



INSIDE THIS ISSUE

<u>Small Gardens & Small Spaces</u>	<u>1</u>
<u>Winter Garden Chores</u>	<u>2</u>
<u>Community Connections: The Timberwolf Garden</u>	<u>3</u>
<u>Pests and Plants of the Season</u>	<u>4-5</u>
<u>Senior Gardening</u>	<u>6</u>
<u>Beneficials: Tachinid Flies</u>	<u>7</u>
<u>Growing Knowledge</u>	<u>8</u>
<u>From the Garden</u>	<u>9</u>
<u>Demo Garden</u>	<u>10</u>
<u>Horticultural Terms</u>	<u>11</u>
<u>The Help Desk: Pruning Roses</u>	<u>12</u>
<u>Taste of the Season</u>	<u>13</u>
<u>Coming Events</u>	<u>14</u>
<u>SHARPS Collection Program</u>	<u>17</u>

Coordinator Corner

Marcy Sousa, Master Gardener Coordinator



Happy New Year! We're all settling in after the frantic activity of the holidays for a quiet winter. January is a good planning time of year. Assessing what you have for seed starting supplies, potting soil and seed varieties is always a fun way to start the excitement for the spring ahead. Like many people, the new year brings renewed energy and hope, plans for self improvement and of course resolutions. Our resolutions this year as a program, is to help plant as

many gardens as possible, to teach old and young alike how to care for their soil and their plants, be a resource to our community and to encourage the residents of San Joaquin County to conserve resources, reduce green waste and practice sustainable gardening practice

This year marks nine years since we sent out our first Garden Notes issue. This publication has evolved into something that our program is quite proud of and that we hope you enjoy! This year also marks the eleventh anniversary of the Master Gardener Program in our county. Master Gardeners have volunteered over 56,100 hours and have earned over 15,000 hours of CEU's since July of 2007 on various projects in the County. At the end of the month, we will be starting our next training class and are excited to have Stanislaus County join us as they kick off their brand new program.

If you have a gardening questions, you can contact us at 953-6112. I hope you enjoy this edition of our newsletter. Happy Gardening!

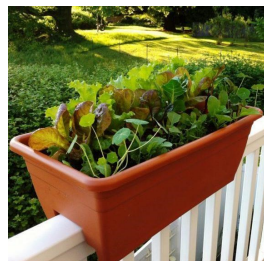
Small Gardens & Small Spaces

Susan Mora Loyko, Master Gardener

Small growing spaces are quickly becoming more of a trend with people from all walks of life. Whether it's people living in small apartments, condos, or homes with limited growing space; aging gardeners downsizing their growing area; or young people wanting to try their hand at growing their own fruits and veggies, many are learning how to successfully garden in smaller spaces.

Even in the smallest of spaces there are lots of opportunities to grow veggies, flowers, and shrubs by looking at gardening differently than the traditional rows, hedges and pots. There's no rule that says you can't mix the flowers with vegetables in a garden. Veggies are quite ornamental in their own right. To keep things pretty while

growing flowers and food together, cluster plants in multiples of three or five and vary height and textures of the plants you're choosing.



Integrating flowers into vegetable gardens or growing vegetables in with your flower borders can be fun and beneficial. Flowers bring in the pollinators and beneficial insects, such as butterflies, lady beetles, bees, and more which are crucial for vegetable development.

Gardeners can do a lot with a small growing area with a little time, a few great plants, and a little creativity to beautify the smallest of outdoor areas. The first step is to look at the potential [Continued on pg. 15](#)

Winter Garden Chores

Sue Davis, Master Gardener

January, February, and March

Are you tired of being cold? Take a few days to sit inside where it is warm and look through the abundance of gardening catalogs. You can plan your spring or summer garden, select a plant or two to enhance your landscape, or find a new variety of a favorite vegetable. If a day turns out warmer than others, there are always a few maintenance issues that will need your attention.

January ideas:

Plant—

Bare root roses and fruit trees are available in your local nursery now. Bare root plants are less expensive than they will be in a couple of months when they have been potted.

It's not too late to plant spring bulbs if your local nursery still has some in stock. For production of good blooms, bulbs should feel heavy and dense. Summer bloomers (begonias, dahlias, gladiolus, and lilies) should be available by mail.

Azaleas and camellias are in bloom now. Choose one that catches your eye. Before purchasing a plant, make sure it's healthy and its leaves are lush and green. Avoid plants that have pale leaves, overly leggy growth, or roots protruding through drain holes.

Japanese maples (*A. palmatum*) are available in nurseries now. These trees come in many varieties, including ones with deeply cut leaves or variegated foliage. They can range in height from 3 to 20 feet and should be protected from the wind. Sun tolerance varies by species.

Determine the mature size of plants you are adding to your landscape so that you allow sufficient space when placing them in your garden. If the area looks sparse now, fill it in with some annuals or small perennials that can be relocated later.

Maintenance—

Pruning tips and tools. Vines, fruit and shade trees, grapes and roses all benefit from pruning with sharp tools to remove dead, diseased, and broken branches, open their framework to the sun and improve air circulation. As you work, disinfect your pruning tools with a 10% bleach-to-water solution to prevent the spread of disease. You can also wipe your tools with rubbing alcohol as you go, and/or submerge and soak them for 1 minute between uses. Be sure to dry them with a clean rag and oil them after use to prevent rust. Keeping Lysol spray in your garden tote and spraying your tools each

time you move to a new plant or tree will also work to keep your pruning tools disinfected.

Rake and discard all the fallen leaves around your rose bushes which may be harboring next season's pests.



January: Acer palmatum 'Sango Kaku' (Coral Bark Maple)

Remove all mummified fruit from your fruit trees, as well as any fruit or leaves still on the ground to discourage pests and diseases. Apply dormant oil sprays to control pests, disease and infection. Dormant sprays are labeled for specific diseases or pests as well as for the recommended amount and frequency of spraying. **Please read labels carefully.** You'll get the best results from spraying after rain or foggy weather and not during or just prior to freezing weather.

Mulch around your plants at least as far as the drip line but not near the trunks to discourage weeds, prevent soil erosion and help regulate soil temperature.

Work compost into the soil around your plants and continue or start a composting pile for your spring and summer gardens.

Use a balanced fertilizer for winter-flowering plants to keep them blooming in these cold months. Among those that should be fed: primroses, stock, calendula, snapdragons, poppies, pansies and violas. Potting a few of these will add a splash of color to your porch or patio.

Snails and slugs hide under pots, wood, benches and pavers. Dispose of any you find in a pail of soapy water.

In February:

Plant—

Start seeds indoors (see Lee Miller's Winter 2012 and Trish Tremayne's Winter 2015 articles on starting seeds). Peas can be planted outside; however, it is best to pre-germinate the pea seeds on moist paper towels in a warm room for a few days before you sow them.

Winter blooming annuals such as pansies and snapdragons can still be planted this month.

Dahlia tubers are available in area nurseries. For the best selection and a rich array of color and different flower forms, choose them now. Wait to

plant them in the garden from mid to late April (when the soil reaches 60 degrees) for the most successful growth.

Tuberous begonia and other summer blooming bulbs should be available at your nursery if you didn't mail order last month.

