

# Graham County Gardening Newsletter

June 2007

Volume 11, No. 6

## Congratulations!



Front: Mike Weatherhead, Paula Price, MG President--Marilyn Weaver, MG V-President--Diane Drobka.  
Middle: Instructor--Dr. Randy Norton, Craig Fall, Jean Tillman, Donna Ferrin, Kay Ferrin, Dan Bigler.  
Back: Elijah Okegbile, Irene Sullivan, Bee Lancaster, Patty Curtis, John Downs, Raymond Price, John Heath.

## Volunteer Opportunities at Safford Agriculture Center Edu-Venture Trail

Your help is welcomed and needed. First: Please call Jonie at the Agriculture Center (928-428-2432) to tell her you plan to work. Then, check with Jonie at the office when you arrive. She can direct you to the area you want to work in. Bring your own tools, gloves and drinking water. Find a wheel barrow and begin! If you can't identify something, leave it alone.

Butterfly Bushes (2) Deadhead Aloe. Remove dead foliage, fluff soil and water.

Grape vines. Turn and fluff soil under vines to a depth of about 6 inches. Create a "well" under the vines running the length of the vines and about 3 foot wide. Water deeply.

Trim dead stems & thin ice plant bed. Take home and share all you want.

Greenhouse—Pull weeds  
General weeding around pavers and under plants.

Please place all raked, pulled and trimmed items in the compost piles on the side of the greenhouse.

Keep track of hours on your volunteer log.

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**Graham County**

ARIZONA COOPERATIVE  
**EXTENSION**

THE UNIVERSITY OF ARIZONA    COLLEGE OF AGRICULTURE AND LIFE SCIENCES

## David's Helpful Hint: General Watering

What's the best way to determine how often and how much water to apply?

1. Determine how quickly your soil drains. Sandy soil dries very quickly while clay soil dries slowly. Loam is somewhere in between.

2. Newly planted perennials and trees need frequent watering. You'll probably need to water perennials two to four times a week. Water trees and shrubs about once or twice a week. **A thorough soaking is essential.** When watering by hand, water the plant at least twice, five or ten minutes apart to thoroughly saturate the rootball and the soil surrounding the planting hole.

3. **Established xeric perennials that are well mulched** can get by with a thorough one-a-week watering.

4. **Established trees and shrubs that are well mulched** should be watered every week or two. Frequency depends on how drought tolerant a tree is.

5. If plant foliage become droopy, or the foliage has a grayish cast, it's a sure sign you should water. Remember dry soils need repeated watering (see #2 to thoroughly re-wet the root zone!)

6. Use a good quality rain gauge so you can check to see just how much rain there was during the last rain fall. As a general rule of thumb, unless a ½ inch of rain has fallen, you'll probably still need to water. Many times it's surprising how little rain has actually fallen. But put a shovel in the ground after and check.

7. Last but not least, **always mulch to retain moisture.**

David Salman, President/Chief Horticulturist, High Country Gardens, Xeriscape Gardening News.

## Herb Gardening Workshop



The Herb Garden at the Edu Venture Trail was more of a project than originally anticipated. After the pond was cleaned and the herb garden was tilled for planting by Mike Weatherhead (a new Associate Master Gardener), it became obvious that run off had something to do with the pond filling up with mud. So, a new stone wall was added and the herb garden was terraced.

There was a good turnout for the workshop, ample questions and a lot was accomplished. Two plants were removed--a thyme that was not doing well and catnip. These along with excess chocolate mint were shared with the participants. New herbs were planted and tagged and everyone learned about techniques for containing invasive plants and drip irrigation. A little more stone work to finish off the area around the pond was completed by John Downs, another new Associate Master Gardener.



## Compost Workshop



Craig Wilcox, the "Compost Guru" presented a workshop on composting, Saturday, May 12. Craig brought compost in various stages for demonstration, talked about the "black gold", different kinds of bins, answered questions, and then we checked out the compost bins at the Safford Agricultural Center for an example of what not to do. The bins are full of materials, but don't get watered or turned, so no breakdown of these materials occurs. It made a good contrast for attaining something useable. In attendance were several from the new graduating class of Associate Master Gardeners, some new faces and some old.



