

# COOPERATIVE EXTENSION

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



the Cochise County Master Gardener

## NEWSLETTER

VOL. 1, No. 7

JUNE 1990

WHAT TO DO --- WHAT TO DO --- WHAT TO DO --- JUNE

Jackie Dillon-Fast  
Staff Writer

Summer is here in all its fiery glory and the June sky is a relentless, cloudless, rainless blue. All sorts of interesting and troublesome creatures begin visiting our gardens. The first tomatoes are ripening, the last broccoli is harvested, and everyone - plants, creatures, and gardeners - wait patiently for the first of the summer rains, only a few weeks away.

\* **KEEP DEEP-WATERING:** If it seems we are harping on deep-watering, we are. Wise watering is one of the most critical skills of desert gardening, and often the hardest to master. Continue to deep-water every 10 - 14 days, but watch your plants for signs of heat stress: drooping leaves, white sunburned patches on leaves, dropped buds or flowers. A plant's primary means of cooling itself is through evaporation (plant sweat, if you will). The dryness of the air, the high temperature, the extra hours of sunlight, and high winds all sap water from a plant and it will quickly show signs of heat stress. Do not over compensate for this by over watering. The plant's roots will become too waterlogged to absorb oxygen from the soil. Aim for a balance of moisture suited to each plant.

\* **MULCH PLANT ROOTS:** An excellent way to conserve water and keep plant roots cooler is to apply a mulch around the base of your plants. Use wood chips, gravel, hay, even shredded newspaper, but avoid plastic sheeting. Plastic does help soil retain moisture, but it can also prevent

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UNIVERSITY OF ARIZONA

*Deborah Young*

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moisture from reaching your plant's roots during irrigation. There are a handful of plastic mulches on the market that permit water to penetrate, but block weed growth. You may want to try these to see if they work well (then, let us know). In general, mulches reduce weed growth by blocking out the sunlight needed by some seeds for germination.

\* **FERTILIZE ROSES:** By now your roses have feasted happily on the fertilizer you applied in April and are hungry again. Give them and other plants in your garden an extra boost this month with a side dressing of ammonium sulfate, ammonium phosphate, fish emulsion, blood meal, or any of the other nitrogen-phosphorous fertilizers. Watch plants for signs of iron or zinc deficiency - a problem in our soil.

\* **COOL COOL-SEASON CROPS:** If you're planning on extending your cool-season crops into June, you'll need to give them extra protection. Use shade-cloth to shield them from the mid-day sun and mist them with water daily to lower the surface temperature of their leaves. You may also want to shade heat sensitive perennials if they begin to show signs of stress.

\* **PLANT WARM-SEASON CROPS:** You can continue planting warm-season crops such as melons and peppers. You will want to plant warm-season crops so that they will mature before the first frost, but that is five months away.

\* **WATCH FOR NEW PESTS:** Caterpillars of all sizes and colors (some quite beautiful) will be happily munching on your garden this month. Those beautiful black swallowtails, stunning sphinx moths, and cute little white butterflies that enlivened your garden this spring were busy laying eggs.

Cabbage loopers and tomato hornworms (ick!) will be particularly troublesome. The best control for caterpillars is handpicking, but this must be done daily and is not for the squeamish. Check out this month's "What's Bugging You" for the inside scoop on cabbage loopers.

\* **GIVE YOUR TOMATO PLANTS SOME EXTRA TLC:** Stake tomato plants that need extra support as soon as possible. Don't wait until they are too big and sprawling, and hopefully weighted down with tomatoes, to stake easily. Don't be concerned if your tomato blossoms are dropping or if fruit production has stopped. Temperatures may be too high for the pollen to remain viable. Be patient. Your plants will be fruiting again in another month. If you already have green tomatoes, be certain to keep a steady moisture level in their soil (damp, not soggy). Although there is still some debate, moisture stress is considered the leading cause of blossom end rot in tomatoes.



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Articles to be published in next month's newsletter must be received at the Sierra Vista Extension Office no later than June 22.

*Summit  
Charleston W.V.  
6 Dec 87*

## BYE DEBORAH!

As the newsletter goes to press, we bid a fond farewell to our Extension Agent, Agriculture, Dr. Deborah Young. Deborah has accepted a position in Yavapai County as Extension Agent, Agriculture and County Director. From all the Master Gardeners, Deborah, "We will miss you!"



