

THE CURIOUS GARDENER

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GROWING PEPPERS

Judith Myrick

Placer County Master Gardener

I once had a pet rabbit that got loose in the garden. Before he was caught, he nibbled the tops of all the pepper plants. I didn't expect those plants to produce any peppers but they did. The plants grew back bushier than before and the thicker foliage provided sunburn protection for the developing fruits.



Peppers need lots of sun, but the fruit may suffer sunscald unless it is shaded by good leaf cover or neighboring plants. A good early supply of nitrogen to the young plants will encourage leafy growth before the fruits develop. Close spacing, 12 to 15 inches apart, will cause the pepper plants to shade each other. Pinching out the tops of the young plants will encourage branching resulting in more leaf cover. The aforementioned rabbit achieved a similar result.

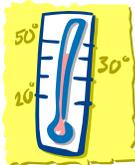
Pepper varieties

There are two types of peppers: mild-flavored bell types and the hot chili varieties. Mild peppers include bell, banana, pimento and sweet cherry. Hot peppers include cayenne, celestial, large cherry, serrano, tabasco and jalapeno. Bell peppers can be harvested

green but will ripen to red, yellow, orange or some shade between. Hot peppers are usually allowed to ripen fully and change color, except for jalapenos. Banana peppers are long and tapering and are harvested when orange or red.

Growing requirements

Growing requirements are the same for both types of peppers. They need daytime temperatures in the 70's to 80's. Pepper seed doesn't germinate below 60°F, so nothing is gained by transplanting young pepper plants into the garden too early in the spring. Unless their temperature requirements are met, the plants will not grow. Cool nights or temperatures above 90° can cause blossom drop. To assure that the weather has settled and warmed sufficiently, wait to transplant them into the garden until 2 weeks after setting out tomatoes.



In hot, dry weather keep peppers well watered and avoid getting water on the fruit. Drip watering is ideal. It is also helpful to side dress with compost or a balanced fertilizer at fruit set to assure a good crop.

Peppers are members of the nightshade family, as are tomatoes, eggplant and potatoes. As such, they are subject to some of the same diseases. If possible, avoid planting peppers where other family members have been recently grown, especially if there have been disease problems.

Today's home gardener (and his or her rabbit) have a wide variety of peppers readily available to choose from. Seed catalogs offer the greatest number of choices. Nurseries and home garden centers offer many varieties of transplants, promising fruits in shades of ivory, yellow, orange, red, brown, purple as well as green. These colorful peppers are not only pretty - they're also nutritious.

Vitamins in peppers

Did you know that chili peppers contain more vitamin C than any other vegetable. They are also a

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SUMMER PRUNING OF FRUIT TREES

Elaine Haire

Placer County Master Gardener

Summer pruning is often associated with training young fruit trees and shortening the time to production. However, it is also an effective technique to keep fruit trees sized for urban landscapes.

Training young trees

True dwarf rootstocks are being developed for most fruit species, but standard and semi-dwarf trees can be kept small with frequent summer pruning. Chuck Ingels, UCCE Sacramento County Farm Advisor, recommends that you start pruning in late April or early May of the first growing season, when the new growth reaches about two feet. Cut the new growth in half, and allow it to grow another two feet before you cut it in half again. Subsequent growth may require additional cuts to keep the branch length in check, as well as thinning cuts to allow air and sunlight to reach the lower branches. Summer pruning can continue until the last month before the first fall frost date.

Repeat this process each year until the tree reaches six to seven feet tall. Thereafter, prune to maintain the desired tree height. Be sure to remove water sprouts and suckers at the base, as well as dead, diseased or dysfunctional branches. See references at the end of this article to learn the correct way to

make pruning cuts.

Another technique used to control tree growth is to pinch 1-6 inches from the tips of shoots to slow their growth and encourage lateral branching.



Pruning throughout the season allows fruit to receive more sunlight, resulting in better fruit color. However, if too many leaves or side branches are removed, the sun may burn the fruit and inner branches. Selective pruning and moderation is wise.

Pruning Demonstration Site

Ed Laivo of Dave Wilson Nursery in Hickman, California has been credited with developing a unique training system that essentially produces "fruit bushes" which allow high density planting, to produce a succession of fruit over an extended season. The Fair Oaks Orchard Demonstration Project in Sacramento is a wonderful place to get ideas and see how different types of fruit trees respond to this pruning technique. To get the location and current demonstration schedule, select: Fair Oaks Horticulture Center at the following internet address: <http://commserv.ucdavis.edu/cesacramento/Pomology>.

