UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

A Garden Runs Through It

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

May 2020

UCCE Master Gardener Program, Colusa County

UC Cooperative Extension,
Colusa County

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In This Issue

Upcoming events

Click here to read our blog.

Find us on Facebook

No events for May

Once we re-group, we will let you know about our upcoming events.

Advice to Grow by … Ask Us!

Book of the Month

The $64 Tomato

By William Alexander

Published by Algonquin Books

Haven't we all planted a vegetable that we love only to find out that what should have been a seed packet investment ballooned into a life of its own?

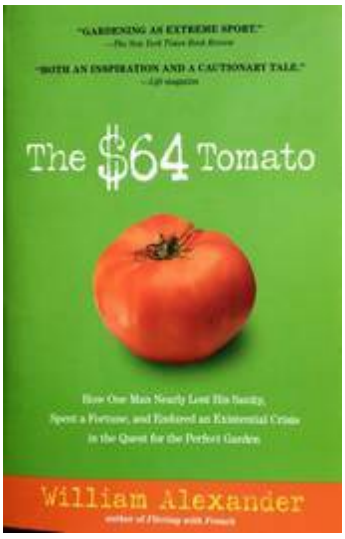
William Alexander actually calculated the cost of growing his beloved Brandywine tomatoes. Of course it was way more than the $3.00 investment into a seed packet.

Since he just purchased a home with 2 acres he decides that he can grow many vegetables. This is when the expenses start to add up: The land will need to be dug up ($$) and terraced because of the slope ($$). Good soil is a must so that is trucked in ($$). He will need to get water to the ½ acre he wants to dedicate to his vegetable garden ($$).You can't be a gardener without tools so he invests in the manual and mechanical tools required for the tasks at hand ($$). His wife thinks it needs some attractive elements so they bring in the hardscaping ($$).

Now just sit back and watch it grow!

Time for the deer to come in and munch away so he will need high fencing ($$) but that doesn't deter the ground chucks so he electrifies the fence ($$).

His adventures continue in this great book about an ordinary man and his quest for his favorite Brandywine tomatoes. It is an easy read and there will be something in there that everyone can relate to. It is an easy read and pretty funny.



Submitted by Carolyn Froelich

Ornamental Plant of the Month

Strelitzia reginae

THE BIRD OF PARADIZE

Not only is the bird of paradise (*Strelitzia reginae*) easy to grow and keep alive, but it also may be one of the most dramatic plants in your garden, with its eye-catching flowers rising 4 to 5 feet above spear-shaped leaves. Indoors or out, in the ground or in a container, bird of paradise will flower from late winter to early spring when you give it the right care in U.S. Department of Agriculture plant hardiness zones 9 through 12. The crested orange & blue flowers are what this plant is grown for, both in the landscape & commercially. The flowers are long lasting on the plant as well as in arrangements. When you plant a young Bird Of Paradise don't be surprised if it doesn't flower for the 1st few years. As the plant ages, more flowers will appear. Don't rush to divide it because it blooms better when crowded.
Outdoors, bird of paradise grows and bloom best in full sun, with six to eight hours of direct sunlight, or in partial shade where the summer sun is intense.

The container grown bird of paradise needs rich, well-drained soil, ensuring that the plant stays in good health. The Bird Of Paradise isn't too fussy as to soil which is evidenced by the wide variety of places it grows in. It does prefer a loamy, somewhat rich mix however & needs good drainage. Bird of paradise thrives with regular, weekly watering, allowing the soil to dry out a bit before watering again. Water a container plant until you see water running out of the pot, whether indoors or out. Cut back on watering in the winter
During the growing season, in spring and summer, bird of paradise does best with regular feeding, every two weeks or so. Use a slow-release, all-purpose fertilizer for a plant in the ground and a liquid fertilizer for a container plant or add a few inches of rich organic compost over the top of the soil for either plant. Follow the directions on whatever fertilizer you use, being careful not to overfertilize, which can cause too much foliage growth and interfere with the plant's flowering.

Bird of paradise is prone to root rot if you overwater or if its soil is not draining well. If the leaves start to wilt for no apparent reason, either cut back on watering or repot the plant with rich but well-draining soil. Possible pests to watch out for include aphids, mealybugs, scales or whiteflies. Either hose off the bugs with a strong spray of water, handpick the bugs off the plant or wipe the bugs off with a cotton swab dipped in alcohol.

No pruning is necessary with bird of paradise; just prune away any spent flowers and dead leaves. If you grow your plant outdoors and don't plan on moving it indoors during the winter, shelter it from any freezing temperature by draping it with burlap or moving it to a sheltered spot in your yard or on your deck when frosts are predicted.

