



University of California  
Agriculture and Natural Resources

UCCE Master Gardener Program  
Colusa County



# A Garden Runs Through It

August 2023

Whether it's a vegetable garden, houseplants or a landscape...

UCCE Master Gardener Program, Colusa County  
County Director, Franz Niederholzer

UC Cooperative Extension,  
Colusa County

P.O. Box 180  
100 Sunrise Blvd., Suite E  
Colusa, CA 95932

530-458-0570  
Gerry Hernandez  
glhernandez@ucanr.edu  
cecolusa.ucanr.edu

## In This Issue

- **Ornamental Plant of the Month**— *Asparagus densiflorus 'Myerii'*
- **Gardens I Have Visited**— Butchart Gardens
- **Edible Plant of the Month**— Cauliflower
- **Recipe of the Month**— Tajin BBQ Chicken
- **Garden Guide**
- **Safety Notes**

All photos are "Creative Commons License" or ours.



## Upcoming events



### August

Open Garden & Winter Garden Workshop

Saturday August 26, 10 to 11 am  
Donna Critchfield Demonstration Garden  
499 Margurite St.  
Williams

Come and pick some pepper, squash and cucumbers.  
Learn about winter vegetable gardening, it's easy!

### August

Ampla Health Event  
August 7, 10 to 2 pm  
555 Fremont St., Colusa

### September

Colusa County Employee Benefits Fair  
September 13, 10:30 to 1 pm  
108 East Main St., Colusa

## Advice to Grow by ... Ask Us!



PRACTICAL | CONNECTED | TRUSTED

# Activities at the Donna Critchfield Demonstration Garden

499 Margurite St., Williams

## Vegetables

We planted 48 pepper plants (bell, jalapeno, Fresno & Anaheim). The jalapeno peppers are not jalapenos. What you ask? It appears that the seed company mislabeled the peppers. This is happening region wide. I've read on several gardening threads about this problem. The peppers, squash and cucumbers will be distributed at the Ministerial food distribution. We are so excited because we have sooooo many peppers!

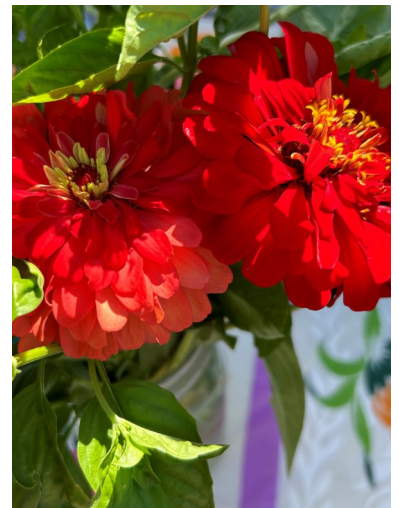
We will be starting our winter garden in late August!! Come to our workshop on August 26 at 10 am and learn about winter vegetable gardening (it's easy).



## Landscape

The 10 x 10 water-wise landscape was planted in November 2022. The warm weather has prompted the plants to grow. We are looking forward to seeing it fully mature. Every time we look at the landscape garden it gets bigger! We are so happy with it. We have to replace 2 plants this fall.

The 14 salvia plants have been planted in the landscape area. We have lots of colors and species of plants. The blue Adirondack chairs are in the salvia area and they look awesome. Come to the garden and check them out.



## Raised beds

This year we will purchase lumber for 2 more raised beds. Raised beds are great if you cannot get on your knees to garden. In the fall we will plant winter vegetables such as radishes, spinach, kale, lettuce, carrots and beets in them.

## Activities

### Open Garden & Winter Vegetable workshop

Saturday August 26, 10 to 11 am



UC MASTER GARDENER PROGRAM  
OF COLUSA COUNTY

# Open Garden & Winter Vegetable Workshop

Pick peppers, squash &  
cucumbers.

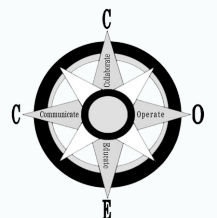
Have a question?  
Ask Us ...



