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ABOUT THE COVER

In recognition of the 75th Anniversary of our national association, Golf Course Superintendents Association of America, Ms. Jennifer L. Samerdyke presents a portrait of GCSAA founder Col. John Morley.

"No matter how fast things change, hold on to a few things that don't."

– *Dr. Jerry Apps*
Professor Emeritus
University of Wisconsin - Madison

THE GRASS ROOTS

THE GRASS ROOTS is a bi-monthly publication of the Wisconsin Golf Course Superintendents Association, printed in Madison, Wisconsin by Kramer Printing. No part of THE GRASS ROOTS may be reprinted without expressed written permission by the editor.

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Back to School!

By Kris Pinkerton, *Golf Course Superintendent, Oshkosh Country Club*

As we approach the end of summer, it's back to school time for most of us who have children at home yet! Preschool, kindergarten, grade school and high school students have no doubt been in the learning curve for a few weeks already. College and technical students will be returning soon as well. Aside from noticing all those empty seats in our break rooms, it is also the time of year that we as professional golf course superintendents should also give consideration to our own continuing education. I must admit, though, there are times when it seems like we never leave the learning curve. Does this YEAR ring a bell? With the wide range of adversities our golf courses have faced this season, every day presented a new challenge and/or learning experience.

But in life and everything we do, both professionally or away from the golf course, our relationships and all of our activities at some point in time are positioned somewhere on a learning curve. We often learn as we go, and as time and experience increase, so does our ability to grasp more complex ideas as they apply to each individual task. So how does this apply to our profession of golf course management?

If you were to have an individual who is just beginning in our profession, they can usually only absorb so much information at one time. Now, fill their brain with everything that you know about golf course management and it will probably confuse and bewilder them to no end. It could certainly confuse an individual to the point that changing cups could be an insurmountable task! This has nothing to do with an individual's abilities to learn, but rather the time that it takes for them to implement each new idea and build confidence in that it was done correctly.

Therefore, as we all ascend on our learning curves and become more experienced, we then are able to handle more advanced and technical details. These details are needed to continue to cultivate and maintain superior golf turf, in our ever changing, environmentally sensitive times. That's our creed is it not?

This is why I feel it is so very important for us to utilize every affordable opportunity for continuing education. Attending the Wisconsin Turfgrass Field Day at the O.J. Noer Turfgrass Research & Education Facility every August for the latest in research and new products or equipment. Attending WGCSA Monthly Meetings is a great way to interact with your peers and vendors. We also have education offerings available at the spring and fall meetings. Coming up on November 13-14th, a brand new location for the Wisconsin Golf Turf Symposium at the American Club in Kohler promises to be a real treat along with one of the finest educational opportunities available to us in Wisconsin. And finally, taking in the GCSAA Regional seminars that are co-hosted by our chapter. All these local events will be coming to you before the year ends. Hope to see you soon!

