

UCRTRAC Accumulative Research Summary
Section E: Production of Quality Putting Greens
Project 3

Title: Improvement of Spring Transition of Overseeded Bermudagrass Putting Greens in the Coachella Valley.

Objective: To test factors related to fall seedbed preparation and overseeding (chemical treatments, scalping level treatments, and seed rate treatments) that may hasten bermudagrass spring transition.

- Chemical treatments were 1) check, 2) Reward (1.0 qt/acre), 3) Primo Liquid (0.75 oz/1000 ft²), and 4) Primo Liquid (0.25 oz/1000 ft²). Chemical treatments were applied to 6.0- x 10.0-ft subplots.
- Scalping level treatments were moderate “stubble” and severe “dirt”. The average percent green bermudagrass coverage on the day of scalping in 1997 was 41% for the stubble treatment and 2% for the dirt treatment. Scalping level treatments were applied to 10.0- x 24.0-ft main plots.
- Seed rate treatments were “high” and “low” and are reported on a pure live seed (PLS) basis. The high rate was 35.8 lb seed/1000 ft² perennial ryegrass plus 9.4 lb seed/1000 ft² *Poa trivialis*. The low rate was 22.3 lb seed/1000 ft² perennial ryegrass plus 9.4 lb seed/1000 ft² *Poa trivialis*.

Location: Tifgreen bermudagrass nursery located at Desert Horizons Country Club, Indian Wells, Calif. The plot was managed as a representative putting green, including the application of traffic with a specially constructed traffic simulator.

Duration: Two seasons

Funding Source: Hi-Lo Desert GCSA

(Note: Considerable assistance from Lane Stave, Will Friedner, and their staff.)

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Findings:

Fall Applied Treatment Effects on the Spring Transition of Bermudagrass Putting Greens

- During two consecutive seasons, fall-applied treatments associated with seeded preparation and overseeding of a Tifgreen putting green nursery did not affect bermudagrass spring transition.
- During the second season, these treatments also did not affect visual turfgrass quality for an overseeded bermudagrass putting green (these measurements were not taken during the first season).
- Under the conditions of this study, *Poa trivialis* was the dominant component of the mature overseeding and it persisted for a longer time during the summer than perennial ryegrass.
- Possible explanations why the treatments were not significant include 1) a no scalping treatment was not included in the study and 2) *Poa trivialis* may have dominated any effect due to the difference between high and low seed rate treatments. The difference between seed rate treatments was the amount of perennial ryegrass.