Pruning overgrown trees

It is difficult to prune, spray and pick fruit from a large, neglected fruit tree. In general, it is best to just use the tree as a shade tree. If you decide to resurrect it as a fruit tree use the following guidelines:

- 1) Reduce the tree height by a third each year during the dormant season until the desired height is attained.
- 2) The cuts will inevitably cause vigorous shoot growth that shades lower fruiting wood, so remove or head the shoots once or twice during summer.

Harvest

Dormant season pruning tends to stimulate growth. Summer pruning tends to moderate growth. A two-season approach helps maintain attractive small trees. Several fruit tree varieties can be grown in a relatively small area, and lower branching will facilitate the fruit harvest.

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- Summer Pruning and Training. 1999. *California Master Gardener Training Manual*. University of California Cooperative Extension.
- <http://commserv.ucdavis.edu/cesacramento/EH-TrainPrune.htm>

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source of potassium. Red and green bell peppers supply vitamin B6, folic acid and vitamin C. Sweet red peppers provide vitamin A and more vitamin C than do green peppers.

Under proper growing conditions, expect to harvest peppers begin-

ning about 85 days from seed or 65 days from transplanting. When harvesting peppers it is best to cut the stems rather than pull them to avoid breaking the branches.

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- Vegetable Gardening for Better Nutrition, a Resource Manual for Master Gardeners*. 2002. C. Fake. UCCE Placer-

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The New Seed Starters Handbook. N. Bubels.



From the Farm Advisor: BRINGING HOME THE BUGS

Cindy Fake

Horticulture and Small Farms Advisor,
UCCE Placer & Nevada

Most Californians are aware that you are not allowed to bring fruit or plant material into California. Many gardeners delight in visiting gardens and nurseries in other areas of California and bringing home new plants. Folks moving into our counties often bring plants from their former home. Along with your unusual new plant you may bring hitchhiking agricultural pests which we do not have in Placer/Nevada Counties. In some cases, you may be breaking the law by importing plant materials. There are restrictions on plant movement between many California counties because we are trying to contain some serious agricultural pests.



Did you know that the lovely orange tree you bought in southern California is a host for Glassy Winged Sharpshooter (GWSS)? That it could be harboring viable eggs and you could introduce GWSS to Nevada County, damaging our nascent grape industry?

Did you know the county Agricultural Commissioner's staff inspect all commercial plant shipments brought into the county, as well as monitoring and trapping for target pests throughout the counties? But...the Agricultural Commissioner's staff cannot inspect all private vehicles moving in and out of the county, so we rely on the good sense of our residents to avoid bringing in new pests.

Pests we don't want here

Pests of major concern include Glassy Winged Sharpshooter,

Grape Phylloxera, Red Imported Fire Ants, Japanese beetle, and *Phytophthora ramorum*, the Sudden Oak Death pathogen.

Glassy Winged Sharpshooter

The Glassy Winged Sharpshooter arrived in California before detection programs were in place. It has not been found in Placer or Nevada counties, but the Agricultural Commissioners' staff are always on the lookout for it. It is of concern because it transmits Pierce's disease, which has caused millions of dollars in damage to the grape industry in other parts of California.

We have many native sharpshooters, leafhoppers, and katydids that may be mistaken for the GWSS. However, the GWSS is larger than our native sharpshooters, and its body shape is parallel-sided with a pointed head. Check out <http://danr.ucop.edu/news/MediaKit/photos/default.shtml> for photos of the Glassy Winged Sharpshooter.

GWSS infested areas in California include the entire counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura, and portions of: Butte, Contra Costa, Fresno, Kern, Sacramento, Santa Barbara, and Tulare counties. Any plant shipments found infested with this pest may be sent back to the place of origin.

Several hundred plant species are host to GWSS including many ornamental plants, as well as citrus and grapes. **Any** plants coming from infested counties should be inspected by the Ag Commissioner's office.

Grape Phylloxera



Another grape pest to be aware of if you are bringing grapevines into the counties is Grape Phylloxera. These tiny insects feed on grape roots, so are easily moved with vines dug from infested soil. They forced the replanting of thousands of acres of grapes and caused economic devastation in the grape industry a few years ago. All grapevines and cuttings (rooted or otherwise) are prohibited entry into Nevada and Placer Counties unless accompanied by an origin certificate or a treatment certificate.