*Saturday, August 26, 10 to 11 am*

Farm to School  
Demonstration Garden

Education Village  
499 Margurite St.  
Williams, CA







PROGRAMA DE JARDINEROS MAESTROS  
DE LA UC DEL CONDADO DE COLUSA

# Jardín Abierto y Taller de Verduras de Invierno

Recoge pimientos, calabazas y  
pepinos.

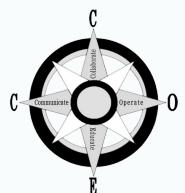
¿Tiene una pregunta sobre  
jardinería?

Pregúntanos...

*Sábado, 26 de Agosto a las  
10 para 11 am*

Jardín comunitario del  
Programa de "Farm to School"

Education Village  
499 Margurite St.  
en Williams, CA



## Ornamental Plant of the Month

### **Asparagus densiflorus 'Myerii'**

#### **Foxtail Fern**

The foxtail fern (*Asparagus densiflorus* 'Myersii' or 'Myers') is a cultivar of an herbaceous perennial plant that's native to South Africa. The upright, fluffy green fronds can grow up to 3' tall and resemble a fox's tail, earning it nicknames like foxtail fern and hound's tail.

Foxtail asparagus ferns are unusual and attractive evergreen flowering plants and have many uses in the landscape and beyond. *Asparagus densiflorus* 'Myers' is related to the asparagus fern 'Sprengeri' and is actually a member of the lily family. Foxtail Ferns Foxtail ferns are not really ferns, as they're multiplied from seeds and produce no spores. The common name likely came from the clumping habit of the plant, similar to that of a fern.

Foxtail asparagus ferns have an unusual, symmetrical look. These fern-like plants have arching plumes of tightly packed, needle-like leaves that look soft and delicate. Foxtail fern plants bloom with white flowers and produce red berries. The plants appear fragile and may cause gardeners to shy away from them, expecting difficult and extensive care of foxtail fern.

Don't let the appearance deceive you, however. In reality, foxtail ferns are tough and hardy specimens, flourishing with limited care. Foxtail fern plants are drought-resistant once established.

Care of a foxtail fern is far from difficult. Plantings outdoors, the foxtail fern should be in a lightly shaded area, particularly avoiding hot afternoon sun in the hottest zones. The potted specimen outside can take gentle morning sun with light shade for the rest of the day. Indoors, locate the foxtail in bright light and even direct morning sun in winter. Provide humidity to plants growing indoors. Foxtail fern plants benefit from regular water during drought and seasonal fertilization. These plants demonstrate their need for fertilization when the needle-like leaves turn pale or yellow. Feed this plant in spring with a time-released food or monthly during the growing season with a balanced 10-10-10 plant food at half strength. Keep the soil lightly moist.



Submitted by Bernice Dommer

# Listen to our podcast

visit: [theplantmasters.com](http://theplantmasters.com)



SCAN ME  
LISTEN TO  
THIS EPISODE



## August podcast

In this episode of "A Garden Runs Through It", Gerry talks about "Slips, Trips and Falls".



## How to listen?

Search your favorite app for [RadioColusa.com](http://RadioColusa.com)

**Radio**  
**colusa.com**



*"A Garden Runs Through It" podcast is produced in partnership with:*



University of California  
Agriculture and Natural Resources

UCCE Master Gardener Program  
Colusa County



## Edible Plant of the Month

### Cauliflower

I am not a vegetable gardener! I know that sounds funny coming from a Master Gardener but I really have no luck with tomatoes and squash.

BUT, I do love winter vegetable gardening. Winter vegetable gardening is so easy. You plant the transplants in late August thru early September, give them so water until it starts to rain. You may need to watch for insects before it gets cold but that's it. Really, it's so easy.

You can plant broccoli, Brussels Sprouts, cauliflower, cabbage, kale, beets, carrots, radishes, lettuce and more.

Here is some information about cauliflower.

Cauliflower grows 1—3 feet tall, with large cabbage leaves surrounding a white edible head. Home gardeners usually plant an early variety such as 'Snow Crown' or later-season varieties such as 'Amazing' or 'Fremont'. There are several varieties with colored heads: 'Cheddar' (orange), 'Graffiti' (purple) and 'Panther' (green).

