

Finding answers to the unknown

By Lori Ward Bocher

There's no doubt about it. John Stier, the new turfgrass specialist at the University of Wisconsin-Madison, was born to be a scientist. "I like the challenge of finding answers to the unknown," he admits. He lists his various research jobs and projects like a teacher calls roll. And his list is just as long as any teacher's roster.

Maybe it was his farm background that opened the door to his scientific career. Born in 1964 on a farm near Mt. Clemens, Mich., his family moved to the suburbs of Troy, Mich., when he was only 4 or 5 years old. "But I spent most of my summers on my grandparents' or uncle's farm," he relates. He also worked for the Youth Conservation Corps and, as a senior in high school, for a Soil and Water Conservation District.

"After high school, I received a scholarship to attend the Agricultural Technical Institute in Wooster, Ohio, where I studied laboratory science and technology and got my associate degree in 1984," John explains. "While I was there, I also worked at the Ohio Agricultural Research and Development Center in the laboratory for environmental studies on an acid rain project."

After earning his associate degree, he started working on a bachelor's degree in plant pathology at Ohio State University. When he needed to take some time off to earn money for college, he once again found scientific jobs as there, I also worked at the g the effect of herbicides and insecticides on corn and soybean field plots in Iowa, and at the University of California-Riverside department of plant pathology working with tobacco soils and microbes.

Back at Ohio State University, he worked in the turfgrass plant pathology lab studying the epidemiology of Pythium blight on turfgrass. This became the point in the young scientist's career when he decided that turfgrass would be his major emphasis. "I liked the people who I was working with in the turf industry, mostly at the Ohio Turf Foundation at that point," John says. "I saw a lot of opportunities for good science to be brought into the turf arena."

In 1988 he began his master's degree program in plant pathology at Ohio State. "While there I helped develop a monoclonal antibody-based ELISA test to identify *Leptosphaeria korrae and Magnaporthe poae*, rootrotting pathogens of turfgrass that cause necrotic ring spot and summer patch disease, respectively," John explains. He also taught the laboratory sections of the introductory plant pathology course for a couple of years.

The busy student found some time for romance, for in 1990 he married Valerie, also a student at Ohio State.

And the list goes on. After earning his master's degree in 1991, John stayed at Ohio State to work as a research assistant in the agronomy department. He worked on a soils physics project, studying the effects on soil when sewage sludge that contains the fat substitute, Olestra, is spread on fields. This study was needed in order for Olestra to gain EPA approval. "It was a stinky project," John adds.

A more exciting — and less stinky — project took him back to Michigan in 1992. "I was hired by Michigan State University to conduct research on and supervise the construction and maintenance of the world's first





portable, natural grass athletic field," he says. This field was needed to cover the artificial turf at the Pontiac Silverdome for the 1993 US Cup and 1994 World Cup soccer tournaments.

"My role was multi-faceted," John explains. "I was responsible for conducting research to learn management techniques to grow grass indoors. I was also responsible for getting designs for building the portable field, for overseeing the construction of the portable field, and for managing the field for two years.

"We had steel hexagonal modules built for us, six inches deep and 7-1/2 feet across with removable side walls," he continues. "We filled those with a sand-based root zone mixture and sodded that with grass grown on plastic. Volunteer labor was used to fill and sod the modules. The golf course industry and the green industry in general was extremely helpful in donating lots of equipment and labor for this project.

"We grew the grass modules outside for a month, and then moved them inside in June of 1993," John explains, adding that there were approximately 1,994 hexagonal units to move and piece together. The natural grass was in the stadium for a month, and then moved outside until it was needed again in 1994 for the World Cup soccer tournament.

Another part of John's job was to provide write-ups on the status of the project and to conduct newspaper, radio and TV interviews. "I liked the exposure and the recognition that I got," he relates. "I also liked the challenge. Almost everyone said it would never work, and we proved them wrong. We made it work very well. We generated one patent (methods for growing turfgrass in covered stadia under reduced light conditions) and had several articles published."

After the World Cup, John began his PhD program at Michigan State where he:

- researched the effects of plant growth regulators on turf growth
- researched photosynthesis in reduced light conditions
- conducted field studies with a new grass, Supina bluegrass (Poa supina) for use on high-traffic areas of athletic fields and golf courses
- taught the advanced turfgrass management and physiology course for two years
- finished his PhD in January of 1997.

