relevant, regular and frequent clinical inspection and serological testing of high-risk groups of animals, such as those adjacent to a PPRV infected country.

An effective surveillance system will periodically identify animals with signs suggestive of PPR that require follow-up and investigation to confirm or exclude that the cause of the condition is PPRV. The rate at which such suspected cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from PPRV infection should, in consequence, provide details of the occurrence of suspected cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).

Article 14.7.29.

Surveillance strategies

1. **Clinical surveillance**

Clinical surveillance aims to detect clinical signs of PPR by close physical examination. Clinical surveillance and epidemiological investigations are the cornerstone of all surveillance systems and should be supported by additional strategies such as virological and serological surveillance. Clinical surveillance may be able to provide a high level of confidence of detection of disease if sufficiently large numbers of clinically susceptible animals are examined. It is essential that clinical cases detected be followed up by the collection of appropriate samples such as ocular and nasal swabs, blood or other tissues for virus isolation or virus detection by other means. Sampling units within which suspicious animals are detected should be classified as infected until fully investigated.

Active search for clinical disease can include participatory disease searching, tracing backwards and forwards, and follow-up investigations. Participatory surveillance is a form of targeted active surveillance based upon methods to capture livestock owners' perceptions on the prevalence and patterns of disease.

The labour requirements and the logistical difficulties involved in conducting clinical examinations should be taken into account.

PPRV isolates may be sent to a WOAH Reference Laboratory for further characterisation.

2. **Virological surveillance**

Given that PPR is an acute infection with no known carrier state, virological surveillance should only be conducted as a follow-up to clinically suspected cases.

3. **Serological surveillance**

Serological surveillance aims to detect antibodies against PPRV. Positive antibody test results can have four possible causes:

a) natural infection with PPRV;

b) vaccination against PPR;

c) maternal antibodies derived from an immune dam (maternal antibodies in small ruminants can be found only up to six months of age);

d) heterophile (cross) and other non-specific reactions.

It may be possible to use serum collected for other survey purposes for PPR surveillance. However, the principles of survey design described in this chapter and the requirement for a statistically valid survey for the presence of PPRV should not be compromised.

The discovery of clustering of seropositive reactions should be foreseen. It may reflect any of a series of events, including but not limited to the demographics of the population sampled, vaccinal exposure or the presence of field strain infection. As clustering may signal field strain infection, the investigation of all instances must be incorporated in the survey design.

The results of random or targeted serological surveys are important in providing reliable evidence that PPRV infection is not present in a country or zone. It is therefore essential that the survey be adequately documented.
Article 14.7.30.

**Surveillance in wildlife**

Where a population of a susceptible wildlife species may act as sentinels indicating the spill over of PPRV from domestic sheep and goats, serosurveillance data should be collected.

Obtaining meaningful data from surveillance in wildlife can be enhanced by close coordination of activities in a region. Both purposive and opportunistic samplings are used to obtain material for analysis in national or reference laboratories. The latter are required because many countries do not have adequate facilities to perform the full testing protocol for detecting antibodies against PPRV in *wildlife* sera.

Targeted sampling is the preferred method to provide *wildlife* data to evaluate the status of *infection* with PPRV. In reality, the capacity to perform *wildlife* sampling is minimal in most countries. However, samples can be obtained from hunted animals, and these may provide useful background information.

Article 14.7.31.

**Additional surveillance requirements for Member Countries applying for WOAH recognition of PPR free status**

The strategy and design of the *surveillance* programme will depend on the prevailing epidemiological circumstances in and around the country or zone and should be planned and implemented in accordance with the conditions for status recognition described in Article 14.7.3. and methods in this chapter, to demonstrate absence of PPRV *infection* during the preceding 24 months. This requires the support of a laboratory able to undertake identification of PPRV *infection* through virus, antigen or viral nucleic acid detection and antibody tests.

The target population for *surveillance* aimed at identifying disease and *infection* should cover significant populations within the country or zone to be recognised as free from PPRV *infection*.

The strategy employed should be based on an appropriate combination of randomised and targeted sampling requiring *surveillance* consistent with demonstrating the absence of PPRV *infection* at an acceptable level of statistical confidence. The frequency of sampling should be dependent on the epidemiological situation. Risk-based approaches (e.g. based on the increased likelihood of *infection* in particular localities or species) may be appropriate to refine the *surveillance* strategy. The Member Country should justify the *surveillance* strategy chosen as adequate to detect the presence of PPRV *infection* in accordance with Chapter 1.4. and the epidemiological situation. It may, for example, be appropriate to target clinical *surveillance* at particular subpopulations likely to exhibit clear clinical signs.

Consideration should be given to the risk factors for the presence of PPRV, including:

1. historical disease patterns;
2. critical population size, structure and density;
3. livestock husbandry and farming systems;
4. movement and contact patterns, such as market and other trade-related movements;
5. virulence and infectivity of the strain.

The sample size selected for testing should be large enough to detect *infection* if it were to occur at a predetermined minimum rate. The sample size and predetermined minimum disease prevalence determine the level of confidence in the results of the survey. The applicant Member Country should justify the choice of design, minimum prevalence and confidence level based on the objectives of *surveillance* and the epidemiological situation, in accordance with Chapter 1.4. Selection of the minimum prevalence in particular should be based on the prevailing or historical epidemiological situation.

Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained.

Irrespective of the testing system employed, *surveillance* design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following-up positives to subsequently determine with a high level of confidence, whether they are indicative of *infection* or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as *herds* or *flocks* which may be epidemiologically linked to it.

The principles involved in *surveillance* for disease or *infection* are technically well defined in Chapter 1.4. The design of *surveillance* programmes to demonstrate the absence of PPRV *infection* should be carefully followed to ensure the...
reliability of results. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

Article 14.7.32.

Additional surveillance requirements for recovery of free status

Following an outbreak of PPR in a Member Country at any time after recognition of PPR freedom, the origin of the virus strain should be thoroughly investigated. In particular it is important to determine if this is due to the re-introduction of virus or re-emergence from an undetected focus of infection. Ideally, the virus should be isolated and compared with historical strains from the same area as well as those representatives of other possible sources.

After elimination of the outbreak, a Member Country wishing to regain the free status should undertake surveillance in accordance with this chapter to demonstrate the absence of PPRV infection.

Article 14.7.33.

The use and interpretation of serological tests for serosurveillance of PPR

Serological testing is an appropriate tool to use for PPR surveillance where vaccination has not been practised. There is only one serotype of virus and the tests will detect antibodies elicited by infection with all PPRV but the tests cannot discriminate between antibodies against field infection and those from vaccination with attenuated vaccines. This fact compromises serosurveillance in vaccinated populations and meaningful serosurveillance can only commence once vaccination has ceased for several years. Antibodies against virulent and vaccine strains of PPRV can be detected in small ruminants from about 14 days post infection or vaccination and peak around 30 to 40 days. Antibodies then persist for many years, possibly for life, although titres decline with time.

It is necessary to demonstrate that positive serological results have been adequately investigated.

Article 14.7.34.

WOAH endorsed official control programme for PPR

A Member Country may, on a voluntary basis, apply for endorsement of its official control programme for PPR in accordance with Chapter 1.6., when it has implemented measures in accordance with this article.

For a Member Country's official control programme for PPR to be endorsed by WOAH, the Member Country should provide a detailed official control programme for the control and eventual eradication of PPR in the country or zone. This document should address and provide documented evidence on the following:

1) epidemiology:
   a) the detailed epidemiological situation of PPR in the country, highlighting the current knowledge and gaps;
   b) the main production systems and movement patterns of sheep and goats and their products within and into the country and, where applicable, the specific zone;

2) surveillance and diagnostic capabilities:
   a) PPR surveillance in place, in accordance with Chapter 1.4. and Articles 14.7.27. to 14.7.33.;
   b) diagnostic capability and procedures, including regular submission of samples to a laboratory that performs diagnostic testing and further characterisation of strains;
   c) serosurveillance conducted in susceptible species, including wildlife, to serve as sentinels for PPRV circulation in the country;

3) vaccination:
   a) vaccination is compulsory in the target population and is practised in accordance with Chapter 4.18.;
   b) detailed information on vaccination campaigns, in particular:
      i) the strategy that is adopted for the vaccination campaign;
      ii) target populations for vaccination;
      iii) target geographical area for vaccination;
      iv) monitoring of vaccination coverage, including serological monitoring of population immunity;
      v) the strategy to identify vaccinated animals;
vi) technical specification of the vaccines used and description of the vaccine licensing procedures in place;

vii) use of vaccines fully compliant with the standards and methods described in the Terrestrial Manual;

viii) the proposed strategy and work plan including the timeline for transition to the cessation of vaccination;

4) the measures implemented to prevent the introduction of the pathogenic agent and to ensure the rapid detection of all PPR outbreaks;

5) an emergency preparedness plan and an emergency response plan to be implemented in case of PPR outbreaks;

6) work plan and timelines of the official control programme;

7) performance indicators for assessing the effectiveness of the control measures to be implemented;

8) monitoring, evaluation and review of the official control programme to demonstrate the effectiveness of the strategies.

The country will be included in the list of countries having a WOAH endorsed official control programme for PPR in accordance with Chapter 1.6.

Retention on the list requires an annual update on the progress of the official control programme and information on significant changes concerning the points above.

___________________________

NB: FIRST ADOPTED IN 1986; MOST RECENT UPDATE ADOPTED IN 2021.
CHAPTER 14.8.

SCRAPIE

Article 14.8.1.

General provisions and safe commodities

Scrapie is a neurodegenerative disease of sheep and goats. The main mode of transmission is from mother to offspring immediately after birth and to other susceptible neonates exposed to the birth fluids and tissues of an infected animal. Transmission occurs at a much lower frequency to adults exposed to the birth fluids and tissues of an infected animal. A variation in genetic susceptibility of sheep has been recognised. The incubation period of the disease is variable; however, it is usually measured in years. The duration in incubation period can be influenced by a number of factors including host genetics and strain of agent.

Scrapie is not considered to pose a risk to human health. The recommendations in this chapter are intended to manage the animal health risks associated with the presence of the scrapie agent in sheep and goats. The chapter excludes so-called ‘atypical’ scrapie because this condition is clinically, pathologically, biochemically and epidemiologically unrelated to ‘classical’ scrapie, may not be contagious and may, in fact, be a spontaneous degenerative condition of older sheep.

1) When authorising import or transit of the following commodities derived from sheep or goats and any products made from these commodities and containing no other tissues from sheep or goats, Veterinary Authorities should not require any scrapie-related conditions, regardless of the scrapie risk status of the sheep and goat populations of the exporting country, zone or compartment:
   a) in vivo derived sheep embryos handled in accordance with Chapter 4.8.;
   b) meat (excluding materials as referred to in Article 14.8.12.);
   c) hides and skins;
   d) gelatine;
   e) collagen prepared from hides or skins;
   f) tallow (maximum level of insoluble impurities of 0.15% in weight) and derivatives made from this tallow;
   g) dicalcium phosphate (with no trace of protein or fat);
   h) wool or fibre.

2) When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the scrapie risk status of the sheep and goat populations of the exporting country, zone or compartment.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.8.2.

Determination of the scrapie status of the sheep and goat populations of a country, zone, compartment or establishment

The scrapie status of the sheep and goat populations of a country, zone, compartment or establishment should be determined on the basis of the following criteria:

1) the outcome of a risk assessment identifying all potential factors for scrapie occurrence and their historic perspective, in particular the:
   a) importation or introduction of sheep and goats or their semen, in vivo derived goat embryos or in vitro processed sheep and goat oocytes or embryos potentially infected with scrapie;
   b) extent of knowledge of the population structure and husbandry practices of sheep and goats;
   c) feeding practices, including consumption of protein meal or greaves derived from ruminants;
   d) importation of milk and milk products of sheep or goats origin intended for use in feeding of sheep and goats;
2) an ongoing awareness programme for veterinarians, farmers, and workers involved in transportation, marketing and slaughter of sheep and goats to facilitate recognition and encourage reporting of all animals with clinical signs compatible with scrapie;

3) a surveillance and monitoring system including the following:
   a) official veterinary surveillance, reporting and regulatory control in accordance with Chapter 1.4.;
   b) a Veterinary Authority with current knowledge of, and authority over, all establishments which contain sheep and goats in the whole country;
   c) compulsory notification and clinical investigation of sheep and goats showing clinical signs compatible with scrapie;
   d) examination, in accordance with the Terrestrial Manual, in a laboratory of appropriate material from sheep and goats older than 18 months displaying clinical signs compatible with scrapie;
   e) maintenance of records including the number and results of all investigations for at least seven years.

Article 14.8.3.

Scrapie free country or zone

Countries or zones may be considered free from scrapie if within the said territory:

1) a risk assessment, as described in point 1 of Article 14.8.2., has been conducted, and it has been demonstrated that appropriate measures are currently in place and have been taken for the relevant period of time to manage any risk identified and points 2 and 3 have been complied with for the preceding seven years;

AND

2) one of the following conditions should be met:
   a) the country or the zone has demonstrated historical freedom as follows:
      i) scrapie has been notifiable for at least 25 years; and
      ii) a formal programme of targeted surveillance and monitoring, which includes testing of sheep and goats displaying clinical signs compatible with scrapie and those over 18 months of age slaughtered, culled or found dead on farm, can be documented as having been in place for at least 10 years; and
      iii) appropriate measures to prevent scrapie introduction can be documented as having been in place for at least 25 years; and
         - either scrapie has never been reported; or
         - no case of scrapie has been reported for at least 25 years;
   b) for at least seven years, sheep and goats displaying clinical signs compatible with scrapie have been tested. Also a sufficient number of sheep and goats over 18 months of age, representative of slaughtered, culled or found dead on farm, have been tested annually, to provide a 95% level of confidence of detecting scrapie if it is present in that population at a prevalence rate exceeding 0.1% and no case of scrapie has been reported during this period; or
   c) all establishments containing sheep or goats have been accredited free as described in Article 14.8.5.;

AND

3) the feeding to sheep and goats of protein meal or greaves of ruminant origin has been banned and effectively enforced in the whole country for at least seven years;

AND

4) introductions of sheep and goats or their semen, in vivo derived goat embryos or in vitro processed sheep and goat oocytes or embryos from countries or zones not free from scrapie are carried out in accordance with Articles 14.8.6., 14.8.7., 14.8.8. or 14.8.9., as relevant.

