

Seeds For Thought

Master Gardeners-Solano County

Spring 2017 Vol. 12 Issue 2



Photo by Melinda Nestlerode

RETURN OF A BEAUTY

Kathy Gunther, U.C. Master Gardener, Solano County

Recently, I was killing some time perusing Facebook, and came across an article on “The Return to the Bay Area of the California Pipevine Swallowtail Butterfly”. I was entranced by the beauty of this species!

The link led me to an article entitled “How One Man Repopulated a Rare Butterfly Species in his Backyard”. For centuries, the California Pipevine Swallowtail Butterfly (*Battus philenor hirsute*) or Blue Swallowtail, called San Francisco home. As development increased, the butterflies slowly began to disappear. But, one man’s efforts are starting to bring them back.



Tim Wong holding a California Pipevine

Photo by Melinda Nestlerode

An Aquatic Biologist at California Academy of Sciences, Tim Wong, raises butterflies in his free time. He made it his personal mission to bring back the California Pipevine Swallowtail.

This butterfly only feeds on one plant: the California Pipevine (*Aristolochia californica*) which is also very rare. Wong was able to locate this plant in the San Francisco Botanical

Garden and they allowed him to take a few cuttings. He then created a butterfly paradise in his backyard. He built a large screened enclosure to protect the butterflies and to allow them to mate under outdoor conditions – natural sun, airflow, temperature fluctuations, etc. With permission, he was able to get 20 caterpillars from private residences. He carefully

transported them to his yard and turned them loose on the plants to feed.

After 3 to 4 weeks, a caterpillar pupates and forms a chrysalis. It either develops into a tiny butterfly in about two weeks, or stays dormant for up to two years.

Now, years later, Wong brings dozens of caterpillars to the San Francisco Botanical Garden’s “California Native” exhibit every week, and thanks to Wong’s efforts, the Pipevine Swallowtail



The photograph above shows the various stages of pipevine swallowtail growth. From bottom: eggs, different growth stages of the caterpillar, chrysalis, and full butterfly

Photo by Tim Wong (Instagram:timtasti1c)

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has been successfully repopulated in the city for the first time in decades.

The California Pipevine Swallowtail butterflies are black with iridescent blue hindwings. The larvae only feed on plants of the genus *Aristolochia* (known as pipevines). The butterflies feed solely on the nectar from flowers, including thistles, bergamot, lilac, viper's bugloss, common azaleas, phlox, teasel, dame's rocket, lantana, petunias, verbenas, lupine, yellow star thistle, California buckeye, yerba santa, brodiaeas, and gillias. ☼



*Blossoms of the
California Pipevine
Aristolochia californica*

Photo by Melinda Nestlerode

GROWING TO FIGHT ALLERGIES

Michelle Davis, U.C. Master Gardener, Solano County



Photo by Melinda Nestlerode

It's pollen time again or maybe you're one for whom pollen is always in season.

Pollen is a tiny grain, male in gender, produced by plants.

There are essentially three ways plants distribute pollen. With the first, flowering plants produce large, sticky pollen in smaller amounts. Insects

and birds then carry that pollen from one flower to the next. The second method is where the pollen grains are so big and heavy, they don't go far. Maize pollen, for example, falls from the male tassels onto the female silk of the next plant. To get a big dose of this type would require direct contact with the tree or plant. Thirdly, non-flowering plants like Bermuda grass and Coast Live Oak produce wind-driven pollen. These plants produce LOTS of microscopic pollen much of which lands within 12 feet of the tree's dripline. However, this pollen can drift a long way even potentially traveling up to 500 miles on hot, dry, windy days! Because it is tiny, it can drift through screens and set off hay fever and asthma attacks.

Most pollen allergies are seasonal. *Tree* pollen allergy symptoms occur late winter through early summer. Big offenders are oaks, maples, junipers, sycamores, pistache and ash trees. *Grasses* usually start late spring into early summer. Bermuda

can pollinate year-round. *Weeds* like ragweed and goosefeet hit the susceptible from late summer into fall. The pollen forecast can be tracked online at weather sites.

