Maximizing Water Resources in your Garden

Kitty Walker, Master Gardener

After four-plus years of drought, everyone hopes that this will be a year of plentiful rain. With an El Nino winter forecast (and early rain and snowfall), we may get a wet winter and spring. Even if we do get heavy rains, we live in a state of limited water resources.

As gardeners, we can protect and maximize that resource in our own gardens and yards by retaining as much rain runoff as is practical. This article will introduce you to saving rainwater as well as to replenishing groundwater on-site. These improvements provide the dual benefit of cleansing any runoff that does leave your property before it enters drains or waterways.

Rainwater Collection Systems or Rain Barrels: Rainwater collection is a great way to slow water down by temporarily storing it. The water can be reused for irrigation or other non-potable opportunities, or metered off slowly after storm events to allow for infiltration. Rain barrels normally hold 50-60 gallons of water and are placed under a downspout. They take up little space, are inexpensive, and easy to install. The best are often made of recycled food-grade plastic with an intake line, spigot, overflow attachment and removable cover. They require regular draining after storms and removal of debris that collects on screens.

Rain Gardens: These can be simple or elaborate, but they all can prevent runoff and replenish groundwater, which is so critical during times of drought. In a rain garden, channels or dry creek beds slow down the water, while bioswales can clean it. The simplest form of a rain garden is a shallow basin, located about 10 feet from your house, where you can direct runoff from your roof or paved surfaces. Dig a shallow basin with sloped sides and a flat bottom in fast-draining, well...

Garden for Life – Adaptive Gardening

Lynne and Bill Gowdy, Master Gardeners

Adaptive Gardening is a holistic way of reassessing our gardening methods. By making sensible modifications, we can enjoy a lifetime of design, creation and management in the garden.

Typically as gardeners, we adapt ourselves to fit the garden we want to create. With Adaptive Gardening, we learn to change the space to meet our needs.

Seniors in particular can benefit from adaptive gardening. As we grow older, our muscle strength, balance, mobility, vision, depth perception, and reaction time may be impaired. Arthritis may occur in various parts of our body. Gardening has a positive effect on many of these issues. It increases mental and physical abilities; provides a wonderful source of moderate exercise; increases flexibility, mobility and strength; and gives the feeling of accomplishment and joy.

The first need is to evaluate your current garden realistically. List the features that you enjoy and use everyday. These are the areas you must keep. Then identify the areas that need to be modified or eliminated...
Garden Chores Calendar
Sue Davis, Master Gardener

January, February, and March

Winter time is best spent keeping warm and planning for the warmer months in your garden while investing in some garden maintenance for spectacular spring and summer results.

_**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 the months when they have been potted. Planning your spring and summer garden while you leaf through seed catalogs will make planting easier when the weather warms.

It's not too late to plant spring bulbs if your local nursery still has some in stock. Reject any soft bulbs. For production of good blooms, bulbs should feel heavy and dense.

Camellias in nurseries are in bloom now; choose one that catches your eye. Don't let the flower color alone determine your choices though; 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 it 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 ten percent 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.

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 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.

Tuberous begonia bulbs should be available at your nursery. Choose the largest and healthiest looking bulbs to start indoors now. Move them outside in late March.

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Camellia blossoms

Cont. pg. 14.
Landscape Planting: This is one of the simplest and most effective ways to control erosion and runoff from a property. In addition to long-term erosion control provided by roots, leaves and needles reduce the impact of rain and the organic matter they add to the soil improves water infiltration. A drip irrigation system provides slow delivery of water to plants so water infiltrates with little or no runoff. For the purpose of improving stormwater runoff, choose plants that improve infiltration, decrease runoff, filter pollutants, and help stabilize slopes. References cited in this article, as well as a nursery knowledgeable in native and drought tolerant plants, can help identify the best suited plants.

Pervious Hardscapes and Driveways: There are many types of pervious materials available for walkways, patios and driveways that allow runoff to pass through and sink back into the soil. Popular choices include paver stones, turf block and permeable asphalts and pavements.

- Paver stones/flagstones are normally installed over a sand base. Pervious pavers are designed to allow more runoff to sink into the ground than traditional pavers. A low-growing ground cover may be planted between flag stones to allow for greater infiltration.
- Pervious pavement contains pore spaces that allow infiltration of runoff; the water seeps through the material and is naturally filtered through the underlying soil where pollutants are removed. Turf blocks (concrete blocks with holes) can be filled with sand or planted; they provide soil stability for driveways and walkways (though, not ideal for everyday parking because of irrigation and maintenance).

As gardeners in a state where water is a precious resource, use one of the above ideas as a way to get your garden ready to keep that liquid gold at home where it belongs!

Resources:
Pests and Plants of the Season

UC IPM website
Integrated pest management, or "IPM," is a process you can use to solve pest problems while minimizing risks to people and the environment. IPM can be used to manage all kinds of pests anywhere.

You can click on any of the blue underlined words in any of the articles to go to a webpage and learn more about that topic!

