

Summer pond *dreams*

This maintenance program will increase your customers' enjoyment of their special water feature

BY JEFF RUGG / MLA, ASLA

Here's what your customers envision when you're installing their pond: the murmur of water over smooth boulders, neon blue-green flashes of dragonfly wings, a tranquil pool of water dotted with red and yellow water lily blossoms, and colorful birds singing in the surrounding ornamentals.

Here's what your clients aren't thinking about: the maintenance required to keep their visions of the water garden alive. That will be your job.

But don't fear. It's not difficult if you follow the basic plan outlined in this article. And it can (and should) be profitable.

The maintenance will be essentially the same whether the pond is a basic water garden with plants and fish or a deep koi pond with no plants at all. That's because the biological ecosystems of all pond or water gardens are essentially cold-blooded. The life cycle of every organism, from bac-

teria to the largest cypress tree, is tied to the temperature of the air and water. Timing is the key to performing all maintenance chores pertaining to the plants, fish and other animals, filters and water. Maintain ponds on a thermometer basis, not by the calendar.

As the water temperature rises from 50° F to 70° F, begin preparing the life within the pond for active growth. This includes the fish if there are any.

Keep tabs on water temperature

When the water temperature approaches the mid-50s, consider changing the water in the pond. That's the temperature when the water from a hose tap or well is about the same as the water in the pond. Don't change more than 30% of the pond water. If the pond contains fish, test the water for ammonia, nitrite, nitrate, pH, alkalinity and salt levels. Test the water to be used for filling or for water changes, also. The level of nitrates in tap water can be deadly to fish,





Take care of your koi (inset) properly and your experience with your pond will be that much more enjoyable.

but you won't know that until the fish are in bad shape, so test first.

Generally, the pond won't require a complete cleanout. Clean debris from around the pond's edge and then fill it back up, using water treatments as necessary to neutralize chlorine and ammonia.

Don't allow the pond to dry out or it will kill off most of the microscopic ecosystem components along with some plant roots growing in the gravel. An imbalance in the ecosystem allows algae to grow quickly.

Some trees such as oaks continue to shed leaves in the spring. You may need to clean the pond skimmer often if the leaf fall is particularly heavy. Remove all the leaves from the pond or else their tannin will make the water look like tea.

Fawn over the fish

Advise clients to begin feeding the fish as the water temperature rises above the mid-50s. Some food brands have more veg-

as the water warms. They can begin providing a food higher in animal protein when the water is in the upper 60s.

Advise them to feed the fish small amounts of food at one time, only enough the fish will find before it sinks or is caught in a skimmer. Smaller feedings will spread out the waste levels over time, and the bacteria will be able to keep up. Excess food promotes algae and higher levels of toxic ammonia. At colder temperatures, there are fewer bacteria available to consume the ammonia.

As the water temperature rises into the upper 60s, the fishes' immune system begins to strengthen. Even so, watch for signs of disease or parasites such as white patches, white spots and white edges on the fins and tail. Red streaks in the fins or on white areas of the body can be chemical or parasite problems. Red ulcerated areas are probably bacterial disease areas that can rapidly spread throughout the fish population.

Salt is the first treatment for most parasites on koi and goldfish. Three pounds of salt per 100 gallons of pond water will kill most pests. Since salt can damage plants, move the fish to a properly filtered holding tank for treatment. Use salt that is free of all additives such as anti-caking ingredients. Kosher pickling salt and sea salt for marine aquariums are best. Don't use water softener salt.

Koi and goldfish begin spawning when the water temperature rises to the upper 60s. They can overrun any plants during this activity, so use Aquamats or soft roping material if necessary. Eggs hatch in four to six days depending on water temperature. Most eggs and fry won't survive without special care. Be on the lookout for rising ammonia levels in a pond after spawning due to the increased activity of the koi and the decomposition of the eggs.

Frogs and toads may be attracted to

etable protein in the mix for cool-water feeding, following the natural pattern of food availability. Plant material like algae is available early in the season, and animal material like fish and amphibian eggs, insects, tadpoles and small fish are available

POND MANAGEMENT

ponds as they look for places to breed. Male frogs and toads can create a nuisance by singing too loud for some clients, and it may be necessary to remove them.

Insects that have overwintered as larvae or pupas in the water will hatch and complete their life cycles as the water warms into the '60s.

Green it up

Submergent plants may be added to the pond when the water temperature reaches the mid-50s, hardy shoreline plants and water lilies as it warms into the 60s. Begin fertilizing plants when the water is in the 60s. Divide and repot plants when they're just starting to leaf out or when the water is in the 60s.



Above is a healthy pond free of leaves. A simple fish net (inset) is handy for removing leaves. Left in the pond, their tannin makes the water look like tea.