Red Imported Fire Ants

Red Imported Fire Ants (RIFA) have been found in Sacramento County, brought to Cal Expo by a traveler from another state. They are of concern because they swarm out of their mounds when disturbed and viciously bite and sting their victims. First discovered in California in 1998, RIFA are native to South America and infest the southern United States.

Red Imported Fire Ants live underground in mounds up to 18 inches across, made of fine soil with small holes. They colonize areas where they can find moisture, and are often attracted to electrical boxes, sprinkler systems and swimming pool pumps. If you find an unfamiliar ant mound, do not disturb it. Observe from a safe distance, and if you think it may be RIFA, call California Department of Food and Agriculture (CDFA) at 1-888-4FIREANT. They will check it out.

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Japanese beetles

Emigrants from other parts of the country are familiar with Japanese beetles, and know how devastating they can be to a backyard. We do not have Japanese beetles in California and CDFA puts a lot of time and effort into ensuring that they do not get in by inspecting at land and sea entry points and at airports. A large number of Japanese beetles are detected each summer at entry points, especially airports, but they are eradicated there.

A quick glance at the list of more than 170 host plants for Japanese beetle and you will understand why California's agricultural industry is so concerned about keeping it out. Any infestation of this pest could devastate agriculture. Gardeners often mistake our Green Fruit Beetle for a Japanese beetle. The green fruit beetle is a large, metallic green beetle that attacks stone and other soft fruits. It may be a pest in home orchards, but is rarely a problem in commercial orchards because of rigorous sanitation.

Africanized honeybees



Africanized honeybees have been confirmed as far north as Tulare County this year.

They are moving northward, and will eventually get here, but it will take a few years.

Sudden Oak Death

There is no evidence that Sudden Oak Death (SOD) is infecting oaks in the Sierra foothills. All indications are that blue oak and valley oak will not be hosts since in coastal areas these species grow alongside infected species and have never

shown any symptoms. Black oak is a host. However, development is probably a far greater danger to oaks in Placer/Nevada than is SOD.

Although our oaks are not affected by SOD, we all need to do our best to avoid bringing the pathogen to the foothills. The disease is confirmed in ten coastal counties: Alameda, Marin, Mendocino, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. You can do your part to help prevent introduction of the disease by not bringing bark chips, mulch, planting stock, seeds or fruit of any host species from these counties. For a list of host species, consult <http://www.aphis.usda.gov/ppq/ispm/sod/FAQ.pdf>

Avoid bringing home the bugs

If you think you have an exotic pest, call or bring it in to UC Cooperative Extension or the Agricultural Commissioner's office and have it identified. Although it is unlikely that your oaks are being affected by Sudden Oak Death, you can report suspected hosts at <http://hilda.espm.berkeley.edu/oaks/submittal/>.

What should you do if you are in a nursery in some other county and find a plant you absolutely cannot live without? Talk to the nursery staff. Tell them you want to take the plant to Placer or Nevada County. Ask them if they have copies of the county quarantine/shipment regulations that apply to shipments from their county to Placer/Nevada. If they cannot give you a specific answer, ask them to call the Agricultural Commissioner's office in that county, and have them check on restrictions on shipping to Placer or Nevada County.

If you order plants or bulbs over the Internet or from catalogs, be sure

you are dealing with a reputable supplier. All mail order plant shipments, regardless of carrier, should have a green and white "PASSED CALIFORNIA AGRICULTURE" sticker on them when they are delivered. If they don't have the sticker, call the Ag commissioner's office to see why not.

If we are all aware of and follow the rules for importing plants into our counties, we have a better chance of avoiding new pests that could cause trouble for gardeners and farmers alike.

For questions on California state and county quarantines, call:

Nevada County Ag Commissioner

(530) 273-2648

Placer County Ag Commissioner

(530) 889-7372

References

- CDFA detection and eradication programs http://www.cdfa.ca.gov/phpps/pdep/insect_pests_and_diseases.htm Has pictures to help you identify key pests.
- CDFA Interior quarantines. <http://pi.cdfa.ca.gov/pgm/manual/pdf/table.htm#interior>
- County Restrictions on GWSS. 2002. CDFA Plant Quarantine Manual. <http://pi.cdfa.ca.gov/pgm/manual/pdf/510.pdf>
- Oak Mapper Tree Submittal. Available at <http://hilda.espm.berkeley.edu/oaks/submittal/>.
- Personal Correspondence with Doug McCreary, University of California Area Natural Resources Specialist - Oak regeneration.
- Phytophthora ramorum* Quarantine - FAQ. March 27, 2002. <http://www.aphis.usda.gov/ppq/ispm/sod/FAQ.pdf>

ROSE CARE – A YEAR LONG CALENDAR FOR THE FOOTHILLS

Bob and Bev Moncrieff
Nevada County Master Gardeners



Rose lovers feel that no flower is more beautiful in a garden setting, or more rewarding, than the rose. It is a symbol of love, friendship, beauty, and peace. In fact, the year 2002 has been proclaimed by a joint resolution of Congress, the 'Year of the Rose'.

