Turfgrass Education at UW-Madison

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The last several years have been an exciting time for the turf program at UW-Madison because vacant positions have been filled and a greater level of commitment made by the College of Agriculture and Life Sciences. Since 1997 three faculty/staff positions have been added, and a fourth professor has begun collaborations with the group. The number of graduate students has risen from an average of one to a current total of eight. This type of commitment is necessary to position UW-Madison as a nationally recognized turf program. As important as the research and extension efforts are, we would not be here if not for the students. The entire turf team has worked hard to continue and to expand the turf course offerings at the university to give our students the best education possible.

History of the Program

Traditionally UW-Madison has offered two turf courses: Turf Management and Nutrient Management:Turfgrass. The Turf Management course is similar in scope and focus to many across the country. Course objectives include turfgrass identification and use, establishment, and the basics of the primary (mowing, fertility, irrigation) and secondary cultural practices (cultivation, topdressing, and pest management). Students achieve these objectives through a combination of formal classroom instruction and weekly laboratory sessions. The labs provide an important part of the students' education because education is combined with training. Examples of lab topics include sprayer and spreader calibration, establishment, cultivation, and mowers. Field trips are included to enhance students' exposure to different perspectives and types of turf management (e.g., golf and

sports turf). This is necessary because less than half of the typical 25 students plan on being golf course superintendents. The rest are general horticulture majors with a smattering from other disciplines such as landscape architecture or civil engineering. Many of these students end up having responsibilities in turf management as part of their job following graduation.

The Soil Science department is the home base for the turf program. Most of the undergraduates in the turf program are soil science majors advised by Dr. Wayne Kussow. As part of their curriculum, turf students complete the nutrient management:turfgrass course. Students learn in-depth the nutrient requirements of turfgrasses, turfgrass response to fertilizer types and timing of application, types of fertilizers and their use in an environmentally sound manner.

Both of these courses are taught each autumn. In order to compete on a national scale, though, turf students deserve access to more turf classes. The turf group has developed two additional courses in the past two years in order to help meet this need.

An Advanced Turf Course

Formally approved in spring 2000, the Advanced Turf Management and Physiology course was first taught as an experimental offering during autumn 1998 in accordance with UW guidelines. Eighteen students signed up, a good number for a new course! The course received overwhelmingly positive feedback and support from the students. The course meets three times weekly for 50 minutes. All of the students plan on making their career in the turf industry. Many have multiple years of turf experience which makes for good question and discussion, something which is sadly lacking in many undergraduate courses. The course focuses on how turf physiology and growth is influenced by management practices and by the environment. Discussion includes how management practices can be tweaked or changed to get the most desirable response out of a turf. Lectures begin with a recap of photosynthesis, respiration, and carbohydrate production and use. This is followed by lectures on environmental stresses: shade, drought, heat, and cold. Other sessions focus on new and unique aspects of turf management, ranging from how biotechnology will affect superintendents of the future to dealing with environmental issues. Students learn to use

the TurfGrass Information File (TGIF), an on-line database of turf information accessible through the internet.

Perhaps the most singularly useful aspect of the course for students is the special project. Based on a format perfected at Ohio State University by Dr. Karl Danneberger (1), students must develop a management plan and an itemized budget for a golf course situation. Working in groups of two to three, students are given a golf course description on paper (9 or 18 hole, public or private, bentgrass or Kentucky bluegrass fairways, disease problems, etc.). They are given a budget which they cannot exceed. Students develop management plans for their golf course including mowing and topdressing schedules, pesticide applications, bunker renovations, etc. An itemized budget is developed for all possible items including topdressing, fertilizer, pesticides, equipment, gas/oil, insurance, and labor. Students submit both a written plan/budget and deliver an oral presentation to the class to justify their management systems and their budgets. Student evaluations are included in the grading process. This is intended to enhance the students' oral communication skills.

How About Turf Pest Management?

In the autumn of 1999 Dr. Chris Williamson and I developed and taught another experimental course entitled "Holistic Turf Pest Management", primarily weeds and insects (we did not have a turfgrass pathologist at this time). This course also met three times weekly for 50 minutes. For five weeks we covered weed biology, cultural, and chemical controls. Insect biology and management were covered the second 5-week period. Now that Dr. Geunhwa Jung is on board as the turf pathologist, we have discussed offering the class again and including a section on turf disease identification, epidemiology, and management. While student evaluations were excellent for the first time the class was taught, we now would like to offer it at a time and in a manner which would allow superintendents a chance to take the course. The way we plan to accomplish this is through distance education.

Getting YOU Involved!

Using compressed video technology, we would beam the course as live presentations to areas outside of Madison, e.g., UW-River Falls, UW-Stevens Point, and Milwaukee Area Technical College. Plans are to offer the course during the autumn, probably one night each week, for a 3-hour period (e.g., 4-7 pm). Superintendents could enroll in the course without enrolling as a college student, because this course would be taught through both UW-Extension and UW-Madison. This would still allow traditional college students access to the course. The transmission and technology costs would be covered through fees paid by the students. We are now in the planning stages, with a course offering possible as early as autumn 2001. As always, we are seeking input and would appreciate hearing any suggestions you have for course topics and direction (e.g., should more time be spent on chemical versus non-chemical pest management, etc.). If PDI does come to pass, maybe we could get this course to count for credit.

Literature Cited

Danneberger, T.K. 1994. Integrating classroom instruction with turfgrass field experience through a golf course project. J. Natural Res. and Life Sci. Education 23(1):56-58.