

# COOPERATIVE EXTENSION

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

the Cochise County Master Gardener

## NEWSLETTER

VOL. 4, NO. 8

AUGUST 1992

### ZINNIA GRANDIFLORA: Prairie Zinnia

Barbara Kishbaugh  
Staff Writer

This plant is also called wild zinnia or Rocky Mountain Zinnia. It grows in areas where the soil has been disturbed such as roadways, gullies, cattle range, or land scraped for residential development.

The wild zinnia has dark yellow petals with orangish-brown centers. It is low-growing with short, spiky pale green leaves. You will seldom see a solitary plant, but rather several dense mats clumped together. This plant is a natural survivor in our area, actually quite common and hardy. With sufficient moisture, this wild zinnia loses its somewhat brittle quality and appears fuller with brighter blossoms. The blossom stage is very conspicuous and long lasting. Rob Call, our Extension Agent, tried transplanting some of these wild zinnias with no apparent success.

These flowers win our admiration for the ability to add color and beauty to our sometimes harsh Southwest environment.

*Zinnia grandiflora*



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UNIVERSITY  
OF  
ARIZONA

Robert E. Call

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Extension Agent,  
Horticulture

**IN BENSON!**

**NEW  
MASTER GARDENER CLASS  
TO START!**

Beginning on September 3<sup>rd</sup> a new Master Gardener Basic Training will begin. The 13 week class will be taught once a week on Thursday evenings from 6:00 to 9:00 pm. Those interested in this course should contact the Cooperative Extension Office in Willcox at 384-3594 for an application. A minimum of 10 people are needed for the class.

**GARDEN TOURS**

Would you like to visit gardens in the county? Please call the Sierra Vista Cooperative Extension Office and let us know that you want to be part of a garden tour. Also, if you would let us put your garden on tour, let us know.

**UNIVERSITY OF ARIZONA PLANT  
DISEASE CLINIC CLOSES**

With recent budget cuts experienced by State Universities, the Plant Disease Clinic has been closed. The University of Arizona College of Agriculture budget has been decreased by the Arizona State Legislature by 5.7 million dollars in the last few years. Currently there are 63 full time faculty positions that will remain unfilled if a budget increase is not forthcoming. Things will get worse before they get better we are told.

Samples of unidentified plant diseases can be sent to the Extension Plant Pathologist, Dr. Richard Hines, on campus. We are hopeful that future plans will include a Plant Disease Clinic somewhere in the State of Arizona.

**AUGUST REMINDERS**

**FERTILIZE  
PLAN YOUR SPRING WILDFLOWER  
GARDEN  
WATCH FOR NUTRIENT DEFICIENCIES,  
SUNBURN, SALT BURN,  
OVERWATERING, TEXAS ROOT  
ROT, CICADAS, AND OTHER  
INSECTS  
PROLONG ANNUALS  
KEEP PULLING WEEDS  
PLANT COOL SEASON FLOWERS &  
VEGGIES**

**A STATE MASTER GARDENER  
CONFERENCE IS TO BE HELD  
AUGUST 20-21 IN PHOENIX.  
FOR MORE INFORMATION  
CONTACT THE COOPERATIVE  
EXTENSION OFFICE.**

**CUTTINGS 'N' CLIPPINGS**

● Here is a hint for using all your kitchen scraps immediately instead of trying to manage a compost pile in the summer heat. Just place all your scraps — coffee grounds, egg shells, greens — in your blender with a little water. When it is all mixed up, pour it directly into your soil. You won't have a bowl of scraps on your kitchen counter and you can rake this mixture right into your garden.

**Staff:**

Carolyn Gruenhagen  
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Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by August 21.

## THE AGENT'S CORNER

Robert E. Call

Extension Agent, Horticulture

**QUESTION:** My apple tree has branches that are dead or dying. Leaves are drying up and the bark is sunburned. What can I do to stop this?

**ANSWER:** What you are seeing are the symptoms of a problem in the root system of the apple tree. It could be a soil born fungus like phytophthora, but is more likely to be a ground dwelling insect pest called a wooly apple aphid (*Erisoma lanigerum*). Also pears are injured by the wooly pear aphid (*Erisoma pyricola*). These aphids are native to the eastern United States and Canada, but is a worldwide pest that attack elm, mountain ash, and some species of hawthorn trees as alternate hosts. A fluffy white wooly covering over most of the insect's posterior end of their blue black bodies accounts for its name. This cottony looking substance can be seen in small masses on branches and shoots where injuries or pruning cuts have been made, as well as on roots.

