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# The Bonsai News of Houston

MONTHLY NEWSLETTER OF THE  
**Houston Bonsai Society, Inc.**

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## May Meeting—Deciduous Tree Pruning

The next meeting of the Houston Bonsai Society (HBS) will be held Wednesday, May 7, at 7:30 p.m. at the Houston Garden Center in Hermann Park. Refreshments will be served at 7 p.m. Be sure to come early so you can visit with other members before the meeting begins.

The May program will be a presentation by Butch on deciduous tree pruning. Butch is a long-time member of the HBS and has extensive experience with bonsai culture.

Butch asks that club members bring some of their deciduous trees for his use during the presentation. There were some very good examples of deciduous bonsai brought in for the spring show, so please heed Butch's request and bring them back for his use as examples during his lecture.

This is the perfect time to have this information. Spring is here and the trees' branches are growing rapidly. It is critical that you treat the new shoots properly.

There's sure to be some great information presented . . . so come join us and bring a tree!

See you at the meeting!

--Ken

## Study Group: May 17

Our study group will meet Saturday, May 17, at 9 a.m. at Bayland Center in Bayland Park, Bissonet at Hillcroft (south of 59 and east of Fondren). Everyone is welcome-- beginners and seasoned veterans. We all have a good time.

--Buddy, Donald

## Thanks for the Great Turn Out

I appreciate the support you all gave Saturday, April 12, at Teas Nursery. With few exceptions it work beautifully.

Thank you.

--Ken

*Photographs are attached to the e-mail version of this newsletter. I regret that space and budget prevent attaching them in the print version.--Ed.*

## HBS Newsletter Receives Honorable Mention

I am pleased to report that *The Bonsai News of Houston* received honorable mention in the newsletter competition sponsored by Bonsai Clubs International (BCI).

First place went to *Federation of Latin American Bonsai* published in Puerto Rico and edited by Pedro J. Morales, Yrene Vasquez and Milagros Rauber.

Second place went to *Bonsai Silhouette* published by the Matsuyama Bonsai Society of Courtice, Ontario, edited by Maurice D. Plowman. (con'd p. 25)

## Letter from the President

To HBS members,

Thank you for your time, talent, sharing of knowledge and friendship. Because of member participation, this club lives or dies. This club is alive and well because of giving of yourself.

The HBS wants to thank Sam and Mary Yeager and Nell Craver for the gift of trees. The trees will be used to help the club in many ways. Plans for the trees: two will be brought to the meetings starting in May. One tree will be raffled and the other will be auctioned. One of the trees will be our donation to the Lone Star Bonsai Federation (LSBF) symposium this July. Some will be used for our convention next year. Others will be used for the guest speakers to work on at our meetings.

The LSBF still needs donations for the raffles for the July symposium. Please bring your donations to the May meeting and give them to Paula Hickman. We need to have most of the donations in by June. This will give LSBF time to get the raffle cans marked, schedule which day to raffle the items, and plan the space needed. The symposium is being put on through the help of all the Texas bonsai clubs. The money earned will be returned to the Texas bonsai clubs through guest speakers and other ways. Thanks for your involvement through your gifts.

Last month I talked about starting a mentor program. I have so far got a response from one mentor and one mentoree. This is a chance for people to share information and make friends. To share knowledge is to reinforce what you have learned and help increase the knowledge of another. If you would like to be a mentor or a mentoree, please contact me.

Bring your money to the meetings to buy a raffle ticket or bid on a tree. Again thanks to the generous gifts from Sam and Mary Yeager and Nell Craver.

See you at the meetings.

--Virgil, President

## Monthly Bonsai Care

by John Miller

*John Miller, who writes a monthly column for the Bonsai Society of Dallas and the Fort Worth Bonsai Society, has agreed to share his column with us. We need to make adjustments for our warmer, damper climate.*

At the April meeting on budget bonsai, it was said that I use weights on branches instead of wiring them. I will never use weights except in one very isolated instance. The result of suspending weights from branches is a very ugly bow--even uglier than a straight branch. The only place that weights should be used is in creating a weeping style of bonsai. In this style you should have a curve at the base of the branch with the end (which should be longer than the curve) hanging straight. This means positioning the weight no more than one half the distance from the base to the tip. Not many species do well in this style.

