Bonsai

Tired of digging, hauling wheelbarrows of compost and manure, spending hours putting in irrigation lines? Want something less strenuous (but not necessarily less work?) Why not try bonsai. You know—those little trees in even littler containers.

This very ancient Japanese tradition turns what are normally very large trees into very small ones through rigorous pruning and care. The term bonsai translates as “a tree in a pot.” It isn’t just about the ability to do this, it is an aesthetic approach where the tree and its container mimic the natural world. In fact, it recreates what can happen in nature under extreme conditions. If you have ever hiked in high altitudes in poor and rocky soils, you have seen the effects recreated in bonsai—the small stunted trees you often see at the tree line where the wind, lack of moisture and poor soils have sculpted the trees into miniature forms as compared to their counterparts further down the slope.

The first known bonsai that appeared in China were really miniature landscapes in shallow containers. Records in Chinese Temples show that the practice dates to the Han dynasty, around 200 BC. The planting of single trees came later. Called pun-sai, the Chinese and Japanese character for pun-sai and bonsai are identical. It is thought that when the Chinese invaded Japan in the Middle Ages the art was introduced through the Buddhist monks. The practice was initially limited to those of the noble class and generally created from trees collected in the wild that were already stunted. The trees were revered, as the owners felt that the tenacity reflected by these trees and the spiritual qualities they possessed would be inherited by their owners. It wasn’t until the 20th century that the common people began to practice the art. World War Two and the occupation of Japan brought bonsai and British and American soldier together. By the 1960’s, a few commercial nurseries began importing some trees and today you can find bonsai available in local nurseries.

In Japan, specimens are passed down through generations but a bonsai doesn’t have to be old to be good. With care and planning, a young
tree can create the sense of age, beauty and harmony that growers seek.

Before you even go out and buy a tree (I’m assuming you are going to start fresh but starting with a plant that is in the beginning stages of training is fine; this is a long term commitment and many of these trees have been prepared poorly and may not survive;) look at the older trees around you to, get a sense of their structure and form. Now is a good time to look, before many of the trees have started to leaf out. If you can get to the tree line somewhere, look what the wind and soil conditions have created.

When buying a ready-made bonsai, there are some simple guidelines to use:

Buy the plant during the growing season to make sure it is alive and healthy. If you can’t wait, gently scratch a small area of bark to make sure it is green underneath. Don’t buy any plants with damage or die back. Make sure the plant is firm in the container. Gently rock the plant to check. It should not move. The soil should be loose and porous. Avoid waterlogged plants. Check underneath to make sure the pot has drainage holes. Avoid plants with weeds growing in the container. The plant and its roots should have a natural look with no scaring on the bark. Twisty corkscrew plants are not considered good bonsai. Branches should be distributed with thicker branches being towards the bottom. Avoid plants that have wire embedded in the bark or wire marks. If you are buying a plant to create your own creation from scratch, look for roots and branches with a natural appearance. The branches should be supple, including the main trunk.

As to species, pick out something that will grow in your zone. Bonsai are really outside plants and need to be adapted to outside conditions. Don’t choose something that wouldn’t grow in your own yard. Because the plants are very shallow-rooted in loose soil, they dry out quickly. A lot of attention is necessary even keeping a plant alive that would easily grow here.

Bonsai soil is traditionally made up of equal parts of two ingredients, grit and organic matter. The particles should be between 2mm & 4mm. You can get screens to sift soil to specific sizes or you can purchase soil for bonsai. However, most bonsai isn’t asked to grow in the desert. Here, a coarser mixture is recommended; 50 to 75% should be 1/8” to 1/4” decomposed granite (1/4 minus) or chicken grit. The problem is that any water trapped can heat up to 100° or more, even in the shade. A coarse mixture prevents the rootball from being cooked. The organic matter can be a personal blend of potting soil, cactus mix, redwood bark, compost, peat moss, etc. It needs to be screened to remove dust-sized particles. If the roots haven’t grown much by the next repotting, increase the amount of granite. A quarter of the grit can be replaced with perlite.