#### How To Grow It

Site: Cauliflower needs full winter sun. Check your garden. The sun is not in the same place as summer.

Planting: Start with small plants; seed is more difficult.

Spacing: 1.5 to 2 feet apart.

Water: Keep soil moist until it rains. If rain is irregular you may need to irrigate.

Fertilizer: Fertilize before the heads start to form.

Harvest: Cut heads as soon as they reach full size. The florets in the head should be tight.

Insects: Aphids and cabbage loopers (white butterfly) can be a problem when the weather is still warm.



Submitted by

Gerry Hernandez

## Gardens I Have Visited

Welcome to a new feature for the monthly newsletter. Coordinator Gerry Hernandez asked if I'd be willing to add a bi-monthly feature of gardens around the world. She had barely presented the idea when my mind was racing to the amazing places we have had the fortune to visit. So here we go with my first and still most amazing garden experience - Butchart Gardens in Victoria, British Columbia, Canada. I hope you will enjoy this as much as I do in remembering this amazing creation.

Butchart Gardens was one of those places I'd never even heard of until we made a little cruise ship voyage to Canada for the 1984 World's Fair. After we visited the fair in Vancouver, BC, we cruised over to Victoria. We had a day and a half to explore and chose a London taxi drive out to Butchart Gardens for the day. I was absolutely blown away at what we discovered.

First of all, the gardens are mostly sunken due to the fact that they were built in the mined limestone area that had been producing cement for several years since 1904. As the mine played out the owner's wife Jennie Butchart decided they owed a great deal to their mining success and convinced her husband to bring in top soil by horse and cart to fill out the entire area with a rich base for sunken gardens. The gardens opened to the public in 1912. The site covers 55 acres and was expanded to include a Japanese Garden, Italian Garden and the world-famous Rose Garden.

In 1939 the garden was gifted to grandson Ross Butchart who went on to expand the site to the gardens of today with outdoor concerts and night lighting.

When you go there try to plan on visiting during the day and purchase the ticket that will allow you to return in the evening to experience the night lights and the effect they have on the sunken gardens. The last I knew the two-way ticket will cost about \$35 and be worth every penny. All the staff can answer your questions and increase your enjoyment of the gardens. I've been back on two other occasions and can never get enough of the beauty. Happy travels friends.



Submitted by Cynthia White





# MASTER GARDENER PROGRAM

## THINKING SAFE AND GREEN

AGRICULTURE AND NATURAL RESOURCES  
ENVIRONMENTAL HEALTH AND SAFETY



#18

## BITING AND STINGING INSECTS

*Information given here is intended for use by program representatives, master gardeners, and those they train.*



Information available from the National Institutes of Allergy and Infectious Diseases indicates more than 40 fatalities annually can be attributed to severe venom allergic reactions (called anaphylaxis) from insect bites or stings. Common California biting and stinging insects include ticks and chiggers, centipedes, mosquitoes, black, deer, and horse flies, spiders including black widow and brown

species, fire ants, midges, scorpions, bees including Africanized honey bees, wasps, and hornets.

Aside from allergic reactions, biting and stinging insects cause nuisance bites and stings that can result in tissue swelling, infections of bite and sting sites, skin lesions, itching, dermatitis, and pain or burning sensations.

Symptoms of a severe venom allergic reaction include large areas of itching and hives, difficulty breathing, dizziness, excess sweating, nausea, swelling of the tongue or throat, and possibly a rapid decrease in blood pressure resulting in loss of consciousness.

