



May/June 2013

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What's wrong with this tomato leaf? Find the answer on page 7

MFP's, MG's, MPG's... What Are All These Acronyms???

Ok, so the MPG has nothing to do with any UC programs but the first 2 do! You may already be panicking about what to do with the abundance of zucchini you will soon have in your garden (did you really need 8 plants?!?) or perhaps how many ways can you preserve a peach. The



UC Master Food Preservers (MFP) are a great resource to turn to with these questions. We have several Master Gardeners that attended the week long training and are Certified MFP's. A MFP is a volunteer that has completed a training and provides up-to-date information on food safety and preservation. The MFP program is one that is gaining popularity and many current MG's want to attend a training so they can combine their knowledge in gardening with food safety and preservation. The new statewide coordinator will be facilitating the MG programs throughout the state along with the MFP programs. (This is a new responsibility for the statewide coordinator) I predict there will be more and more interactions with the MFP's and MG's in the near future. The 2014 statewide conference committee is considering adding a track on food preservation that will cover popular topics within the MFP program. Our July Master Gardener meeting will have a presentation by 2 of our MFP's for a better idea of what this program is all about. For more information on food safety and preservation visit the UC [MFP homepage here](#).

Congratulations 2013 Graduates!

Congratulations to the 2013 Master Gardener trainees! They have completed their 18 week master gardener training and are all frantically finishing up their finals to be turned in this week. I'm excited with the experience, background and expertise that this training class will be able to add to our program. It is quite a diverse group with lots of enthusiastic master gardeners. The Master Gardener Graduation brunch will be on **July 13th**. More info will be coming soon.





UC Statewide IPH Project
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What is the BIG golden yellow bumble bee looking thing flying around my garden??? This is a question we receive a lot. It is the adult male valley carpenter bee, *Xylocopa varipuncta*. Female carpenter bees are the ones that bore into sound wood or sometimes into decaying wood to make nests. For more info, [click here](#).



Top: Male carpenter bee (they can also be black) Bottom: Female carpenter bee

Gathering Statistics—Population Served

At the last class of the 2013 training I stepped on my soapbox about why I don't have you (our MGs) collect this data. A week later, I was nicely told by the statewide program that we need to start collecting this data. (Its not just SJ county by the way that need to start) This table can be found at the bottom of the page where you enter your hours on VMS. If you are working a farmers market or similar booth event you will need to keep a tally sheet. After you have had contact with a person you will need to record that information. The same will go for our MG office, weekend workshops and any other events where we have interaction with the public. I will be providing room helpers with a sheet to fill out and you will find a copy in any boxes that you pick up for an event. (Or that are already at an event) This process will need to begin July 1, 2013. There will be detailed instructions (more clarification) on what needs to be collected once the site form is completed. Stay tuned!

Population Served

White	Male <input type="text"/>	Female <input type="text"/>
Black	Male <input type="text"/>	Female <input type="text"/>
Amer. Indian	Male <input type="text"/>	Female <input type="text"/>
Hispanic	Male <input type="text"/>	Female <input type="text"/>
Asian	Male <input type="text"/>	Female <input type="text"/>
Unknown	Male <input type="text"/>	Female <input type="text"/>

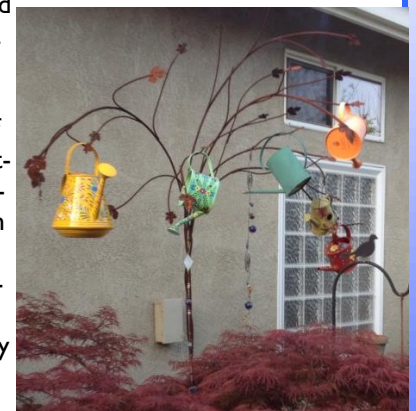
MG Spotlight—Carol Roby 2011



Carol is a 2011 MG that lives in Lodi and has worked for the City of Stockton since 1991. Her birthday is March 13th. She and her husband Gordon have

raised 3 kids (all grown up now) and enjoy spending time with their grandkids. She is a HUGE Giants fan and cried when they won the World Series. She even has a grandson nicknamed "Buster". If you were to find her in the garden she might be pulling weeds or figuring out where the next quirky garden item will be going. If you were interested in inviting her to dinner I'd recommend Chinese Yen Ching in Lincoln Center or Woodbridge Inn. She enjoys reading mystery novels and going to the beach to get away and relax. She played the

clarinet in her high school (Stagg) marching band. One of her least favorite chores is ironing.



