Master Gardener University of California

The Curious Gardener

A Quarterly Newsletter Published by
the University of California Cooperative Extension
and the UC Master Gardeners of Placer and Nevada Counties

Vol. 24, No. 1
Winter 2017

In This Issue

UC CE

University of California
Agriculture and Natural Resources

Fruit Trees: Planning, Selection, Planting

By Annette Wyrick, Placer County Master Gardener

I visited a friend's garden last February and she had some heartbreaking news to share. She had planted fruit trees the year before and the outcome did not look good. She led me to the planted areas where I witnessed many dead trees and the survivors looked unhealthy. Several factors led to their decline and death. How can you avoid this same situation?

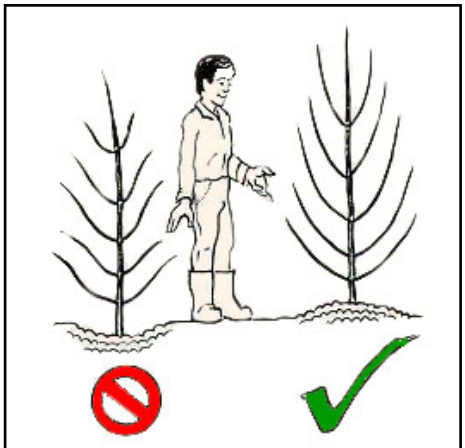
Let's start with the basics. Did you know that the majority of fruit trees are composed of two parts? When you look at a fruit tree, you will notice a crook in the trunk. The crook is called the graft union and is the location where the scion and rootstock are connected. The scion is the fruiting variety located above the graft union. Below the graft union is the rootstock. In choosing a fruit tree, you will be selecting a combination of the variety and the rootstock.

The root stock influences size and health of the tree; the scion is the variety of fruit—its color, taste, shape, etc.

There are several choices of rootstock for each type of fruit. The rootstock influences tree vigor, mature size, pest and disease resistance and susceptibility. Standard, semi-dwarf, and dwarf sized trees are often the predominant characteristic used in selection. Select the appropriate rootstock for your environment and soil conditions as well as pest and disease resistance.

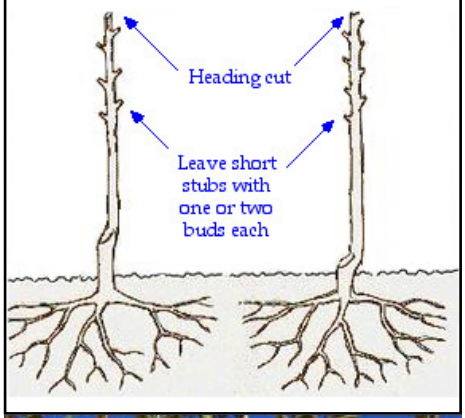
There are many choices of fruiting varieties. A variety is a plant that has unique characteristics within a species. Characteristics include flavor, texture, color, disease resistance, harvest date, chilling hours, and pollinizer. Prior to purchasing a fruit tree, you will want to know the exact variety. Will your apple tree be a 'Hudson's Golden Gem' or 'Fuji'? If you have the space to plant multiple fruit

Continued on next page



When planting a young fruit tree, make sure the root crown is above, not below, the surrounding soil level (as shown above, right).

To encourage low branches, cut back the main trunk to a height of 18 to 24 inches. Shorten side branches to leave one or two buds (shown below).



Continued from previous page

trees, it may be a good idea to select varieties with different harvest dates. This will allow an extended season and prevent you from having too much fruit at one time.

Chill Hours

Fruit trees require a certain number of hours with a temperature below 45 degrees in winter to bloom and grow well. This is called chill requirement or chill hours. The chill hours can vary with the chosen fruit variety. You will need to know the average chill hours for your location and select a variety that requires less hours. For information on chill hours visit http://fruitsandnuts.ucdavis.edu/Weather_Services/chilling_accumulation_models/Chill_Calculators/.

Pollinizers

Many tree varieties are self-fruitful. This means the tree will produce fruit with pollen from the same tree. Some trees are self-unfruitful and a pollinizer is required. A pollinizer is a variety that blooms at the same time as the fruiting tree to provide the pollen. The nursery label will indicate whether a pollinizer is required and the specific variety. Nursery catalogs and major fruit tree propagators are other sources of information.

During the process of selecting variety and rootstock combinations and pollinizer plants, it will be helpful to keep a record. Other items to include in your records are descriptions of the variety, required chill hours, and harvest season. After planting, you may add planting date, location, and cultural notes. Tracking problems that arise and how each plant is cared for is a wise strategy.

