

one night and she introduced us. We call her a full-service realtor!"

Beverly recalls the long hours and non-existent summer vacations when Danny was a golf course superintendent. But now that they're in business for themselves, she doesn't see much more of her husband even though they work out of the same office. "He's out on the road a great deal of the time," she points out. "And when he's here in the office, which is not very often, he's doing one thing while I'm doing another. We really have less time together now than I thought we would."

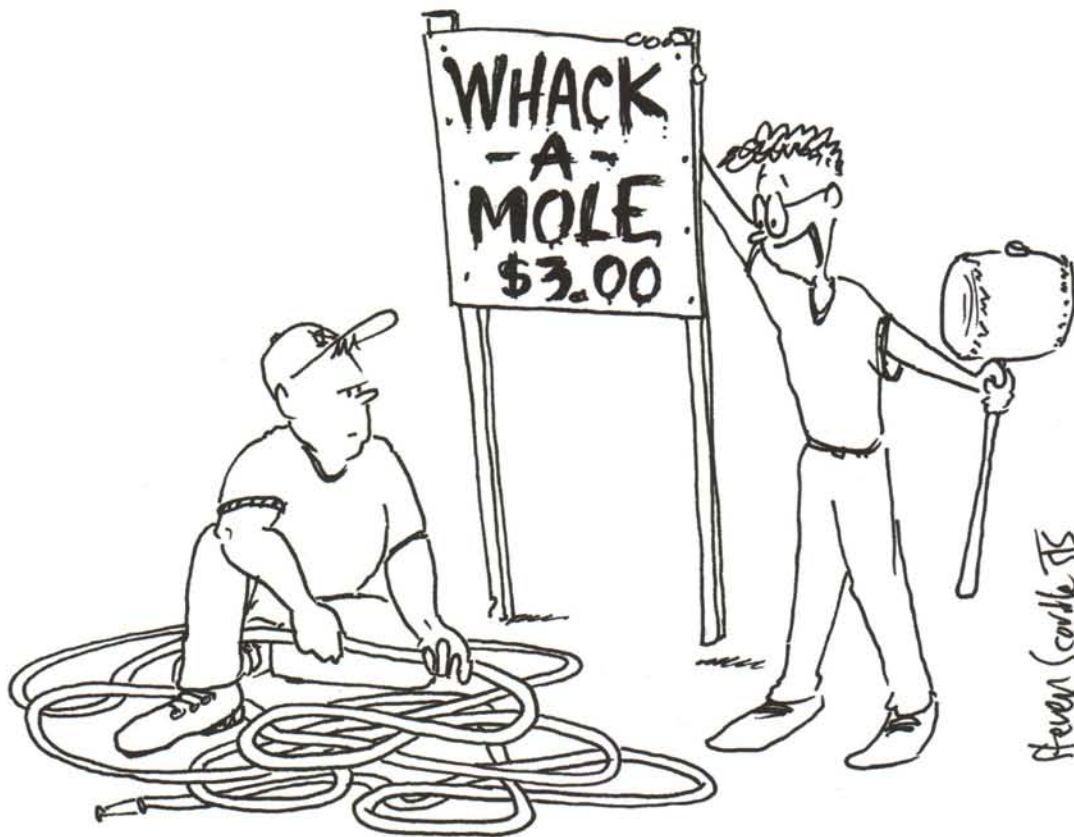
And that elusive summer vacation still is a dream. "Last January (2003) I asked to go someplace with a beach, but we didn't make it," she says. "And when Wayne Otto retired (in 2002), he and JoAnn were presented with a trip to Ireland. He says he doesn't want to go without us. We're still trying to put that together. It's difficult when you have a business. You can't leave it."

Beverly is in business with Danny at DHD Tree

Products. "He does the sales and advertising, and I do everything else," she says, adding that advertising is minimal because of Danny's reputation in the industry. "I do accounts receivable, accounts payable, the office work, even get on the fork lift to pull the pallets off when they arrive.

"The business is Danny's passion right now, and it needs to be mine, too," she continues. "It seems like everything I've done in my life so far, all of my education and work experience, has led me to this point. I feel a real purpose here."