The life cycle of these insects is rather complicated. Females lay eggs on the bark of host or alternate host trees in the late summer or fall. These eggs overwinter and hatch in the spring as wingless parthenogenic (development from an unfertilized egg), females produce ovoviviparous (eggs hatch within the females' body), stem mothers which establish colonies on the terminal leaves. These leaves soon become curled and stunted from feeding. By early summer winged forms appear and fly to other apple trees or hosts to establish new colonies. Repeated generations are produced during the summer. Some of the individuals may crawl to the roots where they continue to reproduce indefinitely. In the fall, winged individuals develop again and fly to hosts and give birth to sexual forms which eventually mate and lay

overwintering eggs. Not all aphids leave the apple trees, some wingless forms remain all winter, both above and below ground, thus maintaining a continuous infestation year around.



On the roots nodules are formed from the insects feeding. These nodules are rough and bumpy looking and restrict the flow of water and nutrients from the roots to the leaves. Small leaves form and eventually the bark becomes sunburned and dried out and limbs die over several growing seasons.

**Control:** When planting apple trees semi-dwarfing and dwarfing rootstocks with MM before the rootstock number should be used. Example: MM106 or MM111 are semi-dwarfing rootstocks which are resistant to the wooly apple aphid. The MM stands for Malling-Merton which are agricultural research stations in England which developed these rootstocks. Currently chemical control is the only means available to control wooly apple aphid. However, BioLogic Company, a bio-engineering firm has developed a parasitic nematode (*Steinernema carpocapsae*) that has been 80% effective in controlling the ground dwelling form of this pest. They are not yet marketing the nematode. Chemical controls include dimethoate (Cygon), a systemic insecticide. Other organic and chemical based insecticides that control aphids will control the above ground generations of this insect when they are in the tree, though the ground dwelling forms will not be affected.

**Source:** *Insect Pests of Farm, Garden, and Orchard*, R. H. Davidson and W.F. Lyon. 1979. 7th Ed. pp. 392-393. John Wiley and Sons, New York.

**QUESTION:** My tomatoes have small water-soaked areas that at first appear to be bruises, then turns into brown sunken leathery areas

always on the blossom end of the fruit. Some of the sunken areas turn black. These diseased fruits usually ripen before the non-infected fruit. What disease do my tomatoes have?

**ANSWER:** This disease, called blossom-end rot, is caused by a localized deficiency of calcium in the fruits. Calcium is required in large quantities by growing cells like those in the blossom-end. When this rapidly growing tissue is deprived of the calcium needed for growth, especially cell-wall construction, tissues break down resulting in blackened, dry sunken spots or areas on the blossom-end of the fruit. Water stress usually creates this disorder because inconsistent watering will not allow the plant to translocate sufficient calcium. Also high levels of nitrogen can cause vigorous growth early in the season which with water stress can compound the problem. Blossom-end rot is also seen in chili and bell peppers and members of the squash and melon family.

**Control:** It is important to regulate soil moisture and maintain that moisture at a relatively constant level where possible. Plenty of organic matter in the soil and mulching plants will help maintain consistent soil moisture. Also avoid high applications of nitrogen to the plants. Some varieties of tomatoes are less susceptible to blossom-end rot. These include Early Girl, Floradel, Floradade, Tropic, and Jet Star. It has been demonstrated that foliar sprays of calcium chloride (1 lb./25 gallons of water), or calcium nitrate (2 lbs./25 gallons of water) can help reduce this problem. Applications must be made before calcium levels fall below critical levels and must be applied weekly for 3 to 4 weeks.

**Source:** *Vegetable Diseases and Their Control*. A.F. Sherf and A.A. MacNab. 1986. pp.689-691. John Wiley and Sons, New York.



## BEE ATTRACTING TREES

p = pollen    n = nectar



- alder. *Alnus*. p. late winter, early spring
- almond, flowering. *Prunus*. n, p, very early spring
- birch. *Betula*. p, early spring.
- black locust. *Gleditsia*. n, brief flowering period, summer.
- cherry and plum, flowering kinds. *Prunus spp.* n, p, early spring.
- Chinese scholar tree. *Sophora*. n, p, late fall bloom.
- crab apple, flowering. *Pyrus*. n, p, early spring.
- golden raintree. *Koelreutia*. n, summer bloom.
- hackberry. *Celtis*. p, early spring.
- hawthorn. *Crataegus*. variable n source, spring.
- honey locust. *Gleditsia*. n, spring. Has spines, not as useful as black locust for bees.
- maple. *Acer spp.* n, p, early spring.
- peach. *Prunus*. n, p, early spring.
- poplar, *Populus*. p, early spring.
- silverberry. *Eleagnus*. some n, summer.
- smoke tree. *Cotinus*. n, summer.
- willow. *Salix*. n, p, early spring.