But the highlight of his Michigan State years undoubtedly was the birth of his son, Thomas, in 1995.

"After I got my PhD, I continued working on some projects, including one in Argentina for growing grass inside of a covered stadium that they're building down there," he points out, adding that the turf will be inside on a permanent basis. "I've also been involved with an athletic field renovation in Spain. And I've traveled to England, Germany and Austria for turf related projects."

In January of this year, John started interviewing for faculty positions. In addition to the UW, he interviewed at Michigan State, South Dakota State, Montana State and the University of Kentucky. "I chose Wisconsin partly because the turf organizations appeared to be very well organized and have good, solid histories behind them," he points out. "And I saw more opportunities for building the turfgrass program here at Wisconsin than at any of the other universities. I also saw opportunities to develop my own research program with very good support from staff and a very free, openhanded department and college."

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He was very impressed with the OJ Noer Turfgrass Education and Research Facility. "That facility is the marquee facility of the country," John believes. "Delegations from other Midwestern states have been coming up here since it was built in 1992 to look at it and try to emulate it back in their own home states.

"It's well planned, well constructed, aesthetically appealing, and very functional," he continues. "It has a good conference room, a good classroom, offices, and bathrooms. My wife, who has been with me at many turf research facilities over the years, is very impressed that it has both a men's and a women's bathroom!

"The research plots are very well laid out," John adds. "And we have wonderful support from the equipment, chemical, fertilizer, and seed dealers in the green industry in terms of donations. That's very appealing — something not all states have."

John began his duties here on April 11. He resides in the horticulture department and also has an office at the Noer Facility. His position is 70 percent Extension and 30 percent teaching (Horticulture 261, introductory turf), with research expected. "So I have a 150 percent appointment," he jokes. He has definite goals for each area of responsibility. These include:

Teaching:

- add an advanced turfgrass course
- add a turf pest management course which will combine weeds, insects and diseases.

Research:

- thatch degradation and disease suppression using specific microbes
- cold tolerance in turfgrass
- shade management for creeping bentgrass greens
- athletic field management.

Extension:

- provide training to the local horticulture agents so they can better handle turf-related problems in their counties or areas
- expand the existing support base enjoyed by golf courses and lawn care companies to the athletic field industry, too
- continue Turf Expo and the turf school in the winter months
- continue and improve on field days
- eventually meet all of the golf course superintendents and become better acquainted with the green industry organizations.

With so many things that could or should be done in turf education and research, how does he decide where to put his energy and time? "Partly, I have to keep in mind that I have to meet the tenure requirements, which rely heavily on publication of research in refereed journals," he answers. "So, right away, part of my time is designated for that.

"Then I look at the importance of a project," John continues. "For example, if Lambeau Field has a problem, I would consider that top priority because of the national and international recognition that field receives." This summer he provided some help for the Lambeau Field renovation. "I also look at projects where I feel I can really help out," he adds. "For example, if someone needed some advice in the pre-construction or construction phase when building a soccer field, I could make a big impact with minimal effort and perhaps save them a great deal of frustration and headache in the future.

"I also want to be involved with things that will bring recognition to the turf program and turf industry in Wisconsin on local, state, national, and international levels," John says. "One of my long-term goals is to make the Wisconsin turf program one of the leaders on an international scale." He presently sees Michigan State and Penn State as the leaders, with Rutgers University fast rising in prominence.

John and his wife, Valerie, are impressed with Wisconsin. "We bought a house between Stoughton and Oregon. We love it here!" he says. "We like it better than Michigan. We like the people that we interact with, either in the stores, at work, or in our neighborhood. We love the beauty of the countryside. It's much more interesting than flat Michigan."

Valerie is at home with their 2year-old son, Thomas. Together, John and Valerie enjoy gardening, camping, hiking and bicycling. John also enjoys golfing and soccer. For an indoor activity, he likes to read history and English literature.

The next time you need a turf scientist, someone who likes to find the answers to the unknown, give John a call. He was born to be a grass-roots scientist — pun intended. W

