

**Drought Preparedness Information  
Prepared for members of the  
Texas Nursery & Landscape Association**



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## **Introduction**

Chances are pretty good that at any given time, some portion of the state of Texas will be experiencing drought conditions. Popular media will offer suggestions and advice for how residents can conserve water. Much of this information is helpful, but some of it is inaccurate. As a nursery/landscape professional, you are best qualified to respond to any misinformation. Following is a sample letter to the editor or media that will help you do so. Please modify as appropriate and include any of the TNLA WaterWise press materials to help reinforce your position.

## Sample Letter to the Media

Dear Editor:

I am writing regarding the impact of landscaping on water use.

Texas' ecosystem depends on plant life to live and breathe, to moderate temperatures, and to clean the air of pollutants. Sacrificing landscapes to save water in the short term will inflict damage on our fragile environment and will do nothing to save water in the long term.

Once the water shortage eases, Texans will replace their dead landscapes and expend considerable amounts of water to help their new plants develop deep root systems and become established. Residents will have learned nothing about better water management and will resume their old, wasteful watering practices.

Texans must become better educated about efficient irrigation methods to successfully conserve water in the landscape now and in the future. Economic incentives such as rebates and a flexible water policy that would allow residents to bank unused water for future uses would motivate people to conserve.

There is a wealth of water conservation information on watering techniques and systems, proper plant selection, lawn care tips, fertilizer and mulch selection, and cultural practices. This information is readily available from Texas nurseries and garden centers, landscape contractors, and Texas AgriLife Extension Service.

I have enclosed some additional information on this subject for your review. Please contact me if you have any questions about this issue.  
Thank you for your consideration.

Sincerely,

Your name  
Your nursery

## Sample Opinion Editorial

When water is scarce, trees, plants, and landscapes may appear expendable. Yet, in reality, outdoor landscaping is a contributor to energy savings, and an essential part of an environmentally sound urban ecosystem. Banning landscape water use, as some governmental entities propose during drought, is less desirable than working to reduce peak use loads - a method which enables the landscape to survive and continue to serve as a natural cooling system for the city.

The urban ecosystem depends on plant life to live and breath, to moderate temperatures, and to clean the air of pollutants. Lawns, which have been targeted by some for extinction because of their alleged water consumption, cool a home at the same rate as a one-ton air conditioner, trap dust, absorb noise, and offer children and adults an outdoor recreation space.

Contrary to popular belief, lawns do not need frequent waterings. Some turfgrasses can survive if they are watered deeply once every seven to 10 days. Aerating the lawn, that is punching holes in it with a hand or power aerator, and dethatching to remove dead grass will increase water penetration and reduce runoff. Watering the lawn early in the morning, as opposed to midday, will minimize evaporation and provide maximum efficiency.

At a time when world attention is focused on planting more trees to help save energy and cool temperatures, Texas cannot afford to step backward and abandon our trees and our tree-planting efforts. Planting and caring for trees need not consume large quantities of water. If treated with "WaterWise" gardening techniques, a young tree in its first month will use two to three gallons of water per week. These techniques include building basins around the root area of the tree to minimize water run-off and using mulch on the soil surface to help retain water. After a month, a tree will benefit from deeper but less frequent watering (every other week) to encourage a healthier root system. This approach will enable the tree to survive on its own with minimal watering in a year or so. A green landscape also helps retard fire. With rural areas and roadsides increasingly dry, wildfires are a real possibility in Texas. Landscapes can help protect residences on the edge of town or in rural areas.

Texans should retain the right to choose how they wish to use their water allotments. Preserving and maintaining a landscape is an important priority to those who appreciate the quality of life that healthy plants provide. For those individuals, other water-saving options should be available. While governments most certainly have the right to determine how much water one may use, the right to determine how it is used belongs to the individual.

The Texas Nursery & Landscape Association has long advocated water conservation methods and products for the garden. These methods include selecting plants that are

compatible with the local climate zone, and grouping those plants together that have similar water requirements. In addition, proper watering techniques such as drip irrigation (a plant-specific watering technique using plastic pipe and emitters) can reduce water use by as much as 60 percent and results in better and healthier plants.

When water allotments, or limited watering is imposed, Texans can still conserve significant amounts of water by following an array of WaterWise gardening techniques and reap the benefits of beautiful landscapes. Consultations with a nursery professional can help the homeowner learn more water saving techniques.

