THE YOLO GARDENER

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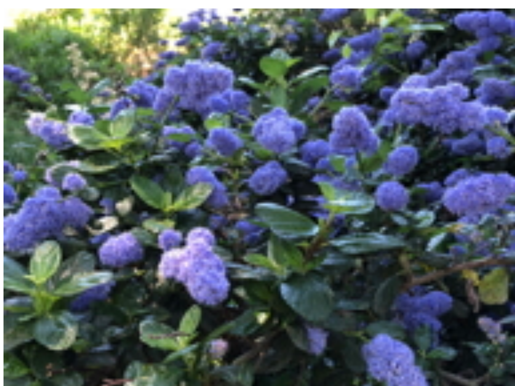
Garden Tours Go Virtual

Tanya Kucak, UCCE Master Gardener, Yolo County

Most spring garden tours were canceled this year, but several long-running native-garden tours went virtual instead of canceling outright. Though there's no substitute for seeing plants and landscapes in person, smelling the lovely fragrances, hearing the busy pollinators, and noticing aspects that you can incorporate into your own garden, the upside is that you don't need to skip a day working in your own garden to drive all over the place! In addition, instead of visiting only five or ten local gardens on tour day, you can, if you choose, visit a plethora of native gardens all over the state and do it on your own schedule.



This ceanothus was in full bloom in early April last year. Most spring garden tours are scheduled for after these glorious cascades of blue flowers have peaked. (Photo: Tanya Kucak)

The California Native Plant Society (CNPS) has a web page listing six tours, including one in the Sacramento area and three in the Bay Area: https://www.cnps.org/gardening/local-gardens. Each tour offers different resources, from photos and descriptions of gardens to video segments. Here are some highlights.

The tenth annual Gardens Gone Native tour organized by the Sac Valley CNPS features twenty-two private gardens and a school garden. Two of the gardens are in Davis, and one is in West Sacramento. This is one of the easiest virtual tours to experience because all the gardens are in one expertly produced Google document. You can go in order or jump around to selected gardens, using arrow keys or the mouse. I got a good sense of each garden from the paragraphs that introduce each. The text is not merely descriptive. Each garden owner describes what they had in mind, what challenges they faced, and how the garden was created. That's followed by several pages of photos, with landscape shots as well as plant portraits. Many gardens include stunning before and after photos.

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The Yerba Buena Chapter (San Francisco) Virtual Garden Tour covers fewer gardens than other tours. The web page for the tour has descriptions and photos for nineteen gardens. In addition, the recorded Zoom session includes several talks. I especially enjoyed Mike Belcher's talk on growing California pipevine. It's an easy plant to propagate, has unique flowers, and is the only food source for Pipevine Swallowtail butterflies. The East Bay's Bringing Back the Natives (BBN) garden tour featured a talk by Doug Tallamy on 'Restoring the Little Things That Run the World.' This East Coast professor of entomology has given a version of this talk to many groups, but in this one he focuses more on California caterpillars and plants. I learn something new each time I see one of Dr. Tallamy's presentations.

Summer-blooming plants such as hummingbird fuchsia might show a flower or two during spring garden tours but are typically covered in red-orange flowers from summer until the first frost. (Photo: Tanya Kucak)

The BBN garden and nursery visits, about twenty to thirty minutes each, have interesting moments, but they were all recorded live on Zoom and so have the inevitable glitches and blurry segments. Phones don't make good video cameras -- you need to pan much more slowly than you'd think -- and Zoom adds time lags. The original Zoom sessions took place on three consecutive Sundays in April and May, four to five hours each, and are posted on BBN's YouTube page. Several of the garden visits are also posted separately.

The Going Native Garden Tour (GNGT) has the most user-friendly web page. It's an incredible resource, offering extensive photos of each garden -- not only the seventy-plus gardens featured this year, but also many gardens from each year since 2006. Not every garden has a video segment, and the videos vary widely, from a three-minute time-lapse, covering eighteen months (Matadero Garden, #14) to an enthusiastic couple taking turns talking about a relatively new garden (Hingwe-Sharma garden, #23).

Many of the GNGT virtual tours were prerecorded and edited. That gave the presenters the opportunity to include plant names in the video, show what summer- to winter-blooming flowers look like, and even include some garden tips. An excellent example is the video for Low Water Cottage Garden, #50. The owner, a landscape architect, focuses on each plant as she discusses it, and offers maintenance tips as well as garden ideas. If you are thinking of creating your own garden video, study this one for ideas on how to do it right.

Several GNGT Zoom sessions from April to August have been posted as well, including garden tours and other information. Check the main GNGT page to find out when the next live interactive session is scheduled.

The Orange County Chapter's virtual tour is a handful of photos from three gardens that were on previous tours.

Finally, the native tour of Theodore Payne Foundation (TPF) in Los Angeles has lots of material to explore. For each garden on this year's tour, the website includes beautiful photos and a short description. To explore a garden further, you can go to the main garden tour page and find it in the sixteen hours of Zoom sessions recorded on March 28 and 29. Go to https://www.nativeplantgardentour.org/ and click on About to see the Zoom schedule, which you can also use to navigate to selected gardens by location. If you choose Gardens, you can go to a garden by clicking on its photo. You can also look at photos and descriptions of gardens featured on past tours, back to 2013, by scrolling to the bottom of any page.

Some of the gardens have videos as well. Garden #25 has a good five-minute video showing before and after, with music! It also has some nighttime security camera footage of raccoons frolicking in the native buckwheats! The Sunday Zoom session includes a half-hour interview with Carol Bornstein, one of the authors of the best native gardening book, starting at about 2:04. Asked about including nonnatives in a native garden,

Bornstein said it's not "either/or," it's "yes, and." Another interview, with Barbara Eisenstein (author of Wild Suburbia), follows that one. The intro video for garden #31 shows curbside plants that can withstand damage.

