

## Moving Pond Fish

### Tips for transporting pond fish.

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Q. I am going to be moving soon and will be taking my koi with me. I have 10 koi, each about 16 inches in length. Do you have any tips for transporting the fish?

Q. I have a small pond with half-a-dozen small fancy goldfish. In the near future I am going to be moving to a new house several states away, and I certainly want to bring my fish with me. I have heard that putting salt in the water in which the fish are being transported will help reduce the shock of the moving process. Is this true? What kind of salt should I use? Is iodized salt dangerous? What about rock salt?

A. Many pondkeepers are confronted with the question of whether it is possible to take their fish with them. The answer is absolutely "yes," you can take your fish with you when you go. There are several things you can do to reduce the risks to fish when moving them long distances.

In terms of supplies, you will need plenty of large plastic bags, because you are going to double-bag each large fish and groups of small fish. You will also need rubber bands to seal the bags. In addition, you will have to obtain some styrofoam boxes or coolers to act as rigid containers for the bags once they are filled with water.

Sufficient quantities of a good-quality, one-step water conditioner and a slime coat product are also needed to add to the transport water. There are a number of brands on the market. My own experience has been with two Kordon products: Novaqua and Amquel. Novaqua will remove chlorine from the water and also replace some of the slime coat that the fish will lose in handling. Amquel is a chemical ammonia remover that will effectively neutralize the ammonia excreted by the fish while they are being transported.

If travelling for more than few hours, you should pick up an oxygen bottle or two from a local pharmaceutical supply house. You will also need a small hose to attach to the bottle.

Lastly, you will need some salt. Salting the transport water helps reduce "handling and hauling shock" and will lower the osmotic stress on the fish while in the bags. You can use table salt, kosher salt or sea salts. It does not matter whether the salt is "iodized" or not. Iodized salt does not hurt fish, despite what you may have read or heard to the contrary. You should, however, stay away from rock salt, which contains many harmful impurities.

Let's examine the procedures involved in preparing the fish for moving. First, it is a good idea to stop all feeding several days before the trip begins. The fish will not starve, and the short fast clears their digestive tracts. This minimizes fouling the transport water with organic solids, which will rob the water of oxygen.

When it is time to move the fish, add clean fresh water to the bags. The volume of water should be sufficient to cover the top of the fish when the bag is placed inside the cooler. However, the water should not occupy more than 25 percent of the bag's volume when inflated. It is very important that the bag be large enough to satisfy both of these requirements.

The pH and temperature of the transport water should be as close as possible to that of the pond water. Differences in pH of  $\pm 0.3$  and  $\pm 2$  degrees Fahrenheit in temperature do not really matter to koi or goldfish.

Add the Novaqua and Amquel according to the directions on the containers. Measure properly instead of guessing. Now add salt at a rate of 3 grams of salt per liter of water — this is slightly less than a flat tablespoon per gallon. Stir well and use an airstone to aerate heavily for a few minutes. Do not add any antibiotics or parasiticides to the water! Such drugs will not help the fish and may actually poison them during the trip.

You are now ready to place the fish in the bags. Do not overcrowd the bags! The fewer fish you place in each bag, the greater their chances of survival and the less likelihood of problems. Large fish, such as 16-inch koi noted in the first question, should always be bagged individually. Several of the goldfish mentioned in the second question can probably be bagged together if they are approximately the same size.

Once the fish are in the bag, remove the airstone from the water and crush the bag down to the water's surface to remove all trapped air in the bag. Insert the oxygen hose into the bag and, holding the neck of the bag tightly around the hose, fill the bag with oxygen. When the bag is inflated, remove the hose, twist the neck of the bag tightly and then fold it over to make a good seal. Place several heavy rubber bands around the folded neck. Slide the inflated bag — neck end first — into a second bag. Seal the second bag the same way.

Place the transport bag into a styrofoam box, cover the box securely and keep it out of the sun. If you do everything properly, the fish should be fine for at least 24 to 48 hours depending on the size and number of fish in each bag. You should bring the Novaqua, Amquel, salt and oxygen along with you in case of an "accident" or if the trip will exceed 24 hours.

It is essential to keep the bagged fish cool and out of the sun. Do not expose the fish to bright light once they have been bagged and boxed. The sudden change in light intensity can be very stressing. Once you have arrived at your destination, give the fish 5 to 10 minutes to adjust to changing light levels by slowly cracking open the lid. When releasing the fish into their new home, the same care should be taken to match water chemistry and quality.

I have used this procedure many times in bringing koi back from Japan — sometimes in my carry-on luggage. Despite lengthy delays on route, I have never lost a fish. Good luck.