



# THE YOLO GARDENER

Spring 2013

A QUARTERLY PUBLICATION BY THE YOLO COUNTY U.C.C.E. MASTER GARDENERS

## Master Gardening in Yolo County

### WHAT BROUGHT ME HERE:

When I retired from teaching at Seminole State College in Oklahoma in 2002 I almost immediately began chasing grandkids and ended up in Davis, California, as their dad paused briefly for his first job at U.C. Davis. I knew when I retired that I wanted to be more engaged in gardening pursuits. I remembered with fondness the wonder and beauty of my mother's roses and irises and wanted to replicate that experience. My father-in-law, an ex-coal miner, farmer, railway worker, box maker, and, finally, beautician, was an avid vegetable gardener his whole life, who, in his latter years, taught me the joys of getting my hands in the dirt. Inevitably, then, when I arrived in Davis I began to look for similar gardening experiences. I quickly found two.

The first is as a volunteer at the U.C. Davis Arboretum, where I am employed as a volunteer propagator on Wednesday mornings. This experience, which I have continued since completing my training in 2004, has allowed me to learn and to grow as a gardener, and has satisfied, at least in part, my desire to play in the dirt.

The second experience is as a U.C.C.E. Master Gardener volunteer for Yolo County. This program has taught me more about gardening than I thought

Jim Fowler, Yolo County U.C.C.E. Master Gardener

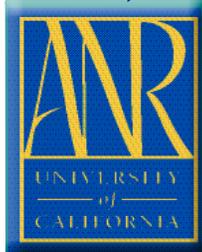
I could ever possibly know. Its specific goal is to provide educational programs designed to teach and to extend university-based information to home gardeners in California. Its emphasis on adult education allows me to use the skills learned during my professional career to transmit this knowledge to other people. It is this program that has become one of the centers of my life.



### WHAT WE HAVE ACCOMPLISHED IN YOLO COUNTY MASTER GARDENING:

The Master Gardener program began at Washington State University in the 1970s to meet the growing demand for horticultural advice for those living in urban areas. It has since spread into all fifty states and into four Canadian provinces. In the United States it is always associated with the cooperative extension services of land grant universities. Thus in California it is specifically associated with the University of California's Division of Agriculture and Natural Resources. The program began in California in

Vol. VI, No. iv



### Inside Scoop



Master Gardening in Yolo County .....	1
Snails and Aphids . . . Must be Spring! .....	3
Eucalyptus Globulus (Blue Gum) in California.....	4
Charles Robert Darwin, the Botanist.....	6
"Praying" Mantis: Friend? Enemy? Frenemy?.....	8
Everything's Better with Bacon .....	9
Show Girls of Davis Central Park.....	12
Spring Gardening Tips .....	14

1980 and in Yolo County in 1996.

When I began my service as a Master Gardener volunteer in late spring of 2004, the program in Yolo County was composed of a small number of dedicated Master Gardeners who had established a phone help-line, and who provided an event table at the Davis Farmers' Market and at special event venues throughout the county. They had also already become an integral part of the Yolo County Fair, providing a wonderful exhibit, an information table for all of the hours of the Fair's operation, and docents for the Fair's Flower House. They also taught public education classes at the U.C.C.E. office in Woodland.

Since 2004 there have been five additional training classes that resulted in the certification of dozens of new volunteers. Their growing numbers permit Master Gardeners to expand public education opportunities throughout the county. An important indicator is the expansion of our presence from Davis to other Farmers' Markets in the county, including those in Woodland and West Sacramento, and occasionally in Winters and Esparto. Public education for gardeners has also been greatly enhanced through the creation of demonstration gardens that act as teaching platforms.

The first of these venues is at Woodland Community College. Here Master Gardeners have created a small orchard as well as a mini vineyard. They have also built a small water-wise garden, and each year they produce varieties of tomato seedlings that can be found nowhere else in the county. They provide both spring and fall fairs at which they have taught hundreds of county residents the principles of integrated pest management and of best practices in soil preparation, in water conservation, and in general gardening techniques. Throughout the year they present classes on both traditional composting and vermiculture, as well as classes on rose, grape, and fruit tree pruning.

A second venue is at Davis' Central Park Gardens. Partnering with community organizations, Farm to Fork, the Davis Farmers' Market, the U.C. Davis Arboretum, and the city of Davis, Master Gardeners have established five demonstration gardens along the west side of the park consisting of a rose garden, an

herb garden, a meadow, a vegetable garden and a water-wise garden. Master Gardeners serve on the Central Park Garden steering committee, help to maintain the garden, and design educational signage and other materials. They lead tours, train community members and student groups on best gardening practices, and set up information tables during special events in the garden. Master Gardeners also hold well-attended monthly educational classes in the garden throughout the late winter, spring, and fall months. The gardens on the west side of the park compliment the Farmers' Market on the east side and have greatly contributed to the park's becoming one of the focal points of Davis' community and social life.

The third venue is Grace Garden, located on the grounds of the United Methodist Church of Davis. Master Gardeners and community members have created a large vegetable garden, growing hundreds of pounds of food that is distributed through local charitable institutions to those in need. It provides an additional platform from which Master Gardeners teach monthly public gardening classes throughout the growing and harvesting seasons.

