



# THE YOLO GARDENER

Summer 2017

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

## *Mediterranean Yolo: Making the Most of our Climate*

*Ann Daniel, UCCE Master Gardener, Yolo County*

Like many of you I have been very fortunate to have had the opportunity to travel to many wonderful locations. It was on a trip to Stellenbosch in the Western Cape of South Africa that I fell in love with a landscape that was so different from what I was familiar with at the time. In fact, I still display a photo of a charming urban front yard that made quite an impression on me in 1999.

Fast forward to 2010, when my husband and I arrived in Davis from Austin, Texas, and I could not understand why I was seeing so many of the plants that I loved in South Africa in landscapes across our area. I realized that I had a lot to learn.

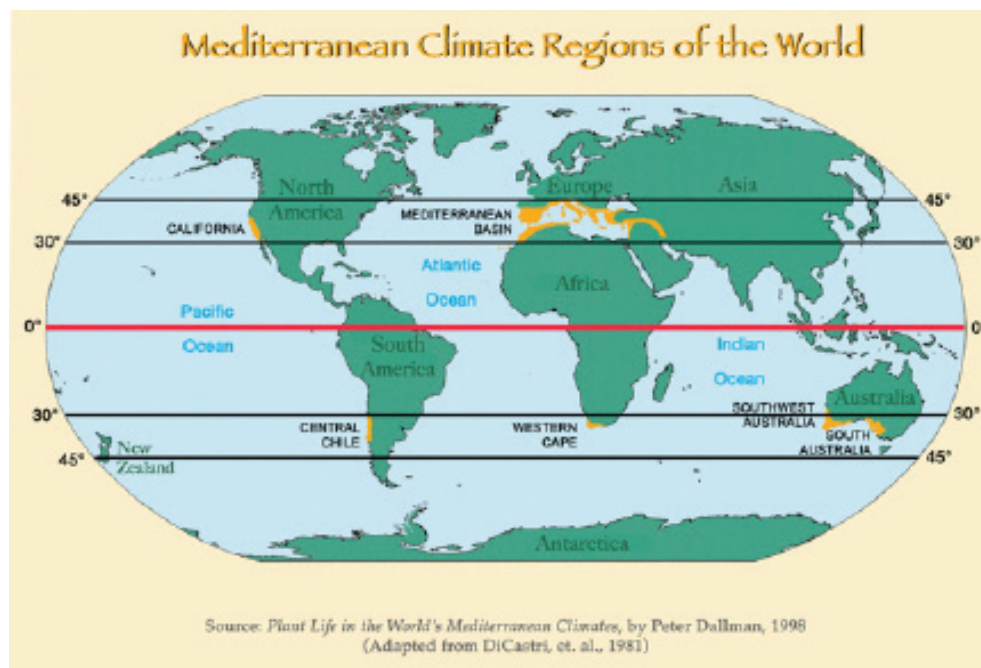
The 2017 UC Master Gardeners of Yolo County Display Garden at the Yolo County Fair (August 16 – August 20) will illustrate elements of a garden that is designed to take advantage of the fact that we live in a Mediterranean climate. Many areas of the world enjoy this climate that has the dominant traits of:

- hot, dry summers, and
- mild winters with variable rainfall

If you look at a world map and focus on the 30-45° latitude in the southern hemisphere and the 30-45° in the northern hemisphere you will see the regions that have a Mediterranean climate. Note that the yellow areas on the map below include not only the areas in the Mediterranean Basin—for example, Greece, Italy, Spain, Turkey—but also South Africa’s Cape, areas of southern Australia, Chile, and of course parts of California.

It is very easy to always simply think of our region as being “summer dry and hot”, but by thinking only about this aspect of our Mediterranean climate we jeopardize our success with our landscapes. We all need to understand and take advantage of the mild, wet winters that help our water-stressed landscapes. We should plan our garden renovations and plant installations to happen just before these helpful winter rains. Give your plants a

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great start by planting in the cooler temperatures of fall and let our climate help do the watering for you!

Our recent drought conditions made everyone very interested in creating a water-wise garden. The plants that thrive in a Mediterranean climate are many of the same plants that you have been learning about from UC Master Gardeners during our various water-wise and native plant workshops. California native plants are adapted to our climatic conditions and many prefer to have little to no water in the summer and can thus suffer if they are planted in a summer-irrigated landscape.

By learning that we are a Mediterranean climate and understanding the traits of this type of climate and how the traits impact our growing conditions, you will be able to create a lovely landscape that works in harmony with our wonderful Mediterranean climate.

Please visit the UC Master Gardener Display Garden *Mediterranean Yolo* at the 2017 Yolo County Fair to learn how to make the most of our climate and have a thriving landscape with year-round interest. The display garden will be located in the courtyard of the Flower House on the Yolo County Fairgrounds at Gibson Road and East Avenue in Woodland (across Gibson from the County Fair Mall). Watch also for future Master Gardener workshops that will offer information on water-wise gardening and gardening with California native plants.



