

Controlling *Poa annua* on Putting Green Turf in Indiana, Michigan, and Nebraska

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Objectives:

Evaluate seven season-long treatments of growth regulators or herbicides to control annual bluegrass on putting greens. By completing identical studies at four locations that differ widely geographically, we are able to extrapolate our results to a large portion of the United States.

Start Date: 2011

Project Duration: 2 years

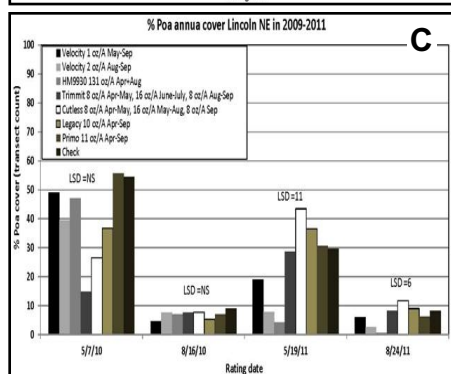
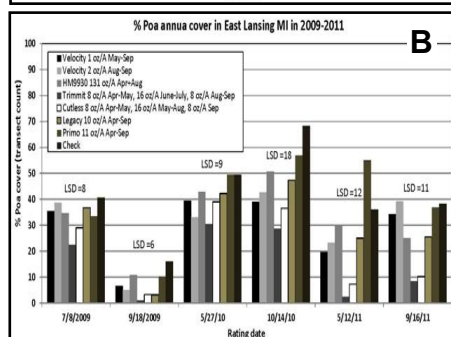
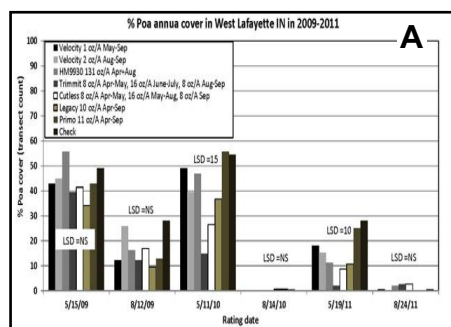
Total Funding: \$18,000

Annual bluegrass (*Poa annua*) is the most troublesome and probably the most studied weed on golf courses throughout the United States. A number of herbicides and growth regulators are labeled and effective for *Poa annua* control on fairway height turf including bispyribac (Velocity), ethofumesate (Prograss), flurprimidol (Cutless), and paclobutrazol (Trimmit, TGR).

We are evaluating seven season-long treatments of growth regulators or herbicides to control annual bluegrass on putting greens. By completing identical studies at four locations that differ widely geographically, we are able to extrapolate our results to a large portion of the United States.

Plots of green-height annual bluegrass/creeping bentgrass were already established on putting greens that are mowed daily at 0.125" and sand-top-dressed regularly. The areas receive 2.5 to 3.0 lbs. N/1,000 sq ft/yr. Treatments are applied in 2 gal. water/1,000 sq ft. Most of these treatments are within label limits, and are based on superintendents and label recommendations, as well as previous research experience. Treatment 3 is an experimental herbicide with potential for *Poa annua* control.

Visual quality and percent cover of creeping bentgrass and annual bluegrass are recorded monthly and transect counts are taken in mid-May and mid-August, the expected high and low points for annual bluegrass populations, respectively. The transect counts minimize subjectiveness between rates and will allow reliable comparisons between years within locations and across locations. This study has been done on the same plots in West Lafayette, IN, and East Lansing, MI, in 2009-2011,



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could deduce incorrectly that their strategy is working if no untreated area for comparison is included on the course.

Annual bluegrass control was highly variable from location to location and among years. Though data were recorded on 72 dates over the four locations and three years, treatment differences were only evident on 44 of the dates. This suggests that regardless of the control regime attempted, the superintendent will not see any detectable differences on 40% of the days the greens are examined. Therefore if an annual bluegrass control program is attempted, it is critical to manage expectations of the staff and other decision makers who might expect dramatic results.

The three best treatments improved annual bluegrass control vs the untreated check on 36% of the rating dates over the four locations and three years. Velocity at 2 oz./A applied 4 times, Trimmit, and Cutless were the best performers across all years and locations.

Within locations, Trimmit has been the best performer at Purdue, Trimmit and Cutless at Michigan State, HM9530 and Velocity at 1 oz./A at University of Kentucky, and Velocity at 2 oz./A at University of Nebraska. These results not only help explain the highly variable anecdotal results from superintendents across the country, but also suggest that a superintendent may have to experiment to find the best treatment for controlling annual bluegrass on a particular golf course. ..

Summary Points

- Velocity at 2 oz/A applied 4 times, Trimmit, and Cutless were the best performers across all years and locations.
- Within locations, Trimmit has been the best performer at Purdue, Trimmit and Cutless at Michigan State, HM9530 and Velocity at 1 oz./A at University of Kentucky, and Velocity at 2 oz./A at University of Nebraska.