

THE GREEN MENACE



Probably the most vexing problem encountered by pond owners is the presence of algae. Algae growth is spurred by excessive organic materials, warm stagnant water, and sunlight. Use the following suggestions to keep your water healthy and combat unwanted algae growth:

Keep the pond free of unwanted organic material. Use a net to scoop out leaves and debris. Trim dead foliage off pond plants rather than allowing it to decompose in the water. Do not overfeed fish. Undigested fish food is the primary pollutant in many ponds. Digested fish food is another pollutant, so keep your fish population under control. Most fish ponds, koi ponds in particular, require a bio-filter unit to deal with the fish waste. Bio-filters are great for any pond because they enhance the natural biological activity. When paired with an ultra-violet light, which kills all free-floating algae, you are guaranteed to have crystal clear water.

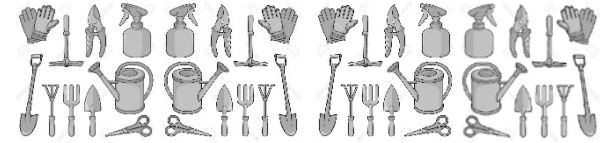
Keep your pond water pH close to neutral. High pH is hard on fish and plants, plus it encourages algae blooms. To avoid stagnant water, add supplemental oxygen. This can be done with the addition of a waterfall, stream, or fountain. High levels of oxygen promote natural biological activity. Shady ponds can be an exception: they are more likely to reach a natural

balance without added water movement. Stagnant water is also an invitation to mosquitoes. Small fish & tadpoles can be added to eat mosquito larvae or you can use Mosquito Dunks, a safe, effective, and natural biological form of control.

Don't change your water unnecessarily. Each time new water is added to a pond, whether it comes from a well or a city water supply, it brings along high levels of free floating nutrients such as phosphate, which can quickly cause an algae bloom. Dechlorinate new water you add. Besides burning the gills of your fish, chlorinated city water can quickly wipe out your colony of natural beneficial bacteria. Bacterial organisms are a necessary component of healthy ponds. They consume excess organic material and toxins in the water and process them into basic nutrients in a form that plants can use. In a new pond or in one that is out of balance, we always suggest that you add beneficial bacteria to boost normally developing colonies.

Never scrub your pond "clean". The natural green velvet coating that develops on the sides and bottom of the pond is home to your beneficial organisms. Small fish will eat some algae, but don't count on them to keep your pond algae-free, they usually add more waste than they consume. Snails are great scavengers and will happily eat filamentous algae. Tadpoles are also algae consumers. Please do not add Bullfrog tadpoles to your pond. They are non-native predators of our native Tree Frog. Due to the Bullfrog's voracious appetite, it is feared that native Tree Frogs may completely disappear from the Pacific Northwest. Bullfrogs will also eat your small fish. And finally, remember: bare expanses of open water are much more difficult to maintain than ponds filled with robust and beautiful water plants.

START UP RIGHT



Spring is when the pond awakens from its long winter dormancy as signs of life reappear with longer days. By spending a little extra time now, the pond will be ready for the upcoming season.

A good start is to cut back any dead foliage remaining from the previous season. This allows room for new growth and prevents the accumulation of additional organic material in the pond. Be sure to cut back only those plants which put out leaves and flowers on new rather than old growth. If the plants are hollow-stemmed, cut stems above the water line so the rootstock will not fill with water and rot.

It is also important to remove decaying leaves and other organic material that have settled to the bottom of the pond during fall and winter. The easiest method is to use a skim net to remove the larger debris. Fine sediment will usually pass through the skim net and remain on the pond bottom. If there is an excessive amount of debris in the pond, the best option may be to drain and clean it. This can be accomplished using a submersible pump placed in the deepest section to first drain the pond. You can then take a garden hose and continually flush water towards the pump until the pond bottom is clean, or use a Shop Vac to remove the last inch or two of water and sediment. Draining the pond is usually a last resort because you must find a suitable place to house your fish while you clean the pond and rebalance the water once the pond is refilled.

Spring is also the time to begin fertilizing your pond plants. A good rule of thumb is to wait until the plants begin to show signs of growth. We are located in USDA Zone 8 and typically begin fertilizing marginal plants in March and waterlilies in April. Be sure to use a time release fertilizer specifically designed for aquatic plants. In preparation for the upcoming season, check your plants to see if any of them need to be divided or transplanted. The best time to divide or transplant aquatic plants is when they begin active growth. This gives plants the opportunity to rapidly develop new roots and thrive. Some people choose to plant directly in the bottom of the pond while others prefer planting in containers. Planting in mesh baskets works extremely well. Pea gravel works well as a planting media for most marginal plants, and helps to keep the water from becoming cloudy from soil escaping the pot. For waterlilies, we recommend a heavy clay soil or sandy loam, which will bind more nutrients for these heavy feeders. If desired, the soil can be topped with pea gravel or small river rock to prevent koi from uprooting the plants. Many pond-keepers also choose to add floating plants, such as Water Hyacinth. Be sure to wait until after the average last frost for your area before adding these semitropicals. For Portland the average last frost is April 15.

With the warmer temperatures of spring, fish typically become more active as they awaken from winter dormancy. Their metabolism takes time to recover after dormancy, so begin to feed fish only when the average pond temperature rises above 50°. Remember not to overfeed. As the fish become more active, it is also important to ensure that pumps and filters are running properly. This includes checking for any damage caused by winter weather. If you have not cleaned your filters during the winter, it is best to thoroughly clean the filter material before restarting in spring. Add beneficial bacteria to biological filters in the spring. The beneficial bacteria help with water clarity and water quality along with preventing the buildup of ammonia and nitrites in the pond.



The primary ingredient in any recipe for a healthy pond is the addition of lots of pond plants. Plants work for you to provide an environment of healthy water: they add shade, remove excess nutrients and toxins, and add oxygen to refresh the water. Questions? Stop by our Information Desk. We're happy to help!

Basics of Pond Care

Common Problems and Troubleshooting



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NURSERY
www.portlandnursery.com

Information courtesy of Hughes Water Gardens.