Article 14.8.4.

Compartment free from scrapie

To qualify as a compartment free from scrapie, all sheep and goats in a compartment should be certified by the Veterinary Authority as satisfying the following requirements:

1) all establishments within the compartment are free from scrapie in accordance with Article 14.8.5.;
2) all establishments within the compartment are managed under a common biosecurity plan protecting them from introduction of scrapie, and the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.4. and 4.5.;

3) introductions of sheep and goats are allowed only from free establishments or free countries;

4) introductions of in vivo derived goat embryos and in vitro processed sheep and goat oocytes or embryos are allowed either from free establishments or in accordance with Article 14.8.9.;

5) sheep and goat semen should be introduced into the compartment in accordance with Article 14.8.8.;

6) sheep and goats in the compartment should have no direct or indirect contact, including shared grazing, with sheep or goats from establishments not within the compartment.

**Article 14.8.5.**

*Scrapie free establishment*

To qualify as free from scrapie, an establishment of sheep and goats should satisfy the following requirements:

1) in the country or zone where the establishment is situated, the following conditions are fulfilled:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.8.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;
   d) the feeding to sheep and goats of protein meal or greaves of ruminant origin has been banned and effectively enforced in the whole country for at least seven years;
   e) an official accreditation scheme is in operation under the supervision of the Veterinary Authority, including the measures described in point 2 below;

2) in the establishment the following conditions have been complied with for at least seven years:
   a) sheep and goats are permanently identified and records maintained, to enable trace back to their establishment of birth;
   b) records of movements of sheep and goats in and out of the establishment are maintained;
   c) introductions of sheep and goats are allowed only from free establishments or establishment at an equal or higher stage in the process of accreditation;
   d) introduction of in vivo derived goat embryos and in vitro processed sheep and goat oocytes or embryos should comply with Article 14.8.9.;
   e) sheep and goat semen should be introduced into the establishment in accordance with Article 14.8.8.;
   f) an Official Veterinarian inspects sheep and goats in the establishments and audits the records at least once a year;
   g) no case of scrapie has been reported;
   h) sheep and goats of the establishments should have no direct or indirect contact, including shared grazing, with sheep or goats from establishments of a lower status;
   i) all culled sheep and goats over 18 months of age are inspected by an Official Veterinarian, and a proportion of those exhibiting wasting signs and all those exhibiting neurological signs are tested in a laboratory for scrapie. The selection of the sheep and goats to be tested should be made by the Official Veterinarian. Sheep and goats over 18 months of age that have died or have been killed for reasons other than routine slaughter should also be tested (including ‘fallen’ stock and those sent for emergency slaughter).

**Article 14.8.6.**

*Recommendations for importation from countries or zones not considered free from scrapie*

For sheep and goats for breeding or rearing

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals come from an establishment free from scrapie as described in Article 14.8.5.
Article 14.8.7.

Recommendations for importation from countries or zones not considered free from scrapie

For sheep and goats for slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) in the country or zone:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.8.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;

2) the sheep and goats selected for export showed no clinical sign of scrapie on the day of shipment.

Article 14.8.8.

Recommendations for importation from countries or zones not considered free from scrapie

For semen of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor animals:
   a) are permanently identified to enable trace back to their establishment of origin;
   b) showed no clinical sign of scrapie at the time of semen collection;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 14.8.9.

Recommendations for importation from countries or zones not considered free from scrapie

For in vivo derived goat embryos and in vitro processed sheep and goat oocytes or embryos

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) in the country or zone:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.8.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;
   d) the feeding to sheep and goats of protein meal or greaves of ruminant origin has been banned and effectively enforced in the whole country;

2) the donor animals either have been kept since birth in a free establishment, or meet the following conditions:
   a) are permanently identified to enable trace back to their establishment of origin;
   b) have been kept since birth in establishments in which no case of scrapie had been confirmed during their residency;
   c) showed no clinical sign of scrapie at the time of oocyte or embryo collection;

3) the oocytes or embryos were collected, processed and stored in accordance with Chapters 4.8., 4.9. and 4.10., as relevant.

Article 14.8.10.

Recommendations for importation from countries or zones not considered free from scrapie

For milk and milk products of sheep or goat origin intended for use in feeding of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the milk and milk products come from scrapie free establishments.
Article 14.8.11.

Recommendations on protein meal

Protein meal containing any sheep or goat protein, or any feedstuffs containing that type of protein meal, which originate from countries not considered free from scrapie should not be traded between countries for ruminant feeding.

Article 14.8.12.

Recommendations for importation from countries or zones not considered free from scrapie

For skulls including brains, ganglia and eyes, vertebral column including ganglia and spinal cord, tonsils, thymus, spleen, intestine, adrenal gland, pancreas, or liver, and protein products derived therefrom, from sheep and goats
1) These commodities should not be traded for use in ruminant feed.
2) For purposes other than ruminant feeding, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
   a) in the country or zone:
      i) the disease is compulsorily notifiable;
      ii) an awareness, surveillance and monitoring system as referred to in Article 14.8.2. is in place;
      iii) affected sheep and goats are killed and completely destroyed;
   b) the materials come from sheep and goats that showed no clinical sign of scrapie on the day of slaughter.


Recommendations for the importation of ovine and caprine materials destined for the preparation of biologicals

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products originate from sheep and goats born and raised in a scrapie free country, zone or establishment.

NB: FIRST ADOPTED IN 2002; MOST RECENT UPDATE ADOPTED IN 2011.
CHAPTER 14.9.

SHEEP POX AND GOAT POX

Article 14.9.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for sheep pox and goat pox shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.9.2.

Sheep pox and goat pox free country

A country may be considered free from sheep pox and goat pox when it has been shown that sheep pox and goat pox has not been present for at least the past three years.

This period shall be six months after the slaughter of the last affected animal for countries in which a stamping-out policy is practised with or without vaccination against sheep pox and goat pox.

Article 14.9.3.

Sheep pox and goat pox infected zone

A zone shall be considered as infected with sheep pox and/or goat pox until:

1) at least 21 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures; or

2) six months have elapsed after the clinical recovery or death of the last affected animal if a stamping-out policy was not practised.

Article 14.9.4.

Trade in commodities

Veterinary Authorities of sheep pox and goat pox free countries may prohibit importation or transit through their territory, from countries considered infected with sheep pox and goat pox, of domestic sheep and goats.

Article 14.9.5.

Recommendations for importation from sheep pox and goat pox free countries

For domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of sheep pox or goat pox on the day of shipment;

2) were kept in a sheep pox and goat pox free country since birth or for at least the past 21 days.
Article 14.9.6.

Recommendations for importation from countries considered infected with sheep pox and goat pox

For domestic sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of sheep pox or goat pox on the day of shipment;

2) were kept since birth, or for the past 21 days, in an establishment where no case of sheep pox and goat pox was officially reported during that period, and that the establishment was not situated in a sheep pox and goat pox infected zone; or

3) were kept in a quarantine station for the 21 days prior to shipment;

4) have not been vaccinated against sheep pox and goat pox; or

5) were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not less than 15 days and not more than 4 months prior to shipment (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included in the vaccine shall also be stated in the certificate).

Article 14.9.7.

Recommendations for importation from sheep pox and goat pox free countries

For semen of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1) showed no clinical sign of sheep pox or goat pox on the day of collection of the semen and for the following 21 days;

2) were kept in a sheep pox and goat pox free country.

Article 14.9.8.

Recommendations for importation from countries considered infected with sheep pox and goat pox

For semen of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1) showed no clinical sign of sheep pox or goat pox on the day of collection of the semen and for the following 21 days;

2) were kept in the exporting country for the 21 days prior to collection, in an establishment or artificial insemination centre where no case of sheep pox and goat pox was officially reported during that period, and that the establishment or artificial insemination centre was not situated in a sheep pox and goat pox infected zone;

3) have not been vaccinated against sheep pox and goat pox; or

4) were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included in the vaccine shall also be stated in the certificate).
Article 14.9.9.

Recommendations for importation from countries considered infected with sheep pox and goat pox

For skins, fur, wool and hair (from sheep or goats)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1) come from animals which have not been kept in a sheep pox and goat pox infected zone; or
2) have been processed to ensure the destruction of the sheep pox and goat pox virus, in premises controlled and approved by the Veterinary Authority of the exporting country.

NB: FIRST ADOPTED IN 1986.
CHAPTER 14.10.

INFECTION WITH THEILERIA LESTOQUARDI, T. LUWENSHUNI AND T. UILENBERGI

Article 14.10.1.

General provisions

Theileriosis is a disease of bovines (Bos indicus, B. taurus, B. grunniens, Bubalus bubalis and Syncerus caffer), sheep (Ovis aries), goats (Capra hircus), camels (Camelus dromedarius and C. bactrianus) and some wild ruminants.

Theileriosis can give rise to disease of variable severity and the pathogenic agent may persist in ruminants for their lifetime. Such animals are considered carriers.

Only sheep and goats play a significant epidemiological role in the infection with Theileria lestoquardi, T. luwenshuni and T. uilenbergi.

For the purposes of the Terrestrial Code, infection with Theileria lestoquardi, T. luwenshuni and T. uilenbergi are defined as a tickborne infection of sheep and goats with T. lestoquardi, T. luwenshuni and T. uilenbergi.

For the purposes of this chapter, Theileria means T. lestoquardi, T. luwenshuni and T. uilenbergi.

The following defines the occurrence of infection with Theileria:

1) Theileria has been observed and identified as such in a sample from a sheep or goat; or
2) nucleic acid specific to Theileria has been detected in a sample from a sheep or goat showing clinical signs consistent with infection with Theileria, or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association with Theileria; or
3) antibodies specific to Theileria have been detected in a sample from a sheep or goat showing clinical signs consistent with Theileria, or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association with Theileria.

For the purposes of the Terrestrial Code, the incubation period for infection with Theileria shall be 35 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.10.2.

Safe commodities

When authorising the importation or transit of the following commodities, Veterinary Authorities should not require any Theileria-related conditions regardless of the animal health status of the exporting country or zone:

1) meat and meat products;
2) casings;
3) milk and milk products;
4) gelatine and collagen;
5) tallow;
6) semen and embryos collected in accordance with the relevant chapters of the Terrestrial Code;
7) hooves and horns;
8) bones.
Chapter 14.10.- Infection with Theileria lestoquardi, T. luwenshuni and T. uilenbergi

Article 14.10.3.

Country or zone free from infection with *Theileria* in sheep and goats

1) A country or a zone may be considered free from infection with *Theileria* when the disease is notifiable in the entire country, importation of sheep and goats and their commodities is carried out in accordance with this chapter, and:
   a) the country or zone is historically free as described in Article 1.4.6.; or
   b) a surveillance programme in accordance with Chapter 1.4. has demonstrated no evidence of infection with *Theileria* in the country or zone for at least two years; or
   c) an ongoing surveillance programme in accordance with Chapter 1.5. has found no competent tick vectors for at least two years in the country or zone.

2) A country or zone free from infection with *Theileria* will not lose its status as a result of introduction of seropositive sheep and goats or their commodities, provided they were introduced in accordance with this chapter.

Article 14.10.4.

Recommendations for importation of sheep and goats from countries or zones free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of infection with *Theileria* on the day of shipment;
2) come from a country or zone free from infection with *Theileria*.

Article 14.10.5.

Recommendations for importation of sheep and goats from countries or zones not free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1) showed no clinical sign of infection with *Theileria* and no infestation with tick vectors on the day of shipment;
2) were kept isolated for at least 35 days prior to shipment in an establishment where no case of infection with *Theileria* has occurred during the preceding two years;
3) were treated with a registered acaricide, the efficacy of which has been confirmed in relation to the area of origin of the animals, at the time of entry into the isolation establishment and then at regular intervals, according to manufacturer's instructions, allowing continuous protection against ticks until their shipment;
4) were subjected to agent detection tests with negative results on samples taken immediately prior to entry and at least 25 days after entry into the isolation establishment.

Article 14.10.6.

Recommendations for importation of hides and skins from countries or zones not free from infection with *Theileria*

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products have been:

1) dry-salted or wet-salted for a period of at least 14 days prior to dispatch; or
2) treated for a period of at least seven days in salt (NaCl) with the addition of 2% sodium carbonate (Na₂CO₃); or
3) dried for a period of at least 42 days at a temperature of at least 20°C; or
4) frozen to at least -20°C for at least 48 hours.
Chapter 14.10.- Infection with Theileria lestoquardi, T. luwenshuni and T. uilenbergi

Article 14.10.7.

Recommendations for importation of wool and fibre of sheep and goats from countries or zones not free from infection with Theileria

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products were subjected to:

1) industrial washing, which consists of the immersion of the wool in a series of baths of water, soap and sodium hydroxide or potassium hydroxide; or

2) industrial scouring, which consists of the immersion of wool in a water-soluble detergent held at 60–70°C.

Article 14.10.8.

Recommendations for importation of trophies derived from susceptible ruminants from countries or zones not free from infection with Theileria

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products have been processed to ensure the destruction of tick vectors.

NB: FIRST ADOPTED IN 2023.
Section 15.

Suidae

Chapter 15.1.

Infection with African Swine Fever Virus

Article 15.1.1.

General provisions

Suids are the only natural non-arthropod hosts for African swine fever virus (ASFV). These include all varieties of Sus scrofa (pig), both domestic and wild, and African wild suid species including warthogs (Phacochoerus spp.), bushpigs (Potamochoerus spp.) and the giant forest hog (Hylochoerus meinertzhageni).

For the purposes of this chapter, a distinction is made among:

- domestic and captive wild pigs, permanently captive or farmed free range, used for the production of meat, or other commercial products or use, or for breeding;
- wild and feral pigs;
- African wild suid species.

All varieties of Sus scrofa are susceptible to the pathogenic effects of ASFV, while the African wild suids are not and may act as reservoirs of the virus. Ticks of the genus Ornithodoros are the only known natural arthropod hosts of the virus and act as reservoirs and biological vectors.

For the purposes of the Terrestrial Code, African swine fever (ASF) is defined as an infection of suids with ASFV.

