June Meeting - Tropicals
Our June program will be a hive of activity! Our guest speaker is Gerry Knopps, a bonsai enthusiast from the Appleton Bonsai Society. He has exhibited his tropical trees many times at State Fair and has received awards for his creations. Gerry is a font of knowledge when talking about his tropicals. He has terrific ideas for styling, feeding and wintering (and much more). He will be bringing a number of his trees to display. You'll want to get to the meeting early to get a good seat!!

Running concurrently with Gerry's talk is our annual Club Show. This is a small version of our exhibit at State Fair. Some consider it a warm-up for State Fair. Due to our limited set-up time ALL TREES MUST BE BROUGHT BY 6:45pm to be entered in the show. Trees received after the set-up will not be included in the show. PLEASE COME EARLY!!!

New this year: you will be filling out a card for your tree. Please come prepared with the following information: Common name, scientific name, estimated age and years in training. This will greatly help the check-in process.

We're looking forward to an exciting evening. Don't miss it.

PRESIDENT'S MESSAGE
At the May meeting, we unveiled a very exciting program. That program is the Advanced Master Series (AMS). The purpose of the AMS is to increase the bonsai knowledge and improve the bonsai skills of all of our members. This program was proposed by the Program Advisory Board and has been approved by the full Board of Directors of the Milwaukee Bonsai Society.

As was explained at the May meeting, the Advanced Master Series will consist of three or four all-day class sessions yearly, with the same bonsai teacher for a period of three years. By participating in the AMS over this time frame, the participants will increase their bonsai knowledge and improve their bonsai skills. As their knowledge and skills improve, they will be asked to share that knowledge with the remainder of the club by giving talks to the club and by leading club workshops. The participants of the AMS will pay the fee of the teacher while the traveling expenses of the teacher will be paid from the 2002 convention proceeds.

The Advanced Master Series is not intended for the exclusive use of the more advanced members of our club. Its stated purpose, however, to "increase bonsai knowledge and improve bonsai skills" implies that you must have some of basic bonsai knowledge and skills in order to participate. So it is not a class to teach the basics of bonsai. On the other hand, we want to give the opportunity to as many of our members as possible.
The actual cost of the series to each student will depend upon whether there are three or four class sessions, and the teacher fees. It is estimated that the annual fee could range from $250 to $375 per person, per year. Each class member would be required to pay the year’s fee in advance, and the money would be non-refundable. Each participant will have to furnish their own material and the material must be suitable for use in a “Master Class.”

If you would like to participate, you must complete the Advanced Master Series Participant Questionnaire and return it to Pam Woythal (Pam is the Coordinator of the program) at the June meeting. We will have some extra questionnaires at the meeting in case anyone has forgotten theirs and really wants to participate. We have to have at least eight students in order to actually initiate the program. We can easily accommodate a second class. A third class could be done if there are enough interested people. The classes will be held on weekends during the spring, summer and early fall of the year. It is our intent to hold each class size to eight students.

Teachers under consideration are Warren Hill, who was here last year, Colin Lewis who will be here in July and Ted Matson, who will be here in August. After Ted is here in August the people who have signed up for AMS will decide which one they want to have as a teacher.

Your Board of Directors is very excited about this program and what it will do for our club members. So fill out that questionnaire and bring it to the meeting. Don’t miss out on this wonderful opportunity to start a serious study program to learn more about our favorite art form.

**Fertilizing Moss**
By Joe Nemec

Moss can be fertilized with a mixture of one part unsweetened yogurt with eight parts water. Refrigerate and apply weekly.
May Bonsai Tips
By Alan Walker
(Reprinted From Lake Charles (LA) Bonsai Society Newsletter. Editor’s note – May for LA is a lot hotter than our June)

May is a busy month for bonsai growers. Spring growth is hardening off and we must get serious about cutting back some of the long shoots on our deciduous trees and pinch back unwanted growth on junipers. You will need to prune the upper, apical area of your deciduous trees more thoroughly than the lower branches to provide more light to reach their inner branches. This allows photosynthesis (and, hence, budding and branching) to occur. Also, the upper branches tend to thicken quickly which would disrupt the taper and proportions your bonsai needs to maintain the appearance of age.

Add new soil to pots if soil has eroded due to rain or an increased watering schedule. Patches of moss can help reduce erosion problems. I’m still looking for a way to keep the blue jays from pulling up my moss and pecking at the trunks and roots of my trees. I used to think they were stealing it for their nests, but then I noticed that they are simply contrary and just leave the moss scattered on the ground under the benches. I read once that they are seeking cool moisture and that a nearby birdbath would distract them...not so! I’m beginning to think that only a greenhouse or netting the entire area are the only solutions to this problem. If anyone has an idea on how to control the invasion of blue jays (and squirrels) short of surrendering the display area to bird netting, please send it in!

