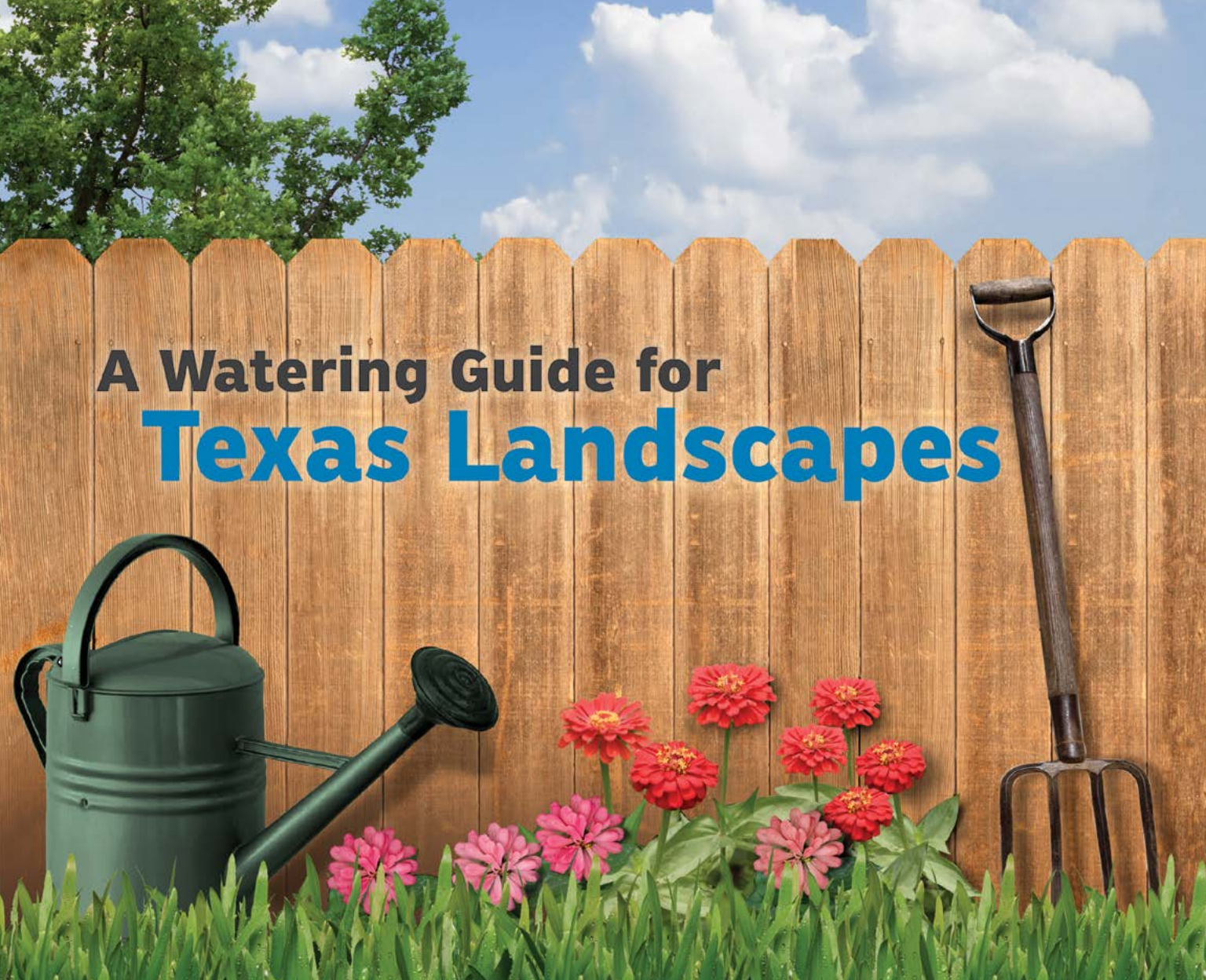
A Watering Guide for
Texas Landscapes

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Water for the future, starting now

Because Texas enjoys a vibrant economy and continued population growth, ensuring we have enough water for current and future Texans remains a top priority in the state. Fortunately, all Texans can play a role in conserving water. Outdoor water can constitute a large portion of overall residential water use, so wise landscape watering is an important place to start. If we cultivate good watering habits just as we cultivate our gardens, we can use water to sustain our plants and promote healthy growth while conserving supplies for future use. The key to watering the Texas landscape wisely is threefold:

- Choose plants adaptive to conditions in your area of the state.
- Measure the amount of water needed to irrigate your landscape.
- Use the right tools and methods to deliver the optimal amount.

