



University of California
Agriculture and Natural Resources

UCCE Master Gardener Program
Orange County

The Garden Beet

Summer 2018

Attract More Wildlife

Garden Tips

How Much to Water in Summer

Invasive Shot Hole Borer

Calendar

Out and About

Hotline FAQ

This newsletter is provided by the UCCE Master Gardener Program of Orange County.

Trained Master Gardener volunteers, ready to answer gardening questions, extend research-based information to the public about home horticulture and pest management through classes, hotlines, community events and demonstration gardens.

Want to know:

- what to plant when?
- how to manage a pest?
- how to become a Master Gardener?

Visit our website at

<http://mgorange.ucanr.edu>

The Great Outdoors

The summer is for enjoying the Great Outdoors. This issue is filled with tips to get irrigation systems in shape for carefree vacations. Campers can learn the science behind why you should buy firewood from the same location you burn it. Day trippers have a calendar full of garden-related excursions in the county including the iconic OC Fair. For staycationers, there are summer garden helpline quandaries to discuss with friends over your next herb-seasoned BBQ. As always, there are seasonal maintenance tips to keep flora in top shape, and let's not forget about fauna!

Attract More Wildlife:

1. **Replace lawn with native plant species.** Why spend time and resources maintaining a remote, unused patch of lawn? Replace it with an oasis of native plants of various vertical heights to provide diverse food and shelter which local life has evolved to seek out. Native plants also require less water and work to maintain once they are established.
2. **Provide water.** Birdbaths or small ponds can be integral in attracting more visitors.
3. **Provide bird/bat houses and bird feeders.** Using a variety of designs and feeds will increase the diversity of life you attract.
4. **Manage pets.** Dogs and cats with strong prey drives can deter wildlife.
5. **Reduce pesticide use.** Many pesticides do not target one species and might kill beneficial insects.
6. **Collaborate with neighbors.** Historically, habitats were larger than a single yard. Coordinate your landscaping plans with neighbors to provide a more spacious corridor for wildlife.

Interested in learning more? Master Gardener Jodie Cook is presenting on this topic June 7 in Mission Viejo. See the calendar on page 6 for details.

Garden Tips

	June	July	August
All plants	<ul style="list-style-type: none"> ▫ Pest monitoring ▫ Mulch to improve irrigation efficiency (except turf) 	<ul style="list-style-type: none"> ▫ Pest monitoring ▫ Mulch (except turf) ▫ Monitor irrigation systems (see next page) ▫ Order seeds/plants for fall and winter 	<ul style="list-style-type: none"> ▫ Pest monitoring ▫ Mulch areas in direct sun (except turf) ▫ Monitor irrigation systems and provide supplemental water to stressed plants
Seasonal Colors and Roses	<ul style="list-style-type: none"> ▫ Fertilize ▫ Prune climbing roses 	<ul style="list-style-type: none"> ▫ Fertilize ▫ Deadhead 	<ul style="list-style-type: none"> ▫ Deadhead ▫ Light pruning ▫ Start seeds
Perennials and Shrubs	<ul style="list-style-type: none"> ▫ Fertilize ▫ Deadhead spring bloomers ▫ Plant hot and tropical plants 	<ul style="list-style-type: none"> ▫ Fertilize (camellias and azaleas) ▫ Deadhead ▫ Plant Palms 	<ul style="list-style-type: none"> ▫ Deadhead
Fruits and Veggies	<ul style="list-style-type: none"> ▫ Thin fruit for size 	<ul style="list-style-type: none"> ▫ Fertilize ▫ Harvest ▫ Prune deciduous ▫ Plant bananas 	<ul style="list-style-type: none"> ▫ Harvest ▫ Prune out fire blight
Turf-cool season	<ul style="list-style-type: none"> ▫ Adjust mower to 1.5-3" ▫ Water in early morning 	<ul style="list-style-type: none"> ▫ Water in early morning 	<ul style="list-style-type: none"> ▫ Water in early morning
Turf-warm season (see next page)	<ul style="list-style-type: none"> ▫ Water in early morning 	<ul style="list-style-type: none"> ▫ Water in early morning 	<ul style="list-style-type: none"> ▫ Water in early morning

Tune in to KUCI 88.9 FM "In the Garden" airs every Thursday at 8:30am. The first broadcast of every month provides the listener with a To Do list, addressing "what to do in the garden this month" with tips on keeping the garden productive and beautiful year-round.

