

Guidelines For Collecting And Shipping Diseased Fish

Fish kills can occur at any time, but they are most common during the warmer months of the year. Fish kills can be caused by handling stress, poor water quality, or disease agents such as viruses, bacteria, fungi, and parasites.

Identifying The Problem

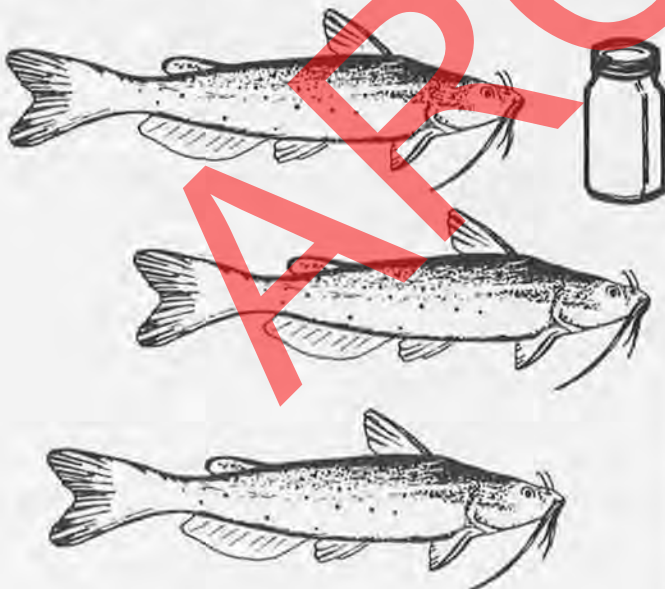
First, make sure the problem is actually a disease. Some fish kills are caused by:

- low dissolved oxygen.
- ammonia poisoning.
- nitrite poisoning (or "brown blood").
- pesticide pollution.

Try to eliminate these causes first, by checking water quality.

Next, observe the behavior of the fish. Are the fish:

- not eating?
- lying lazily in shallow water or at the surface and not swimming off rapidly when disturbed?
- irritable?
- flashing or swimming erratically?



These kinds of behavior are not exclusively symptoms of disease. But if you have eliminated water quality problems and still observe some of these symptoms, then the chances are good that the problem is an infectious disease.

Early detection and diagnosis of infectious diseases is very important if treatment is to be effective. **Do not** guess at what is causing the problem. Get a sample of fish to a fish disease specialist for an expert diagnosis. Remember, an incorrect diagnosis can result in a costly and ineffective treatment and a loss of valuable time, and it can further stress or even **kill** your fish.

Selecting Fish for Diagnosis

The best of all possible samples for diagnosis are live fish which show abnormal behavior and signs of disease. Signs of disease include:

- eroded areas on gills, fins, mouth, or skin.
- open sores.
- heavy mucous (slime) on skin or gills.
- pale or swollen gills.
- protruding eyes.
- swollen or sunken bellies.

If you observe **any** of these signs, a diagnosis should be made as soon as possible.

What about dead fish? Freshly dead fish that still have normal color, mucous, clear eyes (black pupils), and red gills can be used for diagnosis, but they are inferior to live fish. **Do not** send dead fish which have lost body and gill color. They cannot be used for diagnosis, and you will be wasting both time and money.

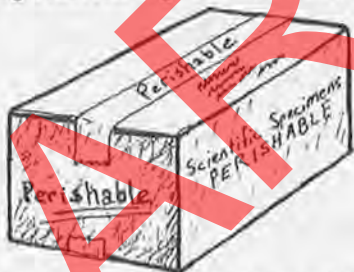
Do not collect the sample fish by hook and line. Fish that are feeding well are usually not sick. Try to catch the fish using a dip net. Healthy fish are too quick to be caught this way. If you must use a seine, select fish that show obvious signs of disease. Collect at least three fish for testing. Also, collect a water sample from the pond. Send at least one pint, and keep it separate from the fish.