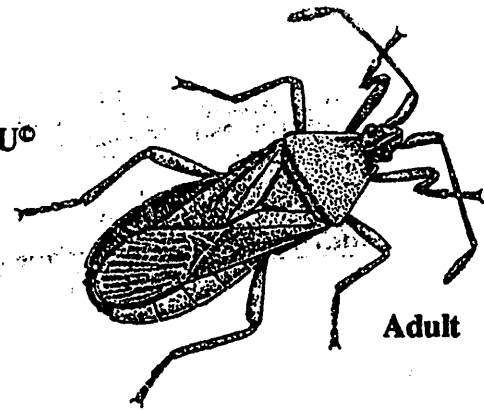
## SIERRA VISTA TO BEGIN COMPOSTING PILOT PROJECT

The City of Sierra Vista is adding another component to its Reduce - Reuse - Recycle program. A new pilot program partly funded by a State Recycling Grant was recently awarded to Cochise County. Under the grant agreement, the University of Arizona will participate in this project and provide technical advice and assistance for this six month pilot study. During the initial pilot phase, the program will be limited to residential yard waste picked up by the City refuse crews as a "special pick up" which is a free pick up conducted on Wednesday of each week. Residents can call 458-7530 to schedule this pick up and to get information on how to prepare the materials. With everyone's help we can continue efforts to save landfill space, reduce our refuse tonnage, and improve the environment.

## WHAT'S BUGGING YOU<sup>®</sup>

by T. J. Martin

### SQUASH BUGS



Adult

**COMMON NAME:** Squash Bug, Stink Bug

**SCIENTIFIC NAME:** *Anasa tristis*, Order-Hemiptera (True Bugs), Family-Coreidae

**DESCRIPTION:** **ADULTS** - Rather large bugs up to about an inch long and brownish black in color. The head is very narrow and the abdomen as wide or wider than the "shoulders". Has the distinctive triangle shape in the center back. **EGGS** - Eggs are reddish-gold and laid in clusters on the host foliage. **NYMPH** - Looks like a wingless adult with reddish legs and head and a green to brown body.

**LIFE CYCLE:** The adults emerge from overwintering and seek cucurbits to feed upon. Eggs are laid on the foliage and soon the nymphs hatch and begin feeding. They develop into adults and there are often two generations per year in the southern states. The adults overwinter in dark, moist, protected places such as under garden debris, straw mulch or wood on the ground.

**HOST PLANTS:** All vine crops are at risk, especially cucumbers, melons, pumpkins, and squash.

**TIME OF YEAR:** All the warm months, especially July through September.

**WHAT TO LOOK FOR:** The adults should be fairly easy to spot because they are so large and dark. Look for them near the ground or where the plant "branches". Suspect a problem if your plant looks wilted even after a good watering. Leaves may become crisp and brown at the edges. Check the leaves for the conspicuous clumps of red eggs or young bugs near the center vein.

**PROBLEMS AND DAMAGE:** When feeding the Squash Bug injects a toxin that causes infested plants to wilt and eventually die. Other diseases will often infect the weakened plant. The plant will cease to produce blossoms and developing fruit will die.

**CULTURAL CONTROLS:** Don't give the Squash Bug any hiding places. Be diligent in your weeding and clean away any wilted, broken, or diseased foliage. A agricultural fleece covering can protect susceptible young plants until it has to be removed for pollination or heat. Rotate your crops. Plant early or late to avoid peak infestation times.

**COMPANION PLANTING AND REPELLENTS:** The bugs are reportedly repelled by plantings of marigolds, nasturtiums, radishes, or tansy.

**TRAPS:** Adults may hide under boards during the day. Check and kill any found.

**MECHANICAL CONTROLS:** Squash the clusters of eggs when you find them. The adults can

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inflict a painful "bite" if handled and will also emit a terrible odor. Use a stick or rock to smash them when handpicking. A hard water spray or soap-n-water spray will force them off the plant, but they probably will come back.

**NATURAL CONTROLS:** Tachinid flies, birds, frogs, and turtles are natural enemies.

**BIOLOGICAL INSECTICIDES:** Try brewing cedar chips in warm water for a "tea" to spray on the infested plants. Pyrethrum will give a quick knockdown but the large adults may recover. Insecticidal soap may work. Sabadilla or Rotenone is recommended for large populations. Nicotine will also work but can be a dangerous substance to use.

**CHEMICAL CONTROLS:** Please consult the Agricultural Extension Agent or a Master Gardener Volunteer for current recommendations (Tel. 458-1104 in Sierra Vista or 384-3594 in Willcox). Whatever you use, **FOLLOW LABEL DIRECTIONS EXACTLY** and take the necessary precautions to protect yourself, other humans, non-target animals, and the environment.

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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture, The University of Arizona and Arizona Counties cooperating. The University of Arizona College of Agriculture is an equal opportunity employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to sex, race, religion, color, national origin, age, Vietnam Era Veteran's status, or handicapping condition.

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