Listen via computer at <http://www.kuci.org/> (click the tab LISTEN/LIVE).

Download podcasts at <http://uccemg.com/Projects/Radio Show/>

Signs of Water Stress

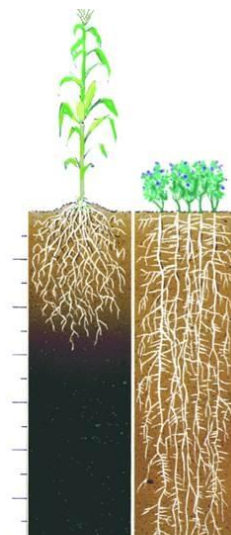
Plants showing these symptoms may benefit from supplemental watering

- Wilting or drooping leaves that do not bounce back in the evening
- Yellow leaves or those that become grayish and lose their green luster
- New leaves that are smaller than normal
- Grass that retains a footprint for several minutes

How Much Water Does Your Garden Need?

For Manual Watering:

1. **Measure the watering depth** by pushing a rebar, stiff piece of wire, etc. into the ground after watering.
2. **Water again when the probe reaches only half the depth** of the plant's root systems. Root system depth varies by plant type. Leafy vegetables have shallow (6-12") root systems; trees, shrubs, vines, non-leafy vegetables and warm season grass have deeper roots (1' to 6' +). Consider grouping your plants into hydrozones so you can water them more effectively.



Comparison of corn and alfalfa root depths. Alfalfa roots are 3-5 feet deep but can reach 8-15 feet in some soils.

Illustration: University of Minnesota.

For Lawn Sprinkler Systems:

1. **Do you have warm or cool-season turf?** Cool-season varieties use 30% more water and benefit from short but frequent sprinkler intervals because of their shallower root structure. For help identifying which type you have, see the Turf Key posted here: <http://ipm.ucanr.edu/TOOLS/TURF/TURFSPECIES/index.html>
2. **What is your sprinkler output?** You can figure this out by distributing shallow, straight sided containers (i.e. tuna cans) evenly across your lawn. Run your sprinkler for 20 minutes and measure the depth of water in the cans. Multiply by 3 to calculate the hourly output. If you see more than 15-20% difference in water depths between cans, determine why your system is not distributing water evenly. Regular checks for plants, turf, and debris blocking the sprinkler heads and broken, sunken, crooked or unmatched sprinklers can reduce water waste by 20-50%.

3. **Do you live on the inland or coastal side of Orange County?** Use the data in these charts to determine how many minutes to water per week. Watering minutes can be scaled back substantially in the fall. To see how much to scale back, the full year of monthly chart data is posted here:

<http://anrcatalog.ucanr.edu/pdf/8044.pdf>

4. **Refine your settings.** Clay soil can act like a sponge and require less frequent watering. Sandy soil can quickly drain water away from root zones and benefits from more frequent, shorter watering intervals. Landscapes on slopes are prone to runoff which can be alleviated with lower output sprinkler heads and rotating heads to give water more time to infiltrate into the soil. If the weather is unusual compared to historic averages, sprinkler settings should be adjusted accordingly. See what sort of statistics CIMIS weather station #75 in Irvine is capturing today compared to historic averages here: <https://www.cimis.water.ca.gov>

Region 9: Southern California Coast

Warm-Season Turfgrasses

Minutes per week to irrigate if your hourly sprinkler output is:

	0.5 in	1.0 in	1.5 in	2.0 in
JUN	95	47	32	24
JUL	107	54	36	27
AUG	95	47	33	24

Cool-Season Turfgrasses

Minutes per week to irrigate if your hourly sprinkler output is:

	0.5 in	1.0 in	1.5 in	2.0 in
JUN	126	63	42	32
JUL	143	71	48	36
AUG	126	63	42	32

Region 10: Southern California Inland Valleys

Warm-Season Turfgrasses

Minutes per week to irrigate if your hourly sprinkler output is:

