postemergence activity for those cases where some crabgrass may have already emerged.

2) To increase duration of control, increase the application rate (within label limits). The more product that is applied - the longer it takes for it to dissipate to below the minimum threshold level. Also, split applications, the practice of applying once at a lower rate followed again 6-8 weeks later, is not always effective and generally not recommended in the northern U.S. Crabgrass can be a serious problem, but it can be effectively controlled by applying the right herbicides and targeting the application for the right time of year.

But What if I'm Overseeding?

If you are thinking of applying a preemergence herbicide to control crabgrass on thin spots in the turf that you are also planning to overseed, you had better think again. Almost all of the preemergence herbicides on the market are very effective at controlling not only weed seedlings, but also the seedlings of our desired turfgrasses. Figure 2 shows the recommended reseeding interval for the active ingredients used as preemergence herbicides where cool season turfgrasses are grown. These were taken straight from the label of a product that contains the herbicide. Note that most of the intervals are long enough that, were they to be applied in March or April, you would not be able to safely overseed until summer. And we all know that summer is not a real good time to overseed either. If you have small areas that are thin or bare, you may wish to apply the preemergence herbicide

and attempt to manage the existing grass to fill in the bare spot. If it is a large area, then you are probably best off overseeding and avoiding the use of the herbicide.

Alternatively, note that siduron is safe for use on seedling turf. Follow the label directions carefully. When used properly, siduron will reduce crabgrass, goosegrass, foxtail, and many summer annual broadleaf weeds by about 80%.

Tenacity Herbicide – A new option when overseeding

Tenacity herbicide is a new product from Syngenta that contains the active ingredient mesotrione. This active is in a unique class of chemistry and this product has a very diverse label, including pre- and post emergence control of both broadleaf weeds and annual grasses. It also controls sedges preemergence and certain perennial weedy grasses postemergence. Unfortunately, it is not yet labeled for use on commercial turf or sports fields. But, the product was recently labeled for use on golf courses and the label changes are pending to allow its use on other turf areas. When this product becomes labeled for use on sports fields, one of its key uses will be the preemergence control of annual grassy and broadleaf weeds in newly seeded turfgrass (Figure 3). When used as directed, Tenacity herbicide will result in nearly complete control of crabgrass, goosegrass, foxtail, and many summer annual broadleaf weeds. But, it will not affect the growth and development of the seedling turf.

Figure 1. Model of dissipation of a preemergence herbicide following application. After the pesticide concentration degrades to below a certain minimum threshold, weeds will begin to germinate through the barrier. The duration of effective control is effected by: product choice (some last longer than others), weather (warmer and wetter=faster degradation), amount of thatch (more=faster degradation) and rate of application (more, within label limits=longer control).

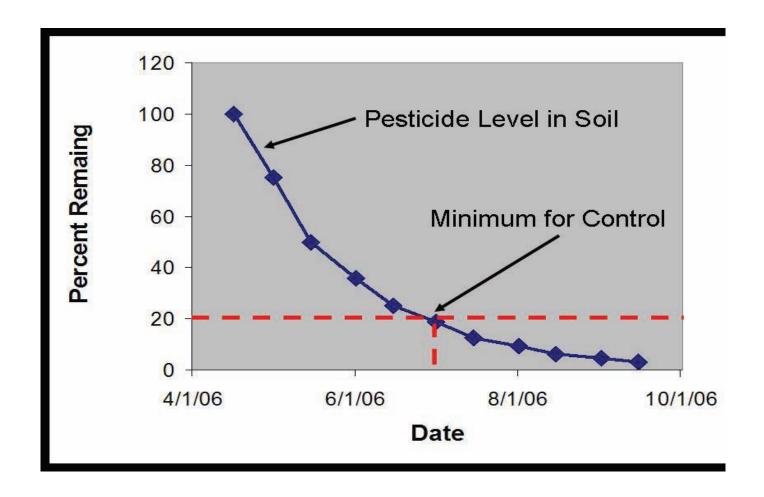
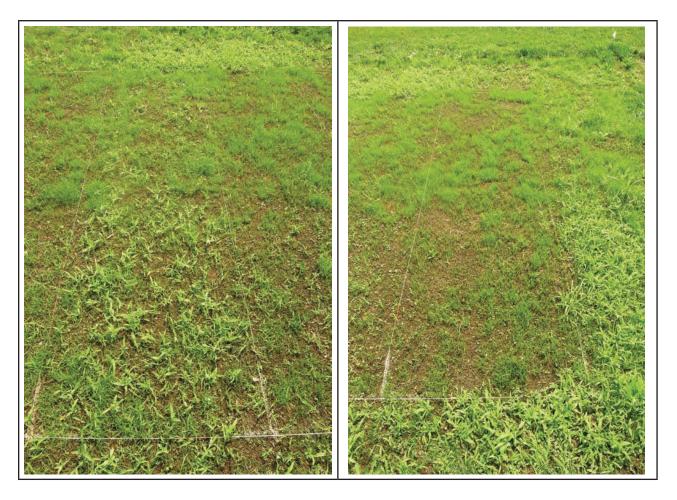


Figure 2. Carefully consider your options when planning to apply a preemergence herbicide to thin spots in the lawn or areas that you plan on overseeding or reseeding.

