

COOPERATIVE EXTENSION

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



the Cochise County Master Gardener

NEWSLETTER

VOL. 1, No. 8

JULY 1990

WHAT TO DO --- WHAT TO DO --- WHAT TO DO --- JULY

Jackie Dillon-Fast
Staff Writer

*"I know a little garden close,
Set thick with lily and red rose,
Where I would wander if I might
From dewy morn to dewy night."*

- William Morris

* BUGS, BUGS, & MORE BUGS: People aren't the only ones who welcome the summer rains. Bugs of all shapes and sizes, wiggling, buzzing, creeping, flying, have been waiting just like us for a break in the heat and the dryness. If you avoided gardening chores during June, July is definitely the time to get back out there. In addition to caterpillars, aphids, and Mexican bean beetles, we are about to be invaded by spiders, spider mites, crickets, and GRASSHOPPERS. And, boy, are they hungry! Wise gardeners always plant a little extra for the bugs - it keeps the peace and still leaves enough flowers and vegetables for the human appetite. If the bugs in your garden start eating more than their share, however, all treaties are forgotten - it's time for swift and decisive action. Organic gardeners rely on age old methods such as homemade sticky traps; truly deadly sprays of pepper, soap, garlic, and onion juice; and "superhero" bugs like lacewings, praying mantis, and ladybird beetles. Handpicking is generally safe and effective. If you've ever come up against a blister beetle or an assassin bug, you'll understand the part about "generally safe". Other gardeners like fast-acting, man-made pesticides, and this is certainly an effective though less creative way to handle bug problems. Whatever method you

(Continued on next page)

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choose, you'll find Tommi Martin's "What's Bugging You?" column contains good tips on pest management as well as interesting bug facts. This month's column features the Mexican bean beetle.

* ONE MORE TIME: It's easy to think that we can stop watering now that the rains are here. After all, one afternoon's monsoon drops buckets and buckets of water on our gardens. Unfortunately, most of that water runs right off the surface of our soil and down the street. The summer rains deposit so much water in such a small period of time that the hard packed soil can't absorb it fast enough. Other afternoon storms are just a lot of show and deliver very little rain to our plants. Plants have a fascinating adaptation which helps them conserve water in arid periods, but can make them more vulnerable when the rains arrive. Plants absorb and release moisture through tiny openings in their leaves called stomates. When water is scarce, the plant keeps those stomates tightly closed to reduce water loss. When water is available, as in a rainstorm, the plant opens all of its stomates wide to absorb as much moisture as possible. If a monsoon fizzles or produces little actual rain, the plant can lose more moisture than it takes in. This is why it is just as important to watch our gardens for signs of heat or moisture stress in July and August as it was during the rainless months. This obsession with water - not too much, not too little - is one of the inescapable realities of desert gardening.

* YOU CAN ALWAYS PLANT SOMETHING: Towards mid-month you can plant beans, broccoli,

and short season cauliflower and towards the end of the month you can sow beets, cabbage, carrots, leaf lettuce, spinach, and chard. Call our Cooperative Extension office week day mornings to get a copy of the "Vegetable Varieties For Arizona" pamphlet for ideas on the best varieties to plant.

WIN A RIBBON!

Carolyn Gruenhagen
Staff Writer

Why not enter that giant squash or the beautiful roses from your garden in the state fair and win a ribbon or two? The Arizona State Fair is just around the corner - October 11 through 28 - and it's not too early to be thinking about entering. The Premium Book with the departments you may enter (and over 30,000 entries are expected) is now available. The book provides information on entries, rules, regulations and entry forms. Some of the departments are Agriculture, Fine Arts, Floriculture, and Home-making Arts. For more information or to obtain a Premium Book, write: The Arizona State Fair, 1826 West McDowell Road, Phoenix, AZ 85005, or call the Entry Department at 252-6771, Ext. 306.

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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 July 20.

**"DO YOU HAVE XENOLEGUPHOBIA?"
IF YOU DON'T, YOU MAY WANT TO
GET IT!"**

Jackie Dillon-Fast
Staff Writer

There are approximately 100 agrochemicals on the restricted-use list for the State of Arizona. All agricultural growers using these chemicals must be trained in the proper use and disposal of the chemical, and attend annual continuing education courses to keep their certification.

When an agrochemical is banned or added to the restricted-use list, new regulations are passed on to the grower and the grower must follow these regulations exactly, or find a cost-effective alternative to that chemical. Usually pesticides suspected of being hazardous are phased out over a year or so to allow growers time to change their growing methods. Occasionally, intense media attention to a particular pesticide, such as occurred with Alar in 1989, forces regulatory bodies to respond much faster than they planned.

