



THE YOLO GARDENER

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Biological Pest Control

Michael Kluk, UCCE Master Gardener, Yolo County

Biological control is the natural action of one species to kill or otherwise control a pest species. Biological control is used most often in the home garden to control insects but can also be used to control other invertebrate and vertebrate pests and weeds. The first recorded use of biological controls occurred in China in 304 AD. Citrus ants (*Oecophylla smaragdina*), a particularly predatory species, were used to protect mandarin oranges from insect pests. The citrus ant was “rediscovered” in the 20th century and now is again used in China to protect orange groves.



Lady Beetle adult and larva

Biological Insect and Mite Control

Most insect pests have natural predators that can keep their numbers in check. In the home garden, often the most effective approach is to encourage these predator populations. This is best accomplished by not using pesticides unless absolutely necessary. Pesticides kill beneficial species as well as pest species. Killing one ladybeetle will allow thousands of aphids and other pests species to flourish and reproduce, tens of thousands if you consider the impact her offspring would have had. If you do use insecticides, the less toxic soaps and oils are preferable. Be aware that many herbicides and fungicides are toxic to insects as well.

If you do notice pests in your garden, look also for predator species. Sometimes it may take a short while for them to show up to the feast. Monitor the pest populations and unless they seem to be expanding rapidly, wait to see if natural controls will be effective.

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Learn to recognize the beneficial insects in your garden, including the immature forms of larva or nymph and eggs as well as the adults. You don't want to indiscriminately kill the good guys. In many beneficial species, both the adults and larva or nymphs are predators. Nymphs usually look similar to adults, although smaller and wingless, while larva look much different from the adults they will become. There are many pictures of predator species available on the internet and in books, including *Pests of the Garden and Small Farm* by Mary Louise Flint, published through the University of California Statewide Integrated Pest Management Project, 2018. Some predators you may find in your garden include lady beetles, lacewing larva syrphid fly larva damsel bugs assassin bugs, big-eyed bugs, minute pirate bugs, soldier beetles, predaceous ground beetles, predatory mites and spiders of all sorts.

It is important to maintain a supportive environment for predators. If there is no food, the beneficial insects will starve or leave. Flowers provide a food source, pollen, and nectar for predators when their natural prey is absent, or in numbers too small to support a healthy predator population. Simple flowers such as daisies and yarrow have pollen that is easily accessible. Make sure that there are plants growing year-round in your garden to provide shelter for predatory insects and their eggs.

There are many sources through which you can purchase insect predators such as lady beetles and lacewings. In general, this does not appear to be effective for the home garden because the insects, once released, tend to fly away to the neighbors and beyond. If you still want to give it a try, release the insects in the evening. Be sure to have a water source and a variety of plants, including blooming flowers, available.

Several species of ants will "farm" aphids and scale insects that produce honeydew. This is a sticky sweet substance that the ants eat. They will protect their "livestock" from natural enemies such as lady beetles and lady beetle and lacewing larvae. So, it is important to control the ants. There are several sticky paste-like products on the market designed to set up an ant barrier at the base of trees or other plants infected with aphids or scale, allowing the predators to feed.

Spider mites, eight legged relatives of spiders, are common pests in the garden and will do substantial damage if populations are allowed to swell. Many of the beneficial predators mentioned above will eat spider mites. The most effective are western predatory mites (*Galendromus occidentalis*). Since adult mites are the size of the periods on this page, a hand lens will be necessary to observe the various mite species you may find in your garden. Predatory mites tend to be more active, shinier and more oval shaped than their prey species, cream to red in color with mouth parts that protrude out rather than down. They tolerate hot weather although seem to prefer higher humidity than the pest mite species. Therefore, spraying or misting with water may encourage predatory species. Because they do not fly away, the release of predatory mites in the garden can be practical although has been most effective in confined areas such as a greenhouse. Predatory mites can be purchased online. There is evidence that western predatory mites can establish in a garden and persist from year to year.

Other categories of biological control of insects are pathogens and parasites. Pathogens are microscopic organisms such as bacteria, viruses, and fungi that cause disease or death in target species. A common example is *Bacillus thuringiensis*, commonly known as BT, a bacterium that attacks the digestive system of caterpillars. It is available in plant nurseries. Various species of fungi will also commonly attack aphids. Look for dead aphids



Green Lacewing attacks an aphid.

that are red or brown or with white mycelium growing over their surface. That would indicate that further treatment is likely not necessary.



Aphid mummies with exit holes from a parasitic wasp

Parasites generally spend part of their life cycle associated with a host pest species. Most commonly, an adult will lay an egg on a pest species egg, caterpillar or adult host. When the larvae hatch, they feed on or inside the host, killing it. Many species of wasps, often too small to be noticed, lay their eggs on the eggs of a host species or on soft bodied insects such as aphids or caterpillars. Look for eggs or adult insect “mummies” with small “exit holes” which indicate it was killed by a parasitic wasp.

Biological Weed Control

Some biological control of weeds naturally occurs although most gardeners would argue it is not enough. Weed populations would likely be worse if it were not for bacteria, virus, fungi, and soil dwelling invertebrates that destroy seeds and seedlings. Practical animal control of weeds is limited in the home garden, but in larger plots, home orchards and vineyards, geese have been found to be effective with the fewest negative side-effects, such as eating your vegetable plants. Geese must be confined by a fence. A temporary three-foot fence is adequate. They will generally not browse on mature vegetable plants if there are young weeds available. Stocking them in vegetable plots at the rate of three to five per acre or orchards and vineyards at the rate of twelve per acre is adequate.

A more practical solution for most home gardeners is to be sure that any open garden beds have a dense cover crop growing on them that can out compete weeds. For example, fava beans (*Vicia faba*) are not a good choice for weed control because they leave enough exposed soil between them for weeds to have plenty of sunlight and space to flourish. Vetch (*Vicia* var. species) and Austrian winter peas (*Pisum sativum*) are much more effective since they form a thick mat that can suppress weed seedlings. The personal biological control of pulling weeds is still the most dependable form of management. For best results, do it early and often.



