



Super Science

// POA AND PUTTING GREENS

AN INTEGRATED NUTRITIONAL AND CHEMICAL APPROACH TO *POA ANNUA* CONTROL IN CREEPING BENTGRASS PUTTING GREENS

By Nathaniel F. Reams, Xunzhong Zhang, Ph.D. and Erik Ervin Ph.D.

P*oa annua* suppression and control in creeping bentgrass putting greens is a perennial challenge in many temperate climates. A nutritional approach to *Poa annua* control is frequent use of sulfates of iron and ammonium to provide plant nutrition plus gradual rootzone acidification. Also common is the repeated application of paclobutrazol to selectively injure *Poa annua* throughout the growing season.

The ultimate goal is a smooth transition to mostly creeping bentgrass, without sudden stand collapse. Our objective was to apply very high foliar rates of FeSO_4 , in combination or not with paclobutrazol or seaweed extract, and determine effects on *Poa annua* populations in a creeping bentgrass putting green over time.



Image of the 2.0x rate FeSO_4 plots in early May 2013, at the beginning of Year 3 of the trial. The darkest and most *Poa*-free plot (foreground) was also treated with paclobutrazol. The middle plot also received seaweed extract, while the background plot is FeSO_4 alone.

The trial is on a mature sand-based putting green, originally seeded with Penneagle creeping bentgrass but now consists of 50 to 65 percent *Poa annua*. Main plots were foliar FeSO_4 rates of 0, 0.25, 0.50, and 1.0 lbs. per 1,000 sq. ft. (0, 0.5x, 1.0x and 2.0x rates, respectively) applied every two weeks from March through October. Main plots are split by seaweed extract (4.0 oz. per 1,000 sq. ft.) or paclobutrazol (22.3 percent a.i. at 0.50 oz.) (spring and fall) and 0.25 oz. (summer) per 1,000 sq. ft. on the same application schedule. Nitrogen was supplied to all

plots uniformly via ammonium sulfate at 1.8 lbs. N per 1,000 sq. ft. per year. Initial soil pH at 1.0 inch was 6.22. FeSO_4 treatments had no effect on soil pH at the end of Year 1. The 1x and 2x FeSO_4 rates reduced *Poa annua* to 11 percent and 9 percent, respectively, by the beginning of Year 2, but seaweed extract had no effect. Adding paclobutrazol to the 1x and 2x FeSO_4 rates decreased *Poa annua* from 20 percent (paclobutrazol-alone) to between 3 and 5 percent. Preliminary results indicate that season-long application of high rates of foliar FeSO_4 have the potential to significantly reduce *Poa annua* in CB putting greens.

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NEWS UPDATES

UMD'S DERNOEDEN RETIRES

After 33 years at the University of Maryland, Peter Dernoeden, Ph.D., is retiring on June 30.

Though the professor taught a class on pest management strategies for turfgrass, he primarily was responsible for extension activities and research centering on weed and disease control and pest management strategies.

"It's bittersweet," Dernoeden said of



retiring after three decades at the school. "I will miss university life (but not the committee and faculty meetings) and the fulfillment that comes with working

with dedicated students and turfgrass professionals."

His best memories, he said, center on mentoring graduate students, the friendships he made and the opportunities he had to travel and interact with other turf professionals.

“PROPER ESTABLISHMENT IS THE SINGLE LARGEST FACTOR IMPACTING LONG-TERM SUCCESS OR FAILURE OF A BUFFALOGRASS STAND.”

Keenan Amundsen, Ph.D.

(see full story on page 42)