Costs, Benefits and Structure of the UW-Madison Turfgrass Program

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Budgets seem to have been on everyone's minds the past few years. Superintendents have had to figure out how to make do with less, and in many cases that means fewer personnel and reduced hours. The UW turf program faces the same pressures. It's been marvelous to see, how despite constraints on their own budgets, superintendents have recommitted their efforts to helping support turfgrass research and extension in Wisconsin through general funding support and the Par4 Research program.

Part of the efforts seem due to the acknowledgement that the University of Wisconsin provides a full complement of turfgrass faculty, greater than at any time in history. We have four full-time faculty members working in turf: Dr. Doug Soldat, Soil Science Department, who focuses on soils, nutritional, and water issues; Dr. Jim Kerns, Plant Pathology Department, is the resident turfgrass disease specialist; Dr. Chris Williamson, Entomology Department, addresses insect issues for turf and trees, and Dr. John Stier, Horticulture Department, hired to provide expertise in environmental issues, grass selection and weed management. All four are knowledgeable about turfgrass management in general and can fill in for each other on providing general turf information for extension or educational programs.

Funding for our positions comes from a combination of UW-Madison and UW-Extension. Jim and Chris have appointments as 70% Extension and 30% Research. Doug's appointment is 60% Extension, 25% Research, and 15% Instruction. The research and instruction portions of the appointments are paid for by UW-Madison. John's appointment is 70% Extension and 30% Instruction.

The UW Turf program offers more turf-related courses than any time in history: Introductory Turf Management, Introductory Turf Management Laboratory, Turfgrass Nutrient and Water Management, Advanced Turfgrass Physiology and Management, and Lawns, Society and the Environment. Chris and Jim also teach sections of introductory entomology and introductory plant pathology specifically for turf students.

Besides faculty, the UW Turf team includes several staff, graduate students, and hourly workers. Tom Schwab is the manager of the O.J. Noer Turfgrass Research and Educational Facility. Outside of the four faculty and Tom, most of the staffing of the turf program is paid for by grants, gifts, and revenue generated from special activities such as the Turfgrass Diagnostic Laboratory and educational events (Table 1). Audra Anderson, the receptionist, works part-time for the O.J. Noer facility and part-time for the Wisconsin Turfgrass Association, plus a small appointment paid for by Jim Kerns for clerical assistance with the Turfgrass Diagnostic Laboratory. Paul Koch, Ben Pease, and PJ Liesch are staff members employed by faculty to assist with turfgrass research and outreach: they run the day-to-day activities associated with the 100 or so individual research projects, particularly trials evaluating new products such as pesticides, cultivars, and fertilizers. About 12 hourly workers are employed during the summer to maintain the OJ Noer grounds and assist with research projects, with state support for only two of the workers, who deal with management of the grounds and building while gift and grant dollars support the other ten workers. Several UW-Madison students are also employed during the school year to help with various research projects. The annual total employee cost is about $275,000, with slightly over half provided by the turf faculty.

Research is fundamental to acquiring information the UW Turf Program uses to provide assistance to the industry and education to students. Graduate students are hired on grants and non-state funds to conduct much of the in-depth, novel and groundbreaking research. The UW turf program has one of the largest graduate student bodies in the country. A graduate student costs a professor approximately $34,500 per year, including stipend ($21,000), fringe benefits ($6,018), and tuition ($8,000). This year's cost of graduate student salaries, fringe benefits and tuition is $413,016. Costs for supplies, travel, analyses, and other expenses associated with each project are extra, and can be enormous. The information on the effectiveness of late fall fertilization, for example, generated by Dr. Doug Soldat's graduate student Dan Lloyd, took twoyears and over $160,000 in direct costs to gather (Table 2). The information is already gaining national and international recognition, and is being used to revise long-standing extension recommendations (Lloyd et al., 2009; 2010).

Table 1.Funding sources for support staff of the UW-Madison turfgrass program.