Pests of the Season
Christeen Ferree, Master Gardener

Persian Speedwell (*Veronica persica*) or birdseye speedwell is a broadleaf weed that grows throughout California landscaped areas, turf, roadsides and other disturbed sites. In the hotter portions of the Central Valley, it is primarily considered a winter annual. The entire speedwell plant is covered with hairs. Its stems are 4 to 16 inches long and the leaves are roundish or oval with shallowly toothed edges. Its small, blue flowers with white centers, bloom from February to May. The weed reproduces by tiny seeds, several of which are found in the small, heart-shaped fruit capsules that hang from down-curved stalks. Removing the weeds before they set seed in spring offers the best chance of control. Hand pull before flowers die and use a garden hoe to remove remaining roots. Avoid disturbing the soil with a garden tiller as tilling may bury remaining seeds, which may germinate. Discard pulled plants and roots. Mulching is also a recommended control as well as applying a pre-emergent herbicide. For general information about the susceptibility of weeds – both annual as well as perennial weeds to herbicide control, click here. Additional information about Persian speedwell can be found here.

Wetwood or Slime Flux is caused by several species of bacteria and yeast organisms which are found in soil and water. More common in elm and poplar trees, wetwood also affects box elder, fruitless mulberry, hemlock, magnolia, maple, and oak. Symptoms of this disease are stained areas of wood that exude a sour or rancid, reddish or brown fluid. The fluid seeps from infected bark cracks, trunk and branch crotches or wounds – a common point of entry. Although disfiguring, wetwood usually does not cause serious harm to trees. If the wetwood infection is small, it can be controlled by making a small opening in the wound, thereby exposing it to air and avoiding the accumulation of liquids. Drill a ¼ inch hole several inches long until fluid begins flowing. Then install a copper tube to drain excess fluid and release the pressure of gases that form in infected wood. Make certain that the tube is inserted far enough into the hole so that the inside end does not become clogged. Also, ensure that the outside end of the tube protrudes far enough so that the liquid drains away from the infected bark area. Do not drill drain holes at branch crotches, as this may weaken the tree’s structure. Prevent wetwood bacteria and yeasts from infecting trees by avoiding injuries to bark and wood. Keep weed trimmers and lawn mowers away from trunks; prune trees correctly; and ensure that young trees are staked properly. For additional information regarding proper tree planting and care, click here.

Imported Cabbageworm (*Pieris rapae*) was first introduced to North America in 1860 and is now widespread. Cabbageworm larvae feed on all Cole crops but prefer broccoli, cabbage and cauliflower. Damage to broccoli and cauliflower is caused by the excrement, which discolours plant heads. Cabbageworms feed on the outer leaves of developed plant heads, chewing large irregular holes. Larger worms feed toward the center of the plant, often near the midribs of leaves. They also bore into the head’s center, dropping greenish brown fecal pellets onto edible portions. Cabbageworm larvae are green, very hairy, with almost a velvet-like appearance, and can be up to an inch long. They often have one faint yellow-orange stripe down their backs and broken stripes along the sides. Adult cabbage butterflies are white with one to four black spots on the wings. The butterflies lay eggs singly on leaves. Eggs are pale yellow to orange, and are shaped like a football standing on its end. Cabbageworms are active throughout the year in California. They can be managed by handpicking or sometimes by the use of natural controls, such as parasitic tachinid flies. Egg laying can be prevented by using floating row covers. Organically accepted methods of control include *Bacillus thuringiensis* (BT) spray, which is quite effective. Additional information can be found here.
Tree: *Cydonia oblonga* (Quince, Fruiting), Family: *Rosaceae* (Rose)

**PLANT IDENTIFICATION:** Quince, a pear relative, is native to western Asia. It is a long-lived, easy-to-grow deciduous tree, growing 10–25 feet tall and wide. It has gnarled, twisted branches that look attractive in winter making it useful as an ornamental as well as for fruit. Spring brings oval, 2–4 inch leaves that are dark green above, and whitish beneath, turning yellow in autumn. White or pale pink, 2-inch flowers are followed by round to pear-shaped, deliciously fragrant yellow fruits. While a bit tart for fresh eating, these fruits make tasty jams, jellies and candies, and are often combined with other fruits in pies.

**OPTIMUM CONDITIONS FOR GROWTH:** Quince does best in areas with full sun. It can grow well in most soils but requires good drainage. It tolerates wet feet better than most other deciduous fruit trees. Quince require moderate to regular water, with deep watering every 2–3 weeks during the growing season. They need little winter chill to be productive and are self-pollinating. Prune at bloom time to shape or limit growth. Quince has many of the same pest problems as apples and pears, including a susceptibility to fireblight, especially if it is over-fertilized. Plant bare root in late winter or early spring. Plants bear fruit 2 or 3 years after planting. ‘Orange’, ‘Pineapple’ and Smyrna’ are popular varieties. Note: *Chenomeles* is the botanical name for flowering quince, the thorny deciduous shrub grown primarily for its early spring flowers.

Shrub: *Forsythia* spp., Family: *Oleaceae* (Olive)

**PLANT IDENTIFICATION:** Native to China and Korea, Forsythia are fountain-shaped deciduous shrubs hugely popular for their profusion of bright yellow flowers in spring. Some species can be trained as a vine. Typically, plants are 7 feet high by 5 feet wide. During the growing season, shrubs produce rounded medium green leaves with pointed tips. In late winter through early spring, showy, yellow flowers (up to 1½ inch), form on bare branches. Budded branches can be brought indoors to bloom in a vase. *Forsythia* x *intermedia* hybrids, such as ‘Lynwood Gold’ and ‘Spectabilis,’ are known for their large, rich deep yellow flowers.

**OPTIMUM CONDITIONS FOR GROWTH:** Forsythia are planted in borders or can be used as a screen or ground cover. Plants do best in full sun with moderate to regular amounts of water. Flowers may be killed by frost in very cold climates. Forsythia tolerate most soil types. Remove old branches and dead wood.