Landscape Runoff. What's The Big Deal?

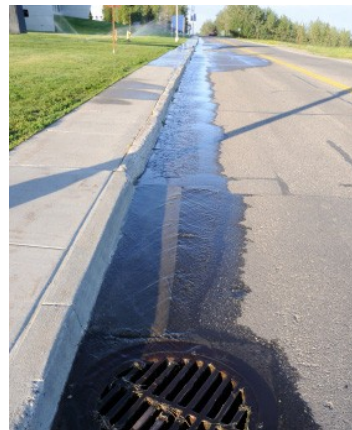
Karrie Reid, Environmental Horticulture Advisor, San Joaquin County

All spring and summer long, everywhere you go in California's cities, you can see water running down gutters into storm drains. A fair question to ask is, "Does it really matter?" Where does it go? Often homeowners and landscape managers simply don't think about where the water goes once it leaves their site by way of the storm drain. Many wrongly assume that it goes to water treatment plants where it can be cleaned up before re-using or releasing it. In reality, storm drains carry water to outlets that dump directly into natural waterways. In San Joaquin County that means streams, sloughs, and ultimately the Delta.

What's in it? Water picks up all sorts of things on its way to the drains: soil particles, leaves, pet waste, car oil and exhaust fume residues, lawn and garden fertilizers, and pest control chemicals, to name a few. A recent UC study in both northern and southern California residential areas showed that pest control chemicals were present in virtually every sample of water that ran from neighborhood yards into drains. Fertilizer ingredients and coliform bacteria were also found with very high frequency.

How much actually runs off? During the UC study mentioned above, the volume of water running off during the storm season and the dry season were compared. Surprisingly, the water running off these urban areas was several times HIGHER during the dry season. This means that the amount of wasted water (from poorly managed irrigation and outdoor activities like car washing and hosing off paths) was many times higher than the amount of winter rainfall that ran to drains in the same area! It was estimated that the amount of wasted water from the urban Sacramento region could fill Lake Oroville!

Why does it matter? Pesticides at concentrations sometimes found in our local rivers and sloughs are known to be toxic to aquatic animals that are the beginning of the food chain and indicators of healthy natural systems. High levels of fertilizers can cause algae and other aquatic plants to overgrow and use up the oxygen needed by fish and other aquatic organisms for survival. When these balances break down, it degrades the health and beauty of the waterways we all use and enjoy. In addition to carrying pollutants to natural waterways, runoff is just plain wasteful. In a state where our available urban water varies from year to year, it only makes sense to be careful about how we use it. The state water boards have mandated that urban water use be reduced 20% by the year 2020. Let's all do our part to make sure the water we use on landscapes is staying where it's needed: on the landscape!



A few straightforward practices can make a real difference in the amount of dry season runoff and in the quantity of pollutants found in the storm runoff that can't be prevented. Make the easiest changes first, and make a plan to implement all the practices until you truly have a river-friendly landscape.

1. ADJUST THE IRRIGATION

Water according to the weather and plant needs. If water is running off, pulse the irrigation in more than one application until you've reached your total desired time so that all the water you apply stays on the planted areas. Use controllers with rain shut-offs, and adjust each month to reflect weather.

2. APPLY PEST CONTROL PRODUCTS SPARINGLY AND NEVER ON HARD SURFACES or WHEN RAIN IS FORECAST:

Where ants are being controlled, use contained bait stations. If any granular fertilizer is spilled onto paved surfaces, sweep it onto the planted areas before it can be washed to drains.

3. LOW WATER USE PLANTS:

When designing or replacing landscapes, use references to select from among the many beautiful drought tolerant plants now available. Many of these also require fewer pesticides and fertilizers.

