

**UCRTRAC Accumulative Research Summary**  
**Section A: Irrigation Water Use Efficiency Including Utilization of Effluent Water**  
**Project 5**

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**Title:** Influence of Primo on the Water Stress Relations of Tall Fescue During the Warm Season.

**Objective:** To determine the potential positive impact of Primo on tall fescue irrigation water requirements, clipping yields, and plant water status.

- Irrigation treatments were 100%, 90%, and 80% ET<sub>crop</sub>/distribution uniformity. During 1996, the irrigation treatments were applied from 31 Aug. to 23 Nov. and were  $\approx$  87%, 78%, and 70% ET<sub>o</sub>, respectively. During 1997, the irrigation treatments were applied from 16 June to 3 Oct. and were  $\approx$  98%, 88%, and 78% ET<sub>o</sub>, respectively. Irrigation treatments were applied to 20.0- x 20.0-ft irrigation cells (main plots).
- Primo treatments were Primo Liquid applied at 0.75 oz/1000 ft<sup>2</sup> and a check. Primo was applied on 16 Aug. and 7 Oct. in 1996 and 18 June and 11 Aug. in 1997. Primo treatments were applied on 5.0- x 10.0-ft subplots of Jaguar III tall fescue.

**Location:** A specially constructed irrigation plot located at the UCR Turfgrass Field Research Facility.

**Duration:** Two seasons

**Funding Source:** Novartis

**Findings:**

- Primo applications at label rates did not affect the 1996 nor 1997 overall visual turfgrass quality when irrigated at three irrigation regimes (100%, 90%, and 80% ET<sub>crop</sub>/distribution uniformity). Unexpectedly, irrigation treatments also did not affect overall visual turfgrass quality in 1996 and 1997. Primo did increase visual color of the tall fescue in 1996, and also caused an increase in the percent brown color within the canopy in 1996 and 1997.
- Based on the amount of clipping yield reductions, Primo treatments were representative. Unexpectedly, irrigation treatments did not affect clipping yields. This suggests that shoot growth was not limited by soil-water content.
- Primo applications had no effect on relative leaf water content during the duration of the study.

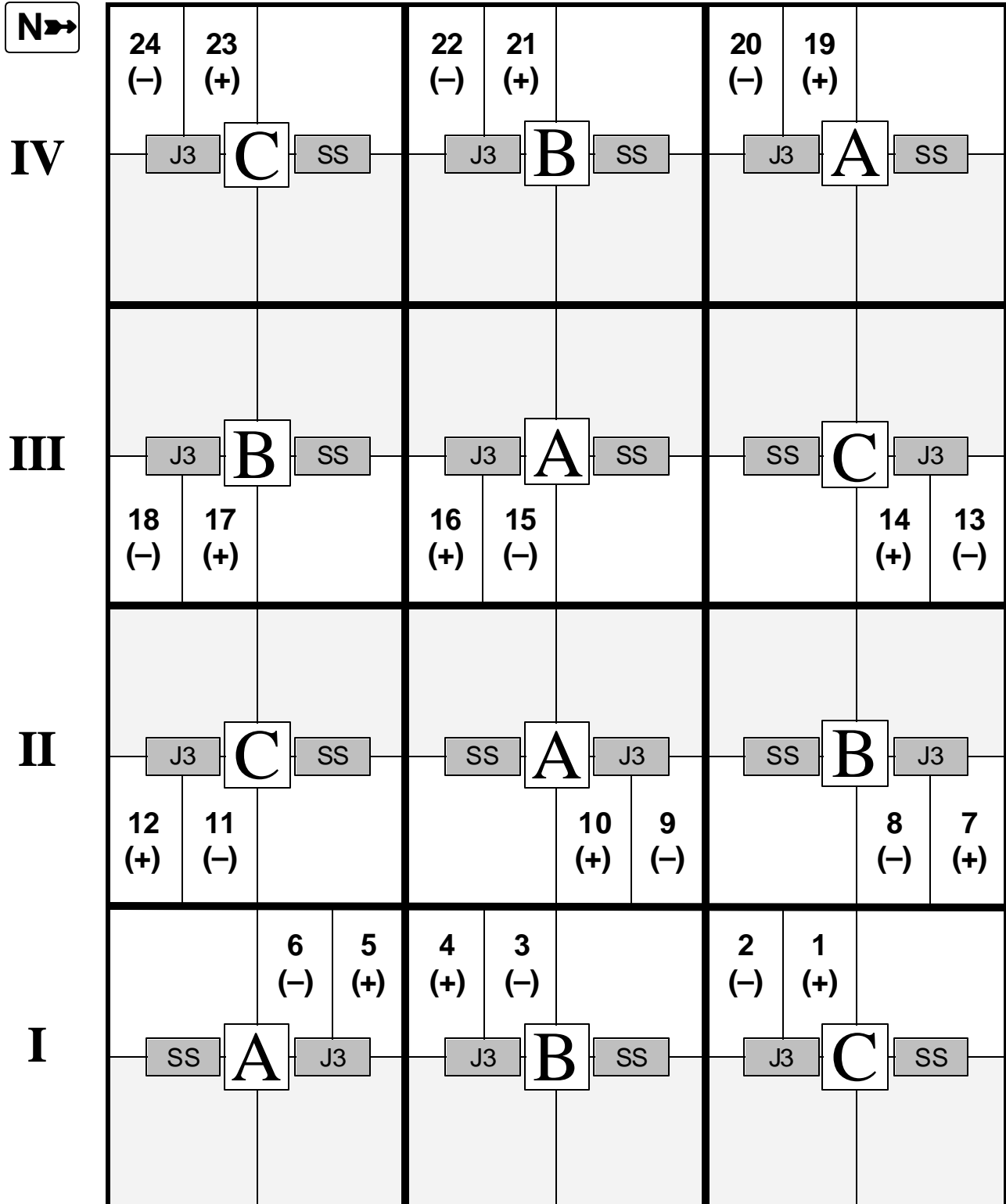
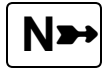
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- Irrigation treatments affected volumetric soil water content from the 9- to 36-inch depths. Plots irrigated at 80% ETcrop/ distribution uniformity were drier than plots irrigated at 100% ETcrop/distribution uniformity.

**Status:** A two-season study was completed. Information associated with this study was reported at a UCR Turfgrass Research Conference and Field Day. Information associated with this study was published in an abstract from the presentation and in a Final Report. We plan to prepare a technical article for a scientific journal.

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# 1997 Primo ET Field Study Plot Map



**Irrigation treatments:**

A=100% ET<sub>c</sub>/DU  
 B=90% ET<sub>c</sub>/DU  
 C=80% ET<sub>c</sub>/DU

**Primo treatments:**

Primo (+)  
 No Primo (-)