Master Gardeners here in Yolo County also generate excellent educational materials and distribute them to gardeners throughout the county. These materials include very valuable informational and how-to publications that are freely dispersed at Farmers' Markets and through downloading from Yolo County's U.C.C.E. website. Also included are a public, on-line newsletter, the *Yolo Gardener*, and a beautifully done *Gardeners Companion* sold at the U.C.C.E. office in Woodland and at the Farmers' Markets. We also write a column, "The Garden Doctor," which appears monthly in *The Davis Enterprise*. We are currently trying to make our publications even more accessible by redesigning our web presence so that all of our handouts, lists of public education classes, service contact information, and calendars of events can be found more easily.

For me the last nine years as a Yolo County Master Gardener have been an exciting adventure. I have been able to participate, to a larger or a lesser degree, in all of the projects mentioned above. In the process I have taught hundreds of people and met



thousands of gardeners. I am privileged to work hand-in-hand with some of the nicest, most knowledgeable, dedicated, hardest-working people I have ever met – my fellow Master Gardeners. They and the program give me a sense of usefulness and of purpose. What better way is there to spend one's retirement? 

## *Snails and Aphids . . . Must be Spring!*

*David Studer, Yolo County U.C.C.E. Master Gardener*

Yolo County usually experiences springtime a little earlier than most garden spots in the USA. Within the next few weeks, take a walk out into the garden and look around. Frost lingers only as a remote threat and more likely a fading memory. The weather warms and the sun clings to the western horizon a little later each night. Fruit trees bloom. Daffodils poke their bright sunny heads above the soil. Spring fills the air. You can hear Louis Armstrong singing “What a Wonderful World.” Not so fast; unfortunately, life in the springtime garden teems with destruction under all of that beauty.

Snails and their partners in crime, slugs, emerge from winter hibernation in the soil and begin their foraging as the weather warms in spring. At first, you may only notice irregularly-chewed holes in the foliage and flowers of young succulent plants—their preferred diet. Look closely for the silvery mucus trails they leave on paths and plants as they travel about.

The most common of this group is the brown garden snail. Originally imported from France in the 1850s, the bravest and most adventuresome escaped their fate as a feature of a French restaurant's menu to seek out a new life in the new world. Evidence suggests that they did pretty well.

What to do about them? Some gardeners prefer baits that snails ingest and are never heard from again. Others like traps because they get some satisfaction from the body counts. A friend collected snails that ventured onto her property, fed them corn meal until she was sure that

they were safe to eat, and then served escargot at many of her dinner parties until word got out in the brown snail community and the snails stopped coming around. Apparently being poached in butter and garlic is not a fate that most brown garden snails aspire to—go figure.

Are these the only solutions? Not by a long shot. If you want meaningful help with your snail and slug problems, visit U.C. Statewide Integrated Pest Management Program online and download the Pest Note Snails and Slugs (<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7427.html>). There you will find more about these destructive pests and how to manage them safely and effectively.

Aphids represent the other common spring garden pest. These little suckers (literally) pierce a plant's stem, leaves or other tender parts and suck out plant fluids. In small numbers, aphids present little danger to their host plants, but when have you seen aphids in small numbers? Aphids tend to feed in large masses on the tender parts of a plant. When the populations get big enough, the damage appears as curling, yellowing, and distortion of leaves and stunting of new shoots. The sticky honeydew that they produce provides an inviting habitat for unsightly black sooty mold. Some aphids even transmit viruses. None of this is pleasant or attractive.



*Brown garden snail*



Green Peach Aphids

There are almost as many varieties of aphid as there are varieties of plants, and they come in a rainbow of colors—red, green, brown, yellow and black. Some are even waxy or woolly as a result of secretions. Fortunately, control of aphids rarely depends on identifying the specific variety. Again, the UC-IPM website offers a very comprehensive Pest Note on the management and control of aphids (<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7404.html>).

There is no cure, but regular inspection and early detection provide the best hope for control of

both of these pests. This is good advice for most other garden pests as well. So, get out there and enjoy the springtime. Take in the beauty and enjoy the balmy days, but pay attention to your garden's visitors and be ready to act if they begin to cause problems. Start by reviewing the pest management information from the UC-IPM online web site. If you don't have access to a computer, stop by the Master Gardener table at the Farmer's Market, or call the hotline and request information or ask for help with your garden pest problems.

This may appear to be an advertisement for the UC-IPM online (<http://www.ipm.ucdavis.edu/PMG/menu.homegarden.html>). Well, it is! If you approach the Master Gardeners' table at the Farmer's Market or call the hotline (530-666-8737) looking for help to curb a garden pest problem, UC-IPM Pest Notes serve as a starting point for Master Gardeners in solving garden pest problems, and they are also available free to the public online. Happy Gardening! 🍅

## ***Eucalyptus Globulus (Blue Gum) in California: Back to the Future***

*Willa Pettygrove, Yolo County U.C.C.E. Master Gardener*

Driving home after a lovely trip to Carmel, I tried to imagine the valley along Highway 101 without eucalypts. They look so “natural,” and clearly have thrived for a good long time. But they are not native, and this led me to wonder: how did they become a dominant species in California? What would California, especially its coast ranges, have been without their striking and very large profile?

*Eucalyptus globulus* (Blue Gum) is by far the most common of the eucalypts that have arrived on California's shores from Australia, and seems to have had the easiest time reproducing itself in quantity. Of nine eucalypts listed in the *Jepson Manual: Higher Plants of California*,<sup>1</sup> it is the only one described as the “most commonly cultivated and naturalized species in CA; growth rapid.” The Red Gum, *E. camaldulensis*, is described as “commonly cultivated; most widely planted.” The other seven are characterized as “uncommon.”