Many believe roses are hard to grow in our Sierra Foothills. In fact, with proper care, roses will thrive in this environment. Preventative care will greatly reduce your maintenance chores.

Winter (December to February)

Winter-hardy roses will not lose all their leaves in our area, but most will stop producing blooms. This is their dormancy period and a good time for you to sit by the fire and browse your rose catalogs. If you're a true aficionado, you may want to join your local Rose Society, as there is much to be learned from these rose lovers.

Rose care chores to tend to now:

- Clean up in, under, and around each rosebush. Lightly shake the bush so inner dry leaves drop to the ground. Diseased leaves should be put in the garbage, not in your compost pile, to prevent spreading disease.
- Sharpen, clean up, and lightly oil your metal garden tools.
- Apply dormant oil spray (between rains) to discourage early leaf development and insects.
- Prepare beds for planting bare-root roses, if soil is not too wet. Consider raised beds as they provide better drainage.

You may plant bare-root roses in February, if weather permits. This is a good time to look for top grade,

disease-free varieties. Choose a location for planting where the soil is rich and the rosebush will get at least 6 hours of sun daily. Keep a record of location, date planted, and name of the rose for future reference.

Spring (March to early June)

- Prune established rosebushes just as the buds begin to swell. Remove old leaves as they may carry diseases. Forsythia usually blooms after the last frost, so its blooms are a good sign that it is time to prune. Placer County gardeners may prune as early as February, but prune later at higher elevations in Nevada County. If roses are pruned too early the new growth is subject to frost or freeze damage. Pruning too late may delay bloom.

- Plant container roses (and bare-root roses, if you haven't already done so).
- Turn on and check your water system; repair as necessary. If you use well water, flush out drip systems, as dirt stops up emitters.
- Test your soil to discover special plant needs. Roses prefer a slightly acidic soil, about 6.5. Soil test kits can be obtained at your local farm supply store.
- Mulch with a 2"-4" layer of organic material such as wood chips, keeping them away from the crown and trunk, out beyond the drip line of the plant. This helps reduce annual weeds. If you have an extensive rose planting, and want to treat with a pre-emergent herbicide, be sure to consult labels for permitted sites and rates.
- In April, alfalfa meal can be lightly worked into the soil around each rose bush. It helps promote healthy



canes and new growth. This is also the time to add a balanced, slow-release fertilizer. Or you may apply a water-soluble fertilizer such as 10-10-10 or 12-4-8 each month until winter. Follow the package directions for application. Too much nitrogen increases pest problems, so do not overfertilize.

- Check soil moisture before watering. Each rosebush needs 1-2 gallons of water twice weekly.
- Spring is the time to observe your plants for pests and disease. You can be environmentally friendly and still produce high quality blooms. Walk your rose garden daily, checking to see what is there.

Don't try to attack problems that don't exist.

Many common pests, such as aphids and spider mites, have natural enemies that will rapidly reduce their numbers, *if* you avoid using pesticides. A strong water spray can be used to discourage pests. Hand removal also works. As a last resort, use insecticidal soap, *B.t. (Bacillus thuringiensis)* microbial insecticide, or neem oil.

Remove leaves from the bottom of the rosebush to prevent water splash that may spread disease. Powdery mildew and black spot can be safely treated with household baking soda, potassium bicarbonate, or neem oil. Rust can be managed through sanitation (clean-up) and pruning.

After first bloom in April or May, deadhead in preparation for the second bloom. Prune your climbing roses after their first bloom.

Summer (July to September)

- Spring mulching for weeds also provides heat protection and

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reduces watering frequency during the summer months.

- Trim spent roses; clean up weeds and debris under each bush.

Roses are not growing as rapidly as they were during the April-June season, so they do not require as much fertilizer during the summer months. Continue to fertilize monthly, but use half the amount. In addition, alfalfa meal can be re-applied around each bush. This will give a boost to your fall bloom.

- When temperatures rise above 90°F, roses need 2-3 gallons of water, twice weekly. Always check soil moisture first.
- Continue pest management.
- Continue deadheading.

Fall (late September-November)

The bloom cycle slows now.

