



THE YOLO GARDENER

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A QUARTERLY PUBLICATION BY THE UCCE. MASTER GARDENERS OF YOLO COUNTY

Road Block Ahead: Help Stop those Invasive Pests & Diseases

Ann Daniel, Yolo County UCCE. Master Gardener



It was our first time driving into the state of California and we did not understand what was happening. We were driving south on I-5 from Oregon and the road signs called for a slower speed and a road block loomed ahead. What was this? A California Border Protection Station.

Sixteen inspection stations across California are the first line of defense in an extensive program to protect California agriculture by keeping damaging pests and diseases out. California has natural barriers—oceans, mountains, deserts—that have helped to protect our environment, but invasive plants and damaging pests can hitch a ride and enter our state via our road system. In most years, over 20 million personal vehicles and seven million commercial vehicles are stopped and inspected.

Inspectors are trained to assess the risk that each vehicle presents—a family car presents a different risk exposure than a moving van or commercial truck coming across country. Vehicles and cargo are checked to ensure that they are pest-free and in compliance with state and federal quarantine laws.

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It could be devastating to the health and safety of Californians, our natural resources, and to our agriculture businesses if uninspected, unapproved, uncertified animals and plants enter the state. We should not put in jeopardy the economy of California and the over 80,500 farms and ranches that received \$42.6 billion in 2012 for their output. Once invasive species are introduced into our environment, they can be impossible to eradicate. Keeping pests under control or eradicating them once they arrive requires more chemicals in the environment and adds costs to agricultural production, leading to higher prices at the grocery store.

Studies show a direct relationship between agricultural inspections and lowering invasive species infestations. The California Department of Food and Agriculture states that for every dollar spent on pest prevention, fourteen dollars are saved in later control costs and economic losses. If we work together to prevent the introduction of invasive, damaging pest to California, we can preserve our environment and protect our agricultural resources.

What can you do to help?

As summer approaches, families are making vacation plans and finalizing relocation plans. As you make your travel plans, do your part to keep California free from invasive insects, weeds, and diseases.

Leave firewood at home: Tree-killing insects and diseases hide out in firewood. Do not move your firewood or transport firewood to a campground. Use firewood from local sources (within 50 miles of where you have your fire).

Prepare for the Inspection Process:

- Pack all plant materials—fruits, vegetables, plants, and hay—for easy access.
- Make sure that the driver knows what is in the vehicle and where it is stored.
- If there are locked spaces, make sure you have the keys or know the combination.
- Make sure that doors can be opened and closed easily.

Declare all fruits, vegetables, and plants for inspection.

Let others know about the risks to California from invasive pests and diseases.

If you would like to learn more about efforts to protect California, and about the current serious pest threats to California, please visit:

www.cdfa.ca.gov

www.dontmovefirewood.org

<http://www.ipm.ucdavis.edu>



Gardening with Limited Water

As the severe drought in California deepens many communities are beginning to implement conservation methods, including increasing water rates and water rationing. UCCE's Master Gardeners have identified a number of resources to help you become better at conserving water. These resources are detailed in an article appearing on the UCCE Yolo County Master Gardener website at <http://ucanr.edu/sites/YCMG/>. The sight also contains a list of ten tips that will help you garden with less wter. The material presented there is reprinted below. It was also reprinted in the Simmer 2014 Issue of the Yolo Gardener.

Most of the water used at home is used outdoors, so even small steps to save water can yield big savings. Little things (like fixing broken sprinklers or making sure that you are running them in the cool of the early morning rather than the afternoon) can save lots of water. You can conserve even more by shrinking the amount of lawn you have, planting water-efficient plants, installing a drip irrigation system, or adding a weather-based smart controller.



Saving water is not hard. We simply need to be smart about using what we have. Low-water-use landscapes can be beautiful while using minimal amounts of water. We will continue to add resources for learning more about saving water, so check back often.

TEN TIPS FOR SAVING WATER IN THE HOME LANDSCAPE:

1. ***Prioritize your plants.*** Determine which plants are most susceptible to water stress. High on the list should be plants that are valuable in terms of replacement cost, prominence in the landscape, and enjoyment.
 - ***High priority:*** Trees and shrubs (especially those that are young and are planted in an exposed site). Large, mature shade trees and shrubs can be left alone unless the drought is severe and the trees begin to wilt, or the root systems have been recently disturbed.
 - ***Medium to high priority:*** Perennials, fruit and nut trees, small fruits and vegetables, turf that is less than one year old.
 - ***Low priority:*** Annual flowers and herbs, ornamental grasses, established turf. These are usually less expensive and more easily replaced.
2. ***Irrigate early:*** Less water loss occurs from evaporation and wind drift in the early morning hours because temperatures are cooler and there is less wind early in the day.
3. ***Know your soil:*** The type of soil in your landscape largely determines how often you should water. Clay soils retain more water than sandier ones, so they can go longer between waterings.
4. ***Mulch:*** Apply two to four inches of mulch around plants to keep weeds down, conserve soil moisture, and moderate soil temperatures. Mulching minimizes water evaporation from the soil surface, reducing the need to irrigate. Keep mulch three to four inches away from the trunk or stem of the plant to prevent rot.
5. ***Control weeds:*** Weeds can out-compete cultivated garden plants for water and nutrients.
6. ***Add organic matter:*** When possible, add organic matter (compost) to your soil. This will improve the water-holding capacity during dry weather and promote good drainage during wet weather.
7. ***Don't fertilize:*** Or apply a low-nitrogen fertilizer. Fertilizing stimulates growth, which increases water needs.
8. ***Avoid runoff and puddling:*** This is accomplished by cycling irrigations. Let sprinklers run for ten minutes, then shut them off for ten minutes, allowing the water to absorb into the ground.
9. ***Use a broom to clean driveways, sidewalks and steps:*** Using a hose can waste hundreds of gallons of water.
10. ***Select water-efficient plants:*** When buying new plants, use some of the resources below to choose low water users that are adapted to our climate. Keep in mind that all plants require regular watering to become established, including California natives.