Selection at the Nursery

Fruit trees may be purchased as bare root trees in January and February or as a container plant year round. At the nursery, assess the tree health prior to purchasing. For bare root trees, select trees with a trunk diameter of 1/2 to 5/8 inch. This size tree may establish faster and have a better survival rate than other sized trees. Look for signs of disease on the branches, trunk, and graft union. The graft union should be well healed and 4-6 inches above the soil surface. Inspect the roots, if possible. For container plants, look at the spacing and location of the branches. Branching should start around 2 ft above the soil surface and be spaced radially and vertically. Avoid trees that are root bound or that have recently been transplanted to the container.

My friend had help selecting varieties, rootstocks, and pollinizers. There was a large quantity of trees brought home, but not enough manpower to plant them in a timely manner. This was the first step leading to unhealthy trees. If you find yourself in this situation, you can “heel in” the trees. To do this, keep the roots cool and moist by placing them in a material, like compost or sawdust, that drains well. Be careful not to use redwood or cedar sawdust because they may contain toxic compounds. Protect the trees from drying out and freezing temperatures.

Planting: Where and How

You know you would like to plant one or more fruit trees, but where? Fruit trees need six or more hours of sunlight per day. Shadows will change throughout the seasons so make note of areas shaded by trees or structures. Fruit trees require a reasonable amount of space and you will want to have access around the whole tree to provide care and harvest the fruit. Next it is time to take a close look at your soil. Fruit trees like deep, well drained soil. Remove rocks and weeds. Weeds will compete with your tree for nutrients in the soil. A good strategy is to solarize the soil if you have an area without existing plants and roots. This will kill weeds, seeds, and soil pests. To solarize, place clear plastic over prepared, moist soil and leave in place approximately six weeks during the heat of summer prior to planting. If you have compacted soil, it will need to be broken up. Hardpan will impede water and the roots may rot. Soil should be worked only when

Continued on next page

Continued from previous page

it has a moisture content similar to a wrung out sponge. An alternative is to plant on berms 1 to 2 feet above the natural soil surface. A soil analysis will be helpful in determining if amendments are needed.

You will have spent a considerable amount of time planning and preparing the site for your fruit tree. The next step is planting and it is crucial to the health of your tree. As mentioned earlier, dig the planting hole when the soil moisture is like a wrung out sponge. Dig to the depth of the root ball, leaving the soil beneath undisturbed, unless it was compacted, to prevent the tree from settling too deep. The existing soil line on the trunk should be planted 1-2 inches higher than the ground. Place the tree in the hole with the protruding crook of the graft union facing the the north-east to minimize sunburn to this area. The graft union should be approximately 4 inches above the soil line. Add some of the excavated soil to the hole and gently firm it around the roots. Continue to fill the hole, eliminate air pockets, and firm soil around the roots with the final soil line sloping away from the trunk. This will help prevent crown rot. Irrigate your tree well and watch for settling. Apply 4 inches of mulch to keep away weeds and conserve moisture, but keep it away from the trunk.

Just a few more steps to the start of a healthy tree. For bare root trees, you will head back the trunk by cutting it down to 18-24 inches. You may also remove the lateral branches on small diameter trunks. If the trunk is larger, you may keep well placed lateral branches, but cut them back to 3 buds. These will become scaffold branches. To protect from sunburn, the exposed trunk should be painted with a mixture of 50% interior white latex paint in water.

My friend is now aware of ideal planting conditions and plans to add trees to her orchard in an amount that can be cared for. The trees that did survive are being tended frequently and monitored for pests and disease. For more information on care after planting, please visit http://homeorchard.ucanr.edu

References:

- Carson, Jim, and Gary Shimizu, Chuck Ingels, et al. *Fruit Trees: Planting and Care of Young Trees*. UCANR Publication 8048. 2002. http://homeorchard.ucdavis.edu/8048.pdf
- Ingels, Chuck A., and Pamela M. Geisel, Maxwell V. Norton. *The Home Orchard*. The Regents of the University of California Agriculture and Natural Resources. 2007.
- Crisosto, Carlos H., editor. *Chill Calculators*. UCDavis Fruit & Nut Research & Information. University of California. n.d. http://fruitsandnuts.ucdavis.edu/Weather_Services/chilling_accumulation_models/Chill_Calculators/
- Gable, Missy, editor. *Why Have a Backyard Orchard?* The California Backyard Orchard. University of California. n.d. http://homeorchard.ucanr.edu

Pest Bulletin: Asian Citrus Psyllid

In September 2016, the Asian citrus psyllid, an insect that carries a disease devastating to citrus trees, was found in Lincoln. Placer County officials posted a notice that can be found by clicking here.

