



It's a Good Thing He Enjoys Diversity

By Lori Ward Bocher

Last summer, when Prof. Doug Maxwell was asked to assume leadership for the University of Wisconsin's Turfgrass Disease Diagnostic Laboratory, working with turfgrasses was a new challenge for him. But accepting a new challenge was old hat — something he's done several times since he joined the UW faculty in 1968.

"I've accepted many challenges in my career," Prof. Maxwell remembers. "Just the other day I was thinking about this. Faculty members have to be flexible because we don't know what we might be asked to do.

"I've always felt responsible for serving the state and interests of the University," he continues. "So when the plant pathology department chair asks me to start up a whole new endeavor, I try to do the best I can. Sometimes I worry about doing as good a job as I can when I have so many different responsibilities. But I enjoy the challenge."

Facing challenges is something Doug Maxwell learned to do during his childhood. He was born in central Nebraska in 1941. "I was the only child delivered in a hospital by our local doctor out of 2,000 births," he relates. "All the others were home births, which means my mother had problems, obviously."

Prof. Maxwell lived on a farm until he was in the fifth grade. "My father worked extremely hard," he remembers. "We had two tornadoes and three or four severe hail storms and floods. After eight to ten years, he went broke and we moved into town (Albion, Nebraska) where he sold International farm equipment. Later he bought a Coast to Coast hardware store.

"But my upbringing was really influenced by those first ten years on the farm," Prof. Maxwell continues. "We didn't have electricity. We didn't have indoor plumbing. And we lived through the snowstorms of '48 and '49. They were terrible."



Professor Doug Maxwell

During one of those storms, Prof. Maxwell and his teacher, who was living with his family at the time, left school on horses and headed for home. "We got lost in the blizzard, a real white-out," Prof. Maxwell recalls. "If it hadn't been for the horses, I wouldn't be here today. The horses found our house. It was unbelievable. The teacher never should have started us for home."

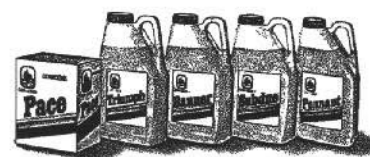
While he was still on the farm, Prof. Maxwell attended a one-room rural school. "We had eight children in eight grades," he remembers. "I had four students in my grade alone."

After graduating from Albion High School, he attended Nebraska Wesleyan University in Lincoln where he majored in biology, chemistry and physics. "I became fascinated with biology when I was in high school, and I wanted to become a biology teacher," Prof. Maxwell points out.

During his junior year in college, his biology professor arranged for him to participate in a plant pathology research project at Cornell University in New York. "I did that during the summer of 1962, and I decided that research was something that I really wanted to do," he explains. "I was fortunate enough to get a fellowship to go to Cornell University."

So he graduated with highest distinction in 1963 from Nebraska Wesleyan University, and then headed for Cornell. In 1964, he married Martha Dennison, who also was an undergraduate student in the sciences at Nebraska Wesleyan University.

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Prof. Maxwell never got a master's degree from Cornell — he went right into the doctorate program and received his PhD from Cornell in 1968. "I worked on the biochemistry of oxalic acid production by a plant pathogenic fungus," he explains. "THE GRASS ROOTS readers should know that I started my career in fungi."

Before finishing his doctorate program, in the spring of 1968 he accepted a job with the College of Agricultural and Life Sciences plant pathology department at the University of Wisconsin-Madison.

Prof. Maxwell chose Wisconsin for two reasons. "I thought the plant pathology department chair here, Arthur Kelman, was one of the nicest persons I knew," he explains. "And I had a chance to teach introductory plant pathology. Teaching attracted me."

And so Prof. Maxwell began his ever-changing career at the UW. Two highlights of that career were receiving the CALS Outstanding Teacher Award in 1975 and being named a Fellow of the American Phytopathological Society in 1991.

"I was originally hired to be a forage grass pathologist, which means that I was to work on diseases of brome-grass, orchardgrass and timothy," Prof. Maxwell points out. "And the colleague with whom I worked most closely at that time was Prof. Gayle Worf."

"It wasn't long after I joined the department that I was asked to assume a new role in plant pathology — assisting Dr. Richard Smith from the agronomy department in breeding red clover for disease resistance," Prof. Maxwell recalls. "And so I worked with him for about eight years."

