

METHODS FOR SHIPMENT OF FISHES FOR DISEASE DIAGNOSIS

Many parasitic and disease producing organisms die soon after the death of the fish, or their effects are masked by decomposition. Consequently, fish found dead in the water are of no value for microscopic examination to determine the cause of death. If the epizootic is sufficiently severe to cause some deaths, the chances are good that living fish can be found that are affected with the same condition. If fish of all sizes are affected, small specimens are easier to ship.

Live fish are the most desirable and reliable for diagnosis. However, it probably will not be practical or possible to ship live fish unless they are small. The next most desirable method is to send unfrozen fish which have been kept on wet ice. Specimens preserved in alcohol or formalin have limited value for diagnostic purposes.

Shipment of Specimens:

Live fish — Place the smallest size of affected fish in a strong plastic bag with a minimum amount of water (no more than $\frac{1}{4}$ full). Fill the bag with compressed air or pure oxygen, tie securely and pack in a strong cardboard, plastic or styrofoam box with shredded paper or excelsior. During summer months, crushed ice in a plastic bag should be placed next to the fish. Mark "Scientific Specimens — Perishable" on the box and ship by bus. Choose the schedule with maximum night travel. Parcel Post may be used for shipment, but only when experience has revealed the length of time from shipment to delivery.

Iced specimens — Collect fish and place them in separate plastic bags. Fill the bags with enough water to keep the fish wet, then seal them and place them on crushed ice. Shipment should be in a well-insulated container with 10 to 15 pounds of coarse crushed ice. If this method is used, the container must be watertight. Use styrofoam or insulated metal.

Preserved specimens — Place the fish in a suitable container (such as a heavy gauge plastic bag or a plastic bottle) so as not to displace more than 50 percent of the volume. If the fish is more than $\frac{1}{2}$ inch thick, make a small cut in the side to allow the preservative to enter the body cavity. Fill the container with 10 percent formalin or 70 percent isopropyl alcohol (rubbing alcohol). Seal the container and place it within another container. Send by mail or bus.

Do not ship iced fish if it may be delayed. If this is done, the fish usually will be partly decomposed upon arrival and unsuitable for diagnosis. If there is doubt that the fish will arrive in a condition suitable for diagnosis, the fish should be preserved. The words Please Call Upon Arrival 845-7471, should be written on the bus bill.

Ship specimens to:

Extension Fish Disease Specialist
Nagle Hall
Texas A&M University
College Station, Texas 77843

Specimens brought to the laboratory by the owner are always the best for examination. If this method is possible, fish should be transported in the original water and in a number that would not cause oxygen depletion. In all cases (shipment or personal transport), try to select fishes that appear ill. Please provide the information called for on the reverse side and enclose this sheet with the shipment.

TEXAS AGRICULTURAL EXTENSION SERVICE
FISH DIAGNOSTIC LABORATORY

Mortality Data

Please provide information above the double line as completely as possible.

Name _____ Address _____
Phone number _____ County _____ Date _____
Kinds of fish _____ Sizes _____
Dirt pond _____ Dirt raceway _____ Concrete raceway _____ Circular pool _____ Cages _____
Vat _____ Aquarium _____ Other, explain _____
Acreage or volume/body of water _____
Average depth/water body _____
No. fish/water body _____
No. dying/water body/day _____
Date mortality began _____
Other applicable information _____

Water source: Well _____ Runoff _____ Stream _____ Another pond _____ Municipal _____
Water chemistry: Dissolved oxygen _____ ppm Free carbon dioxide _____ ppm Ammonia _____ ppm
pH _____ Temperature _____ Hardness _____
Unusual weather previous to mortality: Several cloudy days _____
Strong wind _____ Rain _____
Feeding: None _____ Commercial food _____ Rate _____ Pellets _____ Sinking _____
Floating _____ Powder _____ Other _____
Fertilizer _____
Poison suspected _____ Other pollution _____
Additional remarks _____

DO NOT PROVIDE INFORMATION BELOW THIS LINE

Parasite	Location	Degree of Infestation
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Body surface _____
Gills _____
Fins _____
Musculature _____
Eyes _____
Body cavity _____
Liver _____
Kidney _____
Spleen _____
Brain _____
Alimentary canal _____
Other _____
Inoculation from: Lesion _____ Kidney _____ Other _____
Result _____
Viral preparation _____ Result _____
Toxin _____ Result _____
Other relevant information: _____