High on the Desert Cochise County Master Gardener Newsletter

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The University of Arizona and U.S. Department of Agriculture Cooperating

The Virtual Gardener—Native Plants

Master Gardeners advocate landscaping with native plants. Since the spring planting season is upon us, I thought it might be fun this month to take a look at what the Web has to say about landscaping with natives.

What is a native plant? For starters, we can assert that native plants must be plants that grow "wild" but that's not the only requirement. Some plants that grow in the wild are not native. A perfect example in our area is Lehmann's lovegrass (*Eragrostis lehmanniana)* which grows profusely in this area but is not native here. It is a South African plant that was introduced by cattlemen less than 100 years ago to provide range grass for cattle. Since that time it has become naturalized and spread widely, choking out some of the true natives. The standard definition of a native plant requires not only that the plant grow naturally in the wild but also that it has not been introduced by humans . . . or at least so far as we can tell.

Left to themselves, plants in nature over generations migrate slowly from place to place to accommodate themselves to changing environments. The slow pace of this migration means that the plants bring their enemies along with them – insects, diseases, and competing plants. When humans speed up the process by transporting seeds or living plants across long distances, the enemies usually get left behind.

One of the dangers of introducing exotic plants into an environment is that without natural enemies, they may take over an area. Such plants are said to be invasive. A good example for those of you who have traveled in the South is the kudzu vine which was brought from Japan in the late 1800's as an ornamental. Finding itself in a favorable environment and without any natural enemies, kudzu has spread a smothering, green mantle throughout the South, covering 2 to 4 million acres and killing entire forests. In addition to killing off local vegetation, invasive exotic plants also destroy wildlife habitat. Less dramatic but a little closer to home, is the popular ornamental fountain grass *(Pennesetum sp.)* that naturalizes in our area and often becomes a nuisance.

Fortunately, most of the plants available from commercial nurseries do not threaten us with a massive kudzu-type invasion. This is because plants are

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carefully screened before they are placed in the commercial trade. The greatest danger of creating a green invasion comes from the accidental introduction of exotic species when seeds or spores hitchhike a ride into an area or the deliberate introduction by people who travel to other areas and bring exotic plants back with them. Although the danger of introducing an exotic pest is a good negative reason to stick with natives, there are some positive reasons as well.

From the gardeners perspective, the best reason for landscaping with native plants is that natives require much less care and maintenance than most non-natives. Most of the non-native plants that people attempt to grow are just not adapted to our soils and climate. Plants that are not used to the high (and low) temperatures, low humidity, and alkaline soils found here in Cochise County have to be kept in botanical equivalent of intensive care for their entire lives. This means that the gardener is constantly fighting with nature to keep the plants alive. Native plants have chosen this area to grow in because they like the local environment. They

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Robert E. Call

Robert E. Call
Area Horticulture Educator

Carolyn Gruenhagen
Editor

Cuttings 'N' Clippings

❄ The next CCMGA meeting is 5:00 p.m. Thursday, **May 5** at the University of Arizona South Campus Public Meeting Room. Robert Dubrul, PHSS APHIS PPQ, will be presenting a program on the Cactus Moth, Asian Citrus Psyllid, and Onionweed. Mr. Dubrul holds a Bachelor of Life Sciences from Arizona State University, 1995, he was CEO of Pioneer Laboratories, LLC, a contract formulation and plant extraction company. Most notable was his work with Dr. Dennis Clark of ASU on a possible cure for AIDS from the desert plant *Larrea tridentate.* He is a successful inventor with products being sold nationwide. He has worked on many different programs with the USDA.

❄ The Sierra Vista Area Gardeners Club is holding its annual Spring Plant and Bake Sale on Saturday, **May 7** from 8:00 a.m. to noon at the Bisbee Farmers Market in Vista Park. Annuals, perennials, vegetables, herbs, succulents, shrubs, trees, and houseplants will be for sale. There will also be a wide variety of delicious baked items for sale. Free seeds will be available. For information call Linda at 366-5447 or check out the web site at **svgardenclub.org**.

❄ The Sierra Vista Farmers Market will begin new hours April 29. It will now be open from 10:00 a.m.—2:00 p.m. and beginning May 7 a Saturday market will be added with the same hours.

❄ The Bisbee Farmers Market begins its 10th year in Vista Park on April 29th opening at 8:00 a.m. and celebrating Earth Day.

❄ **May Xeriscape Garden Tour**

Cancelled due to dry winter.

