Diagnostic support provided by the OIE Reference Laboratories and Collaborating Centres to OIE Member Countries (twinning)

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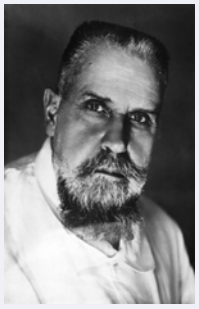
Science as basis for decisions and diagnostic support

OIE was established in 1924

In 1949 Gaston Ramon, a recognized scientist, became Director general

Some of his scientific discoveries during the twenties on toxins and toxoids, and on adjuvants were important for progress in animal and human health

The principle of science as basis for decisions has been fundamental for OIE since that time

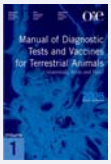


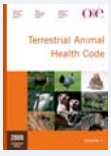
Code and manual

Specialist commissions became an important part of OIE scientific expertise

The first Animal Health Code was published in 1968

The first Manual for laboratory methods was published in 1989



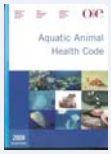


Aquatic animals

In 1960 a commision for aquatic animals was established

Modest activity during the first 25 years

In 1994 the first Code and Manual for diseases in aquatic animals was published



Reference laboratories and collaborating centres

OIE reference laboratories and OIE collaborating centres was established as a global network of expertise in 1991

Next week the Second Global International Conference of Reference Laboratories and Collaborating Centres will be held in Paris

Reference laboratories and collaborating centres

OIE has approx 190 reference laboratories and 40 collaborating centres

There are more than 30 reference laboratories with responsibility for diseases in aquatic animals

They are distributed with similar number for diseases in fish, crustaceans and molluscs. In addition there are reference laboratories for two diseases in amphibians

Only three of the collaboratoring centres are specialised in aquatic animals, but several of them are covering both terrestrial and aquatic animals

Reference laboratories - fish

Bacterial kidney disease	USA
Channel catfish virus disease	USA
Enteric septicaemia of catfish	USA
Epizootic ulcerative syndrome	Thailand
Gyrodactylosis	Norway
Infectious haematopoietic necrosis	USA
Infectious salmon anaemia	Norway/Canada
Koi herpesvirus disease	Japan/UK
Red sea bream iridoviral disease	Japan
Spring viraemia of carp	UK
Viral haemorrhagic septicaemia	Denmark

Collaborating centres

Information on Aquatic Animal Diseases	UK
Epidemiology and Risk Assessment of Aquatic Animal Diseases	Canada/Norway

Reference labroatories

Common perception: An international laboratory confirming or excluding diagnosis of a severe disease in another country

The role of OIE reference laboratories is much wider.

OIE reference laboratories are centres of expertise and standardisation for designated diseases.

Reference laboratories - mandate

- to store and distribute reagents and biological reference products
- to develop new procedures
- to analyse and disseminate epizootiological data
- to place experts at the disposal for OIE

Reference laboratories – mandate cont

- to provide scientific and technical training
- to organize scientific meetings
- to perfom and coordinate studies
- to disseminate information in their sphere of competence

Collaborating centres

Collaborating centres have expertise in a designated sphere related to management of a particular issue, like;

- epidemiology
- risk assessment
- animal welfare or others

There are also collaborating centres for specific laboratory techniques used for diagnostic purposes

Diagnostic capacity is not required in order to be approved as collaborating centre

Collaborating centres - mandate

- to operate as centre of research, expertise and standardisation within their sphere of competence
- to propose and develop procedures that will facilitate harmonisation of surveillance and control of internationally important diseases
- to disseminate information in their area of competence

Collaborating centre – mandate cont

- to provide scientific and technical training
- to organize scientific meetings on behalf of OIE
- to perform and coordinate scientific studies
- to publish and disseminate information in their sphere of competence

Reference laboratories and collaborating centres - approval

Selection of institutions is based on applications where candidates are showing their scientific, technical and financial competence and capacity

The application should be supported and sent to OIE by the CVO

One recognized expert shall be the leader

Applications endorsed based on a broad assessment shall be presented for the OIE General assembly for approval

Reference laboratories and collaborating centres - challenges

- to enable the laboratories and centres to maintain a high level of productivity and effectiveness
- to consolidate activities in laboratories located in countries with a developed aquaculture
- to strengthen support and funding for scientific activities of existing and future laboratories in countries building up aquaculture industry

Twinning programme - background

Nearly ¾ of the OIE member countries have not access to sufficient scientific expertise within their national laboratories

Most of the OIE reference laboratories and collaborating centres are situated in the remaining ¼ of the member countries

Twinning programme - objective

The main objective of twinning is to assist laboratories to build capacity and scientific expertise with the eventual aim that some of them could become OIE References Laboratories or Collaborating Centres

This can be achieved by building a link between two laboratories in order to establish a system for exchange of scientific expertise

Twinning programme

- The concept of twinning was established in 2006
- There are now approx 20 twinning programmes, all of them for diseases in terrestrial animals
- OIE encourage member countries to strengthen the twinning programme
- OIE may also provide financial support to twinning programmes

National Veterinary Institute, Norway

During the last 50 years expertise in diseases of aquatic animals have been built up, starting with pathology and bacteriology.

The competence now includes even virology, parasittology, mycology, vaccinology, toxicology, and epidemiology

Competence on diseases of farmed and wild salmonid fish is most important.

Diseases in cod and halibut and in crustaceans and molluscs are also given priority

National Veterinary Institute - Reference Laboratory

Since 1998 the institute has been an OIE Reference Laboratory for infectious salmon anaemia (ISA) and gyrodactylosis

ISA is caused by a aquatic orthomyxovirus

Gyrodactylosis is caused by a small ectoparasite, *Gyrodactylus salaris*

OIE Reference laboratory - ISA and gyrodactylosis

Expertise is provided to member countries with wild or farmed salmonid fish

General expertise can be useful for colleagues working with other fish species, even warm water species

OIE Reference Laboratory - ISA

Test(s) in use/or available for ISA at the National Veterinary Institute Norway

Test	For	
Autopsy	Macroscopic lesions	Pathology
Histopathology	Microscopic lesions	Pathology
Immunohistochemistry	Antigen	Pathology
Immunofluorescence -Tissue imprints	Antigen	Pathology
Cell culture/IFAT	Virus isolation/identification	Virology
RT-PCR (mostly real-time)	Virus RNA	Molecular biology
Sequencing	HE-gene (segment 5 & 6)	Molecular biology

National Veterinary Institute Collaborating centre

- OIE Collaborating Centre for Epidemiology and Risk assessment of Aquatic Animal Diseases

  together with

- Atlantic Veterinary College, Prince Edward Island, Canada

Both institutes have broad competence in epidemiology of fish diseases including;

- descriptive epidemiology
- analytical epidemiology
- modelling
- geographic information systems
- risk assessment

Support and collaboration

OIE specialists and institutes are generally positive to provide support within the frame of the mandate

Cooperation on building of competence and capacity may require additional resources.

Financial support is usually dependent on local involvement where the needs for cooperation are presented to the international donors

Infectious Salmon Anaemia (ISA)
International Conference
13-15 September 2010, Oslo, Norway

Biosecurity in Aquaculture
International workshop
16-17 September 2010, Kristiansund, Norway

More information www.vetinst.no/isa-oie