



## Watering Basics

Over-watering can damage your lawn or garden.  
It also wastes water and money.

The amount of water and the timing of its application can prevent or contribute to disease development.

In semiarid regions where insufficient rain falls to maintain plant life, supplemental irrigation must be applied. When to irrigate is a common question in these drought-stressed areas.

The most efficient and ideal time to irrigate turfgrass is between midnight and 6 A.M. The next best time to water is early in the day so that the turf is dry before the night-time dew period begins. Irrigating at these times is difficult for most everyone except those with an automatic sprinkler system. A garden water timer is a simple way to solve this watering time dilemma.

Garden water timers help to regulate watering practices. They can range from a very simple manual timer, to battery operated, to higher tech electronic setups. Most can be set to water for a certain number of minutes while others limit the amount of applied water in gallons. The one thing they have in common is they automatically shut off the water supply at the end of the cycle – even if you forget. Garden timers are compatible with most existing hose fittings. In general, more expensive timers offer you more options including cycles and variations of cycles. Garden water times are available through most garden and hardware outlets.

The condition of the plant and soil, not the number of days since watering, is the best guide to irrigation. In Colorado, cool season turfgrass such as bluegrass, fescue, or perennial ryegrass, needs regular applications of water. And even though warm season grasses such as blue grama and buffalograss are known for their drought tolerance, they too thrive with occasional watering. Whenever possible, use daily evaporation (evapotranspiration [ET]) data and modify it to your own plant and soil needs. The ET number represents the deficiency (evaporation) in available moisture for the day. Seasonally, the reference ET rate can be found under Current Events & News (How Much Should I Water?) on the City's web site home page.

Loss due to evaporation is reduced by watering during the coolest parts of the day. Watering during the night and early morning reduces the opportunity for many plant diseases to develop. If plant leaves are wet for an extended period of time, many fungi and bacteria can grow and cause plant infections.

Be sure to water only those areas that need to be irrigated. Watering the complete lawn when only a small area requires water, or watering too frequently results in shallow roots, increased susceptibility to drought, and increased vulnerability to diseases. When irrigating turfgrass, enough water should be applied to adequately moisten the entire depth of the root system. Watering deep and infrequently is best for all plants, including the root system of trees and shrubs.

If you've ever had a problem with lawn or garden diseases, avoid irrigating in the evening. Dew begins to form on turfgrass late in the evening in Western Colorado. Dew is a fluid rich in nutrients which is exuded from the tip of the grass blade. This nutrient rich solution serves as a food source for fungus and bacteria to develop and infect the plant.

Leaves should not be wet for more than twelve (12) hours. The longer the leaf surface is wet, the greater the risk of infection. Watering in the early morning hours dilutes the dew,

thus restricting the growth of fungal pathogens. Watering in the evening extends the normal leaf wetness period. Therefore, diseases can be controlled by reducing the time of leaf wetness by irrigating grass early in the morning hours when dew is already present and avoiding frequent short irrigations, especially in the evening. Some diseases are more serious in lawns with low areas or on the north side of a building where the turf remains moist for extended periods of time.

Before you set up an irrigation plan, know and think about the following:

- For established lawns or other plants, consider the species, soil type, cutting height of turf; potential disease and pest problems, local weather patterns, and microclimates (i.e., shade vs. full sun exposure; low vs. high areas of the yard).
- Irrigate according to the requirements of the plants, not on a fixed schedule. Look for signs of wilt, which often show up in the same location time after time. Footprints that remain on the lawn for a length of time indicates irrigation is needed. Turf will also turn a shade of blue-gray when it is water stressed and in need of irrigation.
- Don't worry about the dryness of the top inch of soil. Instead check the moisture content of the soil 6 to 8 inches below the surface. If the soil is too dry to form a ball when squeezed in the hand, it needs water.
- Water all plants deeply but infrequently to encourage deeper, healthier rooting. Deep and infrequent irrigation stimulates root growth, results in healthy, drought-tolerant, and pest-resistant plants.
- A deep, healthy root system produces vigorous plants. Proper irrigation, fertilization, and regular core aeration maximizes rooting depth and overall turf vigor.
- Match irrigation to soil type. Avoid applying more water than can be contained in the root zone. Most Durango soils contain a lot of clay, which has a much lower penetration rate than sandy soils. Clay needs to be watered at a slower rate in order to avoid runoff and puddles. On slopes, more water should be applied at the top of the slope and less at the base to prevent excess runoff. To avoid runoff from clay soil, compacted soil and/or a sloped lawn, you can water for a short time, then stop and start back up again until the appropriate amount of water has been applied. Lawns grown on sandy soil require more frequent irrigation with less water per application than lawns grown on clay soil.
- Never water if the soil is still wet. Over-watering is a waste of water and may promote some diseases in the landscape. It's important that the soil dries somewhat between irrigation applications. Continually water-logged soils are deprived of oxygen, which is required for proper root growth and may cause plants to die. Plants will develop deeper roots and ultimately require less watering, when not over-watered.

Only you can determine the water needs of your grass and how long you must irrigate each of the different areas of turf.

Follow a regular maintenance schedule to prevent stress, disease and turf injury.

Sources: Colorado State University Cooperative Extension and Green Industries of Colorado's Best Management Practices for the Conservation and Protection of Water Resources in Colorado, Colorado State University Cooperative Extension Fact Sheet 7.199, Watering Established Lawns and Green Industries of Colorado's Best Management Practices for the Conservation and Protection of Water Resources in Colorado, General Principles of Irrigation Efficiency