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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.

Introduction

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 percent 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 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 or is moist when pulled from the soil, the lawn probably does not need watering.

Use grass appearance 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, irrigate during the night or early morning, if city ordinance

es permit. Normally there is little if any wind at this time, water pressure is higher and evaporation losses are less. When irrigating during the day, choose a time 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 into the soil would indicate that sufficient water was applied.

This information provided by:

¹James R. Feucht, Colorado State University Cooperative Extension landscape plants specialist and professor, horticulture. Recognition is given to original authors, J. Butler, H. Gundell (deceased) and E. Hogan, retired Cooperative Extension faculty (revised 9/92). Some recommendations change regularly, please contact your Colorado State University Cooperative Extension county office for current recommendations.
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Water Uniformly

Because water easily can be wasted by improperly placed sprinklers or a poorly operating underground system, check water distribution. 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 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. Determine the cause of dry areas and when feasible correct the problem.

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, return the sprinkler 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.

Aeration 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

Do not overfertilize a lawn, fertilize two or three times per year (Service in Action 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.

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 of thatch is present in the lawn, thatch removal and especially aeration can help to improve rooting depth and water penetration.

Grass that is cut high tends to resist drought better. Also, higher cut grass develops a deeper root system. An increase in the height of the cut from one-fourth to one-half inch above normal mowing height helps 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 blue grama, 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 recovers 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 soddings, water savings can be made if establishment is in the fall or spring when weather conditions usually do not require such frequent watering. (See 7.203, *Seeding a bluegrass lawn*, and 7.204, *Sodding a bluegrass lawn*.)