RESOURCES

The resources below provide more information about how to create a water-efficient landscape, and how to deal with drought conditions in your garden.

Landscapes

- Information from the UC Center for Landscape & Urban Horticulture about landscape water management includes questions and answers regarding water conservation and dealing with drought in the landscape. http://ucanr.edu/sites/UrbanHort/Water_Use_of_Turfgrass_and_Landscape_Plant_Materials/



- *Water Conservation Tips for the Home Lawn and Garden* is a UC ANR publication that describes how to reduce water use and at the same time have a lovely and enjoyable garden. (PDF 93kb) <http://anrcatalog.ucdavis.edu/pdf/8036.pdf>
- This chapter from the California Master Gardener Handbook discusses how to keep various plantings alive under drought conditions or water restrictions. (PDF 93kb) <http://ucanr.edu/sites/sacmg/files/183342.pdf>
- UC Davis Arboretum staff suggests actions to take for landscape survival during drought. <http://publicgarden.ucdavis.edu/public-garden/7-tips-for-landscape-survival-during-drought>
- UC environmental horticulturists offer tips on how to save water in the garden and landscape. (PDF 11kb) <http://ucanr.edu/sites/sacmg/files/183395.pdf>
- Watering tips for drought conditions from the University of Maryland offers suggestions for prioritizing the water needs of typical landscape plants, as well as watering and cultural tips for dealing with drought. (PDF 247kb) <http://ucanr.edu/sites/sacmg/files/183230.pdf>
- This Colorado State University information about landscape management during drought also applies to our California drought conditions (PDF 19kb). <http://ucanr.edu/sites/sacmg/files/183231.pdf>
- Help protect the health of your landscape trees with these tips for pruning drought-stressed shade trees. (PDF 19kb) <http://ucanr.edu/sites/sacmg/files/183437.pdf>
- The Sacramento Tree Foundation offers tips on caring for mature trees during a drought and caring for young trees during a drought. Also see their website in the helpful sites listed below. <http://www.sactree.com/mature> and <http://www.sactree.com/pages/492>
- *Rules of Thumb for Water-Wise Gardening* is a booklet produced by the Regional Water Authority that offers suggestions for planning, planting, and maintaining a water-efficient landscape. (PDF) <http://www.rwah2o.org/rwa/files/ToolKit/For%20the%20Garden/Rules%20of%20Thumb%20for%20Water%20Wise%20Gardening.pdf>
- From the California Department of Natural Resources, this colorful brochure describes six simple steps to a water-wise garden. http://www.saveourh2o.org/sites/default/files/page_files/6%20Simple%20Steps%20to%20a%20Water-Wise%20Garden.pdf
- *Water-Smart Landscapes* from the US EPA describes how to have a beautiful, healthy yard while using less water. (PDF) http://www.epa.gov/WaterSense/docs/water-efficient_landscaping_508.pdf
- California's statewide program "Save Our Water" and the editors of *Sunset* magazine produced a helpful and beautifully illustrated 32-page booklet that offers many ways to save water in your landscape. (PDF) http://www.saveourh2o.org/sites/default/files/page_files/GWW0611_Waterwise.pdf

Water-efficient plants

- A seven-page document, the WEL garden plant list (PDF 106kb) documents the plants growing in the Water Efficient Landscape Demonstration Garden at the Fair Oaks Horticulture Center. <http://ucanr.edu/sites/sacmg/files/117288.pdf>
- This is a list of the California native plants growing in the Water Efficient Landscape at the Fair Oaks Horticulture Center (PDF 120kb). With minimal supplemental water these plants can be kept attractive all year. <http://ucanr.edu/sites/sacmg/files/138184.pdf>
- The Arboretum All-Stars are 100 easy-to-grow, water-efficient plants selected by the UC Davis Arboretum horticultural staff and tested in our region. http://www.arboretum.ucdavis.edu/arboretum_all_stars.aspx

Vegetable gardens

- Suggestions for home vegetable garden management during a drought include valuable information on critical watering periods for numerous vegetable crops. (PDF 20kb) <http://ucanr.edu/sites/sacmg/files/183393.pdf>
- Some vegetables require less water than others; this article describes which ones to consider for your vegetable garden when water use is limited. (PDF 8kb) <http://ucanr.edu/sites/sacmg/files/183430.pdf>

Fruit trees

- This document describes the best ways to care for fruit trees in a drought, with valuable tips on when and how to water and thin fruit (PDF 95kb) <http://ucanr.edu/sites/sacmg/files/183723.pdf>
- The UC Drought Management website is written for commercial growers, but the information on drought strategies for peaches, plums, and nectarines is valuable for trees in home orchards as well. <http://www.ipm.ucdavis.edu/QT/lawnwateringcard.html>

Lawns

- This guide to irrigating established lawns from UC IPM Online describes how, when, and how often to water your turfgrass. <http://www.ipm.ucdavis.edu/TOOLS/TURF/MAINTAIN/irrigate.html>
- Lawn watering quick tips from UC IPM Online, the UC Statewide Integrated Pest Management Program. <http://www.ipm.ucdavis.edu/QT/lawnwateringcard.html>
- *Managing Turfgrasses During Drought* is a comprehensive and detailed UC publication that addresses situations such as the ones we are currently facing. (PDF 421kb) <http://ucanr.edu/sites/sacmg/files/182387.pdf>

Graywater

- This chapter from the *California Master Gardener Handbook* discusses graywater use in urban California landscapes, including the benefits and risks of graywater systems. (PDF 67kb) <http://ucanr.edu/sites/sacmg/files/182486.pdf>

