



The Water Spout

Capital Area Pond & Water Gardening Society Newsletter August, 2004

Capital Area Pond & Water Gardening Society, Founded June 1993

Best website on the web... www.capwgs.org ... go there!

August Meeting

August 22

2:30 pm

Bluebonnet Swamp

10503 North Oak Hills Parkway

Baton Rouge, LA 70810

(225) 757-8905

Directions

Take Bluebonnet Road Exit off Interstate 10 (between Siegen and Essen). Travel south approximately 2.5 miles. Oak Hills Parkway is on your right.

Lance Beecher will give a demonstration on Water Testing/Water Quality See you Sunday!

Note from the Editor – It is my pleasure to serve another year as your Newsletter Editor. Thank you for entrusting me with this responsibility. I look forward to another fun-filled year and would like to thank all of you for giving me the opportunity to serve. **-Happy reading! Bridget Hayes, Newsletter Editor and Webmaster**

Contact me at lilvpads@capwgs.org or 275-4698 (h) 937-7808 (cell)

OFFICERS

President: Margaret Mercier
751-2293 (h) (225) 266-3590 (cell)
mmercier@louisiana.com

Vice-President: James Carter
664-3487 (h & w)
No email

Secretary: Betty Klenke
755-2449 (h) 292-7422 (w) 291-0882 (fax)
betty@lakeshoregroup.com

Treasurer: Danna Spayde
383-3554 (h & fax) 229-3596 (cell)
orchidnut_2000@yahoo.com

CAPITAL AREA POND & WATER GARDENING SOCIETY

MINUTES FOR THE AUGUST 2004 MEETING

The July meeting was held at the Fronderosa Nursery in Ponchatoula. Mary Elliott, the owner, gave the twenty-two members and guests an in-depth tour of her nursery. We saw everything from hostas to rare ferns as well as other one-of-a-kind plants. Mary's landscape consists of hundreds of unique plants. Our group then toured McLendon's Nursery also in Ponchatoula. The next stop was the delightful C'est Bon Restaurant for a wonderful lunch. It was agreed by everyone the trip was a great success.

The August meeting will be held at the Bluebonnet Swamp Sunday, August 22, at 2:30. Lance Beecher will give a demonstration on Water Testing/Water Quality.

Other upcoming events include

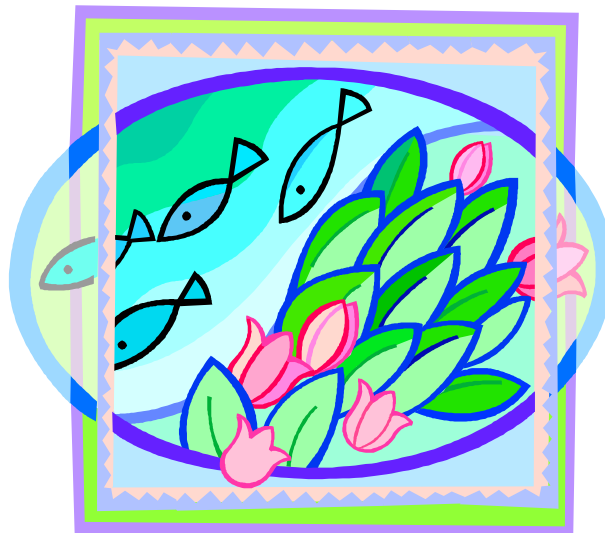
Saturday & Sunday, August 28 & 29: 10 AM to 8 PM Saturday, 11 AM to 5 PM Sunday: We will have a booth at the Baton Rouge House Beautiful Show at the Baton Rouge Riverside Centroplex.

Sunday September 26, 2004: 5:30 PM Members-Only Pond Tour and Pot-Luck Progressive Supper

Three pond tour locations needed for Salad/Entrée/Dessert Pot-Luck Progressive Supper...Want to volunteer your pond for the tour? Contact Margaret: mmercier@louisiana.com, 266-3590.

Respectfully submitted,

Betty Klenke



Internet Interests...