Choose the largest and healthiest look-

[Continued on pg. 16](#)



February: Carolina jessamine (Gelsemium sempervirens)

Community Connections—The Timberwolf Garden

Patty A. Gray, Master Gardener

School gardens are hard enough to establish, but the real challenge comes in maintaining them for the long haul. The task seems to require an infinite supply of energy, enthusiasm, and determination. How many schoolteachers can manage that on top the demanding task of teaching?

Ansel Eayrs, a teacher at Stockton Early College Academy, makes it look easy. Eayrs, who obtained his doctorate in education at University of the Pacific's Benerd School of Education, teaches Honors Chemistry and AP Physics at SECA, and also advises the Physics Explorers Club. In 2015, he inspired the students to help him create an edible garden for the school in the small space just outside his classroom building.

But Eayrs and his students didn't merely turn some soil and plant some seeds; they created a set of four solidly-built wooden planter boxes with built-in irrigation. A dedication ceremony was held in October 2015 to launch the garden, and then they set about planting kale, lettuce, spinach, cabbage, broccoli, carrots and radishes. Students had only to step outside their classroom to snack on fresh greens.

As if this wasn't enough of an accomplishment, Dr. Eayrs decided those 16 sides of the planter boxes were blank canvases that had to be filled with art. The medium he chose to embellish them was woodburning. He and his students spent countless hours at the painstaking work of burning dozens of images representing science and literature, music and sports, nature and culture. Each student who contributed to the project also burned in her or his own signature somewhere on one of the planters. These students have literally left their mark on their school.



By the time this work was completed, summer crops were already growing: tomatoes and cucumbers, summer squash and eggplants, sunflowers and pumpkins, and corn. In the summer of 2016, they planted some fruit trees in the area. And then Dr. Eayrs and his students got really ambitious. They set about to double the size of the garden.



Not only did they build four more planter boxes – even larger than the first four – but they first transformed a barren patch of ground behind the classroom buildings into a beautifully designed patio. This involved a lot of digging to level out the ground before laying down pavers, which became the main after-school activity for several of Dr. Eayrs' students. Comparisons to Tom Sawyer and his unpainted picket fence are appropriate here, and the medium that helped Dr. Eayrs prove how fun it was to dig was Twitter – he made frequent posts with photos and videos of the progress being made.

The new planter boxes were set farther apart to create a plaza between them, and Dr. Eayrs and his students constructed benches along the sides. As a result, the garden is also a communal gathering place, which encourages more students to come out and interact with the plants.

Every October, Dr. Eayrs holds a ceremony to commemorate and re-dedicate the garden, which takes place in the garden plaza. Before a gathering of students and fellow teachers, he makes a speech, and then turns it over to students, who also make speeches, while others film the proceedings. So students are not only learning to build things and grow things, but also to express themselves articulately.

You can follow the latest developments in SECA's garden on Twitter by searching the hashtag #Timberwolf Garden.

Pests of the Season

Trish Tremayne, Master Gardener

Weeds: *Chickweed*

Chickweed gets its name because chickens love to eat it. This is wonderful if you have free-range chickens, but not so great if you find them in your lawn or ornamentals. Common chickweed is an annual weed that germinates January to March and can be prolific after a rain. It can grow either erect or prostrate, but normally forms a dense low-growing mat. It has small succulent, bright green hairy leaves and white flowers. It can produce seeds within five weeks of germination so it can spread rapidly in your turf or garden. Not only does it steal nutrients from your plants, chickweed is a host plant for many pests like thrips and lygus bugs. It also acts as a reservoir host for diseases like tomato spotted wilt virus (TSWV) and cucumber mosaic virus (CMV). The roots are shallow so the plants are easy to remove by hand pulling or hoeing. An organic way to reduce the seed bank is soil solarization which can be done in summer. [Link](#) A pre-emergent herbicide can be used in late fall or early winter on turf and ornamental areas. For a list of products available to home gardeners see [Pest Note #74129 Chickweeds](#)



Pest: *Cabbage Worm*

The imported cabbage worm is active year around in California. It is the larvae of the cabbage butterfly. If you see the butterfly flitting around your Brassicas (cabbage, Brussels sprouts, cauliflower, Chinese cabbage and kale), most likely it is the female is looking for a place to lay her eggs. The oblong-shaped eggs are white or cream in color and are laid singularly on the underside of the leaf. The larva is green with a velvet like appearance. While they are slow moving, they are voracious eaters leaving large irregular holes in the leaves. Monitor the plants for damage by looking for holes in the leaves and the greenish brown fecal pellets the worms leave behind. If you see fecal material, look at the leaves above the droppings and you will probably see the worms. Normally I just handpick the worms off the cabbage plants and squish them. If you have a heavy infestation, you can also use a biological product called *Bacillus thuringiensis* (BT). It's an organic product that is relatively safe for the environment. Spray the plants with the diluted product (follow the directions on the package). The worms eat the sprayed leaves, get sick and stop feeding. Eventually, they die of starvation. See [UC IPM COLE CROPS pg 25 on Imported Cabbage-worm](#) for more information.



Disease: *Peach Leaf Curl*

If you have peach or nectarine trees in your garden landscape you probably have seen peach leaf curl. The disease is caused by the fungus *Taphrina deformans*. Spores of the leaf curl fungus overwinter on the surface of peach twigs. In spring, the spores multiply during periods of wet weather until the leaf buds swell and open. Rain is necessary for infection. The leaves become puckered and turn pink or reddish in color. Quite often they fall off the tree. Unfortunately by the time you see the symptoms it is too late to control the disease. It is necessary to spray a fungicide prior to bud swell to control the disease. Fixed copper products containing copper ammonium complex products with 8% MCE (e.g., Kop R Spray Concentrate [Lilly Miller brands] and Liqui-Cop [Monterey Lawn and Garden]) are available for use by home gardeners. Spray in late winter or early spring before bud swell. Adding a 1% horticultural spray oil to the application will make the application more effective and will help in controlling some aphids, scale and mites. Thorough coverage is essential. Trees should be sprayed until they are dripping or until the point of run off. If you are spraying in late spring monitor the weather. Unusually warm weather in late winter can encourage bud swell thereby making fungicide sprays ineffective. Once the fungus enters the leaf, the disease cannot be controlled. See [Pest notes #7426 for more information](#).



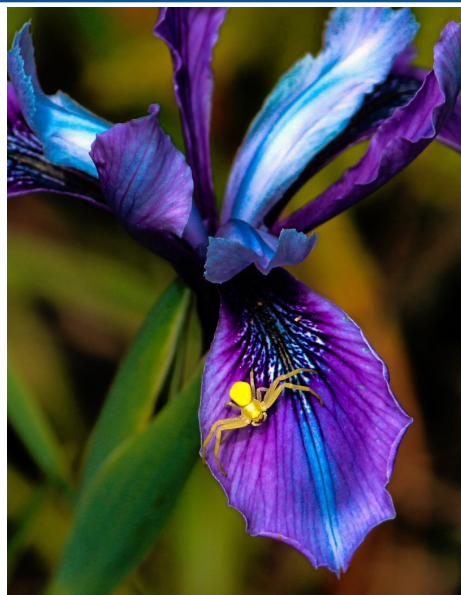
Plants of the Season

Julie Schardt, Master Gardener

A hike through the Sierra Nevada forests or in the valleys of places like Yosemite might make you wish for a way to relive the experience beyond what your smartphone's camera app might offer. One possibility is to bring that experience into your own garden with California native plants that offer a bright spot in a winter garden and help wildlife to flourish as well. Here are some examples that have been thriving in a mid-city Stockton garden for years.

