

Graham County Gardening Newsletter

April 2006

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Water Wise Yard Audit Guide for Resource Conservation

Take a walk around your yard/property and make the following observations: Check each as completed.

Look for signs of under- and over-watering or uneven watering (e.g. dry spots, irregular grass height, standing water, salt deposits). When plants are **over-watered**, leaves become brittle. Young shoots on the plant wilt. The soil is constantly damp; algae, fungus, and/or mushrooms start to appear. Dried, green leaves indicate root suffocation due to over-watering. Tree roots on top or near the surface of the soil often result from shallow, frequent watering. Over-watering also can promote root rot.

A plant in the first stages of **water shortage** loses its shiny appearance. Leaves become dull green. The new terminal growth at the tips of the plant begins to droop and wilt.

There will be a thinning of foliage with dead stem or branch tips. The older leaves may turn yellow starting at the tips of the leaf. Next, the leaves begin to curl but they

stay green. They may recover if they get water quickly. However, if the next stage is reached, the brown stage, it is final, and the leaves are dead.

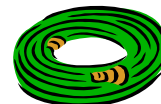
When **watering trees and shrubs**, are earth basins (or drip emitters) being used to concentrate irrigation water at and beyond the drip line (the outer periphery) of the tree?



Drip Line

Have the drip emitters and/or earth basin been moved out as the tree has grown? Water applied at the trunk base of the tree has limited value. Roots will spread 1 ½ to 4 times as wide as the tree's canopy. A bermed basin that extends beyond the tree's drip line by at least one-half the radius of the tree's canopy and is filled in around the base of the tree is the most effective.

If a drip system is being used, have emitters been placed on all sides of the tree (at and beyond the tree's drip line) to stimulate even root development as the tree grows? Care should be taken to add emitters and move old ones out as the plant grows. A star pattern is recommended in installing emitters around a tree. A **soaker hose** placed at or beyond the drip line is a very effective portable irrigation method for trees and shrubs.



If you are applying the same amount of water to your trees as you are to your lawn, you are either over-watering your lawn or under-watering the trees. Generally, established (continued on page 3)

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Annual Gila Valley Gardening Conference—February 25, 2006



Over 50 people gathered at Eastern Arizona College for the first general session.



Dr. Russell Tronstad presented Direct Marketing information in the keynote.



John Begeman used a Power Point presentation and handouts in discussing container gardening.



Amy Stewart, local resident, discussed setting and maintenance of water gardens.



Dr. Tronstad and three county agents, Rob Call, John Begeman and Randy Norton presided at a Question and Answer Session. Earlier, Rob Call gave a Pruning and Grafting presentation and Randy Norton gave a presentation on Insects in individual sessions.

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trees and shrubs should be deep watered no more than once a week during the summer and no more than once a month during the winter. Request a copy of the Cooperative Extension bulletin, “**Watering Trees and Shrubs.**”

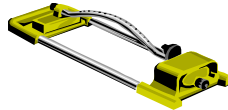
_____ **Are deciduous trees and vines** located on the east and west sides of the house at the proper angle to **shade** windows and walls from the summer sun and thus cool the home? Have trees and other plantings been spaced far enough from the house, overhead power lines and other plants to allow for mature growth? Generally, trees should be planted 1 ½ times their mature width from any building.

_____ **Is crushed rock or organic mulch** being used around trees and other plantings to reduce water loss through weed growth and evaporation? Another option is jute or landscape fabric.

_____ **Water harvesting:** Is rain water that falls on the property (roof, patio, driveway, sidewalks) being captured and directed to planted areas? Or is rain or other water being allowed to run off the property into streets, ditches, or adjoining land? Install rain gutters. Contour your yard by constructing small berms or dikes to channel rain water run-off from buildings, sidewalks and driveways to trees and larger plants. Strive for zero run-off with no rain or irrigation water allowed to run off your property. Use permeable pav-

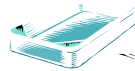
ing and landscaping materials to facilitate on-site retention of rain water. Request a copy of the bulletin, “**Water Harvesting.**”

_____ **Check out your lawn and garden sprinkler.**



Review your present irrigation schedule. (How often, how long, and how much water is being applied? When and how are adjustments made throughout the year? Check to see that all of the sprinkler heads are of the same brands, model and have the same nozzle so that precipitation rates are matched.