If it seems like there is more pollen and therefore more allergies and asthma, you're right! This is according to Thomas Leo Ogren, a horticulturist, allergy researcher, and creator of the Ogren Plant Allergy Scale (OPALS), a system that ranks plant-allergy and is now used by the USDA. He is the author of [The Allergy-Fighting Garden, Stop Asthma and Allergies with Smart Landscaping](#) (Ten Speed Press, 2015). He states that in the 1950's, 2-5% of the US population had allergies. In 1999 it had risen to 38% and each year since, that number has continued to grow 2-3%. Asthma is now one of the leading chronic illnesses in the United States.

What's contributing to the escalation? We are. Landscapes contain more male trees and plants than ever. In the 1930's, when plants and trees were grown from seed, male to female plant distribution was about 50/50. In the 1940's, the USDA recommended using only male scion wood for grafts and cuttings for tree and shrub propagation of separate-sexed plants. The logic: female trees' fruit, seeds and seedpods were littering streets and sidewalks. Growing only male trees meant no litter. So as trees died, cities replaced them with male clones. Today 4 of 5 newly-planted curbside trees are male clones – ash, juniper, maple for just a few, but the male trees produce their own litter – pollen.

What's a gardener today to do? Grab a copy of [The Allergy-Fighting Garden](#). Take it with you to the nursery. In it, Ogren

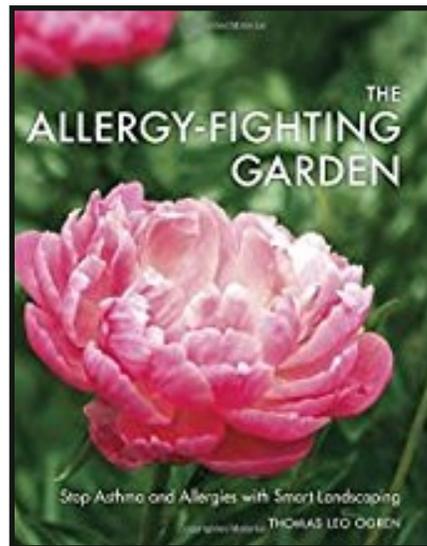
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has rated over 3,000 plants based on allergy potential. He has studied each of the plants for amount of pollen produced, pollen size, specific gravity and potency, pollen stickiness vs. dryness, sap toxicity, odor/scent and much more. Each plant is rated for allergy potential from 1 – least - to 10 - worst. Many of the plants are grown here. (The author lives in San Luis Obispo.) Some nurseries have started to place the bright yellow OPALS tags on plants.

Here are some general hints from the book:

- * Wind-pollinated plants tend to be drab-colored, have small-petal flowers in bunches and lack scent. Pick brightly-colored plants with single flowers, big petals and fragrance. These attract insect and bird pollinators. It’s likely that if pollinators like the plant or tree, it’s a good choice for you, too.
- * Ask the nursery for female trees. If it’s a landscape tree and has a bulge or scar encircling the base, it has been grafted and is likely male. If the tag says it’s fruitless or seedless, it’s male. Fruitless mulberry, for example, is pollen-prolific. In general, female trees don’t cause as much problem with allergies. However, there are exceptions – sweet cherries and almonds.
- * If you want Bermuda grass, grow hybrid Bermuda which is nearly pollen-free or try the female clones of Buffalo grass: UC Verde, Legacy, 609. Other grass pollen can be kept under control by mowing frequently preventing it from going to seed.
- * Groundcovers like native manzanita ‘uva-ursi’ or California fuchsia are drought-tolerant, attract hummingbirds and are very low on the allergen scale.
- * Wind-blocking hedges can help filter pollen. Plant a tall hedge on the side with the prevailing wind. Steer clear of privet, all cypress and male clones of any shrub.



You won’t get rid of all the pollen, but you can make a dent around your own home. A little research and good choices can make a breath-saving difference. ☼

CALIFORNIA NATIVE PLANT SALE AND WILDFLOWER SHOW



SATURDAY AND SUNDAY—April 8 & 9, 2017
 10:00 am—4:00 pm
 Skyline Wilderness Park
 2201 Imola Avenue, Napa



HUNDREDS OF NATIVE PLANTS FOR SALE
 EXPERTS ON HAND TO ANSWER YOUR QUESTIONS

Presented by The California Native Plant Society—Napa Valley Chapter

Free admission to Skyline Park during sale

Special Presentation by Katherine Novick, Bay Friendly Qualified Professional Landscape Designer
 Wildflower Show ◦ Docent-led Wildflower Walks

For more information visit: www.napavalleycnps.org



STRAWBERRIES: NUTRITIONAL POWERHOUSE

Pearl Eddy, U.C. Master Gardener and U.C. Master Food Preserver, Solano County

We are so lucky to have several strawberry farms right in our own neighborhoods that produce fruit several times a year. These berries are excellent sources of vitamin C, fiber, potassium, folate, antioxidants, phytochemicals and other nutrients. An entire cup of sliced fresh berries contains only 50 calories.

