

DISEASE FREE CERTIFICATION OF LIVE KOI AND TROUT OVA FOR EXPORT TO THE EUROPEAN UNION



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Points to consider before embarking on certification

- The prospective farm needs to be able to comply with:
 - requirements for registration as an export facility as laid down by the exporting country
 - the importing country's requirements
 - plan ahead to meet the minimum two year testing period before disease guarantees can be given
 - where there is an absence of national surveillance data, the exporting farm has to be regarded as a stand alone epidemiological unit

Standards applicable to export fish farms

Structural and biosecurity requirements

- Sketch plan
- Construction to ensure adequate biosecurity
- Water source
- Facility access
- Disinfection footbaths
- Protective clothing
- Facility layout – unidirectional flow of fish
- Sanitary cells. Possibility to isolate potentially contaminated fish
- Airborne protection – limit access by birds



Standards applicable to export fish farms

Management and records requirements. Commitment by owner of farm:

- Comply with control measures should a controlled disease break out
- Appoint consulting private fish veterinarian to provide ongoing veterinary health service
- Submit fish that die to a veterinarian for post mortem examination and diagnosis
- Allow state veterinarians to inspect any fish and take samples deemed necessary
- Keep records as prescribed.

Standards applicable to export fish farms

Management and records requirements

- Records relating to inspection visits, stock of all fish, diagnostic test dates, mortalities, treatments
- Traceability of stock
- Records of ongoing health testing regime for disease
- Auditable and documented animal health and management plan must be drawn up and implemented.

Considerations

Risks associated with:

- Susceptible species
- Vector species

Current EU regulations - carp

- Carp (*Cyprinus carpio*) including koi must be certified as originating from a population free from *Rhabdovirus carpio*, the causative agent of spring viraemia of carp (SVC) according to the Aquatic Animal Health Code and the Manual of Diagnostic Tests for Aquatic Animals of the OIE.
- Some EU countries have specific requirement for guarantees regarding Koi herpesvirus status .



EU regulations - salmonids

- EU regulations for the certification of trout ova follow a similar procedure
- Guarantees must be given that the population from which the trout ova originate are free from:
 - epizootic haematopoietic necrosis virus EHN
 - infectious salmon anemia (ISA)
 - infectious haematopoietic necrosis virus (IHN)
 - viral haemorrhagic septicaemia virus (VHS)
 - infectious pancreatic necrosis virus (IPN)
 - *Renibacterium salmoninarum* (bacterial kidney disease)
 - epizootic ulcerative syndrome (EUS)
 - *Gyrodactylus salaris*



South African salmonid fish historically free from infection with *Gyrodactylus salaris* and *Myxosoma cerebralis* (whirling disease)



Biosecurity requirements

- Fish introductions only from site with an equivalent or greater disease free status.
- Closed, protected water supply (preferably borehole)
- Brood fish facility with its own protected water supply
- Separate hatchery with its own protected water supply
- All facilities must be fenced with access control
- Visitor register at entrance to facility
- Fertilized eggs disinfected with iodophore before being moved to previously disinfected hatchery tanks or jars.
- From the hatchery building fry are placed into disinfected hatchery ponds.
- Restricted movement of staff or equipment between designated facilities.
- **The health status of the fish is closely monitored.**

Testing procedure

- Testing of 150 fish represents the statistical 95 % confidence level for detecting a disease with a 2% prevalence in a population of fish exceeding 1000 fish.
- This figure represents the minimum number of samples to be considered as representative for the purpose of health certification according to international requirements set out by the OIE for establishing a disease free status.

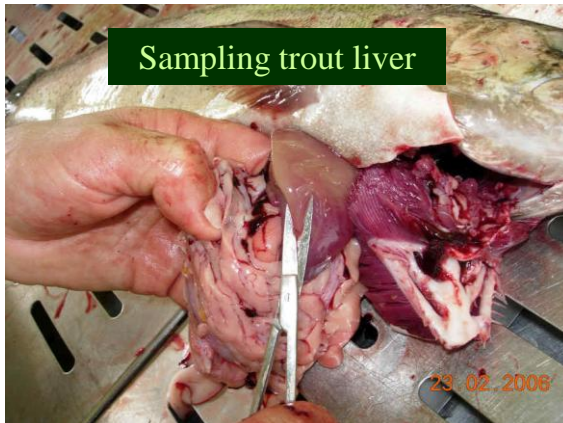
Certification guarantees

- After a minimum of 4 tests performed at 6 monthly interval over a 24 month period
- Farm must have a closed water supply
- Farm must have a closed population of fish
- Fish may only be introduced from a certified source of equal or greater status
- Comply with specified biosecurity measures
- Diseases for which guarantees are provided must be notifiable or controlled diseases in the exporting country

Sampling procedure

- Each fish is dissected
- Samples of liver, spleen and kidney are collected in phosphate buffered saline.
- Organ samples from 5 fish are pooled into one sample.
- Samples are submitted on ice to the Virology Section of the Onderstepoort Veterinary Institute for viral isolation on EPC cell lines in the case of koi samples and on EPC, CHSE and RTG2 cell lines in the case of trout samples.

Sampling trout brood fish





Farm inspections

- To maintain the status as an export facility:
- A minimum of two farm inspections per year
- Performed by private fish veterinarian together with the responsible state veterinarian

Role players

- Private fish veterinarian
- State veterinarian
- Provincial Director Veterinary Public Health
- National Export Office, Department of Agriculture

Sampling procedure for trout

- **Slaughter fish.** Each fish is dissected and samples of liver, spleen, pyloric caeca and kidney are collected in phosphate buffered saline. Organ samples from five fish are pooled into one sample. Samples are transported on ice to reach the Virology Section of the Onderstepoort Veterinary Institute (OVI) by the day following the day of sampling. Virus isolation takes place on RTG₂, CHSE, and EPC cell lines.
- **Brood fish.** Hens are stripped and a small number of ova with approximately one milliliter of ovarian fluid are collected from each fish and placed into phosphate buffered saline. Samples from five fish are pooled into one sample.

Disinfection of ova

- Fertilized eggs are disinfected with iodophore before they are moved into the hatchery.
- All eyed ova must be disinfected with iodophore immediately prior to packing for export.
- 100ppm active iodine for 5 minutes or 50 ppm active iodine for 10 minutes

Testing protocol roll -players