## Pecan Production Guidelines For Small Orchards And Home Yards

The following information is taken from the University of Arizona, College of Agriculture and Life Sciences publication, Pecan Production Guidelines For Small Orchards and Home Yards, AZ 1400, May 2006, written by Robert E. Call, Richard Gibson, and Michael W. Kilby. **It is excellent and detailed information.** Parts of the information are presented here. Some of you will want to read the entire publication which is available on line <http://cals.arizona.edu/pubs/garden/az1400.pdf> or at the Graham County Cooperative Extension Office.

The main ingredients needed by pecan trees in Arizona include adequate space, water, nitrogen, zinc and more water. A mature pecan tree requires nearly 34,000 gallons of water per year. With annual average yields of 40 to 50 pounds per tree, this amounts to nearly 680 to 850 gallons of water per pound of nuts, depending on soil type.

Trees begin producing a few nuts three to four years after planting. Significant production comes after six to eight years. Good production will begin in the ninth or tenth year. Trees can be productive 100 years or longer.

Pecans have a characteristic called alternate bearing. Trees produce an abundant crop one year, the following year relatively few nuts, third year yields will be abundant once more, and then the fourth year will produce small yields. This cycle continues for the life of the pecan tree.

The majority of roots will be in the top three to four feet of soil. Root system width will be four or more times as wide as the tree canopy.

If planting one tree for home production, cross pollination between two or more varieties will enhance production slightly but is not absolutely necessary in most cases. (See publication for details. A chart lists variety characteristics for Apache, Burkett, Cheyenne, Mohawk, Pawnee, Western Schley, Wichita.)

Two fertilizer elements are needed annually by pecan trees in Arizona--Nitrogen and Zinc. Leaf tissue samples are the best way to determine nutrient status of pecan. The Cooperative Extension Publications, Leaf Sampling Guide with Interpretation for Arizona Pecan Orchards, (AZ1410) (<http://ag.arizona.edu/pubs/diseases/az1410.pdf>) and Laboratories Conducting Soil, Plant, Feed or Water Testing (AZ1111) (<http://ag.arizona.edu/pubs/garden/az1111.pdf>) can assist in making proper fertilizer applications. These publications are also available from Arizona Cooperative Extension offices.

**Nitrogen (N)** should be applied to the soil just before bud break in the spring.

**Zinc (ZN).** In the arid southwest zinc deficiency is common in pecans, especially when the soil pH is above 7.0. Small leaves that may have brown patches, leaf loss and short shoot growth causing "rosetting" are symptoms of zinc deficiency. Rosetting is caused when shoots do not elongate and leaves are bunched at the terminal of the shoot, analogous to rose petals.

Zinc in many cases has to be sprayed on foliage as a supplement to soil application. Spraying may be difficult with large trees or prohibited by cost, necessitating soil applications. The

zinc source for spraying is zinc sulfate (36% zinc), or liquid Zinc nitrate (17% zinc). Some liquid zinc formulations are sold that also contain liquid iron. DO NOT use zinc chelates as a zinc source for foliar or soil applications. Chelates are low in zinc (about 7 – 10%) and expensive. Chelates are not recommended because they do not supply enough zinc to satisfy pecan tree requirements. In addition the chelated molecule is large and is not absorbed very well by leaves and/or roots.

**Nitrogen Applications.** To determine the amount of nitrogen fertilizer to apply to a tree, measure the trunk diameter two to three feet above the ground or below the lowest limb if below two feet. For each inch of trunk diameter apply one-third pound of nitrogen to the soil. For each inch of trunk diameter apply one pound of zinc sulfate. (Examples of rate calculations are found in a Table with the article.) Example: A tree with a trunk diameter of 4 inches would require 1.3 pounds of nitrogen which is equivalent to 6.2 pounds of ammonium sulfate or 8.1 pounds of ammonium phosphate or 2.8 pounds of urea. Also, 4.0 pounds of zinc sulfate should be applied.