Strawberries can be grown in your home garden but you will have to deal with pests such as birds and slugs. The plants do well when planted in raised beds or rows with the soil covered by weed cloth with drip irrigation underneath. To plant, cut X's in the weed cloth where you will place the plants. There are many varieties of berries, which can be classed as "day neutral" or "ever bearers," and the "short-day" types (which produce when days are shorter such as in the fall or spring). There are several good websites that you can find by going to the internet and typing in "Growing Strawberries in California."

When you pick or purchase strawberries they should already be ripe and colorful as they will not continue ripening once removed from the plant. If not used quickly, fresh berries will soon soften and spoil. To store them, empty from their container, and place (without washing or hulling) in a single layer in a shallow pan lined with paper towels. Cover lightly and chill.

When it's time to use them, leave the hulls (little green "caps") on, place them in a strainer or colander and let a gentle spray of water run over them. To remove the hulls, use your fingernails, a knife, or the tip of a teaspoon. Using your fingers, the hull should pull out easily with a gentle twist if the berries are ripe, but there are also special berry hullers available.

For an easy dessert you can dip the berries in melted dark or white chocolate. Another favorite is strawberry shortcake, but I love a Pavlova, which takes quite a bit of preparation to make the specially formed meringue baked on a cookie sheet, which is then filled with a strawberry mixture. You can find a good recipe at <http://allrecipes.com>.



A favorite way to preserve the fresh flavor is in Freezer Strawberry Jam. Recipes for this are included in the packages of most types of pectin. This jam does not need to be water-bath processed before storing, and can be stored in the refrigerator for up to 3 weeks, or in the freezer, in assorted containers, for up to a year.

An especially flavorful jam is called Triple Berry Jam which uses raspberries and blackberries along with the strawberries. (Have ready 8 1-cup jars with 2-piece lids). ☼

Triple Berry Jam

You will need 3 cups finely crushed strawberries, 1 ½ cups finely crushed ripe red raspberries, and 1 cup finely crushed ripe blackberries. Place fruit into a 6 or 8 qt. saucepot along with ½ teaspoon margarine or butter, if desired, to help reduce foaming. Measure out 4 ½ cups sugar into a bowl; remove ¼ cup of the sugar and mix in a little bowl with the dry pectin from a box of Sure-Jell Premium Fruit Pectin for "less or no sugar need recipes."* Stir this pectin mixture into the fruit; bring to a full rolling boil, stirring constantly. Immediately stir in the remaining sugar, bring to a full rolling boil again, and boil for 1 minute, stirring constantly. Remove from heat and quickly skim off any foam with a metal spoon. Ladle jam quickly into clean, hot jars, filling to within ¼ inch of tops. Wipe jar rims with a clean, damp paper towel, cover with two-piece lids and process jars using the boiling water canner method for 10 minutes. Allow to cool, store in a cool place and enjoy your "work of art."

*(This pectin is similar to what used to be called Sure-Jell Light, but it has been re-formulated and we cannot use this newer product with our older recipes. The Triple Berry Jam recipe is also available using more sugar and with the regular Sure-Jell Pectin.)

Editors Note: The best source of instruction for home canning fruits and tomatoes is the 2009 *Complete Guide to Home Canning* published by the US Department of Agriculture
http://nchfp.uga.edu/publications/publications_usda.html

ARE THERE GROUNDS IN YOUR GROUND?

Gene Ekenstam, U.C. Master Gardener, Solano County

Excuse the pun, I couldn't help myself. Actually, my question is, "do you put coffee grounds in your soil?" My second question is whether, as a Master Gardener or an experienced gardener, you have encouraged or approved of the use of coffee grounds as a soil conditioner, and then wondered, "Is that right? How do I know that?" Well, I did just that at a recent public presentation and then decided to quell my anxiety over accuracy by doing some research. After all, I had "heard" that grounds were good for plants, but I truly didn't know. Plus, Starbucks has made it easier in that some of its stores bag and make grounds available to customers.

