New Strategies Tested for *Poa annua* Seedhead Control

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Introduction

Every superintendent has their own strategy for dealing with *Poa annua*. Some purposely manage to promote it, others try to control it, others simply live with it. During the spring flush of seedhead production, though, all agree: it is hard to ignore it.

This spring we participated in a regional trial to assess plant growth regulators (PGR) for their ability to suppress *Poa annua* seedheads. The objective was to determine which PGR, or combination, provided the best control while minimizing phytotoxicity.

Materials and Methods

The trial was conducted on the 9th fairway of Blackhawk Country Club in Madison, WI during the spring of 2001. The fairway was almost 100% *P. annua*. Treatments and rates are listed in Table 1. The first set of treatments were applied on April 13,after the first mowing following full spring greenup. This is earlier than the label suggests for Embark, the industry standard for seedhead control. This early set of treatments was compared to treatments applied April 26 during active growth, the ideal time for application.

The experimental design was a randomized complete block with three replications. Plot sizes were 5 ft x 5 ft. All treatments were applied in 2 gal water per 1000 ft^2 using XR 8005 flat fan nozzles at 30 psi.

Seedheads were counted using an optical point quadrat to provide quantifiable estimates of seedhead production. Seedheads were counted weekly on the control plots between emergence on 11 May and the end of the study on

Table 1. *Poa annua* seedhead control and turf quality following treatment with early and late spring applications of plant growth retardants, Blackhawk Country Club, Madison, WI, 2001.

Treatment	Rate (oz/1000 ft^2)	Timing	Quality		
			May 4	May 11	June 1
1. Control	---	---	7.2	5.5	5.5
2. Proxy	5.0	Early	7.3	6.0	5.8
3. Proxy	10.0	Early	7.0	6.5	5.7
4. Primo	0.25	Early	7.3	5.7	5.8
5. Embark	1.8	Early	3.0	6.3	6.5
6. Embark	0.9	Early	3.8	6.3	6.3
7. Trimmit	0.2	Early	6.5	4.8	5.8
8. Embark, Proxy	0.9+5.0	Early	4.8	7.2	6.7
9. Embark, Primo	0.9+0.25	Early	3.5	8.0	7.3
10. Proxy	5.0	Ideal	7.7	6.5	6.2
11. Proxy	10.0	Ideal	7.2	7.2	5.8
12. Primo	0.25	Ideal	6.2	4.7	6.5
13. Embark	1.8	Ideal	5.0	3.2	7.0
14. Embark	0.9	Ideal	5.7	4.3	6.5
15. Trimmit	0.2	Ideal	6.7	4.8	5.3
16. Embark, Proxy	0.9+5.0	Ideal	5.8	5.0	6.2
17. Embark, Primo	0.9+0.25	Ideal	5.0	3.7	7.7
LSD (0.05)			0.9	1.2	0.9

June 1. The purpose for the weekly ratings was to provide data to establish a growing degree-day model which superintendents can use to more accurately time their chemical treatments for *P. annua* seedhead control. Seedheads were counted on all plots on May 18 during the largest flush of seedheads to determine PGR efficacy.

Turf quality was rated weekly on a scale of 1 to 9 with 1 being dead turf and 9 being ideal turf. A rating of 6 was considered acceptable for fairway turf.

Results

Turf Quality

All treatments containing Embark caused phytotoxicity and reduced turf quality in early May, though applications made the end of April caused significantly less damage than those made in April (Table 1). These results agree with label recommendations to apply Embark only to green, actively growing turf. Timing of application did not affect quality of turf treated with Trimmit or Primo (except on May 4 when the early Primo treatment provided better turf than the later application), both of which provided mediocre turf quality. Both rates of Proxy provided excellent turf quality in early May. By mid-May, the Embark-Primo and Embark-Proxy combinations began to provide the best turf quality. This trend continued throughout the rest of the spring, with Embark-Primo treatments providing the best turf quality regardless of timing. Six weeks

after application, turf treated with Embark only also provided good turf quality.

Seedhead Control

The best seedhead control (97-98% control) was obtained with Embark (either timing), Proxy (10 oz rate at Ideal timing), and the Embark + Proxy combination (either timing). From a timing standpoint, either Early or Ideal timings provided approximately the same rate of control for all other treatments. Primo and Trimmit were not effective at controlling seedheads. Results for all treatments are shown in Figure 1.