You don't have to give up having an aesthetically pleasing lawn to conserve water. It is important for homeowners who want to enjoy lawns but are concerned about conservation to realize lawns don't waste water, people do! There are positive features of lawns as recreational surfaces that reduce heat loads, noise, and water and air pollution. Lawns also benefit the environment by harvesting water to recharge groundwater resources. Moreover, turfgrass entraps organic pollutants, protects soil from erosion, reduces climatic temperature, and protects structures from fire by making a noncombustible green zone. But it's the *strategic* planning of lawns and landscape plants and watering practices that makes the difference between waste and conservation.

Get help from landscape experts

Resources are plentiful to help you choose the best plants for your region. The Texas A&M AgriLife Extension Service has offices throughout the state and specialists knowledgeable about each region. The website at agrilifeextension.tamu.edu has a vast amount of information on topics ranging from planting a tree to building a garden to composting leaves.

Local nurseries are good sources of information about landscaping tailored to your area. Cities and counties may also offer planting guides and information about conserving water resources through careful landscape selection and watering practices. The geographic diversity that allows Texans to enjoy mountains and coastal plains and sandy beaches and pine forests—all within our own borders—means that we have to be selective about what we plant where.

Plant your feet on a healthy lawn

Because lawns are so popular and cover so much of the area that Texans proudly call home, it is important to select the right turfgrass and practice good landscaping methods:

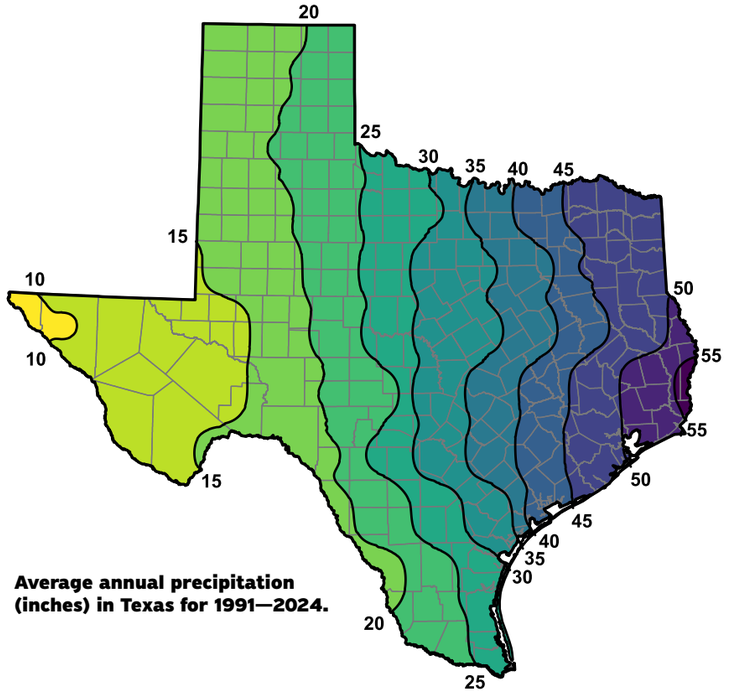
- Select a grass adapted to the climate, intended use, and site-specific conditions (for example, shade vs. sun, soil depth/quality, irrigated vs. nonirrigated, amount of traffic, level of maintenance).
- Prepare and maintain healthy soil.
- Follow through by establishing a good cultural program (such as mowing, fertilizing, irrigating) for long-term success.

Several varieties of turfgrass are likely to grow well in appropriate areas of Texas. The table below shows traits associated with the different varieties. Matching traits to local conditions gives the best chance for developing a healthy lawn while conserving water.

Trait	Bermuda grass	Buffalo grass	Centipede grass	Fescue grass	Seashore Papsalum grass	St. Augustine grass	Zoysia grass
Shade tolerance	Very low	Low	Moderate	Moderate	Low	High	Moderate to high
Water requirement	Moderate to low	Very low	Moderate	High	Moderate	Moderate	Moderate
Drought tolerance	Very good to excellent	Excellent	Moderate	Moderate	Good	Good	Very good
Mowing frequency (days)	3 to 7	7 to 14 if mowed	7 to 10	5 to 7	3 to 7	5 to 7	5 to 10
Mowing height (inches)	1 to 2	2.5 to 3	1.5 to 2.5	2 to 3	0.5 to 1	2.5 to 4	0.75 to 2

Fescue is a cool-season turfgrass that is grown in north Texas. Fescue lawns require more summer irrigation than warm-season turfgrass and should only be planted in areas averaging more than 35 inches of rainfall per year. Rainfall requirements differ among the warm-season turfgrass varieties and should always be taken into consideration, especially if a turf site has limited or no supplemental irrigation. Buffalo grass and other native grasses are best planted in areas that receive 15 to 25 inches of rainfall annually; Bermuda grass and zoysia grass thrive in the 25- to 35-inch rainfall areas; St. Augustine grass requires at least 35 inches of rainfall. Remember, these are areas with sufficient rainfall with no need for supplemental irrigation. The map of average annual rainfall for different regions shows the rainfall variability in our diverse state.