Tip
Always sterilize your pruning shears with rubbing alcohol or alcohol wipes to reduce the chances of spreading disease or pests from one plant to another.

Submitted by Bernice Dommer

Edible Plant of the Month

Companion Planting

Companion Planting is the practice of planting two or more plants together for mutual benefit. For example, certain plants might be grown together to help each other meet their nutrient requirements, growth habits, or pest repelling abilities. A classic example of companion planting comes from the Three Sisters Trio; maize (corn), climbing beans and winter squash, which were often planted together by various Indigenous Nations across the Americas. The Three Sisters garden takes into consideration the three plants complementary natures: the tall corn stalks help support the climbing beans, while the squash stays low to help shade the area with its large leaves. The shade helps discourage weeds and pests, and the fast-growing beans help supply nitrogen to the soil, which is required by the corn and squash.

Companion Planting Chart:

Asparagus can be planted with basil, cilantro, dill, marigolds, nasturtiums, oregano, parsley, peppers, sage, thyme and tomatoes. Asparagus repel nematodes that can attack tomato plants, and tomatoes repel asparagus beetles.

Apples and Apricots surprisingly love to be planted next to garlic, but it makes sense. Garlic helps repel pests like fruit tree bore, aphids and mites. The tree roots also absorb sulfur produced by the garlic, making the tree more resistant to fungus, mold and black spot. Marigolds are another winner for fruit trees, as they attract pollinators. These flowers also help discourage nematodes in the soil.

Basil is great to plant next to tomatoes to improve flavor and to repel aphids, beetles, mites, flies, mosquitoes and tomatoes horn worm.

Beans are all nitrogen fixers of the soil, so plant next to carrots, celery, chard, corn, cucumber, eggplant, potatoes, radish.

There are plenty of more examples

Take into consideration where you live, talk to your neighbors, observe what is growing around you, and climate. What will grow in San Francisco may not be suitable in the Sacramento Valley.

Submitted by Annelie Lauwerijssen

Recipe of the Month

Strawberry Rhubarb Upside Down Cake

Ingredients

5-6 cups rhubarb sliced in 3" lengths

1 6 oz package strawberry Jello

1/2 cup sugar

2 cups mini marshmallows

1 pkg white or yellow cake mix

whipped cream

Directions

Grease a 13 x 9" baking dish

Lay rhubarb in 3" sections, alternating up/down and right/left

Sprinkle with sugar, marshmallows and Jello.

Prepare cake mix and pour over fruit

Bake 40-45 min until tester comes out clean

Cool 10 min, turn out onto a large serving plate

Top servings with whipped cream, if desired.

350 cal/slice, makes 12 servings

Submitted by Penny Walgenbach

Beautiful Blooms

Name:

S F E R T I L I Z A T I O N D
T P F Q S T I G M A N P T E Z
U O L I S N E M A T S E R L B
Y L A E L T N O P I S T I L M
F P A B C A I B Q T R A B O K
C I R N T S M A P O Z L E P C
K N O Z T A S E P A L S B N F
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VOCABULARY LIST

ANTHER
FERTILIZATION
FILAMENT
OVARY
PETALS
PISTIL
POLLEN
POLLINATION
SEPALS
STAMENS
STIGMA
STYLE

Soil

GARDENING ACTIVITY #2

Summary:

Soil samples are explored to determine what kind of particles they are made of. Soil test kits are then used to determine the nutrient makeup of the soil.

Why Do This?

Food is only as good as the soil it grew from. This activity will have participants look at two soil qualities and gain a deeper understanding of what plants need from soil.

Some Helpful Information:

Half of every plant you grow is underground—roots. The roots need an optimal growing environment if they are to do all the work of gathering and transporting nutrients and water for all the plant's growth as well as giving the plant a place to anchor itself. That's why the nutrients in the soil and the consistency of the soil are as important to your garden as the seeds you plant. Soil is made up of minerals, organic material (such as decaying plants and microorganisms), air and water. All these things interact with plants to keep them healthy.

This activity discusses the different size particles in soil. The three size classifications that gardeners use are **sand** for the biggest particles, **silt** for middle-sized ones and **clay** for the smallest. Soil is made up of a mixture of sand, silt and clay. The ideal mixture for gardening is called loam and consists of 40% silt, 40% sand and 20% clay. Too much clay keeps the soil too wet, then air can't reach plant roots. Too much sand and the soil will not hold enough water, so roots dry out.