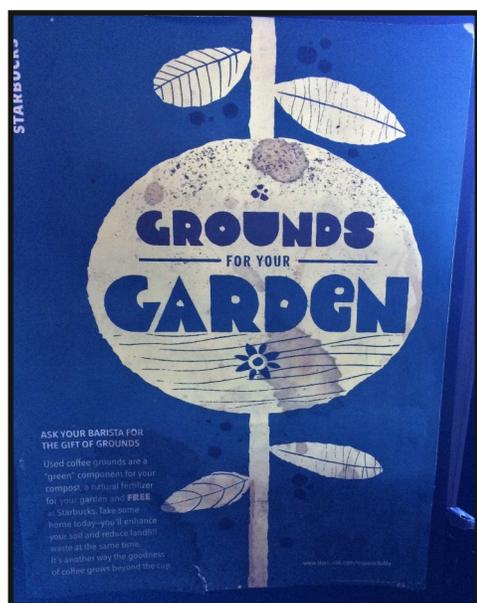


Photo by Gene Ekenstam

My search ranged from London to the Midwest of the U.S. to California. My London source gave an impressive list of benefits, but without any citations of proof. Those benefits were: nutrition (N, P, & K), worm attractant, snail and slug killer, improving tilth, and acidification. The Midwest source, a garden supply website, cautioned its Midwest customers against adding grounds to soil without putting them through a composting process and/or adding lime to the grounds. Except, it added, for gardeners "out West, cursed with highly alkaline soil." Serving it "straight" seems ok for us.

Most gardening magazines, gardening supplies vendors, and gardening interest sites encourage the use of coffee grounds without supplying any of those tedious details about research. But I located a comment from the University of Illinois Extension Service that "Research has shown that coffee grounds are about 2% nitrogen by volume." On the other hand, the author recommends the composting process first, for "using uncomposted coffee grounds in high concentrations around plants will actually stunt their growth." That's because the grounds need to be broken down by composting, microorganisms, or worms to

make the nitrogen actually available for nutrition purposes.

A more conclusive test from the Oregon State University (OSU) Extension service, in 2009, yielded some useful conclusions. They developed three test sites and established three test beds of 3' x 3' at each site. Each test bed was incorporated with a different amount of coffee grounds to a depth of 10 inches and left until a spring planting of beans in each bed. The amounts of grounds were 0, 2, and 4 inches. The beds were tested in November, March, and June for pH, ammonia, nitrate and mineralized nitrogen. In June, the beds were planted with bush beans.

All the soil samples were moderately acidic, to begin with, and the pH in each bed fluctuated between 2 and 4 tenths of a point between the course of the trial.

Their results ran counter to our general assumptions about coffee grounds:

WITH GROUNDS	WITHOUT GROUNDS
Beans germinated well	Beans germinated well
No effect on germination rates	No effect on germination rates
Slower rate of later growth	Normal rate of later growth
Less vigor, smaller plants, less green	Larger plants, greener growth and vigor
Improved tilth, better water retention	Slower drainage

Their conclusions:

Non-composted coffee grounds appear to negatively affect growth rate and productivity of beans, even though tilth is improved. Six months is not sufficient time to fully decompose the grounds in the soil. It may take a full year. And it is not clear that grounds permanently change the pH of the soil—it may be a transient experience that needs continual renewal.

This was an observational study, not a controlled study, so more study is needed to get to a conclusive answer. It is clear from other commentators and this study's authors, that the recommended use for coffee grounds is that adding them to a compost pile, along with lime, is preferable to giving your plants their coffee "straight." ☼



CCPP: A TREASURE TROVE FOR CITRUS GROWERS

Kathy Low, U.C. Master Gardener, Solano County

If you're growing one or more citrus trees and want to try your hand at grafting or are an experienced grafter, you'll want to know about the Citrus Clonal Protection Program (CCPP) at the University of California, Riverside. Established in 1956, the CCPP is a cooperative program between UC Riverside, the California Department of Food and Agriculture, the US Department of Agriculture and California citrus growers. The purpose of the program is to provide a safe means for introducing disease free citrus from other parts of the world and nation into California. It accomplishes this purpose through disease diagnosis and pathogen elimination, and distribution of true to type citrus budwood.



