



# Tips for Saving Water in the Landscape

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Landscapes add beauty and value to your home while providing important environmental benefits. The plants in a landscape add valuable oxygen and remove carbon dioxide from the atmosphere. They also keep our homes cooler in summer, reduce erosion and stormwater runoff and provide wildlife habitats. **Research has shown that a landscape that has been carefully planned and installed and properly managed will be healthier, less prone to insects and diseases, and will require less irrigation.** Georgia's landscape and turf industry and UGA Extension are leaders in environmental conservation and are working to create sustainable environments in our cities and residential communities. Georgia's landscape and turf industry and UGA Extension are also urging citizens to join this environmental effort by implementing inexpensive and easy-to-perform landscape management practices that decrease the need for irrigation and/or lead to greater efficiency of irrigation when it is needed. These tasks can be part of the planning, planting and/or maintenance of the landscape.

## Planning the Landscape for Water Conservation

- **“Right plant in the right place”** — When selecting plants for the landscape, make lists of the plants based on their water needs (low, medium or high) and sunlight requirements. This information is typically found on the plant tag. Arranging groups of plants with similar water and light needs together in the landscape will allow you to match water needs with irrigation zones and reduce the amount of water applied to areas with plants having low water needs. This will also improve the health of individual plants and reduce disease and environmental stress by limiting over-watering and under-watering.
- **Test the soil** — The first step in planning the landscape should be to test the soil. A soil test will tell you how much lime needs to be added to the soil. The calcium in lime improves soil structure and promotes root growth. Increased root growth will lower irrigation needs. Soil testing is available through your local county Extension office and some retail garden centers. To locate an Extension county office, visit <http://extension.uga.edu/about/county> or call 1-800-ASK-UGA1. For the “do it yourselfers,” soil testing kits can also be ordered at <http://aesl.ces.uga.edu/soiltest123/Georgia.htm> for submission to the UGA Soil Testing Laboratory.
- **Where is the water?** — Explore alternative ways of obtaining water for irrigating plants, such as rainwater harvesting and storage, collecting air conditioner condensate and planting rain gardens. The average annual rainfall for Georgia is between 50 and 60 inches and harvesting and saving rainfall for landscape use during dry periods can reduce the strain on water systems and wells. If your landscape has an irrigation system, investigate how alternative water sources can be used to supplement the existing system. You also can have an irrigation audit performed by a professional to maximize the efficiency of your existing irrigation system.
- **Use the land wisely** — When planning the landscape, place plants with low water needs at higher elevations and plants with high water needs in flat areas or at lower elevations where they can take advantage of natural infiltration and water drainage. Also catalog the sunlight patterns throughout the day. Plant sun-loving plants where they get six to eight hours of full sun, and partial shade plants where they will be shaded from the hot afternoon sun.

## Proper Planting Reduces Water Needs

- **Soil amendments are key** — Organic amendments can improve the physical and chemical properties of the soil and increase water movement into the soil (infiltration). They also feed valuable micro-organisms that change soil nutrients into forms that can be better absorbed by the plant. This results in a healthier plant environment, allowing easier root development and fewer soil-related problems. Incorporating 1 to 2 inches of an organic amendment, such as compost, into the soil to a depth of 4 inches will improve the soil environment for root growth for approximately 12 months. This will help woody landscape plants and perennial plants establish, but should be repeated annually for bedding plants and vegetables to maximize impact.
- **Hydrogels help, too** — Hydrogels or water-absorbing gels can reduce drought stress on plants, but not by releasing water to the plant. The expansion and contraction of the soil as the gels absorb water and dry loosens the soil and allows roots to penetrate the soil easier. With the added root growth, the plant will have more soil to draw water and nutrients from, leading to a healthier plant with lower irrigation needs. Be sure to use the recommended rates of these products to maximize their positive effects.
- **Mulch, mulch, mulch** — Apply 2 to 3 inches of pine straw or 2 inches of pine bark or shredded hardwood mulch to the soil surface after planting. Mulch not only conserves moisture, it also maintains a uniform soil temperature and reduces weeds that compete for light, water and nutrients. Fine-textured mulches prevent evaporative water loss better than coarse-textured mulches. The roots of established trees and shrubs extend two to three (or more) times their canopy spread, so mulch as large an area as possible to trap the maximum amount of moisture in the soil.
- **Water plants before and after planting** — Water is a key ingredient in the planting process. Before planting, water plants while in the container thoroughly to saturate the roots. Water again after planting. Watering throughout the planting process will reduce transplant shock and give the plant a head start on becoming well established.
- **Be careful when planting around established plants** — When planting, avoid disturbing the roots of established trees or shrubs. Approximately 80 percent of the roots of established trees and shrubs are within the top 12 inches of the soil and cutting them with a shovel can cause significant stress. On the other hand, bringing in fill dirt or topsoil and planting on raised beds around established trees and shrubs can suffocate the roots of established plants (roots need air exchange). When existing plants are stressed, they become more

