



University of California

Agriculture and Natural Resources | UCCE Master Gardener Program

## In this Issue

All This Rain	1/2
Caring for Avocados	3
Backyard Beekeeping	4/5
Five Tips in the Garden	6
Out and About With MGs	7
Spring Garden Events	8/9
Calendar	10



This newsletter is provided by the UCCE Master Gardener Program of Orange County. We are UC trained Master Gardener volunteers ready to answer your gardening questions. Master Gardeners extend research-based information to the public about home horticulture and pest management through classes, hotlines, community events and demonstration gardens. Whether you want to know what to plant when, how to manage a pest, or how to become a master gardener, you can find it by visiting our website at

<http://mgorange.ucanr.edu>

## ALL THIS RAIN

By Jennifer Pelham, Environmental Horticulture Advisor,  
UCCE Orange & San Diego Counties

“Rain, rain, go away. Come again another day.” may have been your thought this winter as your drought tolerant landscape was doused with more rain than it could ever imagine and also more than it could ever need. It’s also a phrase you probably never wished for before in Southern California – at least during the past 5-6 years.

Adequate moisture is critical to the plants in our landscapes, especially during establishment when they are newly planted and during hot weather. However, too much rain can bring problems.

When the soil in the landscape becomes inundated with too much water, plants can literally drown. A healthy, efficiently watered soil contains pore spaces. These pore spaces hold air that is required for the plant roots to breathe. When there is too much rain (or irrigation) in the soil, these pores will fill with water and if the soil remains waterlogged for an extended period of time, the plants’ health can suffer.

Plants that receive too much water may experience dieback (dead limbs in the canopy) due to drowning of roots. The leaves of the plant may become yellowish in color from root damage or from diminishing nutrients in the soil. The plant may also have an overall appearance of wilting, similar to what plants look like when they receive not enough water. Some plants may even die from too much water.

If your soils contain more clay than sand, they will drain more slowly and hold onto the water in their pores for a longer period of time. Sandy soils drain more freely. When soils remain wet, fungal organisms living in the soil become active and are more likely to infect your plants with disease. Usually by the time root fungal diseases are noticed, and the infection has spread through the plant, little can be done to help the affected plant.



**Continued from Page 1**

Drought-tolerant plants may suffer the most from waterlogged soils, as they prefer soils to be kept on the drier side, particularly succulent plants. Those homeowners who replaced their lawns and other water loving plants with drought-tolerant plants may now be paying the price for their good deed thanks to Mother Nature. All the rain can have devastating consequences to a heavily planted succulent landscape.

Trees and large shrubs are also being affected with all the rain. During the drought, many of the trees experienced root loss. Their smaller feeder roots and anchor roots died from lack of water. When the soils become waterlogged, the compromised root system of these large, heavy plants couldn't hang on any longer and many plants fell. It's much harder for tree roots to hold on in wet soils than dry soils.

Too much rain may kill some plants, but will make other plant thrive - and when I say plants, I mean water-loving weeds. If you look around your landscape and neighborhood, you probably see an abundance of weeds growing. Many weeds love water and will even flourish in waterlogged soils.

Weeds compete with our desirable plants for space, sunlight, nutrients, and water. Removal of weeds in the landscape is essential for the health of your desirable plants. Now is the time to remove weeds. They are much easier to remove when they are young and the soil is moist. Do not wait until they become large and produce flowers and seeds. One weed can produce thousands of weed seeds that will just create a bigger problem for you in the future. Also, keep planting beds mulched with 2-3 inches of mulch to suppress weeds from growing.

Mushrooms are also connected to too much rain. Do you see mushrooms popping up in your lawn or in your mulch? These

mushrooms are saprophytes. This means that they obtain their nutrition from metabolizing non-living organic matter, such as mulch or the decaying matter living under your lawn. The majority of the mushrooms you see after an abundance of rain are saprophytes and will not harm any of your living plants, as they do not "eat" living plant material. Saprophytic mushrooms can be removed by hand, kicked over with your foot, hoed, dug out or left alone.