"And then I started a program on soil-borne plant pathogens that cause diseases of alfalfa," he continues. "I worked on phytophthora root rot of alfalfa."

He was named chair of the plant pathology department in 1980, a position he held until 1991. "I was probably one of the youngest chairs," he points out, adding that he was 39 years old when he began his new duties. "I was interested in administration and felt I could provide some leadership to the department."

"That time was particularly important to the department because we switched from classical plant pathology to molecular plant pathology, which orients research projects toward appli-

cations of molecular biology," he explains.

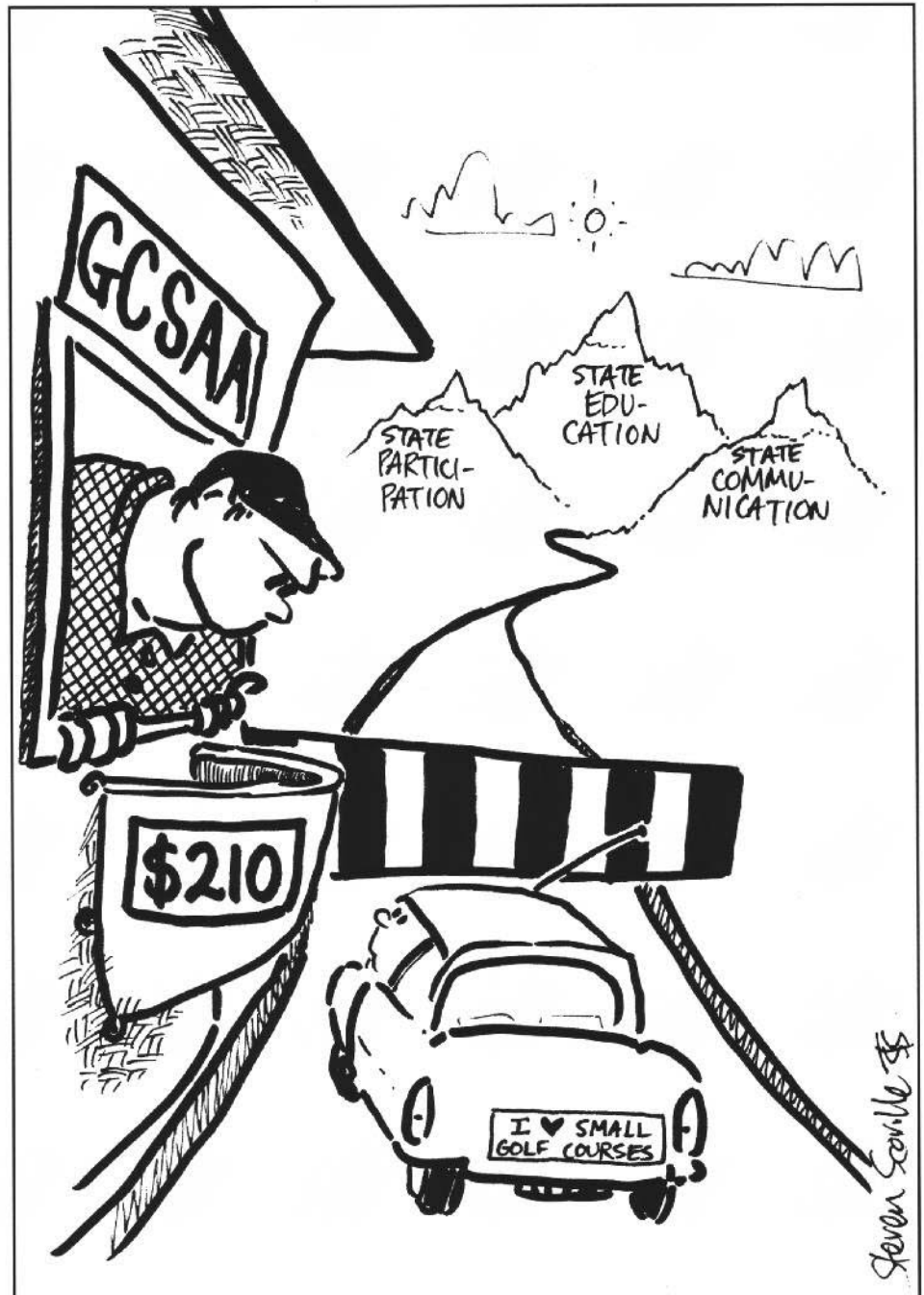
In 1984, while he was still department chair, Prof. Maxwell faced another new challenge. "I was asked to start an international research program in Brazil," he says. "So during the next few years I switched from working on alfalfa to working on diseases of vegetables in the tropics. I primarily worked on dry bean diseases, breeding for disease resistance, until 1988."