When asked what makes Danny tick, Beverly answers: "He's a man of character. He means what he says and says what he means. He truly is a gentleman. You can count on him to have common sense. You can count on him to have the wisest wisdom in everything, in every category. Sometimes I wonder why he isn't president of the United States! Maybe we could get somewhere then." ♣



"SEE!?! THIS SOLVES OUR PROBLEMS WITH PEST CONTROL AND THE BUDGET!"

Mj&C

A Black Fly Suppression Program in Wisconsin: The Branch River Experience

By **Mike Mischuk**, Freshwater Ecologist, MWM Environmental, LLC and **Greg Stuebs**, Golf Course Superintendent, Branch River Country Club

No other biting flies inspire more apprehension among outdoor enthusiasts than black flies (*Simuliidae*). They can be so numerous and can attack so persistently that outdoor activity during the day without some protection can become impossible. Even when they are not biting, their buzzing presence and constant crawling is as much an irritation as the bloodsucking itself. The painful, itchy bite of the black fly is characterized by a reddened area with a wound in the center. The pain and swelling of the bite are due to an allergic reaction to foreign proteins and toxins that the female injects when feeding. Although they cannot bite through clothing, black flies have a predilection for crawling into hair and under clothing, biting in inaccessible places, such as the ankles and belt line.

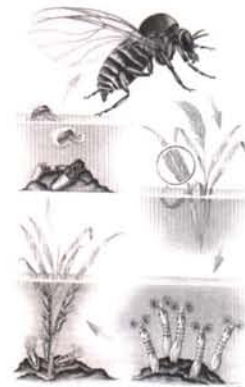
Many golf courses are designed around water bodies, especially small streams. This adds to the challenge of the course and provides aesthetic beauty. Unfortunately, the stream may contain larvae of black flies that will hatch into adults and detract from the enjoyment of the game. (Picture 1)

In the past, control methods have frequently used chemical insecticides to reduce the populations of nuisance species. Increasing pest resistance to chemicals and growing environmental concerns have contributed to the development of alternative technologies. One example of this is "microbial control," where naturally occurring bacteria are used to control insect pests.

Formulated insecticides based on the bacteria *Bacillus thuringiensis* (*Bt*) have been employed in vector control programs since the late 1970's. *Bt* is one bacterium that occurs naturally in the soil. Different varieties of this bacterium produce a crystal protein that is toxic to specific groups of insects. The toxic crystal *Bt* protein in commercial formulations is only effective when eaten by insects with a specific (usually alkaline) gut pH and the specific gut membrane structures required to bind the toxin. Not only must the insect have the correct physiology and be at a susceptible stage of development, but the bacterium must be eaten in sufficient quantity. When ingested by a susceptible insect, the protein toxin damages the gut lining, leading to gut paralysis. Affected insects stop feeding and die from the combined effects of starvation and tissue damage. The *Bt* variety *israelensis* (*Bti*) has been shown to kill larval stages of black flies and mosquitoes while not affecting non-target organisms. (Picture 2)



Picture 1



Picture 2



Picture 3

The use of *Bti* in the waters of Wisconsin is controlled by the Wisconsin Department of Natural Resources under Wisconsin Administrative Code NR 107. In 1997 the Branch River Country Club applied for a permit to use *Bti* to control adult populations of black flies on the golf course by reducing the number of larvae present in the stream adjacent to the course. The permit was denied by the WDNR in 1998 and subsequent permit applications in 1998 and 1999 also met with regulator resistance. Branch River Country Club filed a Petition for a Contested Case Hearing

with the Department of Natural Resources. The hearing was held in August of 1999, and based on the findings of that hearing, the WDNR was required to grant the permit. The permit stipulated that the use of *Bti* was contingent upon instream studies of potential impact on non-target species, and nuisance relief on the golf course from biting adults. The non-target species assessment required pre- and post- sampling of benthic macroinvertebrates from a control location and within the application zone. This sampling was intended to determine potential impact on non-target community structure and function, and the affect upon black fly larvae abundance. The nuisance relief portion of the permit required monitoring of adult blackflies at four locations on the golf course and at four background locations. Application of *Bti* was restricted to the Branch River adjacent to the golf course. Any downstream carry of the material beyond the application zone was not allowed. The 2003 permit also required a minimum number of larvae within a specified area before an application could be done (trigger).