	0.5 in	1.0 in	1.5 in	2.0 in
JUN	144	72	48	36
JUL	165	83	55	41
AUG	155	77	52	39

Cool-Season Turfgrasses

Minutes per week to irrigate if your hourly sprinkler output is:

	0.5 in	1.0 in	1.5 in	2.0 in
JUN	193	96	64	48
JUL	221	110	74	55
AUG	207	103	69	52

Invasive Shot-Hole Borers: Tree-killing beetles that hitchhike on infested wood

By **Beatriz Nobua-Behrmann**, Ph.D., University of California Cooperative Extension–Orange County



Invasive Shot-Hole Borer (Euwallacea sp.). These beetles have reached epidemic levels in Southern California.

Photo Credit: Beatriz Nobua Behrmann, UCCE-Orange

Invasive shot-hole borers are infesting and killing thousands of trees in Southern California.

The Polyphagous and Kuroshio Shot-Hole Borers (collectively known as Invasive Shot-Hole Borers, ISHB) are tiny ambrosia beetles—roughly the size of sesame seeds—that bore into trees. These beetles carry a fungus

that they “farm” inside the tree and use as a food source. The fungus colonizes the tree’s vascular system causing a condition called Fusarium Dieback. Infested trees have trouble transporting water and nutrients up and down their trunks, which ultimately translates into general tree decline and, in many cases, tree death.

ISHB attacks common landscape trees, as well as native trees, and some economically important crops like avocado.

Currently, there are 64 confirmed species of trees in which the beetles can successfully grow its fungus and complete their life cycle (and the list is growing fast!). Susceptible trees include sycamores, willows, oaks, cottonwoods, and box elder, among others.

ISHB are believed to have been accidentally introduced into California via wood products and/or shipping material from southeast Asia. Since the beetles were first identified in Los Angeles County in 2012, the infestation has spread to six other counties including Orange, San Diego, Ventura, Santa Barbara, San Bernardino and Riverside. Once the beetles arrive at a new location, they steadily spread to the neighboring areas. *People also unintentionally spread this pest long distances by moving infested firewood and green waste.*



Researchers from the University of California studying a heavily infested sycamore tree with noticeable dieback on the upper branches.

Photo Credit: Beatriz Nobua Behrmann, UCCE-Orange

Continued on next page

How do I know if my tree is infested?

Look for the following signs of attack:

- **Beetle entry holes:** When the beetles dig their galleries in the trees they make a perfectly round small hole, roughly the size of the tip of a ball point pen (a).
- **Tree symptoms:** The beetle attack causes other symptoms around the entry hole, like wet staining (b), gumming (c), white powdery exudate (d), and/or frass (thin sawdust) (e). Each species of tree shows a different combination of symptoms.

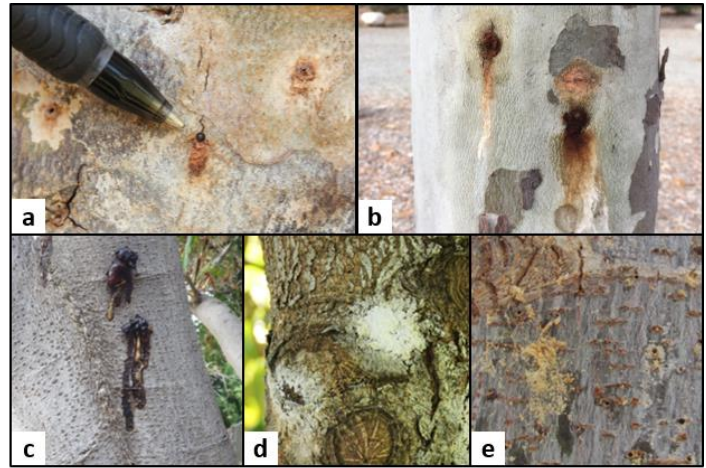


Photo credits: Monica Dimson, UCCE-Orange (a, c, d), Beatriz Nobua-Behrmann, UCCE-Orange (b), and Akif Eskalen, UC Riverside (e)

Early detection is key for controlling this pest.