In October, the county announced an updated quarantine area. This notice includes a link to a map showing the new quarantine boundaries.

The UCCE Farm Advisor released the following statements on Asian Citrus Psyllid in Placer County:

- Asian Citrus Psyllid (ACP) insects were brought into Placer County on citrus trees illegally moved from a quarantine zone by a homeowner in the Lincoln area.
- No Huanglongbing disease (HLB) was found. There is no known HLB disease in Placer County.
- The illegally imported trees and neighboring trees infested with the psyllid have been destroyed and the Asian Citrus Psyllid infestation is contained for the moment.
- The ACP find has triggered a limited quarantine in the Lincoln area. **No citrus leaves, plants, or fruit may be moved out of the quarantine zone**.
- Please obey the law and respect the quarantine rules to protect our local citrus industry. **Do not bring any citrus plants, leaves or fruit into Placer County, regardless of the origin**.
- Almost all commercial citrus orchards in Placer County are **not** in the quarantine zone and are selling their fruit. There are plenty of mandarins for sale.
- Please support our local mandarin industry and buy only PlacerGrown fruit.

For more information on Asian Citrus Psyllid and Huanglong bing disease, including additional photos, go to: http://ipm.ucanr.edu/PMG/PESTNOTES/pn74155.html.

If you suspect you have the psyllid on your citrus, please:

- Take a sample to Placer Agricultural Commissioner office at 11147 E Avenue in the DeWitt Center in Auburn or
- Call the California Department of Food and Agriculture Pest Hotline at 1-800-491-1899

Asian citrus psyllids on the underside of a citrus leaf.

Hotline FAQs

Do you have gardening questions?

Call the Master Gardener Hotline in your county

Nevada Co. 530-273-0919

Placer Co. 530-889-7388

References:

- Longstroth, Mark. *Drought Symptoms in Blueberries*. Michigan State University Extension. July 19, 2012. http://msue.anr.msu.edu/news/drought_symptoms_in_blueberries
- *Berry Diagnostic Tool: Leaves unusually colored, spotted or necrotic (browning)*. Cornell University Department of Horticulture. n.d. http://www.fruit.cornell.edu/berrytool/blueberry/leaves/BBleafbrowning.htm
- *Growing Blueberries*. University of California, The California Garden Web. http://ucanr.edu/sites/gardenweb/berries/blueberries/
- Gregory, John, and Cathy Coulter, Cheryl Vivas, et al. *Growing Blueberries in the Sacramento Region*. UCANR EHN 88. 2012. http://ucanr.edu/sites/gardenweb/files/141264.pdf

Why are the leaves of my blueberry bushes brown and crispy? What is the best way to keep blueberry bushes healthy?

Article and photo by Pauline Kuklis, Placer County Master Gardener

The leaves on this bush pictured below show signs of fertilizer burn and/or sun scorch. Because blueberries have a very shallow root system, they are quite easily damaged by drought, long periods of extreme heat and improper fertilization. If treated properly, the bush should recover come spring. Below are some tips to help you maintain healthy blueberry bushes.

Soil

Blueberries grow best in soil that drains well, has a pH of 4.5 to 5.5 (acidic) and is high in organic material. Test the pH of your soil, and modify as needed to adjust to the proper level.

Water

First, be sure your blueberry bush is planted in an area that drains well. Keep the bush uniformly moist but not wet. Too much water can lead to root rot. Mulching will help retain moisture, and partial shade in the hot afternoon will help protect the bush from sun scorch.

Fertilizer

Blueberries require low levels of fertilizer, and can easily be harmed by too much fertilization. For newly planted bushes, wait at least four weeks after planting before fertilizing. Fertilizer can be applied in early spring, then once again in late spring. When fertilizing, remove mulch around the bush, sprinkle with a fertilizer meant for acid lovers (such as camellias and azaleas), replace the mulch and water deeply. Alternatively, use organic-based fertilizers such as blood meal or fish meal.

Pruning

During the first two years, remove diseased and damaged branches. Starting with the third year, prune annually to maintain their bushy form and reduce the total number of branches on the bush. Try to remove a couple of the oldest branches each year. Also remove any weak or damaged wood and suckers.

The Frugal Gardener: Clean, Protect and Preserve your Garden Tools

by Barbara Kermeen, Nevada County Master Gardener

The Frugal Gardener says that taking care of your gardening tools saves a lot of money. Use the money you save, by not having to replace tools, for more fun things like new plants and seeds.