	Funding Source	
Position	**State (University)**	**Grants, Gifts, Program Revenue, other**
Superintendent (Tom Schwab)	100%	---
Clerical (Audra Anderson)	20%	60%
Technical (Paul Koch) *	100%*	---
Technical (Ben Pease)	40%**	40%
Technical (PJ Liesch	---	100%
Hourly Labor	~ 25%	~ 75%
Gradutate Students	---	100%

* This position will lose all state funding support by 2014-15.

**This position could lose all or part of state funding support beginning in 2012.

Table 2. Costs associated with Dan Lloyd's Master degree project on cold weather nitrogen uptake. 2007-2009

Item	Amount
Stipend/benefits/tuition (2 yrs)	$69,000
Plant & soil analyses	$70,000
Cold room rental	$7,500
Nitrogen enzyme assay chamber	$10,000
Student labor	$3,000
Miscellaneous supplies	$1,000
Travel	$1,000
Publication (estimated)	$1,500
TOTAL	**$163,000**

In addition to staffing, capital and maintenance expenditures at the O.J. Noer are borne by a combination of funds from the state and professors' programs (Table 3). Since its development in the early 1990s by the Wisconsin Turfgrass Association, the O.J. Noer facility has doubled its research land area while state funding has been largely flat. In 1992, the station received approximately $15,000 for an operating budget which included hourly labor, fuel, and supplies; in 2011, the station will receive $16,000. Irrigation improvements, and capital items such as sprayers, trap rakes, and mowers are increasingly paid for by professors' program revenue and gift accounts.

Professors get their money from a variety of sources. Federal and state grants supply an increasingly important part of the funding (Figure 1). Grants are desired by UW administration, because up to 50.1% of the grant dollars are taken by the campus as "indirect costs". These indirect costs are used by the campus for multiple purposes, including infrastructure maintenance, utilities, and supporting personnel to ensure we comply with increasingly complex federal rules. Grant proposals are reviewed by campus to make sure they meet legal and accounting requirements. Once received, each purchase has to be reviewed to make sure it meets grant rules established by federal and state governments (e.g., approved vendors). Three years ago a new software program was developed and is now used by each professor for recording the time spent on grant-funded activities at six-month intervals. Grants typically have many strings attached, and do not allow for unexpected expenses such as repairing a mower. Depending on the type of grant, a number of expense types are not allowed in any circumstance, such as purchases of paper, pens, computers, or various expenses associated with graduate students. Grants always have an end-date, and funds cannot be kept past the end date for other purposes. Program revenue has fewer strings attached, though approval is needed before anyone can be hired on the funds. Program revenue is generated from fee-for-service activities, such as samples diagnosed by the Turfgrass Diagnostic Laboratory or educational events such as Dr. Soldat's NR151 training sessions. Gifts are the most desirable type of money from a professor's viewpoint, because there are few restrictions on the types of ways they can be spent and there is no expiration date.We use this type of funding for items such as topdressing sand, irrigation parts, miscellaneous supplies, funding hourly workers, travel to conferences, extension travel to assist golf courses, computers, writing supplies, paper and photocopying. As funding sources change, so does the type of research we can do. In my early years at UW, a significant amount came as gifts from the WGCSA and the WTA. Loss of these funds make it difficult to conduct golf turf research, as federal and state grant programs rarely fund golf turf research.