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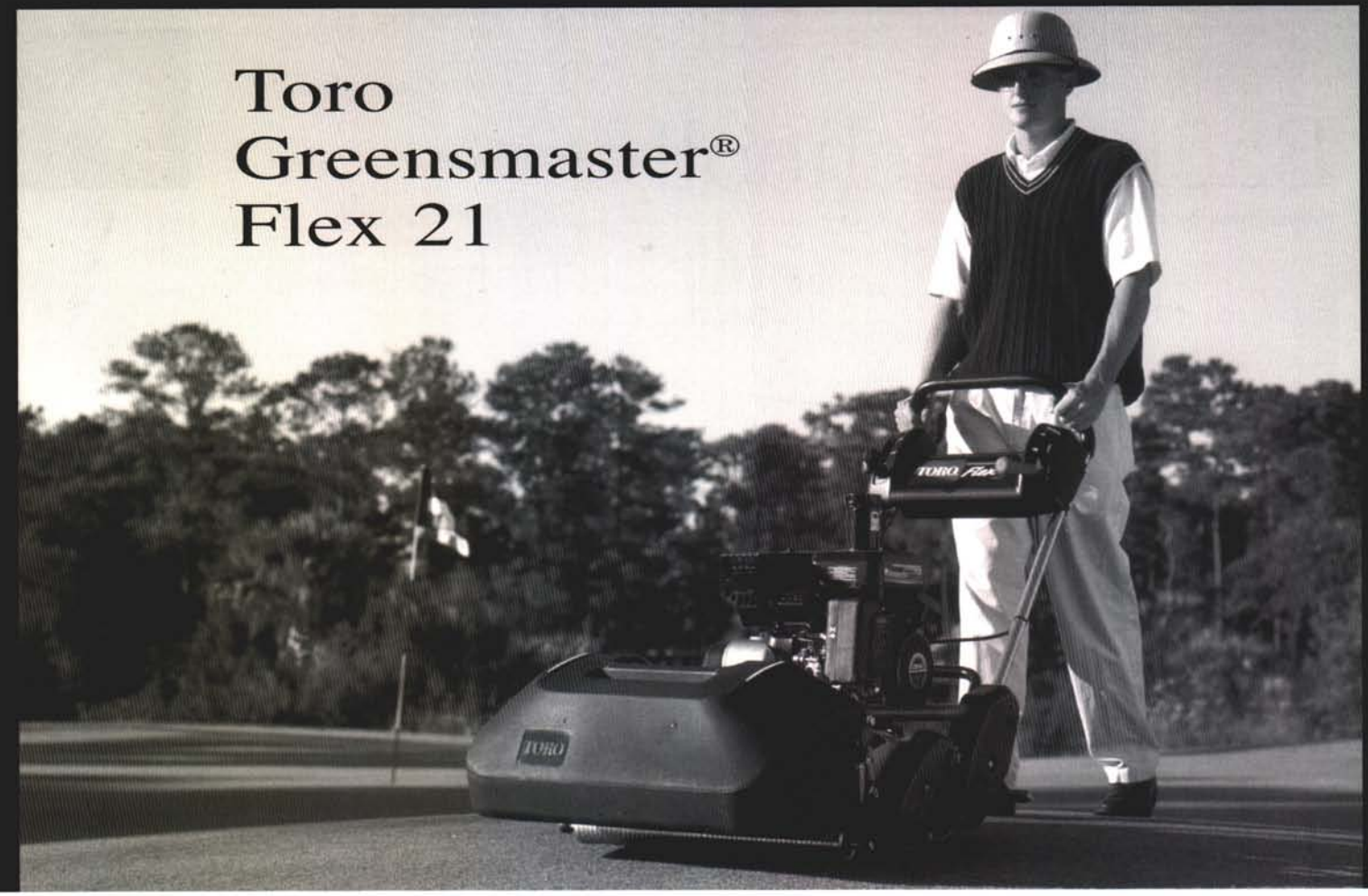

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New Strategies Tested for *Poa annua* Seedhead Control

By Dr. John Stier and Jeff Gregos, *Departments of Horticulture and Plant Pathology, University of Wisconsin-Madison*

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.