Once well established, warm-season turfgrass can survive on less than the optimum rainfall amount—most varieties



Average annual precipitation (inches) in Texas for 1991—2024.

will thrive anywhere that receives about 20 inches of rainfall during the growing season. (The growing season for warm-season grasses generally starts four to six weeks after the last frost of the spring and ends with the first frost in the fall.)

In addition to choosing turfgrass suited to your region's climate, you should also consider the mowing needs of different varieties: some will require more mowing than others. To maintain a healthy lawn, never remove more than one-third of the grass blade on any turfgrass when mowing. The amounts of sunlight and shade in your landscape are also important concerns in choosing a suitable turfgrass. Because some varieties do not grow well in shade, choose turfgrass that will tolerate shade if your lawn requires it.

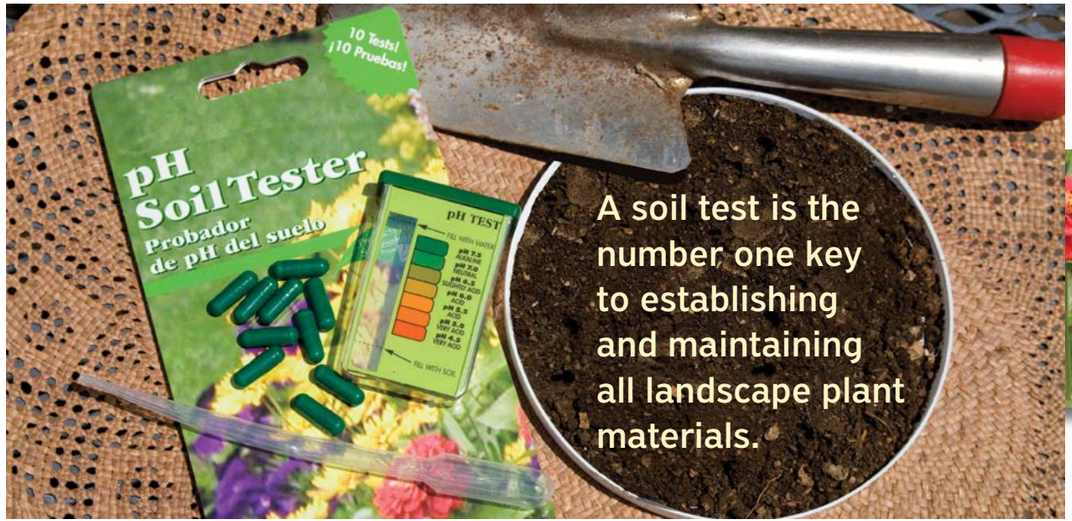
Get the dirt on dirt in your area

Besides rainfall, soil is an important ingredient in determining the suitability of an area for particular plants. Some soils have high clay content and drain slowly but retain water; clay soils take longer to absorb water but keep it longer. Other soils are sandy, draining well and absorbing water quickly but not holding it as long as clay soils. Plants in sandy soils need less water more often. Loam soil has characteristics in between those of clay and sand. Landscapes built on loam need moderate amounts of water, and loam retains moderate amounts. Water can be applied less often to clay and loam soils than to sandy soils, but it should be applied more slowly to prevent runoff. By adapting your watering practices to the soil in your area, you can ensure that the water you use goes to your landscape and not down the drain.

Soils can be improved by topdressing the entire lawn with about ½ inch of compost per year after aeration. If you are establishing a new lawn, consider blending topsoil with about 25 percent compost. Soil testing offered through the Texas A&M AgriLife Extension Service can help determine the best product for your lawn. Soil test kits may also be found at many local nurseries. A soil test is the number one key to establishing and maintaining all landscape plant materials to ensure the soil has adequate amounts of nutrients.

Spread the word—mulch

The use of mulch—a protective ground cover that reduces evaporation of soil moisture, helps maintain uniform soil temperatures, reduces soil erosion, controls weeds, and, in the case of organic mulches, enriches the soil—is vital in Texas. Removing weeds and applying mulch help conserve water by directing it to the plants you want to protect.



