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Insight *One Superintendent's Perspective*

By Kyle Nygaard
Eagle Lakes Golf Club, Naples, Florida



I have been involved in the golf industry since 1987. I began working at Minnewaska Golf Club in Glenwood, Minnesota throughout high school and college. After graduating from NDSU in 1994 I moved to Naples, Florida in which I began working at Vineyards Country Club, then went on to work at Royal Wood Golf & Country Club and now am currently at Eagle Lakes Golf Club.

Why and how did I enter the turf management industry?

My sister worked at the Minnewaska GC Pro shop in Minnesota and I decided I wanted to do something with myself other than work on my father's dairy farm, so I thought that I would get a part-time job at the course. After a couple of months I decided I really liked it. The first two Summers all I did was tee service and push mow around all the trees; somehow I thought that was a pretty cool job.

Who was my professional mentor and why?

I have had two. I would first have to say Dennis Schoenfeldt from Minnewaska Golf Club due to the fact that he was the one who got me started. His love of agronomy and his hard work and dedication to the golf course is what really inspired me. He took the time to show me how to perform all the duties on the course and that is when I knew that this was something that I wanted to pursue as a life-long goal. Another mentor was Peter R. Metcalf, CGCS. After college and living in Naples on my own, he was really good to me. He reinforced to me how important work ethic, dedication, course conditioning and commitment were to having a successful golf course.

High Point

The biggest high in my career would have to be getting my first head superintendent position at Royal Wood Golf and Country Club in 1999 and then of course becoming certified in 2005.

Low Point

The lowest point would have to be witnessing club politics first hand when my contract was not renewed for 2007 after having worked at Royal Wood for nine years.

Are your greatest challenges political, agronomic or managerial?

My current position is definitely an agronomic challenge. We deal with some horrible water quality issues and our soils are a constant challenge as well. During construction at Eagle Lakes a lot of short cuts were made and now we are trying to rectify them. At Royal Wood, it was political. Having 800 members was difficult because you are dealing with all types of personalities and you cannot win.

What is the most difficult disease to manage on your course and how do you?

Bermudagrass is pretty bullet proof if you have solid cultural practices and maintain a preventive fungicide program. However, in hurricane season with the heavy amounts of rainfall, days of cloudy weather and high temperatures and humidity, you have to be on a top of things. Mainly raise HOC, and spoon feed N and keep the K high.

Is it hard to find good help in your area of the state?

In Naples, 90% of our labor force is Hispanic. They have excellent work ethic; however, they will leave for a dime more per hour and love to take extended trips to Mexico, which can be frustrating at times. Also, they lack the knowledge of the game which makes training more important.

Do you have a dog on your crew?

No, gators would get them!!!!

Where will our industry be in 10 years?

Right now clubs are looking for ways

to cut budgets and save money. I see clubs trying to cut one salary and look towards the superintendent to wear the GM hat, it is us or the head pro. I also can see mowers being run by GPS or computers without a operator, saving on labor.

Technology will continue to press forward and we need to embrace it rather than fight it. And members will continue to want it all.

Where do I plan to be in 10 years?

Working and raising my family in Minnesota.

What is my perspective of our state association and what would you change?

Having lived in Naples since 1994, I obviously have not been able to participate in all the functions that our association puts forth. Once I get back to Minnesota I look forward to becoming more involved. I know that a lot of people make the effort to volunteer and these individuals should be applauded for their efforts.

In the state of Florida, we have 12 local chapters and then our state association. I have always wondered if that would work in Minnesota, getting more involvement throughout the state, maybe that has been discussed?

Name your foursome...

Ben Crenshaw, Davis Love III and Phil Mickelson. I have always admired the way these three conduct themselves on and off the course. All three have great family values, excellent morals and ethics and are good role models. To listen to the stories that they can tell and gain some wisdom would be priceless.