## YOUR CHANCE TO INFLUENCE THE FUTURE OF RECYCLING!

Jackie Dillon-Fast  
Staff Writer

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You have only a few more days to influence the future of two major recycling bills before the federal legislature.

On June 13th, the Senate Commerce Committee will hold a hearing on the National Recyclable Commodities Act (S1884) and the National Recyclable Commodities Financing Act (S1885). The acts require that the Federal Government use recycled products whenever possible, and conduct a national campaign encouraging the private sector to do the same. They will also establish a national clearing house to collect and distribute recycling information.

The bills are designed to save us taxpayers money, resources, landfill space, and make recycling easier for individual citizens.

Are you for or against these bills? Let your legislators know by writing the Senate Commerce Committee, U.S. Senate, Washington, D. C. 20510 by June 13, 1990.

## HOW DO YOU XERISCAPE?

There are seven basic landscape principles for xeriscaping:

1. Start with a plan. Put higher water use plants close to the house for greater energy savings. Group plants, shrubs, and trees together according to their water needs.
2. Limit turf areas. Put grass only in areas where it provides functional or recreational benefits.
3. Install an efficient irrigation system. Consider drip irrigation systems for trees, shrubs, and groundcovers.
4. Harvest rain water from roofs for beneficial use.
5. Improve the soil. Decomposed organic mulches provide plant nutrition and improve water absorption. Cover the soil. Inorganic groundcovers minimize evaporation and reduce weed growth (weeds use water too).
6. Use low water plants. There's one for virtually every landscape function. Visit your local retail nursery for assistance.
7. Remember appropriate maintenance. Careful pruning, weeding, and watering will increase your water savings.

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## VIDEOS AVAILABLE

*Propagation of Plants Part I and II, Budding: New Life For Old/Fruit and Nut Trees* videos are now available at the Sierra Vista Extension Office for your use. Stop by and check them out!

## CUTTINGS 'N' CLIPPINGS

\* There's a new resource library available in the Sierra Vista office! Home gardening bulletins from Cooperative Extension offices all over the U.S. are catalogued by title and ready for use. A very simple check-out procedure is posted on the front of the file drawer containing the library. Use it and enjoy them!

\* The following home gardening bulletins apparently grew little feet and scampered away! Should you encounter any of these escaped articles, please return them to the Sierra Vista office.

1. *Insect Control Guide for Organic Gardeners*
2. *Hobby Greenhouses*
3. *When to Harvest Vegetables*
4. *Integrated Pest Management*
5. *Organic Gardening and Pest Control*

\* Reminder: The Sierra Vista Extension Office hours continue to be 9:00 am - Noon, Monday - Friday.



## GLOBAL RELEAF BEGINS

Jackie Dillon-Fast  
Staff Writer

Cochise County volunteers met recently in Bisbee to organize a county-wide tree planting program. The program is in cooperation with Arizona Global ReLeaf which is in turn part of a worldwide environmental effort.

Through volunteer efforts and government and private funding, Arizona Global ReLeaf hopes to plant and maintain 3.5 million drought tolerant trees in Arizona by the year 2000. These trees will reduce build up of carbon dioxide in the environment and the associated global warming, conserve energy by lowering cooling needs, and beautify the state.

Each county and city in Arizona which forms a volunteer organization to coordinate local Global ReLeaf efforts will be eligible for state and federal support. The primary focus of each organization will be growing and planting drought tolerant trees in cities and on public land, and to encourage and assist homeowners with tree planting on their own property.

The Cochise County Global ReLeaf organization needs more volunteers to help set goals, grow trees, provide information, design programs, and plant trees throughout the county. The success of the program depends on you. You can contact Cathy Wertz, County Coordinator, at 354-5477 for more information or to offer your help.

## WHAT'S BUGGING YOU?

by T. J. Martin

### CABBAGE LOOPERS IN YOUR GARDEN

**COMMON NAME:** Cabbage looper or inchworm.

**SCIENTIFIC NAME:** Trichoplusia ni

**DESCRIPTION:** Adults - Small, mottled-brown moths with a silvery spot on the forewings. The wing-span is about 1 1/2 inches and they fly at night.

Pupae - A green or brown pupae can be found wrapped in a white silken cocoon attached to a plant leaf.

Larvae - A large (up to 1 1/2 inch) light green caterpillar with a light green stripe down its back. It gets the name "inchworm" from its looping-type movement from place to place.

Eggs - The round, greenish-white eggs are laid singly, usually on the upper surface of leaves.