Grit or sharp sand helps improve the drainage and adds weight to the soil. Do not use builder’s sharp sand, as it may contain impuri-
ties. Additives to the soil could include soil conditioners. These would be material made from volcanic lava or calcined (baked) clay. These drain well but maintain moisture. Japanese clay is another material that can be used as an additive. It is specifically produced for bonsai. The benefits of this material is that it retains its structure when wet, retains moisture but drains well. The roots will actually grow through the particles. The problem is that you will have to water much more frequently. Fertilizers can be added—bone meal, fish blood and bone work well.

The container is very important and choosing it should not be done casually. It needs to be appropriate for the style and variety of plant you plan to use and create. A cascade pot would not be appropriate if you are trying to create a specimen oak tree for example. Stoneware is the best material and it is available in a variety of designs and colors, most of which are very simple in design and subdued in color. Make sure the container has drainage holes. Do not purchase it for bonsai if it does not. The holes should be at least three times the number and size of a conventional plant container. The pot should have feet to facilitate the drainage and should be level so water doesn’t pool in one area. Make sure the container is unglazed on the inside. Roots do not like the smooth surfaces and will allow the soil to dry out too quickly around the perimeter.

As I mentioned, the care of bonsai is time consuming. Watering and feeding are constant chores that have to be done. Pruning probably twice a year. Repotting needs to be done every two to five years. Because of the good drainage it is possible to kill a bonsai within 24 hours. (And this refers to a climate that is a lot more benign than ours!) The soil should never dry out completely; water evenly with a soft spray over the entire surface of the soil until the water starts to drain out. Wait a few minutes and repeat. In the summer here you will probably have to do this two to three times a day, depending on the location of your plant. Putting the plants on an automatic watering system might help. But don’t overwater—if you are not sure, use the finger test. Scrape away a bit of the top surface and feel for dampness. If it’s cool and damp, don’t water—dry and warm, water—simple enough. While I’ve read recommendations that it is best to water in the evening, I’d suggest mornings, especially in the summer. I’ve grown annuals that can’t survive the day without a morning water, let alone bonsai with its limited size. The best thing is to pay very close attention to the plant and learn when it needs to be watered.

Because of the constant watering, two problems need to be considered. Buildup of excess salts and washing out of nutrients. Generally speaking, the water in Arizona is very hard. I’m sure you’ve seen the white “bathtub rings” that form on the soil. This is from the high concentration of salts in the water. It can be washed out with heavy deep watering in the garden but in containers a buildup can occur and eventually kill the plant. When watering, make sure the water starts to drain out of the bottom; this helps wash excess salts away. Even better, use reverse osmosis water or bottled water. With this watering regime, though, fertilizer needs to be added periodically. You can use slow release pellets on the surface. Soluble fertilizers can be added to the water or a foliar spray can be applied to the leaves. Never apply a larger amount than recommended. Generally use half-strength diluted fertilizer through the grow-
To contact if you don’t have an internet connection, write or call:
Phoenix Bonsai Society
P.O. Box 35158
Phoenix, AZ 85069-5158
(602) 789-6499

There is also a bonsai group that recently formed in Scottsdale. If you are interested, they are having a show at the Scottsdale Senior Center, 10440 E. Via Linda, Scottsdale, April 4-7.

For learning about training plants and selecting containers there are a number of good books out there. Try:

Growing and Displaying Bonsai by Colin Lewis & Neil Sutherland. This has wonderful pictures and good descriptions of how to create bonsai.

Create Your Own Bonsai with Everyday Plants by Peter Chan.

Bonsai Techniques by John Yosio Naka (I believe there are two volumes.) The author is considered a master of the technique and the book is quite extensive, with descriptions and step-by-step instructions for different styles with simple drawings and black and white photos.

If you are looking for resources to learn more, have a look at the Phoenix Bonsai Society’s website. It’s great! It includes specific information for the Phoenix area, but it will give you more help than many of the books which are designed for more temperate climates. They have included “Care Calendars,” extensive lists of appropriate plants by their difficulty, sources of supplies, plus lots of general information. I was really impressed on how much information they have posted. To find it, go to: http://www.users.uswest.net/~rjbphx

YavapaCounty Master Gardeners
Lettuce

*Lactuca sativa* L.