All of these regulations are intended to keep our food safe from contamination by pesticide residues as well as to protect growers who must come into contact with agrochemicals on a regular basis. An editorial in the June issue of National Gardening Magazine, however, pointed out a serious flaw in our regulating system.

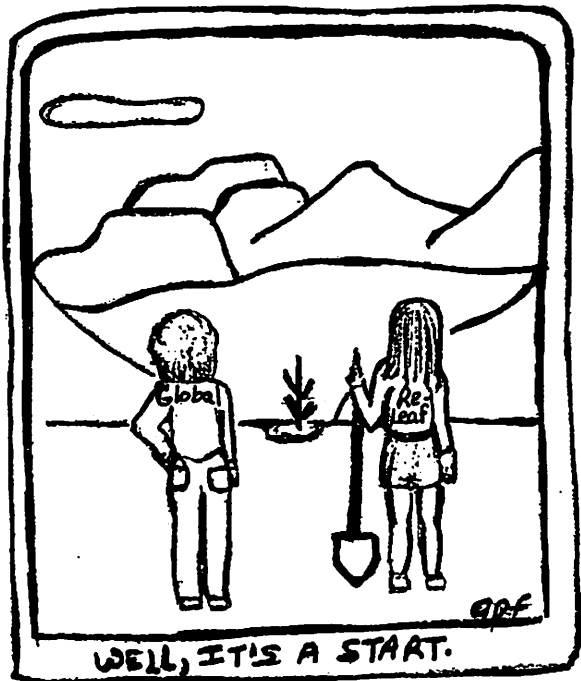
Even though U.S. growers can not purchase banned agrochemicals, U.S. chemical companies are allowed to manufacture and export these chemicals to foreign growers. These chemicals then are used on foreign food crops. Since 25%

of our produce, or 33 billion pounds, is imported from other countries, we may be importing a much more dangerous situation than that which exists in the U.S.

Of course, the Food and Drug Administration (FDA) has the power to prevent the import of pesticide-residue contaminated food. The problem is the FDA inspects only 1 to 2% of imported food products entering the U.S. That means that more than 32 billion pounds reach our supermarkets without being inspected for pesticide residues. In the words of Warren Schultz, editor of National Gardening Magazine, "It's enough to inspire xenolegophobia - a fear of foreign vegetables".

How can consumers avoid imported residues in our food? First by buying local produce or produce grown in the U.S. and secondly by avoiding out-of-season fruits and vegetables (they are probably imported). To affect change on a larger scale, we can write to our Arizona representatives urging them to support the Pesticide Export Reform Act of 1990. The bill would halt production of banned pesticides by U.S. companies, though it wouldn't affect foreign pesticide manufacturers selling within their own countries. All imported food also would come with a list of the pesticides used during its production.

Regulations are inconvenient, sometimes costly, and increase the red tape and paperwork we must wade through every day of our lives. Most consumers agree, however, that regulations protecting the safety of our food is worth the price, as long as it delivers what it promises - high quality, safe produce whether it is grown in our own back yards or somebody else's.



CUTTINGS 'N' CLIPPINGS

* If you've got a pesky mosquito bothering you, just rub your skin with a sheet of fabric softener. You will actually see the mosquitoes come near and then shy away.

* Recycling a three and a half foot tall stack of newspapers saves one twenty foot Southern pine tree. For each ton of paper recycled, 3,700 pounds of lumber and 24,000 gallons of water are saved.

* Recycling one aluminum can saves enough energy to run a TV for three hours.

* Glass containers are 100% recyclable and never have to reach a landfill. At least 30% of the glass on store shelves is recycled glass.

ALLERGIES GOT YOU DOWN?

Carolyn Gruenhagen
Staff Writer

The Newspaper Enterprise Association's Dr. Gott offers suggestions to avoid allergens. The following are particularly suited to gardeners:

* Avoid outdoor activities in the spring and summer between 5:00 and 10:00 am when pollen levels are at their highest.

* Keep your car and home windows closed during the allergy season.

* Keep air conditioners and humidifiers very clean to prevent mold or pollen buildup in the machinery and filters.

* Wear a mask when gardening or lawn mowing and keep the lawn trimmed short because clipped grass is less likely to bloom and spread pollen.

* Shower and shampoo following pollen exposure.



