

Overview of the Turfgrass Science Program

The Turfgrass Science Program at Purdue University made tremendous progress in 1998 and underwent many changes. We'd like to take this opportunity to update you on the progress of the program over the last year.

William. H. Daniel Turfgrass Research and Diagnostic Center

- The 1998 Field Day was held at the William. H. Daniel Turfgrass Research and Diagnostic Center for the first time.
- Construction of the turfgrass learning laboratory at the Daniel Turf Center began in 1998 and will be used for extension events as well as for classes for undergraduate students in 1999.

Personnel Changes

- Eric Kohler joined the Turf Program pursuing a Ph.D under the direction of Clark Throssell researching biology and control of ground ivy.

Turfgrass Undergraduate Education

- Over 70 students were majoring in Turfgrass Science at Purdue University. This represents about 40% of the undergraduate enrollment in the Department of Agronomy.
- Fifteen students graduated in 1997-98, 13 with a B.S. degree in Turfgrass Science, two with an Associate degree in Turfgrass Management. Placement of these students was 100%.
- Seven students majoring in Turfgrass Science earned scholarships administered by the Turf Program in 1998-99. Funds for these scholarships come from the turf industry.

Turfgrass Research Program

- Von Sigler continued his work toward his Ph.D. degree. Von has examined degradation of fungicides in the turfgrass canopy, and is now researching the effect of fungicides and biological disease controls on the soil microflora. Ron Turco and Clark Throssell serve as Von's advisors.
- Glenn Hardebeck completed the first year of M.S. studies working under the direction of Zac Reicher studying the use of biologicals for disease control.
- In ongoing studies in cooperation with the National Turfgrass Evaluation Program (NTEP), we evaluated the turf performance of Kentucky bluegrass, tall fescue, creeping bentgrass, fine fescue and zoysiagrass cultivars for use in Indiana. Based on the outcome of these trials we will be able to make cultivar recommendations to professional turf managers and homeowners.
- Also in cooperation with the National Turfgrass Evaluation Program (NTEP), we evaluated the performance of bermudagrass for golf course fairways in Evansville, IN. This study was established in June 1997 and will continue through 2002.

- Dan Weisenberger and Clark Throssell conducted several weed control experiments in 1998. These experiments included pre- and postemergence control of annual grasses, postemergence control of and broadleaf weeds and selective control of *Poa trivialis* in creeping bentgrass fairways. Results of these experiments are used to make weed control recommendations for the turf industry.
- Glenn Hardebeck and Zac Reicher continued a number of turfgrass management studies examining the effect of annual leaf mulching, zoysiagrass control with herbicides and soil heating, fertilizer evaluations, cultural control of red thread, and biological control of turfgrass diseases.
- Zac Reicher, Ron Turco, and Jon Harbor initiated an extensive water quality monitoring experiment on Purdue's new Kampen Course. This 5 year experiment examines how effective created wetlands are in filtering runoff from urban, commercial, and golf course areas. This study is supported by the United States Golf Association, Pete Dye, Inc, and Heritage Environmental.

Turfgrass Outreach/ Extension

- Over 2500 turfgrass professionals attended on-going training programs presented by the Turfgrass Science Program in 1998. These programs included:
 - Midwest Turf Expo - January- Indianapolis
 - IN-IL Turfgrass Short Course - February - Willowbrook, IL
 - Midwest Regional Turf Field Day - July - West Lafayette
 - Turf and Ornamental Seminar - November - Lafayette
 - Golf Turf Workshops - December – Plymouth and Indianapolis
- In response to the tremendous interest in soccer, the Soccer Field Maintenance Seminar was held for the first time in August. The seminar is organized for professional turf managers for the afternoon portion of the program and volunteer managers for the evening program.
- In cooperation with the Indiana Golf Foundation and Indiana Professional Golf Association, an internship program was continued for the third year where two turfgrass science students travel to Indiana golf courses with Clark Throssell or Zac Reicher on consultation visits. This continues to be a tremendous opportunity for the students to experience a wide range of golf courses and suggest ways of improving each course. When the students were not traveling, they were helping to develop the new Turfgrass Research and Diagnostic Center. The two students were involved with the program in 1998 were Seth Szobodi, a senior from Elkhart, and Kyle Johnson, a junior from Columbus.
- Dan Weisenberger continued to develop and refine the World Wide Web home page for the Turfgrass Science Program at <http://www.agry.purdue.edu/agronomy/turf/turf.htm>. The home page continued to be extremely popular, especially the "Turf Tips" which is timely maintenance advice update every 2 weeks during the growing season.
- Twenty extension publication were either written or updated in 1998. These are available from the Purdue University Turf Office, Country Extension Educators, or on the web site listed previously.
- A tremendous number of homeowners benefitted from the turfgrass program in 1998, primarily by indirect contact through county extension educators and press releases in local newspapers, but also through direct contact through phone calls, email, Master Gardener training, and the World Wide Web page.

Turfgrass Pathology

- Research initiated in 1998 on the influence of acidifying nitrogen fertilizers and fungicides on take all patch is beginning to show interesting results. A previously untried inoculation technique was successful and will allow direct comparison of the effects of treatments on take all patch development. It is expected that knowledge gained through this research will improve our ability to manage take all patch on sand based putting greens.
- Investigations regarding the efficacy of a biological control application for dollar spot control were continued. Results of research conducted in 1998 established that a commercial preparation of a soil fungus, *Trichoderma harzianum*, could be effective in reducing early season development of dollar spot.
- Experiments on the effect of spray volume (amount of water used to deliver fungicide to the turf) on brown patch were completed in 1998. Results showed that a contact fungicide applied at 0.75 - 1.0 gal/1000 sq. ft gave longer lasting brown patch control on creeping bentgrass than spray volumes equivalent to or greater than 1.5 gal/1000 sq. ft. Research will be continued in 1999 to verify the first year results.
- Standard trials to evaluate fungicides for control of dollar spot and brown patch were completed again in 1998. Results of the annual trials help the Purdue turf scientists provide accurate, current information on the performance of products registered for turfgrass disease control.

Turfgrass Entomology

- Chemical efficacy tests, financed by the chemical industry to evaluate and compare the effectiveness of new and existing insecticides for turfgrass insect pest control were continued in 1998.
- John Zenger is completed his Ph.D. in entomology. His research were centered around beneficial predatory insects in the turfgrass environment.
- Work regarding the behavior of adult Japanese beetles was started in 1998. It is designed to provide some initial clues as to the behavior of Japanese beetle flight and dispersal as well as to the influence of local host plants.