susceptible to insect and disease problems and less drought tolerant. However, rapidly growing roots from nearby plants (especially trees) can reduce the survival of many plants during a drought. Avoid planting under or near existing trees, especially elms (*Ulmus* spp.), red maples (*Acer rubrum*), water oaks (*Quercus nigra*) or sweet gums (*Liquidambar styraciflua*).

## Managing the Landscape for Perpetual Water Savings

- **Know the signs of water stress** — Watch for moisture-stress symptoms and let plants tell you when they need water. Wilting or an abnormal gray-green foliage color are good indicators of moisture stress. Certain shrubs, like azaleas, hydrangeas, viburnums and forsythia, are among the first plants to show moisture stress during periods of limited rainfall. Confirm this by digging a small hole to see if the soil is wet, moist or dry.
- **Timing is everything** — To minimize evaporative water loss, irrigating at night or during the early morning is best. The Water Stewardship Act of 2010, passed by the Georgia legislature, provides guidance to local communities by suggesting that outdoor irrigation can only occur between the hours of 4 p.m. and 10 a.m. (evening, night and early morning). Your local water provider can provide details on any additional local restrictions on outdoor irrigation, or you can visit the Water Stewardship Act of 2010 at [http://www1.legis.ga.gov/legis/2009\\_10/pdf/sb370.pdf](http://www1.legis.ga.gov/legis/2009_10/pdf/sb370.pdf).
- **Keep it low** — Use low rates of fertilizer and target fertilizer to specific plants that need a nutrient boost, not the entire landscape. Fertilizer applied at high rates can injure the leaves and roots of plants and can become an environmental pollutant when it runs off the property into storm drains and nearby waterways. Also, high fertilizer rates lead to more succulent growth that will require more water to support it.
- **Keep the mulch coming** — Maintain a mulch layer 2 to 4 inches deep around plants. Mulching is one of the best water conservation practices in the Southeast where summer temperatures are hot and evaporative water loss from the soil is high.
- **Keep your turfgrass tough** — When properly planted and managed, turfgrass is more resilient to periodic drought conditions than many people assume. Regardless of drought conditions, allow the grass to dry and become stressed before irrigating. This actually causes the roots to explore deeper soil depths for moisture and nutrients. It is best not to irrigate based on a set schedule, but rather to guide irrigation based on plant needs. Cultural practices like aeration, mowing and fertilization can

affect the root depth. Periodically aerify (as infrequent as every other growing season) to improve water and air entry into the soil. To encourage deep rooting during periods of heat or drought stress, raise the mowing height to the upper limits of recommend mowing heights. Similarly, during periods of stress use the lower end of nitrogen fertility recommendations and be sure other nutrients, like phosphorus and potassium, are adequate for turfgrass growth.

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- **Where is that water going?** — To avoid wasting water, use a hand-held hose, soaker hose or drip irrigation to water trees, shrubs and flowers, especially those planted on slopes. To minimize foliar diseases, water only the soil, not the leaves and flowers. To avoid runoff, apply water gently and slowly at a rate the soil can absorb. When using sprinklers, make sure that the water reaches your lawn and plants but not the house, sidewalk, driveway, street or other hardscape structure. Retrofit your irrigation system with low volume emitters and a rain sensor that will prevent it from running during rainfall. Use a broom or blower instead of a water hose to clean your driveway or sidewalk.

## **Remember, the water we save today is an investment in our future!**

For additional water-saving tips and a detailed discussion on water-saving practices for the landscape, see UGA Extension Bulletin 1329: “Best Management Practices for Landscape Water Conservation.”

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