



The Turfgrass Disease Diagnostic Lab: Report for 1996-1997

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What a year this has been for the TDDL!!! We feel that it is only fitting to recap this past years projects as many of you have helped support them through contract donations, donations of materials, and most importantly your continue encouragement. The main change was the hiring of Jeffrey Gregos, a graduate of the four-year Penn State turfgrass program. Jeffrey Gregos arrived in October 1996, just in time to get started on the snow mold trials for the winter of 1996-1997. As we look into the future we can only see the TDDL growing even larger. Hopefully, the University may even let us fill the vice-Meyer position. Until then we will try to fill the gap as best as we can. But, it depends on your continued support for the TDDL to function. So, in the next couple of months, when we start our fund raising campaign again, I hope that you think of us generously. Last year we had over 80 contract holders, this year we would like to break 100. So now for the detail of 1997.

Background: The Turfgrass Disease Diagnostic Lab (TDDL) at UW-Madison was organized in the spring of 1995 as a separate part of the Plant Pathogen Detection Clinic in the Department of Plant Pathology. The TDDL was created to provide more extensive turfgrass disease diagnosis to the commercial turf industry of the State and to initiate a research program on turfgrass disease diagnosis. Some immediate goals were to provide a rapid turn-around-time, voice contact with professional turfgrass managers, information on the diagnosis procedures, and recommendations for disease management.

In October 1995, the TDDL, the Department of Plant Pathology, and WTA joined resources to provide for the continuation and growth of the TDDL. This involved a fund raising effort by WTA to provide "contracts" of \$1,000 each from 23 donors. The WTA raised \$19,000 in contracts. The Department of Plant Pathology was committed to provide half of the salary for the TDDL diagnostician and additional funds for Mr. Steve Millett. With the reorganization in the fall of 1995, fees were increased from \$10/sample to \$20/homeowner sample and from \$25/sample to \$60/commercial turfgrass sample. A separate account was established for the TDDL in the Department of Plant Pathology so that its budget could be managed separately from any other departmental activities.

In October 1996, Mr. Jeffrey S. Gregos arrived to assume major responsibility of an expanded disease management program for the TDDL. Mr. Steve Millett shifted to a full-time graduate student position, but has continued to contribute articles for the Grass Roots. Mr. Gary Gaard handles the homeowner samples and wildlife enhancement program. Again, funding was to be a split of contracts (\$23,000), Department of Plant Pathology (salary for Gary Gaard, and half the salary for Gregos), and gift funds from a turfgrass multiple donor account. Additional

funding was received for the construction of the 20,000 sq. ft. green (WTA, private contributions, and grant/gift account). A \$29,000 contribution from Greens Mix for the greens mix was much appreciated.

Activities for the TDDL for 1997:

Samples processed: From April to Nov. 15, 1997, 205 turf samples were processed.

Commercial turfgrass manager samples (paid) = 30
Commercial turfgrass manager samples (contracts) = 9
Amateur manager samples (paid) = 84

Samples by manager type:

Golf course samples = 102
Sod grower samples = 1
Homeowner samples = 84
Lawn care samples = 16

Of the commercial samples, 1 was from out-of-state.

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Frequency of Turf Problems Diagnosed by the TDDL in 1997 205 Samples Through November 15

Diagnosis	Samples	Grower Type				
		GC	HL	LC	SF	AF
Environmental/cultural	46	17	24	4	1	0
Necrotic Ring Spot	24	0	17	7	0	0
Rhizoctonia Diseases	14	14	0	0	0	0
Typhula Blight	12	3	7	2	0	0
Take-all Patch	11	11	0	0	0	0
Leaf Spots	10	4	6	0	0	0
Anthrachnose	10	10	0	0	0	0
Microdochium Patch	9	9	0	0	0	0
Weed/Grass ID	9	0	9	0	0	0
Summer Patch	9	8	0	1	0	0
Chinch Bug	8	0	7	1	0	0
Unidentified/inadequate	6	3	3	0	0	0
Leptosphaerulina	5	5	0	0	0	0
Dollar Spot	5	4	1	0	0	0
Pythium	5	5	0	0	0	0
Phytotoxicity	5	3	1	1	0	0
Nematode Assays*	4*	4*	0	0	0	0
Fairy Ring	3	3	0	0	0	0
Slime Mold	3	0	3	0	0	0
Curvularia	2	1	1	0	0	0
Animal urine	2	0	2	0	0	0
Rust	2	0	1	0	0	1
Red Thread	1	0	1	0	0	0
Thatch	1	0	1	0	0	0
Algae	1	0	0	0	0	1
C-15 Decline	1	1	0	0	0	0
Tricks	1	1	0	0	0	0
TOTAL	203	101	84	15	1	2

*Not included in total, may be beyond thresholds, none established for turf in Wisconsin

GC = Golf Course; HL = Home Lawn; LC = Lawn Care; SF = Sod Farm; AF = Athletic Field

On-site visits: About 25 on-site visits were made: 20 to golf courses and 5 to home owners. All of the \$1,000 contract holders received site-visits this year.