As a docent, I've observed visitors streaming through gardens, rarely pausing to absorb details, especially on crowded tours. Notwithstanding Zoom fatigue, the wealth of video tours narrated by resident gardeners on all of these tours are an unexpected bonus of sheltering in place. Whatever their level of expertise in gardening or videography, the gardeners' enthusiasm and idiosyncrasies often make the presentations worthwhile. The slower pace of a narrated tour can highlight features you may not have noticed in person.

Garden as if Native Pollinators Depend on It – They Do!

Michael Kluk, UCCE Master Gardener, Yolo County

The story of pollinators starts with seeds. Not just any seeds but those of flowering plants called *angiosperms*. There are more than 300,000 species worldwide and they have been around for 125 million years so having flowers is an effective strategy for survival. But that diversity and success requires that the flowers be pollinated to produce viable seeds. For most angiosperms, this task must be done by a pollinator, generally an insect. Pollination ensures that the exploration of new genetic combinations, some of them improving the line, will continue. When flowering plants were just coming on the scene, their insect allies had already been around for 350 million years. Since then, it has been a partnership, with many species, plants and pollinators, co-evolving.

Fast forward to California in 2020. Native pollinator numbers are declining because of habitat loss, pesticide use, and the introduction of diseases among other reasons. But research has demonstrated that back-yard gardens can serve as an effective counterbalance to all of the challenges faced by our native pollinators.

The best-known pollinator in California is the honeybee (*Apis* spp.). They are common in our fields, our gardens and even in wild areas. But they are only part of the story and came late to the show. Introduced in the United States from Europe in the early 1600's, they were not brought to California until 1853. Before then, our flowering plants did just fine with native pollinators; bees, wasps, butterflies, moths, hummingbirds, bats, and the myriad of insects and other critters that moved pollen from one flower to another to guarantee there would be a supply of fertile seeds to start the next generation. In fact, many species of native bees are much more efficient pollinators than honeybees, some by a factor of two or three. Many of the native pollinators will also forage in weather that keeps honeybees holed up in their hive.

Honeybees are an important agricultural commodity. As such they are maintained and protected. Not so our native pollinators which still serve an incredibly important role. There are 1600 species of native bees in California and 1368 species of native butterflies and moths. Many live in the Central Valley. They range widely in preferred food sources, behavior, color, size, nesting habits, and lifestyle. Rather than live in colonies, most native bees are solitary. They lay their eggs in nests in the ground or cracks in stone or tree bark. There are also fourteen hummingbird species that live in or pass through California. One, the Anna (*Calypte anna*), lives in our area year-round.

There are a number of steps you can take to support our native pollinators so that they and the flowers will thrive into the foreseeable future.

Provide a Broad Variety of Flowering Plants.

The prime support for native pollinators is growing a large variety of flowering plants in your yard. Of course, native plants are a good choice but certainly not the only option. It is more important to have a variety of flowers blooming throughout the spring, summer, fall and even winter. Many native bee populations emerge and feed during only a limited season before laying the eggs that will be the next generation. And, some pollinators are just a little picky about the flowers they will frequent. Diversity is the key. Fourteen years of research at the Urban Bee Lab in Southern California determined that at least twenty different plant types are needed for pollinator support. The UC Arboretum and Public Garden published a list of ten that provides a good start, including cultivars of aster (*Aster frikartii*), ceanothus (C*eanothus* x Ray Hartman) , Russian sage (*Salvia yangii*), western redbud (*Cercis occidentalis),* lavender (*Lavandula × ginginsii)* 'Goodwin Creek Grey' and catmint (*Nepeta fassenii)*. https://arboretum.ucdavis.edu/blog/support-california-native-bees-these-10-plants
A longer list specific to California, and including the type of pollinator they attract, can be found by searching for ANR Publication 8498 at https://anrcatalog.ucanr.edu/

In addition to a diverse set of flowering plants, it is most beneficial to group each type in an extended area, ideally at least four feet by four feet. Such large areas make it easier for a pollinator to find favored food, encourages longer foraging and requires less energy to feed.

Provide Nesting Opportunities for Bees

Native bee species are either soil nesting or cavity nesting, approximately seventy percent being the former. Soil nesting bees need a patch of open ground, free of heavy mulch. The larger the area you can contribute to them, the better. And they prefer a sunny spot. The cavity nesting bees, including some of the best pollinators such as mason bees (*Osmia* spp.*)*, look for a hole or crack, four to six inches deep and 3/16 to 5/16 inch in diameter. This can be provided through "nest boxes" containing hollow reeds or holes drilled in a block of wood. Such boxes are available for purchase and easy to make. Boxes should be located to receive morning sun but protected from extended periods of afternoon sun since it could overheat the brood, killing them. The reeds or boxes should be replaced every two years to prevent parasites and disease. Many of the nesting bees plug the holes or cracks with mud. So, a spot of nearby mud is also an important provision.

Mason Orchard Bee

Create Butterfly and Moth Gardens.