- Deadhead through October for that final bloom or let the bush

develop rose hips, encouraging dormancy.

- Continue cleaning up under your rosebushes to discourage pests and disease.
- Continue fertilizing through October, (but decrease the nitrogen 0-10-10) and include another dose of slow release fertilizer. This will nourish the roots and canes during the winter months.
- Fluff up the mulch, adding fresh mulch if needed. Be careful not to disturb the rose's roots.
- Water 1-2 gallons twice weekly until the rains start.
- Now is a good time to plant bare-root or container roses.
- In late November winterize your water system.

Deer are known to feast on rosebushes, but with an eight-foot fence around your roses in deer country, the deer will be left

outside to eat other flowers and greens while you, *the gardener will be inside smelling the roses.*

References

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A Year in the Rose Garden. 1994. Pop Warner. American Rose Society.

Consulting Rosarian Manual. 2001. American Rose Society, Shreveport, LA.

Healthy Roses. 2000. M.L. Flint and J. Karlik. UC ANR Publication 21589

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The New Rosarian. 2001. American Rose Society. *Roses 101*, issues, 1-4.

Western Nevada Gardening Guide. 2000. UCCE Nevada County Master Gardeners.

<http://www.ccvjpmmp.ucdavis.edu/insects.html>. Click on "Good Guys" for photos of natural enemies.

Rose Care Tasks By Season				
Rose Garden Tasks	Winter	Spring	Summer	Fall
Clean up the Rose Garden	X	X	X	X
Dormant Spray	X			X
Prepare Beds	X			X
Prune Rose Bushes		X		
Prune Climbers		after first bloom		
Soil Test		X		
Fertilize		10-10-10 or 12-4-8 (monthly), alfalfa meal	10-10-10 (monthly) alfalfa meal	10-10-10 (monthly)
Maint. Water System		X		X
Deadhead		X	X	X
Pest Management		X	X	X
Water		1-2 gal. per week	2-3 gallons twice weekly	1-2 gal. per week
Mulch			X	
Plant Container Roses		X		X
Plant Bare Root Roses	X	X		X

GARDENING BY NUMBER— CHOOSING CLIMATE-ADAPTED PLANTS

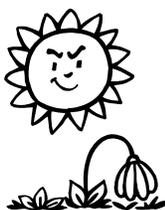
Lynn Lorenson
Nevada County Master Gardener

References are found in magazines and catalogs about United States Department of Agriculture (USDA) Plant Hardiness Zones, *Sunset* Zones, and American Horticulture Society (AHS) Plant Heat Zones. What do the zones mean, and how do you use them?

USDA zones give a hardiness rating that tells the lowest temperature at which a plant will thrive. This is the **first** consideration when choosing plants. Cold can kill plants overnight. *Sunset* zones start with the USDA hardiness zones and add the effects of summer heat in ranking plant suitability for an area. The AHS zone map ranks plants for suitability to heat, humidity and dryness. The AHS heat zone map was developed under the direction of Dr. H. Marc Cathey, who was instrumental in the organization of the USDA Plant Hardiness Map.

The ability to thrive in the heat is the **second** most important decision when choosing plants.

Each zone has “heat days,” those days with temperatures of 86° F or above. 86° F is the point at which some plants suffer damage to cellular proteins. You can remove the guesswork in selecting plants that thrive by using a zone map.



Zoning in

Determine the zone you live in on the USDA Plant Hardiness Map,

the *Sunset* map and the AHS Plant Heat-Zone Map.

Before you start a plant list, buy a plant, or lift a spade, learn everything you can about your zone and your landscape. Placer and Nevada Counties have many microclimates. Are you in a “banana belt,” or “frost bite falls”?



Choose plants that thrive

Check out any native plants that are growing in your area. They, or their close relatives will make fine, low-maintenance additions to your garden.

But if you have your heart set on a particular plant, determine if this plant is suited to grow in your region. Find the hardiness zone on either the plant tag, in *Sunset Western Garden Guide*, or in *Heat Zone Gardening*. Many growers are now including the heat zone on the plant label. The first numbers listed are the hardiness zones, followed by the heat zones.

The following are two species of plants that are worth incorporating into your garden:

Mexican Oregano, *Lippia*, is suited to all of the heat zones in Placer and Nevada Counties, but will only thrive in the warmer winter areas.

Lilyturf, *Liriope* will thrive in all but the coldest areas of the high Sierras, as well as in the warmest

summer areas.