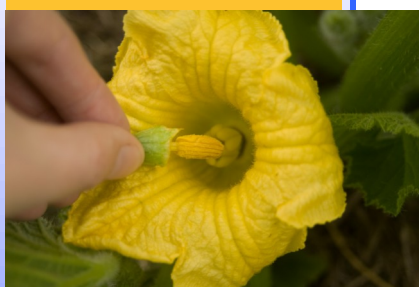
4. USE EFFICIENT IRRIGATION SYSTEMS AND MAINTAIN REGULARLY:

Newer sprinkler heads and drip systems are more efficient, - delivering water at a slower rate that allows infiltration into heavy soils. Regular checking makes sure spray heads are aimed at planted areas and not onto pavements.

5. CONTOUR SLOPED LANDSCAPES TO KEEP WATER ON THE SITE:

Use water-loving plants in low-lying areas, swales, or catchment basins that allow water to stay on site until it is absorbed. Pavement slots can be cut and filled with gravel to slow sheet runoff and channel water to planted areas. Pavers, decomposed granite and permeable concrete paths allow water to stay on site.

In all 3 pictures: Male flower on left, female on right.



Using the male flower to pollinate the female flower on a pumpkin plant.

How To Tell The Boys From The Girls

Farmer Fred Hoffman

It's a question that is asked a lot in the late spring and early summer by vegetable gardeners: "Why am I not getting any squash? After all, there are flowers on the plant. And any fruit that does develop tends to fall off."

According to retired [UC Vegetable Specialist Hunter Johnson](#): "Squash, melons and cucumbers have a flowering habit which is unique among the vegetable crops. They bear two kinds of flowers, male and female, both on the same plant. In order for fruit set to occur, pollen from the male flower must be transferred to the female flower. The pollen is sticky; therefore, wind-blown pollination does not occur. Honeybees are the principal means by which pollen is transferred from the male to the female flower. Other insects cannot be depended upon for pollination."

Not only will a shortage of bees result in poor pollination of your squash, it may only be partial pollination. This results in misshapen fruit, low yield and the demise of immature fruit. Rain, low light, or cold and hot temperatures can limit bee activity. Also, avoid using insecticides that are harmful to bees; it will say so on the product label.

There are other reasons why you may be having problems with your summer squash production: not enough sunlight (plant them in full sun) and planting too early in the season. Squash need very warm soil temperatures to thrive, ideally 70-95 degrees (F). Here in the lower elevations of California, sow seeds directly in the garden in May.

Another reason for early season squash fruit failure, according to Hunter Johnson: "All of the early flowers are males. Female flowers develop somewhat later and can be identified by the miniature fruit at the flower base. However, In hybrid varieties of summer squash, the first flowers to appear are usually females, and these will fail to develop unless there are male squash flowers -- and bees -- in the nearby area."

But lack of bees is the primary reason for poor fruit set in squash, melons and cucumbers. If you have a shortage of bees, consider putting in [bee-attractive plants](#). So, what's a bee-less gardener to do? Pollinate by hand! Transferring the pollen from the male flower to the stigma inside the female flower is easy to do, if you follow a few guidelines:

Know your squash flowers. The male flower has a long slender stem, along with a stamen in the inside of the flower. The female flower has a very short stem, along with a miniature fruit (the ovary) at the base of the flower.

You could break off the petals of the male flower and then use a small artist's brush to transfer the yellow pollen from the male squash stamen to the stigma of the female flower. [American River College Horticulture](#) Professor Debbie Flower has an even easier way: "**Just peel away the male flower petals, cut off the flower and then twirl the male flower inside the female flower.**" The best time to do this? **In the early morning.** Use only freshly opened flowers; they're only "in the mood" for one day.

What about cross pollination among these cucurbits? Not a worry, unless you save seed for next year, says Johnson: "A common misconception is that squash, melons, and cucumbers will cross-pollinate. This is not true; the female flowers of each can be fertilized only by pollen from that same species. Varieties within each species, however, will cross-pollinate. Thus, zucchini squash will cross with crookneck or acorn squash, and similarly among varieties of cucumber, and among varieties of muskmelon. When more than one variety of a particular cucurbit is grown in the garden, they will readily cross, and seed saved from these plants will produce fruit which will be different from either of the parents."