Adult butterflies feed on nectar. The same variety of flowering plants that support bees will nourish them as well. Place an emphasis on flowers that bloom in the late summer and fall; the time of the highest butterfly and moth populations. Make sure that some of those flowers remain open at night for night-feeding moths. But the young of these beautiful creatures, caterpillars, also require a food source. This is going to be the leaves of your flowers and trees. They will chew holes and may generally make a mess of them. Since that can be undesirable, setting aside an area as a caterpillar nursery may be a good idea. Some caterpillars are not finicky about their food

but some are. For example, caterpillars of the Monarch butterfly (*Danaus plexippus)* will eat only milkweed (*Asclepias* spp.) Pipevine swallowtails (*Battus philenor)* will lay their eggs only on the Pipevine (*Aristolochia* spp*).*

Establish Hummingbird Gardens

Hummingbirds will feed from a variety of flowers but prefer red flowers that are deep, and trumpet shaped. Most insects are not attracted to red and a hummingbird's long beak and tongue make it uniquely adapted to reach nectar in a deep, narrow flower. Thus, the competition is less. California fuchsia (*Epilobium canum*) and western columbine (*Aquilegia formosa*) are great choices. If you choose to add a hummingbird feeder, you should use clear syrup. The feeder must be cleaned every week and every two-three days in hot weather. Many experts recommend that gardeners stick to flowers as a primary food source for hummingbirds. Important as well are some patches of dense bushes and trees to provide shelter and nest sites.

Native pollinators provide an indispensable service, fertilizing our fruits, vegetables and flowering plants. They do so free of charge and without needing elaborate support. They have been doing it for over a million years and with a little help will do so into the foreseeable future. As a gardener, you can make a huge contribution to their continued success by maintaining a variety of nectar and pollen rich plants throughout the year, creating nesting sites for native bees, growing plant varieties known to provide food for the caterpillars of butterflies and moths and a few bushes and trees to provide shelter for humming birds.

Horticultural Outreach at the California Native Plant Society's Sacramento Valley Chapter

Jennifer Neumann, UCCE Master Gardener, Yolo County

"The mission of CNPS is to increase understanding and appreciation of California's native plants and to conserve them and their natural habitats, through education, science, advocacy, horticulture and land stewardship." — Sacramento Valley Chapter of CNPS

The Sacramento Valley Chapter (Sac Valley Chapter) of the California Native Plant Society (CNPS) was established in 1965, the same year that CNPS was founded. It was the first CNPS chapter and, now one of thirty-five chapters statewide, has practiced native plant conservation alongside statewide CNPS for more than fifty years. In its earlier years, the Sac Valley Chapter focused primarily on conserving wildlands within the Sacramento Valley, including in Sacramento, Yolo, Colusa, Sutter, and Yuba counties and portions of Placer and San Joaquin counties. In recent years, however, the need for conservation of native plants and their habitats has become more urgent because loss of native habitat has been identified as a significant reason for the current decline in native pollinators, the backbone of California's ecosystems. Without native plants and habitats, native pollinators, which have evolved alongside these plants for millions of years, cannot survive, and without the pollinators, the entire food web would break down.

To address this urgency, the Sac Valley Chapter has been working for many years to increase awareness of the importance of native plants not only in wild spaces but also within cities and gardens. They have helped CNPS promote native plants as a beautiful, connecting, and practical way to garden in this region. Plants native to this region are well-adapted to the soils and climate of the Sacramento Valley and do not require the same level of care that many nonnatives require. They also invite more pollinators, birds, and other wildlife into the garden, creating a stronger connection with the natural world.

Elderberry Farms Greenhouse built by volunteers in 2011

The chapter has a long history of propagating native plants from seeds collected in the Sacramento Valley, primarily along the American River Parkway. Chapter members originally grew the plants in their own yards, and, when ready, the plants were sold at the chapter's semiannual plant sales. In 2007, the chapter's nursery committee, led by Chris Lewis, founded Elderberry Farms Native Plant Nursery as a sublease on the property that Soil Born Farms leases from Sacramento County Regional Parks in Rancho Cordova, on the American River Parkway. The committee worked to build the nursery's infrastructure for a few years, while one of the committee members, Robin Rietz, worked toward earning a certificate in propagation. Having received her certificate, she then rejoined Elderberry Farms, while Chris became the director and propagation director. With Robin and Chris's leadership, and with the help of a large group of dedicated volunteers, plant production at the nursery took off. Before this year's pandemic, often more than twenty volunteers came to the nursery to help with chores during weekly volunteer days. Now that large groups cannot gather, Robin and Chris have organized mini workdays three days a week and have found that this arrangement is keeping the entire production well maintained.

The chapter has traditionally held a plant sale in April at Elderberry Farms and in the fall at the Shepard Garden and Arts Center next to McKinley Park in Sacramento. These sales have been popular, so popular in fact that the nursery has needed help expanding its offerings and has brought in stock from Cornflower Farms in Elk Grove and Hedgerow Farms in Winters. This year, because of the pandemic, both the spring and fall sales have taken place online, with scheduled pickups at Elderberry Farms. The nursery is hoping to add more plant sales this fall with the online platform. Whether held in person or online, both sales offer many choices of plants, from trees (e.g., oak and elderberry) to shrubs (e.g., spice bush and ceanothus) to perennials (e.g., yarrow and coyote mint) to grasses (e.g., purple needlegrass and blue grama grass). With the sales online, the list of available plants is posted on the chapter website. https://www.sacvalleycnps.org/

Elderberry Farms Native plant nursery

The plant sales' popularity has been an encouraging sign that native plants have become more widely accepted and used in home landscapes. In 2010, to further entice people to choose native plants for their gardens, the chapter created Gardens Gone Native, an annual spring garden tour that showcases beautiful gardens in counties served by the chapter. Gardens on the tour must contain at least fifty percent native plants and have the general look of a native garden. Each garden is unique and a fun way to see how others have incorporated diverse, creative combinations of trees, shrubs, perennials, grasses, sedges, and annuals into their outdoor spaces. The tours traditionally have been self-guided, with participants choosing their own route and timeline to visit each garden during a tour's hours. This past April, however, with the state's order to shelter in place, the garden tour committee decided to hold the tour online rather than cancel it, and all the gardens were showcased on the chapter's website, with the garden hosts describing their gardens and providing photographs, some with "before" and "after" shots of recently installed native gardens. Several of

the past garden tours are permanently available on the chapter's website to provide continued inspiration for how to use native plants in the landscape.

