

*What can we learn from established
health monitoring practice
for other species?*

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The simplest form is *health control*

1. Freedom from named diseases
2. Border controls

Enforcement by government

Health Monitoring/Surveillance

- Used for mammals, more complicated than health control
- It is not true Quality Control

Health monitoring is important as an aid to facility management and for animal welfare.

Performed correctly it ensures:

- 1. Standardization of animal supply*
- 2. Standardization of experiments and hence results*
- 3. Reduces animal suffering caused by disease*
- 4. Reduces animal numbers used*

5. *Reduces experimental cost*
6. *Saves time*
7. *Protects humans from zoonotic infection*
8. *Protects animals from human infections*

Mammals

Health monitoring started in 1950's in the UK by setting categories of microbiological quality of registered laboratory animal breeders.

In the 1990's **FELASA** sent out Guidelines for the standardization throughout Europe of the microbiology of animal breeding and, later, of animals in research. Now combined in one document.

Guidelines standardize:

- Number of animals examined
- Frequency of examinations
- Microorganisms to be sought
- Format of reporting

Specific points

1. One of the greatest problems is the sample size. FELASA details 10 from a microbiological entity. ILAR gives figures for a colony over 100 animals.
2. Frequency of sampling set at every 3 months. Is this realistic for fish?
3. Which animals to sample?

Technological methods

- For mammals there has been a great deal of development of methods. PCR is perhaps the latest.
- But the new technologies are causing some problems such as oversensitivity (PCR) and false positive results from recombinant antigens for serology.
- Fish need different temperatures for incubation.
- Is there a need for specialised laboratories?

Difficulties

- Fish v. Mammals.
- Fish often held in very large numbers, mammals are not.
- Water is a transport medium for infection.
- Fish have far more organisms to be sought (e.g. parasites, viruses).
- Fish supply is largely unregulated for laboratory use, so quality varies greatly.
- Mammals can easily be housed in ways to minimise risks of cross-infection.

Summary

1. Principles of mammalian health monitoring can be transferred to fish.
2. There will be a need to develop specific recommendations for fish.