Preventive treatments haven't proved to be very

effective, so best practices include regular monitoring, and only treating trees when they become infested. Trees that are heavily infested (with more than 150 beetle entry holes and branch dieback) should be removed and chipped into pieces 1 inch or smaller. For more ISHB management guidelines visit www.pshb.org.

What Can I Do?

- **Get Educated:** Learn how to identify this pest. Visit www.pshb.org to learn more about ISHB and get the most updated information.
- **Catch it Early:** Inspect trees regularly before they become infested. If you suspect your trees are infested with ISHB, consult a licensed Pest Control Advisor familiar with ISHB control.
- **Take Care of Green Waste:** Chipping infested wood to a size of 1 inch or smaller kills 95% of the beetles (see www.pshb.org for more information on wood disposal)
- **Don't Move Firewood:** Purchase and use firewood from local sources for both home heating and campfires.
- **Spread Awareness:** Tell friends, family, HOAs, etc.

HELP STOP THE SPREAD OF INVASIVE SPECIES.

Our forests are threatened by nonnative insects and diseases. Many of these pests can be transported long distances on firewood. Once transported to new areas, these invasive species can become established and kill large numbers of trees and shrubs.

HOW YOU CAN HELP:

- When buying firewood for camping or home use:
 - Do not move firewood from location to location.
 - Obtain firewood from a source local to your home or camping destination.
 - Buy or collect only what you will need, and burn responsibly.
 - For local firewood providers or information on key questions to ask when buying wood go to www.firewood.ca.gov.

BUY IT WHERE YOU BURN IT.

firewood.ca.gov

[PONTMOVE FIREWOOD.org](http://PONTMOVEFIREWOOD.org)

CALENDAR: UCCE Presentations, Workshops, and Talks

*pre-registration necessary

JUNE

S	M	T	W	T	F	S
					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

6/6 **Garden Exercise Day**

6/13 **Weed Your Garden Day**

6/17 **Eat Your Veggies Day**

6/27 **Orange Blossom Day**

Thursdays 8:30-9:30 88.9FM KUCI
"In the Garden" radio show

6/2 9AM-noon: **Exploring Beekeeping*** \$40.

<https://ucanr.edu/survey/survey.cfm?surveynumber=24423>

South Coast Research and Extension Center
 7601 Irvine Blvd, Irvine, 92618

6/7 10AM-noon: **Creating a Wildlife Habitat in Your Garden**

<http://cityofmissionviejo.org/events/creating-wildlife-habitat-your-garden>

Norman P. Murray Community and Senior Center
 24932 Veterans Way, Mission Viejo, 92692

6/9 9AM-10AM: **OHG Composting**

<http://orangehomegrown.org/calendar/composting-class/>

OHG Education Farm
 356 N. Lemon Street, Orange, 92866

6/9 9:30AM-noon: **Make-It Take-It Food Preservation: Cherry Chutney*** \$25

<http://ucanr.edu/sites/MFPOC/?calitem=399838&g=58438>

Centennial Farms, OC Fair Grounds
 88 Fair Dr., Costa Mesa, CA 92626

6/14 3-5PM/6:30-8:30PM: **Hands on Class Canning Amazing Apricots*** \$25.

<http://ucanr.edu/sites/MFPOC/>

South Coast Research and Extension Center
 7601 Irvine Blvd, Irvine, 92618

6/16 10-11AM: **BBQing with Herbs from Your Garden*** \$10.

<http://www.cityofirvine.org/news-media/calendar-of-events/event/garden-workshop-bbqing-herbs-your-garden>

Farm + Food Lab, Orange County Great Park
 6950 Marine Way, Irvine 92618

6/16 11AM-noon: **Food Safety and Fermentation**

<http://ucanr.edu/sites/MFPOC/?calitem=405173&g=58438>

La Habra Public Library
 221 E La Habra Blvd, La Habra 90631

6/23 10-11AM: **Tool Maintenance**

<http://shipleynature.org/calendar/ask-master-gardener-tools/>

Shipley Nature Center
 17851 Goldenwest Street, Huntington Beach, 92647

6/30 2PM: **Drought Tolerant Gardening**

<http://www.ocpl.org/libloc/cyp/calendar>

Cypress Public Library
 5331 Orange Ave, Cypress, 90630

JULY

S	M	T	W	T	F	S
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				

7/12 1-3PM: Raised Vegetable Bed Gardening
<http://cityofmissionviejo.org/events/raised-bed-vegetable-gardens>
 Norman P. Murray Community and Senior Center
 24932 Veterans Way, Mission Viejo, 92692

