

Graham County Gardening Newsletter

September 2006

Volume 10, No. 8



TREES

Questions fielded by Master Gardeners this past month have included a clear majority of tree problems including fertilization, tree roots, water, salt problems, staking, containers, and damage by disease. Content this month will include information/suggestions as well as listing of various resources.

Buying and Planting Trees and Shrubs.

Fall is the best time to plant trees and shrubs. Weather conditions are cool and allow plants to establish roots before spring and summer stimulate new top growth. When purchasing, a high-quality tree has an adequate-sized root ball with enough sound roots to support healthy growth, a trunk free of mechanical wounds and wounds from incorrect pruning, and a strong form with well-spaced, firmly attached branches.

You may purchase bare roots with no soil, usually on small trees; roots in soil held in place by burlap which may also be in a wire basket; or roots and soil in a container.

Roots should not be crushed or torn. Remove injured portions with sharp tools making straight cuts.

Root balled stock should be at least ten to twelve times the

diameter of the trunk as measured six inches above the trunk flare. When removing the burlap, examine roots. If many roots are crushed or torn, the tree will have severe growth problems. If purchased in a container, inspect the exposed larger roots to determine if they are twisting or turning in circles. Circling roots may girdle and kill other roots. If only a few roots are circling, cut them away with a sharp tool.

The tree should not be planted too deeply in the container. You should be able to see the basal trunk flare.

Never buy a tree without thoroughly checking the trunk. Look for wounds, incorrect pruning cuts, and insect injuries. Good strong form begins with branches evenly spaced along the trunk. Avoid trees with two or more stems squeezing together.

For planting, proper site preparation before and during planting coupled with good follow-up

care will reduce the amount of time the plant experiences transplant shock. Follow eight simple steps to reduce the stress placed on the plant.

1. Dig a shallow, broad planting hole. Make the hole as much as three times the diameter of the root ball, but only as deep as the root ball.

2. Identify the trunk flare. The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted. (continued on page 2)

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3. Place the tree at the proper height. The majority of the roots on the newly planted tree will develop in the top twelve inches of soil. If the tree is planted too deep, new roots will have difficulty developing due to a lack of oxygen. It is better to plant the tree a little high, one to two inches above the base of the trunk flare. This will allow for some settling. Always lift the tree by the root ball and never by the trunk.

4. Straighten the tree in the hole.

5. Fill the hole, gently but firmly. Fill the hole about 1/3 full, gently and firmly packing the soil about the base of the root ball. If tree is balled and burlapped, cut and remove the string and wire from around the trunk and top 1/3 of the root ball. Fill remainder of hole a few inches at a time firmly packing soil to eliminate air pockets that may cause roots to dry out. Settle with water.

6. Stake tree if necessary. If grown and dug properly, staking for support is generally not necessary. Tree will develop stronger trunk and root systems if not staked. However, staking may be required where lawn mower damage, vandalism or wind conditions are concerns. Two stakes used in conjunction with a wide flexible tie material will hold the tree upright and provide flexibility. Remove staking and ties after the first year of growth.

7. Mulch base of tree. Mulch will hold moisture, protect against harsh soil temperature and reduce competition from grass and weeds. Use no more than four inches. Do not cover trunk of tree as this may cause decay.

8. Follow-up care. Keep moist but do not overwater. When soil is dry below the surface of the mulch, it is time to water. It is best to wait for one season of

growth before any corrective pruning.

Tree Selection

Why is the tree being planted? Is it for shade, fruit, seasonal color or windbreak?

What is the size and location of the planting site. Are there overhead or wires or utilities? How about sidewalks, patios, driveways or other trees in the area?

What type of soil conditions exist? Is the soil deep, fertile and well drained or is soil shallow, compacted and infertile?

What type of maintenance are you willing to provide? Will you water, fertilize and prune, or will you rely on a gardener?

Select trees resistant to pest problems in your area.

In addition to all of the above, the tree species must be suitable for the geographic region.

Tree Selection Guide for Graham County

Desert Adapted Species – low water use once established
Blue palo verde (*Cercidium floridum*)

Little-leaf palo verde (*Cercidium microphyllum*)

Arizona cypress (*Cupressus arizonica*)

Desert willow (*Chilopsis linearis*)

Arizona ash (*Fraxinus velutina*)

Common mesquite (*Prosopis juliflora*)

Chilean mesquite (*Prosopis chilensis*)

Emory oak (*Quercus emoryi*)

Screwbean mesquite (*Prosopis pubescens*)

Arizona white oak (*Quercus arizonica*)

Texas mountain laurel (*Sophora secundiflora*)

Fruit Trees

Apple (*Malus sp.*)

Peach (*Prunus sp.*)

Cherry (*Prunus sp.*)

Pear (*Pyrus sp.*)