It's so much a part of our lives, we barely think about it. The obligatory iceberg salad before the steak dinner at a restaurant. The base we reluctantly use for piling on the extra goodies at a salad bar. The shreds of it in our tacos or piled in a wet limp lump on top of enchiladas.

When was the last time you went for steak and exclaimed what a good salad you had? But it doesn’t have to be that way. Beyond iceberg is a wonderful variety of different and nutritious lettuces and they grow quite well in our mild climates.

Lettuce originated from the wild species *Lactuca serriola* L. in Asia, North Africa to Northern Europe. The seeds germinate in the fall, forming the typical rosettes of our familiar varieties. In late summer the plant sends up a flowering stalk that reaches around two feet tall. The leaves that form on the stalk are often spiny. Flowers are small and pale yellow and the seeds are blackish. There are other closely related varieties, including *L. virosa* and *L. saligna*. There are several other closely related species found in Turkey, Iran, China, Indonesia and North America.

The Egyptians were probably the first users of lettuce. Paintings in tombs contain a plant that is thought to represent a variety of cos lettuce. They date from 2680 BC. There is also evidence that the first plants were raised for seed rather than the leaves. The seeds were pressed to make an edible oil.

Lettuce appears in Greek mythology. The goddess Aphrodite and the young man Adonis were having a torrid love affair. She hid him in a bed of lettuce where he was killed by a wild boar. (Hey, I’m not a Greek mythologist; I don’t know the whole story!) The death forever was connected with lettuce in Greece where it assumed a religious and cultural metaphor for “food for corpses” and male impotence. Greek author Athenaeus devoted an entire chapter of discussion to lettuce and its ability to render male lovemaking worthless. Ancient Greeks associate perfumes and spices with virility and seduction while lettuce was the opposite.

Romans are credited with some of the first uses of lettuces. They were the ones that began the tradition of starting a meal with a salad. During the reign of the emperor Domitian (A.D. 81-96,) it became fashionable to serve a lettuce salad as the first course. It is thought that it acted as an antidote to the passions that the meat course might inflame.

Wild lettuce is very bitter and over time less bitter varieties were selected for cultivation. The bitterness comes from the “latex” the plant produces. This white milky substance is not commonly seen in leaves picked up in the grocery store but you will see it in freshly picked leaves from your garden lettuce especially around the time they are ready to bolt.

Romans introduced lettuce to Britain and this is first mentioned in Gerard’s *Herball* in 1597 where he writes about eight different varieties. These early varieties were blanched before eating to remove the bitterness. The firm-headed types (like iceberg) were first described in the 16th cen-
Early British settlers brought lettuce seed to America. While consumers today don’t think about lettuce’s medicinal properties, historically, lettuce is known as soporific. It was mentioned by Hippocrates, who was born in 456 BC. It is the latex that was used as a substitute for opium or laudanum. In 1809 a Scottish doctor published a paper—“An account of a method of preparing a soporific medicine from the inspissated white juice of the common garden lettuce”.

By medieval times, references to lettuce were common, mostly as a medicinal herb. They mention the three types we are familiar with today—heading lettuce, loose-leaf and tall or cos. (The term cos comes from the Greek island of Cos where some of the earliest seeds came from.) The tall, or cos, variety was grown by the papal gardeners in Rome; the French came to call it Romaine. Somehow, San Francisco gardeners in the 1880’s came to call the plant Romaine also and so the name stuck and spread. So, when you see the name Cos and Romaine, they are the same type of lettuce.

In the early 18th century the evolution of lettuce was centered in France, Italy and Holland. Many of the old standards were created in Holland. Today we have a wide range of varieties available.

In our area, lettuce can be grown year round (in some areas, some protection is needed.) But try something besides iceberg. iceberg was developed for the commercial trade; it packs and ships well; it keeps well and grows well in Yuma and the Imperial Valley making it a primary winter lettuce for years. When you are knee deep in snow in Nebraska, I suppose any fresh lettuce would thrill but we have the advantage of being able to pick and choose from many more beautiful and nutritious types.