Here's how to protect your tools:

Hose off the tools with a high-pressure spray. Once clean and dry, wipe the wooden handles with a rag soaked in linseed oil. Let them sit for a few minutes, then wipe the handles clean with a dry rag.

Now remove the remaining dirt from the metal parts with a putty knife and/or stiff brush. Wire brushes are great for most tools, at least for the metal parts. Remove all rust spots from metal parts with steel wool, sand paper, and/or rust release spray. Wipe with turpentine for the removal of sap. Dip your tools in a 10% solution of chlorine bleach to sanitize them, then rinse and dry thoroughly.

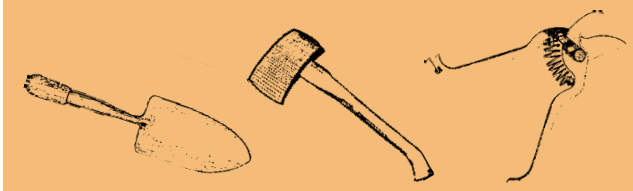
Now sharpen everything that's supposed to be sharp, including your hoes. Remember, hoes are cutting tools, not digging tools. Sharpen your hoes, loppers, hedge clippers, hand clippers, shears, scissors, pruners, horihories, and especially that old butcher knife that you keep in your gardening caddy. I use both a sharpening stone (whetstone) and my bench grinder, on its slowest speed. Bob Vila recommends using a ten inch flat mill file, either held at 20 to 45 degree angle or following the original bevel of the tool. Some people even recommend sharpening your shovels and spades.

Once the working parts are clean and sharpened, give them a light coating of WD-40 or other household lubricant.

Store your tools in your garden shed, greenhouse, or garage, anywhere that is well-ventilated and out of the elements. An interesting way to store your small tools is in a pail or pot filled with oil-soaked sand.

In the spring, when you are seduced by the siren song of the garden with its vernal smell of damp, musty, soil, you will be so happy that your tools are ready to go.

And finally, it's a good idea to hose off your tools after each use. Choose a site for this that is out of the garden. Clean tools decrease the chance of spreading disease or viruses throughout your garden beds.



Try Growing Something New: Luffa

by Nikki Duncan, Placer County Master Gardener

Are you interested in growing a vegetable that is not only good to eat, but has crafting uses also? Try growing luffas. A luffa is a type of gourd, sometimes called a dishcloth gourd or a vegetable sponge. It is grown for its fibrous tissue skeleton but also as an edible similar to zucchini when picked immature (less than seven inches long). It can be steamed or used raw.

You may have seen a luffa sold in a gift bag with soap. It makes a wonderful soft scrubbie for washing the body or for dishwashing.

A luffa plant is vining, growing to 15 feet and it requires a sturdy trellis to keep the fruit clean and off the ground. The plants will cover the trellis and can make a good screen. The foliage is similar to a cucumber and the fruit can grow up to two feet long.

Plant seed when the soil is warm, one to three seeds per hill, hills six feet apart. Luffas require a long growing season if grown for a sponge. The flower and fruit set are continuous during the growing season. Allow the fruit to dry on the vine and turn brown before picking, then dry in the sun for a few days. Cut off the end and shake out the seeds, then soak the fruit in water overnight to facilitate easy removal of the skin. Again allow the luffa to dry completely. Cut with a serrated knife to the size you want.

Grow some luffas--they are easy and fun and a great project for kids. For additional information, look at: https://content.ces.ncsu.edu/commercial-luffa-sponge-gourd-production or extension.umn.edu/garden/yard-garden/vegetables/growing-luffa-gourds/

Solidago californica, Cascade Creek California Goldenrod

by Lynora Sisk, Placer County Master Gardener

I'm always researching and learning about new plants and when I saw this California native goldenrod I mistakenly thought about allergies. *Solidago californica* has bright yellow flowers that have fairly large heavy pollen grains. Achoo? Not so—the University of Florida has set the record straight. The true culprit for hay fever sufferers is ragweed, which blooms about the same time as goldenrod. The pollen grains on goldenrod are carried off by bees, butterflies and other pollinators. The ragweed pollen is carried by wind rather than insects for pollination and about 75 percent of Americans are allergic to this plant.

So I was delighted to see that Cascade Creek California goldenrod is one of the UC Davis Arboretum All Stars and is recommended by Ellen Zagory, director of public horticulture for the UC Davis Arboretum and Public Garden, as one of the most dramatic and drought-tolerant plants. This perennial blooms in summer through the fall and can tolerate full sun to part shade. It's very easy to take care of, only needing pruning to the ground in late fall after flowering. The flowers are large and compact and don't tend to flop over like other heavy flowering plants.