It’s hard to judge just how much water to give our trees, especially this time of the year. I’ve been at this for over twenty years, and still have so much to learn. Too much water is as bad as too little. The key to watering is to touch the soil to see how it feels; visual observation can be misleading. Ideally, you usually want the soil to be loose, crumbly, and moist and feel cool to the touch. As a rule, when the soil feels dry, water enough to make the whole root ball moist, then don’t water again until the soil feels dry again on the surface. This doesn’t mean bone dry, and moist doesn’t mean soggy or saturated. You will need to recognize and acknowledge your tree’s specific, individual needs. Bonsai will need less water when they are dormant or recently potted and repotted. They will need more frequent watering when they are in smaller pots or in sunny and/or windy weather. Try to group your trees on their training benches so that those with similar watering needs are together. Try to provide the best possible environment for each bonsai, taking into consideration that junipers and pines prefer less moisture than deciduous material. If you’ve let your bonsai become completely dry, resist the temptation to soak it, which would probably put it into shock. Instead, revive it gradually with misting and superficial watering along with wind and sun protection the first day until you can water it thoroughly the next morning.

Now that your azaleas are through blooming, prune them severely. Don’t forget to leave more growth at the apex where they are less vigorous. The spent blossoms should be removed completely, so that the azalea can use its energy producing new foliage rather than going to seed.

Fertilizing should be safe this month for most types of trees, which you repotted earlier this spring. Try to stay up with your pruning schedule, so that your trees don’t get out of hand. Take time to study your pines and maples and other opposite branching trees for the proper pruning choices at each node. Don’t leave more than one branch growing at any node, or you will have swollen, knobby areas which rob the branch of taper and grace.

New foliage seems to want to grow straight up, especially on material new to training. Rather than just clip off everything which is growing in the wrong directions (Lingnan style training), wire first, then prune. This will help you avoid wasting so many small branches. You’ll need a lot of the smaller gauges of wire for this (#16-22 for copper and 1-1.5 mm for anodized aluminum). Use a sealant on the larger cuts to reduce loss of moisture from open wounds.

Of course, now is the time to do your last minute grooming for our (club bonsai show on June 1).
Brown Leaf Tips
By Steve Hendricks
(from Bonsai News, the Journal of the Lake Charles Bonsai Society)

Did the leaves of your maples or azaleas burn around the edges last summer? A Japanese maple and Satsuki azalea of mine did burn, and badly enough that I fear for their survival. I asked around and heard various theories as to why, but people seem fairly evenly divided between "moisture stress" and "salt build-up in the leaves". Since I can't do anything about the summer heat, I decided to do what I could for the salt buildup. At a recent workshop Warren Hill provided an in-depth look at this phenomenon and the most complete explanation I have ever heard. Warren stated that the leaf burn is a sign of sodium buildup in the soil and the leaves of our plants. It is caused by retention of sodium by our soils, which act like an ion-exchange medium.

What is an ion-exchange medium? Think of the water softener units that many people install in their homes. It usually consists of a big tank that contains a granular material (medium) onto which some sort of chemical group is bonded. Generally, this group is the sodium salt of sulfonic acid. The sodium is attached to this group only by a weak electrostatic attraction. The sulfonic group is negatively charged and the sodium ion is positively charged. When water containing hard water components such as calcium (+2 charge) or magnesium (+2 charge) pass through this material, the weakly charged sodium ions (+1 charge) are kicked off by the more highly charged elements. The hard water components are retained in the ion-exchange medium and soft (read "sodium-laden") water is released. This is the same process that is happening in our soils.

Soil Particle

Sodium Ion

Many of us use Turface, a baked clay product, in our bonsai potting soil mix. According to Warren, the clays in Turface are no more desirable in our potting mix than in the clay soils with which most of the southwest is blessed. The clays in the Turface possess a net negative charge and act as an ion-exchange medium, just like a water softener.

The positively charged ions (like sodium) in our tap water are attracted to and attach themselves to the clay particles and any other negatively charged soil constituents. They displace hydrogen ions that possess an even weaker charge. Because our water contains high levels of sodium, the soil quickly becomes saturated with retained sodium. As transpiration takes place, water, containing dissolved nutrients and sodium, is drawn up from the soil into the leaves. Since the leaf tips are the areas of greatest transpiration, the sodium concentrates preferentially in these areas. When the sodium concentration reaches too high a level, tissue damage occurs.

Though the leaves are the most visible manifestation, sodium buildup causes other problems in the soil. The sodium that binds to the clays and other negatively charged soil particles forms a sticky gelatinous mass. This blocks the pores, impeding the circulation of air through the soil. As oxygen is depleted, undesirable fungi and anaerobic bacteria begin to grow and root rot sets in. This is what causes the peat moss in our azaleas to decompose so quickly to a black muck.

And sodium retention does not only affect maples and azaleas. Warren emphasized that it affects all of our plants, even though they may not show it as dramatically. I was happy to hear that should I successfully address the sodium problem, I should be able to keep my moss alive.

This knowledge also helped to explain other questions. Like many others, I have heard the adage that azaleas prefer deep pots, yet I have never understood why. Azaleas are well known to have shallow roots. Warren conducted his own experiments to determine how the depth of pots affects soil pH. He found that the deeper the soil, the lower, or more acidic, the pH.