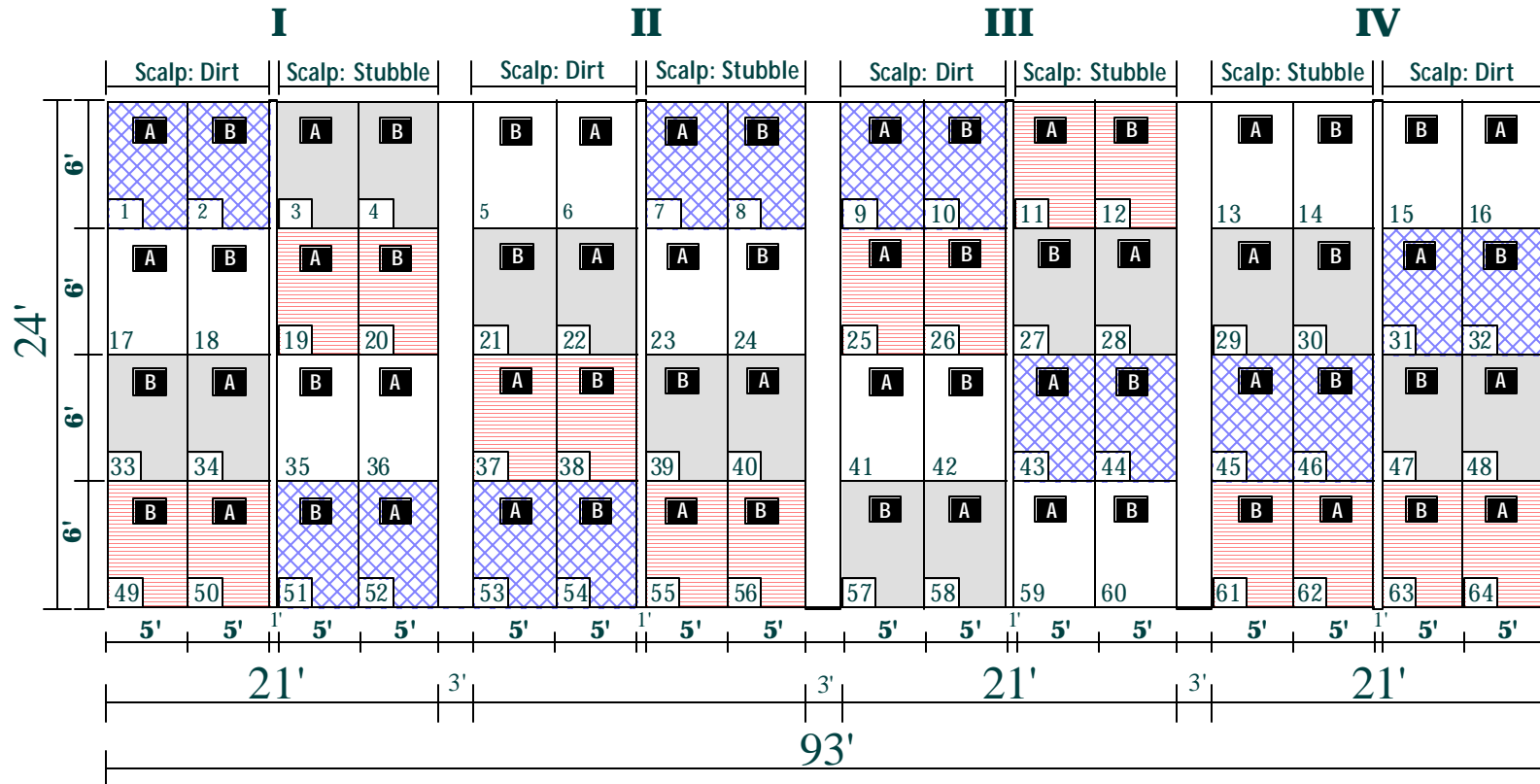
The Influence of Air and Soil Temperatures on the Spring Transition of a Bermudagrass Putting Green

Based on the two seasons of data from this study, the following observations can be made:

- Initial bermudagrass greenup occurred in mid- to late February when warm (12 noon to 4 PM) air temperatures were in the 80's °F.
- Bermudagrass spring transition (the *rapid* increase of percent green bermudagrass coverage) initiated during mid- to late May and completed mid- to late July. During this period, average cool (2 AM to 6 AM) air and soil temperatures (2.0-inch depth) were in the 70 °F range and the average warm (12:00 noon to 4:00 PM) air and soil temperatures were in the 96° and 94 °F range, respectively.

Status: A two-season study was completed and Progress and Final Reports were prepared. Information associated with this study was presented at a Hi-Lo Desert GCSA annual meeting. Information associated with this study was published in *Southwest Trees and Turf*, *Rub of the Green*, *California Fairways*, *Better Turf Thru Agronomics*, *Turf Tales Magazine*, and *Turfgrass Trends*. A technical article was submitted to a scientific journal.





Research plot plan for the improvement of the spring transition of overseeded bermudagrass putting greens in the Coachella Valley at Desert Horizons Country Club, Indian Wells, CA.



Scalping level treatments
(24 ft x 10 ft main plots)

- Dirt
- Stubble

Chemical treatments
(6 ft x 10 ft subplots)

 Reward	 Primo 0.75
 Primo 0.25	 Check

Seed rate treatments
(6 ft x 5 ft sub-subplots)

A: (35.8 lb PLS perennial ryegrass + 9.4 lb PLS *Poa trivialis*)/1000 ft²

B: (22.3 lb PLS perennial ryegrass + 9.4 PLS lb *Poa trivialis*)/1000 ft²