

Decorative fountains should be turned off on windy days and during drought.

WATER-WISE IRRIGATION EQUIPMENT

What is the most efficient irrigation system?

Drip irrigation is the most efficient method of watering for non-turf areas such as bedded plants, trees or shrubs. Drip systems minimize or eliminate evaporation, impede weed growth, and may help prevent diseases caused by under or overwatering. Tubing should be inspected regularly for damage, leaks, and debris that may have clogged the lines. Soaker hoses are an easy and inexpensive alternative to drip irrigation. Soaker hoses perform best when the water flow rate is low. Soil moisture should be monitored to determine when enough water has been applied.

What type of sprinkler should I use?

Use a low-angle sprinkler that produces large drops of water close to the ground, rather than an oscillating sprinkler or a sprinkler that produces a mist or fine spray. This will help to minimize evaporation. Sprinklers with adjustable spray patterns are useful for irregularly shaped areas (or just use the hose). Use a timer so you don't forget to turn it off.

How should I manage my automatic sprinkler system for water efficiency?

Automatic sprinkler systems can provide an efficient method of irrigating lawns because controllers turn the system off after a predetermined amount of time, so a measured amount of water can be applied. However, don't just set it in the spring and leave it all season. Adjust run time and frequency of the system monthly to respond to changing rainfall and temperature conditions. Install rain shut off devices or moisture sensors to avoid unnecessary watering. Adjust sprinklers to eliminate overspray on

pavement. Don't assume that all plants have the same watering requirements. Reduce the run time of sprinklers on shrubs, which may not need as much water as grass. Shady areas may not need as much water either. To minimize runoff, adjust the precipitation rate of the sprinkler head so the soil has enough time to absorb the water. Trim overgrown shrubs or other objects obstructing the spray pattern. Contact a professional landscape irrigation specialist for a maintenance check.

What maintenance is required for my automatic sprinkler system?

Check sprinkler heads regularly to remove dirt or debris that may be clogging the nozzle and to make sure they are working at the proper pressure and not leaking. When spray heads are inactive they should be as close to the ground as possible to avoid damaging them with lawn mowers. Repair or replace broken heads, valves, seals, and pipes. Make sure the last group of sprinklers shuts off completely when the next group of sprinklers turns on. If not, check the valves. Once a month run the sprinklers for a short time on each cycle while you are at home to make sure they are working properly.

What features should I look for in an automatic sprinkler system?

The controller of new sprinkler systems should have a multiple scheduling option, a rain-shutoff device, a water budget feature (which allows percentage adjustments without having to reprogram), and test functions.

DESIGN A WATER-WISE LANDSCAPE

Plant water-wise, well-adapted and/or native shrubs and trees! Bermuda, buffalograss, and zoysia are drought-tolerant grasses. Choose plants that are drought tolerant (or at least have low water requirements), heat tolerant, and are tolerant of the

minimum winter temperatures in your local area. Instead of grass, put drought-tolerant ground cover in areas that are narrow, small, sloping, odd-shaped, or close to pavement. Limit turf areas to those needed for practical uses. Group your plants into irrigation zones according to their water requirements (hydrozoning) so you don't overwater one type of plant to meet the needs of another (for instance most shrubs don't need as much water as most grass). If you have to have a few thirsty plants, group them together and place them near your house. Native plants are more resistant to local plant diseases and pests. Contact your County Extension Agent, your water-wise landscape professional, or your city or water supplier for recommendations of water-wise plants that are adapted to your area of the state and additional information on efficient landscape water use.



WaterIQ.org

Texas Water Development Board

P.O. Box 13231

Austin, Texas 78711-3231

www.twdb.state.tx.us

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BE WATER-WISE OUTDOORS

WHY?

According to the Texas State Water Plan, Texas' existing water sources will meet only 75 percent of the projected water demand by 2050. We must use our precious water resources more efficiently or we will have more frequent and more severe water shortages, especially during droughts and hot Texas summers when water use is 1.5 to 3 times greater than winter use. In the summer, outdoor water use can account for 50 to 80 percent of home water use! Much of this water is wasted through inefficient landscape watering practices. Using water more efficiently will save money and protect the quality of life of future generations. We must be responsible and save water now.



WATER-WISE STEPS TO FOLLOW

Many Texas water utilities charge higher rates during the summer or increase rates in increments based on use. Reducing your outdoor water use by following these steps can produce substantial savings in your water bill.

- Determine how much water your landscape needs to stay healthy.
- Use water-wise landscape maintenance practices such as proper mowing, mulching, and moderate fertilizing.
- Minimize water evaporation by using the most efficient equipment for each situation and keep that equipment well-maintained.
- Design a water-wise landscape by planting drought-tolerant grass and choosing plants that are native or well adapted to the climate conditions in your area.