Extra Tidbit

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An Adventure in Life

A Sense of Achievement

By RANDY WITT, CGCS
Senior Superintendent, Hong Kong Golf Club

As people progress through the challenges and experiences that life itself provides, I believe an individual has a list of achievements or experiences they want to participate in or accomplish. In a way, I believe a person derives a sense of achievement and an increase in an inner self-esteem that creates a sense and feeling of satisfaction with whom they truly are. Just as the professional athlete no doubt feels a tremendous feeling of satisfaction and accomplishment with achievements in a particular sport, the everyday person should and hopefully attain this same type of feeling and inner self-esteem with their own personal victories and accomplishments, no matter what they are and on what scale. To this end, as I reflect back over the years of managing golf courses, some of the most pleasant and interesting staff members I have had the pleasure to

work with have been the older, semi-retired staff members that I always tried to incorporate as an important part of my maintenance staffs. These individuals seemed to have an aura of confidence, calmness, wisdom and peacefulness that I always had and have found refreshing and impressive. To a person, all seemed to have lived their lives with a purpose and had accomplishments and experiences that they had probably dreamed about and planned throughout their long lives. They more or less had a checklist of life, and for the most part had pretty well completed the checklist. It never mattered the scope of the list or accomplishment, it was what they wanted to accomplish and provided that contentment and inner peace. That inner peace seemed to ooze out of their bodies and being to others around them. This peace and wisdom

seemed to create an attraction to other people, as if drawn by a magnet. I'm sure that all of us who have or had these people on their staffs understand and have experienced this. The individual who had owned his own business, traveled the world, was secure financially, but wanted to enjoy and relax in the outdoors; willing to work for no pay just to be able to experience the early morning on the golf course. The retired truck driver who wanted to share daily experiences, a joke, a story, with his fellow employees at 5 a.m. over a cup of coffee and a cigarette before heading out to mow fairways. The retired accountant, who tired of numbers and computers, stuck indoor everyday, appreciat-

ing the peacefulness and beauty of day-break on the golf course.

In sharp contrast to this were the high school and college students who were really just entering into the adventures and experiences that life holds for people. These young people exhibited restlessness and in many cases a real uncertainty of what they may have wanted in life and, more importantly, how to get there if they had any idea of what their goals and aspirations were. For many, just getting to work on time and on the correct day was a major accomplishment. In many cases, one could observe the younger people quietly observing the older staff member and what the person could offer not just about the job, but more importantly, about life itself. I'm sure we can all think back to our younger days and recall the older people we worked for and with who influenced us in our lives. They may have provided us with the view and example of what we may have been looking for in and from life as we moved forward. In most cases, our lives were richer for these experiences.

These distinctive and contrasting types of employees and people is not evident in the golf course industry or within the culture in Hong Kong and China. Through observation and talking to people, I believe the rigid, structured culture is at the root of the tremendous difference in this mentoring regard. To begin with, the Chinese really seldom seem to have thought about goals and what they want out of life. They have been taught and conditioned from birth that the government makes the decisions that directly affect their lives. The people's main goal in life is to live, be obedient, survive and to provide for their families. People really have no time to think about goals and desires and experiencing all that life has to offer. People really have no idea or concept of what all life has to offer. People's lot in life since birth is to know their place, be obedient, and exist. I have never observed the contentment factor that I wrote of earlier about the retired or semi-retired staff members that many American golf courses have. Very little mentoring by the older people to the younger people is

(Continued on Page 15)



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Sense of Achievement-

(Continued from Page 14)

evident in the Asian world. The single most important idea and aspiration in the mind of the Chinese is to get by and live. There is never a sense of contentment or inner peace -- just an anxiety to work and live day to day. In most cases, this attitude is seen by the youth as the way life is meant to be lived and tolerated. The desire to really get ahead in life or have a better life than your parents is basically not a part of a young person's mindset. The young people who do have goals and aspirations in life do very well in school and in many cases go to another foreign country such as the United States for an education. These individuals are in a very small minority. The majority of the youth appear to just continue on in the footsteps of the older population. High school and college students are not a part of my maintenance staff. Part-time work or seasonal work is not part of the Chinese culture. People who need a full-time job and income to live on fill the jobs. The school-age children spend their time studying, a full time job in itself. This lack of mentoring from old to young really has created a culture, which is really not moving forward for a majority of the population. The forward moving, thinking young people are a small minority. It is amazing to see a society and culture that is and has been so controlled by the government and rulers throughout their history. People's lives are directed and basically ruled by the government. The overall result of this practice is that the power and will to think has been taken away from the population throughout history. Newspapers, maga-