The plant sales and the Gardens Gone Native tours have been successful and have helped bring more native plants into home gardens. In 2019, however, the chapter became inspired to create yet another way to reach out to the community about growing native plants at home. Doug Tallamy, renowned entomologist and author of *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants,* describes in his new book, *Nature's Best Hope,* how, by planting native plants in our own yards, each of us can create more habitat for pollinators and wildlife and therefore help connect and expand our local ecosystems, which native insects, and therefore the entire food web, need to survive. He calls his idea "Homegrown National Park," which inspired the Sac Valley Chapter to create Homegrown Habitat, an initiative to put his proposal into practice.

Homegrown Habitat has actively promoted Tallamy's message since the initiative's inception by working with public agencies and creating programs and literature to educate and engage community members. Chapter members are collaborating with other organizations to plant native plants in parks, agricultural hedgerows, and demonstration gardens. They have posted fun information on the chapter website about why native plants are important and useful, including an artistic zine titled "Why Native Plants Matter," and recipes for elderberry syrup and coyote mint tea. They have created an online presentation series called "Lunch Break with Nature" to offer midday talks about native plants, their habitats, and the wildlife that depends on them. In September, the first talk was presented by Haven Kiers, Associate Professor of Landscape Architecture at UC Davis. She spoke about designing gardens that are both great looking and great for wildlife.

The Sac Valley Chapter provides resources on its website about how to select, plant, and care for native plants. Calscape (https://calscape.org/) is the CNPS statewide database that provides extensive details about California native plants. It categorizes plants into groups, such as annuals, perennials, or shrubs, and it maps where plants naturally occur within the state. It's easy to generate a list of all the native plants that naturally occur in a specific region.

Conserving and reestablishing native plants and their habitats in our region—and across California—is important. And bringing native plants into the garden can also invite in an array of wildlife and create a greater connection with nature. The Sac Valley Chapter has worked consistently and will continue to relay this message and give members of the community opportunities to learn more and get involved with native plants.

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Developing the UC Davis Arboretum All-Stars List*

Ellen Zagory, UCCE Master Gardener, Yolo County

The UC Davis Arboretum All-Stars program was begun in 2004 when Diane Cary former director of communications for the UC Davis Arboretum and I were discussing ideas for a grant application. At the time, many recommended landscape plant lists were based on the cooler, milder and moister climates of coastal California. Periodic winter frosts, Tule fogs, and the sometimes blazing-hot summers of the Central Valley made those plant lists only partially useful for local gardeners. We wanted to create a better list of plants with cold tolerance that would survive, and even thrive, in the heat of summer.

In the early years, The Arboretum relied on hoses and portable spray irrigation to establish and maintain plantings and this "manual" system was operated by limited staff labor. That restriction meant that The UC Davis

Arboretum horticulturists have always selected plant species likely to tolerate deep but infrequent irrigation during the dry season.

Diane asked me "Do we have a lot of drought tolerant plants in the Arboretum?" "Yes, certainly!" I replied. "We need a catchy name for them" she said, and we launched into a litany of ideas. When she said, "Arboretum All-Stars" my retort was, "nah, too sports metaphor, no one will get it". Boy, was I wrong!

Grant funds were awarded and I called upon all the horticulturists we had then (three as well as Warren Roberts and myself) and requested lists of fifty of what they thought were our "best" plants. We developed criteria for selecting plants: tolerance of infrequent deep water, few problems with pests or diseases, supportive of pollinating and beneficial pest-controlling insects and seasonal showiness that would provide alternatives for creating year-round interest. We voted on those that we felt best filled the criteria and the Arboretum All-Stars were born! Thanks to series of grants (The Elvenia J Slosson Endowment for Ornamental Horticulture) we continued expanding our outreach with an online database, planting plans, colored plant labels and signage in The Arboretum. The list became a very popular resource, especially useful to Master Gardeners and anyone looking for dependable plants for our unique conditions.

Example of an All-Star plant label found in retail nurseries

The success of the UC Davis Arboretum All Stars plants and program would not have garnered the statewide impact we recognize today were it not for Dave Fujino, Director of the California Center for Urban Horticulture (CCUH), Loren Oki, Cooperative Extension Specialist in the Department of Plant Science and Karrie Reid, then graduate researcher and now Environmental Horticulture Advisor for San Joaquin County. Dr. Fujino brokered connections to the nursery industry and support from wholesale partners who agreed to grow and sell Arboretum All-Stars. Loren Oki and Karrie Reid established a research field at UC Davis and Karrie Reid a program of testing UC Davis All-Stars in Master Gardener test gardens across the state.

In the last few years. Loren Oki and Karrie Reid, M.S. have established a comprehensive scientific research project on the UCDavis campus and at the South Coast Field Station testing and documenting the water use and corresponding growth and appearance of ornamental plants, including the Arboretum All-Stars. Results from these studies can be found on the UC Davis California Center for Urban Horticulture website at ccuh.ucdavis.edu. and the UCLPIT™ site at https://ucanr.edu/sites/UCLPIT/.

Their results have been shared on the California Center for Urban Horticulture website, in popular and peer-reviewed print publications, at national and international conferences, and at dozens of public outreach events promoting sustainable landscaping practices throughout the state.

Now, according to Reid, "UC Davis Arboretum All-Stars and sustainable landscaping practices are inextricably linked throughout the state."

