

Each quarter, TNLA will produce an article, and a quiz. Those holding TCNP, TCLP, TMCNP certifications can complete the quiz and return it to TNLA to earn 1 CEU credit. The quiz for this quarter can be found on page 68. Fill in the quiz and return to TNLA according to the instructions on that page.

Water Gardening Maintenance

Courtesy of Texas Cooperative Extension

Site Selection Concerns

The site of the pond should facilitate its management. If the pond is sited too close for its size to a wall or other obstructions, this could cause a problem reaching the pond's entire surface for cleaning and removal of dead leaves. If the pond is to contain tropical water lilies or other non-hardy plants, it is helpful to locate it close to the selected storage facility or close to a level hard path leading there. The site should have access to water sources for filling and "topping off" the pond and close electrical outlets if there is to be any lighting or filtration systems included in the design.

Water

Clear water is usually the primary goal of any water gardener short of the first lily blooms. In a new pond, however, the water is seldom clear for very long. This can be rectified easily if the pond is of the correct depth, has a good filtration system, and correctly chosen plants and wildlife are stocked in sufficient numbers. The only ingredient left to clear the new pond water is patience.

The worst thing to do is change the water. Replacing the water will only delay the developing balance of the new pond's ecosystem. There are

algacides on the market and even dyes to artificially color the water, but these are only temporary solutions to a problem only nature can correct. When fertilizing the lawn, take care not to contaminate the pond. Any new nutrients introduced to the system will only prolong the life of the algae or even start an algae bloom. Algacides are of dubious value as they kill the algae all at once instead of the slow natural death rate that the pond ecosystem can handle. When this happens, the microbial population of the pond begins a massive degradation of the algae, and in doing so, uses all of the oxygen in the pond. This will weaken the animal life in the pond and possibly result in a fish kill.

The pond is being turned green by innumerable single-celled algae. These are present in all water and will create a bloom in any water left in the sun undisturbed. The long filamentous algae that grow on the bottom and sides of the pond are not responsible for the discoloration of the pond. These filamentous algae are actually good for the pond and aid in concealing the liners, shelves, pots, and bricks used to prop up some pots.

In time, the balance of the pond will shift away from the green algae, and

the plants will cover most of the pond's surface denying light to the algae. The oxygenators and other plants will eventually out-compete the algae for the available CO² and soluble nutrients. Sometimes the pond will suddenly clear overnight as the algae succumb and sink to the bottom.

Occasionally throughout the pond's life, this algal bloom may reoccur for a short time. It may happen in the spring when the water in the pond has turned over (undergone a temperature inversion), the temperature of the water is increasing, the nutrient levels are up, and the plants are still dormant. Algal blooms of short duration are to be expected.

Pumps

Pumps should be pulled from the pond and cleaned regularly. The filters may need weekly cleaning. The interval will depend on your particular pond's ecology. The filter should be checked weekly, and the pump inspected at these times and records kept to build a history of your pond. This is the best way to know what your pond needs and when.

Liners

Liners should last without problem for the time specified by the manufacturer

if they are properly installed and care is taken not to puncture them while walking in the pond to service the plants, fish, and circulation system.

Edging

Edging, if well designed and constructed, should never need servicing. If the liner is installed and does not allow water in under the edging materials, and the ground underneath is firm, the stone or brick pond edging should give no trouble. If the pond is edged by lawn edging or has no edge, the main concern is to avoid contaminating the pond with lawn fertilizers and pesticides.

Plants

As the leaves and flowers of the aquatic plants die they should be removed. Watch the root balls and leaves for damage by fish and insects. In the south portion of Texas, lotus will need repotting once a year; in North Texas, every two years.

Fish

Fish should be watched for infections of fungi and other parasites. If any die, remove them as soon as they are found. If any seem particularly intent on eating your plants, decide which you are most fond of and take appropriate action.

Winter

In winter the pond slowly shuts down. Any tropical species should be stored in the proper manner for each plant. The fish have greatly slowed their intake of food and their actions in the pond. They will need feeding only occasionally in the south and not at all in the north where the ponds freeze over for the winter. In the event that the pond should freeze over, a hole in the ice must be maintained for the survival of the fish. If the hole is not maintained there can be little air/water

gas exchange and the fish will die as they continue to respire and use all of the oxygen dissolved in the water of an ice-covered pond. A hole in the ice can be maintained using any of the commercially available electric ice melting devices specifically designed for use in pond situations. Never use any device not manufactured specifically for that purpose. Never hit the ice with anything to break it open. The force from the blow will reverberate as shock waves in the pond and kill the fish. This is one of the major causes of winter death of fish in home ponds.

Another source of problems for the plants in winter is the accumulation of fallen leaves that may blow into the pond with every gust of wind. These and any dead fish should be removed immediately.

