



## Winterizing Your Pond

Fall gardening tasks can be nearly as numerous and hasty as those in the spring. It is the transition that adds the timeliness to our fall gardening activities. And just like the rest of the garden, the water garden will require your attention.

Your first job will likely be to tend the water plants. Prune immediately any plants that have been browned by frost. Allowing dead leaves to rot in the pond will cause harmful gases to be released. Hardy marginal plants should be left in the water, just below the ice line. Hardy lilies should also be left in the water, but in the deepest part of the pond. Tropical marginals and lilies will not survive even a slightly frosty winter. Tropical marginals can be stored indoors. If kept sunny and moist, some tropicals make attractive house plants. Floating plants such as hyacinth and lettuce will not survive the winter. Some floaters can be stored indoors but the large ones do not do well. If you can find them, try to save the smallest plantlets. Keep them in a bowl with a little soil sprinkled on the bottom. Remember, conditions, varieties, and methods will all play a part in your success with water plants. Experimentation will allow you to relax and enjoy the learning process.

Goldfish and koi in the water garden can be as beautiful as an animated flower. These cold water fish can also survive the outdoors during the winter. Pond fish tend to eat heavily during the late summer months. Just as a perennial plant stores food in its roots, fish will store food for the winter. So, feed often but do not over feed as you will dirty the water. Never feed more in a single feeding than the fish can consume in about five minutes. As the water cools, continue to feed active fish twice per day with a food labeled for low temperatures. When the water temperature reaches fifty degrees Fahrenheit, fish will not digest and should not be fed. During these periods the fish will remain in a dormant state near the bottom of the pond. Throughout the winter, the fish's biggest enemies will be ice and leaves.

It is important to remove all decaying plant material from the pond before any ice forms. As this organic material decays, gases are released that can harm the fish. Without ice, these gases are normally released into the atmosphere. However, if ice forms on the pond, these gases become trapped and concentrated. Leaves are always an autumn concern and the temporary use of a pond net is an inexpensive way to save some work. A net hanging over your garden may be ugly, but it is only temporary and can be removed after all of the leaves have fallen. IF possible, use a pond vacuum or a shop-vac to remove any debris that made it through your previous efforts.

It is not necessary to heat a fish pond during the winter. However, it is important to keep a hole in the ice so that the harmful gases can escape and oxygen can enter. Never bang on the ice in an attempt to open a hole. The vibrations can harm and even kill a fish. The best solution is a floating pond de-icer. These units usually have a thermostat that only turns the heater on as the temperature requires to prevent ice. Small statuary pumps are also helpful during mild winters. Simply place a running pump near the

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surface of the water. The bubbling action will usually keep a hole open. The bubbler could cause a problem, however during a heavy freeze. It may cause water to build up on the top of the ice, resulting in an even thicker layer of ice with an air pocket beneath. There are products that will suspend the pump and deflect the water flow downward - eliminating the ice build up problem. If you do leave a pump running in your pond during the winter, it is best to not leave it on the bottom. Pumping the warmer water from the bottom to the cooler water on the top may cause a temperature inversion. It may actually lower the temperature of the pond and result in more ice.

During mild winters, waterfalls can sometimes continue to run without problems. Ice build up on a waterfall can be very beautiful but may cause water to spill outside of the liner. If you do leave your waterfall running, move the pump to just below the falls. This will help prevent the temperature inversion and most freeze ups.

Most flexible pond liners can resist the expansion and contraction of winter ice. However, some rigid liners and concrete can be damaged. If you do not use a de-icing method, float a rubber ball or a piece of wood in the pond. This will absorb the extra pressure as the ice expands.

Pumps and filters will also require some fall maintenance. If you think that it may freeze, it is best to disconnect your pump and bio-filter during the winter. The beneficial bacteria that live in the bio-media will not survive in cold weather any way. In order to prevent breakage, make sure that no water is left in the filter and hoses. If your pump is not going to run, it is best to remove it from the pond and drain any remaining water from the unit. If the pump is magnetically driven, remove the impeller, thoroughly clean it and inspect for damage. Spray any metal parts with lubricant to prevent rusting, then store the pump in a dry location.

Following these few questionably simple guidelines will ensure a healthy pond through the dormancy of winter, allowing your pond to rest. And when spring comes again, we will be ready for the next transition, and your pond will awake with a smile.