

Recommended Runtimes for Residential Irrigation

Landscapes are often overwatered. By considering the type of plant material, type of head, and sun exposure, homeowners can keep their landscapes green and save water. The following water tips and irrigation schedules should help you lower your water bills.

Use ET to water: Evapotranspiration (ET) is a measurement of the total amount of water needed to grow plants and crops. This term comes from the words *evaporation* (i.e., evaporation of water from the soil) and *transpiration* (i.e., transpiration of water by plants). Different plants have different water requirements, or plant coefficients, so they have different ET rates.

	Average Monthly Historical ET**	Average Monthly Historical Rainfall
Winter (Dec-Feb)	2.4 inches	2.3 inches
Spring (Mar-May)	4.1 inches	3.1 inches
Summer (June-Aug)	6.9 inches	2.5 inches
Fall (Sept-Nov)	4.2 inches	3.0 inches

** Does not include the plant coefficient. From the Texas AgriLife Extension's Texas ET Network. Daily ET may be obtained from <http://texaset.tamu.edu/date.php?stn=3&spread=14>

Watering Tip: Adjust runtimes by 10%: All irrigation runtimes should start at the lowest minutes, and be adjusted upward or downward 2-4 minutes as it gets hotter or cooler. Only areas that start to show stress should be increased. Shady areas should be watered much less than sunny areas.

Use multiple start times: Our clay, shallow soils cannot absorb water very fast. Runtimes over 15 minutes for sprays and 20 minutes for rotors should be divided into two cycles. For example a 10-minute runtime scheduled to start at 1am and the second start time at 3am will result in 20 minutes of watering. Most controllers have 2-3 start times per program. Runtimes should be further reduced if the area is sloped. For example 3 start times of 5 minutes each.

Winter—November—February

We do not recommend watering in the winter unless there is more than one month of no rain, or ET exceeds rainfall. Usually winter rainfall exceeds ET. The plants are dormant and have very low water requirements. We do not recommend overseeding with rye in the wintertime. Not only does it use more water, but also competes with your summer grass, making it thinner and more susceptible to weeds.

Winter color: Sprays Every 3 days 10 minutes

Winter rye grass (not recommended) 1x per wk or as needed.

Sprays—15 minutes

Rotors---20-25 minutes

Reduce water use November through February.

These are the months the City of Round Rock uses the average of the winter water consumption to determine the waste water charges for the rest of the year. The City assumes these months will be the lowest water use months of the year, as there is no or minimal outdoor use due to typical rainfall and climate conditions. Therefore, all the water you are using is going down the drain or is for indoor use. During the summer months, any consumption above that winter average is not charged additional wastewater fees because it is assumed to be going on your yard, or into your pool.

Watering Tip: Decrease run times in less visible areas

This is a "rob Peter to pay Paul" type of strategy. If you have areas that really need to be watered heavily during the summer for visual appeal, then you can decrease the run times in some of the less visible zones and increase the run time in a zone that really needs it. This is helpful in newly planted areas.

Watering Tip: Stay on a once per week schedule as long as possible

You can always increase the run time on a station that needs a little help through the summer. Increasing the run times on individual stations that need the extra water will not drastically increase your water consumption. However, increasing the frequency of watering will increase the water consumption of all the stations on the system whether they needed the increase or not. For example, if one station runs 20 gallons per minute (gpm) with a run time of 20 minutes and a watering frequency of once every 5 days or (6 times per month) will use **2,400 gallons per month**. The same 20 gpm station running for 15 minutes and with a watering frequency of every other day or (15 times per month) will use **4,500 gallons per month!**

Seasonal Color: In general, seasonal color (not established plants) should be watered every 3 days, 5-10 minutes for spray heads. During a drought or an exceptionally warm summer, all planting should be avoided. Newly installed plants should be hand-watered. Do not rely on the irrigation system to adequately water them.

Water less frequently, but deeper

Your current schedules may apply water very frequently (2-3 days per week). This is more than the necessary amount of water. With frequent irrigation, the grass roots do not grow to their maximum depth because they are receiving very regular watering at the surface of the soil. Instead, we recommend thoroughly saturating the soil profile with deep, infrequent waterings. When this occurs, the roots try to grow to their maximum depth to reach as much of the available water as possible. **This will result in a more drought tolerant grass.** We recommend watering your stations on a frequency of once or twice per week in the summer. In the fall and spring, evapotranspiration (ET) rates will be lower, so run-times and frequency can be decreased.

Make seasonal changes.

Determine the seasonal water needs from the list of common landscape, turf and plants below. Recommendations are based on seasonal ET and precipitation rates of 2" per hour for pop-up sprays and .8-1" per hour for rotors. Recommendations for drip or low volume must be determined by the sq. footage and gallons per minute/hour emitters or flow rates. Consult the manufacturer.

Spring and Fall--- March, April, May, October

Set controllers for 1 cycle for all lawn types.

