

A Short Word about Water Change Outs

DO THEM.

Water changes are simply the removal of old water, and the replacement of that old water with new and fresh water. It sounds so simple but there are problems that every pond owner should be aware of. First, water can be chlorinated. Second, a lot of people don't do water changes, at all. Thirdly, failure to do water changes allows the accumulation of a multitude of pollution such as phosphates and proteins which inhibit fish health and growth. Finally, water changes are needed to replenish trace elements and minerals in the water which fish need.

Chlorinated and chloraminated water is usually supplied to hobbyists "at the tap" from municipal water supplies. The water company adds these two chemicals to disinfect the water. Each day, municipal source-water is tested for eggs, spores, ova and cysts of various pathogens. If any are found, it may be that the municipal water authority will double or triple the chlorine or chloramines concentration. Spraying the water into the air and allowing it to fall into the pond slowly WILL dissipate some of the chlorine, but will it dissipate all of it? No, so we must **Dechlorinate**. By dechlorinating the water, you can be 100% sure the chlorine is gone and will not harm your fish. When your municipal water supply uses Chloramine, you will be relieved to know that dechlorinator can still bind the harmful Chlorine. The remaining Ammonia should be no match for a cycled (properly functioning, well colonized) filtration system. Choose the proper dechlorinator for your needs.

It has been found through various studies and surveys that more than forty percent of the hobby does not do ANY water changes at all. This would account for recurring illness among the fish, slow growth, and poor color. This is the most common cause of the "seven inch, seven year old" Koi. A Koi in good water with plenty of water changes should grow at least 3-4 inches per year. Hobbyists should be encouraged to follow a water change regimen as outlined in the chart below.

"Topping Off" the pond is not a water change. You should know this about water: The solids in water do NOT evaporate, nor do many of the chemicals in the water. This means that the nitrates, phosphates, a good bit of the carbon dioxide, all the salt, minerals, etc NEVER leave the pond and will accumulate over time. As the pond water level goes down by evaporation, you may notice that the fish perk up as you add water back. There is a transient increase in water quality after the addition of 'new' water but it's rapidly offset by the dissolution of the existing background pollution. So, "topping off" actually concentrates solids and organic chemicals in the water over time. Real water changes should be endeavored.

Every Week	10 per cent water change
OR: Every 2 weeks	20 per cent water change
OR: Every 3 weeks	30 per cent water change

No matter which of the above regimens you pick from above, it is HIGHLY recommend that twice to three times per year you should perform a 60-70% water change to really REFRESH the pond. You will notice a real boost to fish health and growth.

Major water change: Simply drain the pond down 60-70% and add the proper amount of dechlorinator. Then refill the pond. Don't do this in the PEAK of summer as you might chill the fish. But SURELY in the early summer and late summer you should find the fish VERY appreciative of this service. If you are performing the recommended water changes, you should have robust, hungry and healthy fish. Fish may still become ill, of course; however it is much less common in well managed ponds with lots of FRESH WATER. Fact is, if you wouldn't swim in the pond, your fish shouldn't be swimming there either.

Note: Thanks to Dr Eric Johnston for his article.