The *Bti* formulation used in this black fly suppression program was VectoBac 12AS® (Abbott Laboratories, North Chicago, Illinois). The material is mixed with water and applied with conventional spray equipment across the upstream edge of the treatment area. The concentration of material to be used will depend on the size of the application area, stream flow, concentration of dissolved organic materials, algae, and density of aquatic vegetation. One needs to consult the manufacturer's specifications before applying the material.

The Branch River is a tributary to the Manitowoc River and drains approximately 108 square miles of Brown and Manitowoc Counties. The river winds through a portion of the Branch River Country Club just upstream from the confluence with the Manitowoc River. This section of the stream is charac-

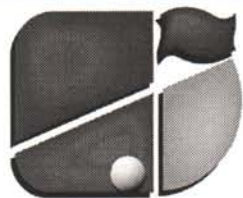
terized as fast flowing with several riffle areas that are perfect habitat for black fly propagation. (Picture 3)

Bti was applied in 2000, 2002, and 2003. The material was used in a small section (approximately 1 mile) of the Branch River adjacent to the golf course. The close proximity to the Manitowoc River, which is also a potential source of adult black flies, presented some problem for nuisance relief. A request to the WDNR for permission to treat a portion of the Manitowoc River has yet to be obtained. Although the treatment area in the Branch River was small, adult black fly relief averaged 50 percent on the golf course in 2000 and 2002 when compared to background levels. This was enough of a relief to be noticeable to golfers. Extremely low flows in 2003 caused problems with the dispersion of *Bti* in the stream thus reducing its effectiveness on adult black fly relief. The results of the non-target monitoring indicated no impact over the three year period. About 7 man hours per week are involved in larval and adult monitoring. This does not include the non-target organism monitoring assessment.

Bti used in a black fly suppression program can assist golf course superintendents in reducing this pest. It would improve not only the aesthetics of the course but also increase the number of rounds played.

Reference

Artwork by Barry Flahey, Courtesy of the Canada Department of National Defence



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After 38 Years on the Turf, He Retires to the Surf

By Lori Ward Bocher



They say you can never go home again, but Carl Grassl has gotten awfully close in his retirement. Born and raised in the Appleton area, about a mile from the north shore of Lake Winnebago, he is now retired on the south-east end of that very same lake. In between, he spent 38 years as a golf course superintendent at only two courses - Park Ridge Country Club in suburban Chicago and Blue Mound Golf and Country Club in Wauwatosa.

In those 38 years, Carl saw lots of changes on golf courses. "The tools of the trade have changed immensely," Carl says. Always eager to learn, he took these changes in stride. But greater than the developments in irrigation or pesticides or equipment was the change in the role of the golf course superintendent. "As a superintendent, I eventually spent most of my time in the office. It became an office job."

But how did he become a superintendent in the first place? Let's start at the beginning. Carl's father, also named Carl, married Lucille, a school teacher, late in life. He had already made his money with various businesses in Appleton by the time Carl Jr. was born in 1942. "My childhood was spent on the farm he purchased with his money," Carl explains. "We grew vegetables, flowers, and fruits and sold them to local grocers and florists. Strawberries and tomatoes were a large part of his business."

His golf course start...

The farm was just about a mile from the north shore of Lake Winnebago and from North Shore Golf Club. So when Carl was 16 years old, he went to work for superintendent Bob Musbach at North Shore. After graduating from high school, Carl attended the UW-Madison for two years to study engineering. But his work on the golf course was more alluring than his engineering studies.

"It was the thrill of the landscape, creating the green, that attracted me," he says. "I often thought that I wanted to get into landscaping, but then the manicuring of the turf became more intriguing and interesting to me. My father tried to direct me elsewhere, but I knew this is what I wanted to do."

So he dropped out of engineering to switch to turf management. "At that time, Penn State and Massachusetts were the only two real turf schools in the country, so I decided to attend Penn State. I took my new bride and best friend, Barbara, along and enjoyed our honeymoon while attending school." He received a 2-year associate degree from Penn State in 1965.

"One of my professors was helping graduates find jobs,



Carl Grassl enjoys retirement in his new home on the eastern shore of Lake Winnebago.

and I told him that I wanted to get back to the Midwest," Carl explains. "He helped me find a job as superintendent at Park Ridge Country Club in a suburb of Chicago. The superintendent there was ready to retire, so we worked together one summer and then I became the superintendent. I was 23 years old at the time."