Irrigation

- Irrigation scheduling information for turfgrass from the UC Guide to Healthy Lawns tells how to determine the amount of water needed and how long to irrigate a lawn. <http://www.ipm.ucdavis.edu/TOOLS/TURF/MAINTAIN/irrsched.html>
- *UC Guide to Healthy Lawns* instruction on irrigating established lawns describes how to ensure that your lawn will thrive. <http://www.ipm.ucdavis.edu/TOOLS/TURF/MAINTAIN/irrigate.html>
- *Plan your Irrigation System* from UC IPM Online describes things to consider when planning a watering scheme. <http://www.ipm.ucdavis.edu/TOOLS/TURF/SITEPREP/planirr.html>

Helpful websites

- *UC Guide to Healthy Lawns* provides extensive information about growing a healthy lawn. From UC IPM Online, the UC Statewide Integrated Pest Management Program. <http://www.ipm.ucdavis.edu/TOOLS/TURF/index.html>
- The Sacramento Tree Foundation offers excellent in-depth tree planting and watering guidance for our area. <http://www.sactree.com/pages/1>
- River-Friendly Landscaping is an environmentally friendly way of gardening. RFL practices conserve water, reduce yard waste, and prevent pollution of air and local rivers. Use the River Friendly benefits calculator to

see how much water, time, and money can be saved by creating a river-friendly landscape. <http://www.msa.saccounty.net/sactostormwater/RFL/default.asp> and <http://www.msa.saccounty.net/sactostormwater/RFL/conservewater.asp> and <http://www.riverfriendly.com/>

- *Water-Wise Gardening in the Gold Country Region* from the Regional Water Authority offers extensive information about garden design, plant selection, watering tips, and tours of gardens in the Sacramento area, including the Water Efficient Landscape gardens at the Fair Oaks Horticulture Center. <http://www.rwa.watersavingplants.com/> and <http://www.rwa.watersavingplants.com/GWImage.php?index=29&source=gt&page=5>
- Regional Water Authority provides comprehensive advice about water-smart gardening. Find your water provider by locating your property on their map, or simply enter your address and zip code. <http://www.bewatersmart.info/resources-events/water-provider/>
- EcoLandscape California has just released eco-friendly landscape design plans for the New California Landscape. Downloadable landscape and irrigation plans and documents are included, as are suggestions for plants that are low-water-users and climate-appropriate. In-depth plant profiles and photographs show how each plant looks during all four seasons. <http://www.ecolandscape.org/new-ca/> 

Davis Community Garden “Update”

*Merle Clarke and Willa Bowman Pettygrove, Yolo County UCCE Master Gardeners and
Community Garden Participants
Jane Schafer-Kramer, City of Davis Community Garden Coordinator*

For some readers of *The Yolo Gardener*, this is not so much an update as a first introduction to one of Davis’s long-standing institutions. The Davis Community Garden was established in the 1970s at 1825 Fifth Street in what was then the far reaches of East Davis, out beyond the corporation yard for PG&E, in the area reserved for the city’s Parks and Public Works and the School District’s yards. Oh, and the “dump,” the site for Davis Waste Removal, was right across the street. (It wasn’t a dump, but a local nonprofit held a popular annual fundraiser called “Dinner at the Dump.”) Geography is important here, because the issue is land that must be conserved for long-term use and soil that will continue to be improved. The city has grown, while the garden For the 116 gardeners who tend plots that each measure just 16 by 20 feet, their garden is their community’s center. Some great views of the garden, with its chaotic beauty and diversity, can be found at <http://community-services.cityofdavis.org/davis-community-gardens>.

Community Garden Coordinator Jane Schafer-Kramer notes that gardeners have come to Davis from all corners of the world, including Europe, the UK, Africa, and Asia. From the United States, residents come from both big cities and rural areas. Some are only interested in growing food, some only grow two or three specialty crops, others enjoy growing flowers for cutting, and some are dedicated to keeping the bees and pollinators happy. Gardening styles include plots that emulate farms with straight rows and perfect spacing, raised beds, trench planting, no-till gardening with lots and lots of mulch, and others that appear to have been planted impulsively. With a diversity of gardeners and gardening practices comes many kinds of unusual crops: so many greens, some that don’t have English names, many varieties of squash, purple tomatoes, purple tomatillos, Jerusalem artichokes, and chayote. Growing peas for the shoots is common among not only the Nepali but other Asian cultures as well. Carrot greens aren’t just for compost; gardeners add them to salad, soup, or make a pesto with them!

Traditional cultural practices are reflected not only in what is grown, but also in what gardeners may see as the benefits of their crops. For example, sweet potato leaves are tasty and good nutrition, and are believed by some to be good for nursing mothers.

The diversity among gardeners is mostly a positive thing, but occasionally a gardener expresses a less-tolerant attitude toward other gardeners' styles. For hollyhocks, morning glories, and even California poppies, the beauty may be in the eye of the beholder. There isn't a policy against any of these, although there are policies to encourage good community manners and weed control. On the other hand, herbicides are strictly prohibited in the garden, and Integrated Pest Management practices are strongly encouraged. There is a rarely-used process for dispute resolution in the event of conflict between gardeners or with City policy.

For Coordinator Jane, the biggest challenge is how to better manage the green waste. "We generate a lot of plant waste in the garden. I'd like to see the Community Garden do a better job of composting both as a community effort and also as an individual effort. Gardeners could save money on soil amendments and have healthier soil, and the Garden could be less dependent on Davis Waste Removal." The City is going to be reducing the "claw" pickups of green waste, meaning gardeners will have to reduce what they bring to the curb. The other big challenge will be gardening with less water; the drought isn't ending anytime soon. Plot fees have increased in recent years as the City has more carefully monitored the costs of water and waste removal. These fees pay all costs of the garden, including the Coordinator's staff time.