Flower: Douglas Iris (*Iris douglasiana*)

This lovely perennial begins its display of color in late winter and continues throughout spring. It is a showstopper in a planter bed or along a garden swale where it can take advantage of serendipitous rainfall or runoff. The rich green, spiky leaves are 1 to 3 feet long and set off flowers that range in color from creamy white to shades of lavender and deep purple. Like many native California irises, if conditions are right, Douglas Iris can be long-lived. They can grow in full sun but need the respite of afternoon shade. Its tolerance for a wide range of soil types make it an ideal candidate for Central Valley gardens. It requires little or no summer water. Insects are attracted to these flowers



(which brings birds), and hummingbirds appreciate their nectar.



Shrub: Redtwig Dogwood (*Cornus sericea*)

This thicket-forming deciduous shrub ranges from 6 to 9 feet tall and spreads from 8-10 feet. (This is not the big flowering dogwood, *Cornus nuttallii*, that lives in the California Sierra Nevada mountains.) In the wild, it commonly grows in areas of damp soil, such as wetlands but inland it can thrive in part shade with regular water. *Cornus sericea*'s wine red, willowy stems are evident throughout the year. Fall and winter offer a show of color when the dogwood's leaves turn to shades of red, yellow, plum, orange and pink. In early spring, 2- to 3-inch wide clusters of small white or cream flowers appear and continue their inflorescence into fall. Birds are attracted to the white berries that appear in late summer. The versatility of the Redtwig dogwood makes it particularly useful for bordering lawns. Include the stems in winter floral bouquets to add color. It's a wonderful addition to a bird garden, but also

grows well as a specimen plant in containers.

Tree: Toyon (*Heteromeles arbutifolia*)

The Toyon is a small evergreen native California tree, but it carries significant historic and cultural distinction. It's the only California native plant that still bears its Native American (Ohlone) name. The Toyon's resemblance to European holly and its abundance in the hills of Southern California were the genesis of the name "Hollywood." Why not let this iconic plant share some space in your garden? It tolerates a wide variety of soils, is drought tolerant (although it might need occasional irrigation) and thrives in sun to partial shade. Sometimes called Christmas Berry, this easy-to-grow specimen



Senior Gardening

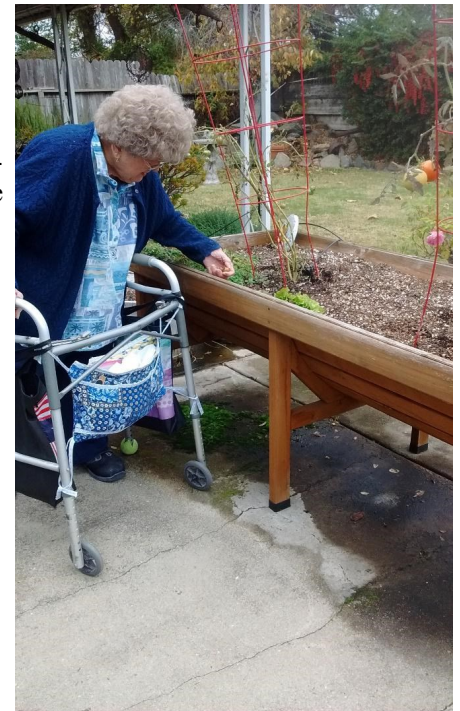
Regina Brennan, Master Gardener

November was particularly challenging to senior gardeners, and to others as well, because of the unhealthy air quality from the devastating Camp Fire wild fires in Paradise and surrounding mountain communities. This tragic loss of life and property affected many vulnerable seniors and pointed out again the risk of growing older and needing help to deal with the challenges of maintaining home and property because of declining health and physical strength.

Many of us have fallen behind in our garden chores getting ready for winter because of the poor air quality caused by an abundance of smoke in the air. Just as the smoke cleared out, welcome rains arrived with more challenges. As always, attempting to rake leaves on slippery ground and apply compost and fertilizer to soggy soil requires both thought and preparation which may include seeking help with these necessary chores.

Many stories have been shared among friends and family of the independent seniors in their lives refusing help and instead putting themselves in harm's way by climbing up ladders to clear out gutters and taking on tasks that could be done quickly by someone much younger and stronger. For the aging senior, risky activities often result in injuries that can mark the end of independence. For many seniors, asking for help makes them feel useless and dependent on others, neither of which is acceptable in their way of thinking. What I am suggesting is the need to reframe our old patterns of thinking and to move forward into new areas of thought more in line with the reality of our personal circumstances. Aging means making adjustments. Taking care of how we use our bodies now as we go about our normal gardening routines will go far toward ensuring that we continue gardening well into our 70's, 80's and even 90's. Appreciating flowers and plants is something gardeners at any age never grow tired of doing.

Long winter months can be dreary and discouraging for many seniors, but there are a number of things we can do to bring joy into grey foggy days or dark rainy days. Some suggestions to try during our "break" from outside yard work involve making some realistic and creative plans for next year's garden, which may mean downsizing our normal garden activities.



- Research new varieties of plants to try. Exciting new additions available to home gardeners are continuously being developed. Quite often, our landscape was designed and planted many years ago and has reached the point where it could use some sprucing up. Many of the older hedge- type shrubs demand frequent upkeep and actually offer little in return for the effort required to keep them from looking neglected.

- That we live in a different age today is more than just a common statement. Our plants need to reflect the needs of our eco-minded world: less water requirements, less fertilizer, and fewer chemicals to control pests and disease. The plant industry has put a priority on developing such foliage, with many promising results. Visiting a reputable nursery and speaking to a certified nursery person may result in a new low maintenance plant that will brighten your garden and eliminate a lot of labor spent pruning and deadheading. Many long time gardeners are rescuers by nature and abhor making the decision to get rid of a high maintenance water-thirsty plant and replacing it with a less demanding specimen. Fear not. Everything has a season and relegating a plant that "still has life" to the compost bin may actually be liberating.

- If you haven't given serious thought to raised beds for your favorite veggies, herbs, or flowers, now might be the time to explore some options. Depending on your budget, there are numerous choices of design and materials available. Raised beds can make a garden accessible to those with limited physical mobility and they can add beauty to the garden. Raised beds are also a great solution to a smaller urban garden as well as a senior facility. At a local senior facility for independent and assisted living, a retired Master Gardener was instrumental in having raised beds constructed in an area open to all residents wishing to continue engaging in the pleasure of gardening. Watching a senior navigating around a raised bed using a rollator to tend to her plantings is indeed heart-warming.