WATER-WISE LANDSCAPE WATERING

When should I water?

Pay attention to signs of stressed grass, such as a dull green color, footprints that remain visible after walking on the lawn, or curled leaf blades. Water only after the top 2 inches of the soil has dried out. Check moisture by feel with a soil probe or a screwdriver.

What time of day should I water?

Evaporation loss can be 60 percent higher during the day, so water during the early morning or in the evening. Do not water on windy days. Proper watering at night does not contribute to brown patch fungus, which is caused by overwatering and excessive fertilizer use.



How often should I water?

Proper watering, 1 inch of water once every five days or more, will help grass and shrubs develop deep roots (it is especially important to start this during the spring when root growth is at its peak). Over-watered turf will have a short root system and will not be drought tolerant, but it can be trained to grow deeper roots and be drought tolerant by adjusting it slowly to successively longer periods between waterings.

How long should I water?

To determine how long you should run your sprinkler, place three to five empty straight-edged cans at different distances away from the sprinkler. Run the sprinkler for 15 minutes and measure the amount of water collected in each can. Calculate an average water depth and determine how long it will take to apply 1 inch of water. Don't forget to account for any rainfall since the last irrigation. Some cities have daily updated information online or by phone about how much water should be applied based on local weather conditions. To avoid runoff on sloping areas, place sprinklers near the top of the slope and apply water slowly and intermittently ("cycle soak").

What should I water?

Only your plants. Don't water the sidewalks and driveways. Use a broom to sweep debris away. This can save 30 gallons per 5 minutes of work.

How can I use rainwater?

Harvest it. Funnel the water from your gutters into a barrel or cistern and save it for a sunny day. Rainwater is free, and it is better for your plants because it doesn't contain hard minerals. Also the pH of rainwater may be better for plants.

WATER-WISE LANDSCAPE MAINTENANCE

How long should my grass be?

Don't scalp your lawn. Taller grass holds moisture better, encourages deeper root growth, and makes it less susceptible to browning. Keep grass 3 inches tall during the summer (however, more than 3 inches of height stresses the grass).

When should I mow?

Cut grass only when it is dry, keep mowing blades sharp, and don't cut more than one-third of its length at one time.

What should I do with my grass clippings?

Don't bag your clippings! Mulched grass clippings break down fast and do not cause thatch buildup in turf. They also help hold in moisture, reduce evaporation, moderate temperature and give nutrients back to the lawn.

How can I conserve soil moisture?

Use lots of mulch, it will make your shrubs and young trees more tolerant to the scorching Texas heat. One to 3 inches of mulch retains moisture, reduces runoff, helps moderate soil temperatures, aids in root development, reduces erosion, slows weed growth, prevents soil compaction, and makes your landscape beautiful. Rock and gravel in large, hot sunny areas radiate heat from the sun, and may increase temperatures and water losses from plants and soil. Place mulch directly on the soil or on weed barrier fabric that can "breathe." Avoid using sheet plastic in planting areas. Top dressing (applying a thin layer of compost to the surface of the lawn) functions like mulch for your lawn. It increases organic content, and it protects grass roots.



What should I know about fertilizing?

Contact your County Agricultural Extension Service or local water-wise nursery professional for a soil kit and recommendations for the ratio of nitrogen, phosphorus, and potassium that should be in your fertilizer. The right ratio of nutrients helps grass withstand stress, uses less water, and reduces excess nutrient runoff. Spring and fall applications of fertilizer help to develop good root systems, which keep your grass more drought tolerant. Too much fertilizing causes excessive growth, creating more demand for water, more thatch, and the need for increased mowing frequency. Many people apply too much fertilizer, which simply runs off and pollutes local waterways. Leaving grass clippings on the lawn reduces the need for chemical fertilizer.

How else can I improve my landscape?

Improve the soil. If your original soil is rocky, sandy, shallow, heavy clay, or has little organic matter, it can be improved by adding several inches of high quality loam soil and 2 to 3 inches of organic matter such as mulch or compost. High quality soil helps reduce irrigation needs by retaining water better when added to sandy soil and by absorbing water better when added to clay soil. Unless the soil is damaged or depleted, native and well-adapted plants may not require imported soil. Shape the soil into earthen basins around shrubs. Aerate the lawn once a year. Weed the lawn and garden as needed. Weeds rob plants of valuable water.

How else can I minimize water use?

Cover pools and spas when not in use to lessen evaporation. In the summer in Texas a 30-foot by 15-foot pool can easily lose 1.5 inches of water a week or 1,800 gallons of water a month! Backwash your filter only as necessary. Backwashing uses as much as 150 gallons of water, so consider using cartridge-type filters, which do not require backwashing.