



All of the Joys and Challenges From My First Year as the Turf Pathologist

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Wow! It has already been a year since I was brought on board the turf research team as a turf pathologist. I can not believe that time flies so fast. Year 2000 was special and meaningful to me. Basically, the span of feelings that human beings can possibly think of were experienced within a short time. I could not resist my overwhelming year and felt compelled write about my experiences.

Not too long ago, when Drs. John Andrew and Walt Stevenson, Department chair of Plant Pathology and Search Committee for the turf pathologist, respectively, walked into my office at the Department of Horticulture, UW-Madison, where I was studying my post-doctoral

research and told me "Congratulations!" It was too much for me to accept that surprise. It was too vivid and real for me to forget the moment. I do not know how other faculties can possibly describe the moment when they hear congratulations as I did for the first time. Surely they, like I, have a mixed feeling of surprise and happiness. For me it was so special that I could not bear my surprise and happiness inside my heart. Mixed feelings of joy, wonder, doubt, and challenge excited me about my new future. That moment was like the first berry set in the old vine tree, which has never born a bountiful harvest of delicious berries for 10 years. This was definitely one of the happiest and most memorable

landmarks of my short life so far.

From that time on, I have been living in a very different life. Like shoppers running back and forth to look for the perfect merchandise with a reasonable price, that was my first year. If you ask me to condense the whole year into a single word, I would say "BUSY." Even with a fog of turmoil, what needs to be done now and what needs to be completed in the future are carefully sorted out and positioned at the proper place. The whole year of activities as a turf pathologist and a member of the pathology department, running field and lab experiments, writing grants, reports and Grass Roots articles, attending various kinds of conferences and meetings, and meeting a

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variety of people was completely exhilarating. Surely my research programs are now at the stage of progressive maturation step by step.

I understood that the ultimate long-term goal for this position is like a long race by a marathon runner, but a tenure clock set for only 5 years and already the ticking scares me. Depending on how well my research and extension projects are accomplished in the next five years, either another milestone will be posted somewhere else, or I'll become a Wisconsinite forever. During the last year there were times

of challenge, frustration, intimidation, and disappointment; however the joy of learning new things and struggling with the problems of the research projects made me to overcome the difficult times. A handful of encouraging words and helpful suggestions always washed away the discouragement and filled an empty mind with fresh hope and elevated enthusiasm instead. What a wonderful privilege I have to be a part of the Wisconsin turf research teams! As you know, a small black haired guy speaking English touched with Korean accent did not have the

superb abilities in writing, understanding, and communicating like others; luckily I have a supportive team of industry, a cooperative team of researchers, along with my endless passion and burning desire.

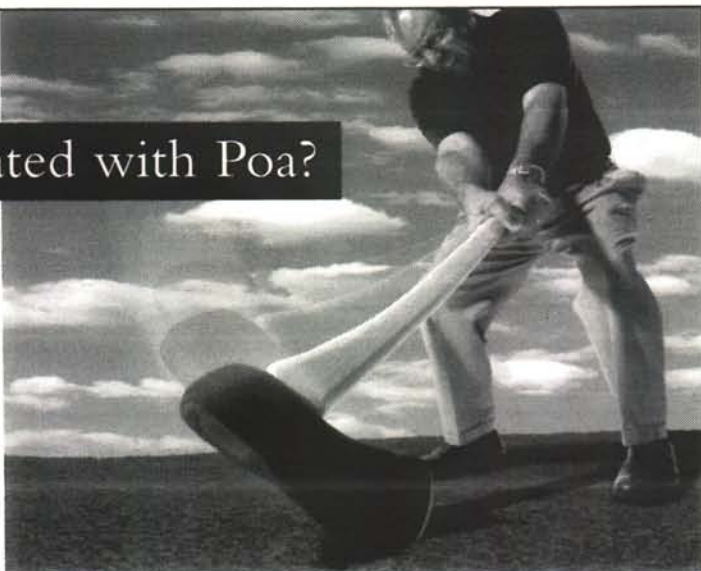
After the year of incubation period several new research programs were hatched and are now growing. Although in an infant stage, the programs are as follows:

1) Finding how many snow mold resistance genes exist in bentgrass species and where they are located in chromosomes (a discrete unit of the genome carrying many genes) using molecular techniques. Furthermore, resulting information will be compared with information from winter wheat, which is also damaged by the *Typhula* fungal pathogen, in order to better understand the interaction of the host (perennial bentgrass and annual winter wheat) and pathogen (cold loving fungal pathogen). So whoever faces snow mold problems will get benefits by both the development of snow mold resistant cultivars via molecular marker-assisted breeding programs and the development of integrated management strategies considering cultural, chemical, and genetic aspects.