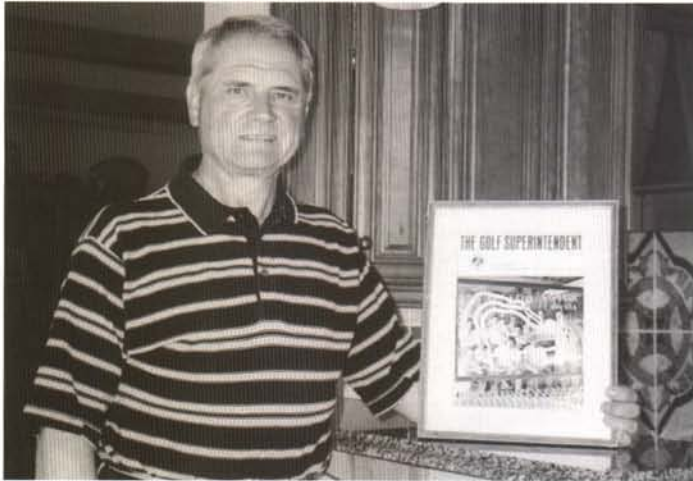
Carl worked at Park Ridge from 1965 until 1978. "I installed the first automated irrigation system at Park Ridge," he recalls. "And through those years we were all involved with *poa annua* control, or keeping it alive. Irrigation made that easier."

Loves to learn and to teach...

During those years Carl remembers most fondly his efforts to improve both education and communication among superintendents. "While at Park Ridge, I got involved with the educational efforts of the Midwest GCSA and I also was co-founder of the Chicagoland GCSA," he points out. "The Midwest group was already in existence, but we wanted a group in the northern Chicago area, too, for educational reasons."

"We held round table discussions," he continues. "We would bring to the table any and every problem that superintendents were having. Each superintendent would get a turn to discuss how he was handling a particular problem. And there were new chemicals and other new products on the market that we needed to talk about."

Carl served as a director of the Chicagoland GCSA for many years and was its president in 1972. He also served as the education chairman for the Midwest



A few years back, Carl was pictured on the cover of *The Golf Superintendent*. The issue also included an article about his unique way of communicating to the crew where and how much the night irrigation should run.

GCSA for many years during the 1970s. "I ran the Medinah Clinic, a seminar that was held for many years at the Medinah Country Club in Chicago," he explains. "We brought in all the big turf speakers. We would draw in superintendents from other states."

Carl's wife, Barbara, also became involved with the

Midwest GCSA. "She wrote a column for *The Bull Sheet*, the newsletter for the association," Carl explains. "She was known as Mrs. Grass L. She got involved with other wives and wrote about their feelings, their life with a superintendent. The wives really responded to this and, surprisingly, so did the superintendents."

Carl proclaims that Barbara brought him through his career. "God blessed me with this gal. She mothered our four children while enduring life with a superintendent. I love you, Barbie."

In 1978, Carl was just about to become president of the Midwest GCSA when he made the only major move in his career - from Park Ridge to Blue Mound Golf and Country Club in Wauwatosa - several miles closer to his childhood home near Lake Winnebago. "I've only had two major jobs in my entire career," he points out.

"I had worked for Bob Musbach at North Shore when I was a student. His father, Frank, was superintendent at Blue Mound. He had talked about retiring for a few years, and he kept after me to apply for his job. When he finally retired, I sent my resume to Blue Mound and they offered me a good situation, so I took the job."

Changes at Blue Mound...

His early years at Blue Mound were a lot like his early years at Park Ridge. First, he followed a retiring superintendent. And, once again, one of his first jobs

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was to install a new irrigation system - this time an electric system. But the course at Blue Mound was different - a unique design by Seth Raynor. "He died when he was about 45 years old, so he didn't design too many courses," Carl points out. "At Blue Mound, all of the bunkers are flat; the mounding is all grass. The idea behind this is that when you stand on the tee you don't see any sand. All you see is green."

He saw lots of changes in his trade during his 25 years at Blue Mound. "The tools of the trade changed immensely," he says. "The products that we have to care for the golf course have changed. One thing I remember is when surfactants were brought into the picture. And fungicides, herbicides, insecticides; they all changed. I can look back on so many changes."