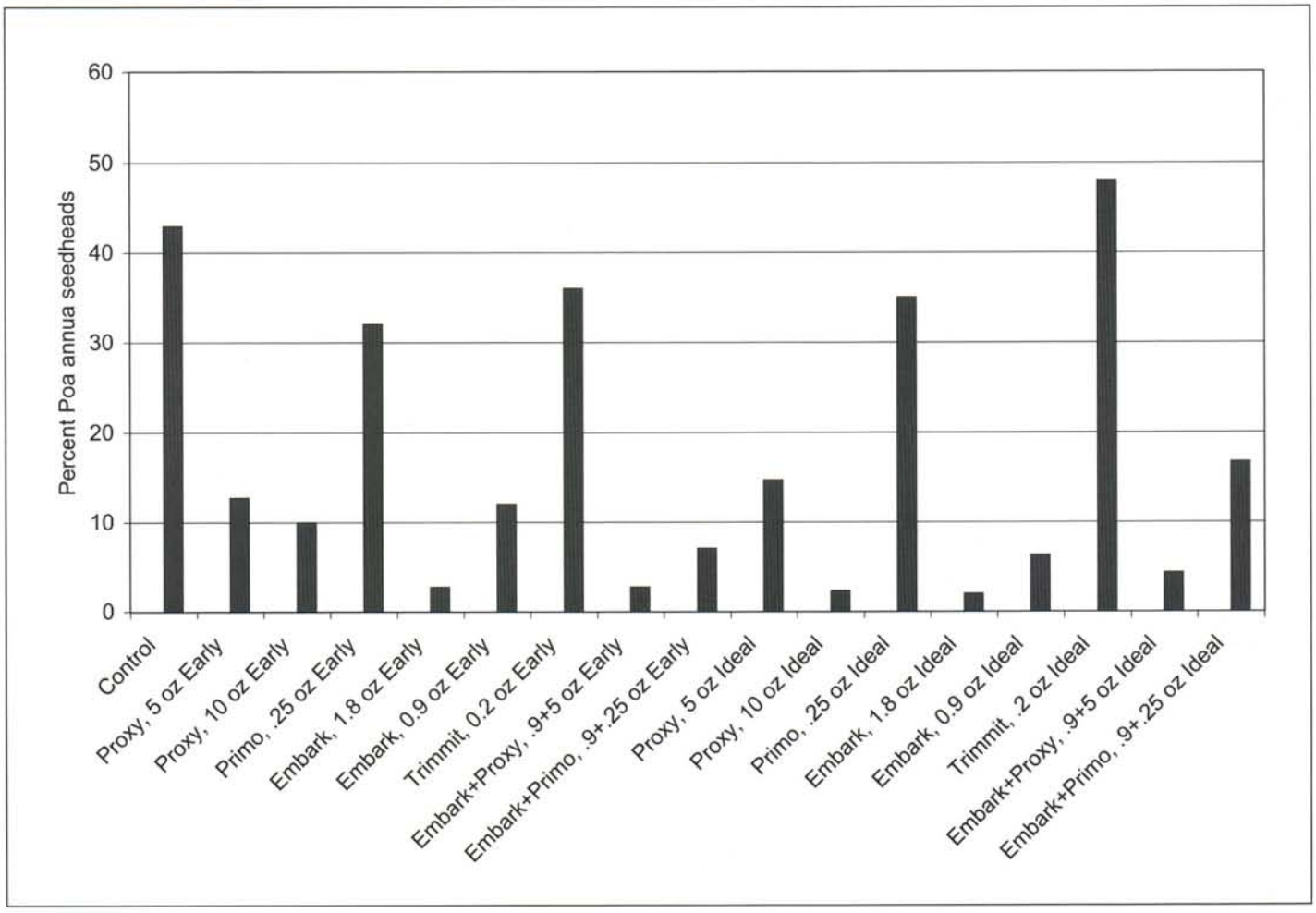

Fig. 1. Percent turf area infested with *Poa annua* seedheads following early (mid-April) or ideal (late April) timing of plant growth regulators, Madison, WI, 18 May 2001. The LSD (0.05) is 16.7.

Can a Firm Foundation of Turfgrass Resistance Reduce the Pressure of Dollar Spot?

By Dr. Geunhwa Jung, *Department of Plant Pathology, University of Wisconsin-Madison*

If you look at textbooks containing control strategies of plant diseases, you will find a list of basic principles for lessening the severity of pathogen attack on particular crops. Our particular crop is cool season turfgrass adapted in Wisconsin and other regions with similar climatic conditions. Listed first, because of its importance, is the selection of disease resistant cultivars or species that are well adapted to various areas. Then the list goes on to explain cultural practices such as balance of N-P-K fertilizer, mowing height, proper irrigation, chemical and biological control. It makes sense that planting resistant cultivars or species is the most important and fundamental prevention technique as this is the foundation of disease control.

