

COOPERATIVE EXTENSION

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the Cochise County Master Gardener

NEWSLETTER

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JULY 1992

OENOTHERA BERLANDIERI: Mexican Evening Primrose

Barbara Kishbaugh
Staff Writer

There is a side yard on Oak Street in Bisbee blanketed with this pinkish/purplish flower which has a pale yellow to white center. You, too, have probably seen this flower growing in your neighborhood since it is very popular in Cochise County.

The four petals of this flower appear to be fragile, however, this plant has the ability to adapt to less than ideal conditions and keeps producing an abundance of blossoms. It tolerates the sun, is very hardy, and does well in our area. This Mexican Evening Primrose is low growing, about a foot high, with narrow leaves which give the stems a somewhat long appearance. It is perennial.

When researching reference material for this article, I found little information which actually defined this specific plant. There are several varieties in this family, mostly white and yellow, and some found naturally in our Southwest Desert, *Oenothera deltoides*.

Once established, it is drought-tolerant and thrives with little or no care — what more could you wish for in a plant perfect for the Desert in which we live!



Oenothera berlandieri

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Robert E. Call

Robert E. Call
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July '92 - #1 of 3

BUDDY BUG: Bees

Elizabeth Riordon
Staff Writer



Honey has been a source of food for man since primitive times. A Spanish rock painting, dated from about 7,000 B.C., shows a figure gathering honey. Beekeepers first kept their colonies in hollow logs, baskets, or clay jars. The bees were killed in the fall so that the honey could be gathered.

Now, beekeeping is a scientifically managed agricultural business. Bees, originally found only in the Old World, are now everywhere except the polar regions. The bounty of your vegetable plot or fruit trees can be attributed to the work of the bees as well as to your gardening skills.

Many fruits and vegetables require pollen from another plant in order to produce. Bees transfer the necessary pollen from one plant to another. Most apples, pears, cherries, plums, almonds, citrus, cantaloupe, and watermelon need such transfer. Even plants that are capable of self-pollination will produce more, larger, and better shaped fruit if they are cross-pollinated. Good examples of such self-fruitful, bee pollinated crops are strawberries, peaches, and nectarines.

Years ago, solitary bees (wild bees that do not colonize) nested in the vegetation along fences, open ditches, and weed-lined roads. It was these bees that pollinated wildflowers, family gardens, and small farms and orchards. Chemical weed control, underground storm drains, and the widespread use of pesticides (solitary bees are more susceptible to pesticides than are honey bees) have greatly reduced the solitary bee population. Honey bees are becoming more important, therefore, and yet, beekeepers are losing an increasing number of hives to chemical poisoning. Many of the pesticides and chemicals are dispersed by farmers and public works departments. We need to be sure not to

compound the poisoning from our own back yards. We must follow pesticide and herbicide instructions, use them on days that are not windy, and prevent run-off of chemicals — particularly now that Sierra Vista will be using wastewater/wildlife ponds.

You can try to increase the number of bees in your garden by putting in flowering plants. Or, you can assure yourself of plenty of bees by putting a hive in your own garden. Do-it-yourself hobby beekeeping kits are available commercially. You can have your own fresh honey as well as a wonderfully producing garden.

The County Extension will soon be offering workshops for anyone who might be interested in a bee hobby or a small business in beekeeping. Watch for more information.

Editor's Note: The great great grandfather of Elizabeth Riordon is "the father of modern beekeeping", Lorenzo Lorrain Langstroth. Lorenzo used the crucial 3/8" "bee space" to design the first movable-frame modern bee hive.



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Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by July 29.

THE AGENT'S CORNER

Robert E. Call
Extension Agent, Horticulture

QUESTION: The leaves of my apple tree and roses are drying up. The leaves have a white-grayish fuzzy material coating them. What is this and what can I do?