Getting The Best Results with Yellowjacket Traps

Michael Rust, UC Riverside Entomology



With the onset of warm weather and outdoor eating, expect an increase in call requests for help managing yellowjackets. We recommend lure traps, but it is important that customers know if they work and how to use them.

University of California, Riverside entomologists recently tested yellow lure traps in picnic areas in parks in Southern California and demonstrated that proper use of traps can provide protection of local areas, such as eating areas, in many situations. Traps don't eliminate large populations but can help reduce numbers of localized foraging workers. Lure traps contain a chemical that attracts yellowjackets into the traps, but the common lure in traps, heptyl butyrate, attracts primarily the western yellowjacket, *Vespa pensylvanica*, the most commonly encountered species in California, but not

other species. Meat such as fresh chicken can be added as an attractant and is believed to improve catches of the German yellowjacket, *V. germanica*, and *V. vulgaris*. Periodically check the trap to remove dead yellowjackets and make sure workers are still attracted to the trap. Lures need to be replaced periodically; follow trap directions regarding replacement. If you added meat to your trap, replace the bait frequently, because yellowjackets aren't attracted to rotting or dried meat.

To reduce the number of yellowjackets foraging in specific areas such as patios, place lure traps with heptyl butyrate around the periphery. In backyards, place the traps along the edge of the property line as far away from the patio or other protected area as possible. It is important to place the traps between the area to be protected and the native landscapes serving as nesting sites to intercept foraging yellowjackets. Typically yellowjackets will forage about 1/4 mile. Consumers should be reminded that to get the best effect from traps, they should remove other yellowjacket attractants such as trash, rotting fruit on or under trees, soda cans, and outdoor food.

Water traps generally are homemade and consist of a 5-gallon bucket, string, and protein bait such as turkey, ham, fish, or liver. Fill the bucket with soapy water, and suspend the protein bait 1 to 2 inches above the water. A wide mesh screen over the bucket will help prevent other animals from reaching and consuming the bait. After the yellowjacket removes the protein, the yellowjacket flies down and becomes trapped in the water and drowns. Like the lure trap, these traps also work best as queen traps in late winter to early spring. In summer and fall they might assist in reducing localized foraging workers but usually not to acceptable levels. Place water traps away from patio or picnic areas, so wasps aren't attracted to your food as well.

For more information about yellowjackets and their management, see the UC IPM Pest Note [Yellowjackets](#).



May I Introduce...The Dragonfly

Both dragonflies and damselflies belong to the order Odonata. Many characteristics distinguish Odonata from other groups of insects -- minute antennae, extremely large eyes (filling most of the head), two pairs of transparent membranous wings with many small veins, and a long slender abdomen. Female dragonflies lay their eggs in or near water. Most of a dragonfly's life is spent in the larval stage where it molts from six to fifteen times. In both their larval and adult stages, dragonflies eat mosquitoes. The larvae eat mosquito nymphs and other insects. As adults, they grab mosquitoes and other insects in mid-air.

Each compound eye is composed of nearly 28,000 individual units (ommatidia), and together the eyes cover most of the head. More than 80% of their brain is devoted to analyzing visual information. Dragonflies can fly forward at about 100 body-lengths per second (up to 30mph), and backwards at about 3 body-lengths per second. The largest species today is a South American dragonfly with a wingspan of 7.5 inches. The smallest modern species is an east Asian dragonfly, the libellulid dragonfly, *Nannophya pygmaea*, with a wingspan of about 3/4 of an inch. California is home to approximately 108 species. More than 5000 species are found worldwide.



Did you know... You can hover your mouse over anything that is blue and underlined and by clicking on it you will be directed to a webpage with more information about that subject! Try it!!



Cool Tools! MG Only Website (Hub)

Did you know that there is a Master Gardener only page for our program? You can access it just by going to the homepage of our [website](#). Look over in the left hand navigation column and scroll to the bottom. It will say "Master Gardener Page. For volunteers only." This is a password protected site (using your UC password you have set up) and is an easy and quick starting point to get into any programs/sites that you may need to use. You can find links to VMS, the Portal, our newsletter, how-to guides, project pro-

posal forms and my contact info. If you have any other links or items

you would like to see added to this site, just let me know.