However, because of the complex situation, it is difficult to renovate existing grasses with newly developed resistant cultivars. Revenue losses make the renovation of existing grasses a rare practice in turfgrass business, expecially by golf courses. Resistant cultivars are mostly used in new courses. Occasionally their usage extends to renovating parts of existing courses. For the above cases and future possibilities, our lab initiated an experiment at the O.J. Noer Turfgrass Research and Education Facility last year to answer the question, "Can we reduce the frequency of fungicide application to control dollar spot by growing resistant bentgrass cultivars or species in fairway condition?"

Fortunately, our initial research results indicate that the answer to our question is a resounding "Yes". How do you feel when you see research results which reasonably explain your experimental hypothesis and which indicate significant difference among treatments? To me, it is a great and wonderful feeling, just like a person who won a race. If you understand how the experiment was performed, then you will see why I am so excited about our results.

As researchers, we first review facts, theories and proposals. Then we formulate a logical hypothesis that

is testable by experimental methods. Next, we carefully design an experiment, considering the number of replications, the type of experimental design, and most importantly the control of homogenous conditions such as temperature, fertility, humidity and day length. After the experimental design is determined, we carry out the experiment as precisely as possible. Finally, we objectively evaluate the hypothesis on the basis of the experimental results. If the results are reasonably interpretable, then our mission is completed. Otherwise, we need to go back to reformulate the initial hypothesis.

I would like to report what we have learned from our experiment this year at O.J. Noer. The results presented here are only based on the first year of field data and a second year's data will be required before strong recommendations can be made.

Briefly, seventeen cultivars (one dryland, three colonial, and 13 creeping bentgrass) were planted at O.J. Noer in a 3' x 5' split plot during the summer of 2000. A subplot received four treatments (14, 21, and 28-day schedules of fungicide application with 3.2 oz/1000 ft^2 of Daconil Ultrex and a control without fungicide). Detailed experimental procedures and results are described in the 2001 Wisconsin Field Day book.

Here I want to address several observations made from the statistical analysis. Consider the three components of a disease triangle: host (turfgrass), pathogen (dollar spot), and environment (temperature, moisture, and light). We must not forget to consider the grass component of this triangle. Therefore, knowing whether the grasses growing in your golf course are resistant or susceptible to dollar spot will significantly effect turfgrass management strategy. Here are some conclusions from our experiment:

1. Cultivars tested in our study were significantly different from each other in terms of dollar spot susceptibility. In other words, significant differences exist between cultivars.
2. All cultivars of colonial and dryland bentgrass species have shown resistance to dollar spot but a large range of variation was detected in creeping bentgrass cultivars. Testing additional cultivars of the two species is required to confirm these results.
3. Significant difference among four treatments was not detected within the resistant cultivars. Of course, the control treatment (no fungicide) has more symptoms than treatments with fungicide. However, no statistical significance was detected among the four treatments. An interesting finding was that each treatment (14, 21, and 28-day schedules of fungicide application) reduced the damage of dollar spot to almost zero in resistant cultivars.
4. On the other hand, when highly susceptible cultivars were used, significant symptoms were found even with fungicide application. In this case, a higher rate or more frequent application is probably required in order to maintain an acceptable quality of turfgrass.

There are two more important questions for which we are continuing to seek answers. Can similar results obtained in our current study be seen when the weather conditions are relatively favorable for the growth of the dollar spot pathogen, but not for the growth of turfgrass? Also, how long can resistant cultivars sustain their resistance in spite of the rapid change in pathogenicity of isolates? The latter is a very important and complex question to be resolved. In general, the chance of developing resistant isolates is much greater when repeated fungicide applications are made on susceptible cultivars than when few applications are made on resistant cultivars.

It was not many years ago that I, as a father, used to read a book titled "Three little pigs and the big bad wolf" to my children. My lessen of this story is to build a house with a firm foundation regardless of any circumstances so that the wolf (dollar spot) can not blow it away.

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