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Watering lawns

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Quick Facts

- Condition of grass and soil, not the number of days between waterings, should be used as a guide for irrigation.
- A hardened lawn can be quite tolerant of extended dry periods.
- By improving soil conditions, drought tolerance of lawns can be increased.
- Proper mowing, fertilization and pest control can improve drought tolerance of lawns.
- A person should determine and use only the amount of high quality turfgrass needed in the establishment of the landscape.

In Colorado, lawns receive about 40 percent of the water used by a homeowner. During the summer months when water use is especially critical, it is not unusual for 65 to 70 percent of the water delivered to a home to be used for lawn irrigation.

Let the condition of the grass and soil, not the number of days since watering, be the guide to irrigation. Watering daily or every other day, just because water is available, can be detrimental to the lawn and a waste of water. To determine when to water, it is helpful to probe the soil to check for moisture. If a core of soil taken 6 to 8 inches (15 to 20 centimeters) deep contains noticeable moisture, then the lawn is not likely to be suffering from drought. A screwdriver or heavy wire may be used to probe the soil. If the probe goes into the soil fairly easily and to a depth of 3 to 4 inches (7.6 to 10 cm) or is moist when pulled from the soil, the lawn probably does not need watering.

The appearance of the grass can be used as an indicator of when water is needed. Evidence of

footprints that remain a few minutes after walking over the lawn and a blue-gray appearance of wilted turf indicate that irrigation is needed. To conserve water, irrigation should be done during the night or early morning, if city ordinances permit. Normally there is little if any wind at this time, water pressure is higher and evaporation losses are less. When irrigation is to be done during the day, it should be done when there is little or no wind.

Condition Turf for Drought

Lawns should be hardened or toughened (with less but deeper watering) especially in the spring and fall. Grass that is not over-watered will tend to have a deep root system, which will be efficient in recovering soil moisture. Also, toughened grass will have smaller cells that are drought resistant. Frequent watering can produce a lush grass with a shallow root system. Such grass may be especially vulnerable to drought damage and certain diseases. To harden a lawn to better stand an extended drought period, water judiciously. Deep watering will help to get a deeper root system and will store water in the soil for future plant use. To determine how deep the soil has been wet, examine the soil the day after watering. This may be done with a shovel, garden trowel or coring probe. Water penetration from 6 to 8 inches (15 to 20 cm) into the soil would indicate that sufficient water was applied.

Water Uniformly

Because water easily can be wasted by improperly placed sprinklers or a poorly operating underground system, water distribution should be checked. Uniformity of sprinkler cover may be influenced by low or fluctuating water pressure, location of the sprinkler, wind direction and slope. Sometimes uniformity of coverage can be improved

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by changing the nozzle in the head, using larger hoses, or running fewer heads at one time. Also, by checking water distribution of a movable sprinkler, it will be possible to work out the best places to set the sprinkler around the lawn.

Sprinklers that throw water high into the air cause poor distribution and excessive evaporation of the water. Use sprinklers that deliver large droplets of water for efficient watering. The spray-type irrigation heads often give poor distribution and increased evaporation loss.

Problem Areas

Hand watering dry spots often can allow general watering of the lawn to be delayed by two or three days. Watering the entire lawn because of a few dry spots is wasteful and can be detrimental to the lawn, especially in areas that tend to stay wet. Dry spots in the lawn may be caused by sandy areas, where rock is near the soil surface or from reflected heat from buildings. The cause of dry areas should be determined and when feasible the problem should be corrected.

Runoff from slopes and compacted or heavy soils can be greatly reduced by cyclic watering. Cycling can be accomplished by allowing a sprinkler to run on an area for 20 to 30 minutes or so. Then it is moved to another location while the water on the previously irrigated site has a chance to soak into the soil. After the water has soaked in, the sprinkler can be returned to water the area again. Two, three or even more waterings of an area may be necessary to wet the soil to the desired depth.

Aerification of compacted lawns or those on heavy clay can help prevent runoff and improve penetration. Compacted areas and heavy soils have slow water infiltration rates.

A common runoff problem often exists along sidewalks and driveways. The compacted soils along these traffic ways are slow to absorb water. In addition, it is difficult to get sprinklers to water in straight lines to prevent water from running off the drive or walkway. Watering these compacted areas with a water aerator or root feeder may help to correct compaction problems.

Lawns in shady areas and areas protected from the wind normally need less water than those that are exposed to the sun and wind. Too much water in shady areas can cause disease and moss problems.

Lawn Care

A lawn should not be over-fertilized, but it should be fertilized two or three times per year (Service in Action sheet, 7.202 *Lawn care*) to maintain satisfactory growth and development of the turf. A commercial lawn fertilizer applied according to label directions should prove satisfactory. To increase the ability of the turfgrass to survive drought stress, a lawn fertilizer that contains phosphorus and potassium is recommended.

Phosphorus is beneficial for the development of roots and inadequate potassium can reduce drought hardiness.

Lawns that are heavily thatched (a layer of accumulated organic debris above the soil) are difficult to water since the thatch can be hard to wet and the water will tend to run off. In heavily thatched lawns, roots and rhizomes of the bluegrass develop in the thatch layer. When more than one-half inch (1.3 cm) of thatch is present in the lawn, thatch removal and especially aerification can help to improve rooting depth and water penetration.

Grass that is cut high will tend to resist drought better. Also, higher cut grass will develop a deeper root system. An increase in the height of the cut from one-fourth to one-half inch (.6 to 1.3 cm) above normal mowing height will help to conserve water without detracting noticeably from the lawn's appearance.

Disease and insect problems can increase the need for lawn watering. If a lawn is infected with smut or sod webworms, drought stress can cause more serious damage than when more frequent irrigation is practiced.

New Lawns

Many of the low-water-requiring grasses are of low quality—brown for long periods, produce sparse cover and coarse-textured turf—and do not satisfy the needs of those who desire a quality lawn.

Low-water-requiring grasses may have a place in the landscape, but their weaknesses should be understood and their place well defined before they are used. Drought tolerant grasses, such as buffalograss and bluegrama, are warm season grasses—green only during warmer months of summer. During colder months, these grasses are dormant and brown. In periods of extended drought, Kentucky bluegrass may become dormant and brown; but if a bluegrass lawn has been properly cared for, it normally will recover in a couple of weeks even after an extended dormancy with irrigation or natural rainfall.

To develop a deep root system, most soils that are used for lawn should be improved before establishing the lawn. Soil for a lawn can be improved by using a good quality organic matter or by stockpiling the topsoil—if it is suitable—from a building site or other area. A good loamy soil is able to store and supply water to the grass better than a heavy clay or sandy soil.

A new lawn from sod, if it is well watered in the beginning, can be established with limited use of domestic water. New seedlings are most successful if the surface of the soil is kept moist until the new seedlings have developed a good root system. Seedlings may require several weeks of rather constant waterings. For new seedlings or new sods, water savings can be made if establishment is in the fall or spring when weather conditions usually do not require such frequent watering.