Master Gardener Page (For volunteers only)

Master Gardener Log-in



Log into VMS: This is for San Joaquin County Master Gardeners to use to sign in and record their volunteer time and continuing education credits. Password is required.

Log Into the Portal: On the portal you can access **File Vault** which is valuable in uploading and sending large files (such as PowerPoints)

You can also access all of your **collaborative tool** groups that you belong to on the portal. The repository, Lynda.com, your personalized links and VMS can all be accessed from the portal.

How To Guides

- VMS
- Collaborative Tools
- FileVault

Master Gardener Internal Newsletter

[Internal Master Gardener Newsletter - Whats Growing On](#)

Important Contact Information

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Win (Front office)
209-953-6100
Master Gardener Office:
209-953-6112

Marcy's Email:
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MG Email:
mgsanjoaquin@ucanr.edu

MG Office Hours
Tu-Th 9 am - 12 pm

[Project Proposal Forms](#)

UC CE MAKE A GIFT

Coming Soon!

We are waiting on the final paperwork stages to activate a "Make a Gift" button on our MG web-site. This will allow people to make a tax deductible donation that will go directly into our program account.

MG Spotlight— Mary Fry 2009



Mary is a native of Stockton and worked for 40 years before retiring. She began her working career as a clerk for Sears and Roebuck and ended as a teacher for Stockton Unified. Her birthday is Sep-

tember 16th. She has been married for over 45 years to her husband Bill (pictured below). She enjoys spending time with her son and grandkids, entertaining, reading and golfing. If you found her out in the garden she would probably be deadheading and pruning her plants. Her least favorite chore is grocery shopping. She enjoys homemade Italian food and Rosewood restaurant in Lodi. She likes to travel and enjoys Europe, especially the beautiful Amalfi Coastline in Italy. "It intrigues me as to how the locals can maneuver through the steep, narrow, mountainous roadways without being distracted by the

incredible beauty that surrounds them."



What Can Landscape Managers Do to Help Honey Bees?

(This article applies to MG's too) Eric Mussen, Davis Entomology

Most people have heard about the decline in honey bees during the last several years. Are there things that landscape professionals or home gardeners can do to help?

Better Nutrition, Fewer Pesticides: The actual cause of the honey bee decline is still uncertain. What is known is that a number of factors are probably involved. For instance, honey bees are in their most robust condition and able to best contend with stresses when they are well fed. In addition to water, honey bees require nectar sources for carbohydrates and a varied mix of pollens to provide proteins, lipids, vitamins, minerals, sterols, antioxidants, and other nutrients.



Pesticides can also be involved in bee decline, especially when applied to plants when they are in bloom and bees are foraging. Many insecticides are highly toxic to bees including virtually all organophosphates, carbamates, and pyrethroid materials. Drought, flooding, and conversion of former foraging grounds into large agricultural monocultures, highways, airports, developments, and so forth have led to honey bee malnutrition in many locations. Also, in the last 20 years beekeepers have been encountering a series of previously exotic pests that invade the hive and kill bees, such as the varroa mite; new honey bee diseases, including *Nosema ceranae*; and many RNA viruses. If not killed in the field, pollen-foraging bees can collect residue-contaminated pollens and bring them back to the hive for immediate consumption or long-term storage. There are serious concerns over the chronic, sublethal effects of these residues on the physiology of immature and adult bees. A newer class of insecticides, the nicotinoids, which include imidacloprid, clothianidin, and dinotefuran, also pose hazards for honey bees. These products are systemic materials that move through the plant and will be included in nectar and pollen of flowers when they bloom. Although the neonicotinoid residues may not kill bees immediately, they may have sublethal effects, such as the suppression of immune and detoxification systems, that cause bees to be more sensitive to other stresses.

Use Plants and Pesticides Wisely: There are several ways landscape managers can help protect bees. When designing or replanting a landscape, consider honey bees and other pollinators in your plan. Include plants honey bees prefer, and try to ensure that several bee-friendly plants will be blooming throughout the year. Also, avoid applying highly toxic insecticides, especially when plants are in bloom. Be aware that neonicotinoids tend to be stable compounds that can remain in the soil and in plants for months and still be present when the plants bloom. Even when plants aren't in bloom, use nonchemical management methods or pesticides with little or low toxicity to bees whenever possible, as pesticides may leave toxic residues or there may be flowering weeds or other blooms nearby. For information about relative toxicity of pesticides to bees, consult *How to Reduce Bee Poisoning from Pesticides* [here](#). Toxicity of many landscape and garden pesticides to bees is also listed in the UC IPM landscape and garden pesticide active ingredient database [here](#).