The following defines the occurrence of infection with ASFV:

1) ASFV has been isolated from samples from a suid;

OR

2) antigen or nucleic acid specific to ASFV has been identified in samples from a suid showing clinical signs or pathological lesions suggestive of ASF or epidemiologically linked to a suspected or confirmed case of ASF, or from a suid giving cause for suspicion of previous association or contact with ASFV;

OR

3) antibodies specific to ASFV have been detected in samples from a suid showing clinical signs or pathological lesions consistent with ASF, or epidemiologically linked to a suspected or confirmed case of ASF, or giving cause for suspicion of previous association or contact with ASFV.

For the purposes of the Terrestrial Code, the incubation period in Sus scrofa shall be 15 days.

Standards for diagnostic tests are described in the Terrestrial Manual.
Article 15.1.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any ASF-related conditions, regardless of the ASF status of the exporting country or zone:

1) meat in a hermetically sealed container with a F0 value of 3 or above;
2) gelatine.

Other commodities of suids can be traded safely if in accordance with the relevant articles of this chapter.

Article 15.1.3.

General criteria for the determination of the ASF status of a country, zone or compartment

1) ASF is a notifiable disease in the entire country, and all suids showing clinical signs or pathological lesions suggestive of ASF are subjected to appropriate field and laboratory investigations;
2) an ongoing awareness programme is in place to encourage reporting of all suids showing clinical signs or pathological lesions suggestive of ASF;
3) the Veterinary Authority has current knowledge of, and authority over, all domestic and captive wild pig herds in the country, zone or compartment;
4) the Veterinary Authority has current knowledge of the species of wild and feral pigs and African wild suids present, their distribution and habitat in the country or zone;
5) for domestic and captive wild pigs, an appropriate surveillance programme in accordance with Articles 15.1.28. to 15.1.31. and 15.1.33. is in place;
6) for wild and feral pigs, and for African wild suids, if present in the country or zone, a surveillance programme is in place in accordance with Article 15.1.32., considering the presence of natural and artificial boundaries, the ecology of the wild and feral pig and African wild suid populations and an assessment of the likelihood of ASF spread including taking into account the presence of Ornithodoros ticks where relevant;
7) the domestic and captive wild pig populations are separated by appropriate biosecurity, effectively implemented and supervised, from the wild and feral pig and African wild suid populations, based on the assessed likelihood of spread within the wild and feral pig and African wild suid populations, and surveillance in accordance with Article 15.1.32.; they are also protected from Ornithodoros ticks where relevant.

Article 15.1.4.

Country or zone free from ASF

1. Historical freedom
A country or zone may be considered historically free from ASF without pathogen-specific surveillance if the provisions in Article 1.4.6. are complied with and commodities of suids are imported in accordance with the relevant articles of this chapter.

2. Freedom in all suids
A country or zone which does not meet the conditions of point 1 above may be considered free from ASF in all suids when it complies with all the criteria of Article 15.1.3. and when:
   a) surveillance in accordance with Articles 15.1.28. to 15.1.33. has been in place for the past three years;
   b) there has been no case of infection with ASFV during the past three years; this period can be reduced to 12 months when the surveillance has demonstrated no evidence of presence or involvement of Ornithodoros ticks;
   c) commodities of suids are imported in accordance with the relevant articles of this chapter.

3. Freedom in domestic and captive wild pigs
A country or zone which does not meet the conditions of point 1 or point 2 b), i.e. when there are cases of infection with ASFV in feral or wild suids, may be considered free from ASF in domestic and captive wild pigs when it complies with all the criteria of Article 15.1.3., especially point 7, and when:
   a) surveillance in accordance with Articles 15.1.28. to 15.1.33. has been in place for the past three years;
b) there has been no case of infection with ASFV in domestic or captive wild pigs during the past three years; this period can be reduced to 12 months when the surveillance has demonstrated no evidence of presence or involvement of Ornithodoros ticks;

c) commodities of suids are imported in accordance with the relevant articles of this chapter.

Article 15.1.5.

Compartments free from ASF

The establishment of compartment free from ASF should follow the relevant requirements of this chapter and the principles in Chapters 4.4. and 4.5.

Article 15.1.6.

Establishment of a containment zone within a country or zone free from ASF

In the event of limited outbreaks of ASF within a country or zone previously free from ASF, including within a protection zone, a containment zone, which includes all outbreaks, may be established for the purposes of minimising the impact on the entire country or zone.

In addition to the requirements for the establishment of a containment zone outlined in Article 4.4.7., the surveillance programme should take into account the presence and potential role of Ornithodoros ticks and of wild and feral pigs and African wild suids and any measures in place to avoid their dispersion.

The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of these areas outside the containment zone may be reinstated irrespective of the provisions of Article 15.1.7., once the containment zone is clearly established. It should be demonstrated that commodities for international trade either have originated outside the containment zone or comply with the provisions in Articles 15.1.9., 15.11., 15.13. and Articles 15.1.15. to 15.1.21.

The recovery of the free status of the containment zone should follow the provisions of Article 15.1.7.

Article 15.1.7.

Recovery of free status

Should an outbreak of ASF occur in a previously free country or zone, its status may be restored three months after the disinfection of the last infected establishment, provided that:

1) a stamping-out policy has been implemented and, in the case where ticks are suspected or known to be involved in the epidemiology of the infection, has been followed by the use of sentinel pigs in the infected establishments for two months;

2) surveillance in accordance with Article 15.1.31. has been carried out with negative results.

Otherwise, the provisions of point 2 of Article 15.1.4. apply.

Article 15.1.8.

Recommendations for importation from countries, zones or compartments free from ASF

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the animals showed no clinical sign of ASF on the day of shipment;

2) the animals were kept in a country, zone or compartment free from ASF since birth or for at least the past three months;

3) if the animals are exported from a free zone or compartment within an infected country or infected zone, necessary precautions were taken to avoid contact with any source of ASFV until shipment.
Article 15.1.9.

Recommendations for importation from countries or zones not free from ASF
For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of ASF on the day of shipment;
2) and either:
   a) were kept since birth or for the past three months in a compartment free from ASF; or
   b) were kept in a quarantine station, isolated for 30 days prior to shipment, and were subjected to a virological test and a serological test performed at least 21 days after entry into the quarantine station, with negative results.

Article 15.1.10.

Recommendations for importation from countries, zones or compartments free from ASF
For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the donor males:
   a) were kept in a country, zone or compartment free from ASF since birth or for at least three months prior to collection;
   b) showed no clinical sign of ASF on the day of collection of the semen;
2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 15.1.11.

Recommendations for importation from countries or zones not free from ASF
For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the donor males:
   a) were kept since birth or for at least three months prior to collection in an establishment, in which surveillance in accordance with Articles 15.1.28. to 15.1.30. demonstrates that no case of ASF has occurred in the past three years; this period can be reduced to 12 months when the surveillance demonstrates that there is no evidence of tick involvement in the epidemiology of the infection;
   b) showed no clinical sign of ASF on the day of collection of the semen;
2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 15.1.12.

Recommendations for importation from countries, zones or compartments free from ASF
For in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the donor females:
   a) were kept in a country, zone or compartment free from ASF since birth or for at least three months prior to collection;
   b) showed no clinical sign of ASF on the day of collection of the embryos;
2) the semen used to fertilise the oocytes complied with the conditions referred to in Article 15.1.10. or Article 15.1.11., as relevant;
3) the embryos were collected, processed and stored in accordance with the relevant provisions of Chapters 4.8. and 4.10.
Chapter 15.1.- Infection with African swine fever virus

Article 15.1.13.

Recommendations for importation from countries or zones not free from ASF

For in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) were kept since birth or for at least three months prior to collection in an establishment, in which surveillance in accordance with Articles 15.1.28. to 15.1.30. demonstrates that no case of ASF has occurred in the past three years; this period can be reduced to 12 months when the surveillance demonstrates that there is no evidence of tick involvement in the epidemiology of the infection;
   b) showed no clinical sign of ASF on the day of collection of the embryos;
   c) were subjected to a serological test performed at least 21 days after collection, with negative results;
2) the semen used to fertilise the oocytes complied with the conditions referred to in Article 15.1.10. or Article 15.1.11., as relevant;
3) the embryos were collected, processed and stored in accordance with the relevant provisions of Chapters 4.8. and 4.10.

Article 15.1.14.

Recommendations for importation from countries, zones or compartments free from ASF

For fresh meat of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals which:

1) have been kept in a country, zone or compartment free from ASF since birth or have been imported or introduced in accordance with Article 15.1.8. or Article 15.1.9.;
2) have been slaughtered in an approved slaughterhouse/abattoir, where they have been subjected with favourable results to ante- and post-mortem inspections in accordance with Chapter 6.3.

Article 15.1.15.

Recommendations for importation from countries or zones not free from ASF

For fresh meat of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the entire consignment of fresh meat comes from animals which originated from herds in which surveillance in accordance with Articles 15.1.28. to 15.1.30. demonstrates that no case of ASF has occurred in the past three years. This period can be reduced to 12 months when the surveillance demonstrates that there is no evidence of tick involvement in the epidemiology of the infection. In addition, samples from a statistically representative number of animals were tested for ASF, with negative results;
2) the entire consignment of fresh meat comes from animals which have been slaughtered in an approved slaughterhouse/abattoir, have been subjected with favourable results to ante- and post-mortem inspections in accordance with Chapter 6.3.;
3) necessary precautions have been taken after slaughter to avoid contact of the fresh meat with any source of ASFV.

Article 15.1.16.

Recommendations for importation of fresh meat of wild and feral pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals which:

1) have been killed in a country or zone free from ASF in accordance with point 1 or point 2 of Article 15.1.4.;
2) have been subjected with favourable results to a post-mortem inspection in accordance with Chapter 6.3. in an examination facility approved by the Veterinary Authority for export purposes.
Article 15.1.17.

Recommendations for the importation of meat products of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products:

1) have been prepared:
   a) exclusively from fresh meat meeting the relevant conditions in Articles 15.1.14., 15.1.15. and 15.1.16.;
   b) in a processing facility:
      i) approved by the Veterinary Authority for export purposes;
      ii) processing only meat meeting the relevant conditions in Articles 15.1.14., 15.1.15. and 15.1.16.;

OR

2) have been processed in a facility approved by the Veterinary Authority for export purposes so as to ensure the destruction of ASFV in accordance with Article 15.1.23., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.18.

Recommendations for the importation of bristles from pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that bristles:

1) originated from domestic or captive wild pigs in a country, zone or compartment free from ASF and have been processed in a facility approved by the Veterinary Authority for export purposes; or

2) have been processed in a facility approved by the Veterinary Authority for export purposes so as to ensure the destruction of ASFV in accordance with one of the processes listed in Article 15.1.26., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.19.

Recommendations for the importation of litter and manure from pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1) originated from domestic or captive wild pigs in a country, zone or compartment free from ASF; or

2) have been processed in a facility approved by the Veterinary Authority for export purposes so as to ensure the destruction of the ASFV in accordance with one of the processes listed in Article 15.1.27., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.20.

Recommendations for the importation of skins and trophies from suids

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1) originated from suids in a country or zone free from ASF in accordance with point 1 or point 2 of Article 15.1.4. and have been processed in a facility approved by the Veterinary Authority for export purposes; or

2) originated from domestic or captive wild pigs in a country, zone or compartment free from ASF and have been processed in a facility approved by the Veterinary Authority for export purposes; or

3) have been processed in a facility approved by the Veterinary Authority for export purposes so as to ensure the destruction of ASFV in accordance with one of the procedures referred to in Article 15.1.25., and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.
Chapter 15.1.- Infection with African swine fever virus

Article 15.1.21.

Recommendations for the importation of other pig products

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1) originated from domestic or captive wild pigs in a country, zone or compartment free from ASF and have been prepared in a processing facility approved by the Veterinary Authority for export purposes;

OR

2) have been processed in a facility approved by the Veterinary Authority for export purposes so as to ensure the destruction of ASFV, and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASFV.

Article 15.1.22.

Procedures for the inactivation of ASFV in swill

For the inactivation of ASFV in swill, one of the following procedures should be used:

1) the swill is maintained at a temperature of at least 90°C for at least 60 minutes, with continuous stirring; or

2) the swill is maintained at a temperature of at least 121°C for at least 10 minutes at an absolute pressure of 3 bar; or

3) the swill is subjected to an equivalent treatment that has been demonstrated to inactivate ASFV.

Article 15.1.23.

Procedures for the inactivation of ASFV in meat

For the inactivation of ASFV in meat, one of the following procedures should be used:

1. Heat treatment
   Meat should be subjected to:
   a) heat treatment for at least 30 minutes at a minimum temperature of 70°C, which should be reached throughout the meat; or
   b) any equivalent heat treatment which has been demonstrated to inactivate ASFV in meat.

2. Dry cured pig meat
   Meat should be cured with salt and dried for a minimum of six months.

Article 15.1.24.

Procedures for the inactivation of ASFV in casings of pigs

For the inactivation of ASFV in casings of pigs, the following procedures should be used: treating for at least 30 days either with dry salt (NaCl) or with saturated brine (Aw < 0.80), or with phosphate supplemented dry salt containing 86.5% NaCl, 10.7% Na₂HPO₄ and 2.8% Na₃PO₄ (weight/weight/weight) at a temperature of 12°C or above.

Article 15.1.25.

Procedures for the inactivation of ASFV in skins and trophies

For the inactivation of ASFV in skins and trophies, one of the following procedures should be used:

1) boiling in water for an appropriate time so as to ensure that any matter other than bone, tusks or teeth is removed; or

2) soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate-Na₂CO₃) maintained at pH 11.5 or above for at least 48 hours; or

3) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained below pH 3.0 for at least 48 hours; wetting and dressing agents may be added; or
4) in the case of raw hides, treating for at least 28 days with salt (NaCl) containing 2% washing soda (sodium carbonate-Na₂CO₃); or
5) treatment with 1% formalin for a minimum of six days.

Article 15.1.26.

Procedures for the inactivation of ASFV in bristles

For the inactivation of ASFV in bristles for industrial use, one of the following procedures should be used:
1) boiling for at least 30 minutes;
2) immersion for at least 24 hours in a 1% solution of formaldehyde.

Article 15.1.27.