Perennial: *Kniphofia* (Red-Hot Poker, Torch Lily), Family: *Asphodelaceae*

**PLANT IDENTIFICATION:** These exotic looking perennials, mostly from South Africa, are known for their distinctive flowering stems that look like glowing pokers or torches. Each cylindrical or flame-shaped inflorescence is made up of tubular flowers packed into tight, over-lapping, nodding clusters. They rise above dense clumps of grass-like, finely toothed foliage. Many hybrids are available ranging in size from 1½ feet to 6 feet and an ever-growing range of colors, including orange, peach, yellow, and near white. Most hybrids bloom in summer, with the notable exception of ‘Christmas Cheer’ (*Kniphofia* rooperi). This UC Davis All-Star plant blooms in winter, with brilliant orange buds that open to deep-gold tubular flowers. Flowers of all species attract hummingbirds.

**OPTIMUM CONDITIONS FOR GROWTH:** *Kniphofia* prefers full sun to part shade with moderate to regular water. Well-drained soil is essential. Remove old flower stalks. Crowns increase slowly, forming clumps 2-3 feet or wider at base. Leave these in place for several years to get the best show. Protect from slugs and snails.

**Sources:**
- UC Integrated Pest Management (IPM) Website
- UC Davis Arboretum All-Star Plants Website
- Sunset Western Garden Book
- Sunset Western Garden Book of Edibles
California’s seemingly endless drought has not been kind to local gardeners. As if water restrictions and golden lawns weren’t bad enough, many gardeners had to bid a fond farewell to a favorite tree or two that just didn’t get enough water. But leave it to local gardeners to find beauty in a dead tree or stump.

Before discussing artful ways to enhance that dead tree or stump in your yard or garden, a word of caution. A dead tree that is not a danger to people or a structure on your property can be left where it is. It’s important to note, however, that limbs from dead trees may eventually fall onto your house, car, a person or neighbor’s house, so take that into consideration when deciding whether to keep or remove a dead tree. Any trees that may fall on your home (or a neighbor’s home) should be removed. And never allow dead wood to rest against your home.

That being said, trees can go on “living” even after they are dead. As is, dead trees can still provide vital habitat for all kinds of species, according to the National Wildlife Federation. It may look like a dead tree to you but birds, bugs and other creatures will make it a home because it will offer protective cover and a place for raising offspring. Woodpeckers and songbirds may perch on dead trees, and overwintering butterflies will also take refuge in the crevices and cracks.

There is even a name for dead trees that are left upright to decompose naturally. They are known as “snags.”

Dead trees and stumps can add beauty and even whimsy to a home garden. Use your imagination to create your own yard art from that dead tree in your yard or garden. Here are a few suggestions:

**Tree trunks as planters:** Plant right inside the rotted out stumps or hollow them out to hold pots that you can change throughout the season.

**Decorate it:** If it’s safe to keep the tree where it is, turn it into yard art by painting the entire tree with one or many colors or hang colored lights or other decorations from it.

**Feed the birds on a stump:** A trunk cross-section can be used as a seed platform for ground-feeding birds like Mourning Doves. The platform prevents spilled seeds from germinating in your garden bed or lawn. Be sure to drill holes so rainwater can drain off.

Hanging bird feeder: Create a hanging feeder with a small branch. Put a nail through it and hang it from a branch. Drill three holes around the outside edge and attach short lengths of chain to hang it with. You can even nail apples or oranges on a branch for the fruit-loving birds to eat.

**Birdbath:** Hollow a shallow indentation into a stump or a big section of trunk with a hammer and chisel. Let it dry then seal with a layer of concrete. Allow it to cure before filling with water as a birdbath.

**Pathways:** Use cut sections of the trunk to create a garden pathway.

**Build a seat:** Leave the tree stump where it is and carve it into a seat.

**Make a funny face:** Make a whimsical “face” with a cross section of trunk, adding small pieces of other trees or yard material as facial features.

**Create art:** Carve the stump or a large section of the trunk into a sculpture, releasing the “art” inside the wood.

**Paint it:** Paint the entire tree to match the seasons or to suit your fancy.

These are just a few suggestions. Just because a tree dies doesn’t mean we have to discard it. Use your creativity and think of ways that you can give your tree a new life in your home and garden.
In the last issue of Garden Notes, we learned about Trichogramma wasps, one of three major types of beneficial wasps. Let’s look at another kind today: the Braconid wasps.

Like the Trichogramma wasps, Braconids belong to the insect order Hymenoptera. They are the most common and important of the beneficial wasps; approximately 17,000 have been named, and several tens of thousands are believed to exist worldwide. Adult Braconid wasps are extremely small—from 1/16 to 1/4 inch long—so small that they are easily overlooked. They can vary in color from brown to red or yellow, and they typically have narrow bodies, long antennae, and long ovipositors (the structure used to lay eggs). Adults feed on the nectar of many kinds of small-flowering plants and herbs, including yarrow, sweet alyssum, dill, and parsley.

Female Braconid wasps generally lay their microscopic eggs inside the larvae of other insects, although some wasps favor soft-bodied adult insects. Many are specialist wasps with preferred hosts, which can include caterpillars, beetle grubs, and aphids. Some Braconid wasps also inject special viruses into their victims; these act to protect the wasp eggs and larvae by suppressing the immune systems of their hosts. Despite these fearsome tactics, Braconid wasps are stingless and do not harm people.