Goldenrod is perfect for habitat gardeners who want to attract native butterflies, bees and other pollinators to the garden. Ellen Zagory paired goldenrod with Frikart's aster and purple oregano for her pollinator paradise. For more about goldenrod and Ellen's pollinator garden check out the UC Davis Arboretum's "Life after Lawn" website, http://publicgarden.ucdavis.edu/life-after-lawn, which provides examples of local homeowners' gardens, planting plans, plant lists and lots of photos.

References:

- *Arboretum All-Stars*. UC Davis Arboretum. n.d. http://arboretum.ucdavis.edu/arboretum_all_stars.aspx
- Lamborn, Alicia R. *Ragweed vs Goldenrod.* University of Florida IFAS Extension. 2010. http://baker.ifas.ufl.edu/Horticulture/documents/Ragweedvs.Goldenrod.pdf

Sweet Insect Trivia

by Bonnie Bradt, Nevada County Master Gardener/entomologist

See how much you know about HONEY—once called ambrosia or the nectar of the gods. Just a bit of trivia to help you appreciate what those busy little *Apis mellifera* (honeybees) are doing almost all day, every day, all summer.

1) How many nectar producing flowers must be visited by worker bees from a honeybee hive to generate one pound of honey?

2) How far, on the average, does that hive of honeybees, collectively, need to fly to generate that same pound of honey?

3) How many flowers does a single honeybee visit on an average flight?

4) So then, how much honey does the average single hardworking worker bee make in her entire lifetime?

5) How fast does a honeybee fly?

6) How long have honeybees been producing honey from flowering plants?

7) What Scottish liqueur is made with honey?

8) What is the average American per capita consumption of honey?

9) How many sides does each cell in a honeycomb have?

10) What U.S. state is known as "The Beehive State"?

See answers on page 9

Photo by Elaine Applebaum

Pest Control in the Greenhouse

Last in a 4-part series by Bonnie Bradt, Rob Chase and Michael Kluk, Nevada County Master Gardeners

The very same lovely controlled conditions that make a greenhouse the *best* place to grow, also provide ideal conditions for insect pests and plant diseases to grow. The indoor garden is susceptible to the same pests as the outdoor, but in an enclosed greenhouse, there are no beneficial insects to help you out. Therefore, you must inherit their work.

Each greenhouse owner will experience a different collection of pests as time goes by. But there is definitely a rogue's gallery of the top culprits to watch out for. These include but are not limited to: aphids, mealybugs, whiteflies, thrips, earwigs, fungus gnats, and spider mites.

The mild, stable conditions of heat and humidity found in greenhouses allows explosive increases of pest populations which are difficult to control once they get out of hand. Outside, the extremes of heat and cold actually help out the gardener as pests can only survive within certain temperature extremes. Thus, if you have no plants that require warm housing in the winter, you can allow your greenhouse to freeze, to eliminate tender insects like whiteflies.

Given that most of us would like to avoid a deluge of pesticides in our greenhouses, the first action to take to control pests in the greenhouse is *prevention*. Keep your eyes peeled for the first sign of invaders and treat or remove them immediately. The most common route for insect pests to enter a closed greenhouse is as passengers on an incoming plant. Therefore, carefully examine any new plant before you bring it in. It is always best to quarantine an incoming plant until its pest-free status can be assured. This only applies to enclosed greenhouses. Those with raised sides or open windows have that many more routes for insects to enter the area. Of course in such "open" greenhouses, beneficial insects can enter as well. That helps a little.

Once you have spotted an infestation, treat or remove the infected plant before the pests spread to its neighbors. Get to know what your plants are supposed to look like and realize when there is a problem. For example, unusually curled leaves on little seedlings, especially if they are curving under, probably means that the underside of the leaves are covered with aphids. You can't see them from the top but they are there. And where there is one, there will be hundreds.

Numbers are against you in greenhouse pest combat. Pests can generate great numbers quickly if they get ahead of you. That is why you must keep on top of any problems. Whether your pest is aphids, mealybugs, thrips, or spider mites, you need to be aggressive. Remove infested plants from the greenhouse to prevent contamination of other plants. If pests are allowed to take up residence in the walls, under the flooring material, in the soil or on other plants, they may become a chronic problem and you may never completely be rid of them.

Following is a list of preferred methods of treatment for the most common insect pests of greenhouse plants, in order of toxicity.