An interpretive sign in the U.C. Davis Arboretum's Australian collection summarizes the pros and cons of eucalypts in Central Valley gardens, without identifying problem species. Among the values that might make a eucalyptus a “great tree” are: showy flowers and bark; drought tolerance; large variety of species; habitat for

overwintering birds; and aromatic, fragrant foliage. The disadvantages that contribute to their image as a “giant weed” are: impractical size for a home garden; flammable aromatic oils; messy plant debris that can suppress growth of neighboring plants; and frost sensitivity resulting in significant die back, even in moderate climate areas such as the San Francisco Bay area.

Captain Robert Waterman introduced *Eucalyptus globulus* as an ornamental in 1853, but its value for fuel and timber soon took precedence. With the population boom of the Gold Rush and later settlement in oak woodlands and inland valleys, wood of any kind was in demand, especially after the existing oaks on Bay Area hills were “cut off, clean as a newly mown meadow.”<sup>2</sup> Subsequent plantings continued after 1870 to meet this demand. By 1930, fuel wood was less in demand, and the wood was judged to be of poor quality for timber.<sup>3</sup> By then, the trees were here to stay.

Blue Gum’s success at adaptation to California’s climate was also the principal reason it became recognized as an invasive species. Seeds are produced in the fourth or fifth year after sprouting. One study found that a tree 131 feet tall, in a wind of six



### More for the Home Gardener on

#### Invasive Plants

Why are invasive plants such a problem in California? The simple answer: not only do they grow easily with little, if any, help from the gardener, but many are still available at a garden center, maybe near you!

The group Plant Right has recruited Master Gardener volunteers to survey and photograph a list of common species that are still being sold at some nurseries. Some of the results might surprise you. In 2011, Plant Right found that less than one percent of the nurseries studied sold Blue Gum. More common offerings of invasive plants were *Vinca major* (Periwinkle), *Cortaderia selloana* (Pampas Grass), *Carpobrotus edulis* (Highway Iceplant), and *Pennisetum setaceum* (Green Fountain Grass). [http://www.plantright.org/sites/default/files/pdfs/2011\\_PlantRight%20Survey\\_Fact%20Sheet.pdf](http://www.plantright.org/sites/default/files/pdfs/2011_PlantRight%20Survey_Fact%20Sheet.pdf).

A more helpful guide for home gardeners who are trying to do right by their gardens and the environment is a brochure published by the California Invasive Plant Council in 2007. Along with identifying some of the problem trees, the brochure describes trees that are readily available in nurseries that would not be invasive. (The guide features a photo of **Eucalyptus globulus** on its cover.) <http://www.cal-ipc.org/landscaping/dpp/pdf/TreesPrintable.pdf>.

miles per hour, could send seeds sixty-six feet. These seeds germinate best where rainfall is supplemented by fog drip, as is common in our coast range. In addition to adaptation to water requirements for seed sprouting, the trees put out an impressive amount of plant debris that effectively mulches the trees and discourages other plants. And, the trees produce allelopathic chemicals that are toxic to other plant species and prevent them from growing nearby.

Plant debris also contributes to another problem with Blue Gums around human settlement: fire. *Eucalyptus* forests are considered the worst in the world for spreading spot fires. The severity of the 1991 Oakland Hills firestorm has been directly attributed to the Blue Gums growing there.

Jepson Prairie (south of Dixon) represents the difficulty of restoring land planted with eucalyptus to its native state. It took The Nature Conservancy three applications of a five-percent solution of glyphosate over the course of a summer to kill more than 1,200 resprouting eucalyptus stumps. Jepson Prairie is a unique area characterized by vernal pools that dry up in the summer months, and one author notes that the “dry climate” may have also helped with the eradication. Other removal methods include fire (effective only for seedlings because “fuel replenishment is rapid”), and physical removal and stump grinding (which would require refilling “resulting craters with soil”).<sup>4</sup>

California has faced the challenges of multiple immigrations over its history, each wave bringing new talents, needs, and resources to the state. The response to each challenge has often been a practical one that emphasizes human or social need over environmental consequence. Short-term benefits can easily be outweighed by long-term costs and changes that can’t be reversed. What seemed “practical” for exploitation of a forest resource more than a century after the Blue Gum was introduced here now seems problematic.

#### ENDNOTES

1 James Hickman, Ed. *The Jepson Manual Higher Plants of California*. UC Press, 1993, p. 766-768.

2 Gayle Groenendaal, “History of Eucalypts in California. Eucalyptus helped solve a timber problem.” in Standiford, and Ledig, Technical Coordinators. Proceedings of a Workshop on Eucalyptus in California, June 14-16, 1983, Sacramento CA. Gen. Tech. Rep. PSW 69. Berkeley, CA: Pacific SW Forest and Range Experiment Station, 1983.

3 Fossard, Randall, and Hoshovsky (Ed.) *Invasive Plants of California’s Wildlands*. 2000: UC Press, “*Eucalyptus globulus*,” pages183-187.