Creating A Bee-Friendly Garden

Michelle Haunold Lorenz, UCCE Master Gardener, Yolo County

It seems like every day there is something in the news about the danger the honeybee population is facing. This is a pretty big deal, since thirty percent of the food we eat depends on an animal pollinator. While scientists have a number of theories about how to save the bee population, we are lucky to have an amazing research resource right in our backyard: The UC Davis Häagen Dazs Honey Bee Haven. This marvelous living museum has suggestions on how to help bees on their informative website, as well as offering classes and tours at the garden. As a gardener, there are many simple steps one can take in one’s home garden to ensure our locals bees are happy and healthy. Go to <https://beegarden.ucdavis.edu> and spend some time browsing the informative articles and slideshows.

The first step (and one that will bring music to most plant fanatic’s ears) is to make sure you are planting the correct mix of plants. According to Dr. Christine Casey, Director of the Häagen Dazs Honey Bee Haven, providing a mix of plants that produce pollen as well as nectar is vital for the health of the

vast variety of bees. Now, this may be confusing (it was for me), as one just assumes these two plant substances are interchangeable and that most flowers have both, but they don't.

For example, *Ceanothus spp.* provides only pollen, while Western Redbud (*Cercis occidentalis*) only provides nectar. There is an extensive list of plants on the Bee Haven website, with recommendations by season, as well as whether the plant is a nectar or pollen source and what kinds of bees the plant will attract. Go to <https://beegarden.ucdavis.edu/BeeGardeningResources> and click on the link for Bee Garden



Plant Lists. Use this list to make sure you are providing the correct mix of plants that provide both pollen and nectar throughout the seasons in order to keep foraging bees happy year-round. Adjust your plant mix accordingly to make sure you have both pollen and nectar sources. Plant “swaths” of the same plant, so you get masses of bloom, as opposed to scattering similar plants throughout the garden. When you group like plants together, you allow bees to conserve energy as they forage, rather than flying from one plant to another, scattered around the garden.

Another vital component of a bee-friendly garden is providing the correct source of water. During Dr. Casey's talk in March 2019, I was surprised to learn that the bubbling fountain I currently have in my garden isn't adequate for bees. They need a shallow dish with rocks so they can crawl over them sipping at the water's edge. Bees also prefer “dirty” water, meaning water that has debris or algae in it, so don't worry about keeping these shallow dishes clean. Now this type of standing water is too shallow for mosquito larvae, so no need to worry about that. Make sure you replenish the dish throughout the day, as the water will dry up during the hot summer months.

Another simple step we can take around our homes is making sure we have a mixture of substrates for bees. According to the studies conducted at the bee haven, seventy percent of bees live underground. Making sure you have not only rocks and stones in your garden, but also pavers or gravel, will provide the correct material for these subterranean dwellers. You should keep some of your ground bare, without any mulch, for some types of bees, and you can include stumps and logs.

Providing “bee houses” is also a good thing to do for beneficial bees such as the carpenter or “wood” bees. However, make sure you're providing a house that the bees will actually use! The pre-made bee houses available at big box hardware stores may look pretty, but the bees will not use them because they are not made correctly. These houses are not long enough for the bees, and when used for laying eggs, they will produce only male bees. If the house is not solid in the back, or is in too much sun, bees won't enter the bee house, so make sure you do not place the bee house in full sun, and that the backside is closed. You can insert removable cardboard or bamboo tubes, but make sure to replace them each year, or again, the bees won't use them. (Bees can tell when another bee has nested in the tubes.)

If any of this gets you excited to make your garden as bee-friendly as possible, take a trip to visit the Häagen Dazs Honey Bee Haven. It is free and open to the public from sun up to sun down, and right now, it is awash with activity, from foraging bees to masses of flowers. Take a picnic lunch and spend some time looking at the displays and vast amounts of information provided around the gardens. You will not only have a fun outing; you will leave inspired and educated.



The Ripple Effect

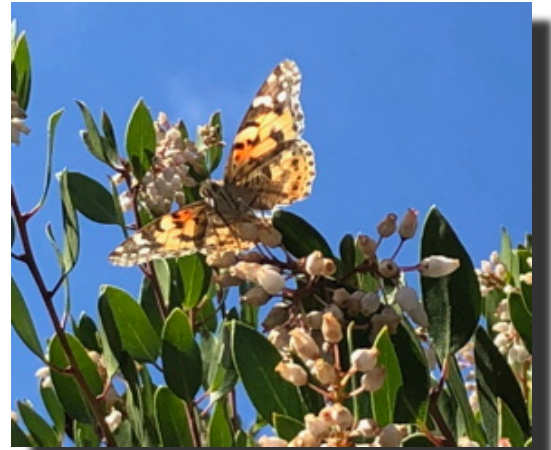
Tanya Kucak, UCCE Master Gardener, Yolo County

Are you feeling frustrated by habitat loss and climate change? Wondering if there is anything you can do? You can create habitat! Plant native plants that support native pollinators, beneficial insects, and birds in your neighborhood. “Plants are the beginning of everything,” Landscape Architect Juanita Salisbury told me. Plant some natives, then “watch nature unfold and take over. Layers of complexity will happen.”

People all over the world, from Seattle to London, Connecticut to Ottawa, have been building pollinator corridors, pathways, and ribbons. Closer to home, Juanita Salisbury, founder of Primrose Way Pollinator Garden, has led the transformation of ten-thousand square feet of unused land in Palo Alto into gorgeous habitat gardens in the last couple years.

All it takes is initiative, she said. Look around your neighborhood and find a neglected but easily accessible spot that’s not used for anything else. “Thousands of square feet are going to waste in front of our doorsteps.” Parking strips along your street could become a pollinator corridor. City- or county-owned land with ivy or lawn could be transformed into beautiful gardens, colorful year-round, and buzzing with life. “We know better” than to plant ivy, she said.

