

Turfgrass Entomology Research in 2009

Dr. David Smitley, GLTE, January 5, 2010

Long-term Suppression of Ants on Golf Courses (Smitley and Niemczyk). Research tests supported by industry and by MTF this past year have demonstrated 6 months of ant suppression following a single application of Aloft, Arena or Meridian at the highest labeled rate in May or early June. The number of ant mounds observed throughout the season in treated plots is reduced by 50% compared with untreated control plots. Other nicotinoid insecticides are also being tested at this time to see how they compare. Additional funding from MTF allowed us to follow-up on an idea proposed by Dr. Harry Niemczyk (retired from OSU) to treat much larger areas in order prevent re-colonization by ants in nearby untreated areas. In ¼-fairway plots (replicated 6 times) we were able to reduce ant mounding by 90% compared with only a 50% reduction in our standard-sized plots (10' x 20'). This means that if golf course superintendents treat 30' beyond the edges of tees, greens and fairways, it will dramatically improve ant control, especially along the edges of fairways, tees and greens. Apparently re-colonization from nearby untreated areas is much faster than we had realized. Dr. Niemczyk and I are also sharing test results to work on this problem together. After working with many golf courses in Michigan to test nicotinoid insecticide products for ant control in various combinations of fall, spring and summer treatments, Dr. Niemczyk has concluded that Aloft, Arena, Meridian, and Allectus can all provide excellent long-term ant control but that results vary considerably among golf course. His approach is to use one of these products on the target fairway, tee or green + a 25' treated barrier into the rough for three applications: spring (late May to early June when mounding begins to increase), July, and the following spring. This may eliminate mounds for 2 years. Complete test results are available at: http://bugs.osu.edu/~bugdoc/HDN_Ants/

Biological Control of Japanese Beetle with *Ovavesicula* (Smitley). With the support of MTF and from Project GREEN, I have introduced a pathogen of Japanese beetle that was originally found in Massachusetts but not Michigan. In the last year we have continued to collect data that compares populations of Japanese beetle at sites where *Ovavesicula* is active with sites where it is absent. Japanese beetle grubs do not survive the winter as well where *Ovavesicula* is active and populations were reduced by 25 to 50% per year. We are continuing this work including proposals that extend this project nation-wide.

Growing Lawns Tolerant of White Grubs (Smitley, Steinke, Rogers). In previous research we found that the types of turfgrass with the largest root systems were the most tolerant of white grub feeding damage. I am now working with Kurt Steinke and Trey Rogers on a new project to investigate how raising the mowing height and choosing the best turf type for your conditions can prevent grub injury without using pesticides. Results of this work will apply to home lawns, golf course roughs, school yards, recreational turf, and industrial turf.