Today seeds can be found for a huge variety of colors, heirlooms and modern hybrids. One of the problems with this selection is that, over time, the names of many varieties have been confused or changed, usually in an effort to sell a proprietary variety that a company hadn’t actually developed. A seed company sold a variety named Silesia (aka Early Curled Simpson) as German Butter Lettuce and then changed the name again to LaCrosse Market Lettuce when the deception became known. The situation in Europe isn’t much different, so you may think you are planting two different varieties but are not.

Regardless of the confusion in names, try something new. There are a couple of catalog companies that have large selections of lettuce seeds. One of my favorites is The Kitchen Garden (see below) Because it lists varieties by the season. Since we can grow year round, this information can be helpful. But even in the local discount store or hardware store there are a large variety of seeds available.

Lettuce is one of the easiest plants to grow. Practically all you have to do is throw the seed on the ground and water. While some soil conditioning and loosening is helpful, lettuce isn’t too fussy. Plant in early spring or late summer for the best crops. Heat is the factor that can stop your lettuce crop; by planting every few weeks you can have lettuce all summer long, picking before the heat causes the plant to bolt (flower.)

There are some varieties that are more heat tolerant. Most catalogs will list that the variety is more heat tolerant or slow to bolt.

Sowing can be directly in the
garden or you can start the plants inside. They like cool conditions and even moisture for germination. Leaf lettuces can be cut carefully and the plant will continue to grow, providing a salad whenever wanted. In fact some places sell a mix of seeds they call “cut and come again.” Heading lettuces are picked one time.

As usual with anything we like to eat, a variety of non-human critters like lettuce also. Seedlings are vulnerable to cut worms, slugs and snails. Aphids also attack lettuce. In some areas mildew can be a problem but, if grown outside in Arizona, that is rarely a problem. Greenhouses are another issue. Mildew survives in damp conditions.

Seed-saving from lettuce is possible, but the plants are cross pollinated so if you wish your variety to remain pure, you will have to grow only one variety or somehow protect the plant from insects bearing pollen from other plants. Lettuce also throws “sports” and revisions to ancestral types, so your seeds may not always grow pure. This is not necessarily a bad thin; you could discover the next prize-winning type. So, if you are the adventurous type.

If you are interested in information about heirloom varieties (and pictures—there are some beautiful lettuces out there!) try looking through one of these books—

Heirloom Vegetables, Sue Stickland
Heirloom Vegetable Gardening, William Woys Weaver
The Random House Book of Vegetables, Roger Philips & Martyn Rix

Some catalogs for finding heirloom lettuce seeds—
The Kitchen Garden
P.O. Box 5010
Hodges, SC 29653-5010
(800)457-9703 http://www.cooksgarden.com

Seed Savers Exchange
3076 N. Winn Rd.
Decorah, IA 52101

Shepard’s Garden Seeds
30 Irene Street
Torrington, CT 06790-6658
(860)482-3638
www.shepardseeds.com

Seeds of Change
P.O. Box 15700
Santa Fe, NM 87506-5700
www.seedsofchange.com

Balsamic or Fruit Vinegar Vinaigrette

4 Tbsp. Balsamic or fruit vinegar
2 teas. Red wine vinegar
1 shallot, finely diced
Salt and pepper
5 Tbsp. Olive oil

Combine vinegars and shallot, salt and pepper in bowl. Let stand 15 mins. Whisk in olive oil. Add more of the ingredient, if desired, to taste.

Creamy Herb Dressing

2 Tbsp. Tarragon vinegar
1 shallot, finely diced
Salt and Pepper
1/4 c. olive oil
2 Tbsp. sour cream
1 1/2 Tbsp. chopped tarragon
1 Tbsp. chopped parsley
1 Tbsp. snipped chives
Combine vinegar, shallots and 1/4 teaspoon salt; let stand 15 mins. Whisk in oil and sour cream, stir in herbs and season with pepper. Adjust ingredients to taste.
Beargrass
Nolina sp.