Procedures for the inactivation of ASFV in litter and manure from pigs

For the inactivation of ASFV in litter and manure of pigs, one of the following procedures should be used:
1) moist heat treatment for at least one hour at a minimum temperature of 55°C;
2) moist heat treatment for at least 30 minutes at a minimum temperature of 70°C.

Article 15.1.28.

Introduction to surveillance

Articles 15.1.28. to 15.1.33. provide recommendations for surveillance for ASF, and are complementary to Chapters 1.4. and 1.5. The impact and epidemiology of ASF may vary in different regions of the world, as does the routine biosecurity in different production systems. The surveillance strategies employed for determining ASF status should be adapted to the situation. The approach used should take into account the presence of wild or feral pigs or African wild suids, the presence of Ornithodoros ticks, and the presence of ASF in adjacent countries or zones.

Surveillance for ASF should be in the form of an ongoing programme designed to establish that susceptible populations in a country, zone or compartment are free from infection with ASFV or to detect the introduction of ASFV into a free population. Consideration should be given to the specific characteristics of ASF epidemiology which include:
- the role of swill feeding;
- the impact of different systems of production of domestic and captive wild pigs;
- the role of wild and feral pigs and African wild suids on the maintenance and spread of the disease;
- whether Ornithodoros ticks are present and the role they may play in the maintenance and spread of the disease;
- the lack of pathognomonic gross lesions and clinical signs;
- the occurrence of carriers;
- the genotypic variability of ASFV.

Article 15.1.29.

General conditions and methods for surveillance

1) A surveillance system in accordance with Chapter 1.4. and under the responsibility of the Veterinary Authority should address the following:
   a) a formal and ongoing system for detecting and investigating cases of ASF;
   b) a procedure for the rapid collection and transport of samples from suspected cases to a laboratory;
   c) appropriate laboratory testing capability for ASF diagnosis;
   d) a system for recording, managing and analysing diagnostic and surveillance data.
2) The ASF surveillance programme should:
   a) include an early warning system throughout the production, marketing and processing chain for reporting suspected cases. Diagnosticians and those with regular contact with pigs should report promptly any suspicion of ASF to the Veterinary Authority. The reporting system under the Veterinary Authority should be supported directly or indirectly (e.g. through private veterinarians or veterinary paraprofessionals) by
government or private sector awareness programmes targeted to all relevant stakeholders. Personnel responsible for surveillance should be able to seek expertise in ASF diagnosis, epidemiological evaluation and control;
b) conduct, when relevant, regular and frequent clinical inspections and laboratory testing of high-risk groups (for example, where swill feeding is practised), or those adjacent to an ASF infected country or zone (for example, bordering areas where infected wild and feral pigs or African wild suids are present).

**Article 15.1.30.**

**Surveillance strategies**

1. **Introduction**

The population covered by surveillance aimed at detecting disease and infection should include domestic, captive wild, wild and feral suid populations within the country or zone. Surveillance should be composed of random and non-random approaches using clinical, virological and serological methods appropriate for the infection status of the country or zone.

The strategy employed to establish the prevalence or absence of infection with ASFV may be based on randomised or non-randomised clinical investigation or sampling at an acceptable level of statistical confidence. If an increased likelihood of infection in particular localities or subpopulations can be identified, targeted sampling may be an appropriate strategy. This may include:
a) specific high-risk wild and feral suid populations and their proximity;
b) farms which feed swill;
c) pigs reared outdoors.

Risk factors may include, for example, temporal and spatial distribution of past outbreaks, and pig movements and demographics.

Member Countries should review their surveillance strategies whenever an increase in the risk of incursion of ASFV is perceived. Such changes include but are not limited to:
- an emergence or an increase in the prevalence of ASF in countries or zones from which live pigs or products are imported;
- an increase in the prevalence of ASF in wild or feral suids in the country or zone;
- an increase in the prevalence of ASF in adjacent countries or zones;
- an increased entry of, or exposure to, infected wild or feral suid populations from adjacent countries or zones;
- evidence of involvement of ticks in the epidemiology of ASF as demonstrated by surveillance implemented in accordance with Chapter 1.5.

2. **Clinical surveillance**

Clinical surveillance is the most effective tool for detecting ASF due to severe clinical signs and pathology associated with infection with ASFV. However, due to the clinical similarity with other diseases such as classical swine fever, porcine reproductive and respiratory syndrome and erysipelas, and those associated with porcine circovirus 2 infection, clinical surveillance should be supplemented, as appropriate, by serological and virological surveillance.

Clinical signs and pathological findings are useful for early detection; in particular, any cases where clinical signs or lesions suggestive of ASF are accompanied by high mortality should be investigated without delay. Wild and feral suids rarely present the opportunity for clinical observation, but should form part of any surveillance scheme and should, ideally, be monitored for virus as well as antibodies.

3. **Virological surveillance**

Virological surveillance is important for early detection, differential diagnosis and for systematic sampling of target populations. It should be conducted:
a) to investigate clinically suspected cases;
b) to monitor at risk populations;
c) to follow up positive serological results;
d) to investigate increased mortality when ASF cannot be ruled out;
e) to confirm eradication after a stamping-out policy has been applied.

Molecular detection methods can be applied to large-scale screening for the presence of virus. If targeted at high-risk groups, they provide an opportunity for early detection that can considerably reduce the subsequent
spread of ASFV. Epidemiological understanding of the pathways of spread of ASFV can be greatly enhanced by molecular analyses of viruses in endemic areas and those involved in outbreaks in areas previously free from ASF. Therefore, ASFV isolates should be sent to a WOAH Reference Laboratory for further characterisation.

4. Serological surveillance

Serology is an effective and efficient surveillance tool. Serological surveillance aims at detecting antibodies against ASFV. Positive ASFV antibody test results can indicate an ongoing or past outbreaks, since some animals may recover and remain seropositive for a significant period, possibly life. This may include carrier animals. However, ASF serology is not suitable for early detection. It may be possible to use sera collected for other survey purposes for ASF surveillance. However, the principles of survey design and the requirement for statistical validity should not be compromised.

Article 15.1.31.

Surveillance for recovery of free status

In addition to the general conditions described in Articles 15.1.4. and 15.1.7., a Member Country seeking recovery of free status for the entire country or a zone, including for a containment zone, should show evidence of an active surveillance programme to demonstrate no evidence of infection with ASFV.

The domestic and captive wild pig populations should undergo regular clinical and pathological examinations and virological and serological testing, planned and implemented according to the general conditions and methods described in this chapter.

This surveillance programme should include:
1) establishments in the proximity of the outbreaks;
2) establishments epidemiologically linked to the outbreaks;
3) animals moved from or used as sentinels or to repopulate affected establishments;
4) all establishments where contiguous culling has been carried out;
5) wild and feral suid populations in the area of the outbreaks.

Article 15.1.32.

Surveillance for ASFV in wild and feral pigs and African wild suids

1) The objective of a surveillance programme is either to demonstrate that infection with ASFV is not present in wild and feral suids or, if known to be present, to estimate the geographical distribution of the infection.

Surveillance in wild and feral suids presents additional challenges including:

a) determination of the distribution, size and movement patterns of the wild and feral suid population;
b) relevance and practicality of assessing the possible presence of infection with ASFV in the population;
c) determination of the practicability of establishing a zone taking into account the degree of interaction with domestic and captive wild pigs within the proposed zone.

The geographic distribution and estimated size of wild and feral suid populations should be assessed as a prerequisite for designing a population monitoring system following Chapter 1.4.

2) For implementation of the surveillance programme, the limits of the area over which wild and feral pigs range should be defined. Subpopulations of wild and feral suids may be separated from each other by natural or artificial barriers.

3) The surveillance programme should include animals found dead, road kills, animals showing abnormal behaviour and hunted animals, and should also include awareness campaigns targeted at hunters and farmers.

4) There may be situations where a more targeted surveillance programme can provide additional assurance. The criteria to define high risk areas for targeted surveillance include:

a) areas with past history of ASF;
b) subregions with large populations of wild or feral pigs or African wild suids;
c) border regions with ASF affected countries or zones;
d) interface between wild and feral pig populations, and domestic and captive wild pig populations;
e) areas with farms with free-ranging and outdoor pigs;
f) areas with a high level of hunting activity, where animal dispersion and feeding as well as inappropriate
disposal of waste can occur;
g) other risk areas determined by the Veterinary Authority such as ports, airports, garbage dumps and picnic
and camping areas.

Article 15.1.33.

Surveillance for arthropod vectors

Vector surveillance aims at defining the type and distribution of ticks of the genus Ornithodoros. Any species of
Ornithodoros should be considered to be a potential vector or reservoir of ASFV. The virus is generally transmitted
transstadially. Transovarial transmission has been observed only in ticks of the Ornithodoros moubata complex.

The Veterinary Authority should have knowledge of the presence, distribution and identity of Ornithodoros, taking into
account climatic or habitat changes that may affect distribution.

When vector surveillance is considered necessary, a sampling plan in accordance with Chapter 1.5. should take into
account the biology and ecology of species present and, in particular, the favoured habitat of these species in burrows
and structures associated with pig production. The plan should also take into account the distribution and density of
pigs in the country or zone.

Sampling methods include CO₂ trapping and flagging, and vacuuming of burrows or structures.

______________________________

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2019.
CHAPTER 15.2.

INFECTION WITH CLASSICAL SWINE FEVER VIRUS

Article 15.2.1.

General provisions

The pig (Sus scrofa, both domestic and wild) is the only natural host for classical swine fever virus (CSFV). For the purposes of this chapter, a distinction is made between:

- domestic and captive wild pigs, permanently captive or farmed free range, used for the production of meat, or other commercial products or use, or for breeding; and
- wild and feral pigs.

For the purposes of the Terrestrial Code, classical swine fever (CSF) is defined as an infection of pigs with CSFV.

The following defines the occurrence of infection with CSFV:

1) a strain of CSFV (excluding vaccine strains) has been isolated from samples from a pig;

OR

2) antigen or nucleic acid specific to CSFV (excluding vaccine strains) has been identified in samples from a pig showing clinical signs or pathological lesions suggestive of CSF, or epidemiologically linked to a suspected or confirmed case of CSF, or giving cause for suspicion of previous association or contact with CSFV;

OR

3) antibodies specific to CSFV that are not a consequence of vaccination or infection with other pestiviruses, have been identified in samples from a pig showing clinical signs or pathological lesions consistent with CSF, or epidemiologically linked to a suspected or confirmed case of CSF, or giving cause for suspicion of previous association or contact with CSFV.

A notification of infection of wild and feral pigs with CSFV does not affect the free status of a country or zone as recognised by WOAH provided that the provisions of Article 15.2.3. are complied with. A Member Country should not impose bans on the international trade of domestic and captive wild pig commodities in response to such notifications.

For the purposes of the Terrestrial Code, the incubation period shall be 14 days.

Pigs exposed to CSFV postnatally have an infective period of up to three months. Pigs exposed to CSFV prenatally may not show clinical signs at birth and may be persistently infected throughout life.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 15.2.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any CSF-related conditions, regardless of the CSF status of the exporting country or zone:

1) meat in a hermetically sealed container with an F0 value of 3 or above;

2) gelatine.

Other pig commodities can be traded safely if in accordance with the relevant articles of this chapter.
Article 15.2.3.

Country or zone free from CSF

A country or zone may be considered free from CSF when the relevant provisions in point 2 of Article 1.4.6. have been complied with, and when within the proposed free country or zone for at least the past 12 months:

1) there has been no case of infection with CSFV in domestic and captive wild pigs;
2) the Veterinary Authority has current knowledge of, and authority over, all domestic and captive wild pig herds in the country or zone;
3) the Veterinary Authority has current knowledge of the distribution, habitat and indication of disease occurrence through passive surveillance of wild and feral pigs in the country or zone;
4) appropriate surveillance has been implemented in accordance with:
   a) Article 1.4.6. where historical freedom can be demonstrated; or
   b) Articles 15.2.28. to 15.2.33. where historical freedom cannot be demonstrated;
5) measures to prevent the introduction of the infection have been in place: in particular, the importations or movements of commodities into the country or zone have been carried out in accordance with this chapter and other relevant chapters of the Terrestrial Code;
6) no vaccination against CSF has been carried out in domestic and captive wild pigs unless there are means, validated according to Chapter 3.8.3. of the Terrestrial Manual, of distinguishing between vaccinated and infected pigs;
7) if relevant, the domestic and captive wild pig populations have been separated by appropriate biosecurity, effectively implemented and supervised, from the wild and feral pig populations, based on the assessed likelihood of spread of the disease within the wild and feral pig populations and surveillance in accordance with Article 15.2.33.

The country or zone will be included in the list of countries or zones free from CSF in accordance with Chapter 1.6.

Retention on the list requires annual reconfirmation of compliance with all points above and relevant provisions under point 4 of Article 1.4.6. Documented evidence should be resubmitted annually for points 1 to 5 above. Any changes in the epidemiological situation or other significant events should be notified to WOAH in accordance with Chapter 1.1.

Article 15.2.4.

Compartment free from CSF

The establishment and bilateral recognition of a compartment free from CSF should follow the relevant requirements of this chapter and the principles laid down in Chapters 4.4. and 4.5.

Article 15.2.5.

Country or zone infected with CSFV

A country or zone is considered as infected with CSFV when the requirements for acceptance as a free country or zone are not fulfilled.

Article 15.2.6.

Establishment of a containment zone within a country or zone previously free from CSF

In the event of outbreaks of CSF within a country or zone previously free from CSF, including within a protection zone, a containment zone, which includes all epidemiologically linked outbreaks, can be established, in accordance with Article 4.4.7., to minimise the impact on the rest of the country or zone.

For this to be achieved and for the Member Country to take full advantage of this process, the Veterinary Authority should submit documented evidence as soon as possible to WOAH.

The surveillance programme should take into consideration the involvement of wild and feral pigs and measures to avoid their dispersion.
Chapter 15.2.- Infection with classical swine fever virus

The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of the areas outside the containment zone may be reinstated, irrespective of the provisions of Article 15.2.7., once the containment zone has been approved by WOAH.

In the event of the recurrence of CSF in the containment zone, as described in point 7 of Article 4.4.7., the approval of the containment zone is withdrawn and the free status of the country or zone is suspended until the relevant requirements of Article 15.2.7. have been fulfilled.

