

a significant decline from the average concentrations observed for the high N rate from 2000 through 2003. This research indicates that leaching potential from continually fertilized turfgrass sites changes due to the age of turfgrass and nitrogen rate. In addition to Michigan Turfgrass Foundation funding, this research has been funded by the United States Golf Association since 1998.

North Central Region Creeping Bentgrass Evaluation

Dr. Kevin W. Frank, Jeff Bryan, and Aaron Hathaway

Ten universities from the North Central Region initiated a creeping bentgrass putting green and fairway evaluation trial in the autumn of 2008. The research objectives were to 1) Determine the susceptibility of creeping bentgrass cultivars to dollar spot; 2) Determine the suitability of creeping bentgrass cultivars under putting green and fairway conditions when fungicide applications are scheduled based on threshold level of dollar spot incidence. Each cultivar was seeded in Sept. 2008 at 1 lb./1000 ft.². The site was fertilized at 1 lb P/1000 ft.² at the time of seeding using a 1-2-1 fertilizer. Each site received 0.5 lb N/1000 ft.² biweekly during the remaining growing season in 2008. Beginning in the spring of 2009, the turfgrasses received different fungicide treatments. The fungicide treatments are an untreated control and a fungicide program consisting of Emerald (0.18 oz product/1,000 ft.²) + Daconil Ultrex (3.2 oz product/1000 ft.²). The fungicide mix is applied preventively in May or June at first sign of dollar spot infection centers in all replications of application susceptible cultivar, Crenshaw. Thereafter dollar spot suppression will be conducted curatively when Crenshaw plots have ≥ 20% of dollar spot on the putting green.

Long-term Management of Japanese Beetle Grubs on Golf Courses and Home Lawns

Dr. David Smitley and Terry Davis

Recent research by Smitley that was supported by MTF and Project GREEN led to the release of a pathogen which helps to suppress populations of Japanese beetles. A protozoan (*Ovavesicula popilliae*) known to infect Japanese beetles and no other insects or animals was found to be present in Connecticut and absent from Michigan. The protozoan pathogen was introduced into research plots at three golf courses in Southern Michigan. Six years after introduction of *Ovavesicula*, we documented a 55% reduction in Japanese grubs along with a significant reduction in egg production. Overall impact provides an average population reduction of 64% per year due to *Ovavesicula*. The natural spread of the protozoan is slow, so to speed up the process Smitley has held Biocontrol field days where golf course superintendents and Michigan residents can pick-up Japanese beetles infected with the protozoan to take back to their own course or lawn. Long-term research (from 1999 to 2008) supported by MTF documented the spread of the introduced pathogen and declines of Japanese beetle where it became established.