When caterpillars and insects are parasitized by Brachonid wasps, they face a rather gruesome fate. After the wasp eggs hatch, the tiny white- to cream-colored larvae dine on the juicy insides of their host, growing larger and larger until they’re ready to pupate. At that time, the mature larvae emerge to spin their white cocoons. The cocoons remain attached to the exterior of the host while the wasps change from pupal to adult form, a process that takes roughly four to eight days. After the adult wasps emerge, the caterpillar or host insect generally dies, leaving behind a dried and empty shell called a “mummy.” Since Braconid wasps usually kill their hosts, they’re parasitoids, not parasites (which live on their hosts without killing them).

Braconid wasps help control many insects that are harmful in agricultural or garden settings. One of the most common species, Apanteles congregata, lays its eggs inside tomato and tobacco hornworms. Other Braconid wasps parasitize the larvae of significant horticultural pests such as leafrollers, webworms, cutworms, tent caterpillars, cabbage worms, and the larvae of gypsy moths, codling moths, cucumber beetles, and bark beetles. Braconid wasps locate their prey using their acute sense of smell, and amazingly, some species are even being examined for use as scientific sensory tools!

There are many ways in which you can help to protect these valuable Braconid wasps. If you find a caterpillar covered with telltale cocoons, allow it to remain in your garden so that a new generation of beneficial wasps can emerge and carry on their valuable work. Minimize or eliminate the use of pesticides in your landscape (especially broad-spectrum pesticides) that kill “good bugs” along with the bad. Use herbs and plants in your garden that provide food for adult beneficial wasps. Finally, spread the word that most wasps are fascinating, helpful, and harmless partners for a healthy garden!

For more information:

Garden Allies: Braconid Wasps (Pacific Horticulture)
Drug-Sniffing Wasps May Sting Crooks (National Geographic News)

For more images, see:
Univ. of Minnesota Photo
Cocoons of the Braconid wasp Apanteles (formerly Cotesia) congregata on a tomato hornworm
www.vegedge.umn.edu/pest-profiles/pests/tomato-hornworm

Adult female wasp parasitizing the larva of a grape leafhopper:

Parasitic wasp eggs on hornworm:
www.harvesttotable.com/2012/06/parasitic-wasps-beneficial-insects/
A TREASURE TROVE OF INFO

It’s that time of the year when the 2016 garden catalogs have arrived with beautiful pictures and descriptions to entice us to buy lots of seeds and plants for the coming planting season. Many catalogs are available online, but I must admit I prefer to peruse the hard copy, especially on a cold January day while enjoying a hot cup of tea.

I really like catalogs that give extensive descriptions of the seeds they sell. A good catalog will give cultural information on how and when to sow, soil temperature required for germination, best temperature for setting out in the garden, days to maturity, common pests, disease resistance, how many seeds are in a package, and seed life. Some companies do taste tests and will tell you about the year’s winners and why. Some offer pelleted seed or seed tape that makes sowing easier. Some also have a good selection of garden tools, and some companies specialize in different species and will have many varieties to choose from. I’ve learned about desiccant packets to keep your seeds moisture free, and the difference between peat pots and cow pots!

Johnny’s Seeds gives complete growing instructions on the seeds they sell. They have about 60 different varieties of lettuce seed. And they are employee owned company.

From Irish Eyes Garden Seeds, I’ve learned how to make a Potato growing box where I can grow my Potatoes in a 4-foot box with removable sides that makes for easy growing and harvesting.

Territorial Seed Company has exotics fruit like Sea Berry, a highly nutritious fruit popular in Europe and Asia, and Honey Berry, a blue berry-like fruit that ripens very early in the season. They specialize in lettuce seeds and have about 60 varieties.

Kitazawa Seed sells mostly Asian vegetable seeds. They give a good description of the plants and how to use them, plus some recipes for their exotic vegetables. And if you would like to grow your own Luffa sponge, they have seeds for that too.

Annie of Annie’s Annuals shows her profuse love of flowers with her provocative descriptions and seed sections like Uplifting Verticals, Bountiful Bloomers, and Rare Beyond Compare. Even though they are annuals, many naturalize and reseed themselves year after year.

Bountiful Gardens is new to me this year and I have not yet purchased from them, but from their catalog, I see their inference is on sustainability and open-pollinated seeds. They also sell many grain seeds like Ancient wheats including Emmer, Kamut, and Farro. They are also a source for mushroom spawns like Reishi, Maitake, and Shiitake. In addition, they have a good selection of books and other publications.

Seed Saver Exchange is a nonprofit that grows and sells seeds of heirloom fruits and vegetables. Their mission is “To conserve and promote America’s culturally diverse but endangered food crop heritage for future generations by collecting, growing and sharing heirloom seeds and plants.” Seed Savers also has an interesting newsletter and Webinars.

I like Pinetree Garden Seeds because they specialize in small packets which keep their prices low.

If you love tomatoes don’t miss Totally Tomatoes with over 300 varieties of tomatoes plus other warm weather vegetables. Tomato Growers Supply Company is another catalog with over 400 tomato varieties, plus if you want to graft your own tomato plants, they have seed for root stock plus grafting clips.

Baker Creek Heirloom Seeds has the seed of open-pollinated heirloom fruit and vegetables from all over the world. They also own the “Seed Bank,” a seed and supply store in Petaluma, which is situated in an old bank building hence the name...a fun place to visit!

