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### **HOTWGPS Events**



Thank you to all of you that have paid your 2022 HOTWGPS membership dues. If you have not yet met your obligation, please submit them now. Either mail them to HOTWGPS, 700 Fox Ridge Rd., Lorena, TX 76655 or bring them to the May meeting on the 17<sup>th.</sup> We will be meeting at Rose & Ron Haft's home.

Family \$24.00 Individual \$18.00 Non-Voting associate \$12.00



#### **Pond Vac**

As a reminder, this is a "Members Only" benefit. You can <u>rent</u> (\$5.00 for up to 72 hours) this super-duper pond cleaning machine very reasonably! John Enders is the "official Pond Vac keeper". Call him 254-848-9596 or send him an email at <u>jnenders@aol.com</u> to schedule your time with the machine. One note of caution when using the pond Vac, watch how much water you are removing from your pond!! It works so well sucking up the "yuk" that one can easily forget how much water is also being removed! That is the voice of experience talking!!



#### How to Treat Tea Colored Pond Water

There's only one thing worse than green water - and that's tea colored or brown water. Often times, the end of fall, beginning of winter brings with it discolored water. This generally occurs because of one of two reasons:

The first being tea-colored water. When leaves fall into your pond and sit, they break down, releasing tannins. For the most part, they stain the water, creating a type of allnatural tea. This is the most common cause of tea colored or brown water.

The second is simply free-floating sediment, which is ultimately making the water appear this color. Fish, water movement from waterfall or wind can easily disrupt this debris.

To determine what's causing the discoloration, grab a glass from your kitchen, dunk it in your pond and fill it with the water. Bring it inside and let it sit for about 24 hours. The next day, take a closer look at the glass. If it's still tea-colored then you have tannin stained water. If you see particulate matter settled at the bottom of the glass then you have sediment.

Once we pinpoint what's causing the discoloration, we can treat accordingly.

#### This from Webb's Water Gardens

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First, clean the pond. Because both causes start with an abundance of organics, your first action is to rid the bottom of the pond of that debris. Remove any muck, leaves, etc. Use a pond vacuum, net, or drain the entire pond if necessary.

For the tea-colored water, use activated carbon, which is chemical filtration. The carbon will absorb the colors, leaving behind clear water. You'll add this to a media bag and place in either your skimmer or waterfall water. Anywhere that has a constant flow.

For the sediment issue, add beneficial bacteria. The beneficial bacteria will digest any accumulated organic debris and eliminate the brown water.



The following also from Webbs (For future reference)

#### Hardy water lilies

(Nymphaea species) Hardy lilies are perennials and frost tolerant. These lilies are produced from rhizomes and grow horizontally. They are sweetly fragrant and bloom on or just above the water's surface. Each bloom lasts 3-5 days and opens in the morning and closes in the late afternoon. Hardy lilies require very little care. Give them at least 5-6 hours of direct sunlight and still water 6-18" deep. They should be fed every 2-4 weeks from May 1 to September Lily-Gro fertilizer 1. tablets are recommended @ 3-4 tablets every 2-4 weeks. You will be able to enjoy these lilies year after year. Hardy lilies are available in pink, red, white, yellow, peach/orange and changeable, which starts yellow and changes to copper.

### **Tropical water lilies**

(Nymphaea species) Tropical lilies are exotic! They evoke romance and glamour. They are very fragrant and are exquisite as cut flowers. Tropical lilies are treated as annuals and are frost tender. They hold their blossoms high above the water and come in vibrant colors - blue, lavender, pink, green, purple, red, white, yellow and autumn shades. They grow from tubers and produce large leaves, some with frilly edges, some with striking mottling, all with spectacular blooms. They require 5-6 hours of direct sunlight and still water 6-18" deep over the rootstock. Fertilize freely, every 2-4 weeks from May 1 through September 1. Lily-Gro fertilizer tablets are recommended @ 3-4 tablets every 2-4 weeks. Day bloomers open mid to late morning and close mid to late afternoon. Night bloomers open at dusk and remain open until mid to late morning the next day. Dark cloudy days allow them to remain open later in the day. A pond containing both day and night blooming lilies can be enjoyed any hour of the day or night.

#### Lotus

Lotus are spectacular plants with large blossoms and magnificent foliage. These exotic plants are sure to be the focal point of

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any water garden. Lotus are hardy plants boasting colorful flowers in varying degrees of red, pink, yellow and white, lasting 3 or more days. The blooming season begins in summer and continues into the fall. Big leafy foliage that seems to float above the water's surface adds to the exotic appeal.

Lotus should be planted in large no-hole containers and submerged 2-6" below the water's surface. They require 5-6 hours of direct sunlight per day and should be fertilized freely during the growing season. Lily Gro tablets every 2-4 weeks are recommended. Once planted, you can expect blooms within one year, often sooner, depending upon how long it takes the plant to become established.