Irrigation has also evolved tremendously. "I remember night watering at North Shore, manually moving those 'barbells,' as we called them," Carl says. "Then we had the quick coupling system at Park Ridge. I had a unique way of communicating to the crew how much water each area should get. I did it with wooden blocks. If there weren't any blocks at a spot, that area wouldn't get any water. One block meant a single set, two blocks meant two sets. Colors indicated the type of sprinkler used. So I had to set out all these wooden blocks on a nightly basis. *The Golf Superintendent* (now *Golf Course Management*), wrote an article on my system and used a picture of me and my crew on the cover.

"Now irrigation is all automatic," he continues. "The

Life on a golf course for 38 years

by Barbara Grassl

Carl is home! For the first time, we're living in our own house. Up until now, we've spent all of our married life in a house on a golf course - something that is slowly fading away today. From the birth of our four children to marrying them off, our family celebrated every occasion while living on a golf course. Our family lived Carl's job with him, good or bad. We knew it all and grew to understand our dad and husband on all levels.

We treasure the many memories of growing up and old, of being with Carl on the golf course. It gave us opportunities to build a strong bond with our dad and husband. As a family, when we watch the golf tournaments on TV, we look at what it takes to be that superintendent and what his family endures as he faces hours of labor to provide those conditions. He is a silent partner in a job that goes unnoticed.

"Our dad is always here," the kids would tell their friends. But he was not really here the way they thought. When the children took cart rides at night with daddy, they thought they were joy riding; but indeed, Carl was still working, setting out the blocks for night irrigation. When it was 90+ degrees out and the well failed, daddy needed his family behind him. Our children would love the rainy days because they could ask dad for anything - he was a happy man!

Here is a funny story. Our son, David, was a new graduate of the UW-Madison when he landed a job in Detroit. He worked in a high-rise building and on his first day at work it's pouring rain. He dials up his dad at Blue Mound and says, "Dad, you just won't believe my new boss. It's raining and he won't send me home!" When David worked for Carl on the course, he *always* got to go home on a rainy day.

Our children grew up being golfers. They sure had enough golf balls to play with! All the family hopes Carl can now enjoy golfing in his retirement instead of checking out the place as he walks the course. Once a superintendent, always a superintendent.

If we could describe Carl it would be, "What you see is what you get, and it doesn't get any better than Carl Grassl." He never meets you half way; he takes you all the way! His daughter, Debi, says, "My dad is a soft-spoken man but always there for you. And you know and feel that he loves you." At Christmas, it is always a very heart-warming experience to see Carl with his nine little grandchildren sitting on his knees and around his feet as he reads "The Night Before Christmas."

From the time I was a young girl in love with a handsome young man with a dream who drove me to Penn State and back again - with a degree and a new baby son on the trip back - I have lived on a golf course. I have seen green all of my life - not money, but the green of grass that keeps growing under our feet as we grow old together.

If Carl wanted to mow our living room carpet at three-quarters of an inch I'd still love him because I believe in everything he does. Stand by your man is my motto, and I have. Forty years ago it was just Carl and me. Now there are 18 of us and growing.

Retirement is not in Carl's vocabulary. He has much to give and much to do. Our family just sits back and watches him. When he said he likes to hunt, it is not just in Wisconsin. It is in Montana, South Dakota, Colorado, and Canada. His son-in-law, Dan, is working on him to go to Africa now. His son David will be fishing with him in Canada this year - a long awaited trip for father and son.

He is not only a sportsman; he is also a perfectionist with wood working. He has finished all our children's basements, including the electrical work and plumbing. He can do it all. This knowledge is what helped him stay within his budget over the years as a superintendent, our family would tell him.

Carl is one of a kind. The golf courses that were fortunate enough to have had him received 110 percent at all times, 24/7. It has been his love and always will be. His dad should know by now, looking down from heaven, that his son made the right choice. I know our family thinks he did.

computers do it. They do a good job. They're fantastic, state of the art."

Carl has an interesting tale to tell about the radios used to control the irrigation system at Blue Mound. One year, they started hearing voices over the radios that would interfere with their irrigation transmissions. "One day I took the time to really listen to those voices to see if I could figure out where they were coming from," Carl explains. "Miller Park was being constructed at the time, and I could hear instructions about lowering the roof with the Big Blue crane. So we were on the same frequency as the construction crew at Miller Park."