Peaceful Valley Farm & Garden Supply sells organic seeds and plants but also has a large selection of tools, equipment, fertilizer, irrigations supplies, and cheese making equipment. Their website features many short YouTube videos to make your gardening easier. Plus they are a California company, so it’s nice to support our own.

That rounds out most of my favorites catalogs. Hope I have sparked your interest in trying a new one or two. And for those that want to save paper, I’m including their websites on page 8.
The Lodi wine industry’s efforts toward producing ever-more innovative and quality wine grapes and wines paid off recently when they received the coveted “2015 Wine Region of the Year” Award, by the editors of Wine Enthusiast Magazine.

The Lodi American Viticultural Area (AVA), approved by the Federal government in 1986, with seven smaller AVAs added in 2005, has plenty to boast about. Starting with just 8 wineries in the early 1990s, the Lodi Region now has over 80 wineries today. Many of them specialize in handcrafted, boutique wines—a far cry from the old days of primarily producing grapes for use in blends made by out-of-town wineries. The region is now home to 100,000 wine-growing acres, farmed by over 750 growers. The renowned old vine Zinfandels, along with new, up-and-coming varietals, have grabbed international attention. The region’s Mediterranean climate allows the region to grow over 100 different grape varietals—more than any other single region in California. The region produces over 32% of California’s premium Zinfandel—some coming from “old vines” dating as far back as the 1880s. Many other varietals, like Petite Sirah and Syrah are gaining popularity, as well as European wines, like Albariño, Tempranillo and Sangiovese. These varietals do well in the Lodi AVA because they originate from similar climatic regions.

Along with the advancement in wine quality, Lodi further set itself apart from other regions in its establishment of the Lodi Rules for Sustainable Winegrowing in 2005. It is California’s first third-party certified sustainable winegrowing program serving as a model for other winegrowing regions. Accredited by Protected Harvest™, a leading nonprofit organization comprised of scientists, academics, and environmental advocates that certify farmers’ use of stringent sustainable farming standards, it encourages winegrowers to adopt best practices that promote integrated pest management, enhanced biodiversity, water and air quality, soil health, and employee and community well-being. Growers recognize that what is good for the environment is also good for their industry. The program encompasses over 100 sustainable practices, with growers needing to score at least 70% to achieve certification. For a wine to carry the Lodi Rules™ seal, it must consist of at least 85% Lodi-certified grapes. There are currently 25 wineries that proudly bear the seal.

With over 20% of Lodi’s total wine grape acreage now certified sustainable, it’s clear that growers are increasingly committed to earth-friendly practices. Evidence of this commitment can be seen in the number of vineyards using cover crops, drip irrigation, owl boxes, and solar panels.

About the Lodi Winegrape Commission: The Commission conducts programs in marketing, grower education, and viticultural research. The Commission was started in 1991 and is funded annually by more than 750 winegrape growers. As part of its regional marketing campaign, the Commission organizes and hosts two large-scale events each year - Lodi Wine & Chocolate Weekend held in February, and Zinfest which takes place in May. Funded by the Lodi Winegrape Commission, The Lodi Wine & Visitor Center is a good place to start if you’re interested in learning more about the region’s grapes and wine. The tasting room is staffed with well trained personnel that will guide you through a tasting of the region’s wines from nearly 80 local vintners. For $7, visitors choose 4 of the 7 wines featured that week for tasting. Wines from Napa and Sonoma wineries may be offered as long as the wine is comprised of at least 85% Lodi fruit and the label recognizes that the wine is Lodi-appellated. The beauty of visiting this tasting room or any other throughout the Lodi region is the chance to experience Lodi wines in a comfortable, relaxed setting. You’re supporting a wine industry steeped in tradition and history that is not only making great wines but is also leading the way in sustainable farming practices.

Reference: Wine Enthusiast Magazine article
Garden for Life - Adaptive Gardening

Continued from page 1

because of labor requirements. Soon you will be able to visualize your redesigned garden.

Sustainability is a key issue. Consider some of the following ideas: eliminate large areas of lawn, plant California natives, group plants with like needs, remove high maintenance plants and replace them with low maintenance plants, use colorful perennials in place of annuals. Landscaping software can help you project how your garden will grow in the future. If the right plant is in the right place, gardening will be much easier. And in addition, gardens become more efficient and enjoyable.

Containers are an option to consider. They are mobile, colorful, and easy to change seasonally. Focus on good plant companions. Remember to use the simple formula for success of “thrillers, spillers, and fillers.” Select containers that are lightweight and easy to move. Use casters for heavy pots and lighten pots by using Styrofoam packing peanuts as filler material beneath the soil. Self-watering pots are also available.

Kitchen and herb gardens are wonderful and attractive additions to consider. Start small with a variety of herbs, vegetables, greens, and lettuces that can be harvested and enjoyed all year. Another option is to garden vertically and use adaptable garden structures like raised beds or window boxes.

Safety is an essential factor. Simplify by cleaning up clutter. Rethink tools and buy adaptive tools that make gardening tasks more comfortable. Avoid highly repetitive tasks. Get rid of ladders and step stools that may cause falls. Seek help as needed for large projects. Accept small garden imperfections.

Take care of yourself. Plan activities when temperatures are comfortable. Take frequent breaks, vary activities, and listen to your body. Wear appropriate clothing including sun hats, garden shoes, gloves, and kneepads. Use a sunscreen. Drink plenty of fluids to stay hydrated. Consider an elastic back brace for comfort. Keep cold packs in the freezer for muscle pain and a comfortable chair close by to relax and reflect on your accomplishments.