What's Wrong Answer—Powdery Mildew (from page 1)

Powdery mildew first appears as [white, powdery spots](#) (picture to right) that may form on both surfaces of leaves, on shoots, and sometimes on flowers and fruit. These spots gradually spread over a large area of the leaves and stems. An exception is one of the powdery mildews that affects artichokes, onions, peppers, and tomatoes: it produces yellow patches on leaves but little powdery growth.

Leaves infected with powdery mildew may gradually turn completely yellow,

die, and fall off, which may expose fruit to sunburn. Powdery mildew spores are carried by wind to new hosts. Although humidity requirements for germination vary, all powdery mildew species can germinate and infect in the absence of free water. The best method of control is prevention. Planting resistant vegetable varieties when available, or avoiding the most susceptible varieties, planting in the full sun, and following good cultural practices will adequately control powdery mildew in many cases ([Table 1](#)). However,

very susceptible vegetables such as cucurbits (cucumber, melons, squash, and pumpkins) may require fungicide treatment. For management practices and more information about powdery mildew on vegetables, [click here](#).



Asian Citrus Psyllid and HLB Disease

UC IPM

The Asian citrus psyllid and the deadly bacterial disease it spreads, Huanglongbing (HLB), threaten citrus trees in backyards and on farms. The psyllid arrived in Southern California in 2008, and HLB disease was first detected in Los Angeles in 2012. All types of citrus—including oranges, grapefruit, lemons, and mandarins—are affected as well as a few closely related ornamentals.

What are some of the concerns?

- The Asian citrus psyllid carries HLB disease from tree to tree.
- HLB disease will kill trees in as little as five years.

There is no cure or effective control method for HLB disease.

Inspect your citrus trees for psyllids.

- Reducing the psyllid population helps to slow the spread of HLB disease.
- From spring through fall, look for psyllid eggs, nymphs, and adults on newly forming leaves.
- Adults are about the size of an aphid and have brownish mottled wings. They feed with their head down and their “tail” in the air.
- Nymphs are tiny and yellowish, and they excrete white waxy tubules.
- Psyllids feed on plant sap and produce sticky honeydew that may be covered with black sooty mold. However, other citrus pests (e.g., aphids and soft scales) may cause this symptom too.

Although this psyllid can damage leaves, it doesn’t kill trees by itself, and fruit is safe to eat.

What are the symptoms of HLB disease?

- Leaves show an asymmetrical yellow mottling with patches of green.
- Fruit are small, lopsided, and fall off the tree easily, and the juice tastes bitter.

What should you do if you think you have the Asian citrus psyllid or HLB disease? Contact your agricultural commissioner’s office, or call the California Department of Food and Agriculture (CDFA) Exotic Pest Hotline at 1-800-491-1899 to confirm a find.

How can I manage the psyllid and disease?

- Plant trees from reputable nurseries to avoid bringing either the insect or HLB into your yard.
- Check your trees monthly, especially the newly forming leaves psyllids prefer to live on.
- Parasitic wasps that attack Asian citrus psyllids have been released in some areas. These wasps will help to reduce psyllid numbers but aren’t likely to stop the spread of HLB disease.
- You can reduce psyllid numbers by treating infested trees with insecticides including oils, soaps, carbaryl, or systemic imidacloprid. Oils and soaps don’t last long, so they need to be reapplied every few weeks. Carbaryl and imidacloprid are longer lasting, but because both are toxic to bees, don’t use these products when citrus are in bloom. Make sure foliar-applied insecticides reach the new growth where young psyllids hide.
- Learn where you are relative to quarantines. Don’t move plants or clippings out of infested areas, because doing so can spread the insect and disease.
- Because there are currently no cures for HLB disease, diseased trees must be removed to protect the trees around them from becoming infected. **Read more about [Asian Citrus Psyllid and Huanglongbing Disease](#) .**

For more information (including more pictures, trees at risk and maps) visit the [USDA Hungry Pest website](#).



