

Niagara College Greenhouse & Nursery Success Sheet No. 124

The Balanced Pond

Balance: The Key

Clear, healthy water can be in any water garden if a natural balance (ecosystem) exists. Controlling the algae that cloud your water is a main objective.

Green water algae and hair algae are plants and need only two things for survival: food and sunlight. When algae get too much food or sunlight or both, they become a problem.

Pond Shading

Shading and starving is the natural way to defeat algae. Floating plants provide shade on the water's surface. Plant coverage is ideally 60-75% of the surface area, thus shading the algae. Popular surface plants include water lilies, water hyacinths, water ferns, and water lettuce.

Freshwater grasses, such as hornwort, grow below the water surface, consuming large quantities of nutrients and supplying oxygen to the water, thus starving the algae. One bundle of hornwort for every square foot of a pond's surface area is recommended.

Water Quality

The source of water for the typical homeowner is tap (city) water. Municipal water is full of chlorine and chloramines; both are disinfectants and are harmful to plants and beneficial bacteria, which are essential for a balanced pond. Although chlorine will evaporate over a 24-hour period, chloramines will remain in the water for weeks.

Beneficial Bacteria

Beneficial bacteria regulate the pond chemistry, keeping the pond clean, clear and healthy. These micro-organisms require

nutrients and trace elements to live (available at most fish or pond suppliers) and well-circulated and -aerated water. Up to 70% grow on the pond liner and in stream beds, so avoid draining the pond as these bacteria are sensitive to environmental change.

Water Conditioning

When water is added to the pond, such as replacement water due to loss from evaporation, it must be treated with a conditioner. A conditioner neutralizes chlorine, chloramines and heavy metals present in tap water in seconds; they can be harmful or lethal to bacteria, fish and plants. Water conditioners are available at most fish or pond suppliers.

Water Testing

Major algae bloom (the water looks like pea soup) indicates that measuring the pH, ammonia, nitrite, nitrate and temperature levels is necessary. Tests should be made once every week or two.

Water testing ensures the health of fish (if present) and ensures the quality and clarity of pond water. The proper measurements will be supplied in a water-testing kit available at most pet, pond and hardware stores.

Cautions and Patience

Avoid changing the water because the balancing process will have to start all over again. After a few weeks, ponds balance and remain balanced for years. Patience will go a long way.

Christopher Langendoen, Class of 2008

Niagara College Greenhouse & Nursery

Niagara-on-the-Lake Campus, 135 Taylor Road, Niagara-on-the-Lake, ON L0S 1J0
phone: (905) 641-2252, ext. 4082; fax: (905) 988-4307 e-mail: mnewell@niagaracollege.ca

Website: <http://greenhousenursery.niagaracollege.ca>