4 Fossard et al., op. cit.



## Charles Robert Darwin, the Botanist

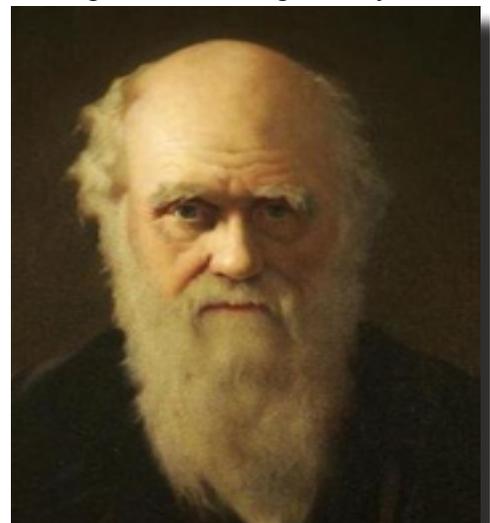
(February 12, 1809 - April 9, 1882)

Jan Bower, Yolo County U.C.C.E. Master Gardener

When you think about Charles Darwin and “The Origin of Species,” published in 1855, you think primarily about his research with animals, but not his work with plants. This is probably because we are animals and more interested in our human origins than that of the plant life around us.

Charles Darwin developed his love of plants in his childhood. His father and mother liked gardening and maintained a plant conservatory at their home in Shrewsbury, England, in which Darwin spent many pleasant hours. Although his interest in plants started out as a hobby, botany quickly became a career focus for Darwin.

While Darwin was studying at Cambridge, Professor John Stevens Henslow arranged a position for him as “Gentleman Naturalist” aboard Her Majesty’s Ship, the *HMS Beagle*. With a crew of seventy-four men, the purpose of this voyage around the world was to chart the coast of South America and figure out the correct longitude of certain places in the South Pacific. The ocean voyage lasted “4 years, 9 months,



5 days” (1831-1836), and took Darwin from England around South America, Galápagos Archipelago, Tahiti, New Zealand, Australia, South Africa, and back to England. He collected more than two thousand different herbarium specimens on the voyage. Experiments with these plants from different habitats contributed to some of his major botanical discoveries.

- *Phototropism*. Using canary grass seedlings, Darwin discovered that plants grow toward a light source, which laid the groundwork for an understanding of *auxins*, the first plant hormones.
- *Insectivorous Plants*. Darwin showed that certain plants, when properly stimulated, could secrete a fluid containing an acid and ferment closely analogous to the digestive fluid of an animal.
- *Heterostyly*. As a result of experiments with the English cowslip (primrose), Darwin hypothesized that the length of the style and stamens varies in individual plants, which promotes pollen transfer and reproduction of the species.
- *Fertilization of Orchids*. Darwin studied many varieties of orchids. Through dissection of their blooms, he concluded that particular species of orchids were pollinated by particular species of insects, such as moths and butterflies, by natural selection.
- *Evolution of Climbing Plants*. By comparing over 100 different species of climbing plants, Darwin showed that they all were descended from a simple form, which wrapped its stem, rather than tendrils, around objects, and slowly evolved their complex traits.
- *Earthworms*. Darwin developed a theory on the important role that earthworms play in soil formation.

In his later years, from 1875 to 1882, Darwin published six books and numerous articles in botany that challenged the 19<sup>th</sup> century idea that plant species were stable. He was intrigued with the behavior of plants-how

they move, respond to light, and sexually propagate. He favored cross-fertilization over self-fertilization, and believed that the seeds of self-fertilized plants were generally more successful than those of cross-fertilized plants.

Darwin said, “If life is a journey, then the ultimate is to capture the journey of life on earth.” Darwin’s Down House in Kent, where he, his wife Emma, and ten children (three died young) lived for forty years, is a memorial to his scientific journey. His study is still as it was when he worked there. The twenty-acre estate is part of the Smithsonian Institution’s new “evotourism” program, which takes travelers to twelve sites around the world to study evolution.



Down House

#### **Additional Information.**

Web site: [AboutDarwin.com](http://AboutDarwin.com).

Journal: *Smithsonian*, February 2013, pp. 60-67.

Children’s book: *What Darwin Saw: The Journey That Changed the World*, by Rosalyn Schanzer, National Geographic Society, 2009.



## *“Praying” Mantis: Friend? Enemy? Frenemy?*

*Peg Smith, Yolo County U.C.C.E. Master Gardener*

We marvel at the beauty of praying mantis when we see them perched on a rose or prowling amongst the vegetables, but are they a beneficial insect? What appears to us as a pious pose is actually the mantis poised to strike swiftly at any unsuspecting insect, moth or beetle that may cross its path. Perhaps they should be known as “preying” mantis.

### What is a Beneficial Insect and Why Should We Care?

Beneficial insects are those insects that, from a gardener’s or farmer’s point of view, provide a beneficial service to the garden or in crop production. Some common beneficial insects are bees, lady beetles, lacewings and soldier beetles. Some insects can be beneficial at one point in the life cycle and a “pest” at a different part of the life cycle. Butterflies help with pollination, but the caterpillar stage can lead to the consumption of some of a gardener’s favorite foliage. Leaf cutter bees leave a neat semicircular cut in rose foliage as they collect leaves to line their nests, but at the same time they will be actively pollinating within the garden. We think of beneficial insects across a spectrum. Some are beneficial in all stages. Some are beneficial in some stages. Others have no apparent benefit, sometimes controlling a garden pest, sometimes negatively affecting the garden or other beneficial insects.