Gardeners have their own style, reflected in how they decorate their plots



Gardeners experiment with weed control and water conservation
garden. 🍅

One recent innovation at the Garden has been its adoption as a teaching and demonstration site by Yolo County Master Gardeners. One of our first workshops was on composting and included a tour of several plots where gardeners have innovative approaches. Besides conventional composting, trench composting in the ground works wonderfully well, as does simple green mulching. (Through the Garden's Facebook page, we even attracted a student from CSU Chico to that workshop.) A more recent cover crop demonstration seems to have resulted in more use of this water-conserving and soil-enhancing practice. Building pride of place through such public efforts may be as important as the research-based expertise and information that Yolo Master Gardeners bring to the

Springtime Photography

Jan Bower, Yolo County UCCE Master Gardener

Spring is an amazing season. Nature is brought back to life. Lovely flowers in bright vivid colors of pink, red, blue, yellow, and purple begin to bloom. Healthy green leaves sprout from bushes and trees, and vegetables peak up from the ground. There is a fresh quality to everything. Are you inspired to capture some of this beauty? Springtime offers a great opportunity to do photography!

I recently heard a lecture at the Davis Photo



Photo by Dr. Robert Norris

Club by Professor Emeritus Robert F. Norris from UC Davis. Dr. Norris has been photographing the beauty of the botanical world since 1959. In his early years, he used a Leica III. Later, he progressed through a series of higher-level SLR Nikon cameras to his present camera, a Nikon D800. He also became increasingly interested in macro photography, which allows him to concentrate on minutiae in his photographing of plants, particularly for instruction.

What is macro photography?

Macro photography is the art of taking close-up pictures that reveal details which can't be seen with the naked eye. An object in a photograph is considered "macro" when the increase is about half- to five-times its actual size. In the days of film, special equipment was needed to take highly magnified images of small subjects, e.g., the addition of diopter lenses, extension tubes, macro bellows, or macro lenses, which were fairly expensive. Today, it is not necessary to have a sophisticated SLR. Very fine close-ups can be taken with a digital camera (digicam).

I use my Apple Smartphone, tablet, or compact Canon Power Shot for garden photography at home and while traveling. It's easier than using my old Nikon Cool Pix because you don't have to bother with extra lenses. Engage macro mode on a digicam, and the

camera adjusts lens-to-sensor distance automatically for a precise focus. For distant subjects, like landscapes and skies, the lens-to-sensor focus decreases to infinity; for closer subjects, like flowers or people, the lens-to-sensor distance increases.

On an SLR camera, you still need to set your f stop and shutter speed. Dr. Norris recommends using an opening of f/2.8. If you want a more shallow depth of field, use a wider aperture, such as f/3.5.

Tips for Beginners

According to Dr. Norris, the three most important considerations in doing macro photography are: 1) depth of field; 2) light reduction at high magnification; and 3) position of the camera relative to the object being photographed. He always shoots in RAW rather than JPEG or TIFF. RAW is a file format that captures all the image data recorded by the sensor when you take a photo. Shooting in RAW allows the images to be edited better in the processing stage, e.g., using Adobe



Photo by Jan Bower

Photoshop and Lightroom. When shooting in JPEG or TIFF, image information is compressed and often lost.

The use of a tripod to steady the camera is recommended. Since it takes time to set up a tripod,

it's a good idea to find your composition first. To take perfect flower photographs, you should choose the best specimens you can find. Look at every bloom or plant closely, and always check that the background complements the subject. Pictures can be taken of a bunch of flowers or a single flower.

When shooting close-ups, natural daylight is one of the best sources of light to use. The best time to photograph are the golden hours – sunset or sunrise. The sun can give a glow or a gorgeous soft and slightly diffused light to your images. Also interesting effects can come from fog, mist, and a cloudy day. Try different angles and think of compositions that would work well as close-ups. By getting down to ground level, you often are able to get better shots.

If you want good results using ordinary lenses for macro photography, use a reversing ring that attaches to the filter thread on the front of the lens. This makes it possible to attach the lens in reverse. The quality results are generally up to 4x life-size magnification.

Happy Shooting! 

Tomato Genes: Heirloom and Hybrid

Linda Parsons, Yolo County UCCE Master Gardener

The tomato is America's favorite summer vegetable, although technically it is classified as a fruit. This vine plant is fairly easy to grow and, with proper care and selection, will produce a bumper crop. They are famous for their taste, color, and endless uses in the kitchen.

The cultivated tomato is a member of the nightshade family that includes New World crops such as the potato, squash, and chili pepper. These crops spread around the world after Christopher Columbus brought them back to Spain in the fifteenth century.

Known scientifically as *Solanum lycopersicum*, the modern tomato seems to have its wild origins in the Peruvian Andes and may have been domesticated in Vera Cruz, Mexico, which was an agricultural hot spot in the New World. Primitive varieties still grow throughout the Americas. Botanists call thirteen species "tomatoes," and consider an additional four to be close allies. Although botanists have classified these wild species, none of these species became today's cultivated crop. The Mother Tomato has never been discovered. The closest relative is the currant tomato, *Soalanum pimpinellifolium*. Based on genetic studies, this tomato split from today's tomato about 1.4 million years ago.



Wild Tomatoes

pomodoro, or golden apple. A cherry tomato typically has two compartments or locules filled with jelly and seeds.

Researchers have worked backward, crossing tomato varieties and species in an attempt to understand how various genes influence shape, taste, and size. They have concluded that in their effort to make, bigger, tastier, and faster-growing fruit, our ancestors selected only thirty mutations out of the tomato's 35,000 genes. While most of these genes have only small effects on tomato size and shape, one gene, known as *fascinated*, increases the tomato's size by fifty percent.