Growing grass is best...

After nearly 40 years as a golf course superintendent, what does Carl find most rewarding about the job? "Working with the scientific aspect of growing turf. Studying. The Mother Nature end of the job, working with soils and grasses and trees. And contemplating how a human being can alter their nature," Carl answers.

He also enjoys the reward of having helped train graduates from several turf schools who were his

assistants and second assistants. And many of those assistants have gone on to take superintendent positions. "It makes me very proud to see these young men become very successful managers of prominent golf clubs," Carl says. "The fact that Michael Lee is hosting the 2004 PGA championship gives me a feeling of total satisfaction knowing that his career was enhanced under my guidance."

What is most challenging? "The politics of a Country Club," he replies. "I just wanted to do my job and be a superintendent. But I had to deal with many different personalities and the politics of the business. Some people would second guess me even though, as the superintendent, I had the training and education."

For one who likes to be out on the course, Carl also found that he was spending more and more time in the office while his assistant was out on the course. "It became an office job. Superintendents are having to stay in the office more and manage from that point. The quality of your work depends on the worst person on the crew. It was scary. After so many years of being hands-on, of being the artist, it was difficult to trust others from my place in the office. It's like trying to tell an artist over the telephone how to draw a picture. And when I

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was out on the course, I actually had members question why I was out there.”

Carl was planning on retiring at the age of 65, but the politics of the job prompted him to retire from Blue Mound a few years earlier in May of 2003. “But I found I wasn’t ready to retire completely,” he says, adding that in the spring of 2004 he started working on a part-time basis as a consulting superintendent at Whispering Springs Golf Club in Fond du Lac. It’s an 8-year-old Bob Lohmann design course and housing development.

Back to the lake...

So now Carl and Barbara, who recently celebrated their 40 wedding anniversary, are enjoying lake living on the lake of Carl’s childhood. “My father was a complete sportsman. He did everything in the realm of hunting and fishing,” Carl points out, adding that this is when he first learned to love the lake. “We fished here in the summer and winter. My father had the record sturgeon speared in this lake for a number of years. He hand cut ice from the lake as a young man to supply ice for the ice boxes before there were refrigerators. And at one time he also helped run the Fox River locks and dams that control the lake level.”

Carl and Barbara bought their first place on the lake in 1992 - a house on the east shore. At that time, with Carl working as a superintendent, they didn’t spend many summer days on the lake. “We came up more in the winter,” he says. “But we knew we wanted the property for later years.” However, when an empty lot came up for sale a short distance from their house, they bought it. And in 2002 they built a beautiful new home on the lake where they have since retired.

Carl enjoys hunting and fishing in his retirement. He’s also restoring an antique tractor, a Model G Allis Chalmers that was made in the 1930’s. “When my father was in his 90’s, he was still cultivating his fields with a walk-behind cultivator,” Carl explains. “So I bought this old tractor from Medinah Country Club and mounted a cultivator on the front of the tractor. It gave me gratification that he could still be out there cultivating at 92.” Carl’s father died at the age of 96.

Barbara and Carl raised four children who are all in their 30s now. Three of the children were born in Chicago but they were still young when the Grassls moved to Milwaukee, so that’s where they spent most of their growing-up years. Carl recalls many years of serving as a Boy Scout leader, an Indian Guide leader, and a baseball coach.

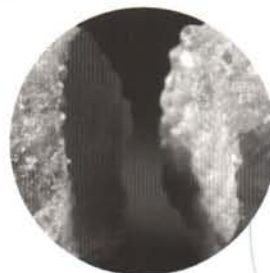
The oldest David, was born while Carl was still attending college at Penn State. David is a software designer living in Marshfield with his wife, Tori, and their three daughters, Emily, 10; Alexandra, 7; and Isabella, 3. “David had worked with me on the golf course for several years while he perfected his green mowing,” Carl recalls. “He was very proud of his

straight lines when mowing greens.”