For the first part of this activity you'll need to gather soil samples of each particle type. When wet, sand is gritty, silt is smooth and slippery, clay is slippery and sticky. Sand is easy to find at the beach; soil near the beach is often sandy as well. For clay soil you typically have to dig a little deeper. Areas that retain water probably have clay soil beneath them. Soil with organic material (broken-down plants and other living stuff) often have a mix of sand, silt and clay in them. Get soil moist, and grasp it firmly. If it sticks together it doesn't have too much sand. If the moist clump of soil crumbles apart easily it probably doesn't have too much clay either. If it really sticks in a clump it is probably high in clay content.

There are three main nutrients that plants need from soil. **Nitrogen** makes the plant a healthy green. It helps the plants to grow. **Phosphorus** is important for strong root growth. **Potassium** will help the plant grow strong and resist infections. It is simple to test for theses elements with an inexpensive basic soil test kit. The results can tell if the garden soil needs something added to ensure healthy plants. There are lots of other minerals and nutrients, but these three are the most important and are easy to test for.

Time:

1-2 hour(s)

Materials:

samples of clay, silt and sandy soils
an area to get muddy/dirty
small cups, 3 per group
soil test kits, one per 5 or so participants
trowels
access to areas to dig different types of soil (or you can provide pre-dug soil samples)

Preparation:

1. Scout out areas for folks to dig soil samples. Be sure your garden site soil is tested.
2. Gather materials.
3. Review activity to be familiar with steps and information.

Step by Step:

Part One: Soil particles

1. Break into groups of 5 or so.
2. Have each group collect one cup of each soil type.
3. Have everyone in each group look at, smell, listen to as they rub, feel each soil type. They should be comparing them and discussing if they think it is a good soil to grow plants in.
4. Demonstrate to everyone how to add a little water and clump the soil types (see helpful information). Explain that sandy soils fall apart; clay soils stick tightly; and loam soils, the best for growing in, clump and then crumble.

Part Two, Soil test

1. In groups have participants follow directions in the soil test kit. Assign tasks to everyone, such as reader, test tube holder, soil mixer...
2. Everyone discuss together what results they found. Which soils need which nutrients?

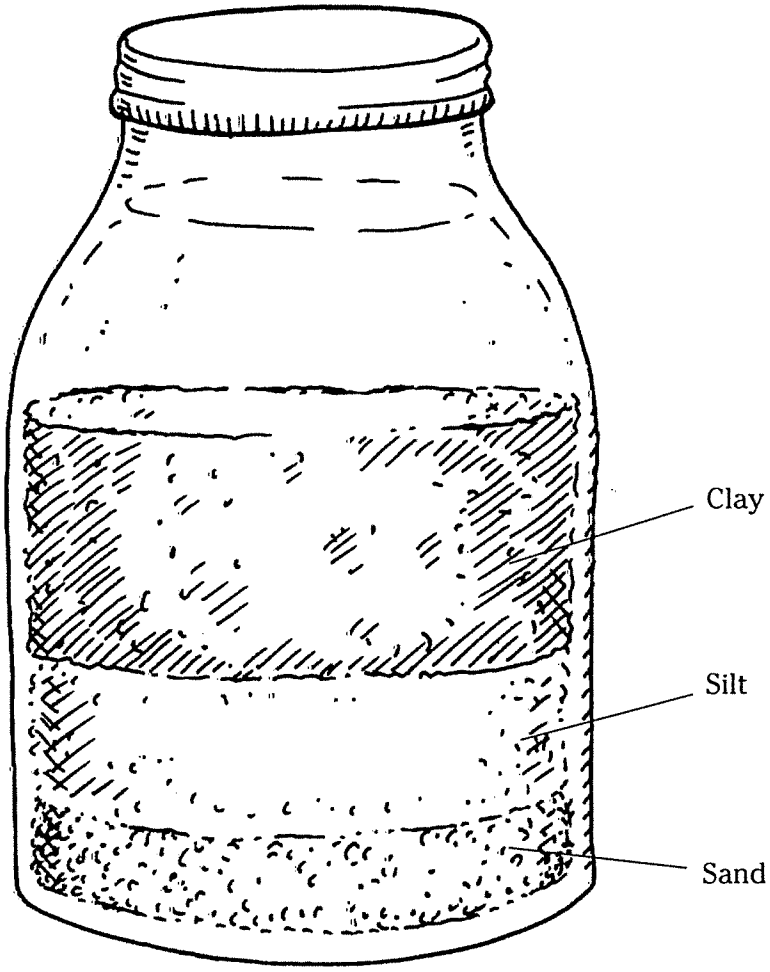
Extensions:

- Put soil samples in a quart jar with 2 cups of water. Shake well then let the soil settle (for 24 hours). The sand will settle first, next the silt and clay last. Look at the different layers. What is this soil mostly made of?
- Put 2 cups sandy soil in a container then cover with cheese cloth. Add 1 cup water, swirl, then pour water back into measuring cup. How much water came back? Try the same with clay soil and loam soil. How do they differ?
- Have someone from Cooperative Extension come talk about soil.
- Collect soils from home or local farmers and test them for particle size and nutrients.