- In addition to considering replacing old plantings with new varieties and planning on adding raised beds, there is a growing trend towards growing succulents both indoors and outdoors in a sheltered area, depending on your location. Mini succulent gardens are easy to handle and fun to create. The tools necessary to plant and maintain the gardens are much easier on the body than the traditional shovels, pruners and rakes. Think of the comfort of trading a heavy shovel for a

[Continued on pg. 11](#)

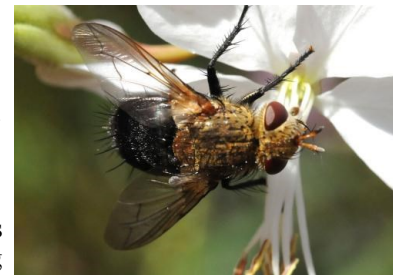
Beneficial Insects—Tachinid Flies

Kathy Ikeda, Master Gardener

As we've seen in earlier articles, the categorization of an insect as "beneficial" can be a very subjective matter. This good/bad dichotomy applies to insects that are "generalist feeders"—those that prey upon a wide variety of other organisms. Tachinid flies are no exception; in many circles they're seen as very helpful, while in others they're not. Let's take a closer look at these "Dr. Jekyll/Mr. Hyde" insects.

Tachinid flies are found throughout the world, with over 10,000 identified species. They're among the most common and important kinds of pest-controlling insects in North America, and more than 1300 species live in the United States.

Tachinids vary tremendously in size, shape, color, and overall appearance. The most common ones in our area are admittedly unattractive; they resemble houseflies, and are often mistaken as such by the casual observer. They generally have black or grey bodies 1/3 to 1/2 of an inch long and large brown or reddish-brown compound eyes. What tends to distinguish a tachinid fly from the common housefly is the sparse tuft of long, dark, bristly, backward-pointing hairs at the end of its abdomen.



The parasitic tachinid fly feeds on nectar in the Storer Gardens, UC Davis Arboretum. Notice the bristles on the abdomen. (Photo by Kathy Keatley Garvey)

All tachinid flies are parasitic, which means they get their sustenance from other living "host" organisms. Tachinid flies parasitize other insects in one of three main ways: (1) They lay their tiny eggs on plants, the eggs are swallowed by host insects, and the eggs hatch inside the host; (2) They lay eggs on the outer surface of their hosts, and after the eggs hatch the tiny larvae burrow into the hosts; or (3) They inject eggs directly into their hosts. Each species has its own method. Tachinid flies usually target the caterpillars of moths and butterflies, but some species attack other insect larvae and adult insects.

Tachinid fly larvae (maggots) obviously must eat in order to survive and grow, but they also rely on their hosts for protection. Therefore, the fly maggots consume the non-essential tissues of their host first, saving the vital organs until the last possible moment. This rather gruesome technique allows tachinids to feed internally upon their living hosts while still being protected inside them for as long as possible. Once the maggots reach their full size, they typically exit their host, begin the pupal stage of their life cycle, and finally transform into adult flies.



Tachinid fly maggots emerging from their host, a monarch caterpillar (Photo by Kathy Keatley Garvey)

Many tachinid fly species are considered to be beneficial insects because they help to control populations of pest insects. A few examples are:

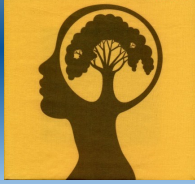
- *Lydella thompsoni*—This species preys upon the caterpillars of the European corn borer, a major and highly destructive pest of corn and other crops such as apples, beans, peppers, potatoes, and tomatoes. It has been intentionally released as a biological control agent in several states.
- *Myiopharus doryphorae*—This species attacks and kills the larvae of the Colorado potato beetle.
- *Trichopoda pennipes*— This species feeds on the larvae of squash bugs.
- *Voria ruralis*—This species parasitizes and destroys cabbage looper and alfalfa looper caterpillars.

Other kinds of tachinid flies attack common garden pests such as immature beetles, cutworms, earwigs, gypsy moth caterpillars, and leafrollers. Lots of adult tachinid flies act as valuable pollinators, and some even fill the pollinator niche in high altitude areas where bees don't live. Tachinid flies feed upon nectar, and they favor environments with a diversity of small-flowered plants. They're especially attracted to herbs in the Apiaceae family (cilantro, dill, fennel, parsley, Queen Anne's lace) and plants in the Asteraceae family (asters, chamomile, daisies, yarrow).

Enthusiasts of butterfly gardens and those working to restore monarch butterfly populations have a far more negative opinion about tachinid flies. Since Tachinid flies are prime parasites of butterfly caterpillars, they can greatly reduce the percentage of successful butterfly metamorphosis. If you have an interest in raising monarch caterpillars and/or protecting other butterfly species from "death by tachinid," visit such sites as the [UCANR Bug Squad blog](#), or simply Google "butterflies and tachinid flies." The best way to prevent butterfly caterpillars from being harmed by tachinids is to move the caterpillars indoors as soon as possible. Construct a well-ventilated butterfly habitat, enclose it with fine mesh (to prevent entry by tachinid flies), feed the caterpillars consistently and regularly, and give them some twigs or other material to which they can attach their chrysalises.

Despite the fact that some favored butterflies fall victim to hungry tachinid larvae, remember that these flies perform a valuable biological service. They're a crucial part of a balanced ecosystem and a vital player in the world of pest control.

To learn more about tachinid flies, visit the [UC IPM Natural Enemies Gallery](#), [Pacific Horticulture](#), or [Tachinidae Resources](#).



Growing Knowledge

Marcy Sousa, Master Gardener Coordinator

Understanding Roots: Discover How to Make Your Garden Flourish by Robert Kourik.

Understanding Roots uncovers one of the greatest mysteries underground—the secret lives and magical workings of the roots that move and grow invisibly beneath our feet. Illustrated with 140 enchanting and revealing root drawings that most people have never seen, from prairies, grasslands, and deserts, as well as drawings based on excavations of vegetable, fruit, nut, and ornamental tree roots. Every root system presented in this book was drawn by people literally working in the trenches, sketching the roots where they grew. It's a superb guide to raising better trees and shrubs and growing abundant fruits, vegetables, and flowers.

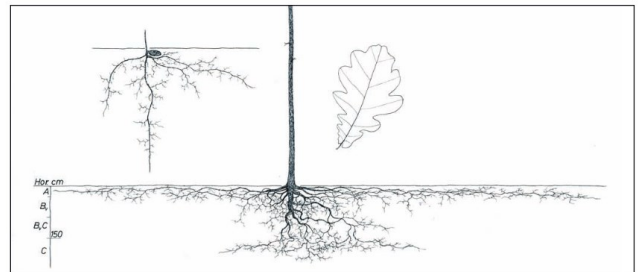
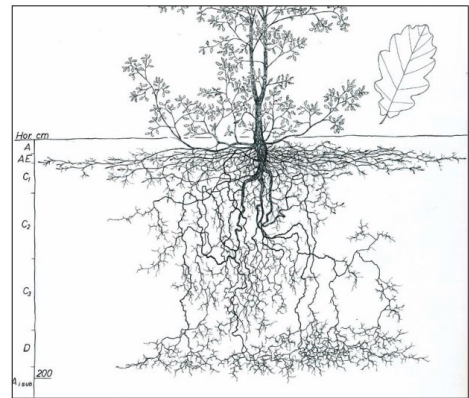
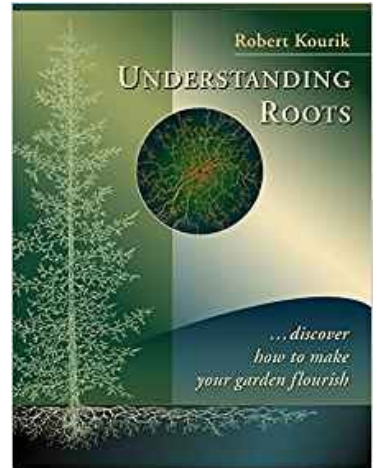
Roots do more than just keep a plant from falling over: they gather water and nutrients, exude wondrous elixirs to create good soil, make friends with microbes and fungi, communicate with other roots, and adapt themselves to all manner of soils, winds, and climates, nourishing and sustaining our gardens, lawns, and woodlands.