- Examine plants being moved into the greenhouse for any pests. Wash them with a stream of water or wipe them down with cotton balls and water or dilute alcohol, to remove any stray aphids or mites. Quarantine them if possible for at least a few weeks.
- Use only sterile soils and potting mixes. Even with this precaution you will eventually find your greenhouse has a population of fungus gnats, a tiny fly relative. They are annoying but not truly dangerous. Use yellow sticky traps near infected plants and you can keep numbers down.
- Mow to keep weeds and grass down around the outside perimeter of the greenhouse.
- Wash the floor regularly with a blasting stream of water but do not allow

Continued on next page

Aphids (above) and mealy bugs (below) are two pests that can plague plants in greenhouses. Photos by Bonnie Bradt.

References

- *Aphids, Fungus gnats, Mealybugs, Whiteflies, Thrips,* and *Spidermites*. Pest Notes Library, Statewide Integrated Pest Management Program. http://ipm.ucanr.edu/PMG/PESTNOTES/index.html
- Bessin, Ric, and Lee H. Townsend and Robert G. Anderson. *Greenhouse Insect Management*, Online Publications, University of Kentucky. http://www2.ca.uky.edu/agcomm/pubs/ent/ent60/ent60.htm

Continued from previous page

areas of standing water. A gravel floor can offer good drainage. Walkways can be created from decking material like Trex, nestled into the gravel, to allow easy walking, cleaning or the use of a wheelbarrow.

- Remove plant debris and all plants from the greenhouse and thoroughly clean it after each growing cycle. Jet wash the floor, walls, and benches. Sanitize bench surfaces and sinks with disinfecting wipes or solution. Use gloves if your skin is sensitive. Use sanitizing wipes often to keep surfaces clean. Bleach is not the most desirable solution as it will eventually rust anything metal and the fumes in an enclosed greenhouse can rise to toxic levels.

Fungus gnats on yellow sticky trap. Traps are useful for both monitoring and reducing the number of pests. Photo by Bonnie Bradt

- Various colors of sticky traps are useful for attracting insect pests. Yellow is most popular and can be used for most tiny sucking insect pests that fly. The more traps that are used in the greenhouse, the better to actually lower the population of pests to manageable levels and not just act as monitoring devices. Cards should be kept dust free and changed often.
- Biological control agents or beneficial insects can be introduced into commercial greenhouses for pest control but this method is generally not commonly used by small home greenhouses due to cost and general lack of success.
- Due to the nature of a climate controlled, enclosed greenhouse, pest issues may become so severe that they require the intervention of pesticide applications to control either heavy spot infestations or widespread chronic infection of the greenhouse infrastructure. The least toxic methods should be the first choice. Alcohol wipes and sticky traps have already been mentioned. Plant based oils (neem), petroleum based horticultural oils, or insecticidal soap can be used on plants to combat thrips, spider mites and aphids. Test on a small area of a plant as some can be damaged by such treatments especially in excessive heat (over 90 degrees). Thorough coverage is required (tops and bottoms of leaves) and several treatments may be needed. On ornamental plants, systemic insecticides can be used against sucking insects, as the enclosed greenhouse will prevent any contact with pollinators who may be affected by the treatment. As a last resort, a chronically infested greenhouse can be treated with an insect bomb to reach insect pests living in cracks in the walls, ceiling, or in the flooring. Be sure to follow package directions carefully.

Cleanliness is vitally important in a greenhouse. Just imagine how the earwigs would LOVE piles of dark decaying plant matter in the corners. If they can get in, mice and rats will hide behind or INSIDE an old watering can that you have left back under a bench. Once your spring seedlings emerge, the mice can have a field day, munching the seedlings…to the ground.

So keep that greenhouse clean, top to bottom—no weeds, no clutter, no dirty sink. Strive for just beautiful plants in a lovely controlled environment. It will be a haven, your indoor garden, that you will love to spend time in. You may actually hang out there and listen to music. Enjoy it. Your friends will be jealous.

agri-cola, ae *m* tiller of the field, farmer, husbandm
caulis, is *m* stalk, stem of a plant; cabbage
colo, colui, cultum 3 to care for; a) to till, culti
farm; b) to tend; *adj.* **cultus** 3 cultivated, t
ta, orum *n/pl* tilled land, gardens, plan
cresco, crevi, (cretum) 3 to grow
cultus *m* cultivation, labor, tilling; a
b) care, training, education; c) c
florens, tis blooming, flowerin
floreo, ui 2 to bloom, blosso
flos, oris *m* flower, blosso
fodio, fossom 3 to dig, d
folium, i *n* leaf; folia
herba, ae *f* grass,
hortus, i *m* gar
radix *f* root;
viridis, e
vita, ae
xyle
zer

BotLat Corner

Find Out What Those Weird Plant Names Mean

by Peggy Beltramo, Placer County Master Gardener

If you have been reading the BotLat (Botanical Latin) column, are you ready for a quiz? Remember, the first part of a Latin binomial (two word name) is the genus and the second word of the name is an adjective that describes a particular quality of the plant.