Three new tasks present themselves this month, repotting tropicals, leaf pruning and keeping roots cool.

Leaf pruning is the cutting off of many or all of the leaves in order to induce a new flush of growth similar to the growth after breaking dormancy. Sometimes the excuse is made that you get two seasons of growth. However if you do the proper trimming during the growth phase the plant is continuing to produce the division of twigs necessary for ramification and the stress of leaf removal is unnecessary. The real justification for leaf pruning is to replace old or damaged leaves with a newer set that will be prettier in a show or in the fall.

A tree being subjected to leaf pruning must be healthy and vigorous. Weak trees will have problems coping with the stress. The pruning must be done while there is still a month of good growing weather left, meaning before the end of May in the D-FW area. The tree should be fertilized a few days before pruning. When pruning, defoliate strong branches fully while leaving some leaves on weak branches. Usually interior branches will benefit by having their foliage kept on. When the leaves are off you can check the branches for undesirable characteristics. Cut vertical growing, hanging, or crossing branches. Leave any major work for next fall. After this work, watch your watering; the tree will not use nearly as much water as when in full leaf so do not over water. When growth starts, get your tweezers out and keep up with the trimming. Do not let the new shoots get long internodes.

When the night temperatures are consistently above 60 degrees, you can start thinking about repotting tropicals. They need the warmth for good root growth. Remember that the warmer temperatures and spring winds will cause the roots to dry quickly so have a spray bottle or some damp cloths handy. Keep them shaded until they recover.

The old methods were to repot azaleas after they finished blooming, thinking that the tree needed nutrients from the roots for their blossoms. The newer thoughts are

that the plant has all the necessary nutrients in the bud and to repot the azaleas in the spring while they are still dormant. If you repot after blooming, do not remove as much soil and keep them shaded until they recover and are growing well.

I am now recommending that you use Kanuma soil for your azaleas. Last year I bought some for the first time and used it in an experiment. Using azalea cuttings of the same size, age, etc., I planted some in kanuma and some in my regular mix. They were grown side by side under shade cloth, each receiving the same light, water, fertilizer, etc. The ones in the kanuma were much happier and grew nearly twice as much as the others. Some others in kanuma but not in any controlled test did great but also did some in regular soil. The only plausible explanation I can come up with is that the kanuma retains a large quantity of water while at the same time has a lot of air in the soil thereby giving a humid medium for the roots without being overly wet.

The hot sun shining on the pot, especially the dark colored ones, can raise the temperature to the point of killing the roots. Especially sensitive are the nice growing tips at the edge of the root ball next to the pot. If the pot feels hot to your hand think about how the roots feel, after all they are living things, too. These temperatures can be kept lower by shading the pot with any porous material. Putting sphagnum on the surface is good. Do not use any solid material like newspaper on the surface of the soil as it will cause you watering problems. And speaking of watering problems, do not rely on rainfall to water for you, some plants shed the water to the outside. You must check them yourself.

Insects are waiting for a chance to get hold of some well fed and very tasty snacks. If you give them half a chance, they will move into your bonsai almost overnight and are usually hard to spot until damage shows up. The most prevalent ones are aphids, spider mites, and scale. Leaf miners and various caterpillars will sneak in, too. I use the organic foliar spray (1 tablespoon each of liquid kelp, fish emulsion, molasses, and apple cider vinegar in one gallon of water) to control all these. Gary Marchal said at the March workshop that he has changed from the Safer soap insecticides to using horticultural oil spray the year around. Note that the horticultural oil spray is a more refined and lighter version of the old dormant oil spray that could only be used in the dormant season. Do not use oils on those species such as the buttonwood that have a sensitivity to oil. If in doubt, read the label on the product you wish to use.

