



NEWS LETTER - May 2006

Blue Iris Seminar Schedule 2006

Free seminars and Paid classes

- 4/30/06** **Advanced fish Health.** Must have taken basic fish health class. Fee \$25.00 per person.
- 5/07/06** **Longfin (Butterfly koi) Auction**
Free admission.
- 5/21/06** **I have fish! Now what?** Free!
Learn how to make your fish happy and healthy.
- 5/28/06** **Aquatic plant identification, care and propagation.** Free!
- 6/18/06** **Pond keeping made easy, schedule your maintenance.** Free
- 6/25/06** **Basic Fish Health** \$25 per person
- 7/02/06** **Koi Varieties, how to choose your new koi.** Free
- 7/09/06** **Advanced Fish Health.** Basic class required. \$25 per person
- 7/16/06** **KOI LOTTO!!**
- 7/30/06** **Aquatic Plant identification care and propagation.** Free!
- 8/13/06** **Onsite, On-line Koi Auction** Free
- 9/17/06** **Filtration, why? Bottom drains, Air how much do I need?** Free
- 10/01/06** **Winterizing your pond and fish.** Free

Myths And Misinformation

Sometimes the information we receive from friends, club members and, yes, even dealers can be less than accurate. For some reason, in this hobby, old or outdated information and sometimes outright myths are perpetuated without much thought given to the current validity of the information. Often, people don't seem to question the information they are given but, rather, simply accept it as fact. (Continued from last month).

If you have a waterfall you will have all the air your pond needs!

Myth or truth?

The truth is, even with a good waterfall, you may not have enough air (oxygen) in your pond to accomplish all the things that are happening in your pond that require oxygen.

1. Your fish require large amounts of oxygen to support their activity and growth.
2. Your filter requires large amounts of oxygen to support beneficial bacteria growth and the nitrification process.
3. Through a process known as photosynthesis, all the plants, including algae, in your pond will use oxygen during periods of low light and darkness.
4. The warmer the water the less oxygen is available for the above process to function.

For this reason just about every pond can benefit from, and should use, supplemental aeration.

Low oxygen levels will adversely affect fish growth rate and their ability to fight illness and disease. It will also have a dramatic effect on water quality.

Understand, only water that makes actual contact with the air will absorb oxygen. In many cases, the amount of

water surface to contact the air in your waterfall and stream may be pretty small. Not all of the water going over your waterfall or stream is oxygenated. Only the surfaces that actually contact the atmosphere. Your waterfall may not oxygenate the water to full oxygen saturation level.

Important Facts;

1. The **maximum** amount of dissolved oxygen in water is called its saturation level. Saturation levels decrease as the temperature of the water increases. For example, at 70 degrees, water saturates at 8.9 parts per million (ppm). At 80 degrees, saturation is achieved at 8.0 ppm, and at 90 degrees only 7.3 ppm.

At higher temperatures, fish metabolism also increases and they use oxygen faster. Therefore, at 80 degrees, oxygen concentrations below 5.0 ppm may quickly prove fatal.

2. The oxygen required to oxidize one gram of ammonia to nitrate is 4.18 grams. If it is assumed that 1 pound of feed generates 14.6 grams of total ammonia nitrogen (TAN), then 1 pound of feed requires 61 grams of oxygen for the nitrification process just in the biological filter.

3. At 74 degrees water temperature a fish weighing one pound requires approximately .13 grams of oxygen per hour or 3.2 grams per day.

The scenario:

The pond is 3000 gallons and contains 10 twelve inch koi. A 12 inch koi weighs roughly 1 pound so we have ten pounds of koi in the system. Koi should be fed one tenth of their body weight per day. This equals one pound of food. One pound of food produces roughly 14 grams of TAN. 61 grams of oxygen are required for the biofilter to convert. Ten, one pound koi need approximately 32 grams of oxygen. So, doing the math (and I hope I did it right) we would have a demand of approximately 8.1 ppm (parts per million). Saturation level is only about 9 ppm at 74 degrees. That leaves less than 1 ppm and does not take into consideration additional oxygen demands from other biologic functions and plants. The next morning you may find some of your fish did not live through the night.

If your waterfall is not oxygenating the water to the saturation point you might not have sufficient oxygen to the filter, which means nitrifying bacteria will die and water quality will diminish. In addition your fish may begin to die as well.

Adding an air stone and pump to the pond will help with fish health, growth and water quality. It will also help gas off any toxic gasses from the pond AND CO₂. CO₂, produced by oxygen consumption, will convert to carbonic acid which will cause PH to drop if not gassed off.

Koi and Plants?

By Kathy Thompson

Koi and plants don't mix...right? If you put the plants in containers on the shelves or bottom of the pond they don't. The koi will uproot the plants and cause a huge mess of soil and gravel in the pond, not to mention that they will eat the most tender new growth on all of the plants.



What if there was a way to have both happy koi and beautiful plants in the pond at the same time? Would you give it a try?

We have been growing plants with our koi for several years now and it is very easy, not messy and will actually help to protect your koi from predators like heron and raccoon.

The newest and best way to grow aquatic plants in your pond is the addition of Floating Plant Islands. There are several shapes and sizes to choose from and you can even hook them together. This new system is easy to install and is taking the country by storm!

The Safe Haven

Protects submerged plants and water lilies from damage by koi and provides cover for fry. It is constructed of polyethylene and stainless steel components for long life. The Safe Haven floats with its top about an inch or so above the water surface and comes in two sizes - 16 and 24 inch. It is a great way to allow the submerged plants to help with water quality and allow your lilies to actually put up new leaves and bloom without being eaten.



Island Planters

Island planters are constructed of durable UV and water resistant polyethylene foam and come with polyethylene liner pots. The island planters are the best and easiest way to grow aquatic and moisture loving plants.



There are several sizes to choose from;

- 9 Inch creeper
- 12 inch island
- 16 inch island
- 20 inch island
- 24 inch island
- Sundial island

All of these island come complete



with removable pots and are very easy to plant.

The Sundial islands have predrilled holes that accept a 6" pot (included) in the center with four 4" pots (included) arranged around the edge. Plants can be easily replaced for ever changing seasonal display. Easy to put plants in and take them out. Just remove the plant and replace with another variety at a moments notice.

Last but not least are the Island Rafts. These are larger island planters that allow the ultimate in design by allowing you to mix and match plants of all different sizes and colors - custom designs made by your choice of plants.

Centerpiece raft

A great way to grow moisture-loving and aquatic plants in your pond. The plants grow better and help to improve water quality. They cannot be damaged by foraging koi and are impervious to unsightly string algae.



Centerpiece Pond Raft - 48in x 27in x 2in thick. Constructed of durable UV and water resistant polyethylene foam.



Mini Pond Raft

Mini Pond Raft - 24in x 27in x 2in thick. Constructed of durable UV and water resistant polyethylene foam.

Transitional Raft

Transitional Pond Raft - 48in x 13 1/2in x 2in thick. Constructed of durable UV and water resistant polyethylene foam.



For more information on growing aquatic plants in Floating Island Planters, please contact Kathy at Blue Iris Water Gardens.

509-921-1001

or by email at kathy@blueiriswatergardens.com