Assess the site, then approach the city with a detailed plan and an offer to plant, fund, and maintain the site with volunteers. “When you have a plan, it’s hard for people to say no,” Juanita said. “Find a spot where they say yes.” It won’t cost them anything, she added, and “it will improve the town and make things look better.” Let the city use its money for “something better” than mowing lawns and maintaining ivy. In addition to donated materials, Salisbury has purchased plants and supplies with help from a Go Fund Me site, a get to know your neighbor grant, and Happy Hollow “Progress for Pollinators” grants.



Manzanitas offer pollen and nectar for early-emerging bumblebees and support a wide range of pollinators, including butterflies. (Photo: Tanya Kucak)



Before and after: A strip of city land between a busy 4-lane road and a neighborhood street was transformed by volunteers who transformed the same space into a colorful, native habitat garden, increasing biological resiliency in the neighborhood.

(Photos: Juanita Salisbury)

Salisbury delineated several rules of thumb, stressing that “it’s easy.”

- Follow the rule of three—three species each of early, middle, and late bloomers, favoring locally appropriate native species;
- Plant each variety in masses at least three feet in diameter, because insects forage one species at a time;
- Leave some bare soil for ground-nesting native bees.

Although she is a landscape architect, Salisbury insisted that “anybody can do this. Plants are pretty forgiving, like nature is.” It does help to have one champion to steward the project.

Some of her favorite choices for easy care are Manzanita, Ceanothus, and native buckwheat. All require low water once they are established and come in many different forms. Salisbury also loves to grow “super rare” plants from seed. “It’s a joy” to share something so precious, she said.

One of the sites she planted had been “an eyesore for decades,” covered with rat habitat (ivy) and random trash. It was transformed in a few weeks into a space with fragrance and color, visited by butterflies and is now a delight to the neighborhood.

Once the plants are in, establishing them takes some care for the first couple of years. After that, minimal weeding once a month is all that’s needed and eventually the natives will take over. Because you are fostering habitat and encouraging life, not creating a manicured garden, use a “light hand.” Prune late in the season to allow overwintering insects to emerge. 🍅

Mendocino Botanical Garden

Mary Yaussy, UCCE Master Gardener, Yolo County

My husband and I wanted to take a few days to visit a California coastal area that would be “dog-friendly” for our nine-month-old puppy, Joey. Also looking for spectacular scenery, good seafood, and history, we settled on the Mendocino Coastal region. The more I researched it seemed every establishment, Mendocino Coast Botanical Gardens, Skunk Train, and the many California State Parks welcomed well-behaved dogs. If you have never visited the area or if your visit was long ago, make this destination a must on your travel list.

The drive is long and curvy once on Highway 128 over to CA-1, so pack snacks, water, and take motion sickness precautions so that you can enjoy the drive through cooling redwood forests and “dog-friendly” Anderson Valley wineries.

When we arrived at our cottage in Little River, the ocean bluffs, hillsides, and meadows were experiencing their “Super Bloom” with bright California poppies, baby blue eyes, purple wild iris, columbines, trillium, colorful ice plant, redbuds, and ceanothus. The list could go on so we thought we might skip the Mendocino Coastal Botanical Garden this time and concentrate on the magnificent state parks with clean well-maintained restrooms and beaches for Joey to run. Our plans were adjusted to include the Garden, located in Fort Bragg, after visiting the Dog Grocery store in Mendocino. The owner was a retired landscape architect and rose lover from Berkeley,



as well as a volunteer at the Garden. How could we not go after her colorful descriptions? My husband and Joey grew weary waiting for us to finish our little garden chat.

The forty-seven-acre Mendocino Coastal Botanical Garden situated between CA-1 to the coastal bluffs overlooking the Pacific Ocean. As a nonprofit botanical garden, its mission is “, to engage and enrich lives by displaying and conserving plants in harmony with Northern California ecosystems and to preserve public access to the coast”. There are fifteen plant collections, some rare, along with the hybrid varieties in garden rooms that gently flow into one another. Many of the plants are probably in your very own garden. Yolo and Mendocino Counties are in the same USDA Plant Hardiness Zone of 9b with a Mediterranean climate minus the hot Yolo County summer sun. We enjoyed the entire botanical garden, but the Perennial Collection, Rhododendron Collection, Vegetable Garden, and Coastal Bluffs were in full bloom and our favorite in the first week of May.

The Perennial Collection is the first garden to enter after paying your admission fee. This sunken area features a lush lawn surrounded by heavily mulched mounds planted with a wide assortment of perennials. The mounds are necessary due to the high-water table. Tables, chairs, and benches are scattered around the patio and lawn for guests to enjoy a delicious homemade meal or snack from Rhody’s Café. The vegetables, fruits, and nuts are grown in the Vegetable Garden and the fresh seafood comes off the local fishing boats in Fort Bragg. (Warning: Clam Chowder is only served on the weekends.) Perennial plants may be purchased at the adjoining nursery.

California’s largest Rhododendron show was ending the day we arrived. More than eight hundred flowering samples were on display in a large white tent. The color and fragrances were sweet and mild. the Garden has more than 124 species of Rhododendrons and 315 taxa, many developed by local growers. More than one thousand rhododendron shrubs can be seen blooming throughout the Garden during the peak bloom in April and May. It seemed odd to see twenty-foot tall rhododendrons blooming next to the Succulents Collection.



We were lucky to meet the Lead Gardener, Jamie Jensen and several volunteers when we ventured into the fenced in five-acre Vegetable Garden. Off to the side I spotted the composting area. The green clippings were piled 12’H x 75’L, the decomposing pile was a bit less, the third pile was the darkest black compost we have ever seen. Jamie said the process takes anywhere from four to eight months depending on weather and temperature. The cool season vegetables and greens were still growing. The tomatoes and peppers were in the greenhouse for a few more weeks. The organic bounty is donated to the Fort Bragg Food Bank. Food bank donation in 2018 amounted to 6,469 pounds of food. Not only is the Garden filled with healthy food but there was garden art tucked in empty spaces. There were old metal headboards covered with vines and flowering plants. Kiwis trailing up four wooden arbors. This Garden shows both character and a lot of hard work.