Increasing the tomato's size was the single most important event in its domestication. Written records dating to the 1500s in Spain document this mutation, which enlarges tomatoes. This gene produces compartments known as locules and existed in yellow tomatoes, which the Italians called



Heirloom Tomatoes

A Jumbo Red can have up to eight locules. The selection of a few size-regulating genes was the key to producing tomatoes that became the modern tomato, as well as a dietary favorite.

At the end of the nineteenth century, numerous cultivars of tomato were available in various colors and for different uses. These cultivars were the product of early attempts by farmers to select tomato genes that suited their intended market. Most of these cultivars required open pollination and the seeds were easily obtained from the fruits to use for the next generation. Because tomatoes do not easily out-cross, seeds of a tomato produce plants that resemble the parents. Due to

this property, earlier tomato cultivars were selected and inherited by families or communities, thus acquiring the name heirloom. Names of heirloom tomatoes often reflect some of the plant's history.

Compared with the rich reservoir of wild species, the cultivated tomato is genetically poor. These contain less than five percent of the genetic variations of their wild relatives. Selection of horticultural crop like tomato is usually done on a single plant basis and with small numbers of plants. This leads to inbreeding species, and a decrease in genetic variation. The result is genetic drift, which greatly reduces genetic variation.

Breeding from wild species via interspecific crosses has produced many favorable attributes that are hidden in newer exotic tomatoes. The collection, propagation, and distribution of genetic materials are very important to tomato breeders. Dr. Charlie Rick, a long time neighbor and friend of mine, (University of California, Davis) organized numerous expeditions to the Andes to hunt for wild tomato species. Dr. Rick spent the latter half of the twentieth century collecting thousand of accessions of the wild *Solanum* species. This collection is maintained at the Tomato Genetics Resource Center of Davis, California.



Dr. Charlie Rick

Tomatoes were first hybridized in the late nineteenth century. Hybridized tomatoes are created from genetic material from two different tomato varieties. Hybrid tomato cultivars are available in determinate and indeterminate growth habits. Their main characteristic is improved disease resistance to verticillium wilt (V), fusarium wilt (F), nematodes (N), tobacco mosaic virus (T), and alternaria (A). Hybridized tomatoes are continually being bred. Hybridization offers tomato breeders a powerful tool to optimize genetic variations in nature, which can maximize yield and resistance to biotic and abiotic stress.

The drawbacks of hybridizing the tomato are that seeds from a hybrid tomato are genetically diverse and thus produce plants that do not resemble the parent, and it takes approximately five years to produce a new hybrid cultivar for commercial use.

While hybrid tomatoes dominate the commercial and home garden, the heirloom tomato has its devotees and is making a comeback in local markets. Heirlooms are a product of about ten mutant genes. Heirloom crops are less predictable, and fruit size can vary greatly even on the same plant. They are also generally less disease-resistant and are almost exclusively indeterminate in growth. They are popular with home gardeners and seed-saver groups because they are open-pollinated and thus produce plants that are true to the parent.

The United States is the third largest producer of tomatoes, (behind China and India) with California, Florida, and Georgia being the major producers. An estimated 35 million backyard gardeners across the country grow tomatoes every year.

Like art, gardening has a strong element of taste! In addition, time and space will dictate which tomatoes you choose to plant in your garden. I enjoy having some tried-and-true hybrid tomatoes like Ace, Early Girl, Roma, Celebrity, and the very sweet and productive Sungold. I mix in several heirlooms for fun and variety like Green Zebra, Principe Borghese, and Costoluto Genovese.

Regardless of which tomatoes you choose to grow, they will be much tastier than anything you can purchase at your local market. Many of these tomatoes will be available to purchase on April 4, 2015, at The Master Gardener plant sale at Woodland Community College's Vegetable Sale. Sale hours are 9:00 a.m. to 1:00 p.m. A tomato class, held at 10:00 a.m., and a vegetable class, held at 11:00 a.m., are free to the public.

For more information on Cultural Tips and Care of Tomatoes, visit: <http://www.ipm.ucdavis.edu/PMG/GARDEN/VEGES/tomato.html>.

Other websites used for this article include:

- http://redwoodbarn.com/DE_tomatoes.html,
- <http://aob.oxfordjournals.org/content/100/5/1085.full>,
- <http://www.ers.usda.gov/topics/crops/vegetables-pulses/tomatoes.aspx>,
- <http://cdn.intechopen.com/pdfs-wm/31476.pdf>
- http://ucanr.edu/sites/sacmg/What_are_Heirloom_Tomatoes/, http://ucanr.org/sites/Tuolumne_County_Master_Gardeners/files/140240.pdf, and
- <http://www.pvamu.edu/PDFFiles/agriculture/CEP/publications/AGNR/Publication%20-%20James-Heirloom%20>
- <http://www.extension.org/pages/61177/tomato-fruit-size#.VQ405cZj07A>,
- <http://ecommons.cornell.edu/bitstream/1813/8252/9/tanksley.pdf>



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Our message centers will take your questions and information. Please leave your name, address, phone number and a description of your problem. A Master Gardener will research your problem and return your call.