Treat for fungal problems, too. Leaf spot, mildew, and such can be treated by using potassium bicarbonate obtainable from any good nursery. A substitute would be sodium bicarbonate (baking soda). Use one tablespoon per gallon as a spray and be sure to cover both sides of the leaf. The organic people say it is ok to use these products together with the foliar spray but I would just as soon use them separately because only a few (elms and hollies) at my place need the fungicide treatment.

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### **Soil and Soil Amendments**

By Paul Weishaar

President, Indianapolis Bonsai Club (IBC)

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Thanks to HBS-member Pedro for calling this article to my attention and obtaining permission to reprint. The article documents a two-part program that Mr. Weishaar presents to the IBC every three years. It is updated for each presentation. I agree with Pedro's assessment--it's the most comprehensive article I have seen on soils. Because of the length, I will have to print it in four parts. If you do not want to wait four months for all this information, here are the Internet links:

<http://www.indybonsai.org/calendar02.html>

<http://www.indybonsai.org/files/Bonsai%20soil%20presentation%20revised.PDF>

### **Part I. Soils**

If there is any one subject in Bonsai that can be termed "controversial", it is soil. It seems every Bonsai enthusiast has a favorite soil mix and will defend that mix to a point that defies comprehension.

Closely following soil mix in the controversial category are soil amendments. Amendments include fertilizers, supplements such as hormones and vitamins, and of course, water. These will be discussed in Part 2 of this program.

This program will attempt to cover these subjects in an informative way, which will allow you to create your own mix based upon fact and data, not myths.

This program is specifically tailored to those of us practicing the Art of Bonsai in the central Indiana region and as such, reviews products commonly available either in local garden centers or via mail order.

The fact there are so many different ways to create a successful growing medium means trees will tolerate an extreme range of soils and conditions. I think it was Warren Hill who stated during one of his workshops, "Some trees live because of the soil while others live in spite of it".

I will caution that there is a lot of misinformation out there, especially on the Internet, being provided by self-proclaimed experts who are great at providing extensive

verbiage, but not so great at being able to document or back-up what they say.

### **WHY BONSAI SOIL**

The soil you choose to grow your Bonsai in is in effect its sole "life-support" system, therefore you cannot underestimate its importance.

Soil is often the least understood and discussed aspect of growing Bonsai. The other primary areas, watering, feeding, environmental conditions, pest and insect control are important and generally get more attention than soil does. Without appropriate watering and feeding a tree will not be healthy, but good water and feeding habits will be much less effective with a poor soil mix. On the other hand, a good soil can make up for poor watering practice and helps make feeding more effective.

Before getting into specifics of soil ingredients, there are some key items to consider:

- The soil has to physically as well as nutritionally be able to support the tree
- The soil must remain comfortably damp but not soggy
- The soil needs to contain oxygen in the form of vapor/air
- The soil must have an acceptable appearance
- And finally, the soil must be lightweight to facilitate transporting Bonsai from place to place.

### **SOIL REQUIREMENTS**

Due to the special needs of a Bonsai and the limited amount of space in a Bonsai pot, Bonsai soil must provide several basic needs-

#### **1. Provide drainage:**

Sufficient drainage must be provided so that the roots are not constantly in contact with liquid water, which leads to root rot. Roots need air. Most beginning Bonsai artists usually use a mix that is too dense; thinking that what grows the tree best in the earth ought to work just as well in a container. This is not the case. Bonsai is container gardening, which is different from field gardening. Soils for containers should drain 2 to 3 times faster than field soil. The earth acts like a suction pump and literally pulls water from field soils. This same field soil in a container is usually instant death for plants. This is because of the impermeable walls and bottom, which do not allow the soil to drain properly. Bonsai soil mixes should drain so fast that you could stand there and watch water flow through. As the water flows through, it must have space for air to replace it.

#### **2. Provide moisture retention:**

The soil should, however, hold some moisture to be gradually released into the air spaces between waterings. A 25% retention by volume is considered optimal. The roots absorb moisture from the vapor created in the air spaces. There must be air. Roots need air. That is why you hear and read so much about using sharp materials in lieu of smooth materials in a soil mix. All parts of a soil mix should be irregular chunks of something, so there can be air between the chunks. Anything that goes into the-mix that fills the air spaces is a negative factor . . . . A point to remember --

fertilizers and other chemical amendments can be utilized by plants only when they are in a liquid/vapor state. Moisture retention, therefore, includes not only water but also all the amendments, which can be gradually released for use.