Hardiness

The **third** point to consider when choosing plants is the span of temperatures the plant can tolerate (low to high). When buying in a nursery, the label will give these temperatures. For best results, it's a good idea to avoid plants that are borderline when it comes to our cool county temperatures.

Choosing Turf grasses

The same rules that apply to plants also apply when choosing turf grasses. Grasses are divided into two groups: warm season and cool season grasses. Bermudagrass, Buffalograss, Fescues and, Creeping Bentgrass give the best performance in warm climates. Californians have a growing number of choices in native grasses for both turf type and meadow grass installations.

Choosing climate-adapted plants is the key to optimum plant health and successful gardening.

References

- Heat-Zone Gardening*. 1998. H.M. Cathey and L. Bellamy. Time-Life Books.
- Best Management Practices to Reduce Production of Organic Materials in Landscape Plantings*. 2001. J. Hartin, D. Pittenger, and M.J. Henry. GIWMB Publication #443-01-022.

CIWMB web site at www.ciwmb.ca.gov

THE MARVEL OF WORMS



Robyn Buciak

Nevada County Master Gardener

Are you tired of turning and watering a compost pile that never seems to decompose? Is your back sore from lugging home bags of commercial compost? Millions of worms are already at work composting your soil. Use them to make your life easier and your plants healthier!

Nature's composters

The worms most easily seen in the garden are redworms, the topsoil feeders that convert dead tissue to compost. They appear naturally in piles of damp leaves and other organic debris. Extremely efficient at recycling kitchen waste, redworms are a marvelous source of organic fertilizer or vermicompost. As they ingest garbage, they excrete worm castings that stimulate plant growth, improve the soil, and control plant pathogens.

Capture them.

If they are sheltered and fed, redworms thrive in a container. References recommend that you start with 1 lb. of worms. You can get your worms from the soil or from a friend, but you'll have to wait for the worms to multiply before they provide much compost. It is faster to buy a pound of worms from a worm supplier. Listings are in the yellow pages.

Start a worm bin.

Your worm bin can be a hole in the ground, an existing compost pile, or a box made of wood, plastic, or metal. Any container that retains moisture will do. A lid is not necessary unless the bin is outside where it is likely to attract animals. The worms will stay in

the dark, moist bin rather than crawl out.

If you are starting with a box, make it small enough to be portable. Common sizes are 1'x2'x3' and 2'x2'x8" (always less than 18" deep). Some people like them small enough to put under the kitchen sink.

Put enough holes in the box to provide air and keep water from pooling. If there is no lid, cover the bin with sheets of newspaper or black plastic. This gives the worms the darkness they crave and keeps flies from laying eggs on exposed food waste.

Provide warmth and moisture.

Put moist bedding (dried leaves, wood chips, shredded paper), a handful of soil, food, and the worms inside the bin. Worms need temperatures between 50 and 85 degrees F. Protect them from extreme heat and cold. Worms must have moist skin in order to breathe, so don't let the bin dry out.

Feed them.

Redworms eat any organic kitchen waste and soft yard clippings. Although redworms will eat it, meat tends to create odor and animal problems. Feed them fruit and vegetable trimmings, coffee grounds and filters, tea bags, crushed eggshells, used paper towels, cardboard egg cartons, and green plant trimmings. Bury the food about 2" under the bedding.

See references for details on bin sizes and how much food and bedding your worms need.

In 3-6 months, there will no longer be enough bedding in the bin to

cover more food. The worms have ingested so much that the bedding and food scraps are indistinguishable. At this stage, the vermicompost (the combined worm castings, organic material, bedding in varying stages of decomposition, the worms and other living organisms) is ready to harvest.

Harvest the vermicompost.

The difficult part of harvesting compost is saving the worms for your next bin. The easiest way to do this is to move the vermicompost to one half of the bin, and start new bedding on the other half. Add food, water, and a cover to the new side. If you do not add food, water, or a cover to the vermicompost, the worms eventually move to their new home. When most of the worms are in the new half, the vermicompost is ready to use.

Feed your plants.

Work this nutrient-rich material into the soil under house or garden plants and at the bottom of transplant holes. Water dripping through the soil makes the vermicompost nutrients available to the plant roots.

Besides being a clean way to dispose of kitchen waste, vermicomposting is a simple way to make nutrient-rich organic fertilizer. So instead of tending that compost pile, you can ignore it. Your worms will tend it for you.

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- Worm Composting. CA. Integrated Waste Management Board. Placer County Compost Education Program.