As the rains subside, your soils will dry out and hopefully so will your plants. Right now, keep an eye on your plants to see if you see any signs or symptoms of being waterlogged. Some problems, you may be able to rectify, while others may be too late. Some plants may recover, while others may be lost. If you have a specific question about your landscape and plants, please contact the UC Master Gardeners at [hotline@uccemg.com](mailto:hotline@uccemg.com).



*The love of gardening is a seed once sown  
that never dies - Gertrude Jekyll*

## CARING FOR AVOCADOS, PART 2

Last fall we provided information on planting, site selection, training and pruning, and watering of avocado trees. We continue in this issue with more advice for caring for avocado trees.

### Fertilizing avocados

Most mature avocado trees require regular fertilization with nitrogen. Typically, most other nutrients are available in sufficient amounts in the soil. Nitrogen should be applied in fall or winter. Dwarf plants or trees in containers with restricted root space may require less fertilizer.

Avocados occasionally suffer from deficiencies of micronutrients such as zinc or iron. These deficiencies can be corrected by a foliar application of a liquid chelated micronutrient solution as the new growth emerges in the spring. You can also apply micronutrients in the sulfated form, such as zinc sulfate or iron sulfate, to the soil.

### Sanitation

Sanitation is a necessary management tool in all home orchards because of the long life of trees. Perennial weeds, nematodes, and certain disease pathogens are difficult to control after trees become established. Prevent the introduction or spread of infestations by removing infected limbs and fruit. Disinfect cutting tools periodically during pruning and at any time that they come into direct contact with diseased tissue. Clean equipment used in other areas to avoid introducing pathogens, nematodes, or weeds.

### Harvesting and storing avocados

Avocados must be harvested when mature, and then softening occurs once the fruit is removed. Maturity is based on the percentage of oil in the fruit. The oil percentage does not change once the fruit has been harvested. To determine if the fruit are ready to harvest, clip one avocado off and see if it softens without shriveling. If it shrivels, the oil content of the fruit is not yet high. Another clue is the skin color of the fruit. The skin of green-fruited varieties turns from a green to yellowish-green, and black fruited varieties turn from green to black. You can also cut the fruit open. When the husk covering the kernel inside the fruit is brown and papery, the fruit is ready to harvest. To harvest, clip the fruit off the tree, leaving just a little bit of stem on the fruit. Avoid pulling the fruit from the stem because it will hasten decay. The fruit keeps best on the tree, so harvest only what you need at any one time. Overripe fruit left on the tree may soften, russet, and crack on the blossom end, providing an entry point for disease organisms or fruit flies to enter.



Harvest when ripe; overripe fruit may result in decay.

### Sanitation Tips

- Remove diseased wood as soon as it becomes evident. Dispose of the prunings immediately to prevent them from becoming a source of new infections.
- Remove stumps, brush piles, and debris. Brush, thinnings, and other debris can harbor diseases as well as vertebrates and insects. Removing stumps may prevent population buildups of wood-boring insect pests.
- Remove diseased shoots, leaves, and fruit on trees and on the ground.
- Remove roosting, nesting, or resting areas that may attract large numbers of crop-destroying birds.
- Keep the tree crown area free of weeds to reduce crown rot infections.
- Spot-treat perennial weeds to prevent their spread.



## BACKYARD BEEKEEPING, PART II

By Karine Pouliquen, Beekeeper, Educator & UCCE Master Gardener

Now that you have decided to keep honey bees, and you have chosen the perfect location to place your hives; there are a few tasks that need to be done before getting honey bees!

1. **Take a Beekeeping Class.** After reading beekeeping books and magazines, taking beekeeping classes make perfect sense. These classes are designed to help you to be well informed before starting to take care of your bees. Taking a beginning beekeeping class before investing time and money in a new hobby is a smart decision. Knowledge of the best beekeeping management practices in your location is essential to having success.
2. **Join Local and State Beekeeping Associations.** Additional guidance and advice are good decisions to expand your learning. Meeting other beekeepers is worthwhile and it is also a good way to find a mentor.
3. **Attend Local Lectures and Seminars.** These sessions are another way to stay informed about honey bees and beekeeping. Keeping bees today has its challenges. Therefore being more informed and equipped with the right knowledge is beneficial for you and your bees!