**Zinc Applications.** An economic treatment for zinc deficient trees is the application of 36% zinc sulfate ( $ZnSO_4$ ). Foliar uptake is improved by adding ammonium sulfate ( $NH_4SO_4$ ) (21-0-0) or liquid nitrogen like urea. To prepare a spray add two heaping tablespoons each of zinc sulfate and ammonium sulfate per gallon of water, dissolve and strain into a sprayer. For larger volumes mix three to five pounds (continued on page 4)

## Pecan Production Guidelines (continued from Page 3)

each of  $ZnSO_4$  and  $NH_4SO_4$  to 100 gallons of water. Zinc sprays should be agitated to avoid settling. A commercial preparation is easiest for homeowners to use. It should be applied at the highest recommended rate on the container to be effective. Agricultural supply firms sell suitable zinc materials. Spray leaves until they are thoroughly wet. Mature trees should be sprayed at least four times in the spring, waiting three weeks between applications, for best results. Young trees that are growing vigorously should receive five to six sprays during the growing season. A typical zinc spray schedule would be

- 1<sup>st</sup> Spray when leaves are 2 inches long (usually April)
- 2<sup>nd</sup> Spray 7 days after 1<sup>st</sup> spray
- 3<sup>rd</sup> Spray 14 days after 2<sup>nd</sup> spray
- 4<sup>th</sup> Spray 14 days after 3<sup>rd</sup> spray
- 5<sup>th</sup> Spray 14 days after 4<sup>th</sup> spray

6<sup>th</sup> Spray 14 days after 5<sup>th</sup> spray

### Method of Soil Application.

Nitrogen can be applied to the soil surface or in soil reservoirs. Zinc can be applied in soil reservoirs or sprayed on tree foliage. If the ground is bare, apply nitrogen fertilizer to the soil surface at the tree dripline. (The dripline is the area beneath the ends of the longest branches.) Mix it into the top two inches of soil. A good fertilizer program is to split the total amount of nitrogen to be applied into three or four applications of equal amounts. Application dates should be at bud-break, May 15 and June 15. A fourth application should be applied during early fall. The best way of fertilizing trees growing in lawns is to make soil reservoirs and fill them with nitrogen and/or zinc fertilizer. If zinc is to be applied

to the soil, use the soil reservoir method of “knifing-in” rather than broadcasting it on top of the soil to benefit pecan trees. Punch holes in the soil using a soil auger, crowbar, iron pipe and hammer or posthole digger. Make holes one to two inches wide and 12 to 18 inches deep. Space holes 18 to 24 inches apart around the dripline of the tree. Also, place soil holes beyond the drip line and a little way under the tree canopy, within one foot of the trunk. Divide and fill holes with the recommended amount(s) of nitrogen and/or zinc fertilizer. Knifing-in requires a tractor and fertilizer shank. Place the knifed-in fertilizer at the dripline several inches deep. A combination of soil and sprayed zinc applications is ideal.

### Steps in Soil Reservoir Fertilizing:

1. Measure tree trunk diameter, six to twelve inches above the soil line;
2. Calculate the amount of nitrogen and zinc needed to fertilize the tree;
3. Punch holes in the soil as described below;
4. Divide the amount of fertilizer so that each hole will receive equal amounts of nitrogen and zinc; and
5. Cover holes with soil and then water.

**Watering.** Pecan trees need an ample supply of soil water for good growth and nut production. Flood and furrow irrigation are the preferred methods of water application. Sprinklers, drip irrigation and soaker hose systems can be used, but must run for considerable time to insure that water penetrates the soil three to four feet deep with mature

trees. The soil should be full of water when trees start growing in the spring. To accomplish this apply the first amount of fertilizer and then water it in thoroughly when buds swell. This watering will last three or four weeks. Trees do not use as much water in the spring as during late summer when nuts begin to fill. Newly planted trees should be watered about once a week during the hottest part of the summer months.