2) Understanding the geographical distribution of snow mold isolates throughout Wisconsin as well as other regions with snow mold problems will also help for better disease management. Why are some *Typhula* isolates/species found on one golf course but not on other courses? What factors (environment or others?) make them adapt to that particular area? These results will help golf course superintendents with the selection of most efficient fungicides depending on which isolates are predominantly present.

3) The next important disease we are currently working on is dollar spot. Dollar spot resistance in bentgrass species seems to be simpler for the development of resistant cultivars via classical and molecular

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breeding methods due to its qualitative inheritance rather than quantitatively inherited traits such as snow molds. Qualitative inheritance means the disease resistance is controlled by 1 or 2 genes rather than many genes associated with quantitatively controlled traits. Another reason to work with dollar spot is that combining resistant genes from both colonial and creeping bentgrass species might increase the resistance synergistically or broaden the resistance horizontally, which is particularly important for the dollar spot because of the pathogen's rapid change.

4) We are working on gray leaf spot, one of the most devastating diseases for perennial ryegrass in Southern regions of U.S. In fact it is also called rice blast in rice and is caused by the same pathogen *Pyricularia grisea*. It may sound strange to you since we did not get any reports on the disease incidence in Wisconsin, however; we never know what will happen in the future.

5) Genetic relationship and fingerprinting of Kentucky bluegrass cultivars using many tools such as molecular and morphological marker, disease reactions, pedigree information, and the level of polyploid, an organism with more than two basic sets of chromosomes. Kentucky bluegrass has a series of chromosomal sets, three (triploid), four (tetraploid), five (pentaploid), or even more instead of two as in diploids. The value of Kentucky bluegrass cultivars is being reconsidered for golf course fairways and roughs due to the recent epidemic of

gray leaf spot on perennial ryegrass. Furthermore, the development of many new cultivars is making users confused about the selection of proper cultivars. For those reasons, the resulting information of Kentucky bluegrass research surely will help golf course superintendents and Wisconsin sod producers to select cultivars in an expected and systematic manner.

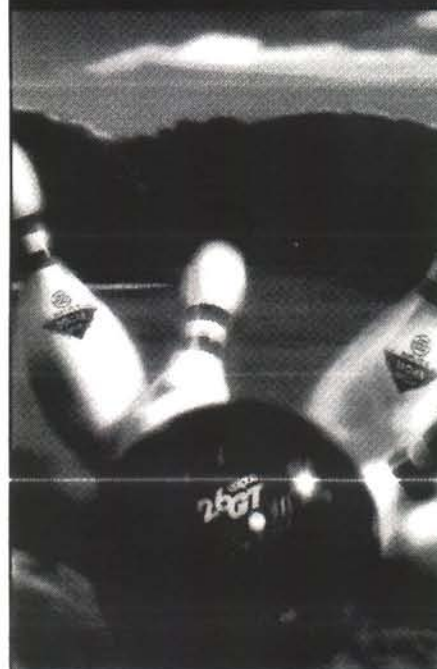
6) Making every effort to maintain TDL (turfgrass diagnosis lab) as a centralized place accessible and interactive for clients, golf course superintendents, sod producers, athletic field managers, and homeowners under the cooperative mind of Wisconsin researchers.

In reflection of what made Wisconsin turf research programs stand in the current position is all boiling down to a group of Wisconsin people who are eager to unselfishly support and willing to sacrificially participate in the improvement of Wisconsin turf research programs. The Wisconsin Turfgrass Association accomplished a miraculous project on the establishment of O.J. Noer research center years ago and is now launching another anchor in fundraising four graduate fellowships which will be given to four departments (Soil Science, Horticulture, Entomology, and Plant Pathology). In fact, one of them was already completed and given to the Department of Soil Science at the 2000 Field Day. Thank you for your excellent partnership and dedication.

In addition, I would like to deeply acknowledge those who also helped

and encouraged me when I needed them the most. Colleagues and students in the department, the turf researches team, the industry people, and colleagues inside and outside campus were standing out most than anyone else. Again I would like to extend my sincere and thankful appreciation to you all. May you have most joyful and fruitful year in 2001 and the coming years. ♣

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