Next it is time to order your equipment and to set it up. You are now ready for your bees. As a reminder spring is the perfect time to obtain honey bees.

When starting your new adventure, it is recommended to keep two hives: one colony (family) of bees, with one mated queen per hive. The reasoning behind this is simple. Having two colonies allows you to compare one colony's development with the other. In addition, if one colony is in trouble, (for instance, losing a queen), you can take a frame of brood (all stage of development) from the healthy hive and give it to the struggling colony, and a queen will be raised by the workers... saving your colony from death.

But which bees should you get? All honey bees are not equal! You will have to make a decision about what type of honey bees are best for your new hives.

Bees are perennial and will remain in their hive for many years, generation after generation. The few times you will start a new colony is when you begin to keep bees, wish to increase the number of hives, or when there is colony loss due to disease, starvation, or a catastrophic event like a flood, a fire.

Beekeepers usually buy their bees from bee suppliers, called honey bee producers. Some suppliers specialize in specific breeds of honey bees. Their main job is to raise honey bees to sell as packages.

We are lucky in California because there are many bee and queen producers/breeders who are well known and very reputable. If you belong to a beekeepers' club, very often the



club as a group will order the bee packages, and get a better price than if you order as an individual. However, you should always do your "homework", and call many different dealers to compare type of bees, delivery dates, and prices. Packages are ordered in December, January, and February, and are delivered in April and May.

Honey bees like all other living things, vary among themselves in traits like temperament, disease resistance and productivity. Knowing that different genetic stocks (*a combination of traits that identify a certain group of bees*) have distinctive characteristics will help you choose a bee that suits its particular purpose (for instance: bees for pollination, honey production or to produce bees).

Below are the more commonly available honey bee stocks in the USA.

1. **Italians:** *Apis mellifera ligustica* - are the most popular bees in North America - gentle and good honey producers. However, they are prone to robbing and drifting, but they are excellent comb producers. The colony has a large brood, and is quick to grow in the spring. They also go into winter as a big colony, therefore they need large stores of food.
2. **Carniolans:** *Apis mellifera carnica*, have a strong tendency to swarm, therefore I do not suggest starting with this bee as a beginner - maybe later when you are more experienced. They fly in cooler climates so they are better suited for northern climates. They will winter in a small cluster, requiring a smaller amount of food reserve. A trait that I really like about them is that the queen will stop laying eggs in time of dearth, thus conserving food.
3. **Russians:** These are the best bees to overwinter in very harsh cold climates. In addition, they are the best at coping with the devastating parasites called Varroa

Continued from Page 4

mites. If pollen and nectar provisions are in short supply, a smaller population of bees will cluster as winter arrives. I had these bees when I lived in Minnesota and they did very well! They were happy bees.

4. **Buckfast:** Brother Adam of the Buckfast Abbey developed these bees. They are very successful at rearing brood, and are very gentle. They build up rapidly in the spring, and winter as a small cluster. They are similar to the Italians concerning robbing. A good trait: they are resistant to tracheal mites.

Obviously there are more types of honey bees available but those are the most common. When I purchase my honey bees I like to consider a few specific characteristics: gentleness, honey productivity, disease tolerance and winter survival. In my beekeeping classes for new beekeepers, I always recommend starting with Italians first and then trying the Carniolans and Russians. However, in Southern California, I think that the Italians, are more suited for our climate.

Next time, I will be discussing how to install bee packages, feeding, bee behaviors (robbing, drifting), the parasite Varroa mites, testing and controlling.



Italian bees—Photo K. Pouliquen

## VIEW A WEED GALLERY

From UCCE Master Gardeners of San Diego County

Rain jump-starts weeds as well as prized landscape plants. But which weed is which? To ID these pesky plants, turn to the updated Weed Gallery on the UC Davis website.

Photos of leaf shapes start the identification process. A click on any one leads to a line-up of likely suspects that includes photos of seeds and flowers, seedlings and mature plants.