ANSWER: Powdery mildew is affecting your apple and roses. Powdery mildews are common, widespread, and on many crop and ornamental plants. The total loss by these organisms each year probably surpass the losses caused by any other single type of plant disease. There are many species of powdery mildew. Your apple tree was probably infected by *Podosphaera leucotricha* and your roses by *Sphaerotheca pannosa*. These fungi are common and cause serious problems in cool and warm humid areas, but are even more of a problem in warm-dry climates like Arizona. Powdery mildew spores (fungal "seeds"), can be released, germinate, and cause infection when the relative humidity in the air is fairly high, but there is no film of water on plant surface. This spring, with abnormally high rainfall, has favored the growth and spread of powdery mildew. Once infection has begun the fungus spreads on plant surfaces regardless of the moisture conditions in the atmosphere. These organisms send haustoria (feeding organs), into the epidermal cells of plants to obtain nutrients. Powdery mildews are obligate parasites; meaning they cannot be cultured on artificially growing media in the laboratory but must grow on their specific hosts. Powdery mildew seldom if ever kills its host, but utilize their nutrients, reduce photosynthesis, increase respiration and transpiration, impairs growth, and can reduce yields as much as 20-40 percent.

Control: When planting apples or roses or other susceptible plants, place them in a location with good sunlight and air flow, i.e.

not up against the house. Prune plants properly to open them up to ensure air flow through the plant. A rose or euonymus planted on the shady north side of a house will surely have powdery mildew problems. Many new rose varieties have disease resistance to powdery mildew. This resistance will help, but may not completely eliminate the need for chemical control. Chemical controls include spraying or dusting sulfur. Care must be taken not to apply sulfur on hot days because plant tissue can be burned. Other chemical controls include benomyl (Benlate), tridimefon (Bayleton), and triforine (Funginex).

Source: *Plant Pathology*, George N. Agrios. Third Edition, 1988, pp. 337-342.



Powdery mildew on rose leaves caused by *Sphaerotheca pannosa*.

GARDEN TOURS

Will you share your garden with us? We all could use help in growing "how" and "what" ideas. We need gardens to tour at any time. Call Elizabeth Riorden at 378-6760, or the Sierra Vista Extension Office to tell us where your garden is located, what months it would be available for viewing, and how many people you would accept on each tour. Thanks!

JULY REMINDERS

PEST MANAGEMENT

(See *What's Bugging You* columns in past copies of the newsletter)

KEEP WATERING

YOU CAN STILL PLANT SOMETHING!

A complete packet of "What-To-Do" columns is available in the Sierra Vista Cooperative Extension Office if you need to consult them.

CUTTINGS 'N' CLIPPINGS

Barbara Kishbaugh
Staff Writer

● The Master Gardener gathering in Veterans Memorial Park on May 29 brought enjoyment to those attending. Conversing with others who hold similar interests, exchanging ideas with new acquaintances, and meeting family members created a feeling of community. We didn't actually slap each other on the back, but we had a good time! We missed you who weren't there and look forward to seeing *you* at the next gathering.

● The June 6 tour of Willcox orchards was informative and interesting. We visited a processing plant for apples, but since cherries were in season, it was being used as a place to select, grade, and store the cherries. Since this was a first "tour" for some of us to Willcox, we were impressed

with the amount of agricultural crops produced in that area. Extension Agent, Rob Call was our guide and we wish to say thanks for the information on irrigation which gave us insights for our own orchard. Did you know that apples are being grown on trellises, just like grapes, only on taller trellises? When supported in this manner, a tree produces more fruit, and it also makes it easier to pick the fruit.

● Rob Call informed those of us at the park gathering about the native plant collecting which took place May 30 and 31 in Bisbee. It was a last minute notice and a few of us attended. There were several people from the Native Plant Organization there, also. Rainbow cactus, ocotillo, agave, mammillaria, and sotol besides other plants were available. Kathy Wurtz with the Department of Agriculture collected our fees and issued permits for each native plant taken. It was early Christmas for cactus lovers! Another salvage will take place at the 47 Ranch off Davis Road in the near future. Watch for the particulars. If you choose to participate, be prepared with gloves, shovel, bar for caliche, boxes or plastic containers, and water!



