

COOPERATIVE EXTENSION

University of Arizona and U.S. Department of Agriculture cooperating.



the Cochise County Master Gardener

NEWSLETTER

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APRIL 1990

WHAT TO DO --- WHAT TO DO --- WHAT TO DO --- APRIL

Jackie Dillon-Fast
Staff Writer

April is an exciting month for gardeners. It's the start of a new and promising growing season full of potential. Bedding flats, vegetable plants, trees, ground covers, roses, shrubs, potting soil, fertilizers, spades, rakes, forks, everything but grass seed (too early), fill row after row of our favorite garden centers. The daffodils and iris (planted last fall) have been up for weeks along with a few early wildflowers. I have even had a few hummingbird scouts buzz through my garden; a sure sign of spring!

> PLANTING COOL SEASON VEGETABLES: Lettuce, broccoli, onions, spinach, and cauliflower can be transplanted into the garden. It's really a bit late for seeds, though you can try with some short season varieties. Beets, carrots, and radishes can still be sown by seed, but look for varieties that can be harvested in 50-70 days, before the high heat of June and July sets in. It's still a little early for tomato plants to be set outdoors unless you are willing to give them extra protection on the cool nights still to come. April's weather can be tricky (we've had freezing temperatures the first week of May for two years in a row), and young transplants are especially vulnerable. If you wait too long, however, your cool season vegetables will be trying to mature during the hottest, aridest part of our growing season. If you miss the cool season planting, aim for warm season vegetables planting in late May and early June, and plan your lettuce and beet planting for fall. The Cooperative Extension Service has a pamphlet called *Vegetable Varieties for Arizona* available at the Willcox or Sierra Vista Extension Office.

(Continued on next page)

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> FERTILIZING: Your trees, shrubs, roses, and flower beds need a fresh supply of nutrients to support spring growth and build strength for the long growing season ahead. Nitrogen, phosphorus, zinc, and iron are four of the critical plant nutrients often lacking in Arizona soils. Of the remaining nutrients, carbon, hydrogen, and oxygen are absorbed from water and air, and potassium (or potash) is readily available in our soil as are many of the micronutrients (nutrients needed in small quantities only). The two nutrients to concentrate on when fertilizing your plants in the spring are nitrogen and phosphorus.

1. Nitrogen promotes deep green color, top growth, and root development. It usually needs to be applied every year because it is leached from the soil by rain and irrigation water. This same leaching action, however, makes nitrogen easy to apply. Simply broadcast (spread lightly and evenly) a nitrogen fertilizer on the soil surface and water it down. Corn, broccoli, cauliflower, potatoes, lettuce, carrots, and beets usually require additional nitrogen. Do not give extra nitrogen to peas, tomatoes, or squash since it will encourage excess top growth and poor fruiting.

2. Phosphorus is essential for early seedling growth and later will promote flowering and fruiting. Unlike nitrogen, phosphorus moves very slowly through the soil and best results occur when it is worked into the top two inches of the soil or banded two inches below seeds or transplants at planting.

3. Iron and zinc are micronutrients and usually are not applied unless a plant has a

history of iron or zinc deficiency, or is presently showing signs of such deficiency. Foliar sprays (sprays applied to plant leaves) of zinc and iron are the quickest and most effective application methods, although iron chelate can be worked into the soil around the plant. Zinc tends to react with calciferous soil (like ours) making it unavailable to plant roots.

You will need to apply fertilizer several times during the growing season with the last application in August. Remember, chemicals contained in fertilizer react with elements in the soil to form salts (nitrate, phosphate) which your plant can then absorb. Too much fertilizer can kill a plant, especially if it is high in nitrogen. Read commercial fertilizer labels carefully, and always measure and apply fertilizer according to instructions. The Cooperative Extension Service has a pamphlet called *Fertilizing Home Gardens in Arizona* available at the Willcox or Sierra Vista Extension Office.

> PREPARING FOR PESTS: After a few pest free months we are about to be invaded by ants, spiders, aphids, and codling moth - and they will be hungry. So, be prepared. Practice good gardening habits such as removing dead vegetation, keeping after weeds, and companion planting. You may want to consider introducing some biological controls into your garden in the form of beneficial insects such as lacewings, praying mantis, and parasitic wasps. Eggs and larvae of some beneficial insects are available in gardening catalogs. Look for our "Pest-of-the-Month" feature for more hints

HOW TO PROPERLY WATER YOUR TREE PART I

Bill Cashman
Guest Writer

To understand how to water a tree, it is necessary to understand how a tree utilizes that water. A tree has two basic sections: the canopy, which consists of the trunk, branches, and leaves; and the root system, which contains several different types of roots and is, of course, located beneath the soil. The root system can be as large or larger than the canopy of the tree, and in our desert environment, usually extends beyond the drip line of the tree.