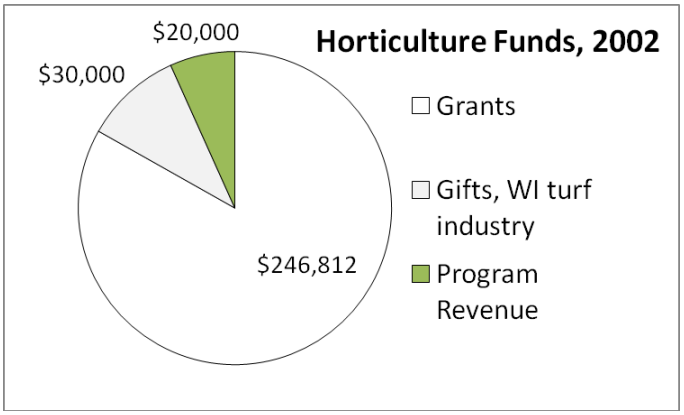
The impetus for this article came from a couple sources. First, the state's current budget deficit has resulted in many questions from the public about its tax dollars. Second, a suggestion from a long-term UW turf program supporter and superintendent at this year's Northern Great Lakes Golf Course Superintendents Association conference indicated that turf association funds should not be used by faculty for travel. I realized then that perhaps we had not sufficiently shared information with the Wisconsin turfgrass industry about where we get funds for our activities. As a colleague of mine put it, when a professor is hired, they get a desk and a license to search for money (and we sometimes have to buy our own desks). Outside of state support for our salaries, and a declining amount of funds for staff salaries, almost all the funding for the UW turfgrass program comes from money received as gifts, grants, and program revenue. Its these funds that underwrite the research and activities we provide for extension recommendations and support, such as the product and cultivar evaluations, answers to phone calls and emails, site visits, writing in The Grass Roots and newsletters, speaking engagements like the WTA Expo, Field Day, Reinders Conference and monthly WGCSA meetings, and information relayed to state and federal agencies like Department of Agriculture, Trade and Consumer Protection, the Wisconsin DNR, and the US EPA.

The recommitment from the WGCSA to help support turfgrass research and extension is vital to maintain college support for the program. As state resources decline, administrators seek to leverage funds where they will do the most good, and that includes looking at industries that will help support various programs such as potato, soybean production, nurseries, and turfgrass management. We look forward to enhancing our ability to serve the industry, and to seeing all of you at this year's field day.

Table 3. Example of typical annual maintenance and capital expenses for the O.J. Noer Turfgrass Research and Educaitonal Facility in Madison, WI

	State (University)	Professors
Captial Items	$8,000+*	$27,000*
Miscellaneous supplies	$2,000	$15,000
TOTAL	$10,000	$42,000

* Actual amounts can vary widely. For example, in 2011 a new pesticide building was funded from nearly 100% state funds. A rain-out shelter for research is currently being funded by professors' programs with a total esti mated cost of $100,000.



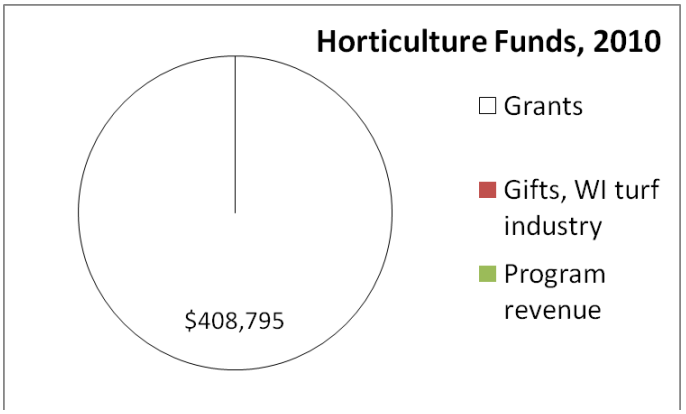


Figure1. Sources of funds for turfgrass programming in John Stier's program through the Department of Horticulture, UW-Madison. Program revenue operations were given over to other faculty in 2008.

References

Lloyd, D., and D. Soldat. 2009. Late-fall nitrogen applications: Not as important as you think! The Grass Roots 38(5):40-41.

Lloyd, D., D.J. Soldat, and J.C. Stier. 2010. Low temperature nitrogen uptake by cool-season turfgrasses. 2nd European Turfgrass Soc. Conf. Proc. p. 114-115.