



Information Sheet
“Preparing Fish for Winter”

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Preparing Fish for Winter

Goldfish and koi hate wintertime more than we do. Neither species of fish are indigenous to North America, so in our colder climates, they merely "survive" winter. They don't flourish in it.

In the southern part of our country, the winters are pretty balmy and very little ice appears on the ponds. However, winter's effects on the fish seem to be the same whether the pond is merely icy, or completely iced over. This article intends to inform you of some wintertime facts, but more importantly, this article will seek to use those facts to help you guide your fish through winter and into a safe and healthy springtime.

Wintertime Factoids

There are certain things you should realize about winter so you can properly interpret certain events and conditions come spring.



Factoid #1

During the winter, the fish's immune system is in a predominantly non-functional condition. In other words, their immune system is in hibernation.

Factoid #2

Temperature swings of 20 degrees F or more within the pond are very stressful for the fish and moving water through a thin phase aids it in the gain or loss of heat. This is a simple statement with a lot of meaning. When you pour a cup of hot soup back and forth from one cup to another, you can rapidly cool it for your baby. In the same way, a waterfall can dissipate or pick up heat from the pond's water.

In certain climates, such as in the Sierra Nevada's and other desert areas, air temperatures can be very warm by day and ice cold at night. This matters because if your waterfall runs around the clock, you could be warming the water by day, and super cooling it by night. Again, this is a geographical phenomenon, and may not apply to you but a simple water thermometer could tell you for sure. You see, this type of stress makes the fish more vulnerable to infection. To avoid this problem, some people run their waterfalls during the day to pick up valuable free heat, and turn the falls off (making sure to have some other form of submerged pond circulation for aeration) at night to spare that free energy and avoid super-cooling.

Factoid #3

Turning off your waterfall may spare heat loss at night, but it can also deprive fish of oxygen and circulation. It is important, especially if water temperatures are climbing, to always have some circulation in the pond to maintain sufficient aeration or oxygen exchange for the fish.

Factoid #4

Fish cannot freeze into a block of ice and survive. This is a wintertime factoid that should be destroyed once and for all. I had an interesting experience one winter where I had several 30-gallon fish tanks outside my home for tests I was running. The tanks were populated with goldfish and each had a 300-watt heater in them. Well, in the dead of winter, the heaters failed because the power did. The tanks closest to the edge of the patio froze solid and broke. The tank closest to the door also froze "solid" and broke. However, in the last tank, the water in the center of the "block" of ice remained unfrozen and the goldfish in this pocket of ice water remained alive. Because of the low temperature, the fish were motionless, so anyone looking at them would have figured they were frozen solid into the block of ice. However, they were not. I was able to lift the block and shift the fish around, which is how I knew the fish wasn't frozen in the block of ice. Many people see their fish in small ponds, frozen under a solid layer of ice. The fish are utterly motionless due to the cold. They perceive that the fish are frozen in the ice and so they say, "My fish were frozen solid and lived!" but this is not the case.

Factoid #5

Another common myth in this hobby is that fish are safer from parasites and pathogens, like bacterial infections, in the dead of winter because these "bugs" slow down, or even stop, in icy water. However, the opposite is true. Parasites do not necessarily slow down in ice-cold water. In fact, certain species of flukes are actually more active in the icy water of winter, and species of ich, trichodina, and costia are also busy at work in icy water. It's an important fact that the fish can be more heavily infected with parasites in winter than any other time of the year. Becoming familiar with these facts will give you the understanding to help your fish have a restful winter and a healthy and active spring next year!

Preparing for a Safe Winter

To have a successful and enjoyable springtime, your pond needs to be properly prepared for winter. First, it's very important to remove the autumn leaves from the pond and not leave them on the bottom to rot. This is perhaps the most common cause of a wintertime pond health failure. Rotting leaves are not instantly unhealthy for the fish; however, after a whole winter of decay and the warming trends in the spring, illness is common in ponds that have a layer of composting leaves on the bottom.

Keeping Holes in the Ice

No matter how diligent you are about cleaning debris out of your pond, there will still be some left that will break down over the winter. This process creates a gas that, if allowed to build up, can harm the fish. For this reason, it's important to keep a hole open in the ice to allow the escape of this gas. There are a number of ways to do this. There is a rumor that breaking the ice with a blunt object like a hammer will harm the fish. I have not found this to be true. We all know, not everyone will plan ahead and take the appropriate steps to keep a hole open in the ice. Rather than take the time to nurse a hole open with a hot teakettle, they are tempted to break a hole in the ice with a hammer or a brick. There's no harm done, and doing so does not hurt the fish.