All photos in this story by Melinda Nestlerode

In California the law requires any new citrus material entering the state, regardless of whether it's from another state or another country, to enter through the CCPP. All imported citrus material is quarantined and undergoes extensive biological and laboratory testing for graft transmissible diseases and

pathogens. In out-of-state mail order nursery catalogs, you'll often see a note that citrus trees cannot be shipped to California for this reason.



Imported citrus varieties that have been tested and shown to be free from disease are then propagated on appropriate rootstock and planted at the Lindcove Foundation and Evaluation Block in the San Joaquin valley. There the trees are evaluated several times a

year for genetic disorders, disease, trueness to type, fruit quality, and overall health and growth characteristics. After the trees have borne fruit for several years they are registered with the California Department of Food and Agriculture as "budwood source trees". Once that happens, the CCPP can distribute budwood from the trees. So, the CCPP is a source of clean,

disease-free budwood for over 250 varieties of citrus.

Californians can order budwood directly from the Citrus Clonal Protection Program. All you need to do is go to their website at www.ccpp.ucr.edu and follow the directions for obtaining a username and password. Once you obtain those, you can order budwood online. We are very fortunate that ordering from the CCPP is not limited to the nursery and citrus industry.

The wide spectrum of citrus budwood varieties available is amazing. They offer sixteen varieties of Valencia orange, thirteen varieties of blood orange, thirty-five varieties of naval orange, eighty-four varieties of mandarin orange, fourteen varieties of sweet orange, five varieties of sour orange, twenty-four varieties of grapefruit and pummelo, twenty varieties of tangelo and tangor, six varieties of Eureka lemon, nine varieties of Lisbon lemon, fourteen other varieties of lemon (such as a seedless lemon and a Laphitiotiki lemon) nine varieties of lime, limetta and limequat, seventeen specialty citrus varieties including kumquat, orangequat, mandarinquat, citron, calamondin, Buddha's Hand and Yuzu. The varieties are imported from other states and a wide range of countries ranging from France, Spain and Italy to China, Japan, Tahiti and Tunisia, Morocco and New Zealand.



The cost is 75 cents per bud plus mailing cost. There's a minimum of six buds per variety selected. You can check their website for monthly cutting and mailing dates. You'll be emailed an invoice for payment a few weeks after your order has been mailed.

To protect the state's citrus crops from a host of diseases and pests like Huanglongbing and the Asian Citrus Psyllid, it's important to obtain clean, disease free budwood, only from reliable sources like the CCPP. To give you an idea of the demand and need for clean budwood; from 2008 to 2013 the CCPP distributed 149,051 buds from 290 different citrus varieties. During that period varieties of mandarin orange were the most ordered, and varieties of sour oranges being the least ordered.

So take a minute to check out the Citrus Clonal Protection Program's website at www.ccpp.ucr.edu. You will be glad you did. ☀

MOSQUITOS: VECORS OF DISEASE

Melinda Nestlerode, U.C. Master Gardener, Solano County

Mosquitos in California



Photo by Greg Allen—USDA, ARS

Who remembers the 1960's television commercial showing a man with his arm in a glass case swarming with mosquitos? The mosquitos swarmed his unprotected arm. Then, he sprayed himself with the advertised product,

and the voice-over announced that "They don't bite, they don't even light!" This stunt demonstrated the effectiveness of a mosquito repellent over unprotected skin, and the visual image it produced was unnerving. Scientists researching insect repellents actually use this method, among others, to experiment with the reaction of mosquitos to the chemicals applied to their skin.

We have experienced a lot of much needed rainfall this year. According to the State of California Department of Water Resources (<http://cdec.water.ca.gov/cgi-progs/reports/EXECSUM>) the official rainfall measurement at Sonoma County Airport has been 49.86 inches (October 1, 2016 through March 23, 2017) which is 185 percent of average. This rain is a blessing to our drought parched landscape, yet the water also provides a rich breeding ground for mosquitos.

There are approximately 3,000 species of mosquitos in the world, but only 50 species of mosquitos live in California. Many of the mosquito species in California are benign to humans. However, there are several species that warrant our attention. While being "bit" by a mosquito is annoying, their habit of protruding through the skin of animals causes them to pick up diseases and transfer them to their next victim. The mosquitos of the genera *Culex*, *Aedes*, and *Anopheles*, all of which are found in California, pose particular threats to human health, while other types of mosquitos may transmit diseases to livestock and pets.