San Diego county has adapted the UC Davis Arboretum All-Stars into something they call 'The Nifty Fifty,' other counties throughout the state feature All-Stars in high-profile, sustainable demonstration gardens and in addition they continue to host sustainable and low-water landscaping workshops featuring Arboretum All-Stars. The UC Davis Arboretum All-Stars continue to remain a topic of media interest both locally and regionally, and perhaps most importantly, people are beginning to understand that we can create low-water, beautiful, vibrant garden ecosystems by choosing the right plant for the right place. All-Stars provide a starting point for making the plant selection process easier.

Looking back, I think we were ahead of the curve on our recommendation of water-conserving species and I believe that is one reason The UC Davis Arboretum All-Stars list has been adopted widely. From the time of some of the very first plantings The Arboretum's landscaping philosophy has always come from a place of natural resource conservation and it continues today now under the umbrella of the UC Davis Arboretum and Public Garden. You can find the links to the complete list of arboretum All-Stars at https://arboretum.ucdavis.edu/arboretum-all-stars

**Note: in 2014 the name UC Davis Arboretum was changed to the UC Davis Arboretum and Public Garden to reflect its management merging with the UC Davis Grounds and Landscape Services and the Putah Creek Campus Reserve.*

Pruning Aesthetically

Jan Bower, UCCE Master Gardener, Yolo County

I recently hired Francisco, a landscaper, to do tall plant pruning in my yard, mostly to trim the wisteria and grape vines off the roof and control the bamboo, so I wouldn't have to use a ladder anymore. We agreed he would retire his power tools.

Several weeks ago, the sky rained ash and the air smelled of wildfire smoke, so I sheltered inside. I heard a blaring noise outside, but I thought it was the power blower at my neighbor's house. The next day, to my chagrin, I found Francisco had taken his gas-powered pruner to the shrubs. The nandina, quince, hydrangea, and bougainvillea stood naked—revealing stems, devoid of beautifully drooping leaves and flowers, with branches sheared up from the ground. The climbing rose arbors were lopped off. I was heartbroken. The shrubs took years to become fully developed.

I've never owned a garden power tool. I cut the small patch of grass in the backyard with a hand mower, clip perennials with a lopper and small hand shear, and sweep garden debris with a broom. I leave a shrub to grow freely until it begins to overtake its space, crowd the entranceway and driveway, or just becomes unsightly. Then I cut a branch or two at a time and step back to see the total picture before the next cut. It is a slow process, but the result is very satisfying. I realize if you have a large lot or acreage, you can't give each plant this much attention. But for residences in an urban context with smaller yards, pruning aesthetically is very creatively rewarding.

Before I started this article, I didn't realize the popularity of aesthetic pruning. Merritt College in Oakland, California, offers a whole curriculum on the subject in its Landscape Horticulture Department, and has been teaching aesthetic pruning skills, for small informal plants to large sophisticated Japanese Bonsai, since 1986. It also sponsors an Aesthetic Pruning Club that is 34 years old, hosts workshops, helps maintain the College's 7.5-acre campus, and accepts volunteers and memberships from the public.

The main idea behind pruning aesthetically is to bring out the essence of a plant, the element that makes the plant unique and of interest, while maintaining its natural look and structure. A plant should be pruned to fit within the context of its environment and create atmosphere and beauty in its form for the whole garden. There are many distinct forms into which a plant can be pruned, such as arching, formal upright, windswept, vase shaped, cascading, and mounding. Each form requires a different pruning technique and creative interpretation. It's like creating a work of art!

An example of aesthetic mound pruning.

Careful and proper pruning stimulates growth, enhances optimal leafing, flowering, and fruiting, and maximizes the plant's health and longevity. To start the pruning process, remove all the diseased, damaged, dead, nonproductive, and structurally unsound branches. Then decide exactly what should happen to the plant—severe pruning (cutting way back) or slight pruning —and the form it should take. Also consider how the plant will look over time. Thin the canopy if it is dense to let in light and air, and prune for scale, proportion, and shape.

The way shrubs fit into a yard and the surrounding yards of neighbors is a big consideration. Plants can hide an environment or tell a story. I have a white stucco wall around my house and yard, so I am screened from my neighbors. I have a lot of privacy, which is important to me. I am trying to make my garden setting natural and a habitat for native plants, wildlife, and fruit trees. I keep the hedge roses along the water's edge short and thick, so I can see Stonegate Lake, but shut out the ducks and geese, who like to fly into my yard and dig it up.

To prune aesthetically, each plant must be approached individually, and every plant is different. Thus, it is understandable why the mow-and-blow guy, who does demolition, won't work for my yard. The key to successful pruning is to do as little cutting as possible to achieve the desired outcome: naturally shaped vigorous plants. Leaving them to appear older imparts a sense of the plants having been around for a long time. It helps us be calm, relaxed, and secure. At this time of the pandemic, this is a good feeling for which to strive.

Tips for Dismantling Your PVC Tomato Cages

Erin McDermand, UCCE Master Gardener, Yolo County

For the Summer 2017 issue of the *Yolo Gardener* I wrote an article titled 'How to Make PVC Tomato Cages.' Late last fall while dismantling my PVC tomato cages it occurred to me to share some of the methods I use to take them apart and store them for the winter. You could just leave them in place and use them as trellises for peas, but for those of you who want to store them out if sight until next season I have some suggestions.

Figure 1

First, remove all the vines and plant ties from the cage. You will then need a rubber-headed mallet, and a pair of gloves with good gripping surfaces for taking the cage apart.

Storage and reconstruction of the cage next season are made simpler by leaving the square horizontal support pieces intact (fig. 1). Start by tapping the undersides of the PVC crosses on the top horizontal tier of the cage until the top tier is loose. Most likely, a riser or two will remain attached (fig, 2). Set aside and deal with those when you have finished taking apart the entire cage. Likewise, perhaps some of the support risers you have driven into the ground may come up while you are dismantling the bottom tier.