❄ On Saturday, **June 4,** 8:30 to 10:30 a.m., the free Water Wise presentation will be *Sensational Succulents and other Cactus.* If you like year-round green, explosive color, and exotic shapes, then plant this exquisite group of plants! Presenter will be Mark Sitter, B & B Cactus, Tucson. Plants will be for sale. The presentation will be held in the Public Meeting Room of the University of Arizona South.

Which Tomato Varieties for the High Desert?

Which tomato varieties do well in our high desert climate? I, for one, really want to know the answer to that question. After all, tomatoes are the number one reason that folks grow a vegetable garden. In this article, I'll pass on what I've learned after two summers of growing tomatoes here and solicit feedback from you about your experiences.

I've had pretty good luck with 'Early Girl', 'Celebrity', and several cherry and paste types of tomatoes, but what I really want to raise are some of the old fashioned heirloom varieties. And, in that category, success has been elusive. 'Giant Belgium' has done well for me, producing lots of big—up to 1½ pounds—fruits. They were ugly, cat faced, and otherwise deformed (like many heirlooms), but they were awfully tasty. 'Japanese Black Trifele' produced heavily, making lots of smallish, pear shaped tomatoes, but they had a tendency to crack. A variety called 'Gold Medal' yielded poorly, but what wonderful, tasty, colorful (blotchy yellow to red), large tomatoes it gave. An unusual variety, 'Orange Fleshed Purple Smudge' (?!), produced fairly well, but the fruits were small and not very tasty. 'Henderson's Pink Ponderosa' wasn't bad, yielding big, tasty fruits with a decent yield. Another unusual variety, 'Wapsipinicon Peach', produced very well. It makes yellow, fuzzy tomatoes (hence the "peach" moniker) that tend to be soft and fairly small. It's not the kind you'd use to make a BLT, and BLTs, of course, are the reason that 'maters exist.

I have grown 'Brandywine' (reputed to be one of the tastiest tomatoes ever) two years running

and 'Paul Robeson' (ditto for tastiness) and gotten big, lush plants with nary a tomato in sight the entire season. It was pretty much the same story with 'Black From Tula'. 'Cherokee Purple' grew to be a beautiful plant, but gave up maybe only a half dozen or so tomatoes per plant. I first discovered 'Cherokee Purple' at the Sierra Vista Farmers Market and I desperately want to grow them by the bushel basket! Varieties like 'Stupice' (pronounced stoo-peach-kah) and 'Sioux' produced decently, but they're too small, maybe six ounces or so, to meet my ideal. 'Stupice', by the way, is reputed to be both cold and heat tolerant and my experience suggests this reputation is warranted. Then again, small and homegrown is better than store bought any day.

As mentioned earlier, cherry tomatoes seem to do well here. 'Sun Gold' makes small but very tasty bites and it yields well, though they tend to crack. 'Tommy Toe' yielded very well for me and made lots of quite large red cherry tomatoes with good flavor, larger than an inch in diameter, 'Tommy Toes' are perfect for kebabs. 'Yellow Pear' produces gobs and gobs of 1 to 1½ inch long, pear-shaped fruits that are OK (and cute!) in a salad, but it's not really up to snuff taste wise.

This year, I'm going to grow about fifty tomatoes (I'm an obsessive idiot, OK?) to try and get that perfect, beef steak-type slicer that yields by the ton. Among them will be 'Kellogg's Breakfast,' 'Black Krim', 'Pruden's Purple', 'Aker's West Virginia', 'Virginia Sweet', a variation on 'Brandywine' called 'Cowlick's Brandywine' (I WILL harvest a 'Brandywine' tomato one day!), 'Box Car Willie', 'Mortgage Lifter', 'Abraham Lincoln', 'Moneymaker', 'Purple Calabash', 'Omar's Lebanese', 'Big Rainbow', and 'Stump of the World' (there's an appealing name!). There will be two paste types, 'Opalka' and 'Speckled Roman', plus a cherry tomato called 'Brown Cherry' that folks speak highly of. Promising candidates from the past that'll get another crack in my garden will be 'Cherokee Purple' (sigh!), 'Giant Belgium', 'Gold Medal', 'Tommy Toe', and 'Sun Gold'.