## *How to Make PVC Tomato Cages*

*Erin McDermand, UCCE Master Gardener, Yolo County*

For us serious tomato growers, the conventional conical wire tomato cage has all the structural integrity of a Slinky. Looking for an alternative several years ago, I found it in an article in the Sacramento Bee. The article featured several ways to cage the tasty beast, and Tom Matkey's PVC version won me over. I wanted something that could be stored. To that end, I do not glue the pieces together. Unglued, they can be taken apart.

They are simple to build and it's easy to change the design to meet your needs. The cages are great for pole beans, peas, and cucumbers, too. Over the years I have used them, I have adjusted the dimensions to the ones



given in these instructions.

Another great feature is the ease of tailoring the cage for each tomato variety; an Ace tomato would probably only require a couple of horizontal supports, and a SuperSweet 100 would no doubt need several, which can be added as the plant grows.

**Tools:** you will need include a saw to cut the PVC (I use an inexpensive plastic miter box that comes with its own saw); tape measure or yardstick; marking pen; rubber mallet; hammer or small sledge to drive supports into the ground; gloves; level; and a plastic scrubby to remove burrs from cut PVC. Always wear safety goggles.



**Materials** (for one 3-tiered cage, approximately 51 inches tall):

3 - 10' pieces of 3/4" Schedule 40 PVC, cut as follows:

12 - 9" pieces (horizontal support)

8 - 15" pieces (risers)

4 - 30" pieces (support risers)

12 - 3/4" PVC slip elbows (no threads)

12 - 3/4" PVC slip crosses or X joints (no threads)

4 chopsticks, plastic straws or skewers



Slip Cross

To begin, construct a horizontal support; while you are at it, you might as well put together all three.

Horizontal support (one): insert a 9" piece into opposite sides of a slip cross (X joint): Make four.



Connect these four pieces with elbows to form a square.

Being sure that the holes in the X joint are perpendicular to the square, place the square on the ground in the exact location you wish the cage to be; once you pound in the supports, you will be unlikely to want to move the cage. You may erect a cage over an existing small plant; be extremely careful not to damage it.



Slip Elbow




MARK the spots where you will place the supports by inserting a chopstick or straw into the hole in the X, pressing it firmly into the soil. Gently lift the square and set aside, leaving the markers upright. Measure and mark each of the 30" pieces of PVC 12" from one end; mark the pipe all the way around. Place the marked end over the marker in the ground, and drive it into the ground with the hammer or sledge until the 12" mark is at the soil line; try to make it as straight upright as possible. Use the level. This is the most difficult part. Fortunately, PVC is flexible, and will allow a certain margin of error.

Align the holes in the X joint with the tops of the support stakes and use the rubber mallet to secure the joints. The first tier should be fairly level – adding tiers will magnify any tilt, and compromise the strength of the cage.

It is not necessary to add horizontal support tiers until the plant begins growing past the tier, but they can be added at any time. Place the 15" pieces in the top of the X joint holes in the first tier, securing them with the rubber mallet, and placing the next tier on the risers as you did the first.



To provide extra support for the plants, I put a piece of ½” PVC in the corners of the cage, securing it to the corner with green plastic tape. 

## Reflecting on a Vernal Pool

*Willa Pettygrove, UCCE Master Gardener, Yolo County*

Forgive my efforts at cuteness; the fact is, vernal pools often look like patches of drought-stressed vegetation, to the casual viewer a bunch of weeds, no sparkling water in sight. What are vernal pools, and why are they so important in California?

Readers from the Central Valley of California may be familiar with places such as Jepsen’s Prairie, or wetlands in the river delta south of Sacramento that include open water, estuaries, and mud flats. Recently, I traveled to another important wetland that is connected more directly to the Pacific through a channel known as the Laguna Santa Rosa, part of the overflow area for the Russian River. Presentations by researchers of the Laguna’s Foundation underscored the continuing importance of vernal pools, including public policies (under the Federal Clean Water Act and other State and local policies) to restore vernal pools where they have been lost. The researchers also clarified some misconceptions about vernal pools in California.

Two facts of life in California explain much of the reason why vernal pools and other wetland areas are threatened, if not already gone. The state’s role in agriculture began with European settlement and will continue with demand from national and international markets (for example, demand for nuts and dairy in Asia). This is not a static pattern; the Santa Clara valley was a major fruit producing region up through the mid-twentieth century. The other fact of life is California continues to offer opportunities to people; housing demand follows prosperity but can’t seem to keep pace with population growth.

The Laguna Santa Rosa Foundation (<http://www.lagunafoundation.org>), headquartered outside Santa Rosa, is worth a visit for both its natural beauty and for the interpretive exhibits located there. Signs depict human settlement before the Europeans came. For more than 10,000 years, Pomo, Wappo, and Miwok people have settled in the area. For these foragers and hunters, the natural environment provided ample sustenance year around. Land could be managed by selective burning, irrigation, and gathering of food and fiber with nondestructive technologies. Although there was village life among the Indians, they did not have private ownership of land or make permanent alterations in the soil. The Laguna offices, located in a restored farm house, have an interesting mix of common garden flowers, fruit trees, and vegetables, along with native plants on the grounds.