There are two trails to the Coastal Bluffs. The North Trail is more strenuous while we chose the easier and flatter South Trail. Add artwork/sculptures, old buildings, native flowers blooming, a bride and a groom on a bluff overlooking the Pacific, and it can’t get any better.

If this might be on your vacation list, take comfortable walking shoes, dress layered and relaxed, binoculars to bird and whale watch, a good appetite, and your canine friend.

Mendocino Coast Botanical Garden: <https://www.gardenbythesea.org>

California State Parks: www.parks.ca.gov

<https://www.visitmendocino.com>

<https://www.dogtrekker.com>



My First Wildlife Pond

Megan Smith, UCCE Master Gardener, Yolo County

As home gardeners we all go through different phases in our gardening lifetimes. But sometimes we learn something that opens a door into a world of knowledge that fundamentally changes our gardening style forever. For me, that moment came when I read Jessica Walliser's book, *Attracting Beneficial Bugs To Your Garden*. At the time I was already an avid home gardener, but the focus of my gardening had always been centered around what I wanted out of the garden. Vegetables, fruits, and beautiful flower beds were for my enjoyment alone, it had never crossed my mind that I would enjoy gardening any other way. When I read that book, everything changed. Suddenly, I understood how I could be more than a gardener. I could be a steward to my little patch of earth. My evolution as a home gardener continued over the following years and I worked harder to learn more about how to make my garden a safe haven for all wildlife, planting native flowers for the native bees, and host plants for our native butterfly species. I halted use of any and all pesticides, organic or otherwise, and welcomed the throngs of insect life that suddenly appeared. And yes, I even learned how to welcome the aphids. They are indeed the plankton of the garden ecosystem.

For several years I worked to foster this safe and bountiful environment, but there is so much more to a complete ecosystem and something was still missing from my garden plan.

Cut to a few years later when one night I was watching my favorite program called *Gardeners' World* on the BBC. The host of this program is a celebrity gardener by the name of Monty Don. Remember, this is the BBC in the UK, where there is such a thing as a celebrity gardener! That night as I watched from my comfy couch, Monty Don looked straight into the camera and seemed to say directly to me, "If you want to attract wildlife into your garden, build a pond." And that was it. Time to get to work.

Step One: Research

The first thing I did on my "build a wildlife pond" journey was what most of us do in this modern age. I googled it! To my surprise the amount online information specifically about building a wildlife pond was shockingly limited. Most of the articles or sites that I could find were devoted to building beautiful, decorative waterfall features, cascading into serene koi ponds filled with exotic looking plant life, complete with flowering lotus. Don't get me wrong, if that's your bag I get it. It's gorgeous, but it wasn't what I was after. What I needed was information about a natural "wildlife" pond, preferably specific to Northern California. After much searching, I wasn't able to find a "one-stop-shop" resource that would cover everything I would need to know to begin my project. I pieced together all the bits of information I was able to find. The following information was gathered from BBC's *Gardeners' World*, Kathy Biggs, video *Build a Pond for Wildlife*, Toby Hemenway's *Gaia's Garden, A Guide to Home-Scale Permaculture*, Redwood Barn Nursery, Walker Ave. Nursery, Kelly Brenner <http://www.metrofieldguide.com>, and Robert Pavlis', book *Building Natural Ponds*.

Step Two: Pick your site.

Depending on your situation putting a pond in your garden can work in different ways. Maybe you don't have room for a large hole in the ground, in that case you could find a tub or other water-tight receptacle to fill with water and plant life. You may have some acreage in which case you could build a very large pond that will also serve as a wildfire fighting feature. There are endless options, the best rule is to make sure you choose the option that fits your garden the best. You want the pond to be a seamless addition into your garden, not something that sticks out like a sore thumb. Make sure you're building a pond that fits well within your existing space.

I wanted the biggest and deepest pond I could fit within my garden. Our area gets very hot in the summer months so I knew I would have to find a site in the garden with morning sun and afternoon shade. In other climates where the weather doesn't get as hot, it may be better to find a site with a bit more sun exposure. But according to Kathy Biggs and her *Build a Pond for Wildlife* video it's not a problem to have a pond in part shade, especially if you're using native water plants. I found a spot in the garden that fit the bill. The site was always a kind of "problem area" for me in the garden anyway so it made sense to put the pond there. I also noticed that my chosen site didn't have any tree branches directly over it which will mean less debris when the leaves begin to fall in the autumn.

Step Three: Mark Out the Shape of the Pond

Once you've chosen your site it's a good idea to mark out the shape of your pond with white rope or hose. Laying out the shape of the pond can be extremely helpful. You can play around with the shape without having to dig anything and stepping back to look at the layout of the pond tells you a lot about how the pond will fit inside your space. Remember, you're making what will hopefully end up looking like a natural pond so have fun with the shape. In other words, don't make it a perfect circle. If you undulate the edges of your pond it increases the area of the water's edge. Making the edge of the pond wiggly also leaves little pockets of planting room around the edges of the pond, making it look even more natural.

Step Four: Digging Your Pond

Once you've got your pond shape laid out and you're happy with it, it's time to dig! But before you pick up that shovel call 811 to make sure your site is clear of any underground utility services. The last thing you want is to put your shovel through something important, or even worse, vital. Once PG&E and your city have cleared your pond site for digging, time to get cracking! As you begin digging make sure you've got a plan for all the dirt coming out of the hole. I used my pond dirt to make a berm at the edge of my front garden. You could also use this dirt to fill in other holes on your property, or make a new raised garden bed, anything that utilizes the dirt. What you don't want is to end up with a huge pile of dirt that just sits in your yard. Think of it as an opportunity to make something new!



Begin digging the first and most shallow level of the pond. All the sources I used for this project agree that a wildlife pond absolutely has to have a beach. So, when you're digging this first shallow level, make sure you choose one area that will be dug as a gradual slope and will serve as a beach area. A beach is vital for all kinds of wildlife to access the water safely and easily. Butterflies, bees, and insects will use the beach to drink without danger of being submerged in the deeper water. Other animals may use the beach to drink from the pond as well without the danger of drowning, and if an animal falls into the deeper water, the beach acts as a safe exit route from the water.