You do not need to run pumps throughout the winter as the fish need very little aeration and the algae are not growing at this time. However, the algae will have a spring bloom, usually as soon as temperatures rise enough to heat the pond to any depth. At this time, the pump and filtration system must resume its operation. **M**

Looking for additional CEU opportunities?

Watch for the TNLA Calendar, emailed monthly. If you are not receiving the calendar, email isaac@tnlaonline.org and request to be put on the list.



HIGHLIGHTS

Ideas for Action working Breakfast

Continental Breakfast and an opportunity to sit down with other Green Industry professionals for a facilitated discussion of your issues and those facing the industry. Over 20 industry-specific topics.

PRE-EXPO EDUCATION CONFERENCE:

Lunch Speaker *Get Motivated! Get Excited!*

Bryan Fiese

Dynamic program teaching steps for overcoming negative thoughts and people. Life is too short to be consumed with negative energy.

Keynote Speaker *On My Honor I Will: Proven Principles for INTEGRITY DRIVEN® Leadership*

Learn how integrity-driven leaders follow their core when times are tough and inspire trust, respect, commitment, and results from others.

Texas Nursery & Landscape Association Certified Professional Quarterly Quiz

This CEU Opportunity Provided by E. Curtis Taber, TMCNP

Choose only one correct answer for each question. A completed exam with a score of 75% will qualify for 1 CEU towards any TNLA certification. Quizzes scoring less than 75% will be returned and can be re-submitted. Correct answers can be sent upon request. We encourage you to return the completed quiz no later than August 15, 2005.

- 1. What pre-construction decision should facilitate the management of a pond?**
 - a. Plant selection
 - b. Wildlife selection
 - c. Size selection
 - d. Site selection
- 2. Besides the correctly chosen plants and well-stocked wildlife, what other practice(s) can help maintain clear water?**
 - a. Correct depth
 - b. Good filtration system
 - c. A & B
 - d. None of the above
- 3. What is the worst thing a person can do when trying to maintain clear water?**
 - a. Remove dead plant material
 - b. Change the water
 - c. Remove dead wildlife
 - d. Apply algaecides
- 4. What causes a pond to turn green?**
 - a. Decaying plant materials
 - b. Artificial color dyes
 - c. Color of the liner
 - d. Single cell algae
- 5. When a pond is balanced plants will**
 - a. Cover most of the pond's surface denying light to the algae.
 - b. Begin to decompose
 - c. Need additional fertilization
 - d. Need additional sunlight
- 6. When a pond has turned over it has undergone a**
 - a. Temperature diversion
 - b. Temperature inversion
 - c. Temperature conversion
 - d. Temperature halting
- 7. How often should a pond's filter be checked?**
 - a. Daily
 - b. Weekly
 - c. Monthly
 - d. Bi-annually
- 8. The biggest concern when walking on a liner while servicing plants, fish and circulation systems is**
 - a. Puncturing the liner
 - b. Slipping on algae
 - c. Crushing plants
 - d. None of the above
- 9. If a pond is edged by a lawn or has no edging, the main concern is to avoid**
 - a. Rainfall run-off
 - b. Contamination by lawn fertilizers or pesticides
 - c. Unwanted pests
 - d. Unwanted debris
- 10. When should the leaves and flowers of aquatic plants be removed?**
 - a. Two days after full bloom
 - b. One week after full bloom
 - c. Never
 - d. As they die
- 11. How often should lotus be repotted in the southern portion of Texas?**
 - a. Once a month
 - b. Once a year
 - c. Twice a year
 - d. Every two years
- 12. If a fish seems particularly intent on eating a plant, you should**
 - a. Remove both fish and plant
 - b. Only remove the fish
 - c. Only remove the plant
 - d. Decide which you are most fond of and take appropriate action
- 13. In the event that a pond should freeze, what should be done to maintain the survival of the fish?**
 - a. A hole should be cut in the ice
 - b. Fish should be removed and housed elsewhere until spring
 - c. Ice should be heated and melted
 - d. Nothing should be done
- 14. What is one of the major causes of winter death of fish in home ponds?**
 - a. Pond freezes
 - b. Breaking a hole in the ice by hitting the ice
 - c. Lack of food
 - d. All of the above
- 15. What occurrence in spring indicates it is time to resume use of a pond's pump and filtration system?**
 - a. Spring bloom of algae
 - b. Temperatures above 40 degrees
 - c. First spring rain
 - d. First lotus bloom

PLEASE RETURN THE COMPLETED QUIZ TO:

Texas Nursery & Landscape Association | 7730 S. IH-35 | Austin, TX 78745 | Fax: 512.280.3012
Please retain a copy for your records.

NAME: _____ Certification Type: TCNP TMCNP TCLP

COMPANY: _____

PHONE: _____ EMAIL: _____