Transporting Fish For Diagnosis

Correct diagnosis depends on proper collection and transportation. Specimens must be transported quickly and under conditions which will preserve both the fish and the disease organism. If you are close to a diagnostic laboratory, you may wish to deliver the fish yourself. **Call** the laboratory before transporting fish so that your sample will be expected and will receive immediate attention. Try to keep the fish alive using aeration and cooling the water with bagged ice as necessary.

If the fish must be shipped to the diagnostic laboratory, use the following procedure:

1. Put the fish in a strong plastic bag. Double bags are a good precaution. Most garbage bags are **not** strong enough for this purpose. Check with a farm supply or aquarium store.
2. Add just enough water to the bag to cover the fish. **Do not** use chlorinated city water.
3. Fill the bag with pure oxygen, if possible. If not, make sure that air is trapped in the bag above the water level.
4. Tie the bag securely.
5. Place the bag in a strong box, preferably one lined with styrofoam.
6. Place crushed ice in a separate sealed bag and pack it around the fish. Put in just enough to keep them cool.
7. Pack the water sample (one pint or more) in the box too.
8. Seal the box securely and mark it:
Scientific Specimens: Perishable
Notify Upon Arrival (phone number)
9. Ship the specimens by bus or other overnight carrier.



Freshly dead fish showing signs of disease can be frozen and shipped, but they are inferior specimens to live fish. To ship freshly dead fish:

1. Freeze the fish in a plastic bag in a small amount of water.
2. Place the bag in an insulated (styrofoam) container.
3. Pack in dry ice. Five pounds will keep the sample frozen up to 36 hours.
4. Mark and ship the package as described above.

Do not preserve fish in alcohol or formalin for diagnosis. Preserving fish in this manner destroys parasites and bacteria.

Information To Include With Fish Samples

1. Your name.
2. Your mailing address.
3. Your telephone number.
4. The size of your pond (in acres) or the volume of your tank or raceway.
5. The average depth of the pond (or maximum depth).
6. The date and time when the fish started dying.
7. The number of dead fish and the loss per day.
8. The number of fish stocked in the pond before the losses.
9. The average size of the fish in the pond.
10. Recent feeding rates.
11. A description of the symptoms or the signs of disease.
12. A description of any treatments already applied.

Send this information with the specimens. Pack it carefully so it will not get wet. A sample Diseased Fish Information form is included at the end of this publication. Photocopy and complete the form, and include it with your samples.

Remember, **do not** send or bring in fish which:

- are feeding aggressively.
- have been taken randomly from a seine.
- do not show signs of disease.
- have been dead long enough to lose skin and gill color.

The Southeastern Cooperative Fish Disease Laboratory will diagnose fish diseases at no cost to the pond owner. This service is available during working hours Monday through Friday.

Send your samples to:

Fish Disease Laboratory
Swingle Hall
Auburn University
Auburn, AL 36849-5419
(334) 844-9220 or 844-4786.

Or, if you live in the Greensboro area, send them to:

Alabama Fish Farming Center
Alabama Highway 69 North
Greensboro, AL 36744
(800) 423-5956 or (205) 624-4016.

Bus transportation is most reliable to Auburn. Other overnight carriers may deliver fish samples, but check first. Call the disease lab and confirm the shipment so that it can be promptly picked up at the Auburn bus station.

Bacterial tests take two to three days. The pond owner will be notified of the results as soon as possible, and treatments will be prescribed.

Diseased Fish Information

Name: _____

Address: _____

City & ZIP: _____

Telephone: _____

Size Of Pond(s): _____

Average Depth Of Pond(s): _____

Date Fish Started Dying: _____ Time: _____

Number Of Dead Fish Per Day: _____

Average Size Of Fish: _____

Number Of Fish Stocked In Pond(s): _____

Fill In Any Water Quality Tests You Have Done:

Oxygen (morning) _____ Ammonia _____ Nitrite _____ pH _____

Temp _____ Alkalinity _____ Hardness _____ Chloride _____

Recent Feeding Rates: _____

Describe Signs Of Disease: _____

Describe Any Treatments Made In The Last Two Weeks: _____

Enclose a separate, one-pint water sample for lab testing.

CALL THE DIAGNOSTIC LABORATORY BEFORE SENDING SAMPLES!!!

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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