Effort to increase contract holders: Two mailings (around 1,100 recipients), presentation at winter Turfgrass Expo, Northern Great Lakes Superintendents Association Meeting (Gregos and Maxwell), and coffee meetings (Gregos).

Coffee Meetings: These were organized to give Mr. Gregos the opportunity to visit with golf course superintendent members of the Turfgrass Industry in various parts of the State. They were held at Hudson, Green Bay, Woodruff, Appleton, Racine, La Crosse, Eau Claire, Stevens Point, Lake Geneva. About 50 contracts were obtained as a result of this "coffee meetings".

Educational programs: One computer workshop on e-mail and internet were organized for Turfgrass Industry at the Winter Turfgrass Expo.

One plant disease laboratory was offered at the Wisconsin Turfgrass School in February 1997.

Two summer disease training workshop were offered for support staff of golf courses and the Turfgrass Industry on contracts. Topics included hands on microscopic observation of turfgrass pathogens, biotechnology, and fungicide theory.

TDDL staff participated in the WTA Field Day in August. With the addition of three fungicide evaluation trials for the control of turfgrass diseases, and the sod evaluation.

Sessions on plant diseases were held at the second Homer Owner Field Day at the Noer Facility in August. About 100 people attended.

The world wide web site created by D. Maxwell and M. Maxwell, has been updated and encompasses over 50 pages of information on turfgrass diseases and the research being conducted by the members of the Turf Pathology Team (WEB address: <http://www.wisc.edu/plheathser>).

Monitoring of Biological Control Agents: Over the summer lab personnel assisted personnel from Westmoor in monitoring the populations of the bacterial biocontrol agent being tested for reducing dollar spot.

Molecular methods for detection of turfgrass pathogens: Continued efforts to develop molecular (DNA)-based methods for characterizing the major turfgrass pathogens. Some results were published in *The Grass Roots* and these methods are now being used in the Introductory Plant Pathology class this fall. This winter the sequence data for 6 turfgrass fungi will be submitted to the National Data Base for Genetic Information at the National Institute of Health, Washington, DC. Initially funded by WTA and continued funding from gift support and D. Maxwell's salary savings (The Dean's office now covers half of his salary).

Snow Mold Trials: Mr. Gregos established the snow mold fungicides test at four golf courses (four fairways and one putting green)—two northern sites, one central site, and one site in southeastern WI. Twenty-nine treatments were included. Steve Millett also established snow mold trials at four other golf courses. Snow mold field days were held at Gateway Golf Club, Sentryworld, North Hills C. C., O. J. Noer Turfgrass Facility. Results were presented at 4 locations in the spring with a half day field day at each location. Over 100 members of the Turfgrass Industry attended these field days. Research data was published in *The Grass Roots*.

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The trials have been expanded this year (1997-1998) with 75 treatments and are in 6 locations; Superior, Hudson, Sayner, Land O' Lakes, Stevens Point, and O. J. Noer. Field days are planned to be held at 5 of these locations this spring. Dates are yet to be determined and a mailing will be sent out in the spring.

Construction of green: With joint funding between the WTA and the TDDL a 20,000 sq. ft. green was constructed at the O. J. Noer Turfgrass Facility for Turfgrass Pathology Research. One thousand tons of greens-mix was donated by the GreensMix, Waupaca WI, and the construction was done by Admire Greenscapes, Randy Smith, Owner. Several other donations were received from Northshore C. C., irrigation; Reinders Inc., irrigation; Scotts Co, fertilizer; L. L. Olds Co., turfgrass seed; Long Island, Lurvey's, Jasperson, Jasperson Evergreen, Halter, and Deaks Sod Farms, Kentucky bluegrass sod; Blackhawk C. C., equipment; Maple Bluff C. C., equipment; Wisconsin Agricultural Research Stations, labor and equipment. With these donations we were able to keep the costs well under the budgeted \$25,000 from the WTA and \$10,000 from the gift/grant fund from the TDDL program.

The green was used for the evaluations of dollar spot control for summer 1997, and as it matures plans are to use it for spray volume research, and anthracnose/summer patch trials in addition to the dollar support trials.

Construction of fairway for brown patch evaluations: An old Kentucky bluegrass plot was renovated and re-established with Colonial Bentgrass. The seed was donated by L. L. Olds Co., and it was established by TDDL staff. This summer 19 treatments were evaluated in the trial. Next year 25-30 treatments should be evaluated.