Looking for a very drought tolerant landscape plant? Have a look at what is commonly called Beargrass. While I have no idea how it got its name, I would guess that it looks something like a shaggy bear from a distance. While this is a grassy looking plant, it is a member of the Agave family. There are several species of Nolina. *N. longifolia* forms a trunk up to ten feet tall. *N. parryi* has gray-green leaves with finely toothed margins, *N. wolfii* is similar with wider green leaves. *N. bigelowii* has very long, narrow, glaucous leaves. *N. microcarpa* has no trunks and the leaves end in a tuft of fibers, the flowers are pink. *N. interata* has very narrow, glaucous leaves and six foot flower stalks. *N. texana* are low mounding plants.

The leaves are 1 1/2 to 2 1/2 feet tall, about 1/8 inch wide. They have sharp edges, even being slightly serrated. The leaves are yellowish green to olive green. Most of the species stay low, about three feet in height.

Beargrass is native to much of the Southwest. It is found in New Mexico, Texas, Arizona, California and Northern Mexico. In its native habitat it grows in elevations between 3500 to 8000 feet on gravelly soil in grasslands and foothill areas.

Each spring it blooms (May to June) sending out stalks of generally white flowers. On some species the flower stalks never extend above the leaves unlike most agaves we are familiar with. The stalks stay nestled amongst the leaves.

Many nurseries now carry plants, (it has become a popular landscape plant) but it is easily grown from seeds. The seeds require no special treatment for germination. On sprouting they look like tiny grass plants but grow quickly into a size suitable for the garden.

These are very drought tolerant and can be used in any xeriscape garden. They can give the impression of grass without the demanding water needs of grass. It also stays evergreen, making a nice plant to give some life to the winter landscape.

For the adventurous artist types, the plant is also known as basketgrass as its leaves have been used for making baskets.

You can find plants in many nurseries that carry native or xeriscape plants. If you are interested in seeds, you can order them (or plants) from:

Plants of the Southwest
Aqua Fria, Rt. 6 Box 11A
Santa Fe, NM 87501
Website: www.plantsofthesouthwest.com
2000 Master Gardeners

This year’s Master Gardener course is more than half over. We’ve had forty smiling faces every Wednesday morning at the Verde Valley Fairgrounds in Cottonwood. I really enjoy teaching and interacting with the Associate Master Gardeners each week. It’s interesting to hear individual comments and which sessions are the most meaningful. For those that took the course more than two years ago, chapters have been added to the Master Gardener Manual (cacti, irrigation, and vertebrate pests). The Manual is available in the Internet through the Yavapai County Web Site.

<http://ag.arizona.edu/yavapai> http://ag.arizona.edu/yavapai/

This has been a pet project of mine since last December. To access the Master Gardener Manual, go to the above web address, click “Horticulture” on the gray sidebar, then click “Yavapai County Master Gardener Page” and you’ll see the link to the Manual. It is not as comprehensive as the printed copy, but it is a great reference.

You’ll also see that there are new ways to report volunteer hours. Try the electronic form. It just may save you a trip to the office or a stamp. You can also print a report form to mail or fax. If you are volunteering and not reporting your hours because it is too much trouble, then try one of these options. I know not everyone has a computer and Internet access, but if you do, I’m striving to make it the best possible source for horticultural information.

So long for now.

Jeff Schalau
County Extension Director
Agent, Agriculture & Natural Resources

April Calendar

Water! This has been another pathetic year for rain, even worse than last year; so don’t forget to water trees and shrubs and perennials.

Continue to plant cool-season vegetables. There is still time to plant asparagus, horse-radish and rhubarb. Beets, carrots, cauliflower, broccoli, chard, lettuce, onions, parsnips, peas, spinach, radishes and turnips can all still go in.

Start warm-season vegetable seeds inside. Tomatoes, peppers, melons, squashes should be ready for transplanting in May.

Perennial flowers can be transplanted in April and May. Those that bloomed in the summer or fall may be divided now, also.

Plant annual flowers. Calendula, candy tuft, linaria, poppies, stock and alpaca are good choices. Zinnias and marigolds can go in later; they prefer warmer weather.

Fertilize annuals and spring vegetable transplants with a low-strength fertilizer.

You can still prune fruit trees, vines, grapes and roses. Hurry though; it’s easiest to prune when you can see the structure of the plant.

In spite of the lack of rain this year, there are weeds coming up. Get them now while they are small and haven’t started to bloom.