zine publications, news reports, etc. are seldom viewed or thought about by the people. In conversations with some of my staff, they don't even realize or know that the United States has troops in Iraq, and they don't care. In essence, this somewhat explains the Chinese peoples' lack of common sense and the ability to think and solve a problem. The governing establishment or particular government has always controlled the people's lives. My young, college-educated assistants have few thoughts or could care less about the events going on in the world. This culture is strictly based on the concept of living and getting by day to day. When I speak of the freedoms and the way of live in the United States, the people are astounded and in many cases do not understand or have a concept of how Americans really live. The United States and the American people and way of life are very mysterious to the Chinese people. I have spent many hours talking to many of my employees about America and Americans way of life and living. Owning one or more motor vehicles, driving to all destinations, big homes with a yard, going to a neighborhood establishment for an alcoholic beverage and dinner, attending sporting events, a 40-hour work week, free speech -- these are all concepts they have no understanding of. A live Christmas tree -- especially a tree taller than four feet is amazing to the people. The Chinese people that do have Christmas trees have artificial trees -- very ugly artificial -- that usually are no taller than four feet. The reason: homes and flats are so small that there is no room for a very large tree if at all. Compactness and making use of every square meter is a real Chinese art. It is truly amazing how the Chinese can cre-



Tim Yueng
Assistant Superintendent

ate a well-appointed kitchen out of an area the size of a small closet.

After being out of America for a period of time, I have come to realize and appreciate the tremendous country and life style that we Americans have and do enjoy on a daily basis. It was truly a unique experience to return to Wisconsin in October for a vacation and compare my American life with the Chinese culture I had left. I found myself examining the two very different cultures and ways of life looking at the strengths and weaknesses of both. The tremendously different ways of life of both worlds would have never been imaginable without experiencing both. As I wrote in my first column from Hong Kong, a life goal was to manage a golf course in a foreign country. My ongoing experience has allowed me to find and feel that sense of satisfaction that I wrote of earlier.



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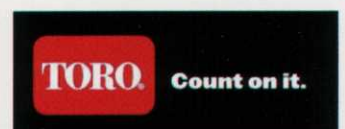
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If Disease Hits, Then What?

By AMY HOLM

Plant Disease Diagnostician, University of Minnesota

Hello, my name is Amy Holm. I am the plant disease diagnostician at the University of Minnesota's Plant Disease Clinic and identifying plant maladies is my passion. In 2001 I received my M.S. degree in Plant Pathology at North Dakota State University and then spent three years as a Research and Development Plant Pathologist at Syngenta Crop Protection prior to starting at the U of M in 2005. This article is intended to 1) help you understand what the U's Plant Disease Clinic can and what it can not do, 2) describe the help that ANY plant disease diagnostician needs from YOU if you are going to send in a sample of diseased plant tissue, 3) describe what goes on at our or any other clinic when it receives YOUR sample of diseased plant tissue and 4) provide current information about the services provided by some of the clinics that currently specialize in the diagnosis of diseases of turfgrasses.

The University of Minnesota's Clinic is a self-supporting function of the Department of Plant Pathology. The U's Plant Disease Clinic is the equivalent of a General Practitioner in that it can diagnose plant diseases caused by both living (biotic) as well as non-living (abiotic) stresses. It currently does not have sufficient personnel to be able to specialize in the diagnosis of diseases of any particular type of plant. It is housed in Room 105 of Stakman Hall on the St. Paul Campus. The Clinic is open from 8 a.m. until 4:30 p.m., Tuesday through Friday. Diseased plant material may be sent to the Plant Disease Clinic, University of Minnesota, 495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108.