Plum (*Prunus sp.*)

Nectarine (*Prunus sp.*)

Fig (*Ficus sp.*)

Nut Trees

Pecan (*Carya sp.*)

Pistachio (*Pistacia sp.*)

Almond (*Prunus sp.*)

Other Shade Trees

Fruitless mulberry (*Morus alba*) male tree

Globe willow (*salix matsudana*)

Weeping willow (*Salix babylo-nica*)

Raywood ash (*Fraxinus oxy-carpa*)

Live Oak (*Quercus virginiana*)

Eldarica pine (*Pinus elderica*)

Chinese pistache (*Pistacia chinensis*)

Chinese elm (*Ulmus parvifolia*)

Arizona sycamore (*Plantanus wrightii*)

Fremont cottonwood (*Populus fremontii*)

Arizona black walnut (*Juglans major*)

African sumac (*Rhus lancea*)

Trees and Turf

Grass is generally a sun-loving plant. Some grass species will not grow well in areas that receive less than 50% open sunlight. Select shade-tolerant grass.

Some trees have an open or high canopy and allow sunlight to penetrate to the ground. Select trees that do not root near the soil surface. Surface rooting is most serious where a shallow topsoil is present.

Grass roots occupy a much greater percentage of the soil volume than tree roots and can out-compete tree roots for water and nutrients. On the other (continued on page 3)

Trees (cont. from page 2)

hand, if tree was established first, the tree roots compete much better for water and nutrients and reduce success of turf.

Mulching is an alternative to turf around trees. A two to four-inch layer of wood chips, bark or other organic material over the soil, under the drip line, is recommended. Keep mulch one to two inches away from the trunk. Do not use plastic as it interferes with exchange of gases between soil and air as well as preventing the watering of the tree. Different maintenance practices for trees and turf may cause problems. Fertilizer applied for one plant will be absorbed by the other. Excessive fertilization of either may result in more tree-crown or grass-blade growth than desired.

Herbicides or weed killers for turf can cause severe damage to trees if misapplied.

Frequent, shallow water does not meet the needs of either trees or turf. Trees need the equivalent of one inch of rain every seven to ten days.

No more than one-third of grass blade height should be removed. Clippings may be allowed to fall on the lawn.

A strip of turf between trees and hard surfaces such as building foundations, sidewalks, and roads will help to reduce potential damage caused by tree roots as well as provide an area where water and nutrients can soak into the soil for the benefit of both the turf and trees.

Mature Tree Care

Examine four characteristics of tree vigor: new leaves or buds, leaf size, twig growth, and crown dieback. Check for signs of trunk decay, loose bark or deformed growths. Also, insect

activity, spotted, deformed, discolored or dead leaves.

If tree is making satisfactory growth, it may not require fertilization. Soil testing would be the best way to determine any nutrient needs. When applying fertilizer, remember that a major portion of root system extends from two to three times the size of the leaf canopy.

Many lawn fertilizers contain weed and feed formulations that may be harmful to trees. When applying turf fertilizers, remember that the same herbicide that kills broadleaf weeds in your lawn is picked up by tree roots and can harm or kill your broadleaf trees if applied incorrectly. You must consider the actual size and extent of tree's root system before you fertilize.

Prune to remove dead, diseased, or insect infested branches, improve tree structure, enhance vigor, or main safety. No branch should be removed without a reason. Over-pruning is extremely harmful. Without enough leaves, a tree cannot gather and process enough sunlight to survive. If climbing is required, follow safety practices. If possible, acquire the services of an arborist. If not, then do some extensive reading in the Arizona Master Gardening Manual or research on the Internet. Contact a Master Gardener who is knowledgeable and will provide good advice.

With the exception of the list of tree species, information to this point has been taken from brochures published by the International Society of Arboriculture; Forest Service, US Department of Agriculture; and the Municipal Arborists & Urban Foresters Society

Each brochure contains more detailed information and illustrations. A copy of each brochure is available, free of charge, at the Cooperative Extension Office in Solomon.

The brochures are:

**Buying High-Quality Trees
Tree Selection
New Tree Planting
Trees and Turf
Mature Tree Care**

The following information is taken from Tree City USA Bulletin 19, Dr. James R. Fazio, Editor, published by the National Arbor Day Foundation.

Crown/Branches

1. Is the tree symmetrical?
2. Is there a single, well developed leader?
3. Are buds plump and healthy looking?
4. Are branches well distributed around the trunk and considerably smaller than the trunk?
5. Do branches approach the ideal spacing of eight to twelve inches apart and form at least a 45 degree angle with the trunk?

Note: Avoid trees that have been "headed back," the undesirable practice of pruning off the ends of branches. This is sometimes done to reduce the size of an overgrown tree to meet specifications.