*Our guide Ellen Dean clarifies a point with one of the researchers from Laguna Santa Rosa Foundation.*

European settlement, beginning with the first Mexican land grant in 1833, was the start of ranching and farming that continued until recent history. Clearing of oak woodlands, commercial hunting of game for the urban market, and flood control measures destroyed the existing riparian ecology. Despite this, the Laguna still exists as a 14-mile-long waterway, with a floodplain of more than 7500 acres. Some “natural” vernal pools, now scattered and isolated within the area, still exist.



I visited the Foundation as a member of Davis Botanical Society (<http://herbarium.ucdavis.edu>), led by Herbarium Curator Ellen Dean. Current and former staff reported on research they had conducted at the Foundation. One source of support for this research is fees collected from developers who are required to pay mitigation costs for restoration of wetland areas. As employees of a nonprofit foundation, staff members also engage in fundraising from public and private sources.

To conclude this already lengthy article, let me address four of the misconceptions that were revealed in the Foundation researchers' discussion of their work.

The first is: **Laws and regulations related to vernal pools address concerns of environmentalists, but don't represent broader public interests.** "Wet is wet." Vice President Dan Quayle used these words to craft a definition of wetland. He made it sound simple, but wetlands are complex ecosystems that have real environmental consequences for flood control. Hurricane Katrina was a tragic example the costs of ignoring a problem. (In local terms, Guerneville's 100 year flood plane is reduced by fifteen feet because of the Laguna, whose watershed represents ten percent of the Russian River drainage.) These concerns increase with the population density in urban areas. Wetlands become even more important as areas of land are paved and built on, or converted from natural to agricultural uses.

Next is the argument: **Annual plants in the vernal pool can easily be replanted.** Developers may be required to replace vernal pools that have been lost. In creating or restoring areas as vernal pools, soil is removed



*Housing Development in Santa Rosa. The vernal pool restoration "mitigates" for the ones that were lost with development.*

down to a semipermeable layer, equivalent to what natural vernal pools have. This layer permits water to slowly leach through, to support the life cycle of the delicate plants with gradual drying. The annual plants that are typical in vernal pools survive in turn by having seeds that can be viable 10 years or more.

This allows the plants to come back after periods of copious rain and drought. It also increases the genetic diversity within the species. After a vernal

pool is replaced, it is monitored to count the number of seeds, collected from other pools, that germinate.

A third misconception is: **Presence of grazing animals is harmful to restoration.** One of the observations from the researchers is that contrary to expectations, the presence of animals tended to improve the response of desirable species, by controlling invasive grasses and other weeds. Foundation staff were able to get the cooperation of homeowners in the area who keep horses. This finding is still at best an observation; perhaps further research finds ways to negotiate for mixed uses of land in sensitive areas. This example also suggests the value of having staff who are sensitive to individual property rights, as well as to broader public interests.

Finally, some argue: **Agriculture and residential and commercial development irreversibly damage wetlands.** Deep ripping of wetlands is one way growers prepare wet areas for crops such as wine grapes. Commercial and residential development have equally damaging practices, grading and paving being just two. A complex set of regulations and laws is designed to require mitigation, restoring or replacing wetlands when development impacts are inevitable. Current policies represent an effort to meet the requirements of many interests while protecting public needs for health, safety, and preservation of natural resources for their own sake.

\*Willa is a member of California Native Plant Society. She is a retired urban planner.

For another view, see the article published June 1, 2017 in the *Sacramento Bee*, "He plowed his field and got hit with a \$2.8 million fine. Will Trump rescind it?" by Ryan Sabalow and Dale Kasler. 🍅

## Restoring Pruners

*Peg Smith, UCCE Master Gardener, Yolo County*

As gardeners we've all done it, left a garden tool out and found it later, rusted. Here is an effective method to restore a rusted garden tool using household products. It takes a little time, patience and elbow grease but does not require any commercial caustic products.

A note of caution: The vinegar and salt solution suggested here will not affect the steel parts of tools. However, if your tool has any aluminum parts the vinegar and salt solution will eat away at these fairly quickly. *Do not* leave aluminum parts in the vinegar and salt solution for more than a few hours.

This is especially important if the parts have threads.

### Step 1:

Take photos or roughly sketch your tool so that you can note the position of springs, screws, blades, handle position etc. This will make sure that what you take apart can be reassembled. If possible take apart the tool, brush and remove any loose dirt or rust. If the tool is heavily rusted and you are unable to take it apart soak it in the following vinegar/salt solution for twelve hours then try to disassemble.

### Step 2:

Mix a solution of one quart vinegar to  $\frac{1}{4}$  cup of salt (one gallon vinegar to one cup salt for a larger quantity). Soak tool/tool parts in solution for about twelve hours. Tools/tool parts can be left to soak for about one to three days if in bad shape. The vinegar is a mild acid. Adding the salt increases the acidity and helps chew away the rust.



*Disassembled pruners*



*Rusted pruners*

### Step 3:

Using a scrubber (a green scrubber such as 3M™, Scotch Brite™) clean the tool and parts. The green scrubbers do not have threads to catch on the rough particles of rust. After removing as much rust as possible with the scrubber use a brass brush to vigorously brush all parts to remove the more stubborn rust deposits.