### Marginal or bog plants

Marginal, or bog, plants are aquatic plants which grow in shallow water and are commonly found along the water's edge. There are many varieties of marginal plants that will add height and texture to the water garden. Some stand above the water while others rest on the water's surface. Some marginals add a handsome display of foliage while others will create constant blooms throughout the season. Lush, green foliage, with accents of pink, white and yellow can be obtained. Plants must be fed regularly. Lily-Gro fertilizer tablets are recommended at 1 tablet per gallon every 2-4 weeks during the season.

### **Floating plants**

Floating plants are desirable and fascinating as they add color and shade to a pond. They do not require planting, although some varieties perform better if planted first. Others, you can simply float in the pond. Due to the shade given by floating plants, they are ideal for ponds with an algae problem. Roots provide fish spawning beds and protection for newborns. All floating plants should be removed from the pond prior to frost.

(editor's note: if you have a skimmer, you will need to anchor floating plants or they will surely end up in the skimmer!)

### **Oxygenating (submerged) plants**

Oxygenating plants are vital in a water garden. They absorb impurities from the water which helps to prevent algae growth. Oxygenating plants should be anchored in one gallon pots and placed on the bottom of the pond. They absorb carbon dioxide fish give off and liberate oxygen for the fish to live. Fish spawn and lay eggs in oxygenating plants. Baby fish use these plants for shelter.

### Winter care of water lilies

#### Hardy Water Lilies:

Once winter approaches and the water temperature of the pond drops, the hardy lilies automatically go dormant. If any new leaves appear, they will be very small and will remain under the water, close to the soil. As the old foliage browns, simply prune and lower the lily to the deepest part of the pond. If a sufficient depth of water can be maintained so that freezing does not occur at the root level, the hardy lily does not need to be removed from the pond.

If there is a possibility of the pond freezing solid, there are several methods of

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protecting the lilies. If you prefer to leave the lilies in the pond, place boards, side by side, across the top of the pond. Cover the boards with mats or layers of straw or leaves, weighted down with stones. In the spring, as the ice thaws, all coverings must be removed to prevent premature growth.

You can also bury water lily tubers in the ground. The hole should be eighteen to twenty-four inches deep and covered with leaves or straw. Simply replant in the pond in the spring.

For indoor storage until spring, a cool basement or heated garage are possible choices. The lily tuber should be covered with moist burlap, peat moss or leaves. You could also cover the soil with newspaper and place the entire container in a sealed plastic bag. Check occasionally that the soil is moist.

#### **Tropical Water Lilies**

Tropical lilies are most often treated as annual. They continue to grow and bloom until several freezes drive them into dormancy.

If you choose to store your lilies through winter, a greenhouse is the most successful way. Provide only 10-20% of the space of your pond. A wash tub or tank is suggested. The lily should be kept small, therefore, do not fertilize.

Another method is to use an aquarium. Pot the lily in a 4-6" pot, plug holes, and place in at least a 20 gallon tank. Heat the water to 70 - 75 degrees F and place a florescent grow light close to the top of the tank. Do not encourage growth. Simply keep the lily alive.

Some specialists consider starving plants in late summer, causing the formation of tubers. Once all leaves are dead, feel under the crown for a hard tuber. Remove the tuber and wash it thoroughly. The smaller tubers generally make the nicest plants next spring. If there's any root or stem tissue still attached to the tuber, air-dry a few days and snap it off cleanly. Again, wash the tuber well and place it in a plastic bag or mason jar. Fill the container with distilled water or slightly moist sand store it in a cool dark place, at approximately 50-65 degrees F. Be sure to Increased levels of atmospheric CO2 can increase photosynthesis activity, an effect know as carbon fertilization. Keenan et al. (2021) found that carbon fertilization increased global annual photosynthesis by 12% compared to the 17% global increase of atmospheric CO2 between 1981 and 2020. De Graaff et al., 2006 examined the effects of changing atmospheric CO2 levels on nutrient cycling. They found that some above and below ground plants exhibited an increase in growth rate as a result of increased photosynthetic activity. They also saw an elevated yield in some crop plants, as well as an increase in microbial carbon content and soil respiration. Higher CO2 concentrations check the container regularly. If the water is foul or discolored, replace it with fresh distilled water.

Remember when spring returns a tropical lily should only be placed in water at least 70 degrees F. Do not rush the plant outside. It could return to dormancy or it may die.

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"Moving on doesn't mean you forget about things. It just means you have to accept what happened and continue living..."



This from the February 2022 I-Wire Invasives newsletter.

### **Plants Scheduled for Over Time**

Plants use sunlight, water, and atmospheric carbon dioxide to produce oxygen and carbohydrates vital for plant growth. Plants absorb 1/3 of the yearly carbon dioxide emitted by humans through tiny pores on the leaf surface, called stomata. Plants, soil, and the ocean are important carbon sinks (remove more CO2 from the atmosphere than they release). As climate change worsens, atmospheric carbon dioxide levels increase, and temperatures warm, causing some plants to go into overtime.

also cause less water to be used during photosynthesis and less water to be released into the atmosphere because of partially closed stomata.