The three girls all live in the Milwaukee area. Debbie is the second oldest and lives in Brookfield with her husband, Dan, and their two children, Daniel, 10; and Gabriella, 8. Carleen, daughter number two, was born on Carl’s birthday. “There was always a struggle as to whose cake it was,” Carl points out, adding that this has since been resolved. Carleen and her husband, Nick, have miracle twin boys, Lukas and Jakob, 8 months old. She is a hospital administrator.

“Our youngest daughter, Andrea, worked for me for 12 years while competing with her brother for the best lines,” Carl points out. “She handled many tasks, from golf course maintenance to office secretary.” She has two children: Jessica, 8; and Benjamin, 4. Presently she works as an MRI and CT assistant.

Now that he’s retired, Carl and Barbara will have more time for their grandchildren, for their children, and for enjoying life on Lake Winnebago. But, just as he’s doing now, chances are he’ll also find ways to stay involved with the turf industry on a limited basis. ♣



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Bentgrass Dead Spot: A Review of an Emerging Disease

By Steve Abler and Dr. Geunhwa Jung, Turfgrass Diagnostic Lab, Department of Plant Pathology, University of Wisconsin-Madison

Bentgrass Dead Spot

Bentgrass Dead Spot (BDS) was first described from golf course putting green samples in Maryland, Virginia, and Ohio in the fall of 1998, and was found in ten additional states in 1999 and 2000 (Dernoeden, 1999; Kaminski and Dernoeden, 2002a). Although the disease has been reported in Illinois and Michigan, there have been no reports of BDS in Wisconsin. It is reasonable to assume that this disease is already present in Wisconsin and is being underdiagnosed because of its novelty to golf course superintendents and that symptoms of BDS are similar to *Sclerotinia* dollar spot, take-all patch, copper spot, *Microdochium* patch, black cutworm damage, and ball mark damage. A TDL site visit was made to an East Central Wisconsin golf course with symptoms similar to BDS in September 2003. Unfortunately, the cause of the patches could not be verified because the symptoms had already started to recover and the green had recently been verticut and toppedressed (Figure 1).

The Pathogen

BDS is incited by the newly described fungus *Ophiosphaerella agrostis* (Cámara et al., 1999). Other turfgrass diseases that are caused by *Ophiosphaerella* species include necrotic ring spot (*O. korrae*) and spring dead spot of bermudagrass (*O. korrae*, *O. herpotricha*, and *O. namari*). Unlike the aforementioned root and crown-infecting pathogens, *O. agrostis* mainly infects and colonizes leaf, sheath, and stolon tissue. Additionally, *O. agrostis* is the only species in the genus that is virulent to bentgrasses, and has been



Figure 1. Depressed patches of a suspected BDS case on a Wisconsin golf course putting green (Photo by Dr. Seog-won Chang).

implicated in causing a new disease of bermudagrass (bermudagrass dead spot) as well (Krausz et al., 2001).

BDS Symptoms

In the Midwest, symptoms of BDS generally appear from July to October and are first noticed as small, reddish-brown spots that are approximately 0.5 to 1 inch in diameter. These spots are often depressed and resemble ball mark injury. As the disease progresses, the center of the patches become tan or straw colored while the margin of the patches remain reddish-brown. Individual patches may expand to an overall diameter of three to four inches and rarely coalesce. Close examination of diseased leaves with a hand lens often reveals dark-colored, flask-shaped fruiting structures (pseudothecia) of the pathogen (Vaiciunas et al., 2000).

At certain stages of disease development, BDS may be difficult to distinguish from *Sclerotinia* dollar spot, take-all patch, copper

spot, and *Microdochium* patch. BDS can be differentiated from *Sclerotinia* dollar spot which has smaller, bleached lesions that coalesce and produce abundant mycelium during humid periods. Also, leaves colonized by *Sclerotinia homoeocarpa* do not exhibit fruiting structures on leaves that are characteristic of BDS. *Gaeumannomyces graminis* var. *avenae*, the causal agent of take-all patch, also produces depressed, bronze-colored patches on bentgrasses that resemble BDS patches when conditions become warm and dry. Patches of take-all patch are generally larger than BDS patches and it is more common to find dark-brown runner hyphae on the roots of bentgrasses colonized by *G. g.* var. *avenae* than *O. agrostis*. Additionally, it is uncommon to find fruiting structures of *G. g.* var. *avenae* on diseased plants whereas they are common on necrotic leaf and sheath tissue colonized by *O.*