The following precautions should be taken for preventing insect bites and stings:

- The best defense against biting and stinging insects is to not be bitten by one. Therefore, avoid conducting Master Gardener activities during peak biting or stinging insect activity times (usually early morning and evening hours) and in favorable biting or stinging insect habitat such as wetlands, along streams, lakes, or oceans, and moist shaded portions of wooded, brush-covered, or grassy areas. Also, avoid contact with insect nests, swarming insects, and ant mounds.
- Wear a long-sleeved shirt and long pants with boots when outdoors. Tucking your pants into your boots or socks helps prevent biting and stinging insect access to your skin.
- Use insect repellants containing compounds such as DEET (repels insects) on exposed skin and permethrin (kills many insects on contact) on clothing only.
- Closely look for insects or insect activity before placing your hands on objects such as rock outcrops or trees or picking up objects from the ground (i.e., rocks, plants, leaves, remote monitoring equipment, etc.)
- Thoroughly inspect the area where you intend to sit, particularly around stumps, logs, boulders, or rock outcrops.
- If you experience an insect bite or sting, wash the wound with soap and water, apply an antiseptic, and cover the wound with a band aid or clean dressing. Carefully remove stingers from skin by using tweezers and then clean and dress sting wounds.
- Never scratch an insect bite or sting.
- Promptly seek professional medical attention if you suspect you are experiencing severe venom allergic reaction symptoms.
- Let your Master Gardener colleagues and program coordinator know in advance if you are allergic to insect bites or stings so they can respond appropriately if you are bitten or stung.

## Recipe of the Month

Chicken has been on sale frequently of late and chicken is always popular on the grill. It's great to cook outside when it is so hot. I gave this one a try and really liked it. Along with the chicken, how about some grilled corn on the cob? Drizzle with a little butter and top with a sprinkle of cotija cheese. Also consider grilling sliced zucchini, peppers and red onions! Warm some tortillas and you have a fajita-like meal. Just add salsa, guacamole, sour cream, and the cold beverage of your choice.

### Tajin BBQ Chicken - adapted from the Tajin website

3 pounds chicken breasts or thighs, boneless and/or skinless, up to you

Marinade:

1/2 cup orange juice and zest

1/4 cup lime juice and zest

1-2 chipotle peppers in adobo sauce plus 2 Tbs sauce

1 tsp ancho chili powder (or more to taste)

2-3 cloves garlic, grated

1 tsp onion powder

2 Tbs Worcestershire sauce

3/4 cup ketchup (or 1/2 cup tomato paste and 1/2 cup chicken stock)

2-3 Tbs Tajin seasoning

1/2 cup brown sugar or molasses or honey to taste

Salt

Cilantro for garnish



Blend marinade smooth and marinate chicken at least 2 hours, overnight is best.

Remove chicken and reserve marinade.

Simmer the marinade to make a sauce/glaze while chicken cooks.

Cooking the marinade is important - no chicken cooties!!

Oil your grill well and grill meat, turning frequently and basting with cooked marinade.

OR cook on a rack in a 400 degree oven to 155 degrees, 20-30 min.

Let meat rest, covered, so meat comes to 165 degrees final temperature.



Serve as whole pieces, or shred, or cut up across the grain for fajitas.