Diseases of turfgrasses and other kinds of plants that are caused by a biotic agent cannot develop unless there is an interaction between a susceptible plant species or cultivar, a virulent pathogen and an environment within a favorable range for disease development. Or more succinctly, the components of The Plant Disease Triangle (causal agent, susceptible plant and suitable environment) have to be present for a disease to occur.

So what do you do if a disease that you do not recognize "strikes"? To facilitate rapid, accurate diagnoses, a diagnostician at ANY clinic needs to receive a properly prepared sample along with the requested information on the submission form. An adequate sample is at least a 6" x 6" piece of turf, including the root system and soil. If the samples are



Thermal Cycler Machine


collected using a golf course cup cutter, at least two plugs should be submitted. IMPORTANT: Samples need to be collected from the border between healthy and diseased turf, so that two-thirds of the sample is diseased and one-third is healthy. The soil and roots should be wrapped in aluminum foil and placed in a cardboard box along with packing material to hold the samples in place. Samples should not be stored or transported in plastic bags. If possible, include digital images along with physical samples. Pictures of the symptoms from a distance of 6 feet or more are often very useful for diagnosis of disease and insect problems. The sample, digital photos, and completed submission form should be sent by overnight mail.

The appearance of disease symptoms on affected plants is an important source of diagnostic information but other specific details are needed in order to make an accurate diagnosis. For example, information on disease patterns, affected grass species, disease injury (e.g. small circular spots, irregular concentrated patches, or large rings/circles) and environmental conditions must be provided to the diagnostician. Water drainage, soil conditions, terrain slope, age of the stand, traffic patterns around affected area and proximity of competing trees may all be significant factors in turf disease development. Chemical applications and the method of application also may provide valuable diagnostic clues.

The diagnostician must rely on visual symptoms, microscopic features and

(Continued on Page 19)

163 Yard Par 3 eighth hole at the Refuge Golf Club in Oak Grove, Minnesota.



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If Disease Hits-

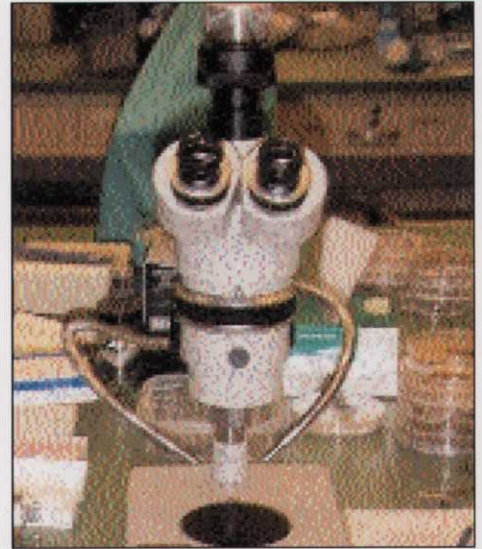
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laboratory assays (e.g. isolation method and polymerase chain reaction assays) to efficiently detect and identify turfgrass pathogens. For certain disease organisms such as smut, powdery mildew, anthracnose and rust, fungal fruiting bodies may be visible without magnification or at low magnification. When a fungal organism is not macroscopically visible, it must be identified based on microscopic characteristics of its spores, hyphae (basic structural unit of a fungus) and mycelium (the body of a fungus). For example, some root-infecting fungi can be distinguished from other darkly-pigmented fungi (e.g. *Bipolaris*, *Curvularia*, *Drechslera*, *Epicoccum*, etc.) based on their hyphal characteristics. The root-infecting fungi may produce dark brown, runner ectotrophic (food "gathering") hyphae.

Diagnosticians often incubate symptomatic (diseased) plant tissue in a moisture chamber for 24-48 hours at room temperature. Under such conditions, fungal organisms usually grow well (produce hyphae) and may reproduce (sporulate). This procedure is most useful when the

plant's foliage has been directly infected. The spores and mycelium that form can then be mounted in water on a glass slide for microscopic examination. However, one problem inherent with this technique is that any fungus present on the infected tissue may grow in this environment, and this can make it difficult to determine which was the primary pathogen responsible for causing the symptoms. Also, recognize that the process takes time (24 to 48 hours under ideal conditions).

