



MANAGING TURFGRASS DURING A DROUGHT

Turfgrasses, like all green plants, require water for survival. Many California turfgrass and landscape facilities are facing or will face, a serious water deficit this summer. Several California water districts have already enacted mandatory water rationing and many others are strongly encouraging water conservation. It is therefore essential for turfgrass managers to take preventive drought measures, especially in areas where turfgrass irrigation has been severely reduced or entirely eliminated.

It is important to remember that a brown-dormant turf possessing a healthy lateral system is not dead; such a turf often has the recuperative potential to initiate new growth within a few days after the first significant fall rain. This said, several cultural practices help turf plants survive drought.

IRRIGATION

Irrigate when first signs of wilt occur. Spots in the lawn that

turn bluish gray color, footprints that remain in the grass long after being made, and many leaf blades folded in half lengthwise; are all signs of wilt.

Irrigate infrequently and deeply.

Avoid runoff by matching water application rates to soil infiltration rates.

Apply water in several short repeat cycles, instead of one single long irrigation, to prevent runoff.

Stretch the time interval between irrigations.

Irrigate late at night or in early morning when wind and evaporation losses are lowest.

Reduce irrigation of shaded relative to unshaded areas.

Repair leaky pipes, heads, valves, etc. immediately.

Investigate the possible availability of effluent water, if state and local regulations permit its use.

FERTILIZATION

Do not apply nitrogen during late spring, summer and early fall. If nitrogen must be applied because of play or other special use, then very light infrequent applications should be considered. Moderate or heavy spring and summer nitrogen applications lead to higher

water use due to stimulated top growth. Certainly, lush growth is to be avoided where drought tolerance is desired.

Apply potassium if deficiencies are suspected. Potassium promotes increased root growth and thicker cell walls, thus enhancing drought tolerance.

MOWING

Increase mowing height to the highest allowable height for the turfgrass species grown.

Following are the recommended mowing height range:

Creeping bentgrass (0.2-0.5)

Colonial bentgrass (0.5-1.0)

Bermudagrass (0.5-1.0)

Red fescue (1.0-2.0)

Kentucky blue (1.5-2.5)

Perennial rye (1.5-2.5)

Tall fescue (1.5-3.0)

By increasing the height of cut, turfgrass leaf area and thus photosynthesis are increased.

This results in more carbohydrates for plant growth, especially root growth; in general, the higher the height of cut on turf, the deeper and more extensive will be the root system. Although transpiration (and therefore water loss through the plant) (Con't next page)



will also be slightly greater with higher mown turf, the advantages of a more expansive root system though outweighs this drawback.

Do not allow grass to grow more than 1 1/2 of its ideal mowing height. (e.g., if the mower is set for a 2-inch cut, mow before the turfgrass reaches an overall height of 3-inches.)

Keep mower blades sharp and properly balanced. A leaf blade cut by a sharp blade will heal more quickly, losing less water than a leaf shredded by a dull mower.

AERIFICATION

Aerify (by coring or slicing) slopes and compacted gavy clay soils to permit efficient water penetration into the soil.

Compaction can reduce water entry into the soil, resulting in wasted water from runoff or evaporation.

WATER USE PRIORITIES

Make a list of priorities for water use. For example, on a golf course greens are usually at the top and rough areas at the bottom of such a list. Under 30-40% water restrictions it may be possible to shut off irrigation on rough areas and fairway approaches and still provide normal amounts of

water to the rest of the course. A similar approach may be employed in many other turf areas. Allowing the lawn in front of a home to turn brown from no irrigation may not be a bad trade off for a green backyard!

If several turfgrasses are separately insorporated in a turf and landscape scheme, shut off water to a specific species according to the following ranking: kikuyugrass, bermudagrass, zoysiagrass, tall fescue, red fescue, kentucky bluegrass, perennial ryegrass, high land bentgrass, creeping bentgrass, dichondra.

This ranking is based on drought tolerance, root depth, and recuperative potential. More drought rolerant and deeper rooted turfgrasses can withstand a longer drought period by going dormant and resuming growth once water is available. Less drought tolerant species may actually die in a prolonged drought period.

DORMANT TURF

In some cases, a brown, dormant turf resulting from lack of irrigation may not be objectionable. There is always, however, the option of turning a brown lawn "green" by applying turf colorant

(synthetic turf dyes) to dead or dormant grass. Some colorants may provide acceptable appearance for up th 10 weeks. Turf colorants are available from turfgrass suppliers or garden centers. If using colorants, be sure to follow the manufacturer's label instructions for rates and volume.

In summary, each turfgrass manager or lawn owner has special, specific problems and opportunities on his/her facility. To deal with a drought condition effetively, the user must know local water availability, be aware of turfgrass management practices that lead to water conmservation, and be willing to implement the latter.....

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DATE TO REMEMBER!

OCTOBER 19-20-GCSAA

Seminar, Pleasanton, Golf
Course Construction Techniques
& Management Registration
forms will be mailed out next
month. We urge everyone to
sign up imediately, Since this is
the most popular seminar given