The pond will need several shelves as it gets deeper. My pond has four levels, the first shelf is two inches, the second fifteen inches, the third is eighteen inches, and the bottom level in the center of the pond is two feet deep measured from the surface of the water. These shelves will act as planting depths for your water plants and different plants need different depths so it's a good idea to have some choices. It's important to have depth of two to three feet in the center of the pond. A deep center will help keep the pond water cool in the summer and warm in the winter as the water naturally cycles from the surface down to the bottom and around again. Without a pump the water will naturally, though slowly, move in a kind of circular motion keeping the pond at the right temperature. The depth of the pond is also important for aquatic life as it provides a hiding place away from predators. When you're

finished digging put a wooden board across the top shelf of the pond and check that it is level. This will ensure that the water surface will be level too.

Step Five: Installing Underliner and Liner

After you've dug your pond it is very important to check the entire site for sharp rocks and roots that could cause problems later. Remove any material that could puncture the pond liner you will be installing to keep your pond full of water. Once you've removed any debris from the pond it's time to lay down your underliner. The underliner will extend the life of your pond liner by protecting it from anything that may cause a puncture. I chose to use a prefab underliner from a pond company. Because my pond was not all that large, I could afford to buy an underliner. However, if you're building a larger pond or an underliner does not fit into your budget, I read that newspaper or reclaimed carpet strips can be used to underline your pond. Now you've got your underliner in place, it's time to line the pond!



Everything I read and watched about pond liners had slightly different information but there was one thing that seemed to be true no matter what resource I looked at; get the very best quality pond liner that your budget will allow. Do not use repurposed plastic or anything that was not specifically designed as a pond liner. Pond liners are specially made with poly-materials built to last a long time; some are guaranteed up to 30 years! As well as durability, proper pond liners are also designed with a specific texture and this encourages the pond's microbial life to take hold. If a pond is lined with repurposed plastic the pond will no doubt spring a leak within a year or two and have to be completely dismantled and redone. It's also important to buy a liner that is bigger than you think you'll need. For instance, my pond is about 8' X 5' and I bought a liner that

is 10' X 15'. In retrospect, though we did indeed have enough liner in the end, I would have bought a 15' X 15' just for ease and peace of mind.

At this stage it's a really good idea to have already sourced some river rocks, old logs and the like to "dress" the pond. Some people will tell you, "Hey, just go down to your local riverbed and grab some rocks for your pond!". My advice is not to source anything from another wildlife habitat. The whole point of building a wildlife pond is to support the wildlife in your garden, not to steal it from another wild ecosystem. In my case I found a friend who was dismantling her pond and needed a home for all her unwanted river rocks. Of course, I jumped on the chance to repurpose those materials!

Carefully lay your liner down into the shape of the pond, weighing it down with heavy rocks to cinch it up snugly. There will be wrinkles in the liner as you work it into the pond and that's ok, but you want to make sure there are as few wrinkles as possible. When you've finished laying down the liner, arrange river rocks or logs in the shape of the pond edge on top of the liner to hold it in place. Trim the edge of the underliner and liner at the edge of your pond but do not discard the material. This material can be very useful for other garden projects such as weed suppression and building bog areas around the pond. I also believe it's very important to make as little waste as possible.





Step Six: Fill 'er Up!

Now you're ready to fill up your pond with water but it's also important to know what kind of water you're filling it with. All the pond-building advice I looked at from the UK suggested letting the pond fill naturally with rain water. I guess if that's an option for you it really is the best way to do it. However, here in the Sacramento region we do not have that luxury. It's important to educate yourself about where your water comes from and whether it's chlorinated before you fill your pond. I filled my pond with city water because I know that my water is not chlorinated. If there is chlorine in your water, you need to let the water sit for at least three days before you plant or add fish. The chlorine needs that time to evaporate from the pond water so it's safe for living things. As the water fills the pond it will weigh down and stretch the liner, making it easier to smooth out wrinkles in the liner. Congratulations, you now have a pond!

Step Seven: Bringing The Pond To Life

Arguably the most important (and most fun) part of building the wildlife pond is adding the basis for this wildlife, the plant life. Using native plants is a must when you're building a wildlife pond. In my own pond I have a mix of about two thirds native and one third non-native plants. The experts say that plants should cover about two thirds of the pond's surface with about one third of the surface water remaining clear. Get in touch with the local chapter of your native plant society and ask them about native water plants. You can also ask your local nurseries and see if they have any advice for you. Through my neighborhood nursery I found a lead on a water plant nursery in Sonoma county that specializes in lots of native plants. Here is short-list of native water plants that are great for a backyard wildlife pond, *Sagittaria latifolia* (Arrowhead plant), *Hippuris vulgaris* (common mare's tail), *Caltha palustris* (Marsh Marigold), *Hydrocotyle ranunculoides* (Marsh Pennywort), *Lemna minor* (Duckweed), *Mimulus guttatus* (Seep Monkey Flower), and *Darmera peltata* (Indian Rhubarb). There are many, many others but that should get the ball rolling for you on your own pond.

Plant life in the pond is divided into three different habitats, submerged plants, floating plants, and marginal plants. It's important when planting the pond to do your research thoroughly. Remember the tried and true planting method, "Right plant, right place" and you can't go wrong. Most water plants don't really need soil to thrive, they get their nutrients from the water. The plants do need to be anchored in the water so they can establish. I potted up my plants in repurposed plastic pots with drainage holes. Whatever you do, do not use any store-bought potting soil when you plant up the pond. Use soil that is relatively low in nutrients. If you have heavy clay soil in your garden you can use that, or buy special aquatic potting soil, but you don't want to add any nutrients to the pond because that will result in algae blooms that will choke the pond of life.