SUNFLOWERS: THE CLOWNS OF THE GARDEN



Gay Wilhelm

Placer County Master Gardener

The number of varieties of garden flowers never ceases to amaze me. Imagine a family with 'Mammoth' members as well as 'Music Box' dwarfs. Sunflowers delightfully come in all colors and sizes. The botanical name, *Helianthus*, derived from the roots, *helios*, "sun" and *anthos*, "flower", describes a garden flower that demands attention, respect and a giggle!

History

The sunflower is native to North America and is believed to have covered thousands of square miles in the western plains of the United States. Archeological digs have discovered sunflowers as early as 3000 BC, but currently large agricultural production is in Russia. The Russian Orthodox Church created a demand for sunflower seeds when Lent and Advent forbid consumption of certain foods.

Sunflowers grown in home gardens are divided into 2 categories, *Helianthus* and edible seed types. All sunflowers are actually made up of an ingeniously arranged assembly of hundreds of tiny flowers. Each flower is capable of producing one seed. By working together, these tiny flowers impersonate a bold flower with one goal, attracting bees.

Varieties

The sunflower most widely grown for seed production is 'Mammoth'. Towering 12 ft. in the air and supporting a flower head 12 inches in diameter, it is a natural attractant for monarch butterflies. Kong, another giant, up to 14 ft. tall, can be seen ¼ mile away. Smaller, diminutive types include Teddy Bear, Sunspot, Big Smile, Music

Box and Sunrich Lemon. There are single flowering and multi-flowered branched types. 'Prado Red Shades' can bear up to 18 blooms and 'Soraya' produces 24 thickly stemmed flowers suitable for cutting. Colors range from white to sunny yellow and all variations of autumn hues, including chocolate brown, golden orange, burgundy and copper.

Benefits

The beauty and drama of this wonderful plant are reasons enough to include sunflowers in your garden, but sunflowers provide many more advantages.

Lady beetles, green lacewings, and mealy bug destroyers; all beneficial insects, are attracted to sunflowers. The taller varieties provide wind breaks as well as shade in the garden. The stalks can provide a trellis for vines such as cucumbers, or dried stalks can be used as stakes next year. According to Diane Relf, Environmental Horticulture Dept. Virginia Cooperative Extension, the protein content of sunflower seeds is comparable to beef. They are also high in iron. There are even studies linking sunflowers to decreased cholesterol and blood pressure.

Attracting birds

Just a reminder, a little goes a long way. Sunflower seeds are also high in calories! But that too becomes an advantage. Black oil sunflower seeds are an ideal songbird food. Attracting birds to your yard will naturally help manage insect problems. Even seed-eating birds feed insects to their young. Besides, the joy of watching a bright yellow goldfinch

tenuously sitting on a seed head while feeding, is a delight. Sunflower seed, whether in a feeder or on the plant will attract mourning doves, nuthatches, grosbeaks, finches, gackles, jays, and squirrels. Careful--other mischievous critters, like voles and mice, can be attracted too.

Care and maintenance

The care and maintenance of sunflowers couldn't be easier. Plant seeds in late spring 1 inch deep and 8 inches apart. Because sunflowers can be heavy feeders, try manure tea or manure as a side dressing and water at the base of the plant, and stake as needed. Sunflowers mature at 65 to 120 days, depending on the variety.

Although the sunflower has few enemies, the stem borer and the stem maggot can be destructive. Clean garden practices are the best prevention.

Sunflowers bring a smile to anyone's face. As they grow tall and reach for the sun, they delight young and old alike. Try growing sunflowers. You can't help but chuckle at the clowns of the garden vying for your attention.

References

Sunflowers. D. Relf. VA Cooperative Extension.

Sunflowers are All the Rage. B. Baldwin.

Beneficial Insects and the Plants that Attract Them Calendar. 2002. UCCE Placer County Master Gardeners.

Shepard's Garden Seeds. 2002.

www.ext.vt.edu/departments/envirohort/factsheets

www.ag.usask.ca/cofa/departments/hort/hortinfo/yards/sunflower.html



2002 CALENDAR

Saturdays, Year Round, 8:00 a.m. – 12 Noon

Auburn Farmers' Market: Courthouse parking lot, Auburn-Folsom, Road, Auburn

Saturdays, Year Round, 10:00 a.m. – 12 Noon

"Master Gardeners and Friends" Radio Talk Show, KNCO Radio, 830/AM, Grass Valley

JUNE

13, 20, 27 (Thursdays)

3:00 p.m. – 6:00 p.m.