Place 4 – 6 straight-sided containers (catch can), all the same size and shape, at varied



locations over the lawn or garden. Turn on the sprinkler and time it for 15 minutes. Then turn it off and measure the amount of water in each container with a clear plastic ruler. Add all the measurements together, then divide by the number of containers to obtain the average. This indicates your **sprinkler output**. Are the amounts of water in each catch can relatively even, indicating uniform application over the entire area? Catch cans which contain 20% more or less water than the average usually indicate performance problems with the sprinklers.

While the system is running, check each sprinkler for pressure. Check to see if the outside edge of the spray pattern from each sprinkler head properly overlaps the adjoining heads. A **Sprinkler Irrigation System Inspection Checklist**” is available on request. If you have dry spots, find the cause. If you can't easily correct it, manually water the dry spots rather than increase your overall application rate.

_____ **Do you know your lawn's water requirement?** The amount of water your lawn needs varies throughout the year. Temperature, sunlight, wind, soil type, soil condition and rainfall are just some of the factors that affect water need. Generally, during dry periods, established warm season grass lawns (Bermuda and Zoysia) should be watered twice a week at the rate of ½ to ¾ inch per application (1 to 1 ½ inches/week)

Cool season grasses (fescue, bluegrass and rye) will need to be watered deeper, at a rate of ¾ to 1 ¼ inches per application, twice a week (1 ½ - 2 ½ inches/week).

Once you know your **sprinkler output**, as determined above, you can easily determine watering time by using the following table. The first number is for warm season grasses such as Bermuda and Zoysia grass; the second number is for cool season grasses such as fescue, bluegrass and rye. For example, if you have (continued on page 4)

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determined your sprinkler output to be ¼ inch (in 15 minutes) and yesterday’s high temperature was 95 degrees, you should water for

44 minutes for Bermuda grass (74 minutes for cool season grasses). Then water again in 3 – 4 days. Request a copy of the Cooperative

Extension bulletin “**Lawn Watering Guide**” for more detailed instruction.

WATERING TABLE						
Yesterday’s High Temperature	If your sprinkler output (in 15 minutes) is:					
	1/8 inch	1/4 inch	3/8 inch	1/2 inch	5/8 inch	3/4 inch
	Irrigate for the following number of minutes:					
66 – 69 Degrees	48 (84)	25 (42)	16 (28)	12 (21)	10 (18)	8 (14)
70 – 77 Degrees	60 (101)	30 (53)	20 (35)	15 (25)	12 (21)	10 (18)
78 – 89 Degrees	75 (130)	37 (67)	24 (42)	18 (32)	15 (25)	12 (21)
90 – 98 Degrees	88 (147)	44 (174)	29 (49)	22 (39)	18 (28)	15 (24)
99 – 107 Degrees	102 (203)	51 (99)	34 (67)	25 (49)	20 (42)	17 (35)

Check out the drip system, if one exists. Check and clean the filter. Has the system been flushed during the past year? If not, open the end of each line and run the system for a couple of minutes. Close the end of the line. Place the first spaghetti emitter on each line into a plastic milk jug. Do the same with the last emitter on the line. Now, turn on the system and run it for 30 minutes. At the end of the 30 minutes, check to see that each plant or plant grouping is getting water. Measure the output of water coming out of the first and last emitters to determine if the pressure is consistent

throughout the system. If it is, output will be the same. Compare output volume to specified emitter output. Look for tubing above ground, holes or wet spots where there are no plantings. Plug emitters that are no longer needed. Request a copy of the bulletin “**Drip Irrigation: The Basics.**”

Use a soil probe (a long screw driver, a 3/8 inch pointed iron rod, rebar or stake) to fine-tune your watering schedule. Push the probe into the soil as far as it will go easily. If the soil surface is dry, you may have some dif-

ficulty pushing the probe through the initial 2 – 4 inches. But if there is moisture underneath, the probe will “pick up speed” as you lean on it. Don’t use a hammer. Mark the depth on the probe with your finger and pull it out of the ground. Measure it with a tape measure or ruler. Use the following table to determine when to water: Efficient watering means saturating the soil just below the root zone of your plants, and then allowing the soil to dry. A good rule of thumb is to let the top 1/3 to ½ of the plant’s root zone (as indicated above) dry out before re-irrigating.