7/21 10-11AM: Least Toxic Pest Control Methods
<http://www.cityofirvine.org/news-media/calendar-of-events/event/garden-workshop-least-toxic-pest-control-methods>
 Farm + Food Lab, Orange County Great Park
 6950 Marine Way, Irvine, 92618

7/1 Build a Scarecrow Day

7/3 Eat Your Beans Day

7/28 10AM: Drought Tolerant Gardens
<http://www.ocpl.org/libloc/sc/calendar>
 San Clemente Public Library
 242 Avenida Del Mar, San Clemente, 92672

7/8 Blueberry Day

7/16 Fresh Spinach Day

7/28 10-11AM: Soils
<http://shipleynature.org/calendar/ask-master-gardener-soils/>

7/27 Take Your Houseplants for a Walk Day

Shiple Nature Center
 17851 Goldenwest Street, Huntington Beach, 92647

OUT AND ABOUT with Master Gardeners: The OC Fair

7/13-8/12

<https://ocfair.com/>

- Master Gardener Bee team at Silo Building most days noon-9PM with presentations on 7/25 @5PM, 8/5 @3PM, and 8/9 @3PM.
- “Garden Crawl” Master Gardener guided tours of Centennial Farm Weds-Fri 1-5PM
- Master Food Preservers at OC Promenade Culinary Arts, Canning Kitchen demonstrations: kombucha, lacto-fermentation, pickling, dehydration, pickling, steam and pressure canning and more! Details at <http://ucanr.edu/sites/MFPOC/?calitem=413758&g=58438>

AUGUST

S	M	T	W	T	F	S
			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	

8/2 10AM: What’s Buggin’ My Plants
<http://cityofmissionviejo.org/events>
 Norman P. Murray Community and Senior Center
 24932 Veterans Way, Mission Viejo, 92692

8/13 6-7PM: Food Safety & Fermentation
<http://ucanr.edu/sites/MFPOC/?calitem=409367&g=58438>
 Orange Public Library
 407 E. Chapman Ave., Orange, 92866

8/3 Watermelon Day

8/5-11 Farmer’s Market Week

8/23: Succulents
<https://www.ylpl.org/event-directory/>
 Yorba Linda Public Library
 18181 Imperial Hwy, Yorba Linda, 92886

8/8 Sneak Some Zucchini onto Your Neighbor’s Porch Day

8/25 10-11AM: Veggies
<http://shipleynature.org/calendar/ask-master-gardener-veggies/>
 Shiple Nature Center
 17851 Goldenwest Street, Huntington Beach, 92647

8/18 Honeybee Day

HOTLINE “Mite” have answers to your questions...

If you don't happen to see our booth at a garden event, or can't attend one of our classes, you can still get your garden question answered on our hotline. Below is a recent question and reply:

What is that white powder on the back of my grape leaves and why are they curling?

Your grapes have **spider mites**. Here is a description of how to deal with the problem:

- Water plants sufficiently to avoid drought stress, which increases mites and mite damage.
- Most woody plants can tolerate low to moderate mite populations, and natural enemies are often abundant.
- If plants are infested, apply a water spray or mist to the undersides of leaves at least once a day.
- If you wish to use an insecticide, a good choice is an insecticidal oil or soap (or a combination of the two) applied to completely cover the undersides of leaves. Be sure mites are present before treating. Don't spray when plants are water-stressed or if it is very hot.
- Spider mites frequently become a problem after applying persistent insecticides such as carbaryl or pyrethroids. These insecticides are not very effective against mites and often kill off natural enemies and stimulate mite reproduction.



You can read more about spider mites here: <http://ipm.ucanr.edu/QT/spidermitescard.html>

Although we don't have someone sitting by a phone awaiting your call, you can leave us a message at the number below, or better yet, send us an e-mail. Include photos when applicable.

ucceocmghotline@ucanr.edu

949-809-9760

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