

Animal Identification, Livestock and Product Traceability

Regional Information Seminar for Recently Appointed OIE Delegates

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Presentation Outline

- I. Introduction
- II. What is Animal Identification, Livestock and Product Traceability?
- III. Why Animal Identification, Livestock and Product Traceability?
- IV. Design of the Identification Systems to Achieve Animal and Product Traceability
- V. Design of the Programme
- VI. Implementation of the Programme
- VII. Conclusion

I. Introduction

- Identification of animals is an ancient practice.
- Traditionally animal identification was motivated by ownership rather than health reasons.
- Today animal ID and traceability are generally motivated by animal health and food safety.
- In many countries especially those trading in animals and animal products traceability of animals and products of animal origin is a legal requirement.
- Traceability system is founded on the ability to identify individual animals or homogenous groups of animals, the ability to track their movements, proper identification of premises, and recording information in appropriate registers.
- Effective Animal ID and traceability system is dependent on participation of all stakeholders.
- Animal ID and traceability system should achieve traceability throughout the animal production and food chain in line with international standards set by OIE and CAC- production continuum.

II. What is Animal Identification, Livestock and Product Traceability?

a. 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.

b. Animal traceability

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

II. What is Animal Identification, Livestock and Product Traceability? *Cont.....*

c. 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.

d. Animal identification system

–means the inclusion and linking of components such as identification of establishments/owners, the person(s) responsible for the animal(s), movements and other records with animal identification.

II. What is Animal Identification, Livestock and Product Traceability? *Cont.....*

e. Traceability/ Product Tracing

The ability to follow the movement of a food through specified stages of production, processing and distribution. **LINKAGE**

III. Why Animal Identification, Livestock and Product Traceability?

To support national policies and activities relating to–

- >disease prevention and control—including zoonotic diseases
- >certification of exports.
- >food quality and organoleptic factors.
- >to maintain consumer confidence.
- >to prevent fraud

III. Why Animal Identification, Livestock and Product Traceability? *Cont.....*

- >Support measures to detect and control diseases including
 - ✓Surveillance
 - ✓early detection and notification of outbreaks
 - ✓rapid response
 - ✓control of animal movements
 - ✓zoning or compartmentalization
 - ✓Sampling
 - ✓herd/flock health programs
 - ✓breeding or genetic improvement programs
 - ✓Productivity intensification-differentiation

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability

- a. Objectives of the system.
- b. Factors that determine system of choice.
- c. Responsibilities.
- d. Legal framework.
- e. Common basic factors of the system.
- f. Design and Implementation of the system

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability *Cont....*

a. Objectives of the system.

>should be clearly defined—in consultation between the Veterinary Authority and relevant sectors /stakeholders and.

>should be periodically reviewed.

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability *Cont....*

b. Factors that determine system of choice.

- the outcomes of the risk assessment
- the animal and public health situation and related programmes,
- animal population parameters: species, breed, numbers, distribution, types of production
- animal movement patterns
- available technologies
- trade in animals and animal products
- cost/benefit analysis and other economic,
- geographical and environmental considerations and
- cultural aspects.

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability *Cont....*

c. Responsibilities.

>Animal identification and animal traceability should be under the authority and responsibility of the Veterinary Authority.

>Other authorities may have jurisdiction over other aspects of the food chain, including food traceability.

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Cont....

d. Legal framework.

>Veterinary Authority, with relevant governmental agencies and in consultation with the private sector should develop a legal framework for the implementation and enforcement of the system.

>International Standards - OIE Chpt 4.1 and 4.2 of the Code and CAC/GL 60-2006.

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Cont....

d. Legal framework cont.....

The legal framework should address the following:

- >obligations of the competent authorities and other stakeholders.
- >the objectives and scope of the system
- >organisational arrangements including choice of technologies
- >registration,
- >checking, verification, inspection and penalties
- >confidentiality of data
- >accessibility and exchange of information
- >Where relevant funding mechanism

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Cont....

e. Common basic factors of the system.