CONCLUSION

There are two ways to look at the results:if you care less about phytotoxicity during the first couple of weeks after application, and care more about seedhead control, apply the Embark + Proxy combination early (mid-April). Seedhead control was good as Embark alone with less injury. Turf quality recovered within three weeks of application (May 11), and provided excellent quality by mid-May through the end of the study. If turf quality is more important than seedhead control, use Proxy at any time between early spring greenup and when the grass is rapidly growing before seedhead emergence. Both turf quality and seedhead control were good. Use the 5 oz rate of Proxy as the 10 oz rate is above label allowances.

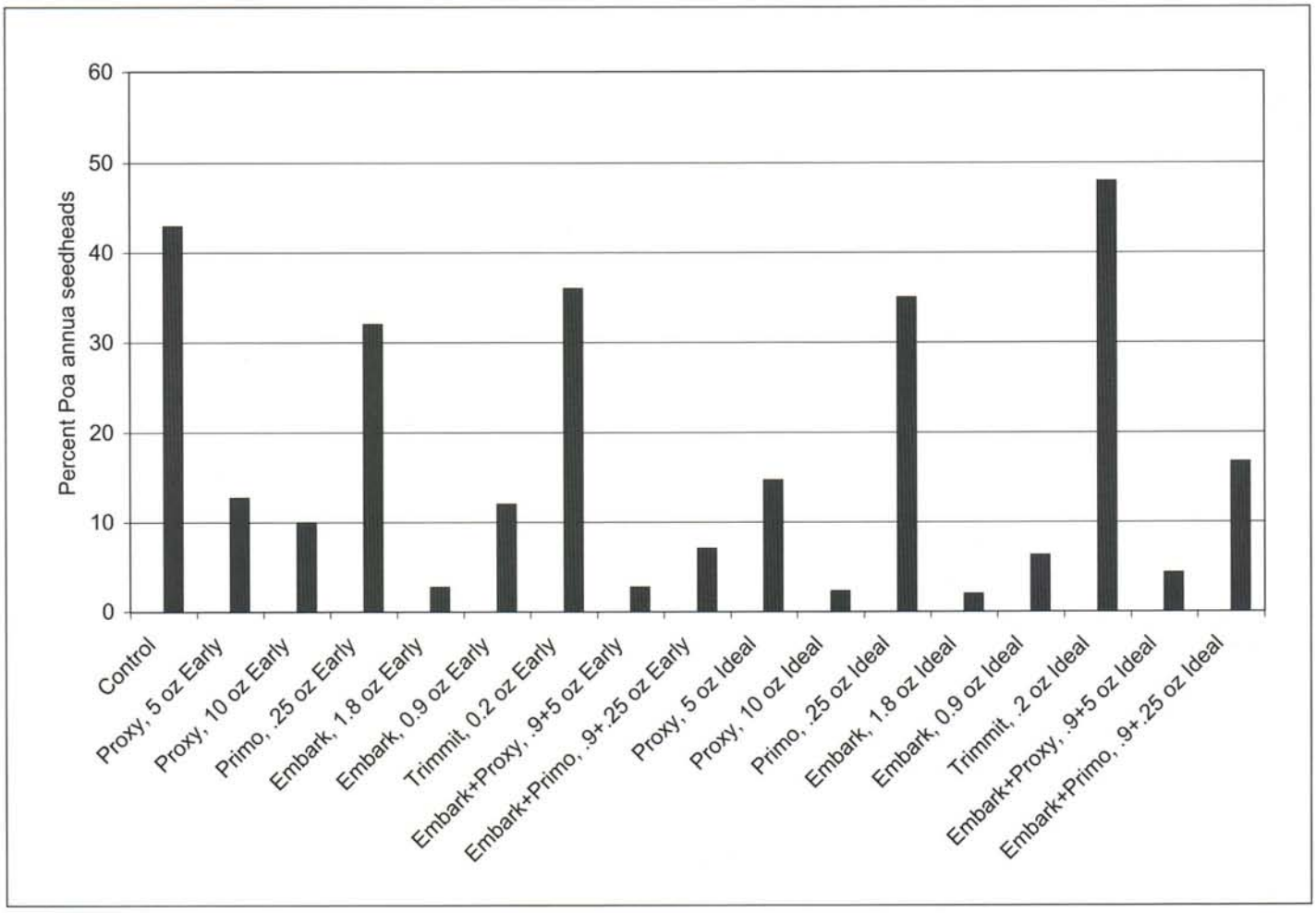

Fig. 1. Percent turf area infested with *Poa annua* seedheads following early (mid-April) or ideal (late April) timing of plant growth regulators, Madison, WI, 18 May 2001. The LSD (0.05) is 16.7.