

Sampling fish:

Fish should be sampled (minimum 4 fish) after observation of the following conditions:

- Mortalities and/or moribund (sick) fish;
- Sudden decrease in feeding behaviour (over 1–3 days);
- Abnormal swimming behaviour (flashing; and/or gasping at pond edges or surface; fish positioned high in the water column or in water currents, circling or rapid swimming, rubbing on standpipes), abnormal colour;

Laboratory submission of fish for disease diagnosis:

When the disease cannot be diagnosed on-farm, samples of fish should be delivered to a fish disease diagnostic laboratory. Moribund fish are the most suitable and reliable for diagnosis. If delivery of live specimens is not possible, freshly euthanized specimens should be kept with an ice pack and sent unfrozen provided they will arrive at the laboratory within 3 hours. If the delay is greater than 3 hours, the specimens should be sent preserved in 10% neutral buffered formalin. Tissue should not exceed 7 mm in thickness. In all cases the sample (organs or whole fish) should be representative of the population and ideally include moribund specimens.

Live specimens:

- Package 4 to 6 fish in strong plastic bags; 1/3 tank water, 2/3 pure oxygen; air-tight seal; watertight container;
- Preferably overnight transport or deliver samples personally;
- Do not feed fish prior to transport.

Iced specimens:

- Wrap fish in a damp cloth or towel;
- Place the sample in a plastic bag and cover with an ice pack;
- Place in a watertight container and deliver within 3 hrs.

Preserved specimens – small fish (<30 g):

- Using scissors, open fish gut cavity from the vent to the gills (do not damage organs);
- Place samples in a plastic bottle with 10% neutral buffered formalin;
- Use 10 times the volume of fixative to tissue.

Preserved specimens – large fish:

- Remove fat and dissect out organs (anterior and posterior kidney, gill, liver, heart, intestine, stomach, spleen, brain, skin with section of lateral line);
- Sample any skin lesions ensuring a 5 mm margin of normal tissue is included;
- Fix tissue/organs as for small fish.

Frozen specimens:

- Recommended for toxicological analysis and some forms of virology;
- Frozen tissues are of little use for histopathology or microbiology (the two major diagnostic tools used in most fish disease investigations).
- Freeze samples as soon as possible following the suspected poisoning.

Information to accompany laboratory submissions:

- The following information should be written in pen and is preferable to protect the information with impermeable tape (there's always water present and the risk of becoming illegible is high);
- Name, address, phone number and date;
- Species of fish, age and size;
- Water quality including pH, temperature, DO₂, ammonia, salinity;
- Size and type of production facility (e.g. pond, cage, tank, raceway);
- Stocking density;
- Date mortality began and mortality rate per day;

- Clinical signs (e.g. poor feeding, abnormal swimming, “flashing”);
- Water source;
- Diet, size and manufacturer, ration, storage;
- Recent husbandry (past 2 weeks) (e.g. harvesting, grading, water exchange, fish delivery);
- System changes (e.g. new tanks, changes in diet, chemical treatments);
- Environmental changes, weather conditions.

Laboratory adress:

Shipping:

Both laboratories and shipping company must be informed at least one day before.