## **What about Grass?**

### **Lawns Don't Waste Water, People Do**

In recent years, much attention and controversy has surrounded the water requirement of the lawn. Misinformation and hidden agendas have fueled this controversy. However, there are some well documented facts about the American lawn.

- The lawn is an integral component of the landscape. The lawn is certainly the best recreational surface for children and athletes.
- The lawn has a tremendous mitigating effect on the environment, reducing heat loads and noise, plus water and air pollution.
- A lawn is second only to a virgin forest in the ability to harvest water and recharge groundwater resources. And as a design component, the lawn provides landscape unity and simplicity while inviting participation in the landscape.

The lawn has become a focus in reducing landscape water use because of the tremendous opportunity for abusive use of irrigation water in the name of maintaining the lawn. Within the traditional landscape, the lawn has received the major portion of the total landscape irrigation. Lawn irrigation can be reduced, while the homeowner continues to derive the many benefits of turfgrass. Specific strategies to reduce lawn irrigation include:

- Place lawn areas into landscape irrigation zones based on water requirements, so that lawns can be watered separately from other landscape plantings
- Select adapted, lower-water demand turf species and varieties
- Use irrigated lawn areas only in areas which provide function (i.e. recreational, aesthetic, foot traffic, dust and noise abatement, glare reduction, temperature mitigation)
- Use non-irrigated lawn areas where appropriate
- Irrigate properly based on the lawn's true water needs
- Increase mowing heights to decrease lawn water use and stress
- Decrease fertilizer rates and properly schedule fertilizations.

By implementing these strategies, homeowners can reduce lawn irrigation requirements and still reap the many benefits of a cool, green lawn.

*This article is provided by Dr. Doug Welsh of Texas AgriLife Extension Service.*

## Preserving Your Lawn During the Drought

Contrary to popular belief, lawns do not necessarily need frequent waterings. Some turf grasses can survive if they are watered deeply once every seven to 10 days. Lawns offer significant environmental benefits, energy savings, and aesthetic value. They cool a home at the same rate as a one-ton air conditioner, trap dust, absorb noise, and offer children and adults an outdoor living space. Here are some tips that will help you preserve your lawn during the drought:

- Aerate and dethatch the lawn – punch holes in it with a hand or power aerator and dethatch to remove dead grass. Spread organic matter lightly in the holes left by the aerator. The organic matter will help pull the water down into the root zone of the grass. This will encourage deep rooting, increase water penetration, and reduce runoff.
- Water the lawn more efficiently. Schedule waterings for early morning when there is little or no wind and minimal sunlight. Water at a depth of four to six inches and in short intervals to avoid runoff. Extend the time between waterings to promote greater tolerance to dry spells.
- Keep the lawn shape simple so the lawn will be easy to water. Avoid planting narrow strips of lawn and mixing lawn with other plants.
- Mow higher. Let lawns grow to the maximum recommended height. Longer blades of grass need less water. Mow St. Augustinegrass and buffalograss at three inches; Bermudagrass at one inch, and centipedegrass and Zoysiagrass at two inches.
- Properly fertilize your lawn. Too much nitrogen will stimulate thirsty, new growth. Apply other nutrients such as iron and potassium in proper amounts as needed to encourage deep roots. Fertilize once in spring and again in the fall. Use a slow-release form of nitrogen in spring and a quick-release form in fall. Apply one pound of actual nitrogen fertilizer per 1,000 square feet of lawn at one time.
- Weed lawns regularly. A weed-free lawn is healthier, and weeds compete for water.
- Upgrade or automate your sprinkler system. Old, outdated sprinkler systems waste water. Use low-volume sprinklers with matched-precipitation rates for even coverage and reduced runoff. Automatic sprinklers with multiple-program controllers are convenient, flexible, and can accommodate several watering schedules.
- Monitor sprinkler systems for leaks, clogs, and breakdowns. Adjust automatic programming as weather patterns change. Some cities offer irrigation audits through their energy conservation departments.

## **Lawn Watering Frequently Asked Questions**

### **1. How do I know if the lawn needs water?**

Most grasses take on a dull, dark appearance and leaves begin to roll when they need water. Two easy ways to know when to water:

(1) Do the "footprint" test - Walk across your lawn, then turn around and look for your footprints. If you can see them, your lawn is stressed and needs water. If you can't see them, if the grass springs back up quickly, then your lawn does not need additional water.