Tutorials on four different categories of weeds also aid in naming the culprit. Once the weed is identified, there are links to downloadable pest notes with tips on how to control and eliminate it.

**Bookmark this site for easy reference: [www.ipm.ucdavis.edu/PMG/weeds\\_intro.html](http://www.ipm.ucdavis.edu/PMG/weeds_intro.html).**





## FIVE QUICK TIPS FOR YOUR SPRING GARDEN

### 1. Feed Shrubs and Perennials

This is a good time to start fertilizing those plants that are at the beginning of their bloom or growth cycles as well as established



plants that only get fed once a year. Be sure to know the basic requirements of the plants because not all have the same

needs as far as nutrients and pH balance are concerned. Not every plant requires fertilizer every year. Shrubs and vines that have a tendency to grow rampantly should not be encouraged and it is usually not a good idea to feed ailing plants unless a nutrient or mineral deficiency is known for sure.

### 2. Try Gourmet Vegetables

One of the benefits of a vegetable garden is planting varieties that may not be available in the grocery store. When planning your spring vegetable garden, take the opportunity to add some varieties of vegetables that you haven't grown. Watermelon radishes, Ichaban eggplant, tomatillos and sweet slice cucumber are just a few ideas. Start with just one 4' row and plant more seeds every three weeks in what is known as progressive planting. This will allow for continuous harvests throughout the season.

### 3. Be on Pest Watch

Keep an eye out for snails and slugs and get them under control early in the season. Rainy days and cool night seem to make them more active. New growth



may attract insects. Get a head start on controlling them with easy organic methods. A shot of water or releasing beneficial insects will result in not having to resort to more drastic measures later in the season to save a plant.

### 4. Include Edible Flowers in Your Garden

Add some edible flowers to your garden for their foliage, blooms, and flavor. You may already grow some -- the edible portions of artichoke, broccoli, and cauliflower plants are all immature flowers. Nasturtium leaves and flowers taste peppery. Squash and borage blossoms have a cucumber-like flavor. Some marigolds taste unpleasantly strong, but others are mild. Be sure, however, to eat only flowers and foliage that haven't been sprayed with a pesticide not registered for food.



### 5. And as Spring Draws to a Close

Cut back dying flowers as spring blooming perennials come to the end of their show. Keeping spent blooms deadheaded will prolong flowering times on some plants, but will keep the garden neat and free from debris that harbors disease and insects on all plants. The only exceptions are plants that you are trying to encourage to reseed.



## OUT AND ABOUT WITH MASTER GARDENERS

### Hotline

UCCE Orange County Master Gardeners provide a Hotline staffed with trained, certified volunteers to answer your gardening questions. They will research your question and supply an answer within days.

During 2016, the Hotline staff answered 854 inquiries. The most frequent category of questions was about weeds, pests and diseases. One of the most popular topics of 2016 was the citrus leaf miner (*Phyllocnistis citrella*). Citrus leaf miner larvae feed by creating



Citrus shoot damage

shallow tunnels, or mines, in young leaves of citrus trees. As its life cycle evolves, the larva emerges from the mine as a prepupa and rolls the edge of the leaf over causing a curling of the leaf. While it is tempting to cut out this damaged growth, the best advice is to leave the leaves alone. Because the Citrus leaf miner moths are attracted to the new flush, avoid pruning live branches more than once a year so that the cycles of flushing are uniform and short.

The second most popular category of questions

centered around trees and shrubs. Many inquiries had to do with watering. It is not uncommon for people to water at the trunk instead of around the dripline, which is the proper way. This can cause root rot. Dieback of a limb near the top of a tree is often a sign of a problem with the roots. If the xylem (plant vascular tissue that conveys water and dissolved minerals from the roots to the rest of the plant and also provides physical support) is compromised, often by root rot, water does not reach the top of the tree and branches begin to die. A faulty irrigation system can also cause one shrub to turn brown while others of the same variety look healthy.