Plant	Exposure	Type of Head	Days	Runtime (min)
St. Augustine	sun	spray	as needed, max. 1x/wk	10 to 15
		rotor	as needed, max. 1x/wk	15 to 20
	shade	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20
Bermudagrass	sun	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20
	shade	spray	rarely, 1x per 2 wks	10
		rotor	rarely, 1x per 2 wks	20
Zoysia japonica (wide blade zoysia, El Toro, JaMur, Palisades)	sun	spray	as needed, max. 1x/wk	10 to 15
		rotor	as needed, max. 1x/wk	20
	shade	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20
Buffalograss	sun	spray	rarely, 1x per 2 wks	10 to 15
		rotor	rarely, 1x per 2 wks	20
	shade	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20
Common shrubs	sun	spray	rarely, 1x per 2 wks	10 to 15
		rotor	rarely, 1x per 2 wks	20
	shade	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20
Common groundcovers	sun	spray	rarely, 1x per 2 wks	10-15
		rotor	rarely, 1x per 2 wks	20
	shade	spray	rarely, 1x per 2 wks	15
		rotor	rarely, 1x per 2 wks	20

Summer—June, July, August, September

Set controllers for 2 cycles for all lawn types.

Plant	Exposure	Type of Head	Days	Runtime (min)
St. Augustine	sun	spray	Every 5-7 days	10 - 15
		rotor	Every 5-7 days	15 - 30
	shade	spray	Every 5-7 days	8 - 10
		rotor	Every 5-7 days	15 - 20
Bermudagrass	sun	spray	Every 5-7 days	10
		rotor	Every 5-7 days	20
	shade	spray	Every 5-7 days	8
		rotor	Every 5-7 days	15 - 20
Zoysia japonica (wide blade zoysia, El Toro, JaMur, Palisades)	sun	spray	Every 5-7 days	10 - 15
		rotor	Every 5-7 days	20
	shade	spray	Every 5-7 days	10
		rotor	Every 5-7 days	20
Buffalograss	sun	spray	1x per 2 wks	10
		rotor	1x per 2 wks	20
	shade	spray	1x per 2 wks	8
		rotor	1x per 2 wks	15
Common shrubs	sun	spray	1x per 2 wks	10
		rotor	1x per 2 wks	20
	shade	spray	1x per 2 wks	8
		rotor	1x per 2 wks	15
Common groundcovers	sun	spray	1x per 2 wks	10
		rotor	1x per 2 wks	20
	shade	spray	1x per 2 wks	8
		rotor	1x per 2 wks	15

How do I know when to water?

Make sure your landscape actually needs water before you turn on your system. Let the soil dry out so that the water can be absorbed, but be careful not to stress your grass too much -- that can be just as harmful as overwatering. You'll know your grass needs water when you walk on it and the footprints remain, the grass leaves fold up, or your Bermuda grass turns dark green. You can also use a soil probe, screwdriver or trowel to check the soil moisture level 3-4 inches below the surface.

Install a rain shut-off device on your irrigation system.

This inexpensive device can save you bucks by not watering during a rain shower. Set to ½" it will only shut the system off when there is a significant rain event.

Turn off your irrigation system after a rain.

The rain shut-off device will turn the system off immediately after or during a rainstorm, but it may allow the system to come back on too soon. Our heavy clay soil holds and absorbs a lot of water. Continuing to water when the soil profile is already full will only cause the water to run-off.

What time should I water?

Watering at 9:00 or 10:00 pm could keep your grass wet all night. Grass that stays wet for 10 hours could develop fungus. Water after midnight and before daylight, if possible, before the wind and sun come up.

Maintenance Tip: Trim plants or grass that has grown over sprinkler heads. Raise heads that do not come up over the grass or low shrubs.

Your sprinklers shouldn't mist.

If your automatic irrigation system sprays a fine mist into the air, you are wasting water. Irrigation systems should be operated at the proper pressure to prevent misting. You may need to have a pressure reduction valve installed on the system to reduce the pressure.

If you use a hose or manual system to water your lawn, don't turn the water on full-force to create a mist. Water droplets should be large enough that they fall on the grass where you want them.

Tips for using hose-end sprinklers:

- Set a timer for 15-20 minutes so you don't water too long or forget that you left the hose running.
- Never water more than 20 minutes in one spot or the water can start to run off.
- Avoid setting the sprinklers so any water hits the street or driveway.
- Water after 7 pm or before 10 am. As soon as the sun comes up, you lose more water to wind and solar radiation.
- Small hose-end sprinklers are more efficient than large oscillating sprinklers, which lose more water to evaporation.

If you are using over 20,000 gallons per summer month and you have an automatic irrigation system, you may call the Water Conservation office at 671-2872 to schedule a free irrigation evaluation. Our experienced irrigation auditor will assist you in developing an optimum irrigation schedule for your yard.

Water Waste Prohibitions:

The following waste of water provisions are prohibited for all customers all year around:

- failing to repair a controllable leak including, but not limited to a broken sprinkler head, a leaking valve, or a leaking faucet;
- operating a permanently installed irrigation system with broken head, with a head that is out of adjustment and spraying more than 10% of the spray on a street or parking lot, or that is misting; and
- allowing a substantial amount of irrigation water to run off a property or to pond in the street or parking lot to a depth greater than 1/4 of an inch.