Berlandiera lyrata

Chocolate Flower - 11 May 1990

WHAT'S BUGGING YOU?

by T.J. Martin

MEXICAN BEAN BEETLES

COMMON NAME: Mexican bean beetle

SCIENTIFIC NAME: *Epilachna varivestis*

DESCRIPTION: Adults - These small (1/4 to 1/3 inch), roundish beetles look very much like their "good-guy" cousins, the ladybugs. The bean beetle is pale-yellow to copper-brown and will have 16 black spots on the wing covers, arranged in three rows. The ladybug will often have varying numbers of spots and more markings on the thorax (the small area between the wing covers and the head). The Mexican bean beetle will not have thoracic markings.

Pupae - The pupae will look like a slightly-rounded larvae with all the "spines" pushed down to one end.

Larvae - The larvae are elongated-oval in shape, 1/3 to 1/2 inch in length and yellow-orange in color. They are covered with numerous black-tipped, branched spines.

Eggs - The longish yellow eggs are laid in clusters (usually 30 - 50) on the underside of a leaf on the host plant.

LIFE CYCLE: The adults overwinter in weeds or plant litter. In spring they emerge and feed on foliage for a couple of weeks before laying eggs on the host plants. The eggs hatch in 1 - 2 weeks and the larvae feed voraciously and grow to their full size. When fully mature, they attach their back end to a leaf and pupate. In 7 - 10 days the new adult will emerge and gradually darken and develop the tell-tale spots on its back. There can be 3 or 4 generations of this pest per year in the warmer parts of the country.

HOST PLANTS: All kinds of beans, cowpeas, and reportedly even squash.

TIME OF YEAR: Late spring to late fall (approx. April to Oct.). My personal experience is to have the most problems with them in July, August, and September.

WHAT TO LOOK FOR: If you walk out to your garden one morning and find that your bean plants have turned into vegetative "lace" you can be pretty certain that the Mexican bean beetle is at work. The adults and larvae eat away the leaf, leaving only the veins. Looking closely, especially on the underside of the leaves, you can easily see egg clusters, larvae, pupae and adult beetles.

PROBLEMS AND DAMAGE: A severe infestation of this pest can totally defoliate your entire crop in a day or two. What plants that don't die will probably be weakened, produce a reduced crop, and be more susceptible to other pests and disease. In addition to skeletonizing the foliage, the beetles will feed on the stems and pods too.

CULTURAL CONTROLS: Practice crop rotation (3 - 5 year cycles) and plant resistant varieties when available. Clean up garden debris to destroy overwintering habitat. Immediately compost the debris or put it into sealed plastic bags and let it "cook" in the sun for a week or so to

destroy any remaining pests. Use "timed planting", early crops tend to avoid the main outbreaks of the beetle. If damage is noted, remove the leaf or carefully cut away the damaged area. This way, if you notice more damage later, you will know that you still have the pest present rather than thinking that it is the same damage from before. Plant several smaller blocks of beans in varying locations rather than one large planting. The beetle may get to one or more areas but other areas might escape.

COMPANION PLANTING AND REPELLENTS: Interplant your beans with potatoes, garlic, savory, or nasturtiums. Not only does the potato repel the Mexican bean beetle, but the beans return the favor by repelling the Colorado potato bug. Other reported repellents include strong smelling marigolds, rosemary, and petunias. A repellent spray can be made by steeping cedar chips in hot water.

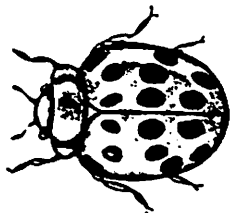
TRAP PLANTS: Bean beetles seem to be particularly fond of lima beans. A small planting of these, away from your other legumes, can possibly draw the pest away from your main crop and also act as a "early warning system".

MECHANICAL CONTROLS: Early in the season cover your plants with an agricultural fleece (Remay, etc.), fine netting, or cheesecloth to exclude the pest and keep it from laying eggs in your garden. Remove the covering when the temperature gets too high or for pollination. Handpicking of the adults, pupae, and larvae is very effective. Drop them into a container of water topped with a layer of kerosene or oil. Squash any egg clusters you find.

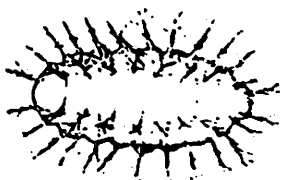
NATURAL CONTROLS: Put a birdbath in your garden and invite all your neighborhood feathered friends to dine. Bean beetles are also favorite prey for various assassin bugs, spined soldier beetles, and ladybugs. They can be parasitized by a commercially available wasp, *Pediobius foveolatus*.