This is a good time to plant pasture grasses and alfalfa.
EVENTS AND ACTIVITIES

April 8—Water-Wise Gardening and Landscape Festival, Green Valley Park, Payson, Arizona. 9am-2pm. Sponsored by the High Country Xeriscape Council of Arizona. The Council is a non-profit organization comprised of homeowners, landscape professionals, community agencies and businesses. Their mission is to educate the public on gardening appropriately for our environment and on water conservation through creative landscape. Nationally acclaimed Author, Jim Knopf, ("The Xeriscape Flower Gardener" and "Waterwise Landscaping with Trees, Shrubs & Vines") will speak. There will be booths and demonstrations on landscape planning and design, soil testing, how to choose and plant appropriate turf, drip systems, low water-use plants, mulching and worm culture; also there will be activities for the kids and food and beverage booths. For more information call Glen or Kathy (520) 474-6556, HCR Box 14D, Payson, AZ 85541.

April 10—Yavapai Rose Society will visit the Mesa Community College Rose Garden, 1833 W. Southern Ave., Mesa about 1:45pm. This garden is maintained by the Mesa East Valley Rose Society and someone from the society will be there to tell us about the garden. The garden has well over 100 roses, plus a garden of Jackson & Perkins test roses. Guests are welcome and there is no charge. This is in place of the regular 3rd Monday of the month meeting. For more information call Bob or Nancy at 771-9300.

June 17—EXTRA! EXTRA! Free Knowledge—Like the rare and unusual? Do you love discovering the hard to find? Is talking about plants your favorite pastime? Then come with a group of Master Gardeners to the 15th Annual Horticultural Fair at the Arboretum at Flagstaff. Interested? Please call Pattie Conrad at 778-4810 for further information. There is no admission fee to the Arboretum grounds. Lots to see, do and learn. Don’t miss this horticultural opportunity. We would miss you!

Prescott Farmers Market is planning to begin the fourth market season. The market will open on June 3, 2000, and continue each Saturday morning through October 7, 2000. There will be no market on July 1, 2000, and, since this is open-air, weather is always a factor.

Prescott Farmers Market is open to vendors who have grown or produced their wares. In previous seasons, a variety of fresh produce has been available to consumers, including tomatoes, Swiss chard, peppers, peaches, Japanese eggplant, soybeans, gourds, herbs, and potatoes. Growers arrive from Prescott, Chino Valley, Verde Valley and the Phoenix area to sell their produce direct to customers. In addition to the produce, honey, soaps, salsa, plants, fresh cut flowers and baked goods have been available. Vendors provide their own booth sales area and tables and the market set-up begins at 7:00am, with the market closing at noon. Prescott Farmers Market is a non-profit organization so vendors pay a nominal membership fee and a percentage of their weekly sales to participate in the market.

Applications and further information can be obtained by contacting Prescott Farmers Market at sebaker@yahoo.com, or calling (520) 445-1771, or writing to P.O. Box 1853, Prescott, AZ 86302.
Private Well Water Testing
During National Drinking Water Week

The UA-Yavapai County Cooperative Extension Office is planning to offer water testing for private well owner’s. There are over 20,000 privately owned wells in Yavapai County and well owner’s have sole responsibility for determining water quality according to Arizona law.

In the past, well testing participants had water tested for pH, nitrates, conductivity and total dissolved solids. Last year’s cost was only $5.00, which covered shipping and handling costs. This year’s testing program will be held the first week in May.

We would encourage well owners to let us know A.S.A.P. if they are interested in participating. The number of participants will be limited by grant funding. If you would like to reserve a kit for your well, contact your local Cooperative Extension Office at (520) 445-6590 in the Prescott Area or (520) 646-9113 in the Verde Valley.

The Sooner the Better!

The "Arizona Master Gardener Manual" is now on-line. Check out http://ag.arizona.edu/pubs/garden/mg/

NOTE FROM THE EDITOR:
Let me know about your garden, the types of seeds you planted, interesting articles you found—anything of gardening interest. Send to:
Nora Graf
P.O. Box 3652
Camp Verde, AZ 86322

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