"Since 1988 I've worked on what's the equivalent to the AIDS virus in the plant world—the geminiviruses, so named because they have twin particles," Prof. Maxwell explains. "They're

extremely serious, devastating, and difficult to control. We work on diagnostic tools, characterization of the diversity of the viruses, and the use of recombinant DNA strategy to develop transgenic plants that are resistant to the virus."

Prof. Maxwell works primarily with beans and tomatoes. Since geminiviruses are a problem in the tropics throughout the world, he has found himself traveling to Taiwan, India, Egypt, Spain, the Dominican Republic, Jamaica, Honduras, Guatemala, Nicaragua, Cost Rica, Colombia, and Brazil.

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"That's very draining on me physically," he says of the international travel. "Until I started working with the turf program, I would be gone a third of the time—more than a week per month. Now I travel primarily in the spring."

His geminivirus research has been sponsored primarily by USAID—United States Agency for International Development, which is a part of the U.S. State Department. "And it's part of a major project called the Bean/Cowpea CRSP Program," Prof. Maxwell adds. "They have supported me for 15 years now."

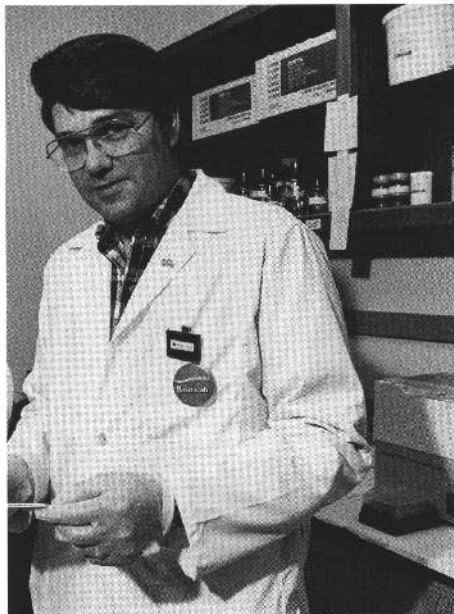
In 1993, Prof. Maxwell stepped beyond the boundaries of plant pathology to serve as the CALS interim dean in academic student affairs. "At that time we were interested in increasing the involvement of faculty at CALS in undergraduate biology. That was my one big goal there," he explains.

While he was department chair for 10-1/2 years (1980-91), Prof. Maxwell did very little teaching. "My research program was pretty good sized—I had 15 people working in my lab. So I didn't have time for teaching."

But in 1994 he was asked to start teaching the introductory plant pathology course again. "I've done it for two years now and I've had a great time," he says. "And I'm back working with grasses again, but this time a different group of grasses."

That's because, in the summer of 1995, he was asked to assume leadership for the Turfgrass Disease Diagnostic Lab. He also assumed some Extension duties. "Wherever there's a turf event, our group puts on something about disease diagnosis," he points out.

He accepts the challenge with spe-



Dr. Douglas Maxwell at work in his lab.

cific goals in mind: making the TDDL the best it can be; developing better diagnostic methods for turf diseases; and encouraging superintendents to use electronic communications.

"The lab is my biggest issue," Prof. Maxwell says. "We want to make sure that it's operating smoothly, providing rapid and accurate diagnoses and appropriate recommendations. And I would hope that, in the near future, we would be able to help golf course superintendents reduce pesticide applications by helping them make accurate diagnoses."

"I'm also interested in developing better diagnostic methods," he continues. "Diagnosing turfgrasses is much more difficult than diagnosing geminiviruses in the tropics. With geminiviruses, I have a nice technique called polymerase chain reaction, or a

way to amplify the nucleic acid from the virus to find out exactly what it is. We don't have similar technologies available for turfgrass.

"Plus, when you're looking at all the problems that can go wrong with turfgrasses, most of them really aren't caused by fungi," he continues. "They're caused by some management problem or environmental situation. So it's much more complex."

When it comes to improving electronic communications among superintendents, Prof. Maxwell's first effort was a workshop with Steve Millet, his graduate student, on "turfing and surfing the net."