The text provides a very detailed review of all aspects of transplanting; describes how roots work their magic to improve soil nutrients; investigates the hidden life of soil microbes and their mysterious relationship to roots; explores the question of whether deep roots really gather more unique nutrients than shallow roots; shares the latest research about the mysteries of mycorrhizal (good fungal) association; shows you exactly where to put your fertilizer, compost, water, and mulch to help plants flourish; tells you why gray water increases crop yields more than fresh water; and, most importantly, reveals the science behind all the above (with citations for each scientific paper).

Here's a quote from the Deep Roots and Nutrients chapter that captures the essence of the entire book: "It's simple, **focus on the care of the upper 8-12 inches of the root zone**.... Tend to the aerobic microbiology in the very upper zones of the soil. Keep it ever so slightly moist and "well fed" with compost, organic fertilizers and mulch.... Avoid turning, churning and displacing soil layers. In short: treat your soil with a dynamic accumulation of kindness." (p95) Much of the book outlines the research that backs up these statements.

Did you know that in loose soil, carrot roots can go down 7 ft. or that one cubic inch of soil can contain 8 miles of mycorrhizal (fungal) strands and Fava beans use those fungal mycelia to communicate with each other that there are aphids attacking.

Understanding Roots is a must-have for anyone who is truly serious about organic gardening. This book has left me with a much better understanding of the role both soil and root health play in the bigger picture of growing stronger, more resilient plants- as well as a new-found appreciation for the complexity of root systems and soil microbes! If you want to save yourself a lot of time, effort, as well as avoid making a lot of costly mistakes, the knowledge compiled in this book is invaluable. And even though it's very detailed and scientific, you definitely don't have to be a scientist to understand and glean from this book. Perfect for beginners and well-seasoned gardeners alike. A fantastic read, highly recommended!



Two *Quercus robur* trees reveal how different root patterns can be. The upper tree has grown several taproots, as well as many smaller roots reaching down as far as 8 feet. The lower tree is the same species, but this one has mainly produced fibrous roots growing to a depth of 7 feet and 51 feet wide (the tree was 43 feet tall). Oaks, pines, nut trees, and certain other trees (like persimmons) usually grow taproots, but when the tree is dug for sale as a bare-root or balled-and-burlapped plant, the taproot is destroyed and does not regrow; only trees grown from seed produce a taproot. The seedling illustration here shows how a deep taproot quickly grows from an acorn, followed by fibrous lateral roots as the tree ages.

From the Garden

Pegi Palmes, Master Gardener

With the holiday rush behind us and spring gardening coming soon, now is a great time to enjoy preparing a couple of simple garden-related gifts that we might not have time for once our gardens demand more of our time.

Homemade Tussie-Mussie or “Talking Bouquet”: A tussie-mussie is a small bouquet of flowers that is often carried in a paper cone. The tussie-mussie is an invention of the Victorian Era. Suitors brought tussie-mussies to young ladies filled with flowers symbolizing subtle sentiments; this type of communication was called the language of flowers. For instance, a pink rose symbolized friendship. A marigold symbolized grief. There are many resources available including the internet and books that list the meaning of the flowers and herbs. You too can beautifully and creatively “say it with flowers.”

The occasions and messages for tussie-mussies are limitless, with some of my favorites being: Valentine’s Day, happy birthday, thank you, Mother’s Day, Father’s Day, congratulations, get well, and starting a new garden. Here are a couple of examples showing appropriate flowers/herbs and their meanings:

Valentine’s Day: Red Tulip--*declaration of love*; Honeysuckle--*bonds of love*; Red Carnation--*passion, fascination, pure love*; Larkspur--*ardent attachment*; Silver King Artemisia--*silver moonlight, unceasing remembrance*.

Starting a new garden:

Holly--*foresight*; Forget Me Not--*high hopes*; Jerusalem Sage--*earthly delights*; Queen of the Prairie--*farsighted outlook*; flower buds--*promise of good things to come*; Anemone--*expectation*; Clover--*hard work, industry, luck*; Laurel--*personal achievement*; Peony--*beauty*.



Supplies you will need: 5 to 7 sprigs of flowers and fragrant herbs; string, pipe cleaners, wire or florists tape; paper or cloth doilies; sphagnum moss; small florist pins (optional) scissors; thin ribbon.

Instructions: With your fingers, strip any leaves from the stems of the flowers and herbs.

Place the most important blossom in the center, surrounded with 5 or 6 sprigs of small, contrasting flowers or herbs, adjusting the space as you go.

Add 2 or 3 more concentric rings of herbs and small flowers, adjusting so they are evenly spaced. For larger bouquets, bind the stems together as you go, making sure the flower tops are even. For smaller bouquet’s, you can bind the stems when all are

in place. The tussie-mussie differs from standard bouquets in its generous use of greenery and fragrant herbs. Five to seven sprigs will be about right for a 5-inch tussie-mussie.

Finish binding the stems with floral tape, ribbon, string, pipe cleaners, or wire, starting under the leaves and spiraling down the length of the stems. With sharp, clean shears, trim the stems to 4 or 5 inches long, cutting on the diagonal.

To keep the bouquet fresh longer, make a reservoir by pressing sphagnum moss soaked in water around the gathered stems and cover it with plastic wrap.

Add a decorative touch by cutting an x in the center of a paper or cloth doily, then inserting the bound stems into the opening in the doily. *(If using paper, be careful to not let it get wet.)* Slip the doily up so it rests against the underside of the foliage. Anchor it in place with small florist pins. NOTE: you can use two or more doilies for



a fancier tussie-mussie.

For a finishing touch, wrap the ends of the stems with green or white floral tape, stretching and overlapping it as you wind it diagonally down the stems. Catch the paper doily in the first loop or two and be sure to cover the moss and plastic wrap completely, making a smooth, neat handle. Using narrow ribbon, tie a bow on the handle just under the doily, leaving streamers at least as long as the wrapped handle.

Homemade Flower Cards These cards are fun to make as thank you notes or for any special occasion. You can press and dry flower petals and/or leaves then glue them to cards once dry, or you can ‘pound’ fresh flowers right onto the card stock. Pansy and Cyclamen flowers work very well for this project. This is also a great rainy day project for school gardeners.

Supplies you will need to make pounded flower cards: flower petals; leaves; a smooth, rigid board; hammer; card stock.

Instructions:

Place the card stock on the smooth board and arrange the flower petals in an attractive pattern on the card. Pound them so the color bleeds onto the card stock.

Remove the flower petals, leaving just the color stain on the card.



Demo Garden

Cherie Sivell, Master Gardener

In addition to the demonstration garden, the master gardeners are also assisting in the American Rose Trials Sustainability testing. We currently have one bed along Earhart Avenue planted with 20 test varieties (see pictures) in three continuous blocks. Each block has the same plants, but a different irrigation cycle. The testing is going on in various locations across the United States to evaluate the plants' responses to various irrigation cycles and environments. Next spring, a second bed will be planted with additional varieties to be tested. Visitors are welcome to browse this area.