Brownish adult, yellow nymphs, and white wax of Asian citrus psyllids (left).



Boething Treeland Farms

Recently the Master Gardeners took a trip to [Boething Treeland Farms](#). The name is very misleading, this place is like Disneyland for gardeners! They have a lot more than just trees. The nursery is a county treasure and is located in east (waaay east) Lodi. It is a family owned nursery that was founded in 1952 by John and Susan Boething on 30 acres in the outskirts of LA. They started off as a retail nursery, but in the early 70's switched directions and became a wholesale nursery. The company has now expanded to 10 growing grounds on over 900 acres employing more than 500 people. They grow over 400 varieties of trees, over 800 varieties of shrubs, and many ground covers, vines, espaliers, perennials and grasses. Three of the children are active in the day-to-day operations and a son-in-law sits as President of the company. Treeland propagates by seed, cutting, divisions and grafting. 90% is propagated in Lodi, Moorpark and Woodland Hills. They are proud to be at the leading edge of the [CA Quality Tree Initiative](#), in cooperation with the Urban Tree Foundation and the CA Center for Urban Horticulture at UC Davis. In this endeavor, they are following the guideline specifications for growing quality trees. They also practice IPM at their locations.

On our 2 hour tour of the 300+ acre nursery, Haydi (one of the daughters) told us about the background of the company and then began us on our trek. We got to see many plants with the opportunity to buy them at a great price! She took us to the potting shed and the propagation greenhouses to take a look around. She explained their day to day operating procedures, water issues, pests and answered lots of questions from the MGs. The on and off drizzles we encountered didn't put a damper on our day. It was a beautiful location and a great opportunity to learn about a family ran business that is in our backyard.



Pets and Toxic Plants

UC Davis School of Veterinary



A surprisingly large number of common garden and household plants are toxic to pets, and reactions to toxicity range from mild to life-threatening. Pets, like young children, explore the world with their senses, and they are therefore vulnerable to accidental poisoning. Many of these plants make wonderful additions to the garden, but it is important to know which plants are toxic. If possible, avoid planting these where pets (or children) will have frequent unsupervised access to the plants.

The 12 plants listed below are responsible for the majority of calls to the UC Davis Veterinary Medical Teaching Hospital (VMTH) about possible plant poisoning. The list was compiled by Director of Pharmacy [Dr. Valerie Wiebe](#). The toxicity of the plants below varies according to the species of animal exposed (cat, dog, bird, etc.), the amount of the plant that was ingested, and the specific variety or species of the plant.

If you suspect your pet has ingested any of the plants below, call your veterinarian immediately. Do not wait to see if symptoms appear, because in some cases of poisoning, by the time symptoms appear it is too late to save the animal.

[Lilies \(Lilium, all spp.\)](#): Ingesting any part of the plant can cause complete kidney failure in 36-72 hours. First symptoms appear in a few hours and may include appetite suppression, lethargy, vomiting. *Cats are especially sensitive to lily poisoning*, so be very careful to keep your cats away from lilies of any kind, including the Amaryllis, Easter lilies, and Stargazer lilies so often found in homes around the holidays.

[Lily of the Valley \(Convallaria majalis\)](#): Ingesting any part of the plant can cause cardiac dysrhythmias, vomiting, diarrhea, confusion, weakness, and even death. (Photo courtesy of freebigpictures.com web site).

[Anemone](#) (Anemone and Pulsatilla, family Ranunculaceae): Irritating to the mucus membranes, and can cause blisters, hemorrhagic gastritis, shock, convulsions, and death. (Photo is Japanese Anemone).

[Aloe Vera \(family Liliaceae\)](#): Vomiting, depression, diarrhea, anorexia, tremors, change in urine color.

[Amaryllis \(family Amaryllidaceae, incl. Hippeastrum spp.\)](#) All species, including Belladonna Lily, are toxic, and especially dangerous to cats. The bulbs are the toxic part of the plant. The "Amaryllis" commonly seen during the December holidays are Hippeastrum species. Symptoms include vomiting, depression, diarrhea, abdominal pain, hyper-salivation, anorexia, tremors. (Photo courtesy of Ellen Zagory, UC Davis Arboretum).