### Step 4:

Now the acid solution used on the tool/tool parts needs to be neutralized. Place the tool/tool parts in a container. Measure the amount of water needed to submerge the tool/tool parts. For each gallon of water add one cup of baking soda. For smaller quantities to each one quart water add  $\frac{1}{4}$  cup baking soda. It will foam and loosen remaining rust. Leave tool/tool parts in water and baking soda solution for ten minutes.



*Vinegar and salt*



*Materials needed*

**Step 5:**

Take 0000 grade (fine or extra fine steel wool, not the soap impregnated type) and rub all faces of the tool/tool parts.

**Step 6:**

Rub all surfaces of the tool/tool parts with a rag soaked in denatured alcohol. This will wick away any remaining moisture so that the rust will not return to haunt you.

**Step 7:**

Rub a light oil (camelia oil is recommended) on all surfaces.

**Step 8:**

Reassemble tool.

**Step 9:**

Sharpen any blade surfaces. 🍅



*After cleaning*



## *Out of the Ordinary: Unusual Fruit-Bearing Trees and Shrubs Worth a Try*

*Michael Kluk, UCCE Master Gardener, Yolo County*

Do you feel like you are in a peach, plum, strawberry rut? There are thousands of other fruit-bearing trees and shrubs that can provide beauty and interest to your garden and a bit of food as well. This article will look at three trees and three shrubs that are adapted to our soils and climate. Some are available at local nurseries; some you will need to order online. All are worth consideration if you are willing to experiment a little.

### **Jujube (*Ziziphus jujuba*)**

The jujube is a small deciduous tree that is commonly known as Chinese Date. It is native to Eastern China and is a Chinese import you will appreciate. It is drought-tolerant and well adapted to our long hot summers. It does not seem to be fussy about pH or deterred by heavy Central Valley soils.



*Chinese jujube*

Jujube trees are attractive with small, shiny, light green leaves. They need pruning only to remove dead branches. The fruit is small, approximately one to two inches in diameter. It turns from light green to a burnished brown. When most of the fruit surface has become brown, it is at its sweetest and juiciest. The flavor is reminiscent of a sweet apple with “earthy undertones.” The jujube is unique in that, if left on the tree, it will dry in place, becoming much like a date. It slowly becomes wrinkled while retaining most of its sweetness.

Hundreds of jujube cultivars are available in China, where it is a popular and important food crop. The two most common cultivars here are Li and Lang. Li is self-fruitful. Lang needs another jujube cultivar as a pollinator. Other common cultivars are GA 866, Shanxi Li and Sugar Cane. The latter are all self-fruitful.

### **Nanking Cherry (*Prunus tomentosa*)**

This is another fruit with a Chinese name, although is most commonly grown in Russia. It is a true *prunus* but hails from cold semi-arid regions and has developed a toughness to match its environment. The fruit is about a half inch across with a tart cherry flavor. The small tree will grow nine to fifteen feet tall and just as wide. Also known as downy cherry, its leaves have a soft, fuzzy appearance. The tree does tend to grow a thicket of branches and will benefit from a thorough pruning and thinning.



*Nanking Bush Cherry*

Nanking cherry blossoms early, at about the same time as apricots. But unlike apricots, it can set fruit even if frost is settling during the bloom time. It puts on quite a show with every branch covered with white blossoms while most trees are still in deep slumber. That alone is reason enough to give this tree a try.

Most cultivars require another tree as pollinator although self-fruiting versions are available. Finding a spot for two of these pretty little trees should not be a big challenge. In fact, it is often sheared as a hedge so you can try a whole row.



Nanking cherry does not like saturated soil, so find a spot with decent drainage. Given adequate conditions, it will grow quickly, often 2-3 feet a year. It is long lived for a fruit tree with many specimens lasting fifty years.

### **Mulberry (*Morus alba*, *Morus rubra* & *Morus nigra*)**

The mulberry does not receive the respect it deserves as a fruit producer. Because fruitless cultivars have become so popular, the fruiting varieties have been lost in the background. However, they were at one time considered the “king of the tree fruits.” Admittedly, you would not want to plant a fruiting mulberry over your driveway, walkway or patio. The dark colored fruit will stain and was used as a source of dye in medieval times. But in the right spot, it can form a stately shade tree and produce enough juicy sweet berries to satiate a small army of birds and leave plenty for you.



*Weeping Mulberry Fruit*



*Weeping Mulberry*

Three main species of mulberries grow worldwide; white, red and black. There are hundreds of cultivars for each. The black originally came from Western Asia. It is the least hardy but will survive in USDA hardiness zone 5 and above so should do well here. The black is considered to have the best tasting fruit. White mulberries originally came from Russia and are the most cold hardy. “White” refers to the light green of the leaves. The fruit can range from light green to black, depending on the cultivar. The red mulberry is the largest of the three species. It is native to the United States, originally ranging from the East Coast to Nebraska. The color of the fruit can vary from red to black.

