

Short Answer: Revolver Does the Job

By Phil Busey

First I want to thank John Paige of Bayer, and superintendent Curtis Nickerson and Barry Troutman of ValleyCrest for their excellent cooperation. Assistant Sean Plummer, also of ValleyCrest and Bonaventure, has also been a big help.

This is one of five field experiments that I have conducted comparing Revolver and MSMA for control of mature goosegrass in bermudagrass. The short answer is, "Revolver can substitute for MSMA, and do even better at cleaning up mature goosegrass in bermuda turf, in tank mixture with Sencor in two applications. For fairways, Revolver + Sencor is outstanding. But for very mature goosegrass (over 8 inches in diameter) and in tall grass (roughs, ball fields), it's going to take luck, cunning, and courage (e.g., 4 ounces Sencor per acre per application) to do the job."

On April 7 and 14, Nickerson and I used the 160-gallon commercial Toro Spray Pro (filled to only 8.5 gallons) to treat goosegrass on the No. 9 fairway and adjacent rough on the Joe Lee-designed East course at Bonaventure Resort and Country Club in Weston.

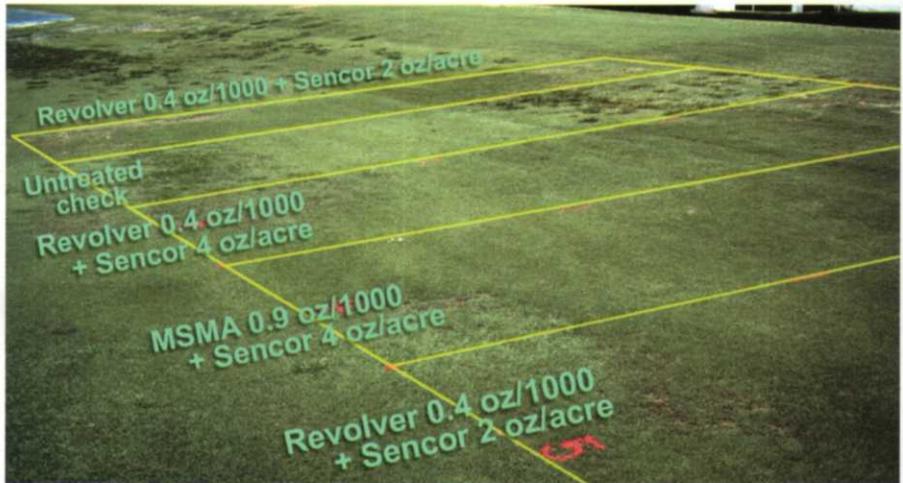
The intention of using commercial spray equipment in larger (8 X 40-foot) experimental plots was to gain a more realistic comparison of the effects of Revolver (active ingredient foramsulfuron) with the effects of MSMA, both products in tank mixture with Sencor (active ingredient metribuzin).

Because there wasn't enough high-quality goosegrass, the experiment was limited to 12 plots, that is, three replicates of four treatments (including an untreated check treatment). This is the reason that I was not able to include MSMA + 4 oz/1000 Sencor, even though ideally MSMA should be mixed with a higher rate of Sencor than Revolver.

The Results:

A. Revolver at 0.4 oz/1000 sq ft + Sencor at 4 oz/acre

1. 97% control of mature goosegrass in the rough, 21 days after the second application.
2. 95% control in the fairway, which did not differ from the rough.
3. By 32 days after application, when the dead goosegrass was disappearing, a small amount of goosegrass remained in both the rough and the fairway.
4. The amount of goosegrass remaining in the rough was very small, a rating of 12, which represents few scattered plants, compared with a rating of 60 in the untreated check, which represents close to a 60% cover.
5. The amount of goosegrass remaining in the fairway, a rating of 5, represented 1-2 plants per half



Test plots on the No. 9 fairway and adjacent rough on the Joe Lee-designed East course at Bonaventure Resort and Country Club in Weston. Photo by Phil Busey.

plot, and can be considered total control.

6. Injury to bermudagrass, up to 25% discoloration, was noticed, particularly in the rough through nine days after application, but not later.

B. Revolver at 0.4 oz/1000 sq ft + Sencor at 2 oz/acre

1. 83% control of mature goosegrass in the rough, 100% in the fairway
2. However, the amount of goosegrass in the rough, a rating of 32, will be a problem. Although these are weakened plants, they are growing back.
3. The amount of goosegrass in the fairway, a rating of 8, will not be a problem.
4. Less injury to bermudagrass.

C. MSMA at 0.89 oz/1000 sq ft + Sencor at 2 oz/acre

1. Even worse results in the rough compared with both Revolver treatments
2. Very acceptable results in the fairway.

D. We sprayed out the considerable remnants in the tank in solid areas.

1. In front of the bunker on the left side of No. 2, where 0.4 oz + 2 oz was applied, goosegrass plants up to 8 inches in diameter were completely killed. Plants 8-16 inches are recovering, but this was still a very outstanding cleanup.
2. In front of the bunker on the right side of No. 16, where 0.4 + 4 oz was used, goosegrass plants were dramatically cleaned up; however at this



Revolver/Sencor combination will take out mature goosegrass. Just be prepared for the brown-out appearance and thin areas when it goes. Photo by Phil Busey

high rate of Sencor, there was considerable injury in two areas, consisting of brown patches with tufts of green bermuda coming back.

Conclusions and recommendations

Because two applications of the 2 oz rate of Sencor with Revolver causes essentially complete cleanup of very mature goosegrass in fairway bermudagrass, the same as MSMA, for many golf course uses this is as far as superintendents will go without risking injury to bermuda.

Because two applications of the 4 oz rate of Sencor with Revolver leaves very little mature goosegrass in the rough, some golf course superintendents may cautiously approach this high rate in difficult areas, or even a compromise at 3 oz of Sencor, to see if they can clean up goosegrass without injuring the bermudagrass too much.

For very mature goosegrass in tall bermudagrass, I think a third application of something (Revolver) may be needed.

The Revolver + Sencor mixture is more effective in controlling mature goosegrass than is MSMA + Sencor, at the same rate of Sencor. This is consistent with previous, small-plot observations.

Other aspects that should be considered for a very effective goosegrass cleanup program are to ensure adequate nitrogen and water, to enable the bermudagrass to quickly regrow into areas of dead goosegrass. Dead goosegrass is very unsightly for four to six weeks after treatment, and the bare areas associated with dead goosegrass are also the places where seedling goosegrass can quickly take over. For this reason, there must be complete protection of Revolver-treated areas with a preemergence herbicide blanket, to prevent goosegrass reinfestation.

I am continuing to experiment with other kinds of treatment strategies, such as a sequenced split application, e.g., Revolver first at high rate, followed by Sencor by itself. Today I sprayed the second application of a very good experiment on a soccer field, also managed by ValleyCrest, involving four replicates of the same treatments plus the sequenced split applications. Plots are 8 X 30 feet, and this is tall bermuda turf with even taller goosegrass.