Submitted by Penny Walgenbach

# Gardening Guide

## UC Master Gardener Program of Colusa County

Zones 8 and 9

	August	September	October
<b>P L A N T I N G</b>	<ul style="list-style-type: none"> <li>You can plant directly in the garden seeds of carrots, beets, lettuce, spinach and turnips. Indoors you can start seeds for broccoli, cabbage, kale, bunching onions, and radicchio.</li> </ul> 	<ul style="list-style-type: none"> <li>Cool-Weather annuals like pansies, violas, snapdragons can be transplanted now.</li> <li>Also, transplants of broccoli, cabbage, cauliflower, and kale can be planted this month.</li> <li>Direct seed peas, spinach, radishes, lettuce, and carrots.</li> </ul>	<ul style="list-style-type: none"> <li>Cool-weather annuals like pansies, violas, snapdragons can be transplanted now. Also, you can direct seed cornflower, nasturtium, poppy, nigella, portulaca and sweet peas.</li> <li>If you don't have a winter garden, consider planting a cover crop to be tilled in next spring.</li> <li>Direct seed peas, spinach, radishes, lettuce, and carrots.</li> </ul>
<b>M A I N T E N A N C E</b>	<p>Cut off spent flowers of perennials and annuals for continued bloom.</p> <ul style="list-style-type: none"> <li>Be sure to monitor your watering system. Check for coverage and watch for plugged or blocked sprinklers.</li> </ul>	<ul style="list-style-type: none"> <li>September is a good time to consider reducing the size of your lawn.</li> <li>Put your spent annual and vegetables in your compost pile.</li> <li>Add compost to the beds that had the annuals and vegetables you are pulling out, before re-planting.</li> <li>This is also the month to dig, divide, and re-plant overgrown perennials that have finished blooming.</li> </ul>	<ul style="list-style-type: none"> <li>Put your spent annuals and vegetables (disease-free, of course) in your compost pile.</li> <li>Add compost to the beds that had the annuals and vegetables you are pulling out, before re-planting in those beds.</li> <li>This is also the month to dig, divide, and re-plant overgrown perennials that have finished blooming. Be sure to clear out any weeds that developed in the perennial bed.</li> </ul>
<b>P R E V E N T I O N</b>	<ul style="list-style-type: none"> <li>Continue to weed. Be especially sure to get weeds before they flower and set seeds.</li> <li>Check the mulch you have spread around and be sure it is thick enough to suppress weeds. (3 to 4 inches)</li> </ul>	<ul style="list-style-type: none"> <li>Be sure to clear out any weeds that developed in the perennial bed.</li> </ul> 	<ul style="list-style-type: none"> <li>Early in the month you should buy your new bulbs and refrigerate them for six weeks before planting them in the garden.</li> </ul>



## Master Gardener activities!



In today's fast paced, social media way of life, fake news has become normal.  
This includes fake gardening advice.  
UC Master Gardeners use cutting edge, research-based information to help you garden better.  
We are practical, connected and trusted.  
*Advice to Grow By ... Ask Us!*

Tomorrow's activities are created by today's dreamers—you can make sure that the UC Master Gardener Program of Colusa County is still working to help future generations through your support.

[Click here to support us.](#)

### Science Word of the Month

**Bolt**—To produce seeds or flowers prematurely.

If you attended one of your workshops, you will receive an email from [mgevaluation@ucanr.edu](mailto:mgevaluation@ucanr.edu). Your input gives us the tools we need to grow and improve our program. *Thank you!*

PRACTICAL | CONNECTED | TRUSTED

## Seasonal IPM Checklist

### August

- Abiotic Disorders - Prevent or manage damage, such as that caused by aeration deficit, herbicide, salinity, soil pH, sunburn, wind, and too much or little water.
- [Ants](#) - Manage around landscape and building foundations, such as using insecticide baits and trunk barriers.
- [Aphids](#) - On small plants, spray a strong stream of water or apply insecticidal oils and soaps. Look for and conserve [natural enemies](#) such as predaceous bugs, lacewings, lady beetles, and syrphids.
- [Asian citrus psyllid](#) - Look for it and if found where not known to occur report it and other new or [exotic pests](#) to your local county agricultural commissioner.
- [Bacterial blast, blight, and canker](#) - Inspect apple, citrus and especially *Prunus* spp. (e.g., stone fruit). Remove entire affected branches in the summer, making cuts several inches away in healthy wood.
- [Carpenter bees](#) - Paint or varnish and seal wood in which they nest. If intolerable, treat tunnels during fall or early spring.
- [Carpenterworm](#) - Protect trees from injury and provide proper cultural care, especially appropriate irrigation.
- [Citrus](#) - Monitor for damage and pests such as leafminer.
- [Clean up](#) mummies and old fruit and nuts in and under trees to avoid harboring pests.
- [Coast redwood dieback](#) - Check for drought-stress related maladies such as abiotic disorders, bark beetles, fungal diseases, and spider mites. [Deep water trees](#) and apply mulch.
- [Codling moth](#) of apple and pear - Bag fruit. Promptly remove infested and dropped fruit. Apply insecticides only if precisely timed.
- [Compost](#) - Turn and keep it moist.
- Cover fruit trees and grapes with netting to [exclude birds](#) and other [vertebrate pests](#).
- Cypress, or Seridium, [canker](#) - Prune dying branches at least 6 inches below any apparent cankers. Irrigate appropriately. Replace severely affected trees.
- Deter [borers](#) - Deep water trees adapted to summer rainfall e.g., fruit and nut trees. Protect trunks and roots from injury and avoid pruning, except for hazardous trees and certain pests and plants that warrant summer pruning. [Paint trunk and scaffolds with white](#) interior latex paint diluted with an equal amount of water.
- [Eutypa dieback](#) - Prune apricot and cherry.
- [Irrigation](#) - Adjust watering schedules according to the weather and plants' changing need for water. Check systems for leaks and broken emitters and perform maintenance as needed. Consider upgrading the irrigation system to improve its water efficiency.
- [Leaffooted bug](#) - Look for feeding on fruit and nuts such as almonds, pistachios, and pomegranates.
- Lightly [prune roses](#) to promote fall flowering.
- [Mosquitoes](#) - Eliminate standing water e.g., in gutters, drain pipes, and flowerpots. Place *Bacillus thuringiensis* subspecies *israelensis* in birdbaths and ponds to selectively kill mosquito larvae.
- [Mulch](#) - Apply organic mulch where thin or soil is bare beneath trees and shrubs.