### The Praying Mantis

Praying Mantis are in the Phylum *Arthropoda*, Class *Insecta*, Order *Mantodea*, and are grouped with cockroaches and termites. There is only a single generation per year, and the adult mantis do not over-winter. The mantis egg case deposited in the fall is the promise of the next season’s generation of mantis. Adults are often yellowish, green or brown, and grow in a single season to approximately 2-4 inches. Mantis are strictly carnivorous.



*Female Mantis with rounded abdomen*



*Open Mantis egg case*

Before shrubs leaf out with the bright green of spring, you may notice a hard carapace-like object attached to a small branch, a fence or a log. Although these carapace-like objects remind one of an ancient fossil, they are packed with potential insect life. Each one is an egg mass of the praying mantis. The female mantis lays a foamy egg mass in the fall that hardens when exposed to air. More than two hundred nymphs may emerge from one egg case in the late spring to early summer. The tiny nymphs look the same as an adult mantis and have a strong but flexible exoskeleton that will be shed and a new one formed about six times before the nymphs reach adulthood. Females are heavier than males with a more rounded, protruding abdomen.

Mantis have voracious appetites and, if when the nymphs emerge the food source is insufficient, they will consume their egg case mates. Mantis live to eat and will hunt both day and night. Nymphs at first will eat small insects but with each succeeding molt of the exoskeleton they will move to larger prey to satisfy their growing appetites. The mantis has two large compound eyes with three simple eyes between the compound eyes. Their heads can move freely around 180 degrees. This compound vision coupled with speed allows a mantis camouflaged by color to hide from unsuspecting insects, beetles, moths and bees that are then easy prey for the lightning-fast movements of the poised front legs of the mantis. Each mantis front leg has a set of spines and a claw at the tip. This adapted front leg allows the mantis to seize and hold prey while it steadily consumes its catch.

Young nymphs might eagerly consume aphids from our roses, and we would conclude the mantis is beneficial—but what if the mantis lunch was an unsuspecting lacewing? Lacewings consume aphids preferentially so we would then not look so favorably on the mantis. As the majority of the mantis diet is insects consumed with no consideration as to their beneficial nature to our gardens, we consider mantis a general predator of insects. A mantis can be friend or enemy depending on the insect that it happens to be consuming for breakfast, lunch or dinner.

Populations of mantis in a garden do not reach a level where any action to remove them would be considered. Mantis are simply an insect that is fun to observe and take delight in its attributes as a wonderfully efficient carnivorous insect catcher.



*Mantis camouflaged and ready to strike*



## *Everything's Better with Bacon (Avocados, that is)*

*Laura Cameron Stuber, Yolo County U.C.C.E. Master Gardener*

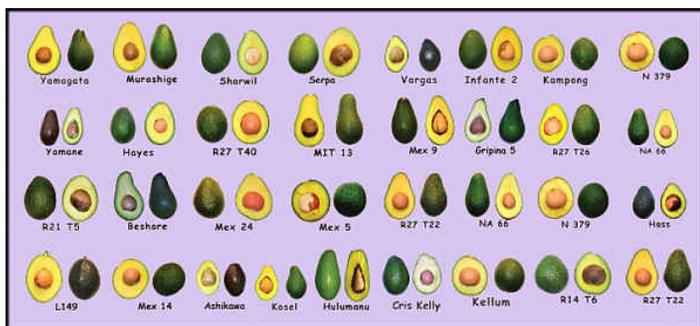
Avocados are of recent cultivation, originating in the general area of Central America and Mexico somewhere around the beginning of the current era. While Mexico is the world's leading avocado producer, U.S. production is first worldwide in terms of monetary value, with California being the top domestic producer.

Avocados are an expensive luxury in much of the world, though considered the butter of the poor in Mexico. The fruit has been a staple of the diet in Central America since Pre-Columbian times. Avocados are grown in the West Indies, South America, Africa, Spain, Israel, the Philippines, Indonesia, New Zealand and Australia.

Avocados contain all essential amino acids, which, translated, means they are a source of balanced protein nutrition. They are a richer source of potassium than bananas, and they have the highest protein concentration of any commercially-produced deciduous, subtropical or tropical fruit. In addition, they are a good source of the



antioxidant vitamins A, C and E, and contain four times as much soluble fiber as apples.



*Avocado varieties*

A member of the Laurel family, the avocado has three distinct horticultural races: Mexican, Guatemalan and West Indian. The Mexican avocado has anise-scented leaves, blooms fall to spring, and takes about six months from flowering to fruit maturity. The fruit is small, pear shaped or round. It is a semi-tropical tree and the most likely to survive winter frost.

The Guatemalan blooms latest in the season and the fruit may require a year or more to achieve maturity in California. Fruits are small to large and usually rounded rather than pear-shaped. It is a sub-tropical tree and probably wouldn't thrive in a tropical climate or survive a hard frost. Hass avocado, the leading cultivar in California, is considered Guatemalan, though breeding studies are showing that it may be one-quarter Mexican. The West Indian race will not survive in California.

### Flowering Behavior.

The avocado's flowering behavior is unusual in many ways. A mature tree can produce in excess of a million flowers during the flowering period. The avocado flower has both functional male and female organs. As is commonly seen, the male floral organ, which produces pollen, is comprised of the anthers and stamens. The female floral organ is comprised of the stigma (which receives the pollen), style and ovary.