Have a gardening question? Call our hotline!

San Joaquin County Master Gardeners

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Senior Gardening

(cont. from page 6)

Regina Brennan, Master Gardener

chopstick for making a planting hole, and slim scissors for pruning as needed, and needle-nose pliers for getting around easily without hurting your hands. Maintaining mini gardens is more playing than it is working and is only limited by your imagination. Fun pieces of rocks, driftwood or little fairies purchased at dollar stores can complement a tray container of succulents that will brighten your winter days.

- There are a couple of key websites that are full of ideas for bringing some garden projects indoors to keep us occupied and excited about being able to continue being involved in the joy of gardening. One of my favorites is sunset.com. Another helpful site for researching plants and their growing needs, as well as dealing with pests and diseases, is the master gardener's site: sjmastergardeners.ucanr.edu.

- A recent article on the Sunset website highlighted tried and true varieties of succulents that thrive indoors. What better way to lift the winter doldrums in a safe environment than to grow succulents as houseplants; however, not all succulents make happy houseplants. What may do just fine outdoors may not be up to the challenge of thriving indoors. Once a plant has been identified as a good candidate, there are a few simple guidelines to assure success: water sparingly, provide good drainage, and pay attention to light requirements. As Sunset puts it, there are unique, beautiful varieties for every room, from bright and hot to cool and dark. Location, location, location is a good thing to remember when choosing a succulent that likes certain conditions.



Horticultural Terms—Roses

Lee Miller, Master Gardener

Prickles, are those thorn-like parts that we avoid by wearing gauntlet gloves when pruning. They are prickles not thorns though even rosarians often call them thorns. **Thorns** derive from shoots or buds and may or may not have leaves. **Spines** derive from leaves or parts thereof and also has vascular tissue. **Prickles** are derived from the epidermis, the external covering of the plant and found everywhere on the plant, and they do not have vascular tissue as a spine or thorn does.

Bud eye is the bud that lies just above each leaf origin.

Bud union is the point from which new canes grow and is the part of the plant grafted to the rootstock.

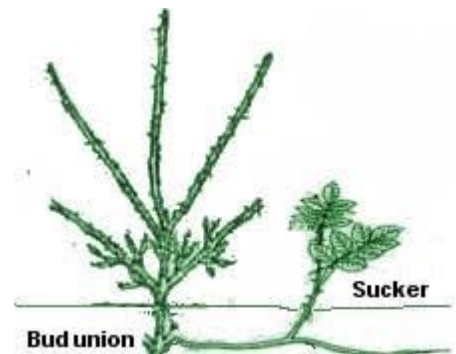
Shank is the area of the root stock between the roots and the bud union.

Suckers are shoots from the rootstock below the bud union and will rob the bush of nutrients and vigor to produce flowers. These suckers must be removed whenever they appear and certainly before they dominate the plant. Sucker foliage is usually different from the grafted variety and will often grow taller than other canes.

Remontane is another term for repeat blooming. Repeat blooming roses were created from a Chinese rose, *Rosa chinensis*, that was imported to Europe from China in 1759.

Modern Roses are those roses that were developed after the first hybrid tea, 'La France', was created in 1867.

For more terms that we could not describe here regarding roses, [click here](#).



The Help Desk—Pruning Roses

Lee Miller, Master Gardener

When and How Do You Best Prune Roses?

The timing and amount of material removed depends on which roses you have in your garden. Generally, modern roses are best pruned in January when they are as dormant as they will likely get in California.



Pruning Hybrid Tea, Floribunda, Grandiflora Roses and Miniatures: These are all modern roses which are repeat bloomers and have similar pruning methods. Miniature roses are basically miniature versions of hybrid tea roses and can be pruned similarly. Roses may have only 2 to 4 canes when purchased. However, as they grow, they develop many more canes and the younger canes should be left, provided they are large and robust, and older canes in decline with little new robust growth in the past year, should be removed.

There is no set number of canes to leave—it depends on the vigor of the rose. Canes will also need to be shortened by half or 2/3 of their length and cut 3/8 inch above an outside facing bud to keep the center open and vase like, but here again, the vigor of the rose is to be considered. Pruning a rose increases its vigor so if your rose has a lot of vigor, prune leaving more canes and longer canes; if less vigorous, prune harder. It is also important to examine the cane bark for damage from disease and remove parts so damaged. Also, if the canes' centers are brown and dead looking then remove segments until healthy tissue is evident. Also remove any suckers from the rootstock; see Horticultural Terms elsewhere in this issue.

Shrub Roses, Old Garden Roses do not need to be pruned as severely as the above roses. Height may be reduced and older declining canes should be removed using the “one-third” method. Each year a third of the older canes are removed. If the old garden roses are once-blooming types, such as Galica, Centifolia, Alba, Moss, or Damask, a majority of pruning is done after bloom.

Climbers: Climbers have their own pruning needs. Roses that bloom only once a season are pruned just after the bloom period ends; strong new growth produced after bloom will bear flowers the following spring. Lady Banks (Rosa banksiae 'Lutea'), a climbing rose, is an example of this type.

Many climbing roses bloom twice, first on the older branches and then on the growth of the current season. In the winter, remove diseased, injured, crossing or spindly branches, cutting them away flush with the cane from which they emerge. Older, woody canes can be removed as well and canes that have outgrown their support should be trimmed to put them back inbounds. Climbing roses will need to be fastened to a fence, wall or trellis or support with tape or ties. Select the best canes and trim back sufficiently to allow for new growth to be supported. Lateral buds are shortened to 2 to 5 buds by cutting at 3/8 inch above the highest bud. Climbing roses will produce more flowers if the canes are positioned somewhat horizontally to the extent possible.



Gauntlet gloves are good protection to wear when pruning roses.

For more information on rose pruning, [click here](#) and for videos on pruning roses Fine Gardening, [click here](#).

A Taste of the Season

Julie Hyske, Master Gardener

The winter is the perfect time for soup for supper. The best thing is that each of these recipes provides you with no reason not to! No time? These are your go-to recipes. The first recipe is hardly even that. Just 7 cans, use whatever beans you have on hand and no draining please, add some nice melty cheese, and you will see that it is just that simple. Next, is a nice easy creamy broccoli soup with some crunchy croutons that add so much happiness. Finally, nothing tastes as healthy as the tomato and barley soup,

7 Can Soup

Ingredients

1 can chili with **no** beans
1 can (15-oz) kidney beans
1 can (15-oz) pinto beans
1 can (15-oz) black beans
1 can (15-oz) diced tomatoes
1 can (15-oz) corn
1 can (10-oz) Ro*tel tomatoes
salt and pepper, to taste
8 oz Velveeta, cubed or Monterey Jack cheese

In a large pot, add chili, kidney beans, pinto beans, black beans, diced tomatoes, corn and Ro*tel (don't drain any of the cans).

Bring to a boil, reduce the heat and simmer for 10 to 15 minutes to bring all the flavors together. Add salt and pepper as needed.

Cut the cheese into cubes and stir it into the soup until melted. Serve immediately.