Best Website on the web. GO THERE!
Capital Area Pond & Water Gardening Society
<http://www.capwgs.org/>

Here are a few of our members favorites...

- Pond keeper Magazine <http://www.pondkeeper.com>
- Water Gardening Magazine Info on disease topics for aquatic animals <http://www.koivet.com>
- National Pond Society <http://www.bandd.net/nps/index.htm>
- Austin Pond Society <http://www.austinpondsociety.org/>
- Stokes Tropicals in New Iberia <http://www.stokestropicals.com/>
- Rare and Exotic Seeds <http://www.seedman.com>
- Big Cat Sanctuary <http://www.yogieandfriends.org>
- Miami Valley Water Garden Society Web Page <http://www.mvwgs.org>
- Pond Pals Tour <http://members.aol.com/marylady/pondpals/pindex.htm>
- Water Gardening Magazine <http://www.watergardening.com>
- Master Garden Products <http://www.mastergardenproducts.com/watergar.htm>
- <http://www.ponddoc.com/>
- www.gardenlink.com
- St. Joseph Water Garden Society: www.sjwatergarden.com

Go to the CAPWGS website for more favorites. If you have a favorite that will benefit other society members, please let us know. Thanks!

To purchase a business card ad space, contact Bridget Hayes 225-275-4698 or lilypads@capwgs.org



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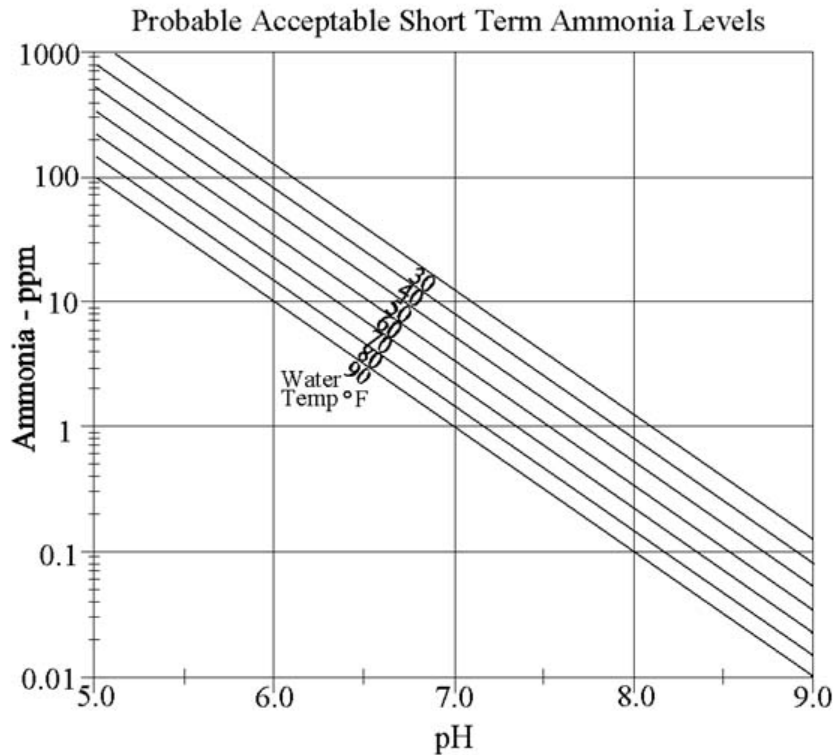


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AMMONIA

Ammonia, NH_3 , measured in parts per million (ppm), is the first measurement to determine the "health" of the biologic converter. Ammonia should not be detectable in a pond with a "healthy" bio-converter. The ideal and normal measurement of ammonia is zero. When ammonia is dissolved in water, it is partially ionized depending upon the pH and temperature. The ionized ammonia is called ammonium and is not particularly toxic to the fish. As the pH increases and the temperature drops, the ionization and ammonium decreases which increases the toxicity. As a general guideline for a water temperature of 70°F , most Koi would be expected to tolerate an ammonia level of 1 ppm for a day or so if the pH was 7.0, or even as high as 10.0 if the pH was 6.0. At a pH of 8.0, just 0.1 ppm can be dangerous.