The recovery of the CSF free status of the containment zone should follow the provisions of Article 15.2.7. and be achieved within 12 months of its approval.

Article 15.2.7.

Recovery of free status

Should an outbreak of CSF occur in a previously free country or zone, its status may be recovered when surveillance in accordance with Article 15.2.32. has been carried out with negative results and three months after:

1) the disinfection of the last affected establishment, provided that a stamping-out policy without vaccination has been implemented; or
2) the disinfection of the last affected establishment and the slaughter of all vaccinated animals, provided that a stamping-out policy with emergency vaccination and slaughter of vaccinated animals has been implemented; or
3) the disinfection of the last affected establishment provided that a stamping-out policy with emergency vaccination without the slaughter of vaccinated animals has been implemented, when there are means, validated according to Chapter 3.8.3. of the Terrestrial Manual, of distinguishing between vaccinated and infected pigs.

The CSF free status of the country or zone will be reinstated only after the submitted evidence has been accepted by WOAH.

Article 15.2.8.

Direct transfer of pigs within a country from an infected zone to a free zone for slaughter

In order not to jeopardise the status of a free zone, pigs should only leave the infected zone if transported by mechanised vehicle directly for slaughter in the nearest designated slaughterhouse/abattoir under the following conditions:

1) no pig has been introduced into the establishment of origin and no pig in the establishment of origin has shown clinical signs of CSF for at least 30 days prior to movement for slaughter;
2) the pigs were kept in the establishment of origin under approved biosecurity for at least three months prior to movement for slaughter;
3) CSF has not occurred within a 10-kilometre radius of the establishment of origin for at least three months prior to movement;
4) the pigs should be transported, under biosecure conditions under the supervision of the Veterinary Authority in a vehicle, which was subjected to disinfection before loading, directly from the establishment of origin to the slaughterhouse/abattoir without coming into contact with other pigs;
5) such a slaughterhouse/abattoir is under approved biosecurity and is not approved for the export of fresh meat from the time the pigs arrive from the infected zone until the meat of those pigs has left the premises and the vehicles and the slaughterhouse/abattoir have been subjected to disinfection immediately after use.

The pigs should be subjected to ante- and post-mortem inspections in accordance with Chapter 6.2. with favourable results and the meat should be treated in accordance with Article 15.2.23. The fresh meat from those pigs should be identified and kept separate from other pig products until treated.

Any other products obtained from the pigs, and any products coming into contact with them, should be considered contaminated and treated in accordance with Article 15.2.22. or Articles 15.2.24. to 15.2.26. to destroy any CSFV potentially present.
Article 15.2.9.

Recommendations for importation from countries, zones or compartments free from CSF

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the pigs:

1) showed no clinical sign of CSF on the day of shipment;

2) were kept since birth or for at least the past three months in a country, zone or compartment free from CSF;

3) were not vaccinated against CSF, nor are they the progeny of vaccinated sows, unless there are means, validated in accordance with Chapter 3.8.3. of the Terrestrial Manual, of distinguishing between vaccinated and infected pigs.

Article 15.2.10.

Recommendations for importation from countries or zones infected with CSFV

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the pigs:

1) showed no clinical sign of CSF on the day of shipment;

2) and either:
   a) were kept since birth or for the past three months in a CSF free compartment; or
   b) were isolated for 28 days prior to shipment in a quarantine station, and were subjected to a virological test and a serological test performed on a sample collected at least 21 days after entry into the quarantine station, with negative results;

3) were not vaccinated against CSF, nor are they the progeny of vaccinated sows, unless there are means, validated in accordance with Chapter 3.8.3. of the Terrestrial Manual, of distinguishing between vaccinated and infected pigs.

Article 15.2.11.

Recommendations for importation from countries, zones or compartments free from CSF

For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) were kept since birth or for at least three months prior to collection of the semen in a country, zone or compartment free from CSF;
   b) showed no clinical sign of CSF on the day of collection;

2) the semen was collected, processed and stored in accordance with the provisions of Chapters 4.6. and 4.7.
Article 15.2.12.

Recommendations for importation from countries or zones infected with CSFV

For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) were kept for at least three months prior to collection of the semen in an establishment in which surveillance, in accordance with Articles 15.2.28. to 15.2.33., demonstrated that no case of CSF occurred during that period;
   b) showed no clinical sign of CSF on the day of collection;
   c) met one of the following conditions:
      i) were subjected to a virological test performed on a blood sample taken on the day of collection, with negative results; or
      ii) were not vaccinated against CSF and were subjected to a serological test performed on a sample taken at least 21 days after collection, with negative results; or
      iii) have been vaccinated against CSF and were subjected to a serological test performed on a sample taken at least 21 days after collection, which demonstrated that any antibody was elicited by the vaccine;

2) the semen was collected, processed and stored in accordance with the provisions of Chapters 4.6. and 4.7.

Article 15.2.13.

Recommendations for importation from countries, zones or compartments free from CSF

For in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) were kept since birth or for at least three months prior to collection of the embryos in a country, zone or compartment free from CSF;
   b) showed no clinical sign of CSF on the day of collection;

2) the semen used to inseminate the donors complied with the conditions in Article 15.2.11. or Article 15.2.12., as relevant;

3) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.

Article 15.2.14.

Recommendations for importation from countries or zones infected with CSFV

For in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females:
   a) were kept for at least three months prior to collection of the embryos in an establishment in which surveillance, in accordance with Articles 15.2.28. to 15.2.33., demonstrated that no case of CSF occurred during that period;
   b) showed no clinical sign of CSF on the day of collection;
   c) met one of the following conditions:
      i) were subjected to a virological test performed on a blood sample taken on the day of collection, with negative results; or
      ii) were not vaccinated against CSF and were subjected, with negative results, to a serological test performed at least 21 days after collection; or
      iii) were vaccinated against CSF and were subjected to a serological test performed on a sample taken at least 21 days after collection, which demonstrated that any antibody was elicited by the vaccine;

2) the semen used to inseminate the donors complied with the conditions in Article 15.2.11. or Article 15.2.12., as relevant;

3) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant.
Article 15.2.15.

Recommendations for importation from countries, zones or compartments free from CSF

For fresh meat of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from pigs which:

1) were kept in a country, zone or compartment free from CSF, or which were imported in accordance with Article 15.2.9. or Article 15.2.10.;

2) were slaughtered in an approved slaughterhouse/abattoir, where they were subjected to ante- and post-mortem inspections in accordance with Chapter 6.2. with favourable results.

Article 15.2.16.

Recommendations for importation from countries or zones infected with CSFV, where an official control programme exists

For fresh meat of domestic pigs and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the pigs from which the meat is derived complied with Article 15.2.10.;

2) the pigs were transported under the supervision of the Veterinary Authority, in a vehicle which was subjected to disinfection before the pigs were loaded;

3) the pigs were transported directly to the approved slaughterhouse/abattoir without coming into contact either during transport or at the slaughterhouse/abattoir with other pigs that did not fulfil the conditions of Article 15.2.10.;

4) the pigs were slaughtered in a slaughterhouse/abattoir:
   a) which is approved for export by the Veterinary Authority;
   b) in which no case of CSF was detected during the period between the last disinfection carried out before slaughter and the consignment for export has been dispatched from the slaughterhouse/abattoir;

5) the pigs were subjected to ante- and post-mortem inspections in accordance with Chapter 6.2. with favourable results;

6) appropriate precautions were taken after slaughter to avoid cross-contamination of the fresh meat with any source of CSFV.

Article 15.2.17.

Recommendations for the importation of meat products of pigs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the meat products:

1) were prepared:
   a) exclusively from fresh meat meeting the conditions laid down in Article 15.2.15. or Article 15.2.16.;
   b) in a processing facility that, at the time of processing:
      i) was approved for export by the Veterinary Authority;
      ii) processed only meat from pigs satisfying the conditions in Article 15.2.15. or Article 15.2.16.;

OR

2) were processed in accordance with one of the processes in Article 15.2.23. in a facility approved by the Veterinary Authority for export purposes, and that appropriate precautions were taken after processing to avoid cross-contamination of the product with any source of CSFV.
Article 15.2.18.

Recommendations for the importation of bristles

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bristles:
1) originated from domestic or captive wild pigs in a country, zone or compartment free from CSF and were processed in a facility approved by the Veterinary Authority for export purposes; or
2) were processed in accordance with one of the processes in Article 15.2.25, in a facility approved by the Veterinary Authority for export purposes, and that appropriate precautions were taken after processing to avoid cross-contamination of the product with any source of CSFV.

Article 15.2.19.

Recommendations for the importation of litter and manure from pigs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the litter or manure:
1) originated from domestic or captive wild pigs in a country, zone or compartment free from CSF and were processed in a facility approved by the Veterinary Authority for export purposes; or
2) were processed in accordance with one of the procedures in Article 15.2.26, in a facility approved by the Veterinary Authority for export purposes, and that appropriate precautions were taken after processing to avoid cross-contamination of the product with any source of CSFV.

Article 15.2.20.

Recommendations for the importation of skins and trophies from pigs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the skins or trophies:
1) originated from domestic or captive wild pigs in a country, zone or compartment free from CSF and were processed in a facility approved by the Veterinary Authority for export purposes; or
2) were processed in accordance with one of the procedures in Article 15.2.27, in a facility approved by the Veterinary Authority for export purposes, and that appropriate precautions were taken after processing to avoid cross-contamination of the product with any source of CSFV.

Article 15.2.21.

Recommendations for the importation of other pig commodities

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the commodities:
1) originated from domestic or captive wild pigs in a country, zone or compartment free from CSF and were processed in a facility approved by the Veterinary Authority for export purposes; or
2) were processed in a manner that has been demonstrated to inactivate CSFV in a facility approved by the Veterinary Authority for export purposes, and that appropriate precautions were taken after processing to avoid cross-contamination of the product with any source of CSFV.

Article 15.2.22.

Procedures for the inactivation of CSFV in swill

For the inactivation of CSFV in swill, one of the following procedures should be used:
1) the swill is maintained at a temperature of at least 90°C for at least 60 minutes, with continuous stirring; or
2) the swill is maintained under saturated steam conditions at a temperature of at least 121°C for at least 10 minutes at an absolute pressure of 2 bar; or
3) the swill is subjected to an equivalent treatment that has been demonstrated to inactivate CSFV.
Chapter 15.2. - Infection with classical swine fever virus

Article 15.2.23.

Procedures for the inactivation of CSFV in meat

For the inactivation of CSFV in meat, one of the following procedures should be used:

1. Heat treatment
   Meat should be subjected to:
   a) a heat treatment for at least 30 minutes at a minimum temperature of 70°C, which should be reached throughout the meat;
   b) any equivalent heat treatment which has been demonstrated to inactivate CSFV in meat.

2. Natural fermentation and maturation
   The meat should be subjected to a treatment consisting of natural fermentation and maturation resulting in the following characteristics:
   a) an aw value of not more than 0.93; or
   b) a pH value of not more than 6.0.

3. Dry cured pig meat
   Meat should be cured with salt and dried for a minimum of six months.

Article 15.2.24.

Procedures for the inactivation of CSFV in casings of pigs

For the inactivation of CSFV in casings of pigs, the following procedure should be used: treatment for at least 30 days with: phosphate supplemented salt, containing 86.5% NaCl, 10.7% Na₂HPO₄ and 2.8% Na₃PO₄ (weight/weight/weight), either dry, or as or saturated brine (aw < 0.80), and at a temperature of 20°C or above.

Article 15.2.25.

Procedures for the inactivation of CSFV in bristles

For the inactivation of CSFV in bristles for industrial use, they should be boiled for at least 30 minutes.

Article 15.2.26.

Procedures for the inactivation of CSFV in litter and manure from pigs

For the inactivation of CSFV in litter and manure from pigs, one of the following procedures should be used:

1) moist heat treatment for at least one hour at a minimum temperature of 55°C, which should be reached throughout the product;
2) moist heat treatment for at least 30 minutes at a minimum temperature of 70°C, which should be reached throughout the product;
3) any equivalent treatment that has been demonstrated to inactivate CSFV.

Article 15.2.27.

Procedures for the inactivation of CSFV in skins and trophies

For the inactivation of CSFV in skins and trophies, one of the following procedures should be used:

1) boiling in water for an appropriate time, to ensure that any matter other than bone, tusks or teeth is removed;
2) gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher);
3) soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate [Na₂CO₃]) maintained at pH 11.5 or above for at least 48 hours;
4) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained below pH 3.0 for at least 48 hours, wetting and dressing agents may be added to the solution;
5) in the case of raw hides, salting for at least 28 days with sea salt containing 2% washing soda (sodium carbonate [Na₂CO₃]).

**Article 15.2.28.**

**Introduction to surveillance**

Articles 15.2.28. to 15.2.33. define the principles and provide guidance on the **surveillance** for CSF, complementary to Chapter 1.4., applicable to Member Countries seeking the WOAH recognition of free status. This may be for the entire country or a zone. Guidance is also provided for Member Countries seeking recovery of free status for the entire country or for a zone following an outbreak and for the maintenance of free status.

The impact and epidemiology of CSF may vary in different regions of the world. The **surveillance** strategies employed for demonstrating freedom from CSF at an acceptable level of confidence should be adapted to the local situation. For example, the approach should be tailored in order to prove freedom from CSF for a country or zone where **wild** or **feral** pigs provide a potential reservoir of **infection**, or where CSF is present in neighbouring countries. The method should examine the epidemiology of CSF in the region concerned and adapt to the specific risk factors encountered. This should include provision of scientifically based supporting data. There is, therefore, latitude available to Member Countries to provide a well-reasoned argument to prove that absence of **infection** with CSFV is assured at an acceptable level of confidence.

**Surveillance** for CSF should be in the form of a continuing programme designed to establish that susceptible populations in a country, zone or compartment are free from **infection** with CSFV or to detect the introduction of CSFV into a population already defined as free. Consideration should be given to the specific characteristics of CSF epidemiology which include:

- the role of swill feeding, the impact of different production systems and the role of **wild** and **feral** pigs in disease spread;
- the role of semen in transmission of the virus;
- the lack of pathognomonic gross lesions and clinical signs;
- the frequency of clinically inapparent **infections**;
- the occurrence of persistent and chronic **infections**;
- the variability in genotype, antigens, and virulence exhibited by different strains of CSFV.

