



# Super Science

## // TRAFFIC TRAUMA

# DEFICIT IRRIGATION AND TRAFFIC IMPACTS BERMUDAGRASS FAIRWAY PERFORMANCE

Reagan Hejl and Ben Wherley, Ph.D.

**G**olf course water use in Texas has become increasingly regulated in the past decade due to persistent drought conditions, diminishing water supplies and rapidly growing population. Many golf courses have been faced with considerable cutbacks to irrigation allocations, but information is limited regarding critical levels needed for maintaining adequate turf quality, persistence and recovery from divots and traffic.

A field study was conducted over two years in College Station, Texas, to determine the effects of continuous reference evapotranspiration (ET<sup>o</sup>)-based deficit irrigation levels on quality of Tifway bermudagrass (*Cynodon dactylon* x *C. traansvalensis* Burt. Davy) fairway plots. Turf quality evaluations from both seasons demonstrated that in the absence of traffic, irrigation levels of 30% x ET<sup>o</sup> (supplied 3x/week on a fine sandy loam soil) were sufficient to maintain acceptable turfgrass quality during summer months. Canopy temperatures noticeably increased with deficit irrigation practices, with up to a 30°F temperature increase observed between irrigated and unirrigated plots.



Simulated traffic being applied to deficit irrigation research plots at the Texas A&M Turfgrass Field Laboratory.

Upon resumption of full irrigation levels in October of both years, deficit and unirrigated plots quickly recovered to ~90 percent green cover by late November 2012, but these same plots were much slower to recover after the 2013 season, indicating cumulative drought stress effects, especially in unirrigated plots. In both years, traffic delayed fall recovery of turf at all irrigation levels. This research was supported by the GCSAA's Environmental Institute for Golf and the Lone Star Chapter of Golf Course Superintendents.

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## NEWS UPDATES

### BAYER CROPSOURCE RECEIVES AGROW AWARD FOR INDAZIFLAM

Environmental Science, a division of Bayer CropScience LP announced indaziflam, the herbicidal active ingredient in Specticle, received an Agrow Award in the category "Best New Crop Protection Product."

Specticle is a pre-emergent herbicide that provides turfgrass professionals superior control of more than 90 grasses, broadleaf weeds and annual sedges at up to 40 times



lower use rates than current standards. "The need for new herbicides with alternative modes of action and resistance-breaking capabilities is more urgent than ever," said Dr. Hermann Stübler, Head of Weed Control Research

at Bayer CropScience. "In a team effort we created and developed indaziflam, employing our leading expertise in herbicide research and our deep knowledge of weed control."

“WITH INTRINSIC FUNGICIDES, THE TURF IS ABLE TO RECOVER FROM STRESSES MORE QUICKLY DUE TO INTERNAL PHYSIOLOGICAL CHANGES AND A STRONGER ROOT SYSTEM.”

Renee Keese, Ph.D.  
(see full story on page 42)