Mulberries typically need full sun and lots of room. The White and Red can form huge shade trees that will dwarf most city lots. The black is more manageable at 15-20 feet. There is also a dwarf black mulberry available that can even be grown successfully in a pot and a weeping cultivar that can be kept to ten feet. A mulberry will produce a huge amount of fruit that can be eaten fresh, baked into pies, pureed, made into a pudding or dried.

### **Gooseberries (*Ribes supp.*)**



*Gooseberries*

There are two primary species of gooseberries grown for fruit, the American (*Ribes hirtellum*) and the European (*R. grossularia*). The American tends to be better adapted to our climate and more productive but the European has larger and better tasting fruit. In truth – many gooseberry species are challenging to grow in our hot dry summers. But there are native species, such as the yellow or oak gooseberry (*Ribes quercetorum*) that grows in the Sierra Nevada foothills. While the fruit of most native species is not particularly desirable, it does indicate that, given the right cultural practices, you have a good opportunity to be successful with the tastier cultivars.

One big plus to gooseberry culture is that they are a true understory plant. If you have a shady spot in your yard, they give you a chance to grow a fruit producing plant successfully where others will fail. They do best with morning sun and afternoon shade, but will survive full shade. And, as an added benefit, gooseberries like heavy soils. They do need consistent moisture and perform best when heavily mulched. Drip is the best watering method since wetting the foliage can lead to mildew.

Gooseberries are relatively fast growing to about three feet high and six feet wide. They can be controlled with pruning. The American varieties tend to have a weeping growth habit and will root where the branch tips touch down. Most species are spiny.

Given the variety, the fruit can be green, white, yellow or shades of red. Fruits of the European gooseberry are large, usually 1 inch long. American gooseberry fruits are half that size. The fruit has a unique flavor with the best tasting cultivars rivaling strawberries or grapes. Cultivars to consider, among others, include Oregon Champion for the American and Hinnonmakis Yellow and Telegraph for the European varieties.

### ***Aronia Berry (Photinia melanocarpa)***

If you frequent health food stores, you are probably familiar with the many products made from antioxidant-rich aronia berries. Aronia is a deciduous woody shrub that is easy to grow. It is tolerant of heavy, poorly drained soils although it will do better in soil that does not saturate for extended periods. It grows well in acidic to mildly alkaline soils and is drought-tolerant but giving it plenty of water is said to improve the flavor of the fruit. Aronia shrubs grow wild at the edge of forests and can flourish in full sun or partial shade. At maturity, the aronia shrub can reach six feet in diameter and almost as tall. It will produce approximately 15 pounds of berries. It can be pruned to be a much more compact plant. Wood that is over four years old should be removed to increase production.



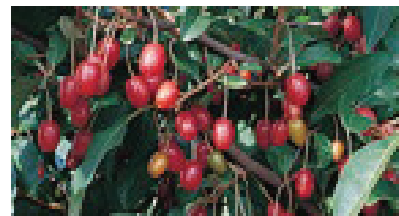
*Aronia Berry*

Another name for aronia is black choke berry. Those antioxidant properties do come with a price and the berries tend to be astringent. Some people like to eat them fresh but they are often blended with other fruit or cooked. The berries can be dried, used as part of a juice mix or in baking, jams and salsa; all of which reduce the astringency of the fresh berries.

Aronia shrubs bloom in the early spring and are covered with a profusion of blossoms. The berries are approximately 1/4 inch in diameter, dark blue to black and borne in clusters in September. Aronia shrubs are self-fruitful. They are in the same family with roses and apples, *Rosaceae*, so these “berries” are also a pome. Like apples and roses, they can be susceptible to rust and possibly other diseases that affect that plant family. The most popular cultivars are Nero, Viking and Morton.

### ***Goumi (Eleagnus multiflora)***

This relatively large shrub is less well known than its genus cousins, Russian and autumn olive, but produces superior berries that are pleasantly tart and juicy. As a member of the genus *Eleagnus*, it offers the bonus of being a “nitrogen fixer,” forming a symbiotic relationship with nitrogen fixing bacteria in the soil. It will grow to eight feet high and wide but can be kept in check with pruning. Goumi blossoms profusely in the early spring. The flowers are not particularly showy but have a wonderful scent. In fact, in ancient Persia, the scent was said to be an aphrodisiac. That has so far gone unconfirmed in Yolo County. Goumi are partially self-fruitful but benefit from cross pollination.



*Goumi*

This is one tough plant that will grow well in a variety of poor soils and is very drought-tolerant once established. Plants of the *Eleagnus* genus are often used to reclaim strip mined or otherwise abused lands. The leaves are leathery but have a silver underside that makes them very attractive fluttering in a light breeze. It handles full sun but in our intense summers, can do with a little afternoon shade. It is a relatively fast growing plant. Goumi are generally not affected by any disease or insect pests. 🍅

## Controlling Whiteflies

Jack Kenealy, UCCE Master Gardener, Yolo County

Insect pest identification can be a tedious and time-consuming affair. Trying to detect the culprits of midnight snacking requires a flashlight and lots of sleuthing around - with whiteflies, not so much. They announce their presence with a whirl of white, tiny winged creatures creating a buzz whenever your plants are even slightly disturbed. And sad to say, it is nearly impossible to completely eradicate the whitefly once it appears. A healthy, vigorous plant will not be damaged by a small population, but large swarms of these sap suckers can be deadly.