To be helpful in identifying a problem, the Hotline staff gathers as much information as possible about the environment and cultural practices affecting the plant and then offer all the possibilities and solutions. It's simple to use the Hotline. Send an email with your question to [hotline@uccemg.com](mailto:hotline@uccemg.com) or go online to [http://mgorange.ucanr.edu/Gardening\\_Hotline/](http://mgorange.ucanr.edu/Gardening_Hotline/) and fill out the form. If you send an email, you have the option of attaching a photo of the plant in question.



Citrus Leaf Miner

## SPECIAL GARDENING EVENTS IN ORANGE COUNTY



Monster Tomato & Pepper Sale

**March 18<sup>th</sup> - 19<sup>th</sup>**

**Sale Hours: 9 a.m. - 4 p.m.**

FULLERTON ARBORETUM

Be sure to visit the UCCE Master Gardeners at this giant plant sale to learn how to plant and care for tomatoes, peppers and other warm vegetable varieties. Available for purchase:

- More than 300 varieties of tomatoes, peppers and varietal veggies all grown at the Fullerton Arboretum
- Beans, Cucumbers, Melons, Eggplants, Herbs, Companion Flowers & more

Event is free to the public. Learn more at: [http://fullertonarboretum.org/ps\\_veggiePalooza.php](http://fullertonarboretum.org/ps_veggiePalooza.php)



**April 22<sup>nd</sup> - 23<sup>rd</sup>**

**10 a.m. - 4 p.m.**

Join the UCCE Master Gardens at the annual Green Scene event, hosted by the Fullerton Arboretum. We will be on hand to distribute educational materials and answer gardening questions. Additionally, there will be more than 100 garden related booths and vendors, and demonstrations and education sessions throughout the Arboretum.

For more information visit: [http://fullertonarboretum.org/event\\_green.php](http://fullertonarboretum.org/event_green.php)

## AT HOME IN THE GARDEN

SOUTHERN CALIFORNIA SPRING GARDEN SHOW

South Coast Plaza

**April 27<sup>th</sup> - April 30<sup>th</sup>**

The theme of the Southern California Spring Garden Show for 2017 is *At Home in the Garden*. The show will highlight outdoor living and interiors. Landscape designers, specialty garden vendors and South Coast Plaza's home stores will be offering design ideas, exotic plants and unique accessories. UCCE Master Gardeners will have a booth on the third level of the mall and be involved with the children's activities. Be sure to visit the Master Gardeners to see what they are doing with house plants.

The event includes complimentary lectures and workshops; as well as display gardens throughout the shopping center.

Learn more about the Seminar Schedule, Children's Events, Display Gardens, Show Participants and view the Event Map by visiting <http://www.southcoastplaza.com/events/southern-california-spring-garden-show-april-27-april30-2017-at-south-coast-plaza/>



**PLANT // PRESERVE // CREATE**

**May 6<sup>th</sup> & 7<sup>th</sup>**

**9 a.m. - 4 p.m.**

*Los Rios Park, San Juan Capistrano*

Goin Native will host the two-day Eco Garden Expo at Los Rios Park, San Juan Capistrano. The Expo features a speaker series, exhibitors and demonstrations. UCCE Orange County Master Gardener Jody Cook is one of the featured speakers. In addition Master Gardeners will be on hand to answer questions. More information at: <http://www.goinnative.net/programs/expo2017/>





**May 13<sup>th</sup>**

**10:00 a.m. – 4:00 p.m.**

North Santa Ana neighborhoods of West Floral Park and Jack Fisher Park

Experience the inviting neighborhoods of West Floral Park and Jack Fisher Park in North Santa Ana. Tranquil spaces, unique planting ideas and inspiring yard designs are open for your viewing. This one day community event offers an array of activities: lovely gardens to tour, water-wise sidewalk tour,

garden expert talks and demonstrations, a street full of vendors selling unique garden treasures, and gourmet food trucks with plenty of tasty treats.

UCCE Orange County Master Gardeners will be presenting the following garden talks:

- Beekeeping, Honey Bees, and Native Bees in Your Garden, 1:00 p.m.- 1:50 p.m.
- Save Water By Being Water Wise, 2:00 p.m. – 2:50 p.m.
- Getting Started with Backyard Chickens, 2:00 p.m. – 2:50 p.m.