An individual flower, however, will be open for two days. When the flower first opens it is in the female phase and the stigma is receptive to pollen. At the end of the female phase, which lasts two to four hours, the flower will close. On the second day the same flower

re-opens in the male phase and sheds its pollen.

The timing of the male and female phases differs among varieties. There are two flowering types, referred to as "A" and "B" flower types. "A" varieties open as female on the morning of the first day. The flower closes in late morning or early afternoon. The flower will remain closed until the afternoon of the second day, when it opens as male. "B" varieties open as female on the afternoon of the first day, close in late afternoon, and re-open in the male phase the following morning.

### Cultivation.

Avocado trees have relatively few pest and disease problems, especially if they are irrigated and fertilized properly. The roots are shallow and prefer sandy or well-drained soil. Even more so than the branches, they need to be protected against frost, so let the dry leaves that the tree sheds accumulate at its base. This will keep the roots both warm and moist.

According to Sunset's Western Garden Book, there are no avocados zoned for our area. We are at the northernmost edge of survival for avocado trees. There are a couple of avocado varieties that can survive, if the frost doesn't do too much damage. The Mexican cultivars are more cold-tolerant. We chose the Bacon variety. While not recommended for the home grower because it grows quite tall, it is an upright tree requiring less ground space at maturity. We prune it heavily to keep the height



reasonable, and the fruit is quite tasty. Developed by a farmer, James Bacon, in 1954, Bacon has medium-sized fruit with smooth, green skin and yellow-green, light-tasting flesh. When ripe, the skin remains green, but turns crinkly, and the fruit yields to gentle pressure.

It is cold-hardy down to  $-5^{\circ}\text{C}$  ( $23^{\circ}\text{F}$ ). The flower type is B. Our avocados are best picked in late December or January.

Avocados fruit at age three or more. Patience is required! Ours took eight years before it bore any fruit.

The avocado matures on the tree, but ripens off the tree. Avocados must be mature to ripen properly. Avocados that fall off the tree ripen on the ground. In some cases, avocados can be left on the tree for several months, which is an advantage to commercial growers who seek the greatest return for their crop; but if the fruit remains unpicked for too long it falls to the ground.

#### Planting.

Avocado trees are often planted in late spring when the soil has warmed. Since avocados have tender, succulent roots, lower the tree into place while still in its container. Slit once it is in place.

- Dig a hole as deep as the root ball and about twice its diameter.
  - » Amend as we have clay soil.
- Adjust the hole's depth so the upper surface of the tree ball in about one inch above the surrounding ground.
- Lower the tree into the hold in its container; slice the container open on one side.
- Add six to eight inches of loose soil to stabilize the tree.
  - » Do not move the root ball after the container is slit.
  - » Remove the container.
- Gently tamp the loose soil around the ball immediately; fill it to the top, but leave the upper surface of the original ball exposed.
  - » Add water directly to the ball.
  - » It is important to keep the root ball moist until roots grow out into the surrounding soil.
- Protect any exposed parts of the stem from sunburn (use whitewash or water-based paint).
- Stake the tree for a year (longer in windy areas).

To grow an avocado tree requires patience, space, loving soil preparation, acceptance that the tree may not make it through no fault of your own, as well as bragging rights. Home grown avocados. Nothing quite like them.

For further information on home care of avocados:

<http://www.ipm.ucdavis.edu/PMG/C008/m008yi01.html#BLOOM>



### Avocado Shake

#### Ingredients:

1 ripe avocado, peeled and pitted

2 cups ice (16-20 ice cubes)

1/2 cup fat-free sweetened condensed milk (depending on how large the avocado is and how thick you want your shake)

1/2 to 1 cup cold non-fat milk

#### Preparation:

Scoop the avocado flesh into a blender. Add the ice cubes, condensed milk, the least amount of non-fat milk; puree until completely smooth. Taste, and add additional milk if a thinner consistency is desired.

Serves two.

## Show Girls of Davis Central Park

Linda Parsons, Yolo County U.C.C.E. Master Gardener

They will arrive around June. They require a little patience and are waiting for warmer days to show themselves off. These show girls seem to appear suddenly. They completely dominate the Rose and Flower Garden in Davis Central Park with their exotic red dresses and tall, curving silhouettes. They are known by their proper name, *Echium wildpretii*, but also are called Tower of Jewels. The jewels refer to the thousands of tiny red flowers (inflorescence) that are clustered on a long stem to create a massive flower stalk, which often reaches ten feet in height. They originate from Tenerife in the Canary Islands and prefer a sunny, dry and arid environment. They will tolerate colder climates to -5 C if they are protected from the frost.

You will rarely see a passerby in the garden that does not stop as they approach these exotic plants. They require more than a glance to comprehend their amazing intricate structure. They seem to come alive when the bees and butterflies alight on each little flower. They suddenly appear to be dancing in the garden.



*Echium wildpretii*



*Echium faustuosum*

every summer as long as they continue to re-seed.

If you happen to walk through the garden this spring, scan the garden for large, grayish-green rosettes. They have been growing quietly in the garden for more than a year. They began as seedlings in the spring of 2012 and are nearing their final flush. They will be in all their finery from June through August and attract countless admirers and beneficial insects and bees.