When watering mature pecan trees make sure enough water is applied to soak the soil four feet deep in an area that is at least three feet wider than the dripline. This results in new root development and keeps trees healthy. For trees planted in lawns, do not rely on sprinklers to water both the grass and trees. The use of a lawn sprinkler system may supplement deep watering. To deep water run a soaker or water hose at the dripline on a prescribed schedule. Deep watering should be terminated the middle to last of October. Make sure the entire root zone, including three feet beyond the dripline, receives deep moisture regardless of the irrigation system used. Remember that fertilizer is placed in this zone also. Different soils should be watered at different intervals. A guide for deep watering mature pecan trees would be

Sand: 7 – 10 days

Loam: 14 – 18 days

Clay: 15 – 21 days

The publication also contains informational sections on: **Buying, Handling & Planting, Tree Training, Nut Disorders, Pruning, Insects, Diseases.**

## In Your June Garden!

- Plant sunflowers, cantaloupe, honeydew, Armenian cucumbers and radishes all month.
- Plant watermelon and okra through the 15<sup>th</sup> of the month.
- Plant summer bedding plants such as celosia, coleus, cosmos, marigolds, salvia, verbena, vinca and zinnias.
- Start preparing the soil for your big July garden.
- Harvest herbs before they begin to flower. Quality is best in the morning.
- Treat chlorosis in plants with iron chelate. Chlorosis shows up as yellowing between the veins of the new growth.
- Pepper and tomato plants need even soil moisture to prevent blossom end rot.
- Watch for signs of curlytop virus in tomatoes, melons, and cucumbers. The leaves of the affected plant curl upwards and the plant will be stunted. Remove and destroy affected plants.
- Blast off aphids, thrips and mites with a stream of water from your hose or use insecticidal soap.
- Check for squash borers. Look for clusters of small brownish eggs on squash vines. Rub them off before the borers hatch.
- Feed and water roses after each bloom cycle.
- When pruning hedges, make sure that the bottom of the hedge is wider than the top so that lower foliage is not shaded out.
- Make sure that apricot trees are watered amply to carry them through their fruiting cycle.
- Fertilize indoor plants monthly during the summer. Pinch back tips to maintain fullness.
- Treat grapes and hedges with powdered sulfur or systemic fungicide to prevent mildew.

### Edu-Venture Trail

Take time to visit the Edu-Venture Trail at the Safford Agriculture Center. Plants are in bloom, a new Herb Garden has been planted and the pond has been cleaned. All is beautiful at this time of the year. Plant markers provide names of plants that will grow well in the desert with a limited amount of water. A visit is well worth your time.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona. The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities. Persons with a disability may request accommodation such as sign language interpreter, by contacting U of A Graham County Cooperative Extension Office. Information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Cooperative Extension is implied. Any products, services, or organizations that are mentioned, shown, or indirectly implied in this publication do not imply endorsement by the University of Arizona.

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If we can be of service in providing objective information in agriculture, natural resources, youth, family, community resources, and related fields, please call us.

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[dorinec@ag.arizona.edu](mailto:dorinec@ag.arizona.edu) or call 928-428-2611



**Workshops for Home Gardeners at Safford Agricultural Center:**

**Pond Maintenance & Yard Art for Your Garden**                      **Saturday, June 9—10 a.m.**

**No workshops in July and August**

**KATO Radio Broadcasts with Master Gardeners**                      **Saturday, June 23—7:20 a.m.**

**Saturday, July 28—7:20 a.m.**

**MASTER GARDENER MEETING, TUESDAY, JUNE 5**

**6:00 P.M., BLM CONFERENCE ROOM**

**Safford Farmers Market, Firth Park**

**10<sup>th</sup> Ave. & Thatcher Blvd.**

**Or until sold out**

**June to end of September**

**Tuesdays: 8:30 to 11:30**

**Wednesdays: 1:00 to 5:00**

**Saturdays: 8:30 to 11:00**

**Highland Garden Conference, Apache Gold Casino,**

**San Carlos by Yavapai & Mohave Master Gardeners**

**October 11 & 12**

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