Balance is extremely important when establishing a natural pond. The base of the pond will begin to grow microbial life and even though it looks like a bunch of muck to us, actually it's providing the building blocks for the rest of the pond's ecosystem to grow. In other words, muck is good. It's important to read up about the different kinds of algae that will occur in your pond. I've learned that there are lots of very beneficial things about certain kinds of algae, in fact some need to be present in order for the rest of the pond's ecosystem to establish. This is a subject that will continue to become clear to me as I watch my pond evolve and naturalize. I also elected to add mosquito fish provided by my local county to my pond to keep mosquito populations down. It's worked



brilliantly but in retrospect I wonder if the fish (who are not native to our area) will also suppress other mosquito larvae eating wildlife such as dragonfly larvae and frog eggs. This is something I'll watch closely, and I'll make small adjustments when necessary.

After you've planted your pond it's time to enjoy it. Let the plants do their thing and spread across the pond, watch for the wildlife that is bound to show up. I have to admit this wildlife pond isn't just for the wildlife after all. I get an immense amount of pleasure from seeing it every day and noticing new and interesting things all the time. And yes, the raccoons will come and maybe cause a little damage from time to time, but my feeling is if you're going to build a wildlife pond, it has to be for ALL wildlife. We cannot pick and choose; we can do our best to be a steward to the land on which we live. And a pond is a very powerful tool that we as home gardeners can use to do just that.



The Italian Cypress

Jan Bower, UCCE Master Gardener, Yolo County

A truly Mediterranean tree is the Italian Cypress (*Cupressus sempervirens*). It is tall, slender, and attractive and grows in a columnar shape that can be spotted at a long distance above the horizon, especially in the flatlands of Yolo County. The Italian Cypress is native to southern Europe and western Asia, and flourishes in countries that have a Mediterranean climate, meaning dry summers and mild, wet winters. They are plant hardy in the U.S. Department of Agriculture zones 7b through 11.

Although an excellent choice for planting in tight areas, it is probably best to plant the Italian Cypress trees five to six feet apart. I have seven Italian Cypress trees in my relatively small yard. The trees were planted primarily for border protection and privacy from my next-door neighbors. However, I don't think the then residents realized how big they could become when they planted them—as tall as eighty feet and three to six feet wide.



The Italian Cypress has a stately, formal look. Its leaves grow inward and upward toward the sky, and the branches intertwine into each other, which makes the leafy surface of the tree very compact. Although the tree is classified as an evergreen, it does not have needles. Its leaves are deciduous, and they drop to the ground throughout the year. It can be pruned to a desired height, but it will lose much of its natural shape and elegant character by doing so. Also, once a branch is cut, a new one will not grow back in the cut area, which may result in bare spots on the tree.

The Italian Cypress prefers full sun, but also grows in partial shade. It grows well in acidic, neutral, or basic soils, which means it should do well with Yolo County's alkaline water. It also grows in almost any type of soil—clay, loam, or sand. Once established, it is drought and smog tolerant, so can survive summer heat without much watering. Once or twice each month is sufficient. Watering too much or too little can kill the feeder roots

and cause needle blight. If the tree shows signs of yellowing, it should be checked for cypress canker, a fungus that infects the tree bark and may require the removal of the branches that turn brown.

A recent article was published in the *Journal of Environmental Management* by Bernabé Moya about the fire-resistant qualities of the Italian Cypress. He and his brother José had been studying the exposure of a deadly pathogen on the Italian Cypress at the University of Valencia's Department of Monumental Trees since the 1980s. As luck would have it, there was a bad forest fire in their study area in Andilla, Spain in 2012. It burned almost fifty thousand acres. The oaks, pines, and junipers all burned to a crisp, but only two of the 948 Italian Cypresses ignited. They were a conspicuous bright green clump of trees standing tall amidst the destruction on the landscape.

Scientists began to study why they had persisted when other trees succumbed. Dr. Moya's premise is that when the Italian Cypress sheds its leaves and makes new leaves, the fallen leaves provide a thick duff or mulch on the ground around the trunk which holds the water that feeds the roots and keeps the tree moist. The high-water content in the accumulated leaves in and around the tree act as a sponge and repels fire.

This new information could be a potential deterrent to wildfires in the future and might help save our landscapes from climate change. It certainly should increase the demand by landscapers to plant Italian Cypresses as natural barriers in fire-prone areas, particularly in California after our devastating wildfire year. 🍅

Hummingbirds and How to Invite Them In

Jack Kenealy, UCCE Master Gardener, Yolo County

Hummingbirds appear out of nowhere, delight and amaze for a few moments as they zoom, hover, gently lift and lower themselves into colorful flowers and feeders and then disappear. As much as I have always welcomed them into my garden, up until now I've done very little, other than hang a feeder or two, to invite them to spend more time with me. But that all changed after watching from my sister's porch in Salinas one day as one hummingbird after another fed off a flowering bush on the edge of her front deck. I promised myself to find plants that would entice hummingbirds into my yard.

There are somewhere between 250 and 300 species of hummingbird in the world." ...the exact number of species is often debated based on subspecies and accepted divisions between closely related birds." (www.thespruce.com/hummingbird-species-list-387107)

The Hummingbird is the only bird that can fly sideways and backwards. They weigh somewhere between the weight of a penny and that of a nickel. Eating small insects and nectar, they consume their body weight at a minimum each day and typically two to three times that amount. Visiting multiple flowers in a minute, they take in 3-7 calories a day. By human standards that's not much but it translates into 155,000 calories a day for the hummingbird. Even I could stay on that diet.



Because they have such high metabolisms, going without food, even for several hours, could prove fatal to a hummingbird. Because a good night's sleep is out of the question, the birds enter a state of controlled hypothermia at night, sometimes referred to as torpor, slowing breathing and heart rate, also lowering their body temperature in the interest of saving energy. According to the Audubon Society, on a cold night the hummingbird can drop its metabolism by as much as ninety-five per cent.

Few predators feed on hummingbirds but they do exist. The Cornell Lab of Ornithology states that small predatory hawks and falcons can catch up to the speedy hummers. Snakes, praying mantids, frogs, even orb-weaver spiders have been known to lunch on a hummingbird occasionally but nearly all of the species live to an end determined by their own intense biology. The Audubon Society estimates the hummingbirds age ten times faster than humans and have high rates of heart attacks and strokes.