Tomato and Barley Soup

Serves 6

Ingredients

1 cup onion, diced
1 cup carrot, diced
1 cup celery, diced
2 tsp garlic, minced
2 tbsp olive oil
1/3 cup pearl barley
1 (14 oz) can stewed tomatoes (I like to give them a whirl in the food processor/immersion blender)
2 cups chicken broth
2 cups water
1 bay leaf
1/2 tsp black pepper and salt



Heat the olive oil in a large pot. Add the onions, carrots, celery and garlic. Sauté for about 10 minutes or until the vegetables are starting to soften. While they are cooking pour the barley into a dish with water to cover. Add the tomatoes, broth, water, bay leaf, salt and pepper and bring to a boil, stirring occasionally. Drain the barley and add to the pot. Reduce heat and cook at a low boil for about 45 minutes (until the barley is tender). Add more water or broth if it thickens too much.

Creamy Broccoli Soup with Homemade Croutons

Ingredients

Soup:

4 tbsp butter, room temperature
4 cups fresh broccoli, chopped
1 large onion, chopped
1 carrot, chopped
3 tbsp all-purpose flour
4 cups low-sodium chicken broth
1/2 cup cream
Salt and freshly ground pepper to taste

Homemade Croutons:

loaf of day-old French bread
olive oil
salt and freshly ground black pepper

Soup:

Melt 4 tbsp butter in heavy medium pot over medium-high heat. Add broccoli, onion, carrot, salt and pepper and sauté until onion is translucent, about 6 minutes. Add the flour and cook for 1 minute, until the flour reaches a blonde color. Add stock and bring to boil. Simmer uncovered until broccoli is tender, about 15 minutes. Pour in cream. With an immersion blender, puree the soup. Add additional salt and pepper, to taste, and then replace the lid back on the pot. Serve hot with homemade croutons.

Homemade Croutons:

Preheat oven to 400 °F. Cut bread into cubes and place in a large bowl. Drizzle cubes with olive oil, salt, pepper and Italian seasonings. Mix well. Spread seasoned bread onto a sheet pan and bake for about 10-15 minutes. *Serves 6*



Coming Events—Lodi Library

Corinne Bachle, Master Gardener



<http://ucanr.edu/sjmg>

2019 Lodi Library Gardening Presentations 201 W. Locust St., Lodi 10:00 am -11:30 am



<http://ucanr.edu/sjmfpr>

- | | |
|---|---|
| 1/14 The Rose Garden | 8/12 Pollinator Friendly
and Cutting Gardens |
| 2/11 All About Camellias
& Gardenias | 9/9 Winter Vegetable Garden
Pickling Veggies by
Master Food Preserver |
| 3/11 Summer Vegetable Garden
Freezing Fruits & Veggies by
Master Food Preserver | 10/14 Growing Succulents |
| 4/8 All About Tomatoes
Salsas & Preserving by
Master Food Preserver | 11/11 Soil Health, Composting,
Fertilizing |
| 5/13 California Natives including
The UC Davis Arboretum All-Stars | 12/9 Success with Houseplants |
| 6/10 Conserving Water in the Landscape | |
| 7/8 Growing Berries
Preserving Berries by
Master Food Preserver | |



Classes are Free
Call 209-953-6100 to reserve your seat.

Small Gardens & Small Spaces

(cont. from page 1)

Susan Mora Loyko, Master Gardener

growing areas and create a plan based on how to use limited outdoor areas. Start small, very small. Resist the temptation to create your entire garden all at once. Take time to learn and enjoy finding the right plants for the right places. Measure and create a plan for your gardening space. The plan doesn't have to be fancy. Keep it simple. It should just be a guide to help you understand and design the space. Before sketching out your ideas, decide how you will use the garden. Do you want a private outdoor space or a place for entertaining? It's up to you! Determine where there are sunny areas and, most importantly, where there is shade. Choose places where there is adequate sunlight. Do some research before buying and buy appropriate plants for sun and learn about plants that will grow well in shade, too.

Consider using decorative pots as small growing areas. As with any garden, big or small, use good soil and take into consideration the watering source and schedule each plant will need. Select a soil mix created for use in containers. Typically these are soil mixes with a blend of materials, such as peat moss, composted bark, perlite, coir, or sand. The resulting mix is lightweight and absorbs moisture, but also allows plants to drain freely. Container soil mix also has tiny air pockets to encourage healthy root growth. Vegetable plants need regular irrigation for healthy growth. Group like water-users for ease in caring for your growing areas. And if plants are located on a balcony or in a windowsill, give consideration to drainage.

Go Vertical! Where there is limited growing space, consider going vertical with plants (veggies, flowers, shrubs and even dwarf trees). Vertical gardens come in many shapes, sizes and configurations. Vining crops can be trained up on supports. Pole beans take up less space than bush beans. Vining cucumbers and squash, as aggressive as they can be, actually take up less area than their bush cousins. Some vertical gardens are designed to hang on a wall like living art, while others are freestanding gardens that feature rows of growing shelves stacked on top of each other. Even a simple two-tier growing cart qualifies as a vertical garden.

No Space? If you have a large, south-facing window, try herbs and salad greens in pots, containers or a window box. Consider other container-grown crops such as tomatoes and peppers depending on the amount of available sunlight. The key to success is picking compact varieties suited to your taste, space, and sunlight. Growing edibles indoors on a windowsill is an easy, low space option for plants frequently harvested, like herbs and lettuce. Any gardener can extend their growing season by potting up some herbs such as basil, bay, chives, and oregano.

Microgreens are currently trendy and easy to grow in small spaces. As the name suggests, microgreens are just miniature plants of greens, herbs, or other vegetables. Any plant that is entirely edible (root to leaves) is considered a microgreen. Like sprouts, they are a concentrated nutrient source and packed with beneficial enzymes because of their rapid growth. They add beautiful color and flavor to salads and other dishes. The most common plants used for growing microgreens include lettuce, kale, spinach, radishes, beets, herbs, cabbage, mustard, chia, sunflower seeds, and buckwheat to name a few. Microgreens can be grown in a shallow tray or planter covered with soil and placed in a sunny south-facing window or under an inexpensive grow light. Mist the seeds a couple of times a day to keep the soil evenly moist while waiting for the seeds to germinate. Greens are usually ready to harvest in 2-4 weeks, depending on the type of seed used.

Small Balcony or Patio? Consider growing plants that require more sun and vertical space in large pots with trellises, such as growing large pots of strawberries or trellising cucumbers. Dress up your home exterior with a railing garden box. Some edibles adapt easily to the cramped quarters a railing garden box offers, while others need more elbowroom. A railing garden box might have a soil depth from 6 to 12 inches. Shallow-rooted plants, including leaf lettuces, greens, radishes, peppers and bush beans, can yield in soil in the 6-inch-deep range. Smaller gardens contain fewer plants, so choose plants with extra character. Don't plant any one-hit wonders. Seek out plants with the "big three" traits; interesting foliage (whether evergreen or not), a long bloom time (whether blooming or not) and interesting bark. Plants with at least two of the big three traits provide more impact per plant and make the most of limited space. Since fewer plants are needed for impact in smaller gardens, the use of annual flowers with perennials and shrubs is very appealing. Many annuals bloom for much of the season. And because of the large selection of flowers, you can dramatically change the look of your garden from year to year.