**Article 15.2.29.**

**General conditions and methods for surveillance**

1) A **surveillance** system in accordance with Chapter 1.4. and under the responsibility of the Veterinary Authority should address the following aspects:
   a) formal and ongoing system for detecting and investigating **outbreaks** of disease or CSFV **infection** should be in place;
   b) a procedure should be in place for the rapid collection and transport of samples from suspected cases to a laboratory;
   c) appropriate laboratory testing capability for CSF diagnosis;
   d) a system for recording, managing and analysing diagnostic and **surveillance** data should be in place.

2) The CSF **surveillance** programme should:
   a) include an **early warning system** throughout the production, marketing and processing chain for reporting suspected cases. Diagnosticians and those with regular contact with pigs should report promptly any suspicion of CSF to the Veterinary Authority. The reporting system under the Veterinary Authority should be supported directly or indirectly (e.g. through private veterinarians or veterinary paraprofessionals) by information programmes. Given that many strains of CSFV do not induce pathognomonic gross lesions or clinical signs, cases in which CSF cannot be ruled out should be immediately investigated. Other important diseases such as African swine fever should also be considered in any differential diagnosis.
   As part of the contingency plan, personnel responsible for **surveillance** should be able to call for assistance from a team with expertise in CSF diagnosis, epidemiological evaluation, and control;
b) implement, when relevant, regular and frequent clinical inspections and laboratory testing of high-risk groups (for example, where swill feeding is practised), or those neighbouring a country or zone infected with CSFV (for example, bordering areas where infected wild and feral pigs are present).

An effective surveillance system will periodically identify suspected cases that require follow-up and investigation to confirm or exclude infection with CSFV. The rate at which such suspected cases are likely to occur will differ among epidemiological situations and cannot, therefore, be reliably predicted. Applications for recognition of free status should, as a consequence, provide details in accordance with Chapter 1.9. of the occurrence of suspected cases and how they were investigated and dealt with.

Member Countries should review their surveillance strategies whenever an increase in the likelihood of incursion of CSFV is identified. Such changes include but are not limited to:

a) an emergence or an increase in the prevalence of CSF in countries or zones from which live pigs or products are imported;

b) an increase in the prevalence of CSF in wild or feral pigs in the country or zone;

c) an increase in the prevalence of CSF in neighbouring countries or zones;

d) increased entry of, or exposure to, infected wild or feral pig populations from neighbouring countries or zones.

Article 15.2.30.

Surveillance strategies

1. Introduction

The population covered by surveillance aimed at detecting disease and infection should include the domestic and captive wild pig populations and wild and feral pig populations within the country or zone to be recognised as free from CSF.

The strategy employed to estimate the prevalence or demonstrate the absence of infection with CSFV may be based on clinical investigation or on randomised or targeted sampling at an acceptable level of statistical confidence. If an increased likelihood of infection in particular localities or subpopulations can be identified, targeted sampling may be an appropriate strategy. This may include:

a) swill fed farms;

b) pigs reared outdoors;

c) specific high-risk wild and feral pig subpopulations and their proximity.

Risk factors may include, among others, temporal and spatial distribution of past outbreaks, pig movements and demographics, and types of production system.

Serology in unvaccinated populations is often the most effective and efficient surveillance methodology, for reasons of cost, extended duration of antibody levels, and the existence of clinically inapparent infections. In some circumstances, such as differential diagnosis of other diseases, clinical and virological surveillance may also have value.

The surveillance strategy chosen should be justified as adequate to detect the presence of infection with CSFV in accordance with Chapter 1.4. and the epidemiological situation. Cumulative survey results in combination with the results of routine surveillance, over time, will increase the level of confidence in the surveillance strategy.

When applying randomised sampling, either at the level of the entire population or within targeted sub-populations, the design of the sampling strategy should incorporate epidemiologically appropriate design prevalences for the selected populations. The sample size selected for testing should be large enough to detect infection if it were to occur at a predefined minimum rate. The choice of design prevalence and confidence level should be justified based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular, needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the approach selected, the sensitivity and specificity of the diagnostic tests should be considered in the survey design, the sample size determination, and the interpretation of the results obtained.

The design of the surveillance system should anticipate the occurrence of false positive reactions. This is especially true of the serological diagnosis of infection with CSFV because of the recognised cross-reactivity with ruminant pestiviruses, among other factors mentioned in point 4. There should be an effective procedure for following up positives to determine with a high level of confidence, whether or not they are indicative of infection with CSFV. This should involve confirmatory and differential tests for pestiviruses, as well as further investigations concerning the original sampling unit, as well as animals which may be epidemiologically linked.
2. Clinical surveillance

Clinical surveillance continues to be the cornerstone of detection of infection with CSFV. However, owing to the low virulence of some CSFV strains and the spread of diseases such as African swine fever, and those associated with porcine circovirus 2 infection, clinical surveillance should be supplemented, as appropriate, by serological and virological surveillance.

Clinical signs and pathological findings are useful for early detection; in particular, any situations in which clinical signs or lesions suggestive of infection with CSFV are accompanied by high morbidity or mortality should be investigated without delay. In CSFV infections involving low virulence strains, high mortality may only be seen in young animals and adults may not present clinical signs.

Wild and feral pigs rarely present the opportunity for clinical observation, but should form part of any surveillance scheme and should, ideally, be monitored for virus as well as antibodies.

3. Virological surveillance

Virological surveillance should be conducted:

a) to monitor at risk populations;
b) to investigate clinically suspected cases;
c) to follow up positive serological results;
d) to investigate increased mortality.

Molecular detection methods can be applied to large-scale screening for the presence of virus. If targeted at high-risk groups, they provide an opportunity for early detection that can considerably reduce the subsequent spread of disease. Epidemiological understanding of the pathways of spread of CSF can be greatly enhanced by molecular analyses of viruses in endemic areas and those involved in outbreaks in areas previously free from CSF. Therefore, CSFV isolates should be sent to a WOAH Reference Laboratory for further characterisation.

4. Serological surveillance

Serological surveillance is aimed at detecting antibodies against CSFV. Positive CSFV antibody test results can have five possible causes:

a) natural infection with CSFV;
b) vaccination against CSF;
c) maternal antibodies;
d) cross-reactions with other pestiviruses;
e) non-specific reactors.

The infection of pigs with other pestiviruses may complicate a surveillance strategy based on serology. Antibodies to bovine viral diarrhoea viruses (BVDV) and Border disease virus (BDV) can give positive results in serological tests for CSF, due to common antigens. Such samples will require differential tests to confirm their identity. One route by which ruminant pestiviruses can infect pigs is the use of vaccines contaminated with BVDV.

Infection with CSFV may also lead to chronically infected pigs that may have undetectable or fluctuating antibody levels. Even though serological methods will not detect these animals, such animals are likely to be a minority in a herd and would not confound a diagnosis based on serology as part of a herd investigation.

It may be possible to use, for surveillance of CSF sera collected for other survey purposes. However, the principles of survey design and statistical validity should not be compromised.

In countries or zones where vaccination has been recently discontinued, targeted serosurveillance of young unvaccinated animals can indicate the presence of infection. Maternal antibodies are usually found at up to 8-10 weeks of age but may be occasionally last up to 4.5 months and can interfere with the interpretation of serological results.

Marker vaccines and accompanying DIVA tests which fulfil the requirements of the Terrestrial Manual may allow discrimination between vaccinal antibody and that induced by natural infection. The serosurveillance results using DIVA techniques may be interpreted either at animal or at herd level.
Article 15.2.31.

Additional surveillance for Member Countries applying for WOAH recognition of free status

The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances in and around the country or zone and should be planned and implemented according to the conditions for status recognition described in Article 15.2.3. and methods described elsewhere in this chapter. The objective is to demonstrate the absence of infection with CSFV in domestic and captive wild pigs during the last 12 months and to assess the infection status in wild and feral pig populations as described in Article 15.2.33.

Article 15.2.32.

Additional surveillance for recovery of free status

In addition to the general conditions described in this chapter, a Member Country seeking recovery of free status of a country or zone, including a containment zone, should show evidence of an active surveillance programme to demonstrate absence of infection with CSFV.

Populations under this surveillance programme should include:

1) establishments in the proximity of the outbreaks;
2) establishments epidemiologically linked to the outbreaks;
3) animals moved from or used to repopulate affected establishments;
4) any establishments where contiguous culling has been carried out;
5) wild and feral pig populations in the area of the outbreaks.

The domestic and captive wild pig populations should undergo regular clinical, pathological, virological and serological examinations, planned and implemented according to the general conditions and methods described in this chapter. Epidemiological evidence of the infection status in wild and feral pigs should be compiled. To regain free status, the surveillance approach should provide at least the same level of confidence as the original application for recognition of freedom.

Article 15.2.33.

Surveillance for CSFV in wild and feral pigs

1) The objective of a surveillance programme is either to demonstrate that infection with CSFV is not present in wild and feral pigs or, if it is known to be present, to estimate the distribution and prevalence of the infection. While the same principles apply, surveillance in wild and feral pigs presents additional challenges including:
   a) determination of the distribution, size and movement patterns associated with the wild and feral pig population;
   b) relevance and practicality of assessing the possible presence of infection with CSFV within the population;
   c) determination of the practicability of establishing a zone taking into account the degree of interaction with domestic and captive wild pigs within the proposed zone.

The geographical distribution and estimated size of wild and feral pig populations need to be assessed as a prerequisite for designing a monitoring system. Sources of information to aid in the design of a monitoring system may include governmental and non-governmental wildlife organisations such as hunting associations.

2) For implementation of the surveillance programme, the limits of the area over which wild and feral pigs range should be defined. Subpopulations of wild and feral pigs may be separated from each other by natural or artificial barriers.

3) The surveillance programme should involve serological and virological testing, including pigs hunted or found dead, road kills, and pigs showing abnormal behaviour or exhibiting gross lesions during dressing.

4) There may be situations in which a more targeted surveillance programme can provide additional assurance. The criteria to define high risk areas for targeted surveillance include:
   a) areas with past history of CSF;
   b) subregions with large populations of wild and feral pigs;
   c) regions bordering countries or zones infected with CSFV.
d) interface between wild and feral pig populations, and domestic and captive wild pig populations;
e) areas with farms with free-ranging and outdoor pigs;
f) establishments that feed swill;
g) areas with a high level of hunting activity, where animal dispersion and feeding as well as inappropriate disposal of waste can occur;
h) other risk areas determined by the Veterinary Authority such as ports, airports, garbage dumps and picnic and camping areas.

NB: FIRST ADOPTED IN 1968; MOST RECENT UPDATE ADOPTED IN 2021.
C H A P T E R 1 5 . 3 .

I N F E C T I O N W I T H P O R C I N E R E P R O D U C T I V E A N D 
R E S P I R A T O R Y S Y N D R O M E V I R U S

Article 15.3.1.

General provisions

The pig is the only natural host for porcine reproductive and respiratory syndrome virus (PRRSV).

For the purposes of the Terrestrial Code, porcine reproductive and respiratory syndrome (PRRS) is defined as an infection of domestic and captive wild pigs with PRRSV.

The following defines the occurrence of infection with PRRSV:

1) PRRSV, excluding vaccine strains, has been isolated from a sample from a domestic or captive wild pig;

OR

2) antigen or ribonucleic acid specific to PRRSV, which is not a consequence of vaccination, has been identified in a sample from a domestic or captive wild pig epidemiologically linked to a confirmed or suspected case of PRRS, or giving cause for suspicion of previous association or contact with PRRSV, with or without clinical signs consistent with PRRS;

OR

3) a live PRRSV vaccine strain has been isolated or antigen or ribonucleic acid specific to a live PRRSV vaccine strain has been detected in a sample from a domestic or captive wild pig that is unvaccinated, or has been vaccinated with an inactivated vaccine, or with a different vaccine strain, showing clinical signs suggestive of PRRS, or epidemiologically linked to a suspected or confirmed case;

OR

4) antibodies specific to PRRSV, unless they are demonstrated to be a consequence of vaccination, have been detected in samples from a domestic or captive wild pig in a herd showing clinical signs suggestive of PRRS, or epidemiologically linked to a confirmed or suspected outbreak of PRRS, or giving cause for suspicion of previous association or contact with PRRSV.

For the purposes of the Terrestrial Code, the incubation period of PRRS shall be 14 days.

Commodities of domestic or captive wild pigs can be traded safely in accordance with the relevant articles of this chapter, even if exporting countries inform WOAH of the presence of infection with PRRSV in wild or feral pigs.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 15.3.2.

Safe commodities

When authorising import or transit of the following commodities and any products made from these commodities and containing no other tissues from pigs, Veterinary Authorities should not require any PRRS-related conditions, regardless of the PRRS status of the exporting country, zone or compartment:

1) hides, skins and trophies;

2) bristles;

3) meat products;

4) protein meal;

5) blood-products;

6) casings;

7) gelatine.
Article 15.3.3.

Country, zone or compartment free from PRRS

A country, zone or compartment may be considered free from PRRS when the following conditions are met:
1) PRRS is a notifiable disease in the entire country;
2) an early warning system is in place;
3) surveillance in accordance with Articles 15.3.13. to 15.3.16. has been in place for at least 12 months;
4) there has been no occurrence of infection with PRRSV in domestic and captive wild pigs during the past 12 months;
5) no vaccination against PRRS with inactivated vaccines has been carried out during the past 12 months;
6) no vaccination against PRRS with modified live vaccines has been carried out during the past 24 months;
7) pigs and pig commodities are imported or introduced in accordance with Articles 15.3.5. to 15.3.12.

Article 15.3.4.

Recovery of free status

Should a PRRS outbreak occur in a previously free country, zone or compartment, the free status may be restored three months after the disposal or slaughter of the last case, provided that:
1) a stamping-out policy or the slaughter of all susceptible animals in the infected herds followed by disinfection of the establishments, has been implemented;
2) surveillance has been carried out in accordance with Articles 15.3.13. to 15.3.16. with negative results.

Where a stamping-out policy or depopulation by means of slaughter are not practised, Article 15.3.3. applies.