Figure 2

Figure 3

To remove the risers, hold the horizontal tier in one hand. Grip the riser firmly, and while pulling out of the cross piece, rotate back and forth to remove. If it is stuck, hit the offending intersection of the joint with the rubber hammer. Several times, if need be. Hard. Sometimes using a hair dryer on the joint helps loosen it. If it is still stuck, throw it across the yard and deal with it later. Sometimes this action actually helps loosen the stuck pieces.

Remove the support risers from the ground by giving them a good tug. It's OK to leave the dirt in the end of the riser for a couple of days. The plug shrinks a bit, and can be removed by rapping the plugged end of the riser against a wooden fence post or tree trunk to knock the dirt out. Gently! PVC will break.

For storage, a five-gallon bucket or #15 nursery pot provides a place for the horizontal tiers and the risers. If you have several cages, the #15 pot provides more storage area. Choose a place where you wish to store the parts, then simply stack the tiers around the outside of the bucket and put the risers in the container (fig. 3). Use a bucket that doesn't hold water so that you don't have to deal with standing water. A large plastic bag can be placed over the whole thing, but if you have it on the ground, that may encourage slugs and snails. Hanging horizontal tiers along a fence is another option (fig.4). Some rainwater may accumulate in the horizontal tiers. It can easily be drained by removing one of the elbows and holding the tier open end down to drain then replacing the elbow.

Figure 4

Figure 5

May your PVC cages give you many years of taming your tomatoes, or peas, green beans, honeysuckle, morning glories or whatever. If you decide to retire your cages, the parts make a nice scarecrow (fig. 5).

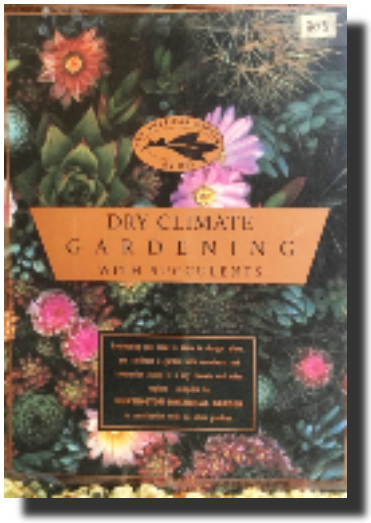
Two Excellent Books on Gardening with Succulents

Sue Fitz, UCCE Master Gardener, Yolo County

One of my pet peeves about books on succulents, is that they all seem to assume the plants will be grown in pots in the house, porch or greenhouse. Not much is written about growing them in the ground in the garden. Since the most popular succulents are limited to frost free areas, which is a very small section of the country, I get it, but I wish there were at least a few resources on landscaping with succulents, as well as some information on which succulents can take a degree or two of freezing for short periods of time. Every time I set foot in a library or bookstore, I always check to see if I can find something written about actually using the plants in the garden. Over time, I have found two books that supply a fair amount of useful information on this topic that make good reference material.

The first book *Designing with Succulents*, by Debra Lee Baldwin, is useful primarily for outside garden landscaping ideas. Debra is a photographer and horticulturalist, who loves growing and photographing succulents. She lives in

North San Diego county, the home of most of the large wholesale growers of succulents, where the mild zone ten climate is unparalleled for growing succulents outside. Her book illustrates many stunning gardens in the area, giving inspiration on how to group plants together, how to utilize rocks, gravel, mounds and found objects to enhance the garden, and it also supplies tips and hints to avoid problems. This is a zone ten book, and our Yolo County area is zone nine. But we are on the warmer side of zone nine (technically zone 9B by USDA standards) So quite a few of the plants mentioned are possibilities for us. If nothing else, if you see a grouping you like, you can substitute a plant with a similar look that's hardier than the original.



The other book is *Dry Climate Gardening with Succulents*, produced by the horticulturalists at Huntington Gardens, along with contributors from six other major botanical gardens in the western United States. Covering more than ten acres and containing four thousand species of succulents and cactus, Huntington Gardens, located in Northern San Diego County is one of the best public succulent gardens in the country, and all these writers know their stuff. Each genus is discussed in detail, and plant hardiness is one of the topics that is covered. They make a point of singling out what species can tolerate frost. They also go into which succulents will tolerate shade, what type of soil amendments to use, companion plants that enhance succulents, and many other interesting asides. The only down-side to this book is that it is out of print, but copies can be found and purchased online.

So, there you have it. Baldwin's book is excellent for landscaping advice, and the Huntington book is useful for checking a plant's hardiness before buying it for the garden. Between the two books, it should be possible for gardeners in our area to put together an attractive landscape based on succulents and other companion plants that will survive our slightly less than perfect growing climate.

Fall Gardening Tips

Peg Smith, UCCE Master Gardener, Yolo County

First a serious note on wildfires and gardening. "The fire season – defined as the time elapsed between the first large fire ignition and last large fire control – went from 138 days in the 1970s to 222 days in the last decade, for an increase of 84 days." - (Anthony LeRoy Westerling, Associate Professor of Environmental Engineering, UC Merced)

As we go into Fall 2020 we are facing unprecedented wildfire issues in our environment, so what can a gardener do? First of all, a gardener should be aware of conditions that could affect their personal health. Fires such as we have been seeing affect significantly the air we breathe. As we expend energy in our gardening efforts our breathing deepens so the quality of the air we breathe is very important. One indicator that we can check before going out to garden is the AQI (Air Quality Index).

How does the AQI work?

From https://www.airnow.gov/ Think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. For example, an AQI value of 50 or below represents good air quality, while an AQI value over 300 represents hazardous air quality.
AQI values at or below 100 are generally thought of as satisfactory. When AQI values are above 100, air quality is unhealthy: at first for certain sensitive groups of people, then for everyone as AQI values get higher.