Small Yard? Choose plants that go well together. For example, plant a salad garden of tomatoes, different greens and lettuce; a soup garden with carrots; onions, and celery; or a salsa garden with tomatoes, peppers and cilantro. Leafy greens such as spinach and chard do well in small, shady plots. Other suggested vegetables to grow in a small garden include shallots, garlic bulbs, kale, potatoes, lettuces, beets, and rainbow chard. Variety selection is more crucial to small-space gardening. The amount of space a particular crop occupies can vary greatly from one variety to another. If you're gardening in limited space, especially containers, you should be looking for vegetable varieties listed as "compact" or, in the case of fruit trees, "dwarf."

With a little planning and the right plants, small gardening is fun, easy, and healthy. The only limitation is your imagination.

Winter Garden Chores (cont. from page 2)

Sue Davis, Master Gardener

ing bulbs to start indoors now. Move them outside in late March.

Evergreen vines that reach 15 to 20 feet and grow well in our area include fragrant yellow-flowered Carolina jessamine (*Gelsemium sempervirens*); white-flowered evergreen clematis (*C. armandii*); purple *Hardenbergia violacea* 'Happy Wanderer'; pink H. v. 'Rosea'; fragrant pinkish white *Jasminum polyanthum*; pink or white *Pandorea jasminoides*; and violet trumpet vine (*Clytostoma callistegioides*).

Maintenance –

Empty any rain-filled containers around the yard to eliminate mosquito breeding areas.

Remove old flowers on camellias to reduce the chance of petal blight.

Citrus trees will appreciate a feeding of a nitrogen-rich fertilizer 6 to 8 weeks before their spring bloom time. Citrus requires micronutrients not found in turf fertilizers. A good citrus fertilizer will include additional nutrients like Magnesium, Boron, Copper, and Zinc.

Apply dormant spray for the final time mid-month to prevent peach leaf curl, brown rot and scale on your stone fruit trees.

Asparagus shoots are starting to pop up now and will appreciate a balanced fertilizer.

Finish pruning your roses by mid-February.

Cut back woody stems to within a few inches of the ground on butterfly bush, fuchsia, and Mexican bush sage to stimulate new growth. If left unpruned, plants become leggy and scraggly-looking.

If your cymbidium orchids are bulging out of their containers or the bark has decomposed, it's time to repot them. Do this between mid-February and early July to assure bloom next season. Remove old bark, cut off dead roots, and discard soft or rotted bulbs. Repot the plant into a larger container or divide plants into groups of three to five pseudobulbs (bulbs with leaves). Replant in medium-size bark or purchase a cymbidium mix.

Mix compost into your flower and vegetable beds to help condition the soil and make them ready for a great crop.

Leave freeze-damaged leaves on plants for a few more weeks to protect and insulate any new growth from a March cold snap.

Sharpen lawn mower blades and change the mower's oil before lawn cutting becomes a weekly job.

March Notes:

Plant –

Beets, carrots, leeks, potatoes, and radishes can be planted from seed now. Wait until after frost no longer threatens and the soil is easy to work so that your seeds don't rot in very cold or soggy soil. Soil temperature should be 60 degrees for the best results from seed.

Potatoes can carry soil-borne diseases which are harmless to humans but devastating for a potato plant. Buy seed potatoes from a nursery or a mail-order company that certifies the seed potatoes are disease free. Whole potatoes can be divided to give you a bigger crop by cutting the potatoes into chunks that each contain one or two eyes (the small depression where sprouts will form). To prevent rotting, store the freshly cut pieces at room temperature for three days before planting to allow the cut surfaces to dry and form a callus. Potatoes are heavy feeders, so planting with a good amount of compost will help the plant and your harvest.

Maintenance –

Prune suckers from trees and shrubs.

Check your drip irrigation for leaks in the lines and make repairs as needed. Flush out sediment from filters, check screens for algae and clean with a small brush, if necessary. Make sure all emitters are dripping water. If some are clogged, replace them (if you can't remove one, install a new emitter next to it). Add emitters to lines if plants have grown significantly since the system was installed. Put new batteries in your electronic drip controllers and check the settings.

Install new drip irrigation systems in new landscaping.

Loosen moist, not wet, vegetable garden soil to a depth of 6-10 inches and lightly work in compost and fertilizer. Rake and water the beds to be ready for planting in April.

Pre-emergent applied now to your lawn can help stop the summertime onslaught of crabgrass. A little fertilizer at the same time will help the rest of your lawn be green and healthy as spring begins.

Prune and clean up beneath flowering shrubs such as camellias, quince and forsythia.

Add mulch around shrubs and trees to the drip line. Leave a six-inch area adjacent to the trunk clear to prevent rot.

Woody species in landscapes should not be routinely fertilized, with the possible exception of young plants and fruit and nut trees. If woody plants exhibit normal leaf size and color and desired growth, nutrients currently in your soil are probably adequate.



SHARPS COLLECTION PROGRAM

*Safely Dispose of Medical Sharps to
Protect Public Health and Safety*

SHARPS DISPOSAL GUIDELINES



What Are Considered Acceptable Sharps?

The following are considered Acceptable Medical Sharps: syringes, lancets, needles, auto-injectors and Epi-Pens



Sharps Must be in a Container

No loose sharps allowed. The FDA recommends using FDA-cleared containers. An empty household container that has no leaks, a puncture-proof lid, and is made of heavy-duty plastic may also be used.



Bring Container to a Drop-Off Location

Once sharps are collected in a container, drop off containers to an authorized Sharps drop-off location. Locations are listed below.

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San Joaquin County Household Hazardous Waste Facility
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Stockton, CA 95206
(209) 468-3066

El Dorado Drug Store
2005 E. Mariposa Rd.
Stockton, CA 95205
(209) 464-7722

Community Medical Center
701 E. Channel St.
Stockton, CA 95202
(209) 944-4700

Community Medical Center
1031 Waterloo Rd.
Stockton, CA 95205
(209) 940-5600

St. Joseph's Medical Center
1800 N. California St.
Stockton, CA 95204
(209) 943-2000

LODI

Fairmont Pharmacy
1121 W. Vine St.,
Suite #13
Lodi, CA 95240
(209) 625-8633

Lodi Police Dept.
215 W. Elm St.
Lodi, CA 95240
(209) 333-6727

Community Medical Center
2401 W. Turner Rd.
Suite #450
Lodi, CA 95242
(209) 370-1700

MANTECA

Manteca Police Dept.
1001 W. Center St.
Manteca, CA 95337
(209) 239-8401

Community Medical Center
200 Cottage Ave.
Suite #103
Manteca, CA 95335
(209) 624-5800

Manteca Solid Waste Division
210 E. Wetmore St.
Manteca, CA 95337
(209) 456-8440

ESCALON

Vineyard Pharmacy & Gifts
1900 McHenry Ave., Suite #202
Escalon, CA 95320
(209) 838-0511

RIPON

Ripon Police Dept.
259 N. Wilma Ave.
Ripon, CA 95366
(209) 599-2101

LOCKEFORD

Young's Payless IGA Markets
18980 N. Highway 89
Lockeford, CA 95237
(209) 727-3762

TRACY

Tracy Police Dept.
1000 Civic Center Dr.
Tracy, CA 95376
(209) 837-6550

Grant Line Pharmacy Incorporated
2160 W. Grant Line Rd., Suite #205
Tracy, CA 95377
(209) 832-2999

Tracy Recycling Buyback Center
590 E. 10th St.
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Tracy Material Recovery Facility
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