Labor saving techniques are easy to implement. Water sources must be close by. Replace heavy hoses with lightweight ones. Drip irrigation with timers or soaker hoses work well. Use nozzles that have an adjustable thumb grip that is easier on hands. Be proactive about weed control by putting down a layer of newspaper and covering it with mulch or use commercial weed mat barriers. Compost and mulch are also an effective strategy for weed control.

Rethink tool selections for adaptive comfort. Newer tools provide increased support and functionality through their comfortable ergonomic design and neutral body alignment. They are made from light and durable materials that lessen joint stress and take less energy. Lightweight and balanced no-slip tools provide a better grip. They have a depression or ridge for the thumb to rest against and are curved to fit the contour of your hand. Hand tools should be large enough that the thumb slightly overlaps fingers and small enough so they can be held comfortably. A two-handed grip tool helps avoid back strain. A neutral wrist position consists of a straight wrist with the hand rotated 30-60°. Fingers should be curled and the thumb straight.

Try tools before you buy them and buy the best tools you can afford for durability and comfort. Must-haves include ergonomic or pistol grip/sure grip tools such as trowels, shears, light weight carry-all, bucket organizer, telescopic rakes, garden wagon or cart, watering can, rolling/reversible gardener seat, kneeling bench, and sharpening tools. Mid- and long-reach tools eliminate the need to bend over or kneel down and provide better leverage. Remember, proper garden tools support your success and comfort.

Adaptive Gardening for seniors prevents injury by respecting pain that is the body’s sign to stop immediately, relax, and ask for help if needed. Avoid repetitive movements that lead to discomfort, inflammation and joint pain. Use your strongest and largest joints and muscles for gardening tasks. For example, use legs and not your back when lifting or spading. Use your forearms and elbows and not wrists or fingers for strenuous activities. Practice good posture to avoid pain, fatigue and strains. Avoid placing all of your weight on one leg or arm while you work. Bend, stretch, and move often to avoid stiffness. Hands and wrists are susceptible to tendinitis and carpal tunnel syndrome. Repeated grip and release movements like continued use of clippers or pruners are likely to result in wrist and hand discomfort. Use extra care when handling heavy objects and consider using dollies or wagons. Protect shoulders and elbows from excessive reaching and twisting. Position your body so that your work surface is low enough that you do not need to raise your hands above your shoulders. Stretch before you start and develop your own stretching exercise routines. Consider Yoga or Tai Chi to help limber up. Limit garden sessions from 60-90 minutes and take breaks as needed. Plan gardening sessions during the comfortable parts of the day.

Keep a garden journal of successes and things you want to eliminate in the future. Share your love of gardening with friends and neighbors. Plan celebrations and make your garden a special place for all to enjoy! We never need to give up our passion.
and joy for gardening, we just need to learn how to Garden Smarter!

Just when you think you have the best practices for your home gardening figured out, up comes another challenge. This time, the almost unpronounceable term neonicotinoids looms as you read yet another article about garden pest management. We can help you with the pronunciation (nee-oh-NIK-uh-tin-oyds), but you'll have to decide for yourself whether this class of insecticide is something you and the critters that frequent your garden can live with.

What are they, and how do they work?

For centuries, gardeners and farmers used home-made mixtures of tobacco and water as a natural pesticide for sap-sucking and wood-boring insects. The tobacco concoction was difficult (and somewhat dangerous) to use on a large scale, and new pesticides (organophosphates and carbamates, among others) took their place. In the mid-90s, as targeted insects became resistant to these new compounds, chemists looked for a man-made alternative with properties similar to the tobacco-water mixture. They synthesized a class of insecticides called neonicotinoids, or neonics. These systemic compounds are transported throughout the vascular system to every part of a plant—roots, stems, leaves, flowers, fruit, pollen, and nectar. They work by affecting the nervous system of an insect, leading to paralysis and death.

The effectiveness of neonicotinoids has made them the world's most widely used class of agricultural insecticide. Neonics are usually applied as seed coatings, bark injections, or as a soil drench. (More about soil drenches here.) These application strategies mean the effects of the chemicals are focused on the targeted insects feeding on the plants, making the insecticide less environmentally intrusive than some alternatives.

This seemingly ideal class of insecticides does pose problems, however. Research has shown neonicotinoids are potentially toxic to pollinators and other non-targeted insects feeding on the pollen or nectar of treated plants. (Sub-lethal doses have been found to affect the reproduction, worker survival, food consumption, and foraging instincts of honeybees. The buzz about whether this has contributed to bee Colony Collapse Disorder is ongoing.) The high water-solubility of neonics can lead to runoff into groundwater and rivers where aquatic invertebrates are impacted. Insectivorous birds in some farmland areas have seen a decline in their numbers associated with an increase in the use of neonic pesticides. Resistance to neonicotinoids has even been documented in a number of common garden pests (e.g., green peach aphid and whitefly).

What does this mean for the home gardener?

Neonicotinoid products for the home garden are ubiquitous. They offer the same benefits and potential drawbacks as the neonics used by farmers. Closely following the directions for these products, and only using them if absolutely necessary, will help protect the pollinators that visit your garden.

For an organic gardener, though, there are many safe and effective alternatives to neonicotinoid pesticides. Encouraging beneficial insects through careful plant selection is one. Using horticultural soaps and oils is another. Be aware, too, that nursery plants might be treated with neonicotinoids. Some nurseries are aware of the potential harm caused by neonics, and have begun to label plants that have been treated. If you don't see a label, ask a nursery attendant. And when you purchase seeds for your garden, use a source that offers organic, non-neonic treated products.

