

# COOPERATIVE EXTENSION

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

FILE COPY



the Cochise County Master Gardener

## NEWSLETTER

VOL. 4, NO. 6

JUNE 1993

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### POMEGRANATE (*PUNICA*)

Barbara Kishbaugh  
Staff Writer

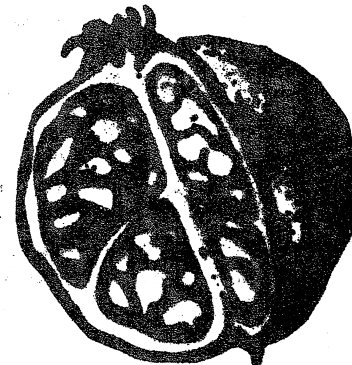
The pomegranate, either a deciduous tree or a shrub, has long been a southwestern favorite. The tree grows in the shape of a vase and is very dense. It can be trimmed to form a fence boundary or clipped to bush height. The limbs do not obtain any great mass and stems produce some sharp points that remind you how well suited it is for the desert. If you are planning a neat orderly appearance, much trimming will be necessary.

The dense growth of the pomegranate provides a habitat for wildlife, especially birds which find the inner branches of this plant perfect for the building of hidden nests.

The leaf color of pomegranate is a shiny dark green with a waxy appearance. In the spring, orange-red trumpet shaped blossoms emerge. The flowers are larger than the leaves and conspicuous in their brightness. The forming of the fruit begins immediately after flowering—the exterior wrapping of the seeds is leatherlike—softer when the fruit is young. It stretches around the fruit outlining each section of the seed cells in relief.

The seeds adhere to the leather-like skin, so the process of removing them is time consuming, messy, and sometimes difficult. That may be why you often see the fruit of this plant on the ground. The seeds and moisture of the pomegranate stains the fingers and clothing of those wishing to enjoy its tart crisp pulp.

(Continued on next page)



*Robert E. Call*

Robert E. Call  
Extension Agent,  
Horticulture

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# 1993



Once you eat this fruit you will never forget the sharp flavor. A translucent red jelly with a distinctive, very pleasant taste can be made from the fruit. The recipe of a friend in Bisbee is printed elsewhere in this newsletter.

Pomegranates are recommended for our area. All varieties tolerate great heat and will live and grow well in alkaline soil that would kill most plants. They are drought tolerant and require regular watering only if the fruit is of importance to the grower.

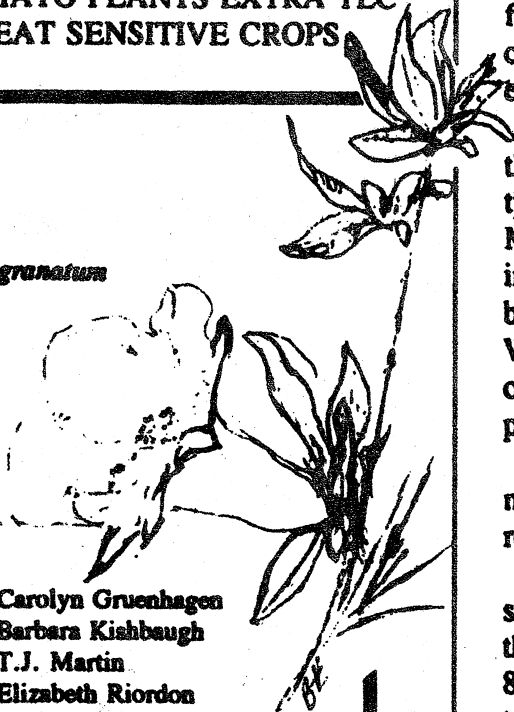
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## JUNE REMINDERS

KEEP ON DEEP WATERING  
MULCH PLANT ROOTS  
FERTILIZE ROSES  
PLANT WARM-SEASON CROPS  
WATCH FOR NEW PESTS  
GIVE TOMATO PLANTS EXTRA TLC  
SHADE HEAT SENSITIVE CROPS

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*Punica granatum*



**Staff:**

Carolyn Gruenhagen  
Barbara Kishbaugh  
T.J. Martin  
Elizabeth Riordon  
Virginia Westphal

Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by June 30.

## COOPERATIVE EXTENSION PROGRAMS

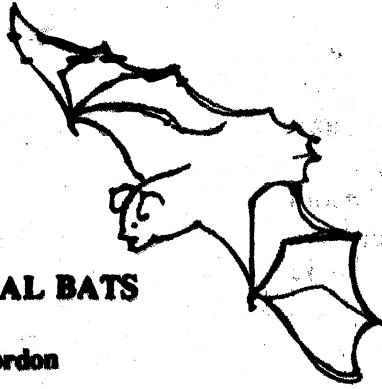
Your Cooperative Extension is involved with the community in several areas in addition to the Master Gardening Program. The Cochise County Extension Advisory Board met recently in Tombstone to formulate goals of the Extension for the coming year.