Culex mosquitos carry encephalitis (*inflammation of the brain*), filariasis (*a parasitic disease causing elephantiasis*), and West Nile virus (*fever, headaches, body aches, vomiting, diarrhea, fatigue, skin rash*).

Infamous for recent outbreaks of Zika virus (*fever, rash, joint pain, red eyes, muscle pain, headaches*), *Aedes* mosquitos also carry yellow fever (*fever, headaches, muscle aches, sensitivity to light, nausea, vomiting, loss of appetite, dizziness, red eyes, face or tongue*),

dengue fever (*fever, headaches, muscle, bone and joint pain, pain behind the eyes, nausea, vomiting*), and encephalitis.

Anopheles mosquitos are vectors for malaria (*fever, joint pain, headaches, vomiting, convulsions, comma*), filariasis, and encephalitis.

Mosquitos are also carriers of dog heartworm. Even if mosquitos are not vectors of disease, their bites are problematic, and lead to redness, itching and swelling, and possible allergic reactions or secondary infections.

Identification of Mosquitos



Adult Mosquito
Photo by Jack Kelly Clark—UC IPM

Mosquitos are closely related to flies. The difference between flies and mosquitos includes scaling on the wings, and, of course, the long sharp proboscis that the female insects use to pierce skin and retrieve blood. It is imperative for females to consume the blood of vertebrate

animals in order to support the egg-laying stage of their life cycle. The female proboscis contains two tubes; both drill into flesh. The first tube prohibits blood clotting, while the second tube sucks the blood into their bodies. The female mosquito does not benefit from the blood extraction herself, but uses it to provide protein and nourishment for her eggs. Male mosquitos do not suck blood; both male and female adult mosquitos eat plant nectar and other plant sugars.



Mosquito larvae
Photo by Jack Kelly Clark—UC IPM

In order to locate their victims, mosquitos follow the trail of carbon dioxide which animals exhale in exchange for oxygen. They can also detect body odor and temperature.

We know that all living things have a purpose in the circle of life, but it is difficult to conceive of any beneficial reason for mosquitos. They do provide a necessary role, though, as food for

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many animals, including fish, bats, birds, dragonflies and frogs.

Mosquito Management

Special mosquito abatement districts attempt to manage mosquito populations to prevent them from becoming a nuisance, and to inhibit disease. There are over 60 mosquito and vector control agencies in California. Their technicians locate areas of mosquito larvae, and use environmentally friendly methods to eradicate them. Their removal methods include eliminating the accumulation of decaying vegetation, applying mosquito-specific controls, and stocking fish which eat the larvae.

There are several important actions that people can take around their homes to limit breeding mosquitos. Mosquito larvae need standing water in order to thrive and grow into adulthood. They only need a few days to a few weeks to complete the larval stage of their lifecycle. Look around your yard for buckets, pots, wheelbarrows, toys, wagons, or old tires, and empty standing water. Store anything that can collect water upside down. Stagnant ponds or pools should be drained, filled in, treated with Bti (*Bacillus thuringiensis*, subspecies ‘israelensis’) or stocked with mosquito-eating fish.

Bti is a highly selective insecticide, killing only mosquito larvae

and the larvae of closely related flies. It must be eaten by the larvae; it then acts as a poison that damages stomach cells. Bti is available in several forms, the most popular being the Mosquito Dunk, a circular float which lasts about 30 days.

Gambusia affinis, the mosquito-eating fish, is important to mosquito management, and is employed worldwide. They are available through the local vector control district (www.solanomosquito.com). It’s important to use mosquito fish in stand-alone bodies of water which do not connect to natural waters because they are a non-native species. Do not release mosquito fish into lakes, rivers, streams, or ponds outside of your own yard.