Handout • Gardening Activity #2

SOIL

Soil Layers:



Silt and Clay have many small pores so water passes through slowly. Water may move through so slowly that parts of the roots temporarily don't get what they need.

Sand has many large pores, so water passes through readily. Little is retained for use by plant roots. Because of this, you will need to water and fertilize more often.

It is best for gardening to have soil that is a combination of silt, clay and sand—to allow nutrients, water and air to travel through a combination of large and small pores.

Ants

Although ants are annoying when they come indoors, they can be beneficial by feeding on fleas, termites, and other pests in the garden.

D-H. CHOE

Argentine ants trailing on pavement.

While spraying chemicals inside the house might seem effective, doing so will not prevent more ants from entering. Because most ants live outdoors, focus efforts on keeping ants from entering buildings. Combine several methods such as caulking entryways, cleaning up food sources, and baiting when necessary. Avoid using pyrethroids (e.g., bifenthrin and cypermethrin), especially on hard surfaces such as driveways or sidewalks or around the foundation of buildings. These products pollute waterways.

Make your house less attractive to ants.

- Caulk cracks and crevices that provide entry into the house.
- Store food attractive to ants in closed containers.
- Clean up grease and spills.
- Ant-proof kitchen garbage pails with sticky barriers such as petroleum jelly under the lip and place pet dishes in a moat of water.
- Remove or manage sweet food sources next to your house such as aphid-infested bushes and ripened fruit on trees.
- Keep plants, grass, and organic mulch at least a foot away from the foundation of buildings to reduce ant foraging and nesting.

For more information about managing pests, visit ipm.ucanr.edu or your local University of California Cooperative Extension office.

When ants invade your house.

- Sponge up invading ants with soapy water as soon as they enter.
- Plug up ant entryways with caulk.
- Take infested potted plants outdoors and submerge pots in a solution of insecticidal soap and water.
- Clean up food sources by wiping up spills or placing food in tight-fitting containers.
- Rely on outdoor baits to control the ant colony.
- Insecticide sprays shouldn't be necessary.
- If you hire a pest control company, ask them to use baits and spot treatments rather than perimeter treatments or monthly sprays.

How ant baits work:

Pesticide baits work by attracting worker ants who then take the product back to the nest where the entire colony, including queens, can be killed. The pesticide must be slow acting so workers won't be killed before they get back to the nest.

Ant bait stations.

How to use baits:

- Place baits near ant trails and nest openings.
- Prepackaged or refillable bait stations or stakes are the safest and easiest to use. Active ingredients in baits may include boric acid/borate, fipronil, avermectin, or hydramethylnon.
- Liquid borate (0.5-1% borate in sugar water solution) baits in refillable bait stations are best for severe Argentine ant infestations.
- Replace baits when empty and reposition them, or try a different bait product if ants don't appear to be taking it.
- It can take 5 to 10 days to see fewer ants.

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.

UC IPM
September 2018
UC CE University of California Agriculture and Natural Resources
Integrated Pest Management