Information Table

UCCE Nevada County Master Gardeners
Penn Valley Growers' Market

15, 22, 29 (Saturdays)

9:00 a.m. – Noon

Information Table

UCCE Nevada County Master Gardeners
Grass Valley Growers' Market

15 (Saturday) – 7:00 a.m. – 9:00 a.m.

Workshop:

Summer Pruning and Maintaining Fruit Trees

UCCE Nevada County Master Gardeners
Demo Garden, 1036 W. Main Street, Grass Valley

13 (Thursday) – 6:00 p.m. – 8:00 p.m.

Workshop: Vegetable Gardening:

Varieties and Nutrition; Soil and Container Prep; Care and Feeding; and Pest Diagnosis & Control

UCCE Nevada County Master Gardeners
Veterans Building
255 S. Auburn Street, Grass Valley

22 (Saturday) – 10:00 a.m. – Noon

Workshop: Vegetable Gardening:

Care and Feeding; Pest Diagnosis and Control

Two locations:
UCCE Nevada County Master Gardeners
Demo Garden, 1036 W. Main Street, Grass Valley
UCCE Placer County Master Gardeners
Loomis Public Library, 6050 Library Drive, Loomis

29 (Saturday) – 10:00 a.m. – Noon

Workshop: Vegetable Gardening: *Care and Feeding; Pest Diagnosis and Control*

Placer County Master Gardeners
Senior Gardens at DeWitt,
First Street and "E" Avenue, Auburn

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Production Information

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

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...MORE 2002 CALENDAR OF EVENTS

(Continued from page 10)

JULY

6, 13, 20, 27 (Saturdays)

9:00 a.m. – Noon

Information Table

UCCE Nevada County Master Gardeners
Grass Valley Growers' Market

11, 18, 25 (Thursdays)

3:00 p.m. – 6:00 p.m.

Information Table

UCCE Nevada County Master Gardeners
Penn Valley Growers' Market

AUGUST

1, 8, 15, 22, 29 (Thursdays)

3:00 p.m. – 6:00 p.m.

Information Table

UCCE Nevada County Master Gardeners
Penn Valley Growers' Market

3, 10, 17, 24, 31 (Saturdays)

9:00 a.m. – Noon

Information Table

UCCE Nevada County Master Gardeners
Grass Valley Growers' Market

7-11 (Wednesday-Sunday)

Exhibit Booth and Workshops

Nevada County Fair

UCCE Nevada County Master Gardeners

17 (Saturday) – 9:00 a.m. – 11:00 a.m.

Workshop: Winter Vegetable Gardening

UCCE Nevada County Master Gardeners
Demo Garden, 1036 W. Main Street, Grass Valley

SEPTEMBER

5, 12, 19, 26 (Thursdays)

3:00 p.m. – 6:00 p.m.

Information Table

UCCE Nevada County Master Gardeners
Penn Valley Growers' Market

7 (Saturday) – 9:00 a.m. – 10:00 a.m.

Workshop: Composting

UCCE Placer County Masters Composters
WEL Garden at San Juan Water District
9935 Auburn-Folsom Road, Granite Bay

7, 14, 21, 28 (Saturdays)

9:00 a.m. – Noon

Information Table

UCCE Nevada County Master Gardeners
Grass Valley Growers' Market

21 (Saturday) – 9:00 a.m. – 11:00 a.m.

Workshop: Softwood Propagation

UCCE Nevada County Master Gardeners
Demo Garden, 1036 W. Main Street, Grass Valley

28-30 (Friday-Sunday)

Exhibit Booth and Workshops

Fall Home Show

UCCE Placer County Master Gardeners
Gold Country Fairgrounds
1273 High Street, Auburn

SIERRA COLLEGE CLASSES:

Fall Semester Begins August 19

Rocklin Campus (916) 781-0430

Nevada County Campus (530) 274-5302

View class schedules at <http://www.sierracollege.edu>

Environmental Horticulture Classes offered for Fall Semester:

- Intro to Horticulture; Plant Identification; Landscape Design; Arboriculture; Nursery Practices; Landscape Maintenance; Pest Management; Xeriscape Planting; Professional Interior Landscaping; Seeds; Gardening with Color; Vegetable Gardening; Pruning Ornamentals; Outdoor Container Gardening

CALENDAR DATES

If your non-profit Gardening Group has educational events for the public scheduled and wish to publicize the activity, please submit information (including day/date, time, location, fee if any, contact person and phone number, etc.) to **The Curious Gardener**.

Quarterly deadlines for inclusion: **March 1, June 1, September 1, and December 1.**