In order to avoid bites, check your window screens, and repair any tears or holes. If possible, avoid going outside when mosquitos are known to be present and biting. If you must go outdoors, protect your skin by wearing long sleeves, long pants, and a hat. If mosquito populations are high, you may want to apply a chemical insect repellent. The Centers for Disease Control and Prevention (CDC) recommends using repellents which contain DEET, Picaridin, or Oil of Lemon Eucalyptus. ☀

MOSQUITO REDUCTION PRACTICES	
MOSQUITO SOURCES	WHAT TO DO TO REDUCE MOSQUITOS
Bird bath	Change water at least once a week
Cesspool or septic tank	Seal and cover openings so mosquitos cannot lay eggs in them
Containers	Empty water, store inverted, discard, cover
Cooler Drains	Prevent water from standing
Irrigated lawns or fields	Avoid excess irrigation, drain standing water
Plastic pools	Drain when not in use, store inverted, cover
Ponds	Stock pond with fish, use <i>Bacillus thuringiensis</i>
Roof gutters	Clean once a year to remove debris
Standing water	Eliminate by draining, fill in low areas
Street gutter or catch basin	Remove litter and garden debris; do not overwater lawns
Swimming pools	Keep water off cover; maintain water quality at all times
Tree holes	Fill hole with sand or mortar
Watering troughs	Stock with fish or change water weekly

For more information about mosquitos visit the UC website at: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7451.html>

For mosquito abatement information, contact the Solano County Mosquito Abatement District at (707) 437-1116, or <http://www.solanomosquito.com/>

UC Master Gardener Plant Exchange & Vegetable –Herb Sale



April 29, 2017
9am Sharp Until 12 Noon
501 Texas Street, Fairfield

Plant Exchange—Bring a plant, take a plant. We will also have yard sale-type items like garden tools pots, magazines, books, etc., as part of the exchange; bring them if you have them. Please come, even if you have no plant to share.

Vegetable/Herb Sale– Vegetable starts and herbs for sale.

CASH OR CHECK ONLY

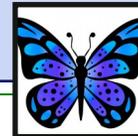
Information: Jennifer, (707) 389-645 (texts ok) or
jmbaumach@ucanr.edu

NOTE: The last 30 minutes of the plant exchange will be a “green light” special and you may take unlimited plants.

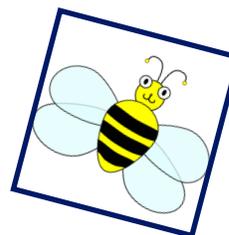
NO invasive plants, pesticides, herbicides, fungicides , or fertilizers!



SPRING GARDENING GUIDE



	APRIL	MAY	JUNE
P L A N T I N G	<ul style="list-style-type: none"> ◇ Edibles: Loose-leaf lettuce, culinary herbs, chard, carrots, radishes, spinach, sorrel ◇ Warm-season annuals: Ageratum, alyssum, bedding dahlias, impatiens, lobelia, petunia, phlox, portulaca, salvia, sunflower, zinnia ◇ Perennials: Ceanothus, lavender, coreopsis, penstemon, rudbeckia, dwarf plumbago, scabiosa, verbenas 	<ul style="list-style-type: none"> ◇ Edibles: Beans, corn, cucumbers, eggplant, melons, okra, peppers, pumpkins, squash, tomatoes, watermelon ◇ Butterfly, bee and hummingbird attractions: agastache, alstromeria, bee balm, coneflower, coral bells, fuchsia, honeysuckle, penstemon, salvia ◇ Plant chrysanthemums for fall color ◇ Perennial shrubs, trees or vines ◇ Loose roots of pot bound nursery plants before planting in the garden 	<ul style="list-style-type: none"> ◇ Edibles: Melon, beans and corn from seed; tomato, squash and cucumber seedlings ◇ Successive plantings of basil and cilantro ◇ Summer annuals: Cosmos, marigolds, portulaca, sunflowers, zinnias ◇ Summer-blooming perennials: Daylilies, gloriosa daisy, Russian sage, salvia, yarrow
M A I N T E N A N C E	<ul style="list-style-type: none"> ◇ Control weeds—pull or hoe them as soon as they appear ◇ Fertilize and clean up around azaleas, camellias, and rhododendrons ◇ Fertilize citrus ◇ Tune up motor, and sharpen blades on lawn mower. Mow often enough that you cut no more than 1/3 the length of the grass blade in any one session ◇ Spray olives, liquidambar, and other messy trees with fruit control hormone or blast with hose to curb fruit production 	<ul style="list-style-type: none"> ◇ Aerate and fertilize lawns ◇ Fertilize citrus and established perennials and vegetables ◇ Deadhead spent flowers to encourage new bloom; pinch back petunias and fuchsia ◇ Allow spring bulb foliage to yellow and dry out before removing 	<ul style="list-style-type: none"> ◇ Roses: Cut back faded blooms to 1/4" above first five leaflet that faces outside bush ◇ Fruit trees: Thin apples, pears, peaches, and nectarines, leaving about 6" between fruit ◇ Sprinklers: Summer heat increases water needs by 2" per week. Adjust sprinklers for adequate coverage and irrigation ◇ Fertilize annual flowers, vegetables, lawns and roses ◇ Dig and divide crowded bulbs; allow to dry before replanting
P R E V E N T I O N	<ul style="list-style-type: none"> ◇ Bait for snails and slugs, following all product instructions ◇ Rid new growth of aphids with a blast from the hose every few days ◇ Dump standing water to slow mosquito breeding* <p><small>*See mosquito article on Page 6 for more information</small></p>	<ul style="list-style-type: none"> ◇ Tune up drip irrigation systems ◇ Build basins around the bases of shrubs and trees; mulch those and garden plants to conserve moisture and reduce weeds, leaving a mulch-free margin around plant crowns and stems ◇ Stake tomatoes and perennials ◇ Remain vigilant against snails, slugs and aphids 	<ul style="list-style-type: none"> ◇ Mulch to keep roots cool and to retain moisture ◇ Check underside of tomato leaves for hornworms ◇ Spray roses with Neem oil to help control aphids, black spot, whiteflies, and powdery mildew ◇ Inspect garden for earwigs ◇ Remain vigilant against snails and slugs