BIOLOGICAL INSECTICIDES: These are not totally harmless, but used correctly, they can be easier on the environment than some other methods. Use pyrethrum at the first sign of the pest and spray weekly thereafter. As a last resort, you can use rotenone. Be sure to apply the pesticide to the undersides of the leaves and the interiors of the bushes. Spray in the evening, when the honeybees are not around, and follow directions carefully.

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 Mexican bean beetle 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.



ADULT



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PUPAE

OPEN LETTER TO MASTER GARDENERS

Jackie Dillon-Fast
Staff Writer

It was with sadness and trepidation that Cochise County gardeners - large and small - watched Deborah Young pack up her soil probes, microscopes, and seven years of experience and move on to Yavapai County in Northern Arizona. For urban horticulturalists (that's us), Deborah pioneered the Master Gardener Training Program in Cochise County, bringing together gardeners of all kinds and degree who otherwise might never have met. The program helped us to share and increase our knowledge of desert gardening through the formal Master Gardener classes, follow-up clinics, and special projects like this newsletter.

The program has been so successful that we went from an original class of seven people to last years class of twenty five, and most of those twenty five Master Gardeners are still active. Dorothy manages the Sierra Vista office; Rose F. keeps an eye on the one in Willcox; Linda organizes clinics and Brown Baggers for Master Gardeners and the public alike; Carolyn writes, types, and rearranges each month's Master Gardener Newsletter until it fits into its requisite three pages. Rose L. designed the Cochise County Realtors Outdoor Classroom (her sketch is posted in our Sierra Vista office); Melissa compiles our office statistics and is preparing a "100 Most Asked Questions" pamphlet; Bill gives advice on grasses and presented two of our Brown Baggers; John gives advice on trees and is working on a Cochise County Planting Calendar. Susan keeps our office files filled with useful information on gardening from extension offices all over the country; Tom helps with the Newsletter production and computer troubles; Merrienne compiles a gardening calendar of events to keep us all busy; Hector runs the community garden in Willcox. Tommi writes the "What's Bugging You?" column and offers entomological advice; Cathe writes a gardening column for the Bisbee Observer and is helping organize Cochise County Global ReLeaf. Donna works with the 4H program; Sara, Pat, Mary, Bonnie, Josie, June, Jumala, and George staff the Sierra Vista office and answer gardening questions.

The list goes on much longer than I can fit in this space. Deborah was the hub around which most of this activity centered - she motivated, applauded, and gently prodded us. It's not surprising that we feel a bit lost without her. There will, of course, be a "new Deborah" hired by the Cooperative Extension, though this will take from six months to a year. Deborah, her counterpart Eric Schwennesen, and Director Doug Dunn were worried that during the wait for a new Extension Agent, the Master Gardeners would drift apart and the hard work of establishing a successful Master Gardener program would be lost.

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To prevent that, they created a temporary 20-hour-a-week position of Program Coordinator, and based it in Sierra Vista. The Program Coordinator's job is to maintain and develop the existing Master Gardeners and to help provide opportunities for more people in the community to become involved in and benefit from the Master Gardener program. It is not intended as a master Master Gardener position, or as a substitute for Deborah or the twenty or so active Master Gardeners. Its purpose is to keep the program alive and growing until a new Extension Agent can be hired.

Qualified, enthusiastic candidates for the Program Coordinator job were not hard to find among the Master Gardeners. Many of us enjoy being part of the program and want to see it continue.

In early June, Deborah, Doug, and Eric interviewed several Master Gardeners and non-Master Gardeners as well, and after careful consideration offered me the Program Coordinator's position. Having worked with and known the other applicants, I know that it was not an easy choice for them to make. I believe very strongly that the Master Gardener Program offers marvelous opportunities for individuals in Cochise County. This position is just one of many opportunities to learn, develop, and share skills, and to give something back to the gardening community.

A fall Master Gardener Class is now in the planning stages and during these first few weeks I have been busy establishing contacts within the community and catching up with what everyone has been doing. We're planning a social or advanced training get-together so that all of the Master Gardeners can meet Eric and Doug, grumble about the weather, get rid of some zucchini surplus, and just touch base again.

In the meantime, I will be available in the Sierra Vista office every Wednesday afternoon from 1 to 5:00 pm. As a Master Gardener I've been busy with my own projects for the last six months and will probably have to be updated on what each of you is up to, what you need, and what you'd like to explore. A large part of my job is opening up opportunities for you. You can also leave me a note or call me at home. I'll be calling you as well to get your insights into the program and your suggestions for the fall Master Gardener Class and Advanced Master Gardener Training.