Sod plots: Thirteen sod growers from across the state have participated in this trial. This long-term evaluation was established this spring and will continue for 4-6 years. Initial funding by the WTA of \$1,200 has been obtained for establishment of these plots. Additional funding of \$900 a year has been committed to continue the research on this plot for the duration of this project.

Pythium Greenhouses: Two green houses (\$5,000, gift/grant funds to TDDL) were ordered this fall and construction of them started. The greenhouses are required to promote an ideal environment for the evaluation of Pythium Blight controls. Irrigation system expansion is

required for this area and will be installed this fall or next spring. This cost will be made up over the next year or two with grant-in-aide from trial entries.

The Grass Roots Articles: In total the members of the Turfgrass Pathology Team have written over 12 articles for the Grass Roots this past year. Major authors included Gaard, Gregos, Maxwell and Millet.

WTA Newsletter reports: Several articles were written for the WTA news letter this year by Gregos and Gaard.

Grant proposals submitted: The Turfgrass Pathology team has recently been involved in two grant proposals, one for the USGA and the other an Interdisciplinary Hatch Grant.

The USGA proposal is for additional funding for Mr. Millet's Ph. D. requirements and additional funding for Mr. Gregos' snow mold control evaluations. The final proposal was submitted at the end of October. Final approval should be known in the next couple of months.

The Interdisciplinary Hatch Grant has been prepared by member of the Horticulture, Agronomy, and Plant Pathology Departments. This grant is for the selection and production of turfgrass germplasm for resistance to snow mold. This will be the direction of Mr. Gregos' master degree program. This funding if approved will not be available until fall 1998.

Wildlife Enhancement: Plant Pathology Department provided 20% support of technical staff member (Gaard) to work on environmental issues.

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On July 23 The O. J. Noer Turfgrass Research and Education Facility received a letter from The Audubon Cooperative Sanctuary System of New York. Their letter states "Congratulations! You have been designated as a **Certified Audubon Cooperative Sanctuary**".

A low maintenance wildlife garden designed by a Landscape Architecture student Becky Hanson was seeded with CARE-FREE fine fescue. Nurseries have committed to contributing most of the shrubs and trees for this garden. They will be planted in the spring of 1998. The garden includes several areas for demonstration of ground covers.

The National Park Service will provide seed for one acre of prairie (seed mix is three grasses and 18 forbs). Landscape Architecture student Brad Guhr will supervise establishment as part of his graduate training. An area 12,600 square feet was seeded October 9. A 13,000 square foot area will be seeded next year. Both areas are on University Ridge G.C. property—Jeff Parks has helped with planning and area preparation.

Volunteer undergraduate students from Wildlife Ecology will help establish and monitor a fifty house bluebird trail on University Ridge and the Noer Facility. A bat colony house was built and put up.

Common interest has been identified with both the Madison Audubon Society and the Bluebird Restoration Association of Wisconsin. There are indicators that they would support education and outreach, and also provide financial support for research.

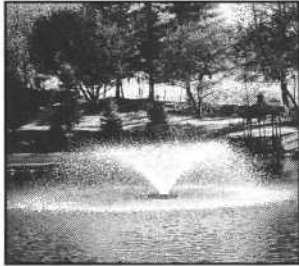
Development of the portion of the Ice Age Trail that crosses the Noer Facility have been reactivated. The wildlife garden is an example. The only other planned addition on the Noer Facility is a demonstration area of turfgrasses for the walking path.

Turfgrass Disease Scouts: The TDDL attempted developing a disease scout network this year to disseminate information to the growers in a timely and efficient fashion. As result of the time constraint on the growers picked and the TDDL personnel, this was found to be impractical. Also the number of hits taken on the TDDL site is lower during the summer months. As a result of this experience, this effort will be abandoned for 1998.

Future Plans:

It is proposed that the Wisconsin Turfgrass Association and the UW-Madison continue the partnerships to fund a full-time turfgrass Specialist (Jeffrey Gregos). This person would have the following responsibilities: diagnosis of the turfgrass diseases (nearly full-time from May to Oct.), provide expanded educational and outreach programs, and assist in applied research. The Plant Pathology Department has made a commitment for the near future to fund half the salary for this position. Additional student helpers (partially paid by gift/grant funds) will be hired in 1998 to assist Mr. Gregos in plot maintenance and the applied research program. ♣

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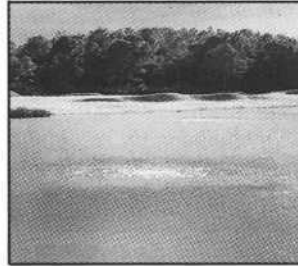


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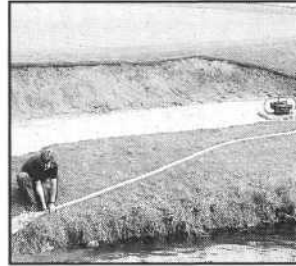


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