### SOIL COMPONENTS

Nearly all soil mixes contain two basic ingredients, inorganic and organic matter. Inorganics have never been alive and include materials, e. g., sand, gravel, turface, akadama, etc. Inorganics, by themselves, can provide the basic soil requirements but their use alone creates a high maintenance condition which must be constantly monitored. Synthetic inorganics is the soil ingredient preferred by most of the Japanese Bonsai masters. (Synthetics will be discussed later.) It must be remembered, however, that these are people who have devoted their life to bonsai, 24 hours a day, 365 days a year. Most also have interns or others who help maintain the Bonsai. I do not know about you, but I don't have luxury of 24 hours a day, 365 days a year to tend to my bonsai nor do I want to hire someone to do this for me. Therefore I must look for ways to minimize the maintenance.

The key to minimizing the maintenance and at the same time creating a great soil mix for use by us non-professional Bonsai enthusiasts is the addition of organic matter. Organic matter is the decaying remains of plants and animals (and animal byproducts) most familiar to us in the forms of peat moss, wood byproducts, animal manure and compost. When added to the soil mix, organic matter lodges between particles and particle aggregates, absorbing some of the moisture as the liquid passes through. Unsterilized organics also provide an instant habitat for all the bacteria and other micro-organisms which help convert and release the beneficial chemical elements. In addition, as the organic materials decompose, which they will, they provide nutrients for the Bonsai.

The components must be neutral relative to pH unless being used for bonsai requiring either acidic or alkaline conditions. The materials discussed here are basically neutral unless noted otherwise. In Part 2 of this presentation, pH is discussed in detail.

What materials are available to fulfill these needs? Keep in mind we are discussing products that are available in the central Indiana area.

#### 1. Inorganic Materials That Provide Sufficient Drainage

These are materials that do not absorb moisture but allow the liquid to pass through.

**Sand.** Many Bonsai books recommend "course sand" as a soil component. This does not mean sand such as all-purpose builder's sand or sand box sand. Such sand is too fine for use as a Bonsai soil component and will quickly compact. Course sand is usually a sharp edged gravel or crushed stone that has been sieved to contain particles in the

range of 1/16 inch to 1/4 inch. The local sand found in Central Indiana rivers is unacceptable.

**Local River Gravel.** Most gravels found in Central Indiana are of a smooth rounded configuration and are therefore not recommended for use in a Bonsai soil mix.

**Prepackaged Gravel.** Here in Indianapolis we have available at the Stone Center, prepackaged sharp edged gravel in 50-pound bags, which come from the Meramec Quarry in St. Louis, Missouri. The cost is about \$5.00 per bag. This gravel is ideal for Bonsai soil and is available in 4 gravel sizes. The most popular for Bonsai is designated "WB 40" and consists of gravel approximately 1/8 inch in size and more importantly, does not need to be sieved. A larger size aggregate is available and labeled, 1/8 x 1/4. These products are labeled "Aquarium Gravel" which immediately raised a red flag (per many Bonsai books). I called Meramec Quarries and they assured me they did not coat, or treat, the gravel. They have found that the majority of sales for this size gravel are for aquariums, so they started labeling it as such.

**Aquarium Gravel.** Nearly all Bonsai books say never use aquarium gravel. The interesting thing is they never say why not. Logic says if fish can survive in an aquarium with Aquarium Gravel it must not be toxic. The gravel is not being provided in a Bonsai soil mix for moisture retention so coating it is not an issue. In a recent visit to the local "Pet Smart" store, every prepackaged Aquarium Gravel had either a clear sealer "to eliminate dust" or a coating which colored the gravel. The only reason I can find not to use aquarium gravel in your soil mix is the fact all of varieties I saw were rounded and not suitable for drainage material.