Why? Because the soil saturates with sodium the same way an ion exchange column does; from the top down. As you water, the top layers of soil are the first to be exposed to the high levels of sodium. As the water percolates down through the soil, the sodium is adsorbed onto the clays and other negatively charged particles in the soil. The further down the water flows, the fewer sodium ions are left, so that by the time the water reaches the bottom third of the pot, it has been filtered of most of its detrimental components and is a neutral pH. This is the same principle of filtration that gives us pure wells and aquifers. If you plant an azalea or a maple in a deep
pot, some of their roots will reach a healthier layer of soil. Plant them in a pot that is only one third as deep, and the roots never find an area of soil that has a pH and a sodium level to their liking. According to Warren, in Japan, they regularly grow maples in pots no more than one inch in depth, yet they have no problems with leaf burning.

Where does sodium come from? It is ubiquitous in nature and generally present in the form of common salt or sodium chloride (NaCl). Municipal water supplies, however, contain unusually high levels due to addition of sodium hydroxide (NaOH) by the water treatment facility. This is done to make the pH of the water alkaline in order to prevent our metal pipes from dissolving, something that happens quite readily if the water is acidic.

Can you eliminate sodium from your tap water? Sure, if you want to buy, install, and maintain water treatment equipment. You can install a water still that boils the water and recondenses it, or a reverse osmosis unit that uses a semi-permeable membrane that will allow water across but excludes other dissolved particles. But all of this equipment is expensive, and comes with regular maintenance requirements, and most people find them more trouble than they are worth.

Other possibilities include collecting rainwater or buying distilled water in bottles. The first is unreliable in arid Texas summers (and tends to propagate mosquitoes in humid Louisiana), and the second is somewhat expensive. (Editor's note: dehumidifier water is also free of sodium, if you can get enough of it. But the wife takes it all for her orchids...)

You can help alleviate the sodium problem to some extent by altering the pH of your tap water. Acidic water contains an abundance of hydrogen ions, which, by their sheer numbers, will displace some of the sodium in the soil. Some of the more enthusiastic bonsaiists and commercial growers have set up systems whereby sulfuric acid is metered into the water while a pH meter continuously monitors the pH and adjusts the acid additions as needed. A simpler approach (as suggested by Vito Megna) for the hobbyist is to add one teaspoonful of white vinegar (acetic acid) to one gallon of water and use this to water your alkaline sensitive plants.

Warren stressed, however, that while lowering the pH of your water is helpful, it is not a complete solution to your sodium problem. The sodium must be flushed from the soil and prevented from reaccumulating. For this he suggests gypsum (calcium sulfate). Gypsum is a naturally occurring mineral that is sold by most garden centers for soil amendment. I bought a twenty-pound bag at Home Depot for $3.49. When dissolved in water, the gypsum separates into calcium ions (Ca, with a charge of +2), and sulfate ions (SO₄ with a charge of −2). Since the calcium ion is more positively charged than sodium (+1), it will have greater affinity for the clay particles and displace the sodium ions, allowing them to be washed away with the water. The sulfate ions will combine with the water to form sulfuric acid, serving, thereby, to help acidify the water.

The gypsum can be mixed into the soil before potting, or sprinkled on top of the soil for plants already potted. If your plants are severely sick, as mine are, Warren suggests placing the plant, pot and all, into a tub of water containing a handful of dissolved gypsum and allowing the water to rise through the pot to the top. Better yet, if the plant is root bound, to remove it from the pot and place the root ball in the tub to provide even better exposure to the dissolved gypsum.

While this is good for emergency treatment, Warren insisted that next spring each ailing tree should be bare rooted using a water spray, and the soil replaced. For maples, Warren uses a potting mix consisting of five parts crushed granite, two parts screened planters mix, and one part perlite. Planters mix is a product sold at most garden centers that contains a number of soil amending ingredients such as humus and peat moss. The mix he uses in California also happens to include gypsum. If your local planters mix does not contain gypsum, then add some to your potting mix. George Gray says he mixes a teaspoonful into the potting soil of each plant he pots. Based on the healthy appearance of his maples, it appears to work for him.

In summary, there are various theories about why maples burn. Since there is very little I can do about the heat and moisture stress, I am giving gypsum a try. I have given my ailing trees a gypsum bath. I may also try Vito’s vinegar water as well. It’s too late in the season to expect a visible difference in my plants this year, but if they were not too badly damaged to make it through the winter, I hope to see a notable difference next year.

MBS Meetings and Information Line:
The Milwaukee Bonsai Society meets on the first Tuesday of the month at 7 p.m. at Grace Lutheran Church, 3030 W. Oklahoma Avenue. Call the MBS Voice Mail/Message System at (414) 299-9229 to learn about upcoming events and meeting times. To contact the club via email: mbs@asapnet.net Look for us on the web at:
http://www.milwaukeebonsai.org
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I wake in darkness
Thunder promises music
To my waiting soul

- Carolyn Laatsch