The Cooperative Extension is involved with 4H programs as we all know, but is now expanding to build community coalitions and conduct health and wellness education since most board members expressed a concern for the well-being of children and families. Strengthening youth, families, and communities is the commitment of the Cooperative Extension.

Working hand-in-hand with the growers of the county is essential to maintain the viability of the county's horticultural industry. A Master Recycler program to train volunteers in solid waste reduction and recycling will be coming to your part of the county. Watch for more information if you or someone you may know would wish to participate.

Resource management has been implemented with success to protect our natural resources.

If you have any ideas you would like to share with the Extension Board, please send them to P.O. Box 1417, Sierra Vista, AZ 85636. They would like your ideas on how to educate and involve children in the importance of agricultural production. Your input is very important for the continued success of the Cooperative programs, some of which you have used, such as the Master Gardener Program.



## **BENEFICIAL BATS**

**Elizabeth Riordon**  
**Staff Writer**

Insects may be a necessary part in the plan of nature, but they are also a problem for the gardener. Some of them eat the plants, and others prefer the gardener himself for dinner. Birds keep many of the undesirable critters under control, mostly during daylight hours. In the evening and at night bats feast on large numbers of unpleasant insects.

Bats are almost invisible visitors. A few may be seen in the twilight, and others visit the hummingbird feeders in the dark. If you shine a flashlight on the feeder, you may see an impressive number of nectar feeding bats during a few summer months here in Southern Arizona. For a few weeks to a month they will swoop down and dive past the hummingbird feeder taking a drink and sometimes leaving pollen grains stuck to drips of sugar water. For that short time be ready to refill your feeders each morning. It will probably be the hottest part of the summer, and the feeders need to be cleaned almost daily during that heat anyway. If you don't want to refill the feeders, bring them in before dark.

The only flying mammals are bats. They are quiet visitors having voices so high in pitch that we cannot hear them. They won't wake you as they busily clear away unpleasant insects. The insect eater bats have a diet of creatures such as moths, crickets, ants, and mosquitoes. A large bat may eat up to seven thousand mosquitoes each night. After eating up to half its body weight in insects, the bat rests and digests

the meal during the daylight. Then he is ready to hunt again with an empty, lightweight stomach.

There are so many bats around that it is surprising that we don't see them very often. The ones that spend the day sleeping in trees are well camouflaged. They look a lot like dry leaves or a tangle of branches. Most bats prefer to roost and sleep in caves, rocky ledges, and mines. A few kinds can be found under bridges and in hollow trees. Bats become a nuisance when they decide to roost in buildings. The best way to get rid of such a colony is to close up the openings that they use when they fly away for the winter. Sometimes alternative housing can be constructed for the bats. In Europe, bats are protected and bat houses are used to draw the bats to wet areas and reduce the mosquito population. Our county office has plans for bat houses. A surprising small house will hold thirty to fifty bats. Here, though, where rabies is an annual problem, it would be best to check with an expert before tacking a bat box up in your back yard.

Our area is home to at least seventeen different species of bats. Each has its specific habitat and food. Some feast near water, others eat low flying or hopping insects. Some bats feed on higher flying moths. The "vegetarian" bats eat soft fruits, nectar, or pollen. As civilization encroaches upon the countryside, it is feared that some types of bats are becoming endangered species. One species that lives in caves in the Huachuca Mountains is definitely declining. It is a nectar eating bat which may be the sole pollinator for the local agave. As the agaves, which grew in abundance close in Mexico, are dug for bootleg tequila production, the bat numbers decline. Then, as a result, pollination of the remaining agave plants is reduced. As the evening pollinator disappears, so does the beautiful white agave flower.

## AGENT'S CORNER

Robert E. Call

### Horticulture Agent

**Question:** I have several trees, shrubs and bushes that have leaves that are turning yellow but the veins remain green. I water them every other day and feel that they are receiving enough water. What can I do to correct this problem?

**Answer:** The leaf yellowing is called iron chlorosis and is caused by insufficient iron in the plant leaves. If you look closely you will see that the older leaves are not effected. Iron is necessary in the formation of chlorophyll, the green pigment of plant alkaline, meaning that they have pH's above 7.0. As soil pH increases above 7 iron forms other molecular complexes which are not taken up by plants. Water logged soils or anarobic conditions can cause iron to be unavailable.

**Control:** Decrease the amount of water given plants, checking the soil to see if watering is necessary. Lowering soil pH will make iron more available. Changing soil pH is a long term proposition but can be accomplished by adding acidifying materials such as soil sulfur and/or gypsum. Iron can be applied to the soil or the leaves to help correct this problem. Iron applied to the soil is slower acting but is longer lasting than iron sprayed on the foliage. There are several dry products that can be soil and other forms of iron. These products are poured into holes that are about poked into the soil one to one and a half feet deep, placed around the drip line of the affected plant and serves as a reservoir of available iron. Foliar applied irons are usually liquids and can also come in chelated forms. Chelates are "chemical jaws" which protect the iron from becoming bound up with other chemicals before it is inside the plant.