Algae are a big pond maintenance problem. Because it can grow in colder water than plants and bacteria that compete with it for nutrients, it



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Include periodic checks on the pond's filter system.



often gets a head start on the growing season. As the water warms, floating plants and lily leaves compete with it for sunshine.

High levels of green water algae can cause oxygen problems in the pond. Plants release oxygen during photosynthesis, but they consume oxygen all the time through respiration. At night, they release carbon dioxide that becomes carbonic acid. The acid lowers the pH at night, causing low oxygen levels and health problems in the fish. Limit the addition of nutrients (fish food, leaves, grass clippings) to the water and add nutrient consumers such as plants to keep the pond water in balance.

Make sure filter systems are operating as spring gets underway. Check skimmers

often to remove debris. Consider cutting back on the addition of beneficial bacteria to the biological filter.

Ah summer, the pond is alive

Summer is the time when customers most enjoy their landscape water features. The water is above 70° F, water plants are in full bloom and songbirds visit it each morning and evening.

If the water becomes very warm (over 85° F), keep an eye on the fish. If they are gulping for air at the surface or near the waterfall, the water is low in oxygen. Warm water holds less oxygen than cold water. Consider adding a fountain or aerator to increase oxygen in the water.

Water quality during the summer tends



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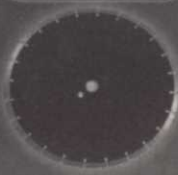
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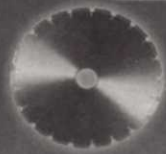
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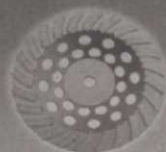
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to be stable, so you generally don't have to test it as often. However, it's always a good idea to keep records so you can accurately remember what the readings are at a later date or pick up on trends.

Watch out for neighbors spraying insecticides or runoff of fertilizer from lawns during a heavy rain. Also, check to see what product the community will be spraying for mosquito control. Most towns use sprays that aren't toxic to fish but some aren't as careful.

Use an automatic water fill valve to trickle water into the pond to replace evaporation. If you use a garden hose and tap water, don't leave it unattended. You might forget and replace all of the pond water with cold, chlorinated water.

A balanced diet

Instruct clients to feed the fish a balanced diet with a variety of fresh and pellet foods. Fish left to fend for themselves don't grow as much and may not put on enough fat stores to go into the next dormant season.

Healthy fish can grow rapidly and may grow too large for the pond. Too many fish babies may outgrow the filter system. Remember, fish grow and filters don't. It may become necessary to remove some of the fish or to enlarge the filter system to keep the pond in balance.

Frogs, toads and turtles will often leave the pond during the summer, and others may show up and become new members of the community. Watch out for turtles that eat fish or lilies. Also, keep an eye out

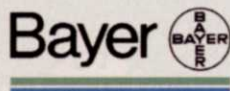


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A waterfall can increase oxygen in the water.

for herons or egrets. They can eat all the fish in a pond in a short time. You may need to cover the pond with a net or use a motion-activated water sprayer.

Get tropical

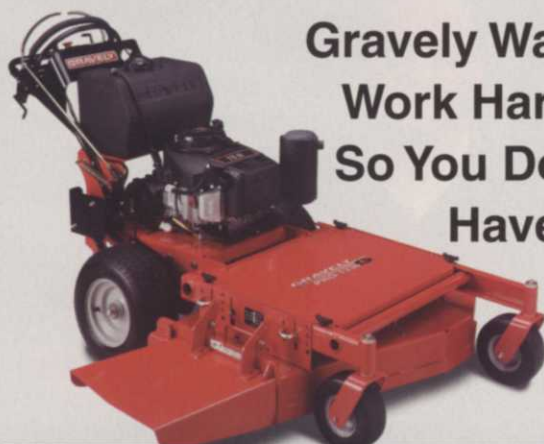
You can add tropical plants when the water temperature is in the 70s. This includes lotus, even though it can often survive being at the bottom of a frozen pond.

As plants blossom and shed leaves, remove the debris. If you remove the blossoms of some plants, you'll actually get more blooms. Some aquatic fertilizers need to be used monthly, while other products can be used seasonally. Fertilizing promotes more flowers in lilies and lotus plants, but follow manufacturers' directions.

Large koi can damage plants by constantly nibbling on the leaves and soil. Large gravel should be used to cover the soil in pots and be placed around the base of plants that are planted directly into the gravel.

Bacteria may not need to be added to the filters the rest of the summer because it should be growing on the surfaces of rocks in the pond. If the filter material is cleaned off, especially by chlorinated water or by drying, add new beneficial bacteria. **LM**

— The author is an employee of Pond Supplies of America with degrees in science, zoology, horticulture and landscape architecture. His weekly newspaper column, "A Greener View," is syndicated and appears in 400 newspapers.



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