**Decomposed Granite.** Decomposed granite is a very popular sharp edged material that is available at feed stores where it is sold as "chicken grit". "Chicken grit" is already sorted and sized at 1/8-inch particles. If you want larger particles, request "turkey grit". The negatives to decomposed granite are the weight [heavy] and many object to the white color. Many sources say the granite breaks down in 5 or so years. In my opinion you should not let your Bonsai go that long without reporting, so this is a moot point.

**Ocean Sand.** Do not use, as the salt is toxic to nearly all trees. No matter how much you rinse you cannot wash out all the salts.

#### 2. Inorganic Materials That Provide Sufficient Moisture Retention

The inorganic materials usually used in Bonsai Soils are called Synthetics as they are all modified materials. The Synthetic materials are mined all over the world and consist of clay, slate, shale and mica. After the materials are mined they are quickly heated in rotary kilns. The intense heat (1500 degrees F to 2700 degrees F) causes the material to expand due to the presence of water. The material expands quickly, similar to popping popcorn, as the water vaporizes and creates countless tiny bubbles and cavities that account

for the lightweight and moisture retentive properties. The material is then ground or pulverized and sorted by particular sizes.

The high-fired materials will last for a long time and are lighter but they do not retain much moisture. They are often used in soil mixes for succulents and trees that do not like wet feet. The low-fired materials will retain much more moisture and thus are more widely used in Bonsai. As the low fired materials are almost always a clay base, they will break down and decompose over time. This is not usually a problem with Bonsai.

**Perlite.** Perlite is a volcanic rock, chemically composed of aluminum silicates, which expands 4 to 20 times its original volume when fired. While the crude rock may range from transparent gray to glossy black, the expanded Perlite is white. As a rule, Perlite tends to last longer, has a more neutral pH and functions better in moisture retention than most of the synthetics, but is not used extensively in Bonsai soils as most enthusiasts do not like the white color. It also has a tendency to float to the surface of the pot when the Bonsai is watered. Perlite is available at most garden centers.

**Vermiculite.** Vermiculite is the geological name given to a group of hydrated laminar materials [clays], which are aluminum-iron-magnesium silicates. The pH is essentially neutral [7.0-9.5], but due to the presence of other carbonate compounds, the reaction is normally alkaline. Vermiculite possesses cation exchange properties; thus it can hold and make available ammonium, potassium, calcium and magnesium. The color of Vermiculite will vary from mine to mine but it always seems to have an unnatural, almost manufactured look. Vermiculite, being a low-fired clay product, does not last as long as other synthetics. Vermiculite is available at most garden centers.

**Haydite.** Haydite is produced here in central Indiana as well as in other parts of the world from high-grade shale and is an extremely hard product, which is used quite often in face brick manufacture. Haydite is chemically inert and has an absorption rate of 10% to 25% by weight. The color ranges from brown to dark grey. The Hydraulic Press Brick Company in Brooklyn, Indiana produces Haydite in bulk quantities of 6 gradients. "A" grade is about 1/8 inch, while "AX" is 1/8 inch to 1/4 inch. Either is excellent for use in Bonsai soil. The products need to be sieved to eliminate the dust-size particles, and the loss is about 50%. I recently filled 6 drywall compound buckets [before sieving], and it cost \$4.62 total.

**Solite.** Solite is mentioned in many Bonsai articles as an acceptable product for Bonsai soils. Solite Corp. does not promote or recommend the product as a growing medium amendment. Their product data does not state specifically what the base material is. They say "shale, slate or clay"! Without more specific data, I do not think it appropriate to comment pro or con on its use in Bonsai soils.

**Terragreen.** Terragreen is the soil additive brand name of the Oil Dri Corporation. It is a medium-fired clay which

is pinkish tan in color, sold in 50 pound bags and is mined in Georgia. It is sized mostly 1/8 To 1/4 inch, requires minimal sieving and is widely used for Bonsai. It seems to be hard to find here in Central Indiana

**Kitti-Dri.** Kitty-Dri is a cat litter also manufactured by the Oil Dri Corporation. It is mined in Ripley, Mississippi and is greyer than Terragreen. It is not fired to as high a temperature as Terragreen and therefore absorbs a very high amount of liquid and is not stable over a period of time. It is, however, satisfactory for moisture loving Bonsai which are repotted every year.