[Asparagus Fern \(family Liliaceae\)](#): Allergic dermatitis, gastric up-

set, vomiting, diarrhea.

[Daffodil \(Narcissus\)](#): Vomiting, diarrhea. Large ingestions cause convulsions, low blood pressure, tremors, cardiac arrhythmias.

[Philodendrons](#): Irritation, intense burning and irritation of the mouth, lips, tongue, excessive drooling, vomiting, difficulty swallowing.

[Jade Plants \(Crassula argentea\)](#): Vomiting, depression, ataxia, slow heart rate.

[Chrysanthemums](#): Vomiting, diarrhea, hyper salivation, incoordination, dermatitis.

[Cyclamen \(Cyclamen persicum\)](#): The tubers or rhizomes contain the toxic glycoside cyclanin, a terpenoid saponin. Ingestion can cause excess salivation, vomiting, diarrhea, heart rhythm abnormalities, seizures, or even death in rare cases.

[Cycads \(including Sago palm; cardboard palm; etc.\)](#): The "Sago palm" is a cycad, not a true palm, and all parts of the plant are poisonous. Symptoms include vomiting, lethargy, melena (black "tarry" feces), icterus (jaundice), increased thirst, hemorrhagic gastritis, bruising, coagulopathy, liver failure, and death. A northern California police dog, a patient at one of our [Companion Animal Memorial Fund](#) donor clinics, died in November 2011 after ingesting parts of this plant.

Common plants that are highly toxic but only rarely ingested by pets include:

[Angel's Trumpet](#) (Brugmansia spp.), [Castor bean \(Ricinus communis\)](#), [Daphne \(Daphne spp.\)](#), Deathcamas & Meadow Deathcamas (Zigadenus venenosus), English yew (Taxus baccata), [Foxglove](#) (Digitalis purpurea), [Jimson weed or Devil's Trumpet](#) (many common names) (Datura spp.), Nicotiana/Tobacco plants (all spp.), [Oleander \(Nerium Oleander\)](#), Poison hemlock (Conium maculatum), [Pokeweed \(Phytolacca americana\)](#), [Tree tobacco \(Nicotiana glauca\)](#), Western water hemlock (Cicuta douglasii), Yew (Taxus cuspidata)

For more information and more toxic plants (including animal specific lists) visit these sites:

UC Davis School of Veterinary Medicine: [Pets and Toxic Plants](#)
Cornell University: [Plants Poisonous to Livestock and other Animals](#)

University of Illinois: [Plants Toxic to Animals](#)

The Humane Society: [Plants Potentially Poisonous to Pets](#)

The ASPCA: [Toxic and Nontoxic Plants](#) for Animals



Above left: Don, Carol and Win at the Earth Day booth. Above right: Francine and Leslie at Senior Awareness Day.



Lodi Flower Pot Project. Rich pushing the wheelbarrow. Kathy, Carol and Marilyn fighting the root bound plants. MGs having fun posing for a picture.



Julie, Sharon and Cathy at the Linden Cherry Festival





Decisions, Decisions, Decisions! Corinne, Susan, Jeff and Adrian at the Boething tour



Above: Kathy Grant with Lodi Mayor Alan Nakanishi accepting a Certificate of Recognition from the Lodi City Council on behalf of the MG's for the flower pot project. Bonnie and Carol posing with the certificate. Harry busy in the demo garden. Below: 2013 fair booth. Andrew, Cheryl and Candy working the booth. Linda with her water props at the June workshop.



Thank you to ALL the veteran MG's that came to the 2013 training and helped.
Your time, help and expertise was greatly appreciated!



Photos by Kathy Keatley Garvey

Just
because it's really
cool...



(c) Kathy Keatley Garvey



(c) Kathy Keatley Garvey



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Advise To Grow By



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Your Pinterest Inspiration– Growing Vertically



Top left: kitchen produce basket used as a planter. Herbs growing in a shoe holder bag. Next row: Gutter garden. Trellising cucumbers vertically with lettuce planted below that will be shaded. Bottom: Using old party-hose as a sling for melons (you could use old t-shirts too)



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