Three to four inches of mulch should be maintained around plants and trees. Mulch around trees should be applied in a V shape, building in thickness away from the bark of the tree so that the moisture does not cause decay at the base of the trunk. Some examples of organic mulches include pine bark, newspaper, compost, sawdust, and straw. The best mulch for your area is that created from native sources.

Calculate your watering needs

Once you've chosen plants and turfgrass well suited to your area, how do you know when and how much to water your landscape? Turfgrass takes on a dull, dark appearance, and leaf blades begin to roll when they need water. Healthy, properly irrigated turf rarely needs more than 1 inch of water per week during the summer months. Except during an extended dry spell, watering during the winter is rarely needed. The best time to water all landscape plant material is early morning or late evening when winds are calmer and temperatures are lower, resulting in less water loss to evaporation. It's important to give leaf surfaces time to dry before nightfall to deter disease and decay.

A good rule is to wet the soil to a depth of 4 to 6 inches to reach the root system of the plants. Use a soil probe or screwdriver to determine the depth the water actually reaches. Soil type, amount of rainfall, and season of the year all affect the amount of water you need to apply.

To calculate how long you need to set your sprinkler to water to a depth of 6 inches, set 5 open-top shallow cans (like those used for tuna or cat food) randomly spaced within the area covered by the sprinkler. Set the sprinkler for 30 minutes. Measure the depth of water in each can, and determine the average depth by adding the total from each can and dividing that sum by 5, the number of cans. Insert a spade or probe into the soil to measure the depth to the dry area. The wet soil will pierce easily; stop when you hit the resistance of the dry soil. Your answers will give you the amount of water needed to wet the soil to a certain depth in half an hour. If 30 minutes yields 3 inches of wet soil and an average of ½ inch accumulation of water in the cans, an hour will yield 6 inches of wet soil and 1 inch accumulation. Adjust your watering time accordingly.

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The key to efficient irrigation is to understand a plant's adaptation. Plants adapted to conditions in a region will require less irrigation because they are already in a favorable environment. Established plants do well in the summer when watered about once a week, especially if mulch is placed around them. New plantings require more frequent watering during establishment for root growth. Using groundcovers in sloping sites decreases runoff. Grass and weed removal from beneath trees and shrubs allows their roots to be more evenly distributed, increase in number, and draw nutrients and moisture from a larger volume of soil.

Make irrigation work for you

Low-output sprinkler heads, bubblers, or drip irrigation systems decrease runoff and are efficient ways to apply water. Drip irrigation systems take longer to wet the soil but lose very little water to evaporation. Automatic sprinklers offer convenience but must be managed to avoid water waste. Use a sprinkler that emits large drops of water that remain close to the ground, not one that sprays a fine mist into the air. Water deeply and infrequently to encourage deep, well-established root systems. Irrigate trees, shrubs, and other landscape plants separately from turf. By grouping plants according to watering needs, you can apply irrigation more efficiently.

A routine check should be made to ensure that water is being applied where it is needed, in the amount that it is needed, and in a uniform manner.

Use the can method to check the distribution and amount of water being applied, and then make any needed adjustments. Avoid leaving an in-ground irrigation system on an automatic setting. Instead, adjust the system manually according to rain events and seasonal fluctuations. Make sure sprinkler heads have the right water pressure to apply water as drops and not as mist. Excess water pressure can cause significant water loss. Avoid watering sidewalks, driveways, or streets. If you notice water running off the landscape faster than it can be absorbed, take a break from watering and resume watering when the ground can absorb water again. For more information on landscape irrigation, contact your County Agricultural Extension Agent or consult a nursery/landscape professional.

Rainwater is a sustainable source of water

Mindful landscape irrigation practices aren't the only way Texans can be water wise. Harvesting rain not only reduces the demand on municipal water supply but also offers a source of pure, soft, low-sodium water that your lawn and landscape will love. Depending on the size of your roof, you can collect hundreds of gallons in a single rainstorm and tens of thousands of gallons over the course of a year!

If your house has a gutter system, it's easy to get started. All you need is a vessel (such as a rain barrel) to collect the water and the means to divert the rain from your downspout into that vessel—then

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it's simply a matter of filling a watering can with what you capture. If you want to maximize the amount of rain you can capture and store, and/or connect it to your irrigation system, you'll need a more complex rainwater harvesting setup, and the Texas Manual on Rainwater Harvesting is a great resource that explains how to build one.

Relax, and enjoy your backyard

When selecting your landscape plants, think regionally. Native plants already have an advantage in being adapted to their surroundings. When watered according to need through a carefully planned irrigation practice, they have the best chance to thrive. And you can enjoy the benefits of an attractive landscape, knowing you are doing your part to conserve water.

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