UC MASTER GARDENERS WILL ANSWER QUESTIONS AND PROVIDE INFORMATION THROUGHOUT THE SEASON

FARMERS MARKETS

Vallejo Farmers Market
Saturday's 9:00am to 1:00pm
Georgia and Marin Streets

Benicia Farmers Market
Thursday's 4:00pm to 8:00pm
Beginning April 27, 2017
First Street Between "B" and "D" Streets

Vacaville Farmers Market
Saturday's 7:45am to 12:00pm
Beginning May 6, 2017
Main Street Between Dobbins & Parke

FAIRFIELD HOME DEPOT

Every other Saturday
April through October
Starting on April 1
10:00am to 2:00pm

2121 Cadenasso Drive

DUNNELL NATURE PARK AND EDUCATION CENTER

3351 Hillridge Drive, Fairfield

POLLINATORS IN THE GARDEN: April 8th, 10:00am to 12:00pm
SUCCULENTS AND HOW TO GARDEN WITH THEM: May 13th, 10:00am to 12:00pm

DIXON MAY FAIR

May 11th-14th

655 S. First Street
Floriculture Bldg.

May 11th—4:30pm to 9:00pm
May 12th— 12:00pm to 9:00pm
May 13th—12:00pm to 9:00pm
May 14th— 12:00pm to 9:00pm



TOMATO MANIA

ACE Pacific Hardware
April 20th—23rd
627 Merchant St., Vacaville
10:00am to 2:00pm

VACAVILLE PUBLIC LIBRARY

1020 Ulatis Drive
Vacaville

IRRIGATION

April 20th
7:00pm to 8:00pm

HORTICULTURE CLUB AT SOLANO COMMUNITY COLLEGE SPRING PLANT SALE

Thursday, May 11th from 8:00 am to 8:00 pm
Friday, May 12th from 8:00 am to 5:00 pm
Saturday, May 13th, from 9:00 am to 2:00 pm

Louise Wilbourn Yarbrough Horticulture and Plant Science Institute (formerly Building 1000) on the College's main campus in Fairfield, 4000 Suisun Valley Road, with convenient parking in Lot #6

The plant sale will feature varieties of tomato plants, including heirloom and hybrids, many varieties of pepper plants, vegetable starts, CA natives and drought tolerant plants, trees and plants for outdoor landscaping, herbs, succulents, seasonal flowering plants, house plants, floral arrangements, and more ... all in time for Mother's Day

Drawings for door prizes will occur throughout the sale. Proceeds from the sale provide scholarships, equipment, and reference material for SCC Horticulture students.



Cash and checks are accepted

For further information, contact Ken Williams at 707-975-6856

**Seeds For Thought is produced by
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<http://cesolano.ucdavis.edu/newsletterfiles/newsletter130.htm>

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SEEDS FOR THOUGHT



SPRING
2017