The hummingbird needs to keep moving and eating despite the weather. In wind, the birds will turn and twist their bodies in such a way that they can remain stable as they insert their beaks into the flower. In rain, they shake their head, much like a wet dog will shake, to rid water from their plumage. Again, without a constant source of energy the hummingbird cannot survive. When I see a hummingbird in my garden well after sunset, and very near dark, I wonder if this isn't the reason.

An excellent source of information about hummingbirds is a webpage managed by the UC Davis School of Veterinary Medicine (<https://hummingbirds.vetmed.ucdavis.edu/>). Some hummingbird species will nest in one area and not venture far while others will migrate from Canada to Mexico and Arizona. One species will fly more than two thousand miles, while another will reach at altitudes as high as eleven thousand feet. Many species fly across the Gulf of Mexico without stopping. Images as beautiful as the birds themselves are easy to locate on the web with a simple search.

Why a hummingbird might select a particular flower over another is complicated, according to Sheri Williamson, founder of the Southeastern Arizona Bird Observatory (SABO) and author of *A Field Guide to Hummingbirds*. The sugar content of natural flower nectar varies but is roughly equivalent to sugar water mixtures ranging from a quarter to a third cup of sugar per cup of water.

But other factors affect the selection process. The bird's current energy level, whether it is hot or cold, are just two of the factors that may dictate the water or sugar levels needed by the bird at any given moment. A female in the reproductive process, for example, may seek calcium among other nutrients.


Williamson, in our discussion, cited a study of bumble bees infected with parasites and the finding that they would seek out a particular plant with a "micro-constituent" that was harmful to parasites but not bees. While more study is needed, a similar dynamic may be playing out in the selection by hummingbirds of which plants to visit. As Williamson points out, "a flower's nectar is 99% sugars and water, but there are also electrolytes and salts".

According to the UC Davis School of Veterinary Medicine site, "(H)ummingbirds are drawn to colorful, native flowering plants that have no scent, such as bladder pod, hummingbird sage, serpentine columbine, and Vine Hill manzanita, but more than simply plants, hummingbirds also need habitat that includes shelter, shade, and water. Flowering weeds, such as milk thistle blooms, provide a soft lining for hummingbird nests, and spider webs are the glue that holds the nest together; leaving some of each will increase the chances of receiving humming visitors."

The California Native Plant Society (<https://calscape.org/>) identifies hummingbird sage as *Salvia spathacea*. Not coincidentally it was a salvia that drew so much attention in Salinas and with which I have had much success in my own garden. Of salvia, the new *Sunset Western Garden Book* states "this huge genus-the largest in the mint family-includes many species of shrubs and perennials that need moderate to regular water.

Flower color includes nearly the complete spectrum from white and yellow, pink through very red, and from pale lavender to a purple so dark it looks almost black.”

Abutilon, commonly known as Flowering Maple is also known to draw hummingbirds. Flowers that attract hummingbirds are too numerous to mention here, but the *Sunset Western Garden Book* indicates whether a particular plant will attract hummingbirds. Nurseries also often promote plant species based on their ability to draw hummingbirds.

For anyone interested in learning more about hummingbirds, I recommend Williamson’s website, <http://fieldguidetohummingbirds.com/hummingbirds/>. She is emphatic that food coloring or dye not be used in any ‘nectar’ used in feeders and has citations to a number of scientific articles supporting her position. 

Summer Gardening Tips

Peg Smith, UCCE Master Gardener, Yolo County

GARDENING REMINDERS:

Have you spent our lovely cool and wet spring refurbishing an old garden, installing new garden beds or removing lawn and replacing it with drought tolerant waterwise plantings? Congratulations! Now the task is to keep all those young and vulnerable plants alive through the summer heat.

Remember the root ball that provides nutrition and water to any new planting is at first only the size of the container from which it came. The first two to three years for new plants establish the future health of your plants. The soil area around new plantings needs to be kept moist so that roots can penetrate out into the surrounding soil to provide strength and nourishment. New plantings should be checked daily and watered on an ‘as needed basis’. Adjust your watering or irrigation system to water more frequently until plants are established. As the plants mature the frequency and length of the watering cycles can be extended to give less frequent but deeper watering for good root development.

Watering is best done in the morning hours, a deep soaking on a regular schedule early in the morning will carry most plants through the heat of the day. Some 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 because of the heat through its leaves by evapotranspiration. 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 wilting 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.

Slugs and snails have done their damage and are again hidden by the time most of us are out and about in the morning. Keep up the control of these voracious feeders by replenishing beer traps frequently. Slugs and snails are not connoisseurs and will succumb to the cheapest non-alcoholic beer. To make a beer trap half fill a shallow container - cat food tin, pint yoghurt container - with the beer sink it in to the ground then clean up your catch in the morning, also for the control of slugs and snails Various brands of commercial pelleted products containing Iron Phosphate are available from most garden nurseries or stores and can be scattered on the soil or mulch surface.

Take care of your gardening health by working in the early hours of the day or in the shade, drink plenty of water and take rests to survey your good gardening work. Summer is a good time to think of what you would like to tackle in the Fall. Gardens grow and change with time they are certainly not a one and done project. Taking the time to develop a plan to improve a garden in small bites rather than massive projects makes garden ambitions 'doable'. Look at other gardens (Central Park Gardens, Woodland Community College Garden, UCD Arboretum, Fair Oaks Horticultural Center) and see if there are additional plants that will appeal and complement what you have created. Watch for Fall sales at each of these venues and others.

Water

Become familiar with your city water restrictions and do your part to save water. Remember to place plants with similar water requirements together in your garden to maximize water efficiency.

Conserve water, keep your plants happy and help to keep the weeds at a minimum by adding mulch to your garden. Four inches of mulch will inhibit weeds, conserve water and keep a plant's roots cooler. 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. Stroll through your garden several times a week to scout out potential problems. Regularly check the leaves and flowers for evidence of pests and diseases. Typically, the hot summer heat increases pest activity. If you have a problem you are unable to identify take a sample in a sealed bag (the fresher the better – all leaves look the pretty much the same when dry and brown) to any Master Gardener staffed information table at the Woodland or Davis Farmers' Markets and the Master Gardeners will provide answers and the least toxic solutions to the problem. Also, you can email a photo or bring in a fresh sample to the Master Gardener office. <http://www.ucanr.edu/yolomg>. Another invaluable resource you can consult to help gardeners identify the pest or disease in a plant is www.ipm.ucdavis.edu for an extensive list of articles and photos for the correct treatment.