(2) Dig a hole and feel the soil to see if it is moist. - This is the most accurate method. Use a spade, shovel, trowel or soil probe. Dig at least four to six inches deep. If there is any moisture at all in the sample, your lawn does not need water.

### **2. How often do I water?**

#### **Grass Species (Adapted Region) How often To Water**

The number in ( ) is the "adapted region." These recommendations are for grass planted in its adapted region. If the grass is not adapted to your region, consider replanting with one that is.

Buffalograss (3,4,5) - Every 2-5 weeks  
Bermudagrass (6) - Every 7-10 days  
Centipede (1) - Every 7-10 days  
Zoysia (3,4,5) - Every 7-10 days  
Carpetgrass (1,2) - Every 5 days  
St. Augustine (1,2,5) - Every 5 days  
Tall Fescue (4) - Every 4 days  
Bluegrass (1,4) - Every 4 days

*Adapted Regions: 1-East Texas; 2-South Texas; 3-West Texas; 4-North Texas;  
5-Central Texas; 6-Statewide*

### **3. How much do I water?**

Procedure for figuring out how much water your grass needs.

- Set 3-5 empty cans at different distances from the sprinkler with the last can near the edge of the sprinkler coverage.
- Run the sprinkler for 30 minutes.

- Add the inches of water in all cans and divide the total inches by the number of cans to obtain an average.
- Multiply the average by two to determine how many inches of water are applied in an hour.
- Use the list below to determine how many inches of water to apply every fifth day to bermudagrass during June, July, and August. Buffalograss needs about 25 percent less water and St. Augustine needs about 15 percent more.
- Subtract any rainfall from the amounts given in the list to determine how much water to apply.

Paris, Tyler, Bryan, Houston areas - .75 inch in 5 days

Sherman, Waco, Austin, San Antonio, Corpus Christi areas - 1-1.5 inch in 5 days

Abilene, Amarillo, Midland, El Paso areas - 1-1.5 inch in 5 days

San Angelo, Laredo areas - 1.5 inch in 5 days

The Texas WaterWise Council ([waterwisetexas.org](http://waterwisetexas.org)) has a WaterWise Landscape Irrigation Calculator that can assist you in this calculation.

## **Irrigation System Tips**

Automate your sprinkler system. Add an electronic controller or timer to water your landscape at the precise time you want for maximum benefits. Multiple-program controllers can accommodate several planted zones and time schedules. Your irrigation system will work most efficiently if plants have been grouped according to their water requirements. Adjust timers for seasonal conditions.

Use low-volume, matched-precipitation sprinkler heads. Low-volume sprinklers reduce evaporation due to wind, and slow the water's delivery rate allowing the soil more time to absorb the water. Matched-precipitation sprinkler heads provide the most even coverage.

Check your sprinkler system for leaks. A leaky system wastes a lot of water fast. Look for these signs of trouble: broken or clogged sprinkler heads; muddy spots in the soil or lawn; lowest sprinkler leaks constantly (valve problem); valve box filled with water; water meter always running.

Install a drip irrigation system for gardens, shrubs, trees, and planters. This flexible, low-volume, low-pressure watering system uses plastic pipes and emitters and applies moisture only where it is needed, at the plant root zone. A drip system typically uses 40 to 60 percent less water than conventional methods.

For best results, water when there is no wind and the weather is cool, usually between the hours of 2 a.m. and 8 a.m. Evaluate the rate at which the soil absorbs water to determine the best way to water and minimize runoff.

Install a rain shutoff device to override the sprinkler system when it rains. The controller will resume watering when rainwater collected in a special pan has evaporated.

Use an automatic moisture sensor to determine when your lawn needs watering. An automatic sensor will trigger sprinkler operation only when soil moisture falls below a certain level.

## **Caring for Trees, Plants, and Shrubs During the Drought and Beyond**

Below are several tips that will help conserve water and preserve and protect your landscape during the drought. They also will help you garden better and produce stronger, healthier plants for many years to come.