● The Amazing Arizona Mini Festival will be held at the Oscar Yrun Community Center in Sierra Vista on July 16 beginning at 6:00 pm. The Master Gardeners will have a booth, so plan on stopping by!

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WHAT'S BUGGING YOU®

by T.J. Martin

MITES IN YOUR ORCHARD AND GARDEN

COMMON NAME: Mites, Red mites, Spider Mites

SCIENTIFIC NAME: Arachnida (Order: Acarina)

DESCRIPTION: **ADULTS** - Teeny, tiny (1/150 to 1/50 of an inch long) with eight legs like their cousins the spiders. Ranging from reddish-brown to tan in color, they have only one body segment and no antennae or wings. **EGGS** - Laid on twigs, foliage, fruit, or buds and are usually covered by webbing. **LARVAE** - The newly hatched young have only six legs. **NYMPHS** - After the first molt (shedding of skin) the fourth pair of legs appear and the young mites are called nymphs.

LIFE CYCLE: Mites LOVE hot, dry weather. The females spin a silken web and lay their eggs. The larvae quickly hatch and develop into nymphs and then into adults. The adults and young alike use sharp piercing-sucking mouthparts to feed on plant buds and foliage. Some (beneficial) mites are parasitic or predaceous on other (harmful) mites, insect pests and their eggs, or on roundworms in the soil. In our area many generations of mites are produced and adults have been known to move into dwellings with the coming of the cold weather. Outside mites usually overwinter in the egg stage, but adults may pass a very mild winter in debris on underneath bark.

HOST PLANTS: Just about all garden veggies and fruit trees.

TIME OF YEAR: Spring through early winter. Worse during mid-summer.

WHAT TO LOOK FOR: Infested leaves become silvery, curl up and may turn yellow. A sure sign in a fine, silky web. Blisters may form on foliage or pale yellow or white dots may appear. Fruit may be dry and rough or russeted and deformed. Fruit may drop early. Since mites are so tiny, they are extremely difficult to see on the plant. The best way to get a look at them is probably to hold a piece of white paper under the foliage and shake or tap it to make any resident pests drop onto the paper.

PROBLEMS AND DAMAGE: Damage to foliage weakens the plant and may leave openings for other pests and diseases. Damaged leaf and fruit buds may result from early spring infestations and later feeding may lead to early fruit drop or produce that is so damaged as to be inedible or unsalable.

CULTURAL CONTROLS: Misting plants discourages drought-loving mites. A winter spraying of horticultural oil will smother overwintering pests. Make sure you have good air circulation around your plants and consider planting early in the spring or later in fall to avoid the worst outbreaks. Some strains of tomatoes are advertized as being mite resistant.

COMPANION PLANTING AND REPELLENTS: None.

TRAP PLANTS: Same as host plants, pulled up and destroyed (along with the pests) before your regular crop is put in.

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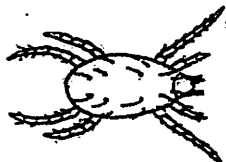
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MECHANICAL CONTROLS: Periodic spraying with plain water goes a long way toward eliminating minor infestations. Adding a little pure soap to the water will greatly increase the pest mortality rate if your plant can handle the soap. A slurry of flour, water, and buttermilk has also been reported as effective. Diatomaceous earth can be used to dust the plant, especially the undersides.

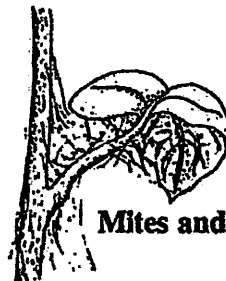
NATURAL CONTROLS: Ladybugs (ladybird beetles), lacewings, and predatory species of mites are excellent predators and are even commercially available.

BIOLOGICAL INSECTICIDES: Insecticidal soaps (such as Safers') work well and may be combined with a light horticultural oil on appropriate plants. Make sure you get the underside of the leaves. Pyrethrum or Sabadilla can be used for extensive infestations.

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.



Adult



Mites and damage