Resources: Neonicotinoids

Randy Oliver, ScientificBekeeping.com

Harvard Study

Xerces Society: Are Neonicotinoids Killing Bees?

USGS study of neonics in US waterways
Many of us spend the winter months researching and planning for our spring and summer gardens. Having a good understanding of plant life cycles and associated terminology will help us make more informed choices when we visit our local nurseries.

**Perennial**: A non-woody plant that lives for more than 2 years and sometimes for many years. Perennials like daylilies, lavenders, and coneflowers provide seasonal color year after year with minimal fuss.

**Biennial**: Happening every other year. A plant that germinates and produces foliage and roots during its first growing season; then it blooms, produces seed, and dies during its second growing season.

**Biannual**: Often confused with “biennial,” but differs in that it happens twice a year. Some species of azaleas and hydrangeas are examples of shrubs bred to flower a second time.

**Annual**: Plant that completes its life cycle in one year or less. Annuals are typically used to add inexpensive, seasonal color in the garden. Popular choices are petunias, zinnias, and marigolds.

**Shrub**: A woody plant smaller than a tree, usually having multiple permanent stems branching from or near the ground. Shrubs usually make up the majority of a landscape and are considered the backbone of a garden. Popular shrubs in bloom at this time of year include Camellia, Winter Daphne, and Ceanothus.

**Ornamental Grass**: Any grass-like plants that are grown with perennials, shrubs, and trees in the landscape. They include “true grasses” of the botanical family Poaceae, angular-stemmed sedges or Carex species, round-stemmed reeds and rushes, New Zealand flax (Phormium), and grass-like perennials such as Blue-Eyed grass. Unlike most turf grasses, ornamental grasses often grow in clumps or bunches, resulting in the common name, bunchgrass. They bring striking linear form, texture, color, motion, and sound to the garden throughout the year.

**Groundcover**: Low-growing plants that can spread to cover a wide area. These are typically used to stop weeds from growing and to protect against erosion and drought. Thyme, Lantana, Rosemary, and Junipers are just a few examples. Water-thrifty groundcovers like these may be an excellent choice to replace all or part of a lawn.

**Sources:**

Sunset Western Garden Book, 2012

Environmental Horticulture Notes Sacramento County – Ornamental Grass
Winter has a lot going for it—hot chocolate with marshmallows, snuggling under the blankets and hopefully puddles of rain! You might not be including seasonal produce on your “best of winter” list. I offer you a piece of friendly advice; don’t overlook the advantages of eating locally grown fruits and vegetables that are packed with vitamins and nutrients. Be inspired!

### Citrus Winter Salad

**Ingredients**

- 4 navel oranges, peeled and separated into segments
- 4 blood oranges, peeled and separated into segments
- 1 cup fresh squeezed orange juice
- 3 tablespoons honey
- 1 1-inch piece ginger, thinly sliced
- 1 green apple, thinly sliced
- 1 red apple, thinly sliced

Mix the freshly squeezed orange juice, honey and ginger to a simmer in a small saucepan over medium heat. Cook until syrupy, 8 to 10 minutes. Let cool completely; discard the ginger. Toss the syrup with the oranges and apples.

**Serves:** 4-6

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### Cauliflower Tator Tots

**Ingredients**

- 1 medium head cauliflower, cut in pieces and cooked
- 2 tablespoons butter
- 2 tablespoons heavy whipping cream
- 1/3 cup grated sharp cheddar cheese
- 1 egg white
- 1 cup panko bread crumbs
- dash of sea salt
- dash of pepper

Pulse the cauliflower with the butter and cream in a food processor to a coarse consistency. Add the cheese and season with salt and pepper. Whip the egg white to a stiff peak in a bowl, and then fold into the cauliflower mixture to lighten it up. For best results, chill for about 30 minutes so they hold their shape.

Preheat the oven to 375 °. Roll a spoonful of the mixture in the breadcrumbs, shape into tater tots using your hands and put on a baking sheet lined with parchment paper. Bake until slightly browned, about 15 minutes. Serve with your favorite dipping sauce.

**Serves:** 4

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### Roasted Carrots and Mushrooms

**Ingredients**

- 1 ½ pounds rainbow colored carrots, sliced
- 10 ounces cremini mushrooms, halved
- ¼ cup olive oil
- 2 garlic cloves, smashed
- 3 sprigs thyme
- ¾ teaspoon salt
- ¾ teaspoon caraway seeds
- ¼ teaspoon paprika
- 3 tablespoons lemon juice
- Parsley (optional)

Toss first eight ingredients. Roast at 450° until tender, stirring once, for 30 minutes. Drizzle with lemon juice, parsley and more paprika.

**Serves:** 4
Azaleas in bloom are arriving now. Your favorite garden center should have the best selection of these shade-loving plants early this month.

Evergreen vines that 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). All of these are easy to grow, reaching 15 to 20 feet.

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 report 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.

Plant –
Beets, carrots, leeks, potatoes, and radishes can be planted from seed now. Wait until after frost threatens and the soil is workable so 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 your 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-emergents 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. As long as woody plants exhibit normal leaf size and color and desired growth, nutrients currently in your soil are probably adequate. For more information on recognizing when your landscape trees and shrubs might need nutrients, click here.