The *Echium wildpretii* is not only exotic, but it is a biennial. Biennials are plants that do not bloom until their second season. They grow strong plants in the first season, then bloom, self-seed, and die in the second season. They are self-perpetuating plants because they re-seed freely. If you grow biennials, you will often find many small seedlings at the base of the mother plant from the previous year. It is best to thin and replant the seedlings before they become too crowded to survive. Because they re-seed, they are nearly as reliable as perennials. If you plant biennials for 2 consecutive years you will then have biennials blooming

*Echium wildpretii* has several “cousins” from the same area in the Canary Islands. If you prefer a blue or pink Tower of Jewels, *Echium pininana* and *Echium faustuosum* seeds are available at several garden websites and at the UCD Arboretum Plant Sale.



*Echium flowers with bees*

Biennial flower and vegetable plants are more common than you think. Three classic cottage garden biennials are Canterbury Bells (*Campanula*), Foxglove (*Digitalis*), and Hollyhock (*Alcea rosea*) which are summer blooming plants that grow best in sunny locations. Beginning in their second spring they produce long stems with graceful, flowered stalks of pastel shades and they attract butterflies, bees and hummingbirds. Sweet William (*Dianthus barbatus*) flowers are members of the carnation family and produce large, low mounds of sweetly-scented flowers from May to July. They are showy bicolor and solid color blooms of red, rose, purple and white, and attract butterflies. A favorite from my grandmother's garden is Honesty or Silver Dollar (*Lunaria*) with varieties that are annual and biennial. Winter

bouquets of the shiny silver dollar seedpods are a favorite memory.

In case you were thinking that only ornamental plants are biennials, here is list of vegetables that are biennials: beets, Brussels sprouts, cabbage, celery, chard, collard, kale, kohlrabi, leeks, onions, parsley, parsnips, rutabagas and turnips.

When young biennial plants are subjected to cold weather (vernalization) early in their growth, they may produce seeds in their first season. This can be confusing to a gardener, so it is helpful to keep a weather diary. If your biennials do not grow as you expect in a given year, it may be due to vernalization, which disrupts their normal growth cycle.

If the plant experiences erratic or prolonged cold spells, the flowers and vegetables that you were expecting, can be stunted, perish or bloom off cycle. I wondered for many years why some plants seemed to just sit in the garden and get large, but not produce flowers or edible vegetables. The suddenly, they were off and running the following year and completely stealing the show! It was an amazing revelation when I learned that in most gardens you find perennials, annuals, and biennials.

Now I look for biennials to plant in my garden, as they are often quite beautiful and amazing to watch grow. Yes, my second crop of *Echium wildpretii* is almost ready to put on their fabulous summer show. It makes me smile to think of their lovely spires attracting hummers, bees and butterflies all summer!



## Spring Gardening Tips

Linda Parsons, Yolo County U.C.C.E. Master Gardener

I anticipate spring and spring gardens more than any other season. At this time of year, I begin looking for signs of early spring. I read the Farmer's Almanac. This year it was supposed to be a drier winter, but alas, we are about two thirds of normal for our total yearly rainfall, which is nineteen inches. It has also been a colder than predicted winter. So this year, I have decided to throw my hat in with the Groundhog, who did not see his shadow on February 2nd. This means he thinks it will be an early spring. We had a nice warm spell this past few weeks, the Chanticleer Pear Trees are already in bloom, and many woody plants are sporting spring green shoots. Our last frost date is about March 20th, which is the Vernal Equinox or the first day of spring. So



Groundhog

whether we go with the Groundhog or a medieval calendar, spring will be here within a month. This is important to keep in mind, especially when determining when to plant your summer vegetables. I will soon begin to start my vegetable seeds indoors, but will wait until at least several weeks beyond the Vernal Equinox to plant them in my garden. Now that spring is nearly here, you have a few more weeks to complete your garden spring-cleaning and pruning. Remember to hold off on pruning your once-blooming spring vines, trees and shrubs.

The following tips and ideas will help you prioritize your garden chores, and possibly discover some new adventures in gardening.

### 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.
- Do not prune early-flowering rhododendrons, magnolias, camellias, azaleas, viburnum and forsythia. It is best to prune them after the blossoms are spent, or wait until early fall.
- Make 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.
- 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.

### FERTILIZING, COMPOSTING & 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 recommend 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 that 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 three 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 astilbe, columbine, coral bells, dicentra, foxglove, hostas, nepeta, pulmonaria and ferns.

Drought-tolerant and sunny-location plants include: Russian Sage, Muhlenbergia, Rabbits Tale Grass, Buddleia, Echinacea, Gallardia, Lavender, Ceanothus, Dwarf Plumbago and Rudbeckia.

Replace shrubs and roses. Be sure to select these plants with care to insure 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.



*Russian Sage*

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 fifty 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, tachinid and robber flies. Many plants attract beneficial insects; a few examples are 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

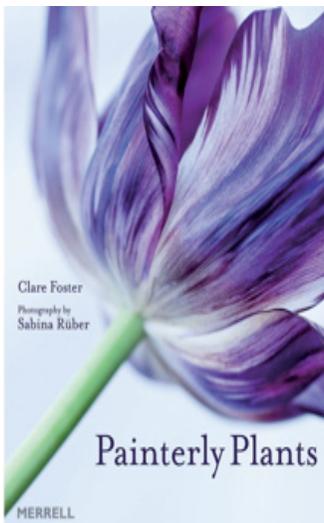
- ◇ Paint the lower trunks of young trees with water-thinned white latex paint to prevent sunburn and borer problems. Stake tall-growing perennials and vegetables before they begin to bend over in late spring.
- ◇ In late spring, thin fruit trees, leaving six inches between each fruit. This will help the remaining fruit to mature properly and will 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.