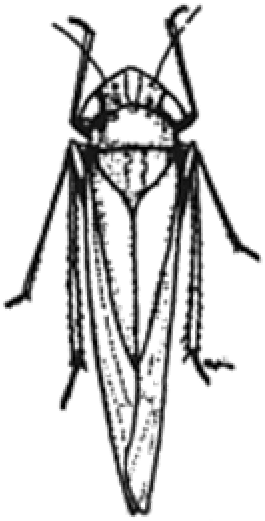
I will report on my successes and failures at the end of the summer and I'd really like to hear from you (yes, you!) about what has, or hasn't, worked well for you over the years. You can contact me at: **billwithccmga@gmail.com**. I'll publish your results (anonymously) along with mine. I'm hoping to identify for all of us just what varieties do well in this climate of ours. I look forward to hearing from y'all! Don't be shy; together, we can identify the perfect tomato varieties for the high desert!

Bill Schulze, Master Gardener

Food for thought . . .

Among the more effective labor-saving devices is the neighbor who hasn't returned your gardening tools.

The Leafhopper, An Agricultural Pest



The leafhopper is an important agricultural pest. It belongs to an order of insects know as Homoptera. It is in the family *Jassidae*, related to cicadas and aphids. This family of insects is very large but the individual species are host specific. Most leafhoppers are small, ranging in length from 2 millimeters to 15 millimeters. They lay their eggs just under the skin of plants. The nymphs resemble adults except for lacking wings. Both nymphs and adults have piercing mouthparts and suck sap from plants causing them to wilt and many leafhoppers inject viruses into the plant causing diseases. This makes them of great economic importance (*The International Wildlife Encyclopedia*, 1969).

Some common types are the apple leafhopper (*Empoasca maligna*) whose hosts include the apple and the rose. The foliage of the host plant becomes pale and speckled with white spots. The adults are greenish white, produce one generation per year and hibernate in the egg stage.

The grape leafhopper (*Erythroneura*) feeds on developing leaves, overwinters among fallen grape leaves and is found on grapevine, Virginia creeper and apple trees. The adults are about 3 millimeters long and are yellow in color with red markings.

The potato leafhopper (*Empoasca fabae*) is a very destructive potato pest. It plugs the xylem and phloem vessels interfering with the transportation of water and nutrients causing the leaves to turn brown and curl. The adults are green in color with white spots on the head and thorax.

The rose leafhopper (*Edwardsiana rosae*), like the apple leafhopper, is a serious rose and apple pest. The adults are creamy white to light yellow in color and are about 3 millimeters long. They overwinter in the egg stage and produce two generations per year.

The six-spotted leafhopper (*Macrosteles fascifrons*) produces several generations per year. The adults are greenish-yellow with six black spots. They infect asters and other garden plants, transmitting aster yellow virus which causes excessive branching, stunted growth and yellow foliage (*The New Encyclopedia Britannica*, 1974).

A common leafhopper in the Southwest is the sugar beet leafhopper (*Circulifer tenellus*). The insect is approximately 3 millimeters in length, and pale green or tan in color. It is the vector for a plant virus that causes a disease commonly known as curly top or western yellow blight. The disease can infect some 150 species of cultivated and weed plants in the western half of North America including the sugar beet, tomato, chili pepper, eggplant, beans, vine plants such as cucumber and melons, spinach, carnation, delphinium, geranium, pansy, petunia, straw flower, zinnia, and flax. The beet leafhopper overwinters on weed hosts and in the spring migrates to susceptible garden plants. Infected plants are usually stunted or dwarfed with thickened, yellowed, and curled leaves. The problem is the greatest in years when winter rains contribute to heavy weed growth in the spring. As the weeds mature and dry, the insects move on to the cultivated crops (*The New Encyclopedia Britannica*, 1974).

The beet leafhopper is difficult to control. Insecticides do little good as the damage is usually done before the poison has any effect. Planting marigolds amongst the garden plants has a repellant effect. Predators of these insects include birds, lizards, spiders, assassin bugs, wasps, robber flies, and parasitic insects, but probably the best control is early elimination of host weeds adjacent to the cultivated plants (**http:/www.ipm.ucdavis.edu**).

Bonnie Reed, Guest Writer

May Reminders

- *Deep water*
- *Plant warm season crops*
- *Check tree ties*
- *Control pests*
- *Control weeds (Controlling Weeds—a bulletin available from the Cooperative Extension)*

The Agent's Observations

Q I'm attaching a photo of something on one of my mesquite trees. Is it a scale insect or something else? Should I hand-pick them? The white things are mostly about 1/8 inch in diameter. I can pop them off easily and the bark under them doesn't appear damaged.

A From the photo it looks like a type of oyster scale. Scraping them or using a horticultural oil spray to coat them and causing suffocation will also work. It is best to use the oil before the plant leafs out too much because the oil can cause leaf burn.