Information gathered from:
www.ucanr.org  www.ipm.ucdavis.edu
www.sunset.com/garden  www.farmerfred.com
Coming Events

Corinne Bachle, Master Gardener

**Group Advance ticket: $16.00**

Friday – Sunday, March 18-20

**San Joaquin County Home and Garden Show**

Friday: Noon-6pm 
Saturday & Sunday: 10am-5pm

Janssen-Lagorio Pavilion (UOP campus, west entrance)

1124 Larry Heller Drive, Stockton CA 95204

The San Joaquin County Home & Garden Show offers homeowners and future homeowners the opportunity to visit several vendors in one place at one time. Guests can visit vendors and get tips and new ideas to help improve and beautify their homes and yards. Our Stockton show is jam-packed with fun features. The Food Truck Wars will give show goers a chance to try several gourmet foods. There will also be fun activities for the kids! $3 General Admission. Senior Citizens $2 on Friday. Free tickets on our Facebook page.

Saturday, March 19, 10:30 - noon

**San Joaquin Master Gardener Workshop: Seasonal Chores and Joys**

Manteca Library, 320 W. Center Street, Manteca

JANUARY

Friday – Sunday, January 29-31

**Northern California Home and Landscape Expo**

January 29 - 31, 2016

Friday: 12pm - 7pm
Saturday: 10am - 6pm
Sunday: 10am - 6pm

Over 1,000 exhibit booths and 600 different companies will fill all of the buildings at Cal Expo. New this year is the California Pets Building. UC Master Gardeners and landscape experts will be available to answer questions, solve gardening problems and share ideas. This year’s feature will provide you with information on how to grow beautiful gardens and landscapes with water efficient plants.

Admission: $7 adults Children 12 & under free

Friday only special: 60 years & older just $2

Cal Expo Fairgrounds, 1600 Exposition Blvd., Sacramento, CA 95815

Parking: $10 on-site parking paid directly to Cal Expo. Alternative free parking is available on adjacent streets or empty parking lots at Ethan & Arden Way.

FEBRUARY

Saturday, February 13, 10:00-11:30 am

**San Joaquin Master Gardener Workshop: Seed Starting and Other Methods of Propagation**

City of Stockton Delta Water Supply Project, 11373 N. Lower Sacramento Road, Lodi

Class size is limited. Please RSVP by the Wednesday before class at (209) 953-6100.

Saturday, February 13, 10:00 am – 3:30 pm

**Inspiration by Invitation**

Alden Lane Nursery

981 Alden Lane - Livermore, CA 94550

This event features a full day of Seminars for Gardening Enthusiasts. Reserve your tickets soon with the Alden Lane Cashiers (925) 447-0280.

Classes include:

- It would be better with Vampires
- Strive to Thrive- Plant Diagnostics and Solutions with Annie Joseph
- Tool Man Dan-Garden Tools and Much More with Dan Lassanske
- Roots and Shoots – Plant Propagation and

More with Kathy Echols

Filoli Estate Virtual Tour with Donna Mollenhauer

Attracting Wildlife to your Garden with Kate Frey

The Low Water Edible Garden with author and designer Stefani Bittner

You Can Garden for Life! With Toni Gattone

$45.00 per ticket (includes lunch)

Saturday, February 20, 10:30-noon

**San Joaquin Master Gardener Workshop: Seed Starting and Other Methods of Propagation**

Manteca Library, 320 W. Center Street, Manteca

MARCH

Saturday, March 12, 10:00-11:30 am

**San Joaquin Master Gardener Workshop: Seasonal Chores and Joys**

City of Stockton Delta Water Supply Project, 11373 N. Lower Sacramento Road, Lodi

Class size is limited. Please RSVP by the Wednesday before class at (209) 953-6100.

Wednesday – Sunday, March 16-20

**San Francisco Flower & Garden Show**

Wednesday – Saturday, 10am-7pm

Sunday, 10am-6pm

San Mateo Event Center

1346 Saratoga Drive, San Mateo, CA

The San Francisco Flower and Garden Show is a public exhibition held each spring at the San Mateo Event Center just south of the San Francisco airport (SFO.) As one of the top exhibitions of its kind in the United States, the Show covers more than 5-acres; includes full-sized designer showcase gardens; presents ways to grow, prepare, preserve your own fresh, organic food; showcases hundreds of flowers and floral designs; and has tens of thousands of wonderful plant and garden-related products to buy. A full range of free seminars, exhibits and demonstrations provide continuous opportunities to learn about landscaping, gardening, growing and preparing garden-fresh food, designing with flowers, and creating fantastic garden spaces in your home, school, and community. There is something for everyone.

Early Bird ticket: $17.50

Regular Show ticket: $22.00

All Show Pass: $40.00

Garden Catalog Websites continued from page 8

- [www.johnnyseeds.com](http://www.johnnyseeds.com)
- [www.irisheyesgardenseeds.com](http://www.irisheyesgardenseeds.com)
- [www.territorialseed.com](http://www.territorialseed.com)
- [www.kitazawaseed.com](http://www.kitazawaseed.com)
- [www.anneisannuals.com](http://www.anneisannuals.com)
- [www.bountifulgardens.org](http://www.bountifulgardens.org)
- [www.seedsavers.org](http://www.seedsavers.org)
- [www.supersseeds.com](http://www.supersseeds.com)
- [www.totallytomato.com](http://www.totallytomato.com)
- [www.tomatogrowers.com](http://www.tomatogrowers.com)
- [www.rarereadms.com](http://www.rarereadms.com)
- [www.groworganic.com](http://www.groworganic.com)