Gardening Guide

UC Master Gardener Program of Colusa County

Zones 8 and 9

	May	June	July
PLANTING	• Direct seed in the garden cucumbers, melons, summer squash, beans, corn, and annual herbs. • Plant sunflowers, zinnias, cosmos, marigolds and aster in the flower garden.	In the flower garden you can still plant seeds of marigolds, zinnias, cosmos and sunflowers. You can set out transplants of perennials like yarrow, verbena, black-eyed Susan, and dahlias. • In the vegetable garden you can plant seeds of pumpkins, squash, and corn.	• You can still plant seeds of annuals: zinnias, marigolds, sunflowers and alyssum will grow and bloom this year. 
MAINTENANCE	• Fertilize summer blooming flowers early in the month. • Apply (or re-apply as needed) organic mulch to all beds to keep the soil cool and enrich the soil. Be sure to leave space around the base of the plants. • Deadhead (cut off spent flowers) to get continuing bloom on annuals and perennials. • Thin peaches, plums and nectarines so there is 6" between fruits.	• Be sure to water early in the day to conserve water and minimize plant disease. • Regularly check your sprinklers and drip emitters for needed repairs and adjustments. • Monitor soil moisture in hot weather to be sure you are irrigating enough. (Use a metal rod to push into the ground. If it goes in easily, the soil is moist.)	• If you have blackberries in your garden, cut the canes that bore fruit to the ground. Tie up 3-5 of the new canes and fertilize to promote new growth. • Deadhead blooming plants as they finish flowering to promote continuing bloom. Fertilize roses after each burst of blooms.
PREVENTION	• Continue the battle against slugs and snails. • Keep on the weed patrol; pull them while they are small.	• Before the full heat of summer arrives mulch your beds to control weeds and conserve moisture. 	• Be sure everything is well mulched for the heat of summer. Water before 10 am to avoid fungal infections and to minimize water loss to evaporation. • If you have fruit trees, be sure to pick up dropped fruit to prevent brown rot from developing and leaving spores for future infection.

Seasonal IPM Checklist

The list below reflects possible landscape activities to do during the selected month(s) in your region. You can use the checklist as a guide for IPM activities in your own landscape or provide it to your clients.

	May
☐	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.
☐	American plum borer - Check for frass and gum on lower branch crotches and graft unions of young trees such as almond, mountain ash, olive, sycamore, and stone fruit.
☐	Anthracnose e.g., on ash and sycamore - Fungicides are generally not options for large trees other than ash.
☐	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.
☐	Camellia, citrus, gardenia, grape and other plants adapted to acidic soil - If leaves are yellowing (chlorotic) between green veins, plants may benefit from foliar or soil application of iron and zinc chelate and mulching.
☐	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.
☐	Cherry spotted wing drosophila - Harvest early, apply spinosad as soon as fruit begins to develop any pink color.
☐	Citrus - Monitor for damage and pests such as leafminer and scales.
☐	Clearwing moths - Look for signs of boring in ash, birch, pine, poplar, and willow; less often in oak, sycamore, and stone fruits.
☐	Codling moth of apple and pear - Bag fruit. Promptly remove infested and dropped fruit. Apply insecticides only if precisely timed.
☐	Cover fruit trees with netting to exclude birds and other vertebrate pests.
☐	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.
☐	Fertilize caneberries, citrus, deciduous fruit trees, palms, and heavily-flowering shrubs with slow-release product if not done in March or April.
☐	Fire blight - Look for oozing and dead limbs on pome plants such as apple, crabapple, pear, and pyracantha. If a problem in the past, apply blossom sprays to prevent new infections.
☐	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.
☐	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.

Seasonal IPM Checklist

- [ ] Mulch - Apply organic mulch where thin or soil is bare beneath trees and shrubs.
- [ ] Olive pests e.g., ash borer, psyllid, and scales. Blossom drop sprays on nonharvested trees. Olive fruit fly suppression on harvested trees.
- [ ] Powdery mildew - Check for signs of disease on apple, crape myrtle, grape, rose, and stone fruits.
- [ ] Prune pine terminals only during candling (new shoot growth), late spring to early summer, to retard growth and in young pines direct growth.
- [ ] Prune winter-flowering shrubs e.g., camellia before next year's flower buds form.
- [ ] Root rot - Favored by excessive water and poor drainage. Avoid overirrigation and waterlogged soil.
- [ ] Rose pests - Manage or take preventive actions, such as for black spot, hoplia beetle, powdery mildew, and thrips.
- [ ] Scale insects - If damage has been unacceptable, monitor the crawler stage and when abundant apply horticultural oil or another insecticide.
- [ ] Spider mites - Irrigate adequately, mist leaf undersides daily, reduce dustiness, spray horticultural oil.
- [ ] Stone fruit pests - Monitor for pests such as aphids, borers, brown rot, caterpillars, powdery mildew, and scale insects.
- [ ] Weeds - Manage weeds using nonchemical methods such as cultivation, handweeding, or mowing.
- [ ] Yellowjackets - Place out and maintain lure traps or water traps. Trapping is most effective during late winter to early spring.

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

Quarantine—APHIS' Plant Protection and Quarantine (PPQ) program safeguards U.S. agriculture and natural resources against the entry, establishment, and spread of economically and environmentally significant pests, and facilitates the safe trade of agricultural products. Even plants are quarantined.

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

Garden Club of Colusa County activities

Don't know at this time.

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