- >legal framework,
- >procedures,
- >Competent Authority,
- >identification of establishments/owners,
- >animal identification
- >animal movements

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Cont....

f. Key elements of the design and Implementation of the Animal ID and traceability system

➤ **Desired outcomes** – in defining them there should be consultation between Veterinary Authorities and other stakeholders such as animal producers, food processors, private veterinarians, scientific research organisations and other government agencies.

Desired outcomes may be defined in terms of animal health (such as disease surveillance, vaccination programmes), public health (surveillance and control of zoonotic disease and food safety), management of emergencies, trade (such as product certification), animal husbandry

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Cont....

>**Scope** – There should be consultation between all stakeholders when defining the scope of the system. The scope is often defined on the basis of species and sector and taking account of particular characteristics of the farming systems, such as beef for export, poultry in defined compartments, cattle within a defined FMD free zone. Countries are unique depending on their production systems and the nature of their industries.

>**Performance criteria** – what is it that you want the system to do? This will depend on the desired outcomes and scope. This should be defined in consultation with all the stakeholders. This is defined in quantitative terms depending on the epidemiology of the disease, such as tracing animals within 48 hours of the outbreak of FMD

IV. Design and Implementation of the Identification Systems to Achieve Animal and Product Traceability Key elements cont....

> **Preliminary studies** – assessment of the current situation. The assessment should take into account animal population, animal and public health situation, trade issues, animal movement patterns, information management and communication, availability of resources, social and cultural aspects of the country, legislation, available technology options, existing ID system(s), expected benefits of the system and to whom they accrue, funding mechanisms, sustainability, issues pertaining to data ownership and access rights, reporting requirements, etc.

V. Design of the Programme

- a. Consultation
- b. Means of Animal ID.
- c. Registration
- d. Documentation
- e. Reporting
- f. Information System
- g. Laboratories
- h. Abattoirs, rendering plants, dead stock collection points, markets, assembly centres.
- i. Penalties
- j. Legal framework
- k. Implementation

V. Design of the Programme. Cont.....

a. Consultation.

To facilitate implementation of the programme, the designing of the programme should be done in consultation with all the stakeholders

b. Means of Animal ID

- Individual or Group – durability, human resources, species and age of the animals, cultural aspects, animal welfare, farming practices, production systems, climatic conditions, resistance to tampering, trade consideration, cost, retention and readability etc
- Veterinary Authority should approve material and equipment chosen

Design of the Programme. Cont.....

b. Means of Animal ID cont....

➤ Procedures:

- Time period of ID of animals born in the establishment
- Animals introduced into the establishment
- Animals that lose ID or ID is unusable.
- Arrangements and rules for the destruction and/or re-use of IDs.
- Penalties for the tampering and/or removal of official ID devices.

Design of the Programme. Cont.....

c. Registration

The design of the programme should incorporate procedures that will ensure that relevant events and information are registered in a timely and accurate manner. The following records should at least specify the species, unique identifier, date of event, the identifier of the establishment where the event took place, and the code for the event itself.

➤ *Establishment/owners or responsible keepers* - establishment should be identified and registered including their GPS coordinates, the type of establishment and the species kept and the owner.

➤ *Animals* - species, date of birth, production category, sex, breed, parents.

➤ *Movements* – in or out for traceability purposes.

➤ *Birth, slaughter and death of an animal* -

Design of the Programme. Cont.....

c. Registration. Cont....

- *Change of ownership*
- *Testing, health investigation, health certification*
- *Imported and exported animals* – link with Animal ID of importing and exporting country
- *Animal ID lost or replaced*
- *Animal missing*
- *Animal ID retired (at slaughter, loss of ID or death on a farm)*

V. Design of the Programme. Cont....

d. Documentation – should be standardised in accordance with scope, performance criteria and desired outcomes and supported by the legal framework

e. Reporting – Depending on the scope, performance criteria and desired outcomes the primary producer should be responsible for reporting movement, events, changes in numbers of livestock to the Veterinary Authority.

f. Information system – Should be designed in accordance scope, performance criteria and desired outcomes. Can be *electronic or paper based*. The system should provide for collection, compilation, storage and retrieval of information on matters related to registration.