How do I find out what the AQI is?

Go to the website: AirNow.gov and you are then able to type in your zip code to see the current conditions for your area. It is also possible to check the fire and smoke in your area. Click on Fire and smoke and a national map gives an overall picture and that allows you to zoom in on any local region.

Another component of air that a gardener needs to consider is the amount of particulate matter in the air. This is the accumulation of ash on a car overnight. The particles are small and hard to see in daylight but when we breathe, they are pulled into our lungs. Unfortunately, cloth face coverings recommended for COVID-19 do little to protect the wearer from fine wildfire particles, experts say.

N95 masks are not easy to find but the KN95 are more easily found. What is the difference? When working outside the concern is what percentage of particles the masks capture. On this metric, N95 and KN95 respirator masks are the same. Both masks are rated to capture 95% of tiny particles (0.3-micron particles, to be exact).

Solano County Health Officer Dr. Bela Matyas says there is "no perfect solution."

For information on what masks to use and how to use them see https://www.clark.wa.gov/sites/default/files/dept/files/public-health/wildfire%20smoke/DOH_Wildfire_Smoke_Face_Masks_Factsheet.pdf

There is now a significant layer of ash on garden furniture, plants and soil so do protect your lungs as you tackle the Fall tasks in the garden

Fallen ash in the city of Davis

So, enjoy your gardening after you consider the heat, the smoke, hydration and Covid-19!

Normally with Yolo County's mild winters Fall is truly the prime time to head into the garden to review and reinvigorate. Any perennial planted in the fall will go quietly about the business of producing healthy root growth throughout the fall and winter. By the spring and summer these plants have well established root systems and are better able to support a burst of spring growth and the following summer heat. Some of the more tender perennials planted in the fall may need a little frost protection on the coldest of our winter nights but most will come through with flying colors. You haven't missed the boat if you don't plant in the fall, spring will come, but do consider a detailed fall check of your planting needs. Many nurseries are open and following Covid-19 precautions, some have curbside pick up if you order by phone or online. Call your chosen nursery before heading out to see how they are managing their business in these times.

Another way of adding to your garden palette of plants is to check with neighbors and friends to see if they are dividing any perennials that you may have noticed in a garden. A contactless drop off is a simple way share any excess perennials also excess seedlings if you have them.

Ladybug Larvae

Many of our beneficial insect friends like a somewhat messy garden that gives them shelter over the winter. Lady Beetles over winter under loose leaf layers so you can allow some of the fall leaf drop to remain as winter shelter for our beneficial lady beetles. It is actually the lady beetle nymph, emerging in the spring, that consumes many of the spring arriving aphids. The nymphs are perhaps 'odd' looking but they are of great benefit to the garden.

A carpet of leaves from trees such as sycamore, or oak need to be cleared if they fall densely on the crown of a plant. This blanket of leaves on the crown of a plant combined with heavy winter rains can encourage crown rot.

Fruit tree hygiene is important to control soil and waterborne fungal and bacterial disease. Clean up all old fallen fruit this will reduce the possibility of fungal spores over wintering under the fruit trees to re-infect the spring fruit. Light pruning of dead or crossing branches will help trees weather the fall and winter storms. Follow the IPM recommended dormant spray applications or fruits and berries. http://ipm.ucanr.edu/PMG/GARDEN/CONTROLS/dormant.html

The year-round vegetable garden is one of the benefits of our Yolo climate. We don't need to shut down vegetable growing for the winter. If you love the brassica family, cabbage, broccoli, cauliflower etc. now is the time to plant for a winter crop. If you are growing your own brassicas from seed many of the brassica seedlings are almost indistinguishable from each other so 'label, label, label'. Our Vegetable Planting Guide is a great guide to what and when to plant in any season. http://ceyolo.ucdavis.edu/ files/53274.pdf

If you are not growing winter vegetables, plant cover crops such as fava beans, clover or vetch to replenish the soil nitrogen for better spring yields. Cover crops also reduce the loss of the topsoil in heavy winter rain storms.

Now is the time to scatter seeds for California annuals such as poppies and tidy tips. Rake back any mulch from the dirt, scratch the soil surface to loosen, scatter the seed and lightly rake the area to cover the seed. Water gently so the fine seed is not washed away. Enjoy the show in the spring.

Fall Cleanup

- Remove fallen fruits, vegetables, leaves, spent flowers, and weeds.
- Pinch back plants to allow tomatoes, melons, and squash enough time to mature before frost sets in.
- Remove unproductive plants.
- Take down squash, melon cucumber and tomato supports. Get them ready for planting peas and sweet peas in October.
- Clean garden supports and stakes with a diluted bleach solution before storing them for future use.
- Pick tomatoes when daytime temperatures no longer exceed 65° F. Wrap them in newspaper or place on a windowsill to let them ripen indoors.
- Maintain your compost pile by adding clean garden waste and leaves.
- Control earwigs, snails, and slugs.
- Apply liquid copper to citrus to prevent brown rot.
- Apply the first dormant spray to fruit trees in November. See: http://homeorchard.ucanr.edu/calendars/
- Apply the first round of liquid preventatives to nectarines, peaches, and apricots in November.
  For Peach leaf curl – http://ipm.ucanr.edu/PMG/PESTNOTES/pn7426.html
  For Brown rot -http://ipm.ucanr.edu/ PMG/GARDEN/FRUIT/DISEASE/aprbrownrot.html
  For Shot hole -http://ipm.ucanr.edu/PMG/GARDEN/FRUIT/DISEASE/shothole.html