The life cycle of a whitefly involves four stages and is a progression that takes approximately three weeks. It begins with light brown eggs laid in a semi-circle under the leaves of the host plant. Each female is capable of laying nearly 400 eggs over a two-month period. Scale like “instars” are born in between five and seven days. These tiny instars, invisible to the eye, move a short distance and then attach to and begin sucking the sap out of the bottom of the leaf. There are three stages of feeding instars, each stage larger than the last. These early stages are mostly immobile. Instar IV is a non-feeding pupa which exists for about a week before growing into a mature whitefly. (Whitney Cranshaw, “Garden Insects of North America”, Princeton University Press, 2004).

The diminutive size of the whitefly belies the great damage they can inflict upon a garden. Large numbers of whiteflies cause leaves to yellow and turn dry and brittle. Whiteflies, like aphids, excrete honeydew, creating a habitat for black sooty mold. The silverleaf whitefly, *Bemisia argentifolii*, one of the two most common species, the other being the greenhouse whitefly, *Trialeurodes vaporariorum*, injects a toxin that further damages host plants. (Mary Louise Flint, *Pests of the Garden and Small Farm*, Second Edition, University of California, 2014).

There are a number of ways to reduce whitefly populations to acceptable levels, all consistent with good pest management practices. For an excellent discussion



of Integrated Pest Management, *Greenhouse whitefly* visit the IPM web page, <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7401.html>.

Probably the least-applied approach to mitigating whitefly infestation is the use of bait plants. These are disposable homes for the whitefly that, once infested, are tossed into a garbage sack and disposed of in such a way as to not allow the pests to escape back into the garden. I’ve found that Nasturtiums and Morning Glory are good bait plants. Be careful, though, with the morning glories. They can be very invasive if not kept under control and can create more problems than they solve. Obviously this method does not result in a complete cure, but our goal is to reduce whitefly populations, not eliminate them.

The most-used attempt to combat the whitefly is, as with aphids, a good strong spray of water on the underside of the leaves of your plant. It is important to spray the bottom of the leaves as this is where the whitefly lays its eggs, where the instars live, and where the whitefly spends its time sucking the life out of your plant. This is best done early in the morning as the whitefly will flit around later in the day as it warms up. It can be difficult for those of us with tricky knees to get to the underside of the leaves at lower levels. Spray wands with bent ends are available, and these are helpful.

Another means of reducing the whitefly population is through the use of Neem oil, derived from



the Neem tree (*Azadirachta indica*), or insecticidal soaps. Neem oil, other horticultural oils and insecticidal soaps are contact agents which require covering the whitefly and instars. As is stated on the IPM webpage, “(t)hese insecticides have low toxicity to people and pets and relatively little adverse impact on the populations of pollinators and natural enemies and the benefits they provide.” Use soaps in the cool part of the day to prevent burning of your plants.

Biological controls are also very helpful in battling whiteflies. Ladybugs, lacewings, and praying mantids are all commercially available to the home gardener. These helpful creatures will eat and eat and eat. And it’s a treat to watch dozens of baby mantids take off for your tomatoes and beans. Planting flowers that attract beneficials can also help draw these predators to your yard without the expense of buying bug eggs. Parasitic wasps and bigeyed bugs are also natural enemies of the whitefly. (Flint and Dreistadt, *Natural Enemies Handbook*, University of

California, 1998). Whether your helpers are store bought or home grown, be sure to provide a water source. Yet even with all the hospitality you can provide these helpful insects will leave for greener pastures sooner or later.

Finally, there are yellow sticky traps. Whiteflies are attracted to the color yellow and these traps are fairly effective at drawing the whiteflies and other flying insects to their deaths. Often though, to be effective, one needs several traps, and at over five dollars for four commercially made traps, the cost adds up. Especially when you consider the traps need to be changed regularly and often the combination of rain, heat, sprinklers and time diminishes the usefulness of these things.



*Make your own traps with yellow tape, petroleum jelly, string, and a hole punch.*

One way to use traps to advantage is to make your own. All you need is a roll of yellow duct tape, scissors, a hole punch, twine and either Vaseline, Tanglefoot or Stickem. I use Vaseline only, although Flint, in *Pests of the Garden and Small Farm*, suggests using one part Vaseline to one part household detergent. The benefit of the Vaseline is that it is easy to wipe the traps clean. The commercially available agents require a solvent to remove.

Regardless of the sticky substance you elect to apply, simply double a length of the yellow duct tape back upon itself. Punch a hole in the center of each end and tie a length of string or twine through each hole. Tie one end to whatever support you plan to use and on the other end tie a weight to keep the trap vertical in the wind. I use a couple of washers and these work just fine.

Be prepared to clean the traps regularly. Periodically check the Vaseline or stickum as homemade traps are subject to the same cautions as the store-bought varieties. Add new material and you are good to go. These traps will last several seasons and they are very adaptable in terms of stretching them in lines or stringing them together for larger areas. 🍅

## Summer Gardening Tips

*Peg Smith, UCCE Master Gardener, Yolo County*

### GARDENING REMINDERS:

This spring we have had just a few days that hint of our usual hot summer to come. As we move into the intense summer heat, we need to treat our gardens as we do ourselves. For healthy gardens and gardeners, consider the following: Keep it cool! Keep it watered! Keep the bugs under control!