- Oak [gall wasps](#) - Usually do no serious harm to oaks. Control is very difficult.
- [Olive knot](#) and [oleander gall, or knot](#) - Prune off galled branches if intolerable.
- [Powdery mildew](#) - If severe e.g., on crape myrtle, grape, and rose, avoid fertilization and overirrigation. Prune during the proper time of year to increase air circulation and sun exposure.
- [Redhumped caterpillars](#) - Monitor trees such as liquidambar, redbud, stone fruits, and walnut. Cut off shoots infested with groups of young caterpillars. Apply *Bacillus thuringiensis* or spinosad.
- [Root rot](#) - Favored by excessive water and poor drainage. Avoid overirrigation and waterlogged soil.
- [Rose pests](#) - Manage or take preventive actions for powdery mildew.
- [Spider mites](#) - Irrigate adequately, mist leaf undersides daily, reduce dustiness, spray horticultural oil.
- [Yellowjackets](#) - Place out and maintain lure traps or water traps. Trapping is most effective during late winter to early spring.



## Garden Club of Colusa County activities

August 28, 6:30 pm  
St. Stephens Church  
Colusa

## Did a friend send you this newsletter?

- You can get your own newsletter sent directly to your inbox by [clicking here](#).



## Additional Links

Integrated Pest Management [ipm.ucanr.edu](http://ipm.ucanr.edu)  
UC Davis Arboretum [arboretum.ucdavis.edu](http://arboretum.ucdavis.edu)  
Invasive Plants [www.cal-ipc.org](http://www.cal-ipc.org)  
Plant Right [www.plantright.org](http://www.plantright.org)  
Save Our Water [saveourwater.com](http://saveourwater.com)  
California Garden Web [cagardenweb.ucanr.edu](http://cagardenweb.ucanr.edu)  
McConnell Arboretum and Botanical Gardens [turtlebay.org](http://turtlebay.org)  
UCANR Colusa County [cecolusa.ucanr.edu](http://cecolusa.ucanr.edu)  
UC Master Gardener Program (statewide) [mg.ucanr.edu](http://mg.ucanr.edu)  
California Backyard Orchard [homeorchard.ucanr.edu](http://homeorchard.ucanr.edu)  
ANR publications [anrcatalog.ucanr.edu](http://anrcatalog.ucanr.edu)

The University of California, Division of Agriculture and Natural Resources (UC ANR) prohibits discrimination against or harassment of any person in any of its programs or activities on the basis of race, color, national origin, religion, sex, gender, gender expression, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, status as a protected veteran or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994 [USERRA]), as well as state military and naval service.

UC ANR policy prohibits retaliation against any employee or person in any of its programs or activities for bringing a complaint of discrimination or harassment. UC ANR policy also prohibits retaliation against a person who assists someone with a complaint of discrimination or harassment, or participates in any manner in an investigation or resolution of a complaint of discrimination or harassment. Retaliation includes threats, intimidation, reprisals, and/or adverse actions related to any of its programs or activities.