Article 15.3.5.

Recommendations for importation from countries, zones or compartments free from PRRS

For domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of PRRS on the day of shipment;
2) were kept in a country, zone or compartment free from PRRS since birth or for at least the past three months.

Article 15.3.6.

Recommendations for importation from countries or zones not free from PRRS

For domestic and captive wild pigs for breeding or rearing

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the pigs:
1) were kept, since birth or for at least three months prior to isolation, in an establishment in which no infection with PRRSV was detected within that period;
2) showed no clinical sign of PRRS on the day of shipment;
3) have not been vaccinated against PRRS nor are they the progeny of vaccinated sows;
4) were isolated for 28 days by application of biosecurity and subjected to a serological test for infection with PRRSV, with negative results, on two occasions, at an interval of not less than 21 days, the second test being performed within 15 days prior to shipment.
Chapter 15.3 - Infection with porcine reproductive and respiratory syndrome virus

Article 15.3.7.

Recommendations for importation from countries or zones not free from PRRS
For domestic and captive wild pigs for slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals showed no clinical sign of PRRS on the day of shipment.

The pigs should be transported directly with appropriate biosecurity from the place of shipment to the slaughterhouse/abattoir for immediate slaughter.

Article 15.3.8.

Recommendations for importation from countries, zones or compartments free from PRRS
For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males:
   a) were kept in a country, zone or compartment free from PRRS since birth or for at least three months prior to collection;
   b) showed no clinical sign of PRRS on the day of collection of the semen;

2) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

Article 15.3.9.

Recommendations for importation from countries or zones not free from PRRS
For semen of domestic and captive wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor males have not been vaccinated against PRRS; and
   a) were kept, since birth or for at least three months prior to entry into the pre-entry isolation facility, in an establishment in which no pigs have been vaccinated against PRRS and no infection with PRRSV was detected within that period;
   b) showed no clinical sign of PRRS on the day of entry into the pre-entry isolation facility and were subjected to a serological test with negative results on samples collected on the same day;
   c) were kept in the pre-entry isolation facility for at least 28 days and were subjected to a serological test with negative results on samples collected no less than 21 days after entry;
   d) EITHER
      i) have been kept in an artificial insemination centre where, at least every month, serum samples from a statistically representative number of all donor males are subjected, to an appropriate test for infection with PRRSV with negative results. The sampling scheme should be designed to ensure that all donor males are tested every 12 months and at least once during their stay;
      OR
      ii) have been kept in an artificial insemination centre where all donor males were subjected to serological and virological examinations for infection with PRRSV, with negative results, on serum samples taken on the day of collection;

2) the semen was collected, processed and stored in accordance with the relevant articles in Chapters 4.6. and 4.7.

Article 15.3.10.

Recommendations for importation of in vivo derived embryos of domestic and captive wild pigs from countries, zones or compartments free from PRRS

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1) the donor females were kept in a country, zone or compartment free from PRRS since birth or for at least three months prior to collection;
2) the donor females showed no clinical sign of PRRS on the day of collection;
3) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant;
4) the semen used for the production of embryos complied with the provisions of Article 15.3.8. or Article 15.3.9.

Article 15.3.11.

Recommendations for importation of in vivo derived embryos of domestic and captive wild pigs from countries or zones not free from PRRS

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1) the donor females:
   a) showed no clinical sign of PRRS on the day of collection;
   b) were subjected to a serological test for infection with PRRSV, with negative results, on two occasions, at an interval of not less than 21 days, the second test being performed within 15 days prior to embryo collection;
2) the embryos were collected, processed and stored in accordance with Chapters 4.8. and 4.10., as relevant;
3) the semen used for the production of embryos complied with the provisions of Article 15.3.8. or Article 15.3.9.

Article 15.3.12.

Recommendations for importation of fresh meat of domestic and captive wild pigs

Regardless of the PRRS status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from pigs that have been slaughtered in an approved slaughterhouse/abattoir and have been subjected with favourable results to ante- and post-mortem inspections in accordance with Chapter 6.3.

Article 15.3.13.

Introduction to surveillance

The following defines the principles and provides a guide to the surveillance for PRRS, complementary to Chapter 1.4. This may be for the entire country, a zone or a compartment. Guidance is also provided for Member Countries seeking recovery of PRRS status for the entire country, for a zone or for a compartment, following an outbreak and for the maintenance of PRRS status.

Surveillance should be capable of detecting the presence of infection with PRRSV even in the absence of clinical signs. Surveillance for PRRS should be in the form of a continuing programme designed to establish that domestic and captive wild pig populations in a country, zone or compartment are free from infection with PRRSV or to detect the introduction of PRRSV into a population already defined as free. Consideration should be given to the specific characteristics of PRRS epidemiology that include:

- the role of pig-to-pig contact;
- the role of semen in transmission of the virus;
- the possible occurrence of aerosol transmission;
- the existence of two distinct genotypes of PRRSV, also with antigenic and virulence variability among strains of both genotypes;
- the frequency of clinically inapparent infections, particularly in older pigs;
- the possible occurrence of long-term virus-shedding even in the presence of antibodies;
- the lack of a differentiating test for vaccinal antibodies and the inherent risks associated with the use of modified live vaccines for PRRS.

Veterinary Authorities may have information on the genotype prevailing in the country but it should not be assumed that the other genotype is absent. Therefore, virological and serological tests used for surveillance should be able to detect both genotypes and antibodies to both genotypes with similar sensitivity.
Article 15.3.14.

General conditions and methods for surveillance

1) A surveillance system in accordance with Chapter 1.4. and under the responsibility of the Veterinary Authority should be in place and include the following elements:
   a) formal and ongoing system for detecting and investigating outbreaks of PRRS;
   b) a system for recording, managing and analysing diagnostic and surveillance data.

2) Any PRRS surveillance programme should:
   a) include the reporting and investigation of suspected cases. Diagnosticians and those with regular contact with pigs should report promptly any suspicion of PRRS to the Veterinary Authority;
   b) implement, when relevant, regular and frequent clinical inspections and laboratory testing of populations at high-risk of contracting or spreading disease, such as artificial insemination centres and nucleus herds, establishments in high pig density areas or with lax biosecurity.

Article 15.3.15.

Surveillance strategies

1. Introduction
The objective of surveillance is to estimate the prevalence of infection, demonstrate freedom or detect introduction of PRRSV as soon as possible.

The surveillance strategy chosen should be justified as adequate to detect the presence of infection with PRRSV in accordance with Chapter 1.4. and the epidemiological situation. Cumulative results of targeted and general surveillance will increase the level of confidence in the surveillance strategy.

2. Clinical surveillance
Clinical signs and pathological findings are useful for early detection. Episodes of high morbidity or mortality in young piglets and reproductive disorders in sows should also be investigated. Highly pathogenic strains may affect pigs of all ages and can include severe respiratory signs. In PRRSV infections involving low virulence strains, clinical signs may not be present or are seen only in young animals. Therefore, clinical surveillance should be supplemented by serological and virological surveillance.

3. Virological surveillance
In some circumstances such as clinical disease investigations and in high-risk populations, virological surveillance may provide an advantage through earlier detection.

Virological surveillance should be conducted:
   a) to monitor high-risk populations;
   b) to investigate clinically suspected cases;
   c) to follow up positive serological results.

Molecular detection methods are most commonly used for virological surveillance and can be also applied to large-scale screening. If targeted at high-risk populations, they provide an opportunity for early detection that can considerably reduce the subsequent spread of disease. Molecular analysis can provide valuable information on genotype circulating in the country and enhance epidemiological understanding of the pathways of spread in endemic areas and those involved in outbreaks in disease free areas.

4. Serological surveillance
Serology in unvaccinated populations is often the most effective and efficient surveillance methodology. In some pigs, antibodies against PRRSV can disappear after approximately three to six months in the absence of further exposure and this should be considered when interpreting serological surveillance results.

In the absence of a test differentiating infected from vaccinated animals (DIVA), serology in vaccinated populations is less useful.

Maternal antibodies are generally detectable until four to eight weeks of age. The collection of samples should therefore take account of the type of herd and the age structure of the pigs, with an emphasis on older pigs. However, in countries or zones where vaccination has been recently discontinued, targeted serological surveillance of young unvaccinated pigs older than eight weeks can indicate the presence of infection.
**Article 15.3.16.**

**Additional surveillance requirements for recovery of free status**

In addition to the general conditions described in this chapter, a Member Country declaring the recovery of country, zone or compartment PRRS free status should provide evidence of an active surveillance programme to demonstrate absence of infection with PRRSV.

This surveillance programme should cover:

1) establishments in the proximity of the outbreaks;
2) establishments epidemiologically linked to the outbreaks;
3) pigs moved from or used to repopulate affected establishments.

The pig herds should undergo regular clinical, pathological, virological and serological examinations, planned and implemented according to the general conditions and methods described in these recommendations.

---

**NB: FIRST ADOPTED IN 2017.**
CHAPTER 15.4.

INFECTION WITH TAENIA SOLIUM
(PORCINE CYSTICERCOSIS)

Article 15.4.1.

General provisions

*Taenia solium* (*T. solium*) is a zoonotic cestode (tapeworm) parasite of pigs and occasionally of other animals. The adult cestode occurs in the small intestine of humans (definitive host) causing taeniosis. The larval stage (cysticercus) occurs in striated muscles, subcutaneous tissues and central nervous system of pigs (intermediate hosts), causing cysticercosis. Other suids and some carnivores can be infected but are not epidemiologically significant. Humans may also become infected with the larval stage through the ingestion of eggs shed in faeces of infected humans. The most severe form of human *infection* by the larval stage is neurocysticercosis which causes neurological disorders including seizures (epilepsy) and sometimes death. Cysticercosis, although normally clinically inapparent in pigs, is associated with significant economic losses due to carcass condemnation and decreased value of pigs, and causes a major disease burden in humans.

In humans, taeniosis occurs following ingestion of pig *meat* containing viable cysticerci and can be prevented by avoiding consumption of raw or undercooked contaminated pig *meat*. In humans, cysticercosis occurs following ingestion of *T. solium* eggs and can be prevented by avoiding exposure to *T. solium* eggs through detection and treatment of human tapeworm carriers, community health education, appropriate sanitation, personal hygiene, and good food hygiene. Collaboration between the Veterinary Authority and the public health authority is essential in preventing and controlling *T. solium* transmission.

In pigs, cysticercosis occurs by ingestion of *T. solium* eggs from faeces, or environments contaminated with faeces of humans harbouring adult *T. solium*.

For the purposes of the Terrestrial Code, *infection* with *T. solium* is defined as an *infection* of pigs.

The aim of this chapter is to reduce the risk of *infection* with *T. solium* of humans and pigs and to minimise the international spread of *T. solium*. The chapter provides recommendations for prevention, control and *surveillance* of *infection* with *T. solium* in pigs.

This chapter should be read in conjunction with the Codex Alimentarius Code of Hygienic Practice for Meat (CAC/RCP 58-2005).

When authorising the import or transit of the *commodities* covered in this chapter, with the exception of those listed in Article 15.4.2., Veterinary Authorities should apply the recommendations in this chapter.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 15.4.2.

Safe commodities

When authorising import or transit of the following *commodities* of pigs, Veterinary Authorities should not require any *T. solium*-related conditions regardless of the status of the animal population of the *exporting country*:

1) processed fat;
2) casings;
3) semi-processed skins which have been submitted to the usual chemical and mechanical processes in use in the tanning industry;
4) bristles, hooves and bones;
5) semen, oocytes and embryos.
Chapter 15.4. - Infection with Taenia solium

Article 15.4.3.

Measures to prevent and control infection with T. solium

The Veterinary Authority and other Competent Authorities should carry out community awareness and education programmes on the risk factors associated with transmission of T. solium emphasising the role of pigs and humans.

The Veterinary Authority or other Competent Authorities should promote the comprehensive animal health management of pigs, which should include the following measures:

1. Prevention of infection in pigs

Transmission of T. solium eggs from humans to pigs can be avoided by:

a) preventing the exposure of pigs to environments contaminated with human faeces;

b) preventing the deliberate use of human faeces as pig feed or the use of pigs as a means of human faeces disposal;

c) ensuring that any treated sewage effluent used to irrigate or fertilise land to be used by pigs for forage or for food crops has been treated in a manner shown to inactivate T. solium eggs;

e) providing adequate toilet and sanitation facilities for people in areas and establishments where pigs are kept to prevent the exposure of pigs and their environment to human faeces;

f) where indicated, vaccinating pigs in combination with an anthelmintic treatment in accordance with the Terrestrial Manual.

2. Food safety and control of infection in pigs

a) The Veterinary Authority should ensure that all slaughtered pigs are subjected to post-mortem meat inspection in accordance with Chapter 6.3., and with reference to Chapter 3.9.5. of the Terrestrial Manual.

b) When cysticerci are detected during post-mortem meat inspection:

   i) if cysticerci are detected in a carcass of a pig in multiple locations (systemic infection), that carcass and its viscera, as well as all pigs from the same establishment of origin should be disposed of in accordance with Article 4.13.6.;

   ii) if only localised cysticerci are detected in a carcass of a pig, the meat from that carcass and from all pigs from the same establishment of origin should be treated in accordance with Article 15.4.6. or may be disposed of in accordance with Article 4.13.6.;

   iii) an investigation should be carried out by the Veterinary Authority and the public health authority to identify the possible source of the infection in order to target an intervention;

   iv) post-mortem examination of pigs at slaughter from known infected establishments should be intensified until evidence has been obtained indicating that the infection has been eliminated from the establishment.

An optimal control programme should include detection and treatment of human tapeworm carriers and control of sewage used for agricultural production.

Article 15.4.4.

Surveillance for infection with T. solium in pigs

Communication procedures on the occurrence of T. solium should be established between the Veterinary Authority and public health authorities.

The Veterinary Authority should use information from public health authorities and other sources on human cases of taeniosis or cysticercosis in the initial design and any subsequent modification of surveillance programmes.

Surveillance can be conducted by:

1) meat inspection at slaughterhouses/abattoirs;

2) tongue inspection of live pigs at markets provided that the methods used do not cause injury and avoid unnecessary suffering;

3) other diagnostic tests on live pigs.
The data collected should be used for investigations and for the design or amendment of control programmes as described in Article 15.4.3.