Trunk

1. Is it reasonably straight?
2. Does the trunk taper nicely?
3. Is the bark free of cuts and scrapes? (Reject trees with wounds wider than $\frac{1}{4}$ the circumference of the trunk?)
4. Are pruning wounds healed over?
5. Is it free of frost cracks, sunscald, swollen areas and evidence of disease or insect injury?

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Trees (continued from page 3)

The following resources would also be quite helpful.

<http://cals.arizona.edu/pubs/garden/mg/>

Arizona Master Gardener Manual. Go to chapters on Plant Pruning, Fruit Trees, Arboriculture/

<http://www.desert-tropi-cals.com/Plants/Xeriscape.htm>

Xeriscape Trees & Plants

<http://cals.arizona.edu/pubs/water/az1298.pdf>

Watering Trees & Shrubs: Simple Techniques for Efficient Landscape Watering

<http://cals.arizona.edu/pubs/garden/az1022.pdf>

Planting Guidelines: Container Trees & Shrubs

<http://cals.arizona.edu/pubs/garden/az1139.pdf>

Pruning Deciduous Shade Trees

In your September Garden!


- Plant beets, broccoli (there is a chance of heads freezing when planting this late), Brussel sprouts (see broccoli), cabbage (plants), carrots, cauliflower (see broccoli), chard, garlic, kale, leaf lettuce, leeks, mustard greens, parsley, onion seeds, green bunching onions, peas radishes, and spinach all month.
- Plant head lettuce through the 15th of the month.
- Bermuda grass that is not to be overseeded with rye grass should be given one last dose of fertilizer before cooler temperatures slow growth. Begin decreasing the amount of water a little bit each week.
- If you are going to overseed your Bermuda grass with rye grass, prepare it now. Plant the seed between September 15 and October 15 for best results.
- Transplant pansies, snapdragons, stock, sweet alyssum and violas into the garden.
- Begin planting spring bulbs such as iris, tulips, daffodils, crocus, and hyacinth now through November.
- Dig and divide crowded iris rhizomes.
- Set out larkspur, lobelia, pansies, snapdragons, stock, and sweet alyssum.
- Direct seed African daisies, other daisies, alyssum, aster, calendula, carnation, columbine, hollyhock, lupine, phlox, poppies, petunias, pansies, statice, sweet peas, verbena, wildflowers, and other cool season flowers in the garden.
- Fertilize trees, shrubs, vines, roses and flowers one last time to help them recover from the heat.
- Fall is the best time to plant perennials, trees, and shrubs. Cooler temperatures allow the roots to grow all winter without having to worry about supplying nutrients and water for top growth. When spring comes, the plants are ready to grow like crazy.



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Calendar Events That May Interest You

Southern Arizona Home Builders Association
 Fall and Home Garden Show, Tucson
 Convention Center

October 6, 7, & 8, 2006

Boyce Thompson Arboretum Events

<http://ag.arizona.edu/BTA/events.html>

- Dragon Fly Walk
- Learn Your Lizards Guided Walk
- Plants-of-the-Bible Guided Tour
- “Optuntia Punch” Class—or How to Juice Prickly Pear
- Butterfly Walk
- Bye-Bye Buzzards
- Fall Plant Sale
- Fall Color Festival

- September 2, 9:30 – 11:00 a.m.
- September 16, 8:30 a.m.
- September 16, 9:30 a.m.
- September 2, 9:30 a.m. to noon
- September 23 and October 28
- September 16, 7:00 a.m. – 2:00 p.m.
- October 7 through October 22
- November 25 – 26, 10:00 a.m. – 3:00 p.m.

Natural History of the Gila: A Southwest New Mexico Symposium
October 6 – 7, 2006 at Western New Mexico University, Silver City, New Mexico
Registration Fee: \$25

The conference is sponsored by the New Mexico Native Plant Society, the Nature Conservancy, Western New Mexico University, Audubon of Southwestern New Mexico and T & E Inc. Presentations will cover birds, bats, plants, reptiles and amphibians, fish, hydrology, butterflies, spotted owls, wolves, fire ecology, hydrology, stream restoration, invasive species, and more. For more information (list of presenters, registration, etc.) please consult:
<http://www.wnmu.edu/academic/nspages/NaturalHistoryGilaSymposium.html>.

ENTER THESE DATES ON YOUR CALENDAR
THE HOME GARDEN TOUR IS BACK!

Harvest Festival, Safford City Hall Pruning Demonstration Safford Ag Center, 9 to 12 Noon	Saturday, October 28, 2006
Gardening & Landscaping Class	Saturday, November 18, 2006
Tuesdays, 9:30 to 12:30 Noon	January 26 – May 10, 2007
Third Annual Gila Valley Gardening & Landscaping Conference	Saturday, February 24, 2007
Home Garden Tour	Saturday, May 12, 2007

Details will be announced as date for event nears.

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