- Mulch soil surface. Organic mulch such as bark and commercial compost reduces water loss due to evaporation, prevents weeds by covering weed seeds, and keeps the soil cool in the daytime. Apply a two-inch layer of mulch around shrubs, trees, annuals, vegetable gardens, and even in containers.
- Install drip irrigation. Drip irrigation is a watering system network of flexible poly tubes that carry water from the source, a faucet or sprinkler valve, to feeder tubes and emitters that drip, spray, or soak individual plants. This method helps eliminate waste and weeds by putting water only where it is needed. Watering is done in a slow, steady, and timed fashion. A drip system typically uses 40 to 60 percent less water than conventional methods.
- Water infrequently, deeply, and thoroughly. Roots will grow where the water is. The deeper the water, the deeper the roots. With deep roots, plants have a large soil reservoir from which to draw water. Plants will develop a greater tolerance to dry spells if watered infrequently.
- Learn when to water. Water when the soil is dry, not before. If water begins to run off, take a break and allow the soil to absorb the water. Repeat the cycle until the desired depth is reached. Dig a hole to check penetration.
- Schedule waterings when there is little or no wind and the temperatures are cool, usually early morning. Sun and wind steal moisture.
- Build basins around trees and shrubs to minimize runoff. Apply water directly to roots. If the system is not automated, use a root feeder (a hollow probe that attaches to a hose and siphons water directly to the plants roots) for deep watering.
- Properly condition and fertilize soil. Water does not easily penetrate clay soils and may pass too quickly beyond the root zone of plant in sandy soil. Adding organic matter to these soils will help correct imbalances and reduce water waste.
- Pull weeds. Weeds compete with other plants for limited water and nutrients.

## What about Xeriscape?

Xeriscape is a term coined in Denver, Colorado to describe quality landscaping that conserves water and protects the environment. TNLA uses the term WaterWise, which includes the Xeriscape principles, but is broader in scope.

Xeriscape landscapes are not cactus and rock gardens. They can be cool, green landscapes full of beautiful plants which are maintained with water efficient practices. The same green, Texas-style landscapes which we are accustomed to can be achieved and still conserve water. Xeriscape landscaping incorporates **seven basic principles** which lead to water savings:

1. Planning and design
2. Soil analysis and improvement
3. Appropriate plant selection
4. Practical turf areas
5. Efficient irrigation
6. Use of mulches
7. Appropriate maintenance

By using these seven principles, you can help preserve our most precious natural resource - water.

### All Plants Have Place in Xeriscape Landscapes

Every plant in the nursery or garden center truly has a place in a Xeriscape landscape. It's not which plant you use, but where you put it that matters. Three different plant zones can be incorporated into a Xeriscape landscape:

- Regular Watering Zone
- Occasional Watering Zone
- Natural Rainfall Zone

Plants in the "Regular Watering Zone" would require watering once every week or more ONCE ESTABLISHED, in the absence of rain.

Plants in the "Occasional Watering Zone" would require watering once every two or three weeks ONCE ESTABLISHED, in the absence of rain.

Plants in the "Natural Rainfall Zone" would require only natural rainfall ONCE ESTABLISHED.

By zoning the plants in the landscape according to their water requirements, you prevent the situation of having to overwater one plant type to meet the need of another.

Every region of Texas has a pallet of plants to choose from which are adapted to the soil, temperature extremes, and pest problems of the area. The challenge for the professional and amateur gardener is to categorize the plants based on expected water requirements. By using the categories of natural rainfall, occasional water, and regular watering, most gardeners can place the plants from their region into these water-use zones.

For example, in much of Texas (areas of 30+ inches of rainfall), the following categorization is often used:

- Regular Watering Zone: turfgrass and annual flowers
- Occasional Watering Zone: perennial flowers and tender woody shrubs and vines
- Natural Watering Zone: tough woody shrubs and vines and all trees

All plants do have a place in a Xeriscape landscape. Visit your nursery or garden center today, or consult with your landscape design and installation professional, and get started on creating your own beautiful, water conserving landscape!

*This article is provided by Dr. Doug Welsh of Texas AgriLife Extension Service.*

## **Useful web sites**

Texas WaterWise Council - [www.waterwisetexas.org](http://www.waterwisetexas.org)

Texas AgriLife Extension Service - <http://aggie-horticulture.tamu.edu/>

Texas Water Development Board - [www.twdb.state.tx.us](http://www.twdb.state.tx.us)