#### *For gardens:*

- A four-inch layer of mulch will keep plant roots cooler. With less evaporation of water from the soil, less water will need to be applied. When watering, a deep soaking at regular intervals encourages deeper root penetration; this will help plants through the summer heat.
- Through those days of over 100 degrees, use shade cloth to help plants that are prone to sunburn.
- Develop a regular pest and disease control 'patrol.' Early morning or late evening is a good time to inspect for diseases and pests. When caught early, action can be taken, remedies applied, so that whole plants are not lost. The UC Davis IPM website is a great resource to identify a disease or pest and the appropriate least environmentally toxic solution for control. (<http://ipm.ucanr.edu>).



*Apply mulch*

#### *For gardeners:*

- Wear light clothing that covers as much of the skin as possible. Wear a broad-brimmed hat. Stay hydrated. Regular drinks of water will help extend your gardening hours. Watch for heat stress - headache, no longer sweating, dizzy.
- Plan your garden tasks to stay in the shade as much as possible. If working in the full sun tackle that area in the early morning hours. Use a recommended sunscreen. Take regular water breaks in the shade.
- Patrol for small catchments of standing water and pour them out – the best way to control mosquitos. Use an insect repellent. Early summer is 'No-see-um' season. <http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=10473>. Wasps and yellow jackets have a bad reputation but they are part of a garden's ecosystem. Several wasps are parasitic and help control other non-wanted garden pests. If the activity or wasp nest is not in a high traffic area, allow them to be part of the garden web.

### Water

Even though we have had a record-breaking winter rainy season, there are no promises for next year. Continue to be familiar with your city water restrictions and do your part to save water. Plan to include more drought-tolerant plants with fall planting in the garden. Remember to place plants with similar water requirements together in your garden to maximize water efficiency.

#### *Summer Watering Tactics:*

Make sure plants are watered by deep soaking on a regular schedule early in the morning to carry them through the heat of the

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day. Many plants will appear wilted with the onset of intense afternoon heat. Before adding more water to ‘give them a lift,’ check the soil to see if it is damp. If the soil is damp the plant is most likely unable to pull up enough moisture from the soil to counter balance the amount of water it is losing through its leaves by evapotranspiration because of the heat. Allow the plant to recover overnight and check wilt and soil dampness again in the morning. Eager gardeners can tend to overwater drooping plants. Plants don’t do well with too much or too little of a good thing - water. They will wilt because of too much water as well as because of too little water. To be healthy, a plant requires around its roots an approximate combination of 25% air, 25% water, and 50% soil. If we over- or under-water, the plant will wilt and be stressed.

Also, if you are not using drip irrigation, consider this for some areas of your garden. Gardening with limited water tips: <http://ucanr.edu/sites/YCMG/files/184804.pdf>

### Pests and Diseases

Prevention is the easiest way to minimize plant damage. Regularly check the leaves and flowers for evidence of pests and diseases. Typically, the hot summer heat increases pest activity.

Whitefly, spider mites, and katydids enjoy feasting on many kinds of plants. Thrips and horntail wasps disfigure roses, and leaf miners and hornworms chew tomatoes. Blasts of water and handpicking (hornworms) early in the morning will deter most infestations.

If the cooler spring weather caused an increase in powdery mildew and rust fungus on susceptible plants, it is usually not necessary to treat with fungicides. The warmer temperatures will help reduce this problem.

To help identify the pest or disease your plant may have, consult [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu) for an extensive list of articles and photos for the correct treatment. Also, you can email a photo or bring in a sample to the Master Gardener office. <http://www.ucanr.edu/volomg>. Master Gardeners are at the office, 70 Cottonwood, Woodland on Thursday and Friday from 9:00 a.m. to 11:00 a.m.

### Weeds

A few tips to reduce weeds are to use taller plants, or lay newspaper down then add mulch to smother out new growth. Manually dig out small weed seedlings when soil is moist.

### Lawns

Grass can survive with less water than you think. Follow your city watering guidelines. Set the mower blade at the highest setting and recycle the clippings (pure nitrogen food it decomposes). Considering removing the lawn? Check out this site for the technique that works best for you. [www.ucanr.edu/scmg/Lawn\\_Replacement/Grass Removal Methods](http://www.ucanr.edu/scmg/Lawn_Replacement/Grass_Removal_Methods)

### Fruit

If you (or the squirrels) have not thinned your fruit trees and vines, they can still benefit. Thin fruit trees (apple, pear, peach, cherry, apricot, and grapes) so that there is six inches between each fruit or cluster. This may seem drastic, but your fruit will be larger, more flavorful, and it will greatly reduce the risk of broken limbs and branches. Mature fruit trees need a deep soaking every week during crop production. Grapes do best with deep water to a depth of eighteen inches, and then allow them to dry to a depth of six inches between watering. Birds can be deterred by using netting and by placing shiny objects in the canopy. Next year’s fruit buds begin their development in this summer, so be consistent with deep watering of fruit trees



*Guide to thinning fruit*



throughout the summer.