You probably know that the California state tree is a redwood, but did you realize that there are actually two species of tree that are classified as redwoods? *Sequoia sempervirens* and *Sequoiadendron giganteum* are both considered the California state tree.

Now, can you untangle the Latin that names these trees?

See how you did on page 9

References:

- *Coast Redwood*. Arbor Day foundation. n.d. https://www.arborday.org/trees/treeguide/TreeDetail.cfm?Itemid=1079
- *Giant Sequoia*. Arbor Day foundation. n.d. https://www.arborday.org/trees/treeguide/TreeDetail.cfm?ItemID=918
- Tweed, Wm. *How the Sequoias Got Their Name.* Sequoia Parks Foundation. November 27, 2012. http://www.sequoiaparksfoundation.org/2012/how-the-sequoias-got-their-name/

BOTLAT Corner Answers

by Peggy Beltramo, Placer County Master Gardener

How did you do with the Latin binomials? You may have recognized the redwood trees' genera—the plural of genus—as a Native American word. Sequoyah, or Sequoiah, was a Cherokee chief who was possibly honored with this naming, though this cannot be substantiated. *Sequoia sempervirens* is the coast redwood. Its specific epithet, the second word of its name, means always green: semper = always, virens = green. This tree is the tallest tree in the world and can grow to more than 300' tall! It has a dense, thirsty root system and it is not well suited to areas beyond the coast, despite frequently being planted in the foothills.

Sequoiadendron giganteum is the giant sequoia of the Sierra Nevada. *Sequoiadendron* designates that this tree has leaves (dendron) resembling the *Sequoia*. It was discovered after the coast redwood, and the similarity was noted. The naming of this tree is an interesting story. Read more at Sequoia Parks Foundation.

Surely, you figured out that *giganteum* means giant or gigantic. *Sequoiadendron giganteum*, the giant sequoia, is the largest tree in the world. The General Sherman tree in Sequoia National Park, measured by the volume of its trunk, is 52,200 cubic feet, more than half an Olympic sized pool. That is a LOT of firewood!

I hope you are encouraged to keep learning about BOTLAT and how botanical names can inform our gardening. These crazy words help us find the correct plant at the nurseries.

Sweet Insect Trivia Answers

by Bonnie Bradt, Nevada County Master Gardener/entomologist

1) Approximately two million flowers must be visited by the workers in an average hive to generate that one pound of honey.

2) The worker bees in that hive must fly approximately 55,000 miles (yes, that's *thousand*) to gather the nectar needed for that 1 pound of honey. Sorta makes you want to go out and plant more flowers for them. Obviously, the more floral resources they have, closer to the hive, the fewer miles they need to travel to find the two million flowers.

3) A single bee visits somewhere between 50-100 flowers on the average, on a collecting trip.

4) Are you ready? On the average, a single honeybee worker produces about 1/12 of a teaspoon of honey in her lifetime. All those flowers, all those miles, all that work, for 1/12 tsp. Now I REALLY want to go out and plant some flowers. I LOVE honey. I've gotta do something to help!

5) Honeybees have been clocked at about 15 miles per hour, with occasional bursts up to 20 mph. Obviously, a load of pollen or nectar slows them down a bit. So I guess it's slower coming home than it is going out.

6) Flowering plants began to rapidly diversify, differentiate, and spread out in the Middle Cretaceous, about 100 million years ago. But bees caught up to the idea of generation of honey perhaps 10-20 million years ago. Hey, it's a complicated process!

7) The famous Scottish drink is called Drambuie. The name "Drambuie" derives from the Scottish Gaelic phrase *an dram buidheach*, "the drink that satisfies." Oh yeah. It is a sweet, golden colored, 40% alcohol by volume liqueur made from scotch whisky, honey, herbs and spices. If you like sweet liqueurs at all, treat yourself sometime to this winner. My Scottish ancestors will smile on you.

8) On the average, each American consumes, in one form or another, about 1.3 pounds of honey per year. Unless they have discovered Drambuie. Then it's more.

9) Each honeycomb cell has 6 sides… a hexagon.

10) Utah is the beehive state. Utah residents relate the beehive symbol to industry and the pioneer virtues of thrift and perseverance. I guess when you think about the 2 million flowers and the 55,000 miles flown, they're probably right. The beehive was chosen as the emblem for the provisional State of Deseret in 1847 and was maintained on the seal of the State of Utah when Utah became a state in 1896.