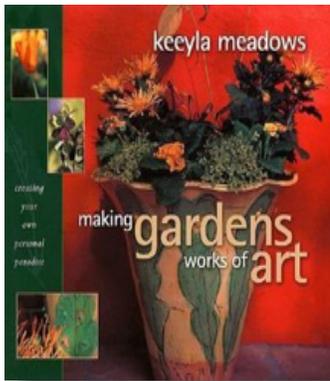
## SPRINGTIME IDEAS

### Books:

*Painterly Plants*, by Clare Foster.

In my next life, I wish to be a painter of all things found in the garden. This book is pure inspiration for the aspiring artist or gardener who is mesmerized by the unfathomable detail and color combinations that are found in every garden. You just need to LOOK! The more you look, the more you see. You will just marvel at each creation. This would be so fun to read with a young person and to discuss what you both see. I have found another book that will soon be on my bookshelf.



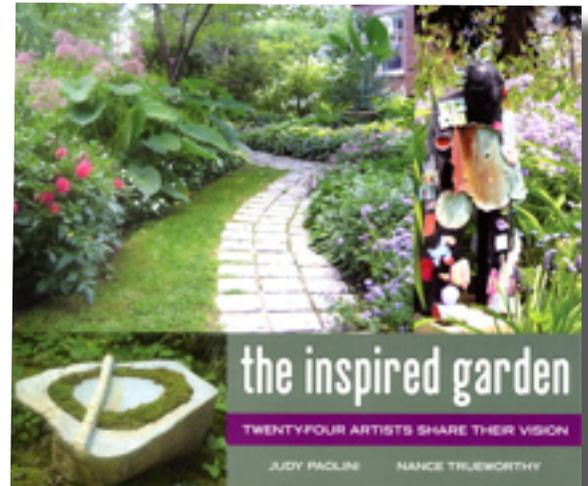


*Making Gardens Works of Art*, by Keeyla Meadows.

The award-winning landscaping and gardening expert, Keeyla Meadows, inspires garden artistry for the horticulturalist who wishes to transform their traditional garden into a living work of botanical art. This book presents the reader with practical gardening tips and advice, as it helps the gardener create a truly unique and enchanting garden. This book reminds me of the lovely tile walls and ceramic pots that are increasingly popping up in neighboring gardens and at the UCD Arboretum. This book makes gardening fun in the extreme!

*The Inspired Garden: 24 Artists Share Their Vision*, by Judy Paolini and Nance Trueworthy.

If you are looking for help in “rearranging your garden,” this is the perfect inspiration. Though these gardens are in New England, the styles and color schemes can easily be re-interpreted for western garden plants. I especially enjoyed several of the gardens that were so beautifully designed, that they looked amazing (though quite different) through all four seasons. Spring is the perfect time to do some garden spring-cleaning and rearranging. Gardens have so many personalities. What will it be this year?



### **Radio garden shows and podcasts:**

These can all be heard on weekend radio programs, and there are podcasts available for past programs on their websites:

farmerfred.com  
 capitalnursery.com  
 bobtanem.com  
 davisgardenshow.com (also on Thursday)

### **Garden Adventures:**

- ◇ Visit your local nursery, attend the UC Davis Arboretum plant sale, and consult garden catalogs or books to find the perfect plant. Check out UC Master Gardener Classes. Enjoy a day in the garden by visiting one of these local offerings:
- ◇ Third Annual Gardens Go Native Tour (Sacramento and Yolo Counties). April 20, 2013, 9:30a.m.-4:00p.m. Free pre-registration is required. See [www.gardensgonative.com](http://www.gardensgonative.com).
- ◇ Annual Woodland Rose Garden Tour. April 28, 2013, noon-5:00p.m. Woodland, California <http://www.cityofwoodland.org>.
- ◇ The International World Peace Rose Garden. State Capitol Park, Sacramento, California.
- ◇ Luther Burbank Mother's Plant and Corsage Sale. May 12, 2013. Santa Rosa, California <http://www.lutherburbank.org>.
- ◇ McKinley Rose Garden. Sacramento, California. Extensive renovation of its one-thousand-rose-plant

garden in 2012. <http://www.cityofsacramento.org>.

◇ The Good Life Garden: Edible Landscapes Garden at the Robert Mondavi Institute for Wine and Food. UC Davis, California.

◇ Old City Cemetery. Sacramento, California. Saturday Tours. <http://www.oldcitycemetery.com>.

◇ Central Park Garden, Third Annual Mother’s Day Tea. May 12, 2013. Davis, California [www.centralparkgarden.org](http://www.centralparkgarden.org).

*“Be guided by nature and do not depart from it, thinking you can do better yourself. You will be misguided, for truly art is hidden in nature and he who can draw it out possesses it.”*

Albrecht Durer



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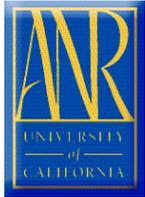
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**Master Gardener Hotline**..... (530) 666-8737

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



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*The Yolo  
 Gardener  
 Spring 2013*

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