The Cherry Maggot (*Drosophila suzukii*) has invaded home cherry crops for the past several summers. The maggots are not discovered until the cherries are ready to harvest. There are several methods of reducing or eliminating this pest. The most environmentally friendly method is to use Spinosad with four to six tablespoons of molasses per gallon of water. For a complete discussion of this pest problem visit [www.ipm.ucanr.edu/PDF/PEST/NOTES/pnspottedwingdrosophila.pdf](http://www.ipm.ucanr.edu/PDF/PEST/NOTES/pnspottedwingdrosophila.pdf).

### Vegetables and Herbs

The most popular vegetable (technically a fruit) is the tomato. It usually grows effortlessly and is happiest when it is deep watered twice a week. This helps reduce cracking, ridging, and blossom end rot. Be aware that tomatoes will not set fruit in extreme heat, so after one of the valley's typical summer 'heat waves' tomato blossoms will fall from the plants. It is likely that you will see less fruit development until the plant has time to push more blossoms. Over-fertilization will lead to a lot of leaf growth, less blossom and fruit set, so use fertilizer according to the directions.

To keep vegetable crops continually blooming, harvest regularly and continue inspecting for pests. In August, pinch back the plants to help the existing fruit to ripen before the cooler weather arrives. Harvest herbs just as the flowers begin to form for the most intense flavor. If your harvest is bountiful, dry your herbs by hanging them upside down in bunches for future use.

Now is the time to begin thinking about your fall vegetable harvest. Fall vegetables such as broccoli, cabbage, snap peas, beets, carrots, and winter squash need to be seeded in July or transplanted in August for your fall vegetable garden.

### Flowers

Flowers need to be deadheaded to encourage repeat blooming. Continue to fertilize your flowers, especially heavy-feeding roses, every six weeks through October. For a full October bloom, prune your roses back by one-third in August. If you prefer the beauty of rose hips, then refrain from pruning your roses in August.

Potted plants and hanging baskets need a weekly application of liquid fertilizer (15-30-15). They also require more frequent watering.

Herbaceous plants such as cosmos, delphiniums, foxglove, and peonies need to be staked or supported. Continue to keep your garden free of weeds.

Prune spring-blooming shrubs after the blossoms drop. Spring blooming vines such as lavender trumpet vine and clematis should be pruned after the blooms have faded. Fertilize after pruning to encourage bud set for next spring.

It is not too late to plant quick-blooming summer seeds such as nasturtiums, sunflowers, and cosmos. You can also plant summer-blooming bulbs, such as dahlias and cannas.

Continue to harvest your vegetable and herb crops on a regular basis to promote and prolong summer's bounty.

Summer gardens bring enjoyable surprises and anticipation. Try planning some new flowers, herbs and vegetable varieties. You may discover that you have a new favorite to add to your tried-and-true plantings.

Tend your summer garden like the good friend it is; it will provide a season of bountiful rewards and be a welcoming summer retreat.

### Garden Books

If you are looking for reference books on Home Orchards, Common Pests and Diseases, Drip Irrigation, even Oaks in the Landscape check out the Agricultural and Natural Resources Website for their research based publications <http://anrcatalog.ucanr.edu/Items.aspx?hierId=2000>.

**SUMMER ACTIVITES**

State Fair, **July 14-30**: [www.castatefair.org](http://www.castatefair.org)

Fair Oaks Horticultural Center ‘Harvest Day’ **August 5**, 8AM – 2PM  
<http://ucanr.edu/sites/sacmg>.

9<sup>th</sup> Annual Tomato Festival, **August 12**, 8:00 AM – 12:30 PM Woodland, CA  
[www.woodlandtomatofestival.com](http://www.woodlandtomatofestival.com).

Yolo County Fair, **August 16-20**: [www.yolocountyfair.net](http://www.yolocountyfair.net).

UC Davis Arboretum: ongoing, check calendar:  
<http://arboretum.ucdavis.edu/calendar.aspx>.

MG Information Tables at:

- Davis Farmers Market, every Saturday 8AM - Noon
- Woodland Farmers Market, Saturdays 9AM - Noon.

**HOW TO CONTACT US:**

Like us on Facebook: UCCE Yolo County Master Gardeners.

Check our website for upcoming workshops and FREE gardening publications:  
<http://ucanr.edu/yolomg>.

Email questions: [mgyolo@ucdavis.edu](mailto:mgyolo@ucdavis.edu)

Telephone: 530-666-8737. year round (except mid-December through January) from 8:00 a.m. - Noon. 

*Questions about your garden?  
We'd love to help!*

**UCCE Master Gardener, Yolo County Hotline**..... (530) 666-8737

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](mailto:mgyolo@ucdavis.edu)

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

**Web Site** ..... <http://yolomg.ucanr.edu/>

**Facebook**..... UCCE Master Gardeners, Yolo County



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## *The Yolo Gardener - Summer 2017*

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or

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<http://yolomg.ucanr.edu/>

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