Turf Tolerances to Preemergence Herbicides						
Products	Kentucky	Perennial ryegrass	Tall Fescue	Fine Fescue	Creeping	Reseeding Interval†
Bensulide (Betasan, Bensumec, Lescosan) - Controls P.annua, others	✓	✓	✓	✓	✓	4 months
Ethofumasate (Prograss) - Controls <i>P.annua</i> , other weeds	✓	✓	✓		‡	6 weeks
Benefin (Balan, LESCO Benefin 2.5G) Oryzalin (Surflan, XL – combination with benefin)	✓	✓	✓ ✓	✓		6-16 weeks
Pendimethalin (Pendulum, LESCO Pre-M, PROTURF)	✓	✓	✓	✓		3 months
Prodiamine (Barricade)	✓	✓	✓	✓	‡	4-6 months
Trifluralin (Team) - Combination product with Benefin	✓	✓	✓	✓	‡	8-16 weeks
Siduron (Tupersan) - Safe to turfgrass seedlings. Consult label	✓	✓	✓	✓	§	Safe to most seedlings
Oxadiazon (Chipco Ronstar) - Controls goosegrass and other weeds	✓	✓	✓			4 months
Dithiopyr (Dimension) - Pre + Post-emergence	✓	✓	✓	✓	¶	6 weeks to 4 months

- † Stated reseeding interval is for one example product only and this can vary among brands or formulations of the same active ingredient. Always consult the label of the product you are using for specifics prior to application.
- ‡ Fairway and tees height bentgrass only. Consult label for specifics.
- § Seaside, Highland, Astoria, and C-7 creeping bentgrass only. Consult label for specifics.
- ¶ Use restrictions on putting greens vary among formulations. Consult label for specifics.

Figure 3. Control of crabgrass, goosegrass, yellow foxtail, yellow nutsedge, pigweed, and purslane was nearly 100% when Tenacity herbicide was applied at seeding. Perennial ryegrass was seeded into the area, lightly incorporated and then Tenacity was sprayed over the top on July 25, 2007. Photographs taken on August 8, 2007 (14 DAT)



About Our Guest Writer

Dr. Dave Gardner is an associate professor of turfgrass science at The Ohio State University. His research interests are in the areas of pesticide/nutrient fate and shade stress physiology. He also conducts a large number of herbicide trials each year. Dr. Gardner teaches undergraduate courses in the areas of turfgrass management, statistics, and landscape horticulture.



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***@ 3600 rpm. Engine Manufacturer Gross Power. Tested in accordance with SAE J1349. Engine horsepower and torque information are provided by engine manufacturer for comparison purposes only. Actual operating horsepower and torque will be less. Refer to engine applications of the provided by the second p





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On Board: Q & A with your BOD

The last few years have been challenging for golf course management. Comparatively speaking how has your club/budget been impacted, how do you perceive the season ahead and are you optimistic in the long term for the industry? Matt McKinnon, Superintendent at The Legacy Courses



The last few years at The Legacy Courses at Craguns have been fairly consistent. The fall of 2008 and winter of 2009 was our lowest point in business and the future business of the course in 2009

was not bright. Budgeting for 2009 was a very difficult year for me since we really did not have an idea of how much business we were going to receive. It seemed like people were waiting until the last minute to book their tee times or sign up for their membership. Budgeting for 2009 brought a reduction in labor, chemicals and fertilizers and what ever else we could save money on. Once these cuts were made we had to manage a little differently. One area that I have always kept a very close eye on is my labor numbers, 2009 was extremely important to keep close attention to these numbers. I felt at the end of each week I had to know wear I stood compared to my budget. 2009 turned out to be an o.k. year

for business but it did not help to increase our budget for the 2010 season.

Spring of 2010 started out with great weather giving us the opportunity to open the course in March, two weeks earlier than any other year we have been in business. The 2010 season was another o.k. season we did increase rounds some especially with opening early. Business in 2011 was a lot better than 2010 even though we had a very slow start in the spring but the fall was great. In the end we have increased rounds from 2009 to 2011. Budget wise for 2012 we will increase our numbers slightly to perform some much needed maintenance of our bunkers. Staffing will be the same as in the past few years but with one less supervisory position. Booking for events in the clubhouse and for golf is looking very good. I am very excited for the 2012 season but I am a little concerned where the price of gas is going. The prices will not only add to our expenses this year as it did in 2011, but it will most likely decrease the amount of players from outside areas. I am optimistic for the Golf Industry I think we are all very capable of adapting to any change that is thrown at us

Page 19

On Board: continued.

The last few years have been challenging for golf course management. Comparatively speaking how has your club/budget been impacted, how do you perceive the season ahead and are you optimistic in the long term for the industry? Paul Eckholm CGCS, Superintendent at Heritage Links

The golf industry for years has had its ups and downs. As with the current economy, the trough this time is just a bit deeper. Here at Heritage Links we have been in a tight belt situation for a number of years. Previous decision by former management employees left us in a hole before the economy went south and have made it additionally challenging now. We have had to let employees go, cut hours and reduce the overall maintenance expenditures of the course without sacrificing quality. Personally it has meant many extra hours and fewer days off. It has however taught me just how far you can push turf and in what directions you can push it to keep quality and still keep costs down. Many of us do not realize just how



important basic turfgrass agronomic principles are until you are forced to rely on them and not be able to mask shortfalls with chemical applications. Having done this a number of years now, it becomes interesting to hear others discuss cost cutting strategies and what they think may or may not work, and then be able to interject my thoughts having done it in the real world.

As for the future of golf, I would have to say that it is what we make of it. The Minneapolis market is saturated with available golf, if courses as a group do not band together to protect pricing structures, and get out of the discounting game many will not survive. Additionally, we as superintendents controlling the largest asset and liability of the course do not help protect the bottom line we will also contribute to those failures. Finally, the golf professionals will need to step up and find ways to bring new golfers into the game. The PGA, GCSAA, CMA and NGCOA all recognize the problems and have spent thousands developing programs to help. If we all work together, we can make golf thrive again. If not.....