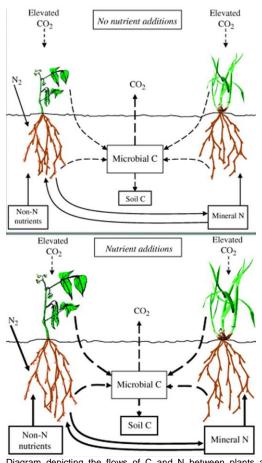


Diagram depicting the flows of C and N between plants and soil under elevated atmospheric CO2 and low vs. high nutrient availability. Credit: De Graaff *et al.*, 2006.

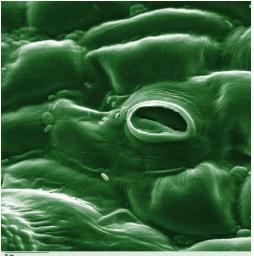
These benefits are short lived and there reaches a point when plants no longer benefit from carbon fertilization, like when other nutrients are used up. Nitrogen and soil carbon quickly become limiting factors. Availability of additional nutrients dictates how long increased productivity will last. A plant cannot process the excess CO2 in the atmosphere if there isn't enough nitrogen (Read more). Increased temperatures caused by climate change can also affect plant productivity. As temperatures increase, nitrogen fixation decreases, resulting in lower plant productivity and the removal of less CO2 from the atmosphere. Higher temperatures can affect the efficacies of

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enzymes vital for photosynthesis, causing them to become misshapen or completely deactivated, lowering the efficacy of photosynthesis. Rising temperatures result in longer growing seasons. This will cause plants to grow more and for longer, requiring more water, offsetting the benefits of partially closed stomata.



Tomato leaf stomate. Credit: photohound

These are but a few examples of how elevated atmospheric CO2 can affect plants. A much longer article would be necessary to discuss them all. As of now, researchers do not know how long plants will be able to keep up increased CO2 absorption. Research does suggest that plants in the future may become more stressed and less productive. One thing seems clear, plants are not stopping climate change, even with the increased absorption of atmospheric CO2, but they are helping to slow it down.



### On the lighter side

### **Drivel Pursuit**

Can you guess which of the following are true and which are false?

(Answers are below.) Don't look ahead..... How many did you get right???????

1. Apples, not caffeine, are more efficient at waking you up in the morning.

2. Alfred Hitchcock didn't have a belly button..

3. A pack-a-day smoker will lose approximately 2 teeth every 10 years.

4. People do not get sick from cold weather; it's from being indoors a lot more.

5. When you sneeze, all bodily functions stop, even your heart!

6. Only 7 per cent of the population are lefties.

7. Forty people are sent to the hospital for dog bites every minute.

8. Babies are born without kneecaps. They don't appear until they are 2- 6 years old.

9. The average person over 50 will have spent 5 years waiting in lines.

10. The toothbrush was invented in 1498.

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11. The average housefly lives for one month.

12. 40,000 Americans are injured by toilets each year.

13. A coat hanger is 44 inches long when straightened.

14. The average computer user blinks 7 times a minute.

15. Your feet are bigger in the afternoon than any other time of day.

16. Most of us have eaten a spider in our sleep.

17. The REAL reason ostriches stick their head in the sand is to search for water.

18. The only two animals that can see behind themselves without turning their heads are the rabbit and the parrot.

19 John Travolta turned down the starring roles in 'An Officer and a Gentleman' and 'Tootsie.'

20. Michael Jackson owns the rights to the South Carolina State Anthem.

21. In most television commercials advertising milk, a mixture of white paint and a little thinner is used in place of the milk.

22. Prince Charles and Prince William NEVER travel on the same airplane, just in case there is a crash.

23. The first Harley Davidson motorcycle built in 1903 used a tomato can for a carburetor.

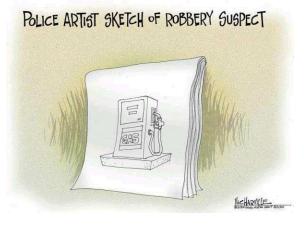
24. Most hospitals make money by selling the umbilical cords cut from women who give birth. They are used in vein transplant surgery.

25. Humphrey Bogart was related to Princess Diana. They were 7th cousins.

26. If coloring weren't added to Coca-Cola, it would be green.

They are ALL true .... Now go back and think about #16!!



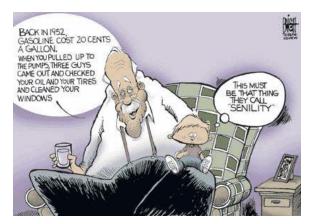


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Webb's have graciously donated money to sponsor our 2022 pond tour, so your continued support of their business is appreciated!



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Please support these businesses who have agreed to give our members a discount at their stores