Once near or inside the plant the chelating agent is dissolved and the chelated chemical is available. Chelates can be applied to the soil also but only Sequestrene 138, (6% iron), will work well in our alkaline soils. It is red in color as a

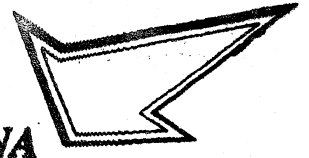
powder and when added to water has the color of blood and is expensive as blood! The Sequestrene 330, (10% iron), is yellow in color and is applied to the foliage only. It should only be soil applied to acid soil, if not it will become bound up and not available to the plant. Look at the product color to know which chelated iron is being used and how to properly apply it. Always read and understand the label before using chemicals.

**Question:** My mesquite tree has mistletoe in it. Is there any way to rid my trees of this growth?

**Answer:** There are several genera and species of mistletoe. In Arizona we have 5 species of *Phoradendron* (leafy mistletoes) and 3 species of *Arceuthobium*. The latter, called dwarf mistletoe, infests only conifers. Leafy mistletoes are considered as "hemi-parasites", which means that they produce some or all of their own energy through photosynthesis but depend on the host for water and minerals. Mistletoes elicit a disease response from most hosts and are considered pathogens. However, mistletoes seldom kill healthy hosts except dwarf mistletoe, which can cause severe damage in coniferous forests. Severely infested trees usually have been subjected to other stresses that increased their susceptibility such as drought, flooding, soil compaction, nutrient deficiencies, etc.

The "root" of a leafy mistletoe is directly connected to the host's xylem (that part of the plant's plumbing that conducts water and minerals from the root to the leaves). The "root" of a dwarf mistletoe is connected to the host's phloem as well as the xylem. The phloem conducts sugars and other products of photosynthesis from the leaves to other parts of the plant. So the dwarf mistletoe is highly parasitic, depending on the host, for photosynthate as well as water and minerals.

Leafy mistletoes can occur on several hundred host species. Mistletoe creates a drain on host resources that reduce growth, decreases vigor, and increases susceptibility



## 1993 ARIZONA MASTER GARDENER CONFERENCE

to other diseases and insect pests. Local symptoms can include dieback, formation of witches' broom, and weakened branches. Dwarf mistletoe, in particular, can cause spiketop, where the entire host crown dies and also causes witches' broom which increases the diversion of water, minerals, and nutrients to the site of infestation.

**Control:** Removal of the branch below the mistletoe remains an economical and fairly efficient method of mistletoe "control". However, control by pruning requires diligence. Birds eat mistletoe berries and spread the seed which is unaffected by the digestive tract. So any fruiting mistletoe that survives pruning is a source for reinfestation. Chemical treatment has not been effective to date. In one study 2,4-D was injected in infected eucalyptus trees. The chemical killed 70% to 100% of the mistletoes, but partially defoliated all trees and killed 5% of them.

Recent research efforts have focused on interrupting fruit set with hormone sprays combined with pruning. Resistant cultivars and biological control remain as possible long term solutions.

**Source:** Paine & Harrison. 1992. Hort-Technology 2:34-330.

*The 1993 Arizona Master Gardener Conference will be held Thursday and Friday, August 5-6 at the Arizona Biltmore in Phoenix. An optional tour is scheduled for Saturday, August 7. The conference is sponsored by the Master Gardeners from the Maricopa County Cooperative Extension office of the University of Arizona.*

*The theme of the conference is Colors of Arizona...Innovation, Conservation, and Education. Individuals with a love of gardening, horticulture/landscape professionals, and Master Gardeners are encouraged to attend.*

*For more information on the conference, call the Maricopa County Cooperative Extension office—602-255-4980 and press 721.*

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### **POMEGRANATE JELLY**

10 - 12 good-sized pomegranates

The seed pulp is spooned or knifed out and this pulp is squeezed with a sieve to obtain the juice. This sieve tool looks like a large garlic press. Expect to get stains on your hands and clothing and dress appropriately.

4 Cups of juice  
7 1/2 Cups of sugar  
2 teaspoons of lemon juice  
1 small bottle of Certo

Combine the pomegranate juice and sugar and bring to a boil. Add the small bottle of Certo and the lemon juice, stirring constantly. Bring to another rolling boil for one minute. Skim off the foam and pour the remaining clear liquid into glass containers which you will properly seal.

This jelly makes a wonderful and welcome Christmas gift. It is a translucent bright red color and the distinctive flavor is reminiscent of summer.