UC ANR is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment and/or participation in any of its programs or activities without regard to race, color, religion, sex, national origin, disability, age or protected veteran status.

University policy is intended to be consistent with the provisions of applicable State and Federal laws.

Inquiries regarding the University's equal employment opportunity policies may be directed to: John I. Sims, Affirmative Action Compliance Officer and Title IX Officer, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1397. Email: [jsims@ucanr.edu](mailto:jsims@ucanr.edu). Website: [http://ucanr.edu/sites/anrstaff/Diversity/Affirmative\\_Action/](http://ucanr.edu/sites/anrstaff/Diversity/Affirmative_Action/).

*This policy statement supersedes the UC ANR Nondiscrimination and Affirmative Action Policy Statement for University of California Publications Regarding Program Practices dated July 2013.*

# Mosquitoes

**Mosquitoes are small flying insects that bite people and animals and can spread diseases such as West Nile virus.**

Female mosquitoes require blood from humans or other animals to develop eggs. Mosquito larvae live in aquatic habitats and can grow in ponds, bird baths, and any other objects containing standing (non-moving) water. Decrease your chances of getting mosquito bites by reducing standing water around your home, using repellents, and wearing protective clothing when outdoors.



Adult western malaria mosquito, *Anopheles freeborni*.

## Minimize mosquito breeding habitats.

- Empty water from unused garden pots and other objects. Store containers upside down, cover, or dispose of them so mosquitoes can't lay eggs.
- Change water in pet dishes, watering troughs, and bird baths every week.
- Avoid overwatering outdoor landscapes, which can lead to standing water.
- Keep litter and garden debris out of street gutters. Remove debris from rain gutters and downspouts annually.
- Seal rain barrels and keep all filters and prefilters clean and free of moisture-retaining debris. Inspect water reservoirs regularly for leaks.
- Remove excess vegetation, stock with mosquito-eating fish, or use *Bacillus thuringiensis* (Bt) products in ponds. Bt is a bacterium that kills mosquito larvae but doesn't affect people, other animals, or plants.
- Maintain water quality in swimming pools with chemical treatments. Keep water off swimming pool covers. Cover or drain water from plastic pools when not in use so mosquitoes can't lay eggs.
- Fill open tree holes with sand or mortar.



Egg raft of encephalitis mosquito, *Culex tarsalis*.

Photos by Jack Kelly Clark

## What is West Nile virus?

West Nile virus (WNV) is spread by mosquitoes that get the virus from infected birds. Once infected, mosquitoes then transfer the virus to humans and other animals. Infected humans can become very ill. The disease is most serious in children, elderly, and others with weakened immune systems. For more information about WNV, visit the California Department of Health Services website at [westnile.ca.gov](http://westnile.ca.gov).



*Culex sp.* mosquito larvae.

## How do I avoid mosquito bites?

- Ensure doors and windows are properly screened.
- Avoid being outdoors at times of the day when mosquito activity is high in your area. Some mosquito species are active at dawn and dusk, others throughout the day.
- Wear long-sleeved shirts, long trousers, socks, and a hat if you must be outside when mosquitoes are present.
- Use insect repellents containing DEET or picaridin. Oil of lemon eucalyptus is another effective repellent and is derived from natural materials. There are many other products containing other active ingredients that may be less effective and must be reapplied frequently. Check the U.S. EPA website and always follow label directions.
- Outdoor insecticide sprays and other repellent devices vary widely in effectiveness and can temporarily reduce the number of adult mosquitoes but have no lasting effect.
- Citronella candles and mosquito coils burned outdoors work best if there is little air movement.

**Contact your county mosquito and vector control agency for local management information regarding mosquitoes and other pests of concern.**

## What you do in your home and landscape affects our water and health.

- Minimize the use of pesticides that pollute our waterways and harm human health.
- Use nonchemical alternatives or less toxic pesticide products whenever possible.
- Read product labels carefully and follow instructions on proper use, storage, and disposal.

For more information about managing pests, visit [ipm.ucanr.edu](http://ipm.ucanr.edu) or your local University of California Cooperative Extension office.