Since we are applying water to the root system, let's look at that. The roots that absorb water for the tree to use are called water absorption roots. They are located between one and three feet under the surface of the soil. On a mature tree they begin about four feet from the trunk and extend out to the end of the roots. These absorption roots are very small, about the size of a human hair and are attached to larger roots. As well as absorbing water, these roots take up nutrients that have been dissolved in the water. Another job these absorption roots have is to take up oxygen from the soil to help the tree grow.

When the soil is saturated with water, the water displaces the air in the soil and thus the oxygen. To water our tree properly we need to balance the amount of water that the tree requires with the amount of oxygen that the tree requires. Our trees like deep (1-3 feet), infrequent (2-4 weeks) watering. The deep watering will move the water to the proper roots. The infrequent watering will allow the soil to replenish the oxygen supply between waterings.

From this information we can see that we should apply water to our trees away from the trunk, and that we must allow oxygen to reenter the soil after we water. Draw an imaginary circle around your tree 1/4 larger than the diameter of the tree's canopy. Now, draw another imaginary line 1/3 of the distance to the first line. The area between these two lines is the area you want to water.

A very common mistake many people make in watering their trees is to lay a hose at the trunk and let the water trickle. When we continually water the trunk of a tree we encourage the roots to grow in a ball around the trunk instead of growing out into a supporting network. Another common mistake is to water the tree every day or two and keep the soil too wet.

Some people have the misconception that once a tree is established it doesn't need as much water. In fact, the bigger a tree is, the more water it requires to maintain itself. Another popular myth is that roots will "go looking" for water. In fact, roots will not grow in dry soil.

Another problem I'd like to talk about here is the use of landscape plastic under trees. I personally think that this plastic is way over used in our landscapes. Plastic under trees causes a multitude of problems that may not show up for a number of years, and are difficult to correct in later years. The plastic prevents a lot of needed water from reaching the water absorption roots by letting it run off before it reaches the soil. The water that does condense on the underside of the plastic encourages shallow roots to form between the plastic and the soil. These roots then do very little to help support roots to

form between the plastic and the soil. These roots then do very little to help support the tree, either physically or nutritionally. Plastic prevents a lot of needed oxygen from getting into the soil under the tree. During our hot summers there is a tremendous build up of heat under the plastic which raises the soil temperature which can harm the tree. And lastly, it is a really nasty job to remove it once it is there and covered with gravel.

Now that we know the "why" of watering, next month's Part II will talk about the "how".

Cashman owns and operates Weed Control Company, Rt. 2, Box 125E, Hereford, AZ 85615.



CUTTINGS 'N' CLIPPINGS

The Friends of the Sierra Vista Public Library have an ongoing used book sale in the library lobby and rear used book room at the Sierra Vista Public Library. It is open on Wednesday, Thursday, Friday afternoons, and whenever the "Book Sale" signs are outside the library. There is a large collection of donated books and magazines of interest to all gardeners (landscaping, fruit trees, vegetable and flower gardening). Hardcover books are 50 cents, paperbacks 25 cents, and gardening magazines 10 cents. Book donations are always welcome. Proceeds benefit the Sierra Vista Public Library.

EARTH DAY 1990

Carolyn Gruenhagen
Staff Writer

The 20th anniversary of America's debut in environmental awareness will take place April 22 as Earth Day 1990. For the occasion, President Bush has asked his fellow citizens to "rededicate themselves in practices as consumers and citizens to protecting the environment."

Earth Day events are scheduled in many cities in Arizona and all Arizona State Parks. Write or call Earth Day 1990, Box AA, Stanford, CA; (415) 321-1990 for events in the area. Call (602) 279-2000 extension 8301 (touch-tone phones only) for details on individual parks.

Response to a federal program to relocate threatened cactus in the Lake Havasu area was overwhelming. Of the 1,000 people who showed up, more than half were turned away. The program allowed for only 498 permits to collect the cactus from desert that will be flooded by new dam construction.

MEET DEBORAH

Carolyn Gruenhagen
Staff Writer

Deborah Young has come a long way from Indiana and Indiana University in Blomington where she majored in Spanish and Biology, but the interest in plants she learned on her Grandfather's farm in Southern Indiana is her way of life!