Fertilize and Amend

- Fertilize and amend your garden soil. Add manure and compost to improve soil structure and fertility.
- Apply a layer of leaves, straw, or newspaper to your soil surface to reduce weeds next spring and improve soil structure.
- Amend your soil and add a complete fertilizer if you plant winter crops, flowers, bulbs, or seeds.
- Consider planting a crop of green manure on any open ground to loosen the soil and add nitrogen before planting in the spring. http://ceyolo.ucdavis.edu/files/53466.pdf

Lawn care

- Renovate a poorly performing lawn by de-thatching, aerating, fertilizing, and over-seeding it with either an annual or perennial rye or fescue mix, which will keep it green through the winter.
- Fertilize lawns in early fall with a complete fertilizer (one that contains nitrogen, phosphorus, and potassium).
- Fertilize in late fall with a slow-release complete fertilizer.
- Adjust the watering cycle on your lawn. It will require less water in the fall and little or none in the winter.
- Continue to mow weekly and check your sprinkler system. Be sure it is properly adjusted and that all the nozzles are working.
- Remove dead leaves from your lawn regularly to prevent your lawn from expiring from lack of sunlight or contracting fungus infections.

Fall is the best time to put in a new lawn with either seed or sod. For complete lawn care see UC IPM Healthy Lawns at http://www.ipm.ucdavis.edu/PMG/menu.turf.html

Annuals and Perennials

- Continue deadheading and removing dead leaves.
- Divide and transplant bulbs, tubers, and corms.
- If your oriental poppies, iris, agapanthus, and daylilies are becoming less vigorous, fall is the season to divide and replant them.
- Share extra bulbs, corms, and tubers with a friend.
- Enjoy the fall color of perennials. Wait until spring to trim or cut them back.
- Evergreen perennials should not be cut back in the fall. These include rock cress, creeping sedum, creeping phlox, and hens and chicks.
- Roses should keep producing flowers into December, but do not fertilize after September that will encourage shoot growth that will be nipped by the first frost.
- Deadhead as needed unless you prefer colorful rose hips to develop and provide winter interest.
- Plant fall flowers such as calendulas, chrysanthemums, bachelor buttons, dianthus, forget-me-nots, sweet peas, and violas. Many of these will over-winter and provide lush color in the spring.
- Spring-blooming perennials such as foxglove, columbine, salvia, and daylilies can be planted now.
- Fall is the best time to introduce perennials to your garden.
- Consider planting winter vegetables such as broccoli, lettuce, endive, parsley, garlic, and onion sets. http://ceyolo.ucdavis.edu/files/53274.pdf
- Take cuttings of your favorite annuals.
- Gradually move frost sensitive potted plants to shadier locations so they will adjust to the lower light levels when you move them indoors.

Trees and Shrubs

- Fall is the best time to plant trees and shrubs.
  Suggested Trees for Yolo County http://ceyolo.ucdavis.edu/files/53031.pdf Problem Trees for Yolo County http://ucanr.edu/sites/YCMG/files/181041.pdf
  How to Plant Tree http://ceyolo.edu/sites/files/53455.pdf
  Watering and Drought Care of Trees http://ucanr.edu/sites/YCMG/217955.pdf
  The cooler air temperature and still-warm soil provide ideal conditions for new plant roots to take hold.

- For autumn colors of red, gold, or yellow, choose these trees: Chinese pistache (*Pistacia chinensis*), gingko (*Gingko biloba*), tupelo (*Nyssa sylvatica*), scarlet oak (*Quercus coccinea*), red oak (*Quercus rubra*), chanticleer pear (*Pyrus calleryana* 'Chanticleer'), or red maple (*Acer rubrum*).
- Plant drought-tolerant trees such as valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), or a Japanese pagoda tree (*Sophora japonica*). A new favorite is the Chinese Fringe Tree (*Chionanthus retusus*). You will need to have plenty of room if you are planting the oaks.
- Apply manure and compost to help your trees emerge from dormancy with lush leaves and flowers.
- Plant easy-care and drought-tolerant shrubs such as crape myrtle (*Lagerstroemia*), California lilac (*Ceanothus* hybrids), heavenly bamboo (*Nandina domestica*), tobira (*Pittosporum tobira*), and western redbud (*Cercis occidentalis*).
- Prune and shape trees in late fall.

Garden Keeping

- Sharpen spades, loppers, pruners, and your lawn mower blade. You can use a file or take your tools to a professional sharpener.
- Take your lawn mower to a professional for an annual tune-up.
- Clean, disinfect, and oil your tools, so they will be ready for pruning roses, trees, and shrubs from late fall to early spring.
- Keep birdbaths and feeders clean and full for migrating birds.
- Check out your local farmer's market for a colorful selection of fall decorations, including pumpkins, gourds, dried corn, and fall flowers.
- Keep a journal. Record your watering cycle information, pruning, spraying, and planting information. Make a list of garden improvements and fun ideas.
- Collect seeds from your garden.
- Check out your favorite garden catalogs. It is time to think about ordering next spring's seeds, bare root roses, and garden tools.
  For more information on vegetables, ornamentals, fruit trees, and lawn care, visit http://www.ipm.ucdavis.edu

Garden Fun

- Make a fall wreath and table decorations from dried or fresh garden cuttings. Grape vines wrapped around a circular form make an ideal basis for a seasonal wreath. Use a hollowed-out pumpkin or gourd as the vase.
- Plant spring bulbs for a fresh look come March or April after we have a rainy winter.

HOW TO CONTACT US:

Like us on Facebook: UCCE Yolo County Master Gardeners.

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

Email questions: mgyolo@ucdavis.edu

Telephone: 530-666-8737.

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/

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Send a Letter to an Editor!

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Please put: *Yolo Gardener* in the subject line

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