E-Mail..... mgyolo@ucdavis.edu

Drop In..... Tuesday & Friday, 9-11 a.m.
70 Cottonwood St., Woodland

Web Site <http://ucanr.edu/sites/YCMG/>

Upcoming Master Gardener Classes

Davis Master Gardener Workshops

Davis Venue Addresses:

Central Park Gardens	Yolo County Library	Grace Garden
Corner of Third and B Streets Davis	315 East 14th Street, Davis	1620 Anderson Road Davis At the back of the church parking lot

Date	Time	Site	Topic(s)
April 4, Saturday	9:30a.m. - 10:30 a.m.	Central Park Gardens	Drought Tolerant and California Native Plants for an Attractive Garden
April 11, Saturday	9:00 a.m. - 1:00 p.m.	Grace Garden	Plant Sale
April 19, Sunday	2:00 p.m. - 4:00 p.m.	Yolo County Library	Planting Summer Vegetables, Soil Amendments Fruit Tree Maintenance
May 2, Saturday	9:00 - 10:00 AM	Grace Garden	Container Gardening
May 17, Sunday	2:00 p.m. - 4:00 p.m.	Yolo County Library	Drought Tolerant Herbs Container Gardening Vertical Gardening
May 30, Saturday	10:30 a.m. - 11:30 a.m.	Central Park Gardens	The Glories of Chicken Manure
June 21, Sunday	2:00 a.m. - 4:00 p.m.	Yolo County Library	Succulents Worm Compost Irrigation Tune up

West Sacramento Master Gardener Workshops

West Sacramento Venue Address:

Arthur F. Turner Library, 1212 Merkley Avenue, West Sacramento, CA 95691

April 18, Saturday	2:00 p.m. - 4:00 p.m.	Arthur F Turner Library	Direct Sowing and Transplanting of Annuals
May 16, Saturday	2:00 p.m. - 4:00 p.m.	Arthur F Turner Library	Fruit Tree Care and Summer Pruning

Woodland Master Gardener Programs

Woodland Venue Address:

Woodland Community College, 2300 East Gibson Road, Woodland, CA 95776

April 4, Saturday	9:00 a.m. – 1:00 PM 10:00 a.m. - 11:00 a.m. 11:00 a.m. - Noon	Woodland Community College	Plant Sale Growing Tomatoes in Your Garden Ways to Grow Your Own Vegetables
April 11, Saturday	9:00 a.m. - Noon	Woodland Community College	Plant Sale
May 9, Saturday	9:00 a.m. - 10:00 a.m. 10:00 a.m. - 11:00 a.m.	Woodland Community College	Integrated Pest Management Attracting Pollinators to the Garden
June 6, Saturday	9:00 a.m. - 10:00 a.m.	Woodland Community College	Fruit Tree Care and Summer Pruning

Spring Gardening Tips

Mary Yaussy, Yolo County UCCE Master Gardener

“In winter, I plot and plan. In spring, I move.”
Henry Rollins.

There is something magical about the first blooms of spring. Have you noticed some of the UC Davis Arboretum All-Stars bursting with color around Yolo County? Like the purple and blue shades of the various Ceanothus; look for Ceanothus ‘Marie Simon,’ which offers large, loose clusters of soft pink flowers that complement maroon-red stems. Did you know that the Compact Oregon grape, with its yellow spring flowers, is a California native? It wouldn’t be spring without the favorite Western Redbud shrub or tree and its spectacular show of pink shades. Of course, these plants are low-water, easy-maintenance, and perfect for Yolo County’s drought conditions.

Spring is a wonderful time to be gardening, mulching, shopping local plant sales, and attending a Yolo County Master Gardener Free workshop. The following will provide tips and ideas to help you prioritize your garden chores and possibly discover new gardening adventures.

SPRING CLEANING

- Examine trees and shrubs for winter damage. Prune damaged foliage and branches.
- If you haven’t pruned your roses and fruit trees, this is the last month to ready them for their spring bloom. Cut back seasonal grasses.
- Do not prune early-flowering plants: rhododendrons, magnolias, camellias, azaleas, viburnum, and forsythia. It is best to prune them after the blossoms are spent or wait until early fall.
- Apply the final application of dormant oil spray to all fruit trees before the buds swell. Roses need to be sprayed to prevent over-wintering insects and fungal spores. <http://www.ipm.ucdavis.edu/PMG/GARDEN/PLANTS/rose.html> *
- Apply final application of copper and Volcker Oil to peach and nectarine trees. <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7426.html> *
- On Hackberry trees with a history of heavy Hackberry woolly aphid infestations, apply Imidacloprid as a soil drench. <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74111.html> *
- Spray a fungicide to control anthracnose on Sycamore and Ash trees. See <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7420.html#MANAGEMENT>
- Weeds are starting to sprout, so take care of them before they take over.
- Once your spring bulbs have finished blooming, dead-head (remove blossom ends); however, don’t remove the leaves until they turn yellow. This will help the bulbs store energy for next spring’s bloom. If they are unsightly, braid them or fold them over and secure with twine until you remove them in late spring.

*As always, please carefully read and follow label instructions and properly dispose of excess materials.

FERTILIZING, COMPOSTING AND MULCHING

Your plants are hungry. Begin to lightly cultivate your perennial garden, being careful not to dig too close to your plants. Loosen the soil as soon as it is not too wet to work.

- Add soil amendments, such as compost, peat moss, and organic fertilizer.
- Roses and fruit trees need special attention now. In addition to organic rose food and soil amendments, I add a cup of alfalfa pellets to each rose plant. This helps the rose to produce more basal breaks (new growth) and more chlorophyll.
- Be sure to use fertilizer that is recommended for each plant type. In particular, too much nitrogen will make

the plant grow too quickly, producing growth that will not be as sturdy and which is more susceptible to sucking insects.

- Resume your feeding schedule for your lawn and fruit trees.
- Fertilize your spring-blooming plants, such as camellias and azaleas, after they bloom, and repeat for the next three months.
- Fertilize your houseplants.
- Mulch your garden to a depth of four inches. The reward will be fewer weeds and less watering in the months ahead.

PLANTING

Perennial plants need attention now.

- Remove any old growth.
- Dig and divide crowded perennial plants.

Select early-blooming annuals.

- Plant candytuft, pansies, violas, dianthus, Iceland poppies, and primroses.

Select summer-blooming plants.

- Bulbs, corms, and tubers can be planted now.
- Some colorful choices are cannas, begonias, lilies, and dahlias.