Many root-rotting pathogens (living cause of plant disease) need to be cultured on an agar medium for positive identification. For each sample, excess soil is removed from the root layer, and the roots and stolons are washed for at least several minutes under running tap water to remove all remaining soil. Roots and stolons are cut into 2 cm pieces and rinsed thoroughly again in tap water. The tissue pieces are surface disinfected in sodium hypochlorite and washed in sterile distilled water. Sectioned tissue is dried on sterile paper towels and placed on an agar medium which is composed of a gelatin-like material on which microorganisms are grown. Five pieces of root that each contains both diseased as well as healthy tissue are aseptically placed in each Petri



Stereo Microscope

dish. Several dishes containing different kinds of media are typically used. The plates are incubated in a growth chamber maintained at 20 - 30° C. After a few days, the morphology of the dominant fungal colony is examined visually and microscopically. The color and morphology of fungal colonies in culture are useful taxonomic features. The culture plate isolation

(Continued on Page 20)

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If Disease Hits-

(Continued from Page 18)

technique is often utilized to identify pathogens of agricultural crops, trees and shrubs. But because a golf course superintendent often needs an answer within 72 hours, this method is not always practical for certain turfgrass diseases. Several turfgrass pathogens, including some of the root-rotting fungi, are relatively slow-growing in culture.

The difficulties encountered when attempting to distinguish between different turfgrass pathogens using the methods described above has created a need for improved detection methods. Recent advances in biotechnology have resulted in the development of molecular techniques that may assist in the detection of turfgrass diseases. For instance, the polymerase chain reaction (PCR) has been used to detect and produce "patterns" (bands in agarose gel) that can be used to identify turf pathogens. PCR is a method that is used to amplify DNA for analysis. The PCR technique allows amplification (multiplication) of minute amounts of pathogen DNA in the sample by using

DNA primers (short pieces of DNA) specific to the particular pathogen. PCR assays allow diagnosticians to process samples in three to four hours. In addition, this technique is very sensitive, enabling diagnosticians to detect a pathogen within plant tissue in the early stages of infection. Continued research on molecular techniques could result in improved, reliable and rapid diagnostic tests with practical applications in turfgrass pathology.

I hope this article helps you gain a more comprehensive understanding of the methods used to detect and identify turfgrass pathogens. The U's Plant Disease Clinic is not able to meet the current demand for rapid turn-around of turfgrass samples with our current staffing. If you experience a significant disease-related problem, feel free to contact our clinic and we can help direct your efforts to the best of our ability. We may be reached at (612) 625-1275 or at holmx157@umn.edu.

(Editor's Note: The following is contact information for laboratories that specialize in turfgrass diagnostics:

*Plant Diagnostic Laboratory
Rutgers NJAES
Ralph Geiger Turfgrass Education Center*

*20 Indyk-Engel Way
North Brunswick, NJ 08902
www.rcrc.rutgers.edu/plantdiagnosticlab/
Phone: (732) 932-9140
E-mail: clinic@rcrc.rutgers.edu
Fee: \$95/sample for out-of-state samples*

*NC State Turfgrass Diagnostics Lab
Campus Box 7211
1227 Gardner Hall
100 Derieux Place
Raleigh, NC 27695-721
www.ces.ncsu.edu/pdic
Phone: (919) 513-3878
E-mail: lee_butler@ncsu.edu
Fee: \$100/sample for out-of-state sample
Contact Lee Butler to inquire about packages

*Texas Plant Disease Diagnostic Laboratory
1500 Research Parkway, Suite A130
Texas A&M University Research Park
College Station, TX 77845
<http://plantpathology.tamu.edu>
Phone: (979) 845-8032
Fee: \$30/sample for out-of-state samples*

*Turfgrass Diagnostic Lab
University of Wisconsin-Madison
O. J. Noer Research Facility
2502 Hwy M
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