"Right now I'm looking at the homepage for the plant health services on the World Wide Web," he adds. "And I communicate with about 10 golf course superintendents with e-mail on a regular basis. I hope to get superintendents more involved in electronic communications."

Prof. Maxwell is impressed with the turf industry. "They're a great group to work with. It's been wonderful," he says. "They provided an opportunity for me to go to Orlando to the national meeting (GCSSA). That was a wonderful experience—not only seeing how large and impressive the group was, but also having a chance to find out about golf course design and learning more about technical things. The exhibits were phenomenal. That was really my big introduction into the turf industry."

He's eager to learn more about turf. "I have three superintendents who are going to be my mentors this summer," Prof. Maxwell explains. "I'm going to visit with them twice a month to discuss their golf course management and disease management situations."

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So I'm on a steep learning curve. Really steep."

Prof. Maxwell didn't relinquish his other duties when he assumed the turf territory. He splits his time equally among teaching, international agriculture and turfgrass. "Managing my life between my three responsibilities is extremely demanding right now," he adds.

But he does find time to enjoy life outside of his university duties. He and his wife, Martha, live on a 90-acre farm just three miles west of the O.J. Noer Education and Research Facility. Martha produces wool for hand spinning from the natural colored sheep she raises, and Prof. Maxwell helps when he can.

"Martha belongs to a group called the Spindrifters of Mt. Horeb," he relates. "They have a Shepherds' Harvest on our farm the last weekend of April. We have between 300 and 500 people visit our farm to buy wool or watch us shear sheep."

The Maxwells also have border collies on their farm. "Can't have sheep without great border collies. And we have a few coyotes that we'd like to

get rid of!" he laughs.

"My wife has also gotten very interested in daylilies, so we have quite a collection," Prof. Maxwell continues. "With my schedule, I'm not home very much. What turns out to be my most precious gift is time. So I gave my wife my labor to plant and weed daylilies with her. That was a good thing."

The Maxwells have two children, both married and living in the Madison area. Their son, Paul, works in maintenance for the Verona school district. And their daughter, Heather Putnam, is a graduate student at the UW in landscape architecture.

"Our daughter and her husband are very much into bicycling, so Martha and I have a tandem bike and we all try to take short trips together at least once or twice a week," Prof. Maxwell points out. He enjoys the tandem bike because it makes it easier to converse.

"We have long conversations when we're biking," he says. "It's really quality togetherness time. We both enjoy it immensely."

Martha travels with her husband occasionally. But her sheep keep her home most of the time.

At 55 years of age, Prof. Maxwell has given some thought toward retirement. "In the university system, it's hard to retire before you've had 30 years of service," he explains. "I'll have my 30 years in pretty soon (1998). I know I'm going to work until I'm 60 or 62. But I don't think you're going to see me here after I'm 62."

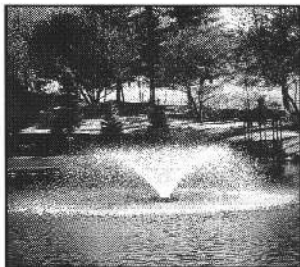
What will he do in retirement? "There's such a large segment of our society that needs some help," Prof. Maxwell points out.

"I haven't figured out how to help that segment. But I'm sure that volunteer work—working with those who are less privileged than I've been—will be an important part of my retirement.

"There's no doubt that I enjoy diversity," Prof. Maxwell continues. "My life has been blessed with good health, a wonderful place to work at the University of Wisconsin, and possibilities to do something to help people. And my international program really provides that opportunity. We can help millions of people if we solve this geminivirus problem.

"But right now, I'm also really looking forward to interacting with the people in the turf industry," he concludes. ♣

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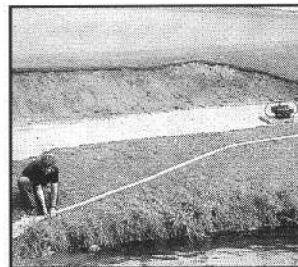
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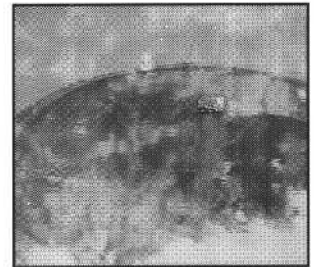
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