

Stop #3: Bermudagrass and Seashore Paspalum Establishment and Management Using Subsurface Drip Irrigation vs. Overhead Sprinkler Irrigation

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Objectives:

The objectives of this research are to determine how: 1) turfgrass species (tall fescue, bermudagrass and seashore paspalum); and 2) establishment date (multiple dates in spring and fall) are affected by subsurface drip irrigation (SDI) compared to overhead sprinkler irrigation (OSI) in Riverside, CA.

Methods:

A 5,400-ft² research area was constructed in July 2012 at the UCR Turfgrass Research Facility in Riverside. Soil is a Hanford fine sandy loam. The experimental design is a randomized split plot with 3 replications of each species and planting date. Main plots (20 ft by 20 ft) are irrigation type and species. Bermudagrass 'Princess 77' and seashore paspalum 'Sea Spray' were seeded at 1 lb PLS/M in August 2012 and again on 15 April and 15 May 2013. Both types of irrigation systems were set to 100% Eto. SDI consists of Toro DL2000; emitter flow rate (0.5 gal/h); 30 psi lines placed 3-4 inches deep; 1 ft by 1 ft grid between emitters and lines; Badger Series FM-1B Flow Sensors (2-50 gpm). OSI consists of Toro Precision Spray sprinklers; 30 psi; 20 ft spacing. Seedling counts and stand density are taken periodically throughout the experiment using Digital Image Analysis.

Results:

Preliminary results up until June 2013 revealed that there is no difference in establishment speed between bermudagrass and seashore paspalum. Moreover, no statistical difference in turf cover was detected in plots irrigated either with SDI or sprinkler system. Until this date, plots seeded on April 15th reached higher percent ground cover in comparison to plots seeded on May 15th; our preliminary results indicate that anticipating the earliest recommended date of seeding for both bermudagrass and seashore paspalum would be preferable in order to provide the grass with enough time to establish before the winter season.

Subsurface Drip Irrigation Study Plot Plan

BR	BR	BR	BR	BR	PA
PA	PA	BR	PA	PA	BR
BR	BR	BR	PA	BR	BR
BR	BR	BR	BR	PA	BR
PA	BR	PA	PA	BR	BR
BR	PA	BR	BR	BR	PA
TF	TF	TF	TF	TF	TF
TF	TF	TF	TF	TF	TF
TF	TF	TF	TF	TF	TF
TF	TF	TF	TF	TF	TF
TF	TF	TF	TF	TF	TF
TF	TF	TF	TF	TF	TF

Aug-12



Apr-13

May-13

BR Bermudagrass

PA Seashore
paspalum

TF Tall fescue



Subsurface drip