

Overview of the Turfgrass Science Program

The Turfgrass Science Program at Purdue University made tremendous progress in 1999 and under went many changes. We'd like to take this opportunity to update you on the progress of the program during 1999.

William. H. Daniel Turfgrass Research and Diagnostic Center

- Dedication of the William H. Daniel Turfgrass Research and Diagnostic Center was held on July 26.
- The building at the Daniel Turf Center was completed in April and has been an excellent facility for all those working at the Daniel Turf Center
- The teaching laboratory was used for 10 class meetings, 16 extension events, and for 18 other education programs with over 2400 attendees.

Personnel Changes

- Von Sigler completed his Ph.D. requirements in December. The title of Von's thesis was "The Fate and Impact of Chemical and Biological Control Measures on the Microbial Ecology of the Turfgrass Ecosystem". Von is currently working as a Postdoc Research Scientist in the Swiss Federal Institute of Technology. Ron Turco and Clark Throssell served as Von's advisors.
- Phil Harmon joined the turfgrass pathology program and is pursuing a PhD with Rick Latin on gray leaf spot.
- Randy Hamilton joined the Turfgrass Entomology Program as a PhD student. His interests include remote sensing to predict turfgrass insect stress.
- Amanda Lopez joined the turf program working on her Masters degree. Amanda is conducting research on the created wetlands on the Kampen Course under the direction of Ron Turco.

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.
- Sixteen students graduated in 1999, 12 with a B.S. degree in Turfgrass Science, four 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 1999. Funds for these scholarships came from the turf industry.

Turfgrass Research Program

- Von Sigler was the 1999 recipient of the Musser Foundation Fellowship. This prestigious Fellowship is awarded annually to one Ph.D. candidate conducting research in turfgrass science.
- Glenn Hardebeck completed the second year of M.S. studies working under the direction of Zac Reicher studying the use 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, perennial ryegrass 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 1999. These experiments included pre and postemergence control of annual grasses, postemergence control of 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, biological control of turfgrass diseases, and seedling establishment.
- Zac Reicher, Ron Turco, and Jon Harbor continued 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.
- Eric Kohler is conducting several experiments aimed at understanding how to better control ground ivy. His research is investigating whether differences exist among ground ivy populations that make it difficult to control and trying to determine better herbicide control strategies.

Turfgrass Outreach/ Extension

- Over 2500 turfgrass professionals attended on-going training programs presented by the Turfgrass Science Program in 1999. 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
- 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 continued 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 at the Daniel Turf Center. The two students were involved with the program in 1999 were Mike Rhine, a junior from Kokomo, and A.J. Huey, a junior from Fort Wayne.
- Dan Weisenberger continued to develop and refine the World Wide Web home page for the Turfgrass Science Program at <http://www.agry.purdue.edu/turf>. The home page continued to be extremely popular, with over 15,000 "hits" in 1999. The "turf tips" was especially popular in that it provides timely turf maintenance advice every 2 weeks during the growing season.

**Turfgrass
Pathology**

- A tremendous number of homeowners benefited from the turfgrass program in 1999, primarily by indirect contact with county extension educators and press releases in local newspapers, but also by direct contact through phone calls, email, Master Gardener training, and the World Wide Web page.
- The GCSAA-sponsored project on the influence of acidifying nitrogen fertilizers and fungicides on take all patch is entering its third year. Results from 1999 show that a pre-plant acidifying treatment (aluminum sulfate) was effective in reducing symptom expression. Timely applications of acidifying nitrogen fertilizer (ammonium sulfate) and a systemic fungicide (propiconazole) also resulted in significant reductions in take all patch severity. It is expected that knowledge gained through this research will improve our ability to manage take all patch on sand-based putting greens.
- Standard trials to evaluate fungicides for control of dollar spot and brown patch were completed again in 1999. Results of the annual trials help Purdue turf scientists provide accurate current information on the performance of products registered for turfgrass disease control.
- Philip Harmon initiated studies towards a Ph. D. degree in plant pathology. Phil will conduct research on the epidemiology and survival of the gray leaf spot pathogen, *Pyricularia grisea*.

**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 1999.
- Work regarding the behavior of adult Japanese beetles continued during 1999. 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.