Typical Root Zone	PROBE DEPTH		
	water now	wait before watering	you have over-watered
Lawn(6 – 12”)	0 – 3”	4 – 12”	Over 12”
Garden (6 – 12”)	0 – 4”	5 – 12”	Over 12”
Shrubs (12 – 18”)	0 – 5”	6 – 18”	Over 18”
Trees (24 – 28”)	0 – 7”	8 – 28”	Over 28”

(continued on page 5)

Water Wise Yard Audit (continued from page 4)

The above recommendations are only a **general guide**, however. If you improve any soil with properly decomposed organic matter, it will generally hold water better. Some kinds of plants use more water than others. Sunflowers need more water than barrel cactus, for example. Bigger plants use more water than smaller ones. Newly set out plants need to be watered more frequently until roots become established. Deep-rooted plants

don't need such frequent watering as shallow-rooted plants. Plants generally use 3 to 5 times more water during the hot, dry summer months as they do during the cooler winter months. Bright sunny weather with dry winds cause plants to use more water than on mild days that are humid and calm. If it has been raining, plants don't need to be irrigated. Use the soil probe to determine when to resume irrigation. Dormant deciduous trees don't


need as much water as growing or evergreen trees. A tree that is carrying fruit needs more water than one that is not. With all these variables, it's easy to see that science goes out the window and the art of watering comes in. Be observant. Assess the situation and note how it is always changing. Make good judgements and act quickly. **NEXT MONTH: Alternatives for reducing the amount of water you now use.**

Source: UA Graham County Cooperative Extension, Gila Resources Utilities, Coronado R. C. &D., San Carlos/Safford/Duncan Watershed. Funded by ADWR Watershed Initiative Program. Prepared by Douglas Dunn, Rob Call, Patricia Waterfall, Susan Pater, Kim McReynolds and Cado Daily, U of A Cooperative Extension. Modified by Lee Clark and Sue Martin.

In your April Garden!

- Average date of last frost in the Gila Valley is April 9. This is usually considered the first day that it is safe to plant tender plants outdoors. Remember that the weather is never predictable. Continue to monitor weather forecasts and protect seedlings if frost is forecast. Milk jugs with the bottom cut off and the lid removed make good hotcaps for small plants. Remove the jugs during the day to prevent a severe heat buildup.
- Apply 2 – 3 inches of fresh mulch. This suppresses weeds, keeps roots cooler and helps retain moisture.
- Fertilize non-native garden plants. Water the day before you apply it and again immediately afterwards.
- Fertilize Bermuda grass lawns as they begin to green up. Use a high nitrogen fertilizer and water thoroughly.
- Don't dethatch Bermuda lawns until June or July.
- If using drip irrigation, give plants a deep watering now to leach salts from soil.
- Add chelated iron to bottlebrush, citrus, pyracantha, globe willow, and other plants that show chlorosis (yellowing of the new growth).
- If water shortages occur, use available water to maintain health of your trees, over more easily replaced plants.
- Plant summer flowering bulbs such as agapanthus, caladiums, cannas, dahlias, gladiolas, and tuberoses.
- Seed or transplant warm season annuals such as ageratum, celosia, cosmos, four o'clock, gloriosa daisy, lisianthus, marigold, portulaca, sunflowers, zinnia.
- Transplant eggplants, peppers, sweet potatoes, and tomatoes.
- Plant cucumbers, melons, peanuts, pumpkins, okra, radishes and summer squash.

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Calendar Announcement:

High Desert Gardening & Landscaping Conference: Thursday, May 4 and Friday, May 5, in Sierra Vista, 7:30 a.m. to 5:00 p.m.

Windemere Hotel and Conference Center, Sierra Vista

Sponsored by Cochise County Master Gardeners featuring 22 speakers

Go to: <http://cals.arizona.edu/cochise/mg/confforms.htm> to request a Conference Registration Form.

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