Maintain Ideal Pond Temperatures

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The health and comfort of your fish depend upon keeping the water in your pond cool. Koi and goldfish, for example, are cold water fish, preferring water temperature in the range of 68-74 degrees Fahrenheit. As temperature increases, especially above 85 degrees, water loses its ability to hold oxygen, seriously impacting the ability of your fish to breathe. In fact, it is estimated that 80-90% of fish kills are the result of oxygen depletion.

Ideally, the water temperature in your pond will vary less than +/- 5 degrees each day. We recommend that you get a good pond thermometer and use it regularly to monitor conditions. Locate the thermometer out of direct sunlight for the most accurate reading.

Design and locate your pond correctly

If you are planning a new pond, or are about to add-on or make improvements to an existing pond, here are some tips for success:

- Avoid locating the pond on a southern exposure where it will receive too much sun. Also, avoid any confined area, such as an inside corner of your home exterior, which is not served by a natural breeze. Estimate the number of hours the location will be exposed to direct sun. Full sun, ranging 6-10 hours per day, is ideal. More than 10 can lead to problems.
- The ground provides insulation against large temperature swings. The farther into the ground, the cooler your pond will be. And the bigger your pond, the more gallons of water it holds, the better. Large, deep ponds are less sensitive to external temperature changes than small, shallow ponds.
- Make good circulation and filtration a top priority. Build the output at the opposite end of the input to ensure that the entire pond gets good circulation.
- Design your pond to meet the specific demands of your climate zone.

Shade your pond

Shade is the single most important factor to cooling your pond. Even on a 90-degree day, with good shade, you can actually lower the water temperature by 20 or more degrees. To your fish, the difference between 70 degree and 90 degree water can be a matter of life or death. You can create shade with permanent or portable structures, or with the help of nature.

- **Structures** - The right structure can cool and enhance the beauty of your pond. Lattice and arbors are easy to erect and can provide attractive filtered light. Tarps or awnings can shield the pond from sun and falling leaves. Roll-up awnings enable you to control the amount of sun and make adjustments based on the daily weather.
- **Natural Cover** - Trees and bushes can provide excellent shade. Be careful to plan ahead for their mature size, and don't place them too close so that their debris becomes a problem. Water plants are an attractive and easy seasonal option, and can make an immediate difference in your pond. If they will be the primary source of shade, select sun-loving plants such as lilies, water lettuce, and water hyacinth. If the water plants will be in full or partial shade, select shade-tolerant plants such as the umbrella palm or the dwarf papyrus.

Agitate the water

Aeration lowers water temperature by increasing the water surface so that it releases heat and toxic gases, and cools through evaporation. It also adds oxygen which keeps the nitrifying cycle healthy. An aerator, fountain, bubbler, or waterfall will efficiently agitate, oxygenate, and cool pond water.

Insulate your pond

If your pond is above ground, or any portion of it, grade soil to its topmost edge, then add decorative stone and other landscaping elements. The soil will insulate the pond against the extremes of hot and cold.

Top off the water

Keep your pond full at all times. If rains fail to keep up with evaporation, it is important, especially during hot weather, that you step in to make up the difference. A full pond warms more slowly during the day.

Emergency cooling procedures

A hot spell can cause problems in your pond even if you have taken all of the proper precautions. If your fish are gulping at the surface, and you've done the recommended procedures above, then you must take immediate action. The oxygen level may be seriously low. At this point, even a small amount of cooling from the following procedures can make a big difference.

- Using a garden hose on slow trickle, add water at the end of the pond opposite where the pond drains.
- If fish are dying, pump water out of the pond, near the drain end, while adding water at the opposite end. Do this in stages to avoid shocking your fish.
- Whenever adding water, add a dechlorinator like API POND STRESS COAT® to remove chlorine and chloramines, if present in your water source. The last thing you want is chemical stress while fish are oxygen deprived.

Cooling tactics to avoid

- Avoid adding cold water too fast. Cooling needs to be gradual so your fish can adjust without stress or disease.
- Avoid adding bagged or block ice which should be used only for a life-saving effort. Rapid cooling can stress your fish, and make them susceptible to ich. It is the rare pond where adding ice will do the job.
- Dry ice is frozen carbon dioxide and should never be added to your pond. A block of dry ice has a surface temperature of -109.3 degrees F (-78.5 degrees C) which will burn you and your fish on contact.

Your fish are an important investment and a great source of pleasure. With your care, they will enjoy the warm summer weather as much as you.