Shade plants include Serpentine Columbine, Lillian's pink coral bells, Rosada coral bells, Island Alumroot, and Giant Chain Fern.

Drought-tolerant and sunny-location plants include Island Pink yarrow, blue gamma grass, California fuchsia, Santa Margarita foothill penstemon, hummingbird sage, and Cascade Creek California goldenrod.

Replace shrubs and roses. Be sure to select these plants with care to ensure they have the correct growing conditions. Careful selection ensures healthy plants that are easy to grow and maintain. Young plants need additional water to help them through their first summer.

After you have completed your planting, be sure to lightly fertilize your plants and mulch well. Remember that plants do better if they are planted at or slightly above grade. If you are planning to grow your vegetables from seed, begin your seedlings indoors under lights. By late April or early May you can harden off and plant the seedlings in your vegetable garden. The soil temperature needs to be 50 degrees Fahrenheit before you set out your young plants.

DISEASE AND PEST CONTROL

If you have applied your dormant oil and fungicide, your plants will be off to a good start.

- Periodically check plants, especially roses, for signs of black spot, rust, and mildew. These often appear first on the interior or lower parts of the plant. If the spring is especially rainy, you will need to be more vigilant, and either remove the affected leaves or spray more often.
- While you are checking for disease, note whether slugs, snails, and earwigs are munching on your plants. As the weather warms, aphids, mites, thrips, and scale creep into your garden. These pests are usually kept in check by a variety of beneficial insects such as lacewings, mantises, ground beetles, tachinidae, and robber flies. Many plants attract beneficial insects; these plants include yarrow, alyssum, feverfew, dill, parsley, coriander, penstemon, and asters.

If you need to use commercial pesticides, consult <http://ipm.ucdavis.edu/> for excellent information on controlling pests and diseases.

LAWN CARE

Lawn is often the forgotten plant and one of the most neglected plants in the garden. Lawn does surprisingly well if given a modicum of care. Most importantly, it needs to be fed and watered regularly.

- Check your irrigation system and be sure that the lawn is getting the proper amount of water. The amount will gradually need to be increased as the days become longer and warmer.
- You will also need to raise the mower blade to a height of three inches, as spring gives way to summer.
- Re-seed thin spots in your lawn and begin your fertilizing and mowing schedule in March.
- While it is easier to use commercial fertilizer, applying a light topcoat of compost to your lawn will greatly benefit your lawn's growth and health. Leaving grass clippings on your lawn will add needed nutrients, if you do not mind an untidy lawn. Grass clippings make excellent compost.

FINAL SPRING TOUCHES

- Paint the lower trunks of young trees with water-thinned white latex paint to prevent sunburn and borer problems. Stake tall-growing perennials and vegetables before they begin to bend over in late spring.
- In late spring, thin fruit trees, leaving six inches between each fruit. This will help the remaining fruit to mature properly and keep the branches from being over-weighted and splitting.
- Deadhead spent flowers to assure a long blooming season in your garden.
- Plant containers with your favorite annuals and herbs.
- Clean and re-stock bird feeders. Sharpen and maintain garden tools.
- Hang your hammock or set out your favorite garden chair. Relax with some lemonade and take time to enjoy a new gardening book or listen to a local garden radio program.

SPRINGTIME IDEAS**Books:**

Allergy-Free Gardening, by Thomas Leo Ogren.

Can't figure out what is making you sneeze when you're outside? This book rates plants by allergy and toxicity potential. When considering low-water plants, also research lower-allergenic plants for your garden.

Edible Landscapes, by Rosalind Creasy.

This book encourages growers to first plant with the produce that is really desired, and then to add ornamentals with the same growing needs.

Gardening by Cuisine: An Organic-Food Lover's Guide to Sustainable Living, by Patti Moreno.

The cuisine gardens were planned with listings of plants related to cuisine likes, such as an herb pesto garden, an Asian stir-fry and salad garden, a vegan raw garden, and a host of other ideas.

Children Books:

The Slug (Disgusting Creatures), by Elise Gravel.

Learn fun facts about slugs and how they help our environment.

Ages: 6-9 years old.

Be Nice to Spiders, by Margaret Bloy Graham.

Story about Helen the spider, who lives in the zoo, and her good deeds.

Ages: 4-8 years old.

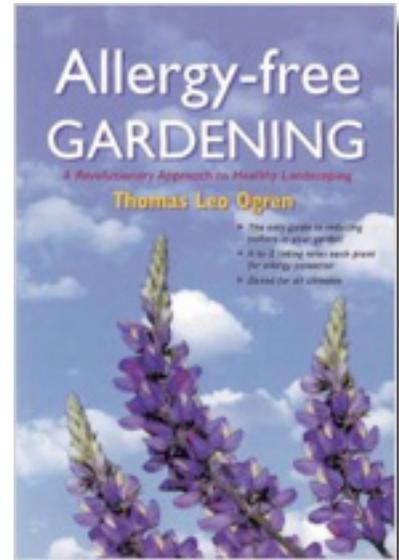
Garden Tools:

I was given two nifty tools that have made gardening easier for me. First, Kamaki (P-900H) professional pruning shears, 185mm, features a high-carbon, stainless steel blade with a nylon resin grip. The Japanese-

made shears are lightweight and perfect for small pruning jobs and deadheading. The second is True Temper 7-IN-1 Planters Buddy Multi-Purpose Garden Tool. My tool bucket has become lighter.