Animal identification and animal traceability systems should be implemented in accordance with the provisions of Chapters 4.2. and 4.3.

**Article 15.4.5.**

**Recommendations for the importation of meat and meat products of pigs**

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat or meat products:

1) has been produced in accordance with the Codex Code of Hygienic Practice for Meat (CAC/RCP 58-2005);

AND

2) comes from pigs which have been slaughtered in an approved slaughterhouse/abattoir;

AND

3) either
   a) comes from pigs born and raised in a country, zone or compartment demonstrated to be free from *T. solium* in accordance with Article 1.4.6.;

   or

   b) comes from pigs which have been subjected to post-mortem inspections for *T. solium* cysticerci with favourable results;

   or

   c) has been processed to ensure the inactivation of the *T. solium* cysticerci in accordance with one of the procedures referred to in Article 15.4.6.

**Article 15.4.6.**

**Procedures for the inactivation of *T. solium* cysticerci in meat of pigs**

For the inactivation of *T. solium* cysticerci in meat of pigs, one of the following procedures should be used:

1) heat treatment to a core temperature of at least 60°C; or

2) freezing to minus 10°C or less for at least ten days or any time and temperature equivalent.

---

NB: FIRST ADOPTED IN 2015; MOST RECENT UPDATE ADOPTED IN 2022.
CHAPTER 15.5.

TRANSMISSIBLE GASTROENTERITIS

Article 15.5.1.

General provisions
For the purposes of the Terrestrial Code, the infective period for transmissible gastroenteritis (TGE) shall be 40 days.
Standards for diagnostic tests are described in the Terrestrial Manual.

Article 15.5.2.

Recommendations for the importation of pigs for breeding or rearing
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of TGE on the day of shipment;
AND EITHER
2) come from an establishment in which no case of TGE was reported during the 12 months prior to shipment;
and
3) showed negative results to a diagnostic test for TGE during the 30 days prior to shipment, and were kept isolated during this period;
OR
4) come from a country in which TGE is officially notifiable and no clinical case has been recorded in the previous three years.

Article 15.5.3.

Recommendations for the importation of pigs for slaughter
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:
1) showed no clinical sign of TGE on the day of shipment;
2) come from an establishment in which no case of TGE was officially reported during the 40 days prior to shipment.

Article 15.5.4.

Recommendations for the importation of semen of pigs
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1) the donor animals showed no clinical sign of TGE on the day of collection of the semen;
AND EITHER
2) the donor animals have been resident for at least 40 days on an artificial insemination centre, and all the pigs on this artificial insemination centre were free from clinical signs of TGE during the 12 months prior to collection;
and
3) for fresh semen, the donor animals were subjected to a diagnostic test for TGE with negative results during the 30 days prior to collection;
4) for frozen semen, the donor animals were subjected to a diagnostic test for TGE with negative results at least 14 days after collection;

OR

5) the donor animals have been resident since birth in a country in which TGE is officially notifiable and no clinical case has been recorded in the previous three years;

and in all situations:

6) the semen was collected, processed and stored in accordance with Chapters 4.6. and 4.7.

CHAPTER 1.1.
INFECTION WITH MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS

Article 1.1.1.

General provisions

Middle East respiratory syndrome (MERS) is a viral respiratory infection of humans and dromedary camels (Camelus dromedarius) which is caused by a coronavirus called Middle East Respiratory Syndrome Coronavirus (MERS-CoV).

Dromedary camels are the natural host and zoonotic source of the MERS-CoV infection in humans. Other species may be susceptible to infection with MERS-CoV. However, their epidemiological significance has not been demonstrated.

MERS-CoV has been associated with mild upper respiratory signs in some dromedary camels. While the impact of MERS-CoV on animal health is very low, it can cause severe and sometimes fatal disease in humans.

For the purposes of the Terrestrial Code, MERS is defined as an infection of dromedary camels with MERS-CoV.

The following defines the occurrence of infection with MERS-CoV:

1) MERS-CoV has been isolated and identified as such in a sample from a dromedary camel; or

2) nucleic acid specific to MERS-CoV has been detected in a sample from a dromedary camel showing clinical signs or pathological lesions consistent with MERS, or with epidemiological links either to a confirmed or suspected case or to a human infected with MERS-CoV, or giving cause for suspicion of previous association or contact with MERS-CoV.

Standards for diagnostic tests are described in the Terrestrial Manual.

NB: FIRST ADOPTED IN 2023.
# Index

## A

**Acarapis woodi** 601

**Aethina tumida** 610

**American foulbrood** 604

**Anthrax**
- Disease control recommendations 491
- Inactivation of pathogenic agents 493
- Recommendations for trade in commodities 491

**Aujeszky’s disease**
- Disease control recommendations 494
- Recommendations for trade in commodities 497

**Avian chlamydiosis**
- Disease control recommendations 623
- Recommendations for trade in commodities 623

**Avian infectious bronchitis**
- Disease control recommendations 624
- Recommendations for trade in commodities 624

**Avian infectious laryngotracheitis**
- Disease control recommendations 626
- Recommendations for trade in commodities 626

**Avian mycoplasmosis**
- Disease control recommendations 639
- Recommendations for trade in commodities 639

## B

**Bovine anaplasmosis** 657
- Disease control recommendations 657
- Recommendations for trade in commodities 657

**Bovine babesiosis** 658
- Disease control recommendations 658
- Recommendations for trade in commodities 658

**Bovine genital campylobacteriosis** 659
- Disease control recommendations 659
- Recommendations for trade in commodities 659

**Bovine spongiform encephalopathy** 661
- Disease control recommendations 661
- Inactivation of pathogenic agents 667
- Recommendations for trade in commodities 664
- Surveillance 667

**Brucella abortus** 512

**Brucella melitensis** 512

**Brucella ovis** 741

**Brucella suis** 512

**Burkholderia mallei** 723

## C

**Caprine arthritis/encephalitis**
- Disease control recommendations 733
- Recommendations for trade in commodities 733

**Chlamydia abortus** 739
Index

**Chlamydia abortus** infection 738
**Chrysomya bezziana** 565
**Cochliomyia hominivorax** 565
Contagious agalactia 734
  Recommendations for trade in commodities 734
Contagious bovine pleuropneumonia 669
  Disease control recommendations 669
  Recommendations for trade in commodities 670
  Surveillance 672
  WOAH endorsed official control programme 674
Contagious caprine pleuropneumonia 735
  Disease control recommendations 735
  Recommendations for trade in commodities 735
Contagious equine metritis 703
  Disease control recommendations 703
  Recommendations for trade in commodities 704, 705, 706

**D**
Definitions xi
Dourine 708
  Disease control recommendations 708
  Recommendations for trade in commodities 708
Duck virus hepatitis 641
  Disease control recommendations 641
  Recommendations for trade in commodities 641

**E**
**Echinococcus granulosus** 522
**Echinococcus multilocularis** 525
Enzootic abortion of ewes 738
  Disease control recommendations 738
  Recommendations for trade in commodities 738
Enzootic bovine leukosis 676
  Disease control recommendations 676
  Recommendations for trade in commodities 677
Equine encephalomyelitis (Eastern and Western) 710
  Disease control recommendations 710
  Recommendations for trade in commodities 710
Equine infectious anaemia 711
  Disease control recommendations 711
  Recommendations for trade in commodities 711
Equine piroplasmosis 715
  Disease control recommendations 715
  Recommendations for trade in commodities 716
Equine rhinopneumonitis 719
  Disease control recommendations 719
  Recommendations for trade in commodities 719
European foulbrood 607

**G**
Glanders 723
Goat pox 760

**H**
Haemorrhagic septicaemia 679
  Disease control recommendations 679
  Recommendations for trade in commodities 680
<table>
<thead>
<tr>
<th>Disease Control</th>
<th>Recommendation</th>
<th>Infection with</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations</td>
<td></td>
<td>Heartwater</td>
<td>Melissococcus plutonius</td>
<td>Disease control recommendations</td>
<td>556</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>556</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection of honey bees with Paenibacillus larvae</td>
<td>Disease control recommendations</td>
<td>604</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>605</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with African horse sickness virus</td>
<td>Disease control recommendations</td>
<td>695</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Protection of animals against culicoides attacks</td>
<td>699</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>697</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>699</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with African swine fever virus</td>
<td>Disease control recommendations</td>
<td>767</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inactivation of pathogenic agents</td>
<td>773, 774</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>769</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>774</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surveillance for arthropod vectors</td>
<td></td>
<td>777</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with bluetongue virus</td>
<td>Disease control recommendations</td>
<td>502</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Protection of animals against culicoides attacks</td>
<td>506</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>503</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>507</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with Brucella abortus, B. melitensis and B. suis</td>
<td>Disease control recommendations</td>
<td>512</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>518</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with Burkholderia mallei</td>
<td>Disease control recommendations</td>
<td>723</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>724</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>725</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with classical swine fever virus</td>
<td>Disease control recommendations</td>
<td>778</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inactivation of pathogenic agents</td>
<td>784, 785</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>781</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>786</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with Echinococcus granulosus</td>
<td>Disease control recommendations</td>
<td>522</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inactivation of pathogenic agents</td>
<td>524</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>524</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>523</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with Echinococcus multilocularis</td>
<td>Disease control recommendations</td>
<td>525</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>525</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with epizootic hemorrhagic disease virus</td>
<td>Disease control recommendations</td>
<td>527</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Protection of animals against culicoides attacks</td>
<td>531</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>528</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Surveillance</td>
<td>532</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with equine influenza virus</td>
<td>Disease control recommendations</td>
<td>712</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Recommendations for trade in commodities</td>
<td>713</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infection with foot and mouth disease virus</td>
<td></td>
<td>533</td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>Disease control recommendations</td>
<td>Inactivation of pathogenic agents</td>
<td>Recommendations for trade in commodities</td>
<td>Surveillance</td>
<td>WOAH endorsed official control programme</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------</td>
<td>----------------------------------</td>
<td>------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Infection with high pathogenicity avian influenza viruses</td>
<td>628</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Leishmania spp.</td>
<td>558</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with lumpy skin disease virus</td>
<td>684</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Middle East respiratory syndrome coronavirus</td>
<td>803</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Mycobacterium tuberculosis complex</td>
<td>559</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with peste des petits ruminants virus</td>
<td>743</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with porcine reproductive and respiratory syndrome virus</td>
<td>791</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with rabies virus</td>
<td>568</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Rift Valley fever</td>
<td>574</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with rinderpest virus</td>
<td>578</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Taenia solium</td>
<td>797</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Theileria annulata, T. orientalis and T. parva</td>
<td>690</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection with Theileria lestoquardi, T. luwenshuni, T. uilenbergi</td>
<td>763</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Index

Inactivation of pathogen agents 764
Recommendations for trade in commodities 764

Infection with Trichinella spp. 584
Disease control recommendations 584
Recommendations for trade in commodities 586

Infection with Trypanosoma brucei, T. congolense, T. simiae and T. vivax 588
Disease control recommendations 588
Recommendations for trade in commodities 590
Surveillance 590

Infectious bovine rhinotracheitis 681
Disease control recommendations 681
Recommendations for trade in commodities 682

Infectious bursal disease 644
Disease control recommendations 644
Recommendations for trade in commodities 644

Infestation of honey bees with Acarapis woodi 601
Disease control recommendations 601
Recommendations for trade in commodities 602

Infestation of honey bees with Tropilaelaps spp. 615
Disease control recommendations 615
Recommendations for trade in commodities 616

Infestation of honey bees with Varroa spp. 619
Disease control recommendations 619
Recommendations for trade in commodities 620

Infestation with Aethina tumida 610
Disease control recommendations 610
Recommendations for trade in commodities 611

J
Japanese encephalitis 557
Disease control recommendations 557
Recommendations for trade in commodities 557

L
Leishmaniosis 558

M
Maedi-visna 740
Disease control recommendations 740
Recommendations for trade in commodities 740

Melissococcus plutonius 607
Mycobacterium tuberculosis complex 559
Mycoplasma gallisepticum 639
Myxomatosis 729
Disease control recommendations 729
Recommendations for trade in commodities 729

N
New World screwworm 565
Recommendations for trade in commodities 565

Newcastle disease 646
Disease control recommendations 646
Inactivation of pathogenic agents 646
Recommendations for trade in commodities 647
Surveillance 652

O
Old World screwworm 565
Recommendations for trade in commodities 565
Index

Ovine epididymitis (*Brucella ovis*) 741
  Disease control recommendations 741
  Recommendations for trade in commodities 741

**P**
Paenibacillus larvae 604
Paratuberculosis 567
  Disease control recommendations 567
Pullorum disease 643
  Disease control recommendations 643
  Recommendations for trade in commodities 643

**R**
Rabbit haemorrhagic disease 730
  Disease control recommendations 730
  Recommendations for trade in commodities 730
Rift Valley fever
  Recommendations for trade in commodities 575

**S**
Scrapie 755
  Disease control recommendations 755
  Recommendations for trade in commodities 757
Sheep pox 760
  Disease control recommendations 760
  Recommendations for trade in commodities 760

**T**
Theileria annulata 690
Theileria lestoquardi 763
Theileria luwenshuni 763
Theileria orientalis 690
Theileria parva 690
Theileria uilenbergi 763
Theileriosis
  Disease control recommendations 690
  Recommendations for trade in commodities 691
Transmissible gastroenteritis 800
  Disease control recommendations 800
  Recommendations for trade in commodities 800
Trichomonosis
  Disease control recommendations 693
  Recommendations for trade in commodities 693
*Tropilaelaps* spp. 615
Trypanosoma brucei 588
Trypanosoma congolense 588
Trypanosoma simiae 588
Trypanosoma vivax 588
Tularemia 594
  Disease control recommendations 594
  Recommendations for trade in commodities 594

**V**
Varroa spp. 619
Varroosis 619
Venezuelan equine encephalomyelitis 727
  Disease control recommendations 727
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations for trade in commodities</td>
<td>727</td>
</tr>
<tr>
<td>Viral equine arteritis</td>
<td>720</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>720</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>720</td>
</tr>
<tr>
<td>West Nile fever</td>
<td>596</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>596</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>597</td>
</tr>
</tbody>
</table>