

UCRTRAC Accumulative Research Summary
Section E: Production of Quality Putting Greens
Project 5

Title: The Effect of endoROOTS on Creeping Bentgrass Establishment on a Newly Constructed Sand Rootzone.

Objective: Test the effects of inoculation with endomycorrhiza (endoROOTS) during the establishment of seeded creeping bentgrass on a newly constructed sand rootzone.

- Inoculation treatment (10 lb endoROOTS/1000 ft²) was applied at seeding, 28 Sept. 2000, in 5.0- x 19.0-ft plots. Control plots received no inoculation. Plots seeded at 1.5 lb/1000 ft² Dominant creeping bentgrass.
- Measurements included percent coverage during establishment (14 Oct. to 8 Dec. 2000); root mass density (0- to 3.0-inch, 3.0- to 6.0-inch, and 6.0- to 9.0-inch depths) taken once every 2 months from 27 Nov. 2000 to 27 March 2002, percent mycorrhizae colonization from the same root-zone depths on 31 Jan. and 25 July 2001, and 27 March 2002; and clipping yield on 6 dates from 9 May 2001 to 28 Feb. 2002 (also initial mowing yield on 31 Oct. 2002).
- Research plots managed in the same way as putting greens on the golf course.

Location: Putting green nursery located at the PGA of Southern California Golf Club at Oak Valley, Calimesa, Calif.

Duration: 1.5 years

Funding Source: (Note: Considerable assistance from Paul Mayes, Doug Westbrook, Thad Kintigh, and their staff.)

Findings:

- EndoRoots significantly increased percent coverage. Measurement dates when percent coverage was first > 85% was 27 Oct. 2000 and 2 Dec. 2002, inoculation and no inoculation, respectively.
- EndoRoots significantly increased root mass density in the 0- to 3-inch root zone on 27 Nov. 2000, and 31 Jan. and 25 July 2001.
- EndoRoots significantly increased percent mycorrhizae colonization on all measurement dates at the 0- to 3-inch and 3- to 6-inch root zone depths.
- EndoRoots significantly increased initial clipping yield, but did not affect clipping yield on all other yield measurement dates.

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Status: A 1.5-year study was completed. We plan to prepare a popular paper and a technical article for a scientific journal.