Plant Sales and Workshops:

- April 4: Yolo County Master Gardeners' Spring Plant Sale featuring heirloom tomatoes, a variety of plants and succulents at Woodland Community College (2300 E. Gibson Road, Woodland) from 9am to 1pm. Cash or check only! Two free public workshops will be presented by the Master Gardeners: 10:00 a.m. to 11:00 a.m.: Growing Tomatoes; and 11:00 a.m. to noon: Ways to Grow Vegetables. Along with the Master Gardener Plant Sale, the WCC horticulture students will also offer vegetables and plants for sale.
- April 11: Yolo County Master Gardeners' Spring Plant Sale at Woodland Community College (2300 E. Gibson Road, Woodland) from 9:00 a.m. to Noon. Cash or check only!
- Grace Garden Annual Plant Sale at Davis United Methodist Church (1620 Anderson Road, Davis) from 9:00 a.m. to 1:00 p.m. Yolo County Master Gardeners will be present to answer garden questions.
- U.C. Davis Arboretum Plant Sale at Arboretum Teaching Nursery (UCD campus, Garrod at LaRue, across from Veterinary school) from 9:00 a.m. to 1:00 p.m. Master Gardeners will be available for garden questions.
- April 18: Yolo County Master Gardeners will be available at the Arthur F. Turner Library (1212 Merkley Avenue, West Sacramento) from 2:00 p.m. to 4:00 p.m. to discuss direct sowing and transplanting of annuals.
- April 19: Yolo County Master Gardeners offer an informal Q & A on seasonal topics at the Davis Branch of the Yolo County Library (315 E. 14 Street, Davis) in the Blanchard Room from 2:00 p.m. to 4:00 p.m. The topics will be planting summer vegetables, soil amendments, and fruit tree maintenance.
- April 25: UC Davis Arboretum Plant Sale at Arboretum Teaching Nursery (UCD campus, Garrod at LaRue, across from Veterinary School) from 9:00 a.m. to 1:00 p.m. Yolo County Master Gardeners will be on hand to answer gardening questions.
- May 2: Container Gardens Workshop presented by Yolo Co Master Gardeners at Grace Garden, Davis United Methodist Church (1620 Anderson, Davis) from 9:00 a.m. – 10:00 a.m. Workshop is a Free public event.
- May 9: Yolo County Master Gardeners present two FREE workshops at Woodland Community College (2300 E. Gibson Road, Woodland): 9am to 10am: Integrated Pest Management; and 10:00 a.m. to 11:00 a.m.: Attracting Pollinators to the Garden.
- May 16: UC Davis Arboretum Plant Sale at Arboretum Teaching Nursery (UCD campus, Garrod at LaRue, across from Veterinary School) from 9:00 a.m. to 1:00 p.m. Yolo County Master Gardeners will be on hand to answer gardening questions.
- Master Gardeners present Fruit Tree Care and Summer Pruning at the Arthur F. Turner Library (1212 Merkley Avenue, West Sacramento) from 2:00 p.m. to 4:00 p.m.
- May 17: Yolo County Master Gardeners offer an informal Q & A on Seasonal Topics at the Davis Branch at the Yolo County Library (315 E. 14 Street Davis) in the Blanchard Room from 2:00 p.m. to



4:00 p.m. Topics will be drought-tolerant herbs, container and vertical gardening to maximize space.



- May 30: Master Gardeners present The Glories of Chicken Manure Workshop at Central Park Gardens (B Street at Third, Davis) from 10:30 a.m. to 11:30 a.m.
- June 6: Master Gardeners will present Pruning Fruit Trees in the Summer workshop at Woodland Community College (2300 E. Gibson Road, Woodland) from 9:00 a.m. to 10:00 a.m.
- June 21: Yolo County Master Gardeners will be available at the Davis Library (315 E. 14 Street, Davis) in the Blanchard Room for questions on succulents, worm composting, and irrigation tune-up from 2:00 p.m. to 4:00 p.m.

FOR ADDITIONAL INFORMATION:

Yolo Co. Master Gardener: <http://ceyolo.ucdavis.edu>

Central Park Gardens: www.centralparkgardens.org

Grace Garden: <https://sites.google.com/site/gracegardendavis>

UCD Arboretum: <https://arboretum.ucdavis.edu/>



New Master Gardener Handbook Available

UC ANR Publication Number: 3382. - Copyright Date: 2015 - Length: 756 pp.

<http://anrcatalog.ucanr.edu/> Toll free order line: (800) 994-8849

Since it was first published in 2002, the *California Master Gardener Handbook* has endured as the definitive guide to best practices and advice for gardeners throughout the West. Now the much-anticipated 2nd Edition to the *Handbook* is here—completely redesigned, with updated tables, graphics, and color photos throughout.

Whether you're a beginner double digging your first bed or a University of California Master Gardener, this handbook will be your go-to source for the practical, science-based information you need to sustainably maintain your landscape and garden and become an effective problem solver.

Chapters cover soil, fertilizer, and water management, plant propagation, plant physiology; weeds and pests; home vegetable gardening; specific garden crops including grapes, berries temperate fruits and nuts, citrus, and avocados. Also included is information on lawns, woody landscape plants, and landscape design. New to the 2nd Edition is information on invasive plants and principles of designing and maintaining landscapes for fire protection.

Inside are updates to the technical information found in each chapter, reorganization of information for better ease of use, and new content on important emerging topics.

Useful conversions for many units of measure found in the Handbook or needed in caring for gardens and landscapes are located in Appendix A. A glossary of important technical terms used and an extensive index round out the book.





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 Yolo County Master Gardeners
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University of California
 Agriculture and Natural Resources

Cooperative Extension

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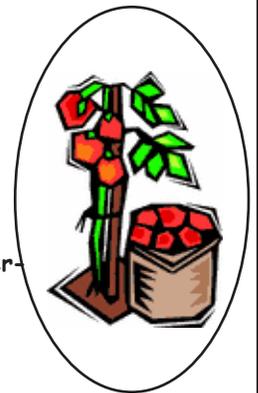
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http://ucanr.edu/sites/YCMG/Yolo_Gardener

Judy

Judy McClure, Master Gardener Coordinator