The design of the information system should consider the following:

➤ Linkage with other parts in the food chain

➤ Minimise duplication

➤ Relevant components such as databases should be compatible.

➤ Confidentiality of data

➤ Appropriate safeguards to prevent the loss of data, including a system for backing up the data.

g. Laboratories – samples linked to the individual or group of animals.

V. Design of the Programme. Cont....

h. Abattoirs, rendering plants, dead stock collection points, markets and assembly points.

- These establishments are critical points for control of animal health and food safety.
- Linkage with animal ID for product traceability
- Collection and disposal of IDs should be done in accordance with established procedures and regulated within the legal framework.
- The above establishments must report movement .

i. Penalties – should be proportionate, types of penalties should be defined in the programme and supported by the legal framework.

VI. Implementation of the Programme

Implementation of the animal ID and traceability system should cover the following:

a. Action plan - the action plan should specify the timetable including the milestones and performance indicators, the human and financial resources, checking, enforcement and verification arrangements. The action plan should include the following activities

➤ *Communication* - the scope, performance criteria, designed outcomes, movements and registration requirements and sanctions must be communicated to all parties.

➤ *Training programmes*

➤ *Technical support* should be provided to address practical problems

VI. Implementation of the Programme. Cont....

b. Checking and verification

- *Checking* should start at the beginning of the implementation to detect, prevent and correct errors.
- *Verification* should begin after the preliminary period as determined by the Veterinary Authority to determine compliance with legal framework and operational requirements.

c. Auditing – should be carried out by the Veterinary Authority to detect the problems in the system and identify possible improvement areas.

d. Review – the programme should be subject to periodic review taking into account the results of the checking, verification and auditing activities.

VII. Conclusion

➤ Effective animal identification and traceability systems are essential to the achievement of desired outcomes.

➤ Involvement of all stakeholders in the design and implementation of animal identification and traceability system is crucial for its adoption.

➤ Animal identification and traceability system is a market access requirement.

Thank You

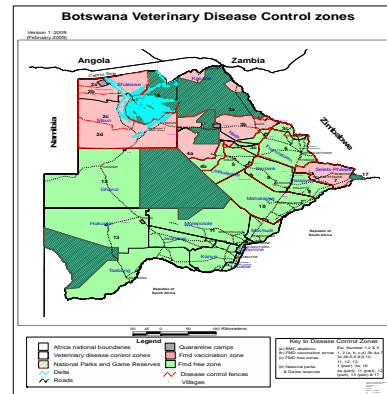
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Botswana Animal ID and traceability system

- Livestock population –
- Exports beef and beef products to EU and other regional markets.
- Beef and beef products from imported animals not exported to EU .
- Products from FMD control areas – fresh meat and canned products.
- Animal ID and traceability system- 2000, Animal ID compulsory in 2005.
- Disease of economic importance – FMD
- Botswana divided into FMD control zones, FMD free zones, districts, extension areas, crushes (epidemiological unit).
- Production system – commercial ranches, communal areas.
- Animal ID prior to 2001 – ear marks, individual owner brand on group of cattle, zonal brand.

Design of the Animal ID and Traceability system

- i. Individual ID of cattle – electronic system – reticular bolus – RFID.
- ii. National ID, resident permit, company registration number, Individual owner brand.
- iii. Computerised Database linked to National ID database.
- iv. Upload/Download of information.
- v. Animal and Public Health, animal movement control, product certification to comply with EU beef traceability and labelling requirements and stock theft.
- vi. Animal ID and traceability responsibility of government and product traceability responsibility of export establishments.
- vii. ID devices recycled
- viii. Legal instrument covers animal ID and livestock traceability only.



Reticular Bolus



EO-PC



Readers



Bolus insertion