After earning a master's degree and doctorate in plant pathology at the University of Arizona, Deborah worked as an agricultural consultant for Young & Associates in Bisbee, for a year. Since 1984 she has been the agent responsible for horticultural crops in Cochise County. Working out of offices in both Willcox and Sierra Vista, she is involved in problem-solving research on alternative crops new to Southeastern Arizona (including apple, pistachio, and a mix of vegetables), developing Extension programs dealing with fruit production, training Master Gardeners, and many other duties. Despite this busy schedule Deborah still manages to find time to try out various plants and gardening techniques on her own half acre. She confides, however, "They don't always work."

Deborah has been a National Association of County Agricultural Agents (NACAA) state winner of the public information award, and last August was awarded the NACAA Achievement Award for Arizona. She also was selected by Rotary International to tour Pakistan as the agricultural member of a four-woman team.

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Thirteen years ago Deborah married her college (I.U.) sweetheart, David M. Chezem, an attorney, and they now make their home in Bisbee which they share with Ursula, their large Rottweiler. When time permits, Deborah enjoys reading mysteries, hiking, searching for edible mushrooms in the mountains, and native plants.

HOME GARDENER Q & A COLUMN

Q. *Are there plants that are toxic to bees? What about honey made from plants with toxic flower parts - can it be hazardous to people?*

A. I spoke with two apiary owners, consulted three books on beekeeping, and contacted the U of A Health and Public Safety Office, and none of these sources could cite a recent case in which honey made from toxic flower parts had been hazardous to a human. (The last reported case occurred in 1910.) There have been a handful of cases where highly sensitized individuals have had an allergic reaction to some of the pollens found in honey. On the other hand, some allergists prescribe local honey to their patients as part of a program to desensitize them to local pollens. There are plants that are poisonous to bees, two of which are the Mountain Laurel and the California Buckeye. In general, however, the greatest hazard to bees is the chemical pesticides sprayed on commercial and home gardens. Chemical pesticides sprayed on crops that are 100% pollinated by bees, such as melon, have wiped out entire hives.

Articles to be published in next month's newsletter must be received at the Sierra Vista Extension Office no later than April 20.

CALENDAR OF EVENTS

Merrienne Lange
Staff Writer

Superior: Boyce Thompson
Southwest Arboretum (tel
689-2811).

April 7-15: Arid Land Plant
Fair, including exhibits,
demonstrations, talks, tours,
and plant sales

April 14 & 15: Easter Flower
Display

April 21: Do-it-Yourself
Desert Landscaping Workshop -
10:00 am

April 22: Earth Day displays
and programs

Phoenix:

1. Maryvale Mall, 51st Ave &
Indian School Rd.

April 14: Annual spring show
by Sun Country Iris Society -
9:00 am - 6:00 pm

2. Shepard Iris Garden, 3342
W. Orangewood Ave.

April 5-29: Thursday through
Sundays - 9:00 am - 6:00 pm -
Garden with more than one
thousand varieties of iris

3. Desert Botanical Garden,
1201 N. Galvin Parkway (tel
941-1225).

April 7 & 8: Cactus
Festival, featuring exhibition
of the winners of the Arizona
Cactus & Succulent Show,
lectures on growing and
propagation of cactus and
succulents, plant sale, and
cholla bud roasting
demonstrations - 9:00 am - 5:00
pm.

Through April 30: For
recorded information (updated on
Fridays) on wildflowers blooming
throughout the state, call
Desert Botanical Garden's
Wildflower hotline at (602)
941-2867.

GREEN VALLEY:

1. Green Valley Baptist
Church, 1111 N. La Canada Dr.,
sponsored by Men's Garden Club
of Green Valley and Pima County
Extension Office - 9:30 - 10:30
am (tel 648-0808).

April 10: Insects - Who
Wears the White Hat and Who
Wears the Black Hat?

April 17: Citrus - How to
Get the Most From Your Citrus
Tree

April 24: Wildflowers and
Weeds

May 1: Landscaping For Water
and Energy Conservation

May 8: Native and Adapted
Shrubs

2. Rose Society of Green
Valley and Green Valley at
Social Center West, 1111 Avenida
Arcoiris

April 28: Show and Miniature
Rose sale - 1:30 - 4:30 pm

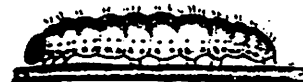
PATAGONIA/SONOITA:

Patagonia/Sonoita Creek Sanc-
tuary.

April 21: Tree planting,
park sprucing get-together led
by Jeffery Cooper, sponsored by
Arizona Nature Conservancy (tel
394-2900)

April 22: Community tour
through the preserve (tel
394-2900)

There may or may not be a fee
for these events. Please call
the listed numbers for more
information.



WHAT'S BUGGING YOU?