**Oil Dri.** The Oil Dri Corporation markets another product named, appropriately enough, Oil Dri. Guess what. . . it is the same identical product as Kitti Dri . . . Just a different name for a different market.

**Other Oil Absorbents.** Most absorbents are made from either clay or cotton by-products. Their manufactured purpose is to quickly absorb greases and oils from floors. The pro on absorbents is they are extremely lightweight and able to retain vast amounts of moisture. The negative is they are designed to be single use products, that is, once they soak up liquid, they are designed to be discarded and do not return to their original composition. Also, when used for their manufactured purpose, they become toxic waste when they absorb oil. To solve this the manufacturers are now adding chemicals, which biodegrade the oil in about 6 months, which allows the absorbent to be discarded with normal trash. There is no data on what effect these chemicals have when used in a soil mix or on what "witches' brew" might be created when mixed with fertilizers or insecticides. If you use absorbents make sure it contains only clay.

**Cat Litter.** Cat litters are manufactured primarily from bentonite clay products. Bentonite clay is used in the construction industry as a waterproofing product you use on below-grade walls. When the clay gets wet, it creates a hard monolithic product, which will not allow water to penetrate. Many litter manufacturers promote this characteristic of bentonite clay. To quote one package, "\_\_\_\_\_ has strong clumping, action when exposed to solid or liquid waste. It will not break apart when the cat scratches in the box or during removal"--not exactly a product you want in soil when one of the criteria is free drainage. Most cat litter also has chemicals added for odor control. Once again, there is no research as to the effect of the added chemicals on plants, and cat litter is a single purpose product which does not return to its original composition when, or if, it dries out. The positive to using cat litter in Bonsai soil is it is extremely lightweight.

**Surface.** International Minerals Corporation markets the brand names Surface MVP Soil Conditioner, Surface Coarse and Surface Extra Coarse. Surface MVP Soil Conditioner is the most popular synthetic used in Bonsai soil due to its particle size and natural looking color. Surface is very similar to Terragreen and, in fact, is mined in the same town as Terragreen, Ripley Mississippi.

**Akadama.** This is the synthetic that is widely used in Japan. Akadama gets its name from the Province in Japan where it is mined. It is available in two size gradients of both low fire and high fire and is slightly acidic. Low fire retains more moisture and is the most commonly used while high fired is used for succulents and other bonsai which do not like moisture. Akadama seems to have just the right balance between drainage and moisture retention and is often used with no other materials added. The drawback is the high cost due to importing from Japan. If you can afford it, use it.

**Kanuma.** Kanuma is another synthetic imported from Japan. It is different from Akadama and most other synthetics in that it maintains a strong acidic quality (low pH) and is therefore excellent for many broadleaf species, e.g., Azaleas. It is available in two gradient sizes and as Akadama, is quite expensive.

*(To be continued in June, July and August)*

### Calendar of Events

May 7	Monthly meeting of HBS, 7:30 Houston Garden Center, Hermann Park
May 17	Saturday Study Group, 9:00, Bayland Park
June 21	Shohin Society of Tex., Exhibit Trees; Sale & Swap
July 11-13	LSBF Symposium, Austin. Ted Matson and Ed Trout. Tex. Talent: Hansen, Holmes, Hubbard, Klajnowski, Padilla, Setter, Ware, Wilken. 817-283-5985, <a href="http://www.wimberley-tx.com/~bonsaijg/2003.html">www.wimberley-tx.com/~bonsaijg/2003.html</a>
Sept 20	Shohin Society of Texas, Carving & Follow Up
Oct. 11-12	HBS Fall Show
<b>2004</b>	
Feb. 6-8	Shohin Seminar, Ramada Inn (1-209-826-4444), Santa Nella, CA
May 21-23	LSBF State Convention, Houston. Kathy Shaner, Guy Guidry, Mary Miller