**LIFE CYCLE:** The cabbage looper overwinters in the pupal stage in leaf litter. In the spring, the adult emerges and lays eggs on a host plant. In a few days the small green caterpillar hatches and starts to feed voraciously. When it reaches full size, the larvae then attaches itself to the underside of a leaf, spins a silk-like cocoon and pupates. In about two weeks the new adult will emerge and fly away seeking to mate and lay its eggs. This cycle will repeat itself approximately every three weeks throughout the summer. In the fall, the last generation will overwinter as pupae.

**HOST PLANTS:** Beans, broccoli, brussels sprouts, cabbage, cauliflower, celery, collards, kale, kohlrabi, lettuce, parsley, peas, potatoes, radish, rutabagas, spinach, tomatoes, and turnips.

**TIME OF THE YEAR:** From spring (late April or early May) until late fall.

**WHAT TO LOOK FOR:** The first sign of cabbage loopers is usually holes eaten in the leaves of your plants. It may be small holes, but you will most likely see large, ragged pieces missing or even entire leaves gone. You may find small brown pellets or droppings on what remains of the foliage. Closely inspect the leaves for eggs, pupae, or larvae of the pest.

**PROBLEMS AND DAMAGE:** Plants can be virtually defoliated in a very short period of time. This not only destroys plant parts you may have been planning to eat, but if enough is eaten, the whole plant will die. Even if the plant survives, it will be weakened and more susceptible to other pests and diseases.

**CULTURAL CONTROLS:** Practice crop rotation (3-5 year cycles) and plant resistant varieties when available. Clean up garden debris to destroy overwintering habitat. Use "timed planting" and plan your crop so that your most vulnerable plants (young, with few leaves) are not exposed to the pest. Start your plants inside so that you can transplant large seedlings outside. If damage is noted, remove the leaf or carefully cut away the chewed area. This way, if you notice more holes later, you will know that you still have the pest present rather than thinking that it is still the same damage from before.

**COMPANION PLANTING AND REPELLENTS:** Marigolds, garlic, onions, sage, hyssop, rosemary, tansy, hot peppers, and thyme have all been used to keep the loopers

at bay. You can also make a spray from them (alone or in combination), with onions, garlic, and hot pepper solutions reported as working the best.

**TRAP PLANTS:** Plantings of amaranth or celery close by can sometimes give you warning that the loopers are in the area as the pest often attacks them first.

**MECHANICAL CONTROLS:** The best defense may be to cover your crop with an agricultural fleece product (Remay, etc.). If the moth can't land to lay her eggs then there will not be any caterpillars eating your plants. Be very careful to secure the edges and leave enough extra cloth for the plants to grow. You may have to remove the cover later if it gets too hot under there. Spraying your plants with a hard stream of water or soapy water may dislodge the pests so you can pick them up and destroy them. Hand picking and squashing them is very effective. Diatomaceous Earth (DE) or salt sprinkled on the creatures will dry them up. Use "bug lights" or light traps to get the adults.

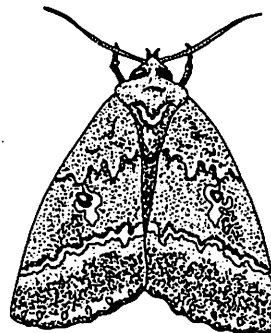
**NATURAL CONTROLS:** Cabbage loopers and other caterpillars are a favorite meal for lacewings, ladybugs, lizards, toads, and all sorts of birds. Trichogramma wasps parasitize their eggs and destroy them. If you find any loopers that appear chalky white and almost dead, collect them and make "bug juice" out of them. They have a disease called Nuclear Polyhedrosis Virus (NPV). A single spraying of this virus may be enough to control your cabbage looper population for the entire season! Unfortunately, it is not yet available commercially. Bacillus thuringiensis (BT) is a commercially available bacterium that will kill caterpillars and is harmless to other creatures. Start spraying when you see the first damage and every two weeks thereafter. You can even use it as a preventive and start spraying about one week after transplanting if you have had problems with this pest in the past.

**BIOLOGICAL INSECTICIDES:** These are not totally harmless, but used correctly, they can be easier on the environment than some other methods. Use an insecticidal soap (such as Safers), pyrethrum, ryania, sabadilla, or rotenone. Spray in the evening when the honey bees are not around, and follow directions carefully.

**CHEMICAL CONTROLS:** Call you County Extension Agent or the 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 cabbage looper 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.



Cabbage looper larva



Adult