For more information visit: <http://www.opengardenday.com/>

Continued from Page 3 - Avocados

### Suggested Application Rates of Nitrogen

- 1st year--1 tbsp nitrogen fertilizer 3 times a year per tree
- 2nd year--0.25 lb actual nitrogen per tree
- 3rd year--0.5 lb actual nitrogen per tree
- 4th year--0.75 lb actual nitrogen per tree
- 5th year on--1 lb actual nitrogen each year

1 pound of actual nitrogen equals about 5 lb of ammonium sulfate per year or 100 lb of composted cow manure each year. Organic fertilizers such as manure, bloodmeal, etc. can be applied in the fall under the canopy.

# CALENDAR

## March 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

## April 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

## May 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

### Grow It Now – Spring Flowers Osher Lifelong Learning Institute

Mar. 2<sup>nd</sup> 1:00 p.m. - 2:30 p.m.

Ruby Gerontology Center, 800 N. State College Blvd, Fullerton 92831

Cal State Fullerton

### Beekeeping Class

Mar. 4<sup>th</sup> 9:00 a.m. - Noon

South Coast Research & Extension Center

7601 Irvine Boulevard Irvine, CA 92618

### Yorba Linda Public Library - All About Herbs

Mar. 9<sup>th</sup> 7:00 p.m. - 8:30 p.m.

Yorba Linda Public Library, 18181 E. Imperial Hwy, Yorba Linda, CA

### Smart Gardening Series: Terrific Tomatoes

Mar. 11<sup>nd</sup> 9:30 a.m. - 10:30 a.m.

Smart Gardening classes with UCCE Master Gardeners and Goin Native. Classes are free and held at:

Reata Park and Events Center

28632 Ortega Hwy

San Capistrano, CA 92675

For more info and RSVP, contact Marianne@goinnative.net or (949) 606-6386

### OC Great Park Garden Workshops

10:00 a.m. - 11:00 a.m.

Orange County Great Park, 6990 Marine Way Irvine

- Hot Season Veggies, Mar. 18<sup>th</sup>
- Spicing it up with Herbs, Apr. 1<sup>st</sup>
- Creating a Garden Habitat, Apr. 15<sup>th</sup>
- Container Gardens, May 6<sup>th</sup>
- Power of Perennials, May 20<sup>th</sup>

### Shipley Nature Center -

#### Lecture Series

10:00 a.m. - 11:00 a.m.

Shipley Nature Center, 17851 Goldenwest St., Huntington Beach, CA

- Fairy Gardens, Mar. 25<sup>th</sup>
- Water Wisely, Apr. 22<sup>nd</sup>
- Soils, May 27<sup>th</sup>

### OHG Education Farm Tomatoes

Mar. 25<sup>th</sup> 1:30 p.m. - 2:30 p.m.

Orange Home Grown Education Farm, 356 N. Lemon St., Orange, CA

### San Clemente Chamber of Commerce - Garden Water Conservation

Mar. 31<sup>th</sup> 12:00 p.m. - 1:00 p.m.

1231 Puerta del Sol, Unit 200, San Clemente, CA

### Getting Ready for Summer Osher Lifelong Learning

Apr. 6<sup>th</sup> 1:00 p.m. - 2:30 p.m.

Ruby Gerontology Center, 800 N. State College Blvd, Fullerton 92831

### OC Fair Imaginology Full S.T.E.A.M. Ahead

Apr. 21<sup>st</sup> 9:00 a.m. - 3:00 p.m.

Apr. 22-23rd 10:00 a.m. - 5:00 p.m.

Join Master Gardeners for a hands-on seed project. Classes are held at: Orange County Fairgrounds

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**Inquiries regarding the University's equal employment opportunity policies may be directed to John Sims, Affirmative Action Contact, University of California, Davis, Agriculture and Natural Resources, 2801 2nd Street, Davis, CA 95618, 530.750.1397.**