Events Calendar

Nevada County Demo Garden
1036 W. Main St., Grass Valley (on NID Grounds)

Placer County Demo Garden
11477 E. Ave., Auburn (Senior Garden, DeWitt Center)

All events are free unless noted otherwise

February

February 4
10:00 am - noon
Deer Resistant Gardening/ Landscaping in the Foothills
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

February 4
10:00 am - 2:00 pm
Bird and Bug Bonanza
Roseville Utility Exploration Center
1501 Pleasant Grove Blvd., Roseville

February 11
10:00 am - noon
Growing Your Own Edibles
Roseville Utility Exploration Center
1501 Pleasant Grove Blvd., Roseville
Small fee; register at 916-746-1550

February 11
10:00 am - noon
Plan It! Growing Veggies 12 Months a Year
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

February 18
10:00 am - noon
So, You are New to Nevada County Gardening?
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

February 18
9:00 - 10:00 am
What's in That Bottle? Pesticides
10:00 - 11:00 am
What's in That Bag? Amendments
Placer County Demo Garden
11477 E. Ave., Auburn

February 22
11:00 am - 1:00 pm
Open Garden Day: Tour the Garden/Ask a Master Gardener
Placer County Demo Garden
11477 E. Ave., Auburn

February 25
10:00 am - noon
Water Wise Landscaping
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

March

March 11
10:00 am - noon
The Art of Container Gardening
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

March 11
10:00 am - noon
Vermiculture– Worm Superheroes
Roseville Utility Exploration Center
1501 Pleasant Grove Blvd., Roseville
Small fee; register at 916-746-1550

March 18
9:00-10:00 am
Basic Composting and Composting with Worms
10:00 - 11:00 am
Starting Your Summer Garden
Placer County Demo Garden
11477 E. Ave., Auburn

March 18
10:00 am - noon
Totally Tomatoes: From Seed to Seed
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

March 22
11:00 am - 1:00 pm
Open Garden Day: Tour the Garden/Ask a Master Gardener
Placer County Demo Garden
11477 E. Ave., Auburn

March 25
10:00am - 3:00 pm
2nd Annual Garden Faire
$5, no registration required
Gold Country Fairgrounds,
1273 High Street, Auburn

March 25
10:00 am - noon
Monarchs and Milkweed: How Can We Help Them?
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

April

April 1
10:00 am - noon
Vegetable Gardening for Beginners
Grass Valley Elk's Lodge
109 S. School St. (Lower Level)

April 8
10:00 am - noon
Compost: A Gardener's Best Friend
Demonstration Garden
NID Grounds
1036 W. Main St., Grass Valley

Nevada County events in green boxes

Placer County events in yellow boxes

About Master Gardeners

Our mission as University of California Master Gardener volunteers is to extend research-based gardening and composting information to the public through various educational outreach methods. We strive to present accurate, impartial information to local gardeners so they have the knowledge to make informed gardening decisions in regard to plant choices, soil fertility, pest management, irrigation practices, and more.

The Master Gardener volunteer program was started in the early 70's at the Washington State University. Farm Advisors became overwhelmed by all the incoming calls from home gardeners and homesteaders so they trained volunteers to answer these questions and the "Master Gardener Program" was born. The first University of California Master Gardener programs began in 1980 in Sacramento and Riverside counties. The Nevada County and Placer County Master Gardener Associations began soon thereafter in 1983.

Over 30 Years of Serving Placer and Nevada Counties

Have a Gardening Question?

Call our Hotline

Placer County Residents
530.889.7388

Nevada County Residents
530.273.0919

Master Composter Rotline
530.889.7399

UC Cooperative Extension Placer County
11477 E Avenue
Auburn, CA 95603
530.889.7385 office
530.889.7397 fax
email: ceplacer@ucdavis.edu

UC Cooperative Extension Nevada County
255 So. Auburn Street
Grass Valley, CA 95945
530.273.4563 office
530.273.4769 fax
email: cenevada@ucdavis.edu

Production Information

The Curious Gardener is published quarterly by the University of California Cooperative Extension Master Gardeners of Placer and Nevada Counties.

Kevin Marini, Editor
Community Education Specialist: Home Horticulture and Composting Education, Master Gardener Coordinator

Elaine Applebaum, Production
Placer County Master Gardener

How to Subscribe

Online subscriptions are free to residents of Placer and Nevada Counties.
Log on to http://pcmg.ucanr.org/Curious_Gardener_Newsletter/ to sign up for your electronic delivery.