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 summer temperatures will help reduce this problem.

Weeds

Get them small and get them often! Weeds are opportunistic and will grow where ever there is space or moisture. A cottage garden approach with taller plants at the back of a bed and then various height plants down to ground cover will mature into a garden that has little space for weeds to take over. To prevent weeds establishing, mulch around plants to smother out new weed growth. Larger weeds are more easily and completely dug out when the 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 (clippings add nitrogen as they decompose). 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

Fruit

If you (or the squirrels) haven't thinned your fruit trees and vines, they can still benefit. Thin fruit trees (apple, peach, cherry, apricot and grapes), so that there is 6 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 around 18 inches and then allow them to dry to a depth of about 6 inches between watering. Birds can be deterred by using netting and by placing shiny objects in the canopy. There are commercial, bright reflective tapes available. Old CDs work as well when strung from tree branches.

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 4-6 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

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 2 times a week. This helps reduce cracking, ridging and blossom end rot. Tomatoes will shut down blossom production when it is in the 100s. Keep an eye out for small black droppings (frass) of the tomato hornworm. Look around and above where you see the frass and hand pick any tomato hornworms you find. The hornworms will damage both the leaves and the fruit.

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.

Surprisingly now is the time to begin thinking about your fall/early winter vegetable harvest. Fall/early winter vegetables, such as broccoli, cabbage, and Brussel sprouts need to be seeded in July then transplanted in August/September for your fall/early winter vegetable garden. Shelter these from the intense summer sun and any particularly hot Fall days. Shade cloth draped over a simple support frame will keep these plants strong and healthy to produce in the early winter.

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 1/3 in August. If you prefer the beauty of rose hips, then refrain from pruning your roses in August.
- Potted plants and hanging baskets will develop well if given a weekly feeding of liquid fertilizer. They also require more frequent watering.
- Tall herbaceous plants such as cosmos, dahlias need to be staked or supported.
- 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 regularly and it will provide a season of bountiful rewards and be a welcoming summer retreat.

Garden Books

If you are interested in developing your existing garden into or creating a new wildlife friendly garden the following is a good resource list for a summer read on a hot afternoon or evening.

Gardening for Wildlife Resource List

- *Attracting Beneficial Bugs to Your Garden* - by Jessica Walliser *Timber Press*
- **Xerces Society** - <https://xerces.org/>
 - *Attracting Native Pollinators*
 - *Gardening for Butterflies*
 - *Farming with Native Beneficial Insects*
 - *101 Plants to Feed the Bees*
- **Identifying the Insects in your Garden** -
 - *The Bees in Your Backyard* - by Joseph S. Wilson & Olivia Messinger Carril *Princeton*
 - *Butterflies Through Binoculars* - Jeffrey Glassberg *Oxford*
 - *Caterpillars in The Field & Garden* - Thomas J. Allen, Jim P. Brock, Jeffrey Glassberg *Oxford*
 - *Dragonflies and Damselflies of The West* - Dennis Paulson *Princeton*
 - *Field Guide to Insects & Spiders of North America* - Arthur V. Evans *Sterling*

The California Native Plant Society has an excellent website with helpful information for the home gardener including helpful tools, science-based research, and lots of ideas on how we can all get involved in protecting our state's biodiversity. <https://www.cnps.org/>

City of Davis - Visit the City of Davis website to learn more about their Owl box and Bat box programs. <https://cityofdavis.org/city-hall/urban-wildlife>

SUMMER ACTIVITIES

- State Fair, **July 12-28**: www.castatefair.org
- Fair Oaks Horticultural Center 'Harvest Day' **August 3**, 8AM – 2PM
- Yolo County Fair – **August 14-18**. UCCE Master Gardeners of Yolo County will have several displays of their Yolo County projects and will have Master Gardeners available to answer gardening questions.
- UC Davis Arboretum ongoing check calendar:
- <http://arboretum.ucdavis.edu/calendar.aspx>.
- MG Information Table at:
 - Davis Farmers Market, every Saturday 8AM – Noon
 - Woodland Farmers Market, every Saturday 9AM - Noon





**UC MASTER GARDENERS - YOLO COUNTY
PUBLIC WORKSHOP SCHEDULE**

July & August 2019

Dates and times subject to change.

Please check at <http://yolomg.ucanr.edu/> for updates.

Workshops are open to the public and are free.

Workshops are held in several different venues throughout the county.

Check the venue address for those in which you are interested.

DAVIS

Date	Time	Topic	Venue
Sunday, July 21	2:00 – 4:00 PM	Gardening Question & Answer Session	Davis Library*
Sunday, July 28	2:00 – 4:00 PM	A Year-Round Kitchen Garden	Davis Library*
Sunday, August 18	2:00 – 4:00 PM	Gardening Question & Answer Session	Davis Library*
Sunday, August 25	2:00 – 4:00 PM	A Year-Round Kitchen Garden	Davis Library*

***Mary L. Stephen, Davis Library**, Conference room, 315 E 14th Street, Davis 95616

WOODLAND

Date	Time	Topic	Venue
Saturday, July 27	11:00 – Noon	Year-Round Kitchen Gardening	WETG*
Saturday, August 31	11:00 – Noon	Year-Round Kitchen Gardening	WETG*

***WETG** Woodland Edible Teaching Garden at the corner of First Street and Court Street, Woodland.

**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

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

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

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



U.C. Cooperative Extension
UCCE Master Gardeners of Yolo County
70 Cottonwood Street
Woodland, CA 95695

The Yolo Gardener – Summer, 2019

Send a Letter
to an Editor!

email: mgyolo@ucdavis.edu
Please put: *Yolo Gardener* in the subject line

or

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

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