Q My friend has been having issues with ants and aphids in the landscape. They have eaten all of the fruit trees he has planted. Any suggestions that are safe for the environment?

A I assume these are leaf-cutter ants and they have taken semi-circle portions of the leaves to their nests. If there are aphids in the trees other ants will protect them while feeding on the exudate that the aphids produce. If a foot wide band of "Tangle Foot" or petroleum jelly is placed around the tree trunk a foot or two above the soil, at night when the ants are back in their nest, this usually will decrease their activity in the tree. If the tree had aphids then a water spray or soapy water spray can be applied to drown them and decrease the population, letting the aphid's natural predators do their work.

Q When can I plant tomato, pepper, eggplant, beans, squash and cucumber plants outdoors? When can I plant corn seeds in the garden?

A It is best to wait until the last spring frost is past to plant the listed vegetables. This is normally the last week in April. There have been frosts as late as mid-May in southeastern Arizona however. It is better to plant corn in several (6-8) short rows or in a circle instead of one or two long rows. This is because corn is wind pollinated. You can also wait until the first week in July to plant these vegetables, thus avoiding the windiest and driest part of the year. Tomatoes, peppers, and beans will have flower abortion due to the high temperatures that cause pollen sterility. These may set some fruit early and then again when the monsoons arrive because temperatures will moderate somewhat and the humidity will increase. Cucumbers and summer squash will do fine when planted early in May.

Q I have trans-planted corn, beans, tomatoes, peppers, watermelon and pumpkin into my garden. I am planting in a row and the plants were extremely happy until I put them in the ground. The wind is still blowing pretty hard, so they are getting beat up it appears. The peppers, watermelons, and pumpkins seem to be okay, but the rest including some sunflowers are withering away. I have not tested my soil yet, but I have taken pH readings in the past and it was between 6-7. I am not sure how to prepare Arizona soil. I have lots of organic matter (compost and manure), but how much should I put in the garden?

A Placing 2-4 inches of organic matter over the planting area is plenty. Apply 1/2 pound each of actual nitrogen and phosphorous fertilizer per 100 square feet of the garden. To know how much is needed out of the fertilizer bag or bottle for 100 ft.^{2}, divide 0.5 by the percentage of nitrogen on the bag. By law there are three numbers on fertilizer containers. The first number is the percentage of nitrogen, the second is percentage of phospho-

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Sow the seeds of joy . . .

- ***A garden is a friend you can visit any time.***
  - Anonymous
- ***If you want to be happy for a lifetime, plant a garden.***
  - Chinese saying
- ***Earth laughs in flowers.***
  - Ralph Waldo Emerson
- ***To plant a garden is to believe in the future.***
  - Anonymous
- ***The love of gardening is a seed once sown that never dies.***
  - Gertrude Jekyll

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thrive in alkaline soils and have developed mechanisms to deal with the heat and dryness.

Another more subjective reason for choosing native plants is that they look like they belong here while many non-natives don't. Alpine vegetation looks good in the mountains and jungle plants look good in a rain forest, but neither look very good in Cochise County, Arizona. If you really like living here, why try and make it look like someplace else?

The last reason to go native is for the animals that live in this area. They are adapted to the native vegetation which provides them with food, protection, and nesting materials. If you like birds and other animals in your yard, plant native.

If you are interested in this subject and would like to learn more, do a Web search on "native plants." My search on Google gave more than 10 million hits. The Arizona Native Plant Society (**www.aznps.com**) has a particularly informative site. Here you will find names and descriptions of plants native to our area as well as information about non-native invasives that threaten the environment. In addition there is information about Arizona native plant laws, gardening with natives, and sources for native plants.

Until next time, happy surfing.

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Note: The newly formed Cochise Chapter of the Arizona Native Plant Society meets the second Thursday of the month, 5:00 p.m. For information contact Pat Anderson at **patanderson3@juno.com**

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rous and the third is the percentage of potassium. If too much organic matter is applied the carbon: nitrogen ratio becomes too high and the microbes that break down the carbon may use up the nitrogen and micronutrients. They get first shot at nutrients and the plants live on the leftovers. What I am saying is that organic matter applications can be overdone. Concerning the winds, a windbreak of some sort needs to be placed around the young plants. These can be cages with plastic around them. Plastic milk jugs with the top and bottom removed are easily made. Other protective devices can be made. Winds will only increase in May and June so it is best to get a strong healthy plant now. Additionally, If your soil pH is 6-7 that is ideal for growing plants.

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Area Horticulture Educator