Two types of ammonia test kits are commonly available. The first is based on the Nessler reagent. This kit normally uses drops in a water sample with an associated color chart. The second is a salicylate reagent test that may use drops, powders, or pills and is usually a two step process again followed by a color chart. The Nessler kit provides a faster test but is not compatible with any ammonia treatment chemicals that may be in the water (more about those later). One way to determine which type of test kit you have is that the Nessler kit color chart normally ranges from clear, meaning no ammonia, to yellow/yellowish-orange as ammonia levels increase. The salicylate based test kit ranges from a light yellow, meaning no ammonia, to green/bluish-green as ammonia levels increase. Both types read the total of ammonia and ammonium, so without knowing the temperature and pH, the toxicity cannot be determined. Suffice it to say that the only good ammonia reading is zero. But note that any pond containing fish will have some residual ammonia. The bio-converter does not remove all of it each pass and the fish continuously add it to the pond. The residual level will be determined by the fish load, the effectiveness of the bio-converter, and how often the water is passed through it. This residual level should not be detectable on the average test kit. The recommended test kit should be able to detect 0-1 ppm of ammonia. An ammonia test kit is considered to be a requirement for all pond keepers.

Effects:

Ammonia tends to block oxygen transfer from the gills to the blood and can cause both immediate and long term gill damage. The mucous producing membranes can be destroyed, reducing both the external

slime coat and damaging the internal intestinal surfaces. Fish suffering from ammonia poisoning usually appear sluggish, often at the surface as if gasping for air.

Source:

Ammonia is a gas primarily released from the fish gills as a metabolic waste from protein breakdown, with some lesser secondary sources such as bacterial action on solid wastes and urea.

Control:

Ammonia is removed by bacterial action in the bio-converter and a small amount is directly assimilated by the algae and other plants in the pond. The bacteria consume the ammonia and produce nitrite as a waste product. A significant portion of this bacterial action can occur on the walls of the pond as well as in the pipes and bio-converter. Ammonia readings may increase with a sudden increase in bio-converter load until the bacterial colony grows to accept the added material. This can happen following the addition of a large number of new fish to a pond or during the spring as the water temperature increases. Fish activity can often increase faster following a temperature increase than the bacterial action does. A bio-converter that becomes partially obstructed with waste and/or develops channels through the media may operate at reduced effectiveness that can also cause the ammonia levels to increase.

Treatment:

Chemical treatments to counteract ammonia toxicity are available commercially under various trade names. These treatments, most of which are based on formaldehyde, chemically change the form of the ammonia into compounds that are not harmful to the fish. They do not actually remove it from the pond. The bio-converter bacteria still does the actual removal. Although most of these products use a dosage of 50 ml per 100 gallons to chemically bind up to 1 ppm of ammonia, be sure to check the manufacturer's directions before use as those containing formaldehyde can result in overdose conditions. Note that the Nessler type test kits may show false readings when any of these chemical treatments are in the water. If a pond has a healthy bio-converter, there is normally not only no need to treat with ammonia binding chemical agents, it is better not to use them at all.

When ammonia is detected (assuming a pH of about 7.5):

1. Increase aeration to maximum. Add supplemental air if possible.
2. Stop feeding the fish if detected in an established pond, reduce amount fed by half if starting up a new bio-converter/pond.
3. Check an established pond bio-converter for probable clean out requirement.
4. For an ammonia level of 0.1 ppm, conduct a 10% water change out. For a level of 1.0 ppm, conduct a 25% change out.
5. Chemically treat for twice the amount of ammonia measured.
6. Consider transferring fish if the ammonia level reaches 2.5 ppm.
7. If starting up a new bio-converter/pond, discontinue use of any UV Sterilizers, Ozone Generators, and Foam Fractionators (Protein Skimmers).
8. Retest in 12 to 24 hours.
9. Under **Emergency** conditions only, consider chemically lowering the pH one-half unit (but not below 6.5).

CAUTION: If the tap water has a higher pH than that of the pond or if the tap water contains Chloramine, adding the replacement water may make the situation worse.