The following is the first in a
series of "Pest-of-the-Month"
articles written by T.J. Martin.
It is designed to be removed
from the newsletter for your
convenience.

WHAT'S BUGGING YOU?

by T. J. Martin

COMMON NAME: Codling Moth or Apple Worm

SCIENTIFIC NAME: *Carpocapsa pomonella*

DESCRIPTION: Adult - Grayish-brown moth with irregular golden-brown lines on the forewings and paler, fringed hind-wings. Wing spread of about 1/2 to 3/4 inch. Usually found flying at dusk or early evening.

Larvae - Pinkish-white caterpillar about 1/2 to 1 inch long with a brown head.

Pupae - Found in a silken cocoon located in bark crevices, orchard debris, in fallen fruit, or other protected place.

Eggs - Single, flat, white eggs are found on the upper surfaces of leaves, on twigs, fruit spurs, or developing fruit. They hatch in 5-20 days.

PLANTS USUALLY AFFECTED: Apples, pears, quince, and walnuts.

TIME OF YEAR: From early spring to fall. In Cochise County, Codling Moths usually produce three generations per year. The moths lay large numbers of eggs starting when air temperatures exceed 65 degrees F. for two or more consecutive days. They do not move about when the weather is too cold, wet, or windy. So start looking for them in April or May (or a very warm March). The other two generations should appear in six-week cycles in about mid July and mid August.

PROBLEMS CAUSED: The overwintering larvae pupate when the weather starts warming up and then the newly emerged adults lay their eggs on the developing fruit blossoms. Upon hatching, the larvae enter the fruit (usually by way of the calyx cup at the blossom end, but they can enter anywhere) and tunnel directly to the center of the fruit. They devour portions of the fruit and seeds and then tunnel their way back out, leaving behind masses of brown excrement. The fully grown larvae then travel to the tree bark (or other hiding place) to pupate and start the whole cycle all over again. The last generation of the season will overwinter in the larval stage in a protected place.

PEST IDENTIFICATION: Look for buds and/or fruit with small holes in them or early drop of immature fruit. Check trees and surrounding debris for adults, pupae, larvae, or eggs. Ripened fruit that is cut open will reveal the tell-tale entry and exit tunnels and excrement.

CULTURAL CONTROLS: Cultivate healthy trees. Remove and destroy immediately any infested fruit. Clean up the area of any debris that could be used as a hiding place for developing pests.

COMPANION PLANTING OR TRAP PLANTS: None known.

MECHANICAL CONTROLS, BARRIERS, AND TRAPS: Hand pick and destroy any eggs, larvae, or pupae that you can find. Hang sticky traps and/or pheromone traps at eye level when the trees begin to bloom. The traps will physically decrease the pest population as well as act as an

"early warning system" to use with a timed spraying program. Put sticky bands, corrugated cardboard or burlap around the trunk of the tree to trap larvae (check frequently). Use bug lights to "zap" adults. Prepare bait cans using nine parts water, one part molasses, one part honey, and a little yeast (change weekly). Carefully scrape off loose bark. Use a hard spray of water or a soap (like Ivory) and water solution (1-2 TBS per gal. of water) to wash the trees and dislodge the pest. Destroy immediately any insects you find.

REPELLENTS: Try "bug juice" made from adults or larvae. Nasturtiums planted at the base of the tree may repel the pests and in any case don't do any harm, look nice, and are eatable.

NATURAL CONTROLS: Encourage birds, (especially woodpeckers), bats, toads, and lizards to hang around and hopefully they will dine on your pest population. Trichogramma wasps parasitize the eggs. Don't destroy the parasitized eggs if you happen upon them.

BIOLOGICAL INSECTICIDES: *Bacillus thuringiensis* can be used, but since the larvae spend so little time feeding on the surface, you would have to spray it at exactly the right time to catch them as they start to eat their way into the fruit. Apply it about one week after the temperatures start staying above 65 degrees F., about 10-14 days after petal fall, or after your traps start catching at least 15 moths in a one week period. Ryania is very effective also, but because it also kills the bees needed to pollinate your trees, do not spray this insecticide until after petal fall.

CHEMICAL CONTROLS: Call your County Extension Agent or her staff for current recommendations. Check at your favorite garden supply store or nursery to see what they have available. Remember to check the label to make sure that the Codling Moth is a listed target pest and FOLLOW THE DIRECTIONS EXACTLY. When it comes to pesticides, more is NOT better!! Wear protective clothing, watch out for non-target plants, pets, children, and other living things. Wash your skin and clothing after application, and take care not to get the substance into your eyes, mouth, or breathing passages.

