# Stop #8b: How Often Should You Water Your Lawn?

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## Objectives:

Warm-season turfgrasses species are more water use efficient and drought tolerant than cool-season turfgrasses; nevertheless, tall fescue remains the predominant species used on California lawns. Often, restrictions on lawn irrigation are based on number of days to irrigate with little or no regard to irrigation amount. This study investigated the optimal ET replacement requirements for two warm-season (bermudagrass and seashore paspalum) and one cool-season (tall fescue) turfgrasses, and if limitation on days for irrigation could have negative consequences on turf quality.

## Materials and Methods:

Three species were sodded at UCR on 24 August 2015: 'Tifway II' bermudagrass, 'West Coaster' tall fescue, and 'Platinum' seashore paspalum. Plots were mowed weekly or biweekly at 2 (warm-season species) or 3 (tall fescue) inches using a rotary mower and receive 2 lb N/M/yr. Clippings are collected. Three irrigation regimes were identified per each species: 1) Extension recommendation different for each species (70%, 85% and 100% ET replacements for bermudagrass, paspalum and tall fescue, respectively) applied 3 times/week; 2) 80% ET replacement 3 times/week across all species; 3) full ET replacement applied only once a week. Irrigation is based on previous week $ET_0$ as determined by an on-site CIMIS station. Starting on 12 June 2017, plots were evaluated weekly for turf quality, NDVI and digital image analysis.

## Results:

Bermudagrass did not show significant differences regardless of the irrigation regime with all the plots showing sufficient quality. Seashore paspalum lost quality when full ET was replaced once a week in comparison to 80% ET replaced 3 times per week (Fig. 1). The only irrigation suitable to achieve sufficient quality for tall fescue was full ET replacement 3 times per week. However, full ET replacement is preferable in tall fescue even when applied once a week in comparison to deficit irrigation applied 3 times per week (Fig. 2). These data suggest that limiting lawn irrigation to as little as once a week neither saves water (often amount of time to irrigate in one day is not provided by the regulator) nor is it optimal for lawn aesthetics.

## Acknowledgments:

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**12 E 7 N** Irrigation Plan

↑ **N**

| Seashore paspalum | | Tall Fescue | | Bermudagrass | |
|---|---|---|---|---|---|
| 80% $ET_0$ replacement; HW 3 d/wk | 85% $ET_0$ replacement; HW 3 d/wk | 80% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW 3 d/wk | 80% $ET_0$ replacement; HW 3 d/wk | 70% $ET_0$ replacement; HW 3 d/wk |
| | | | | | |
| 100% $ET_0$ replacement; HW only on Mondays | 85% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW only on Mondays | 100% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW only on Mondays | 70% $ET_0$ replacement; HW 3 d/wk |
| | | | | | |
| 80% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW only on Mondays | 80% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW only on Mondays | 80% $ET_0$ replacement; HW 3 d/wk | 100% $ET_0$ replacement; HW only on Mondays |

Figure 1. Quality of seashore paspalum irrigated at either 80% or 85% ET replacements 3 days/week, or 100% ET replacement 1 day/week


Figure 2. Quality of tall fescue irrigated at either 100% or 80% ET replacements 3 days/week, or 100% ET replacement 1 day/week