use of endophyte-enhanced fine fescue cultivars to enhance disease resistance. While fine fescues provide a different look and feel than our conventional monostands, mixtures of fine fescue and colonial bentgrass may well become part of the future solution to golf course maintenance as regulations limit fertility and pesticide inputs.

Where do we go from here?

Three hours of discussion produced a wonderful exchange of information between UK and US attendees. It seemed clear that fine fescue provides an ideal turfgrass for many golf course situations in the UK. Less water, fertilizer, and pesticides are apparently needed than on our bentgrass or bluegrass fairways in the U.S. There is no doubt in my mind that fine fescues and other novel turfgrasses will play a bigger role in U.S. golf courses in the near future. Several differences exist between UK and U.S. situations, though, which must be kept in mind.

First, the UK has less environmental extremes than most of the U.S. Temperature swings, highs, and lows often are not as great as in most of the continental U.S. Rainfall also is more consistent, allowing superintendents to maintain turf with less reliance on irrigation. Secondly, UK golfers have different expectations than U.S. golfers. On my 2nd trip to England, I saw hay production from the rough on one of the golf courses—something that would never be tolerated in the U.S. It is not uncommon to see fairways in England (and other parts of Europe for that matter) in a state of semi-dormancy from drought. Comments from the UK superintendents indicate this is changing, though, as the younger generation of golfers has been Americanized and are increasingly expecting the Augusta "green grass" syndrome. Thirdly, it has been my experience (albeit limited) that superintendents at golf courses in the UK are less subject to the whims and follies of green committee members. In my conversations with superintendents in England it seemed fairly typical for superintendents to spend most or all of their career at a single course. Job security gives superintendents more flexibility to have droughty conditions or dormant turf during the playing season.

The symposium concluded with the question "Where do we go from here?" One attendee suggested we need to find ways to communicate the benefits of fine fescue use to the golfing public in order to achieve public acceptance. I suggest the following: get the PGA to speak up for the benefits of fine fescue and environmentally sound golf management. Televised tournaments must be played on non-conventional courses which utilize environmentally-sound management, including non-traditional grass mixtures. The USGA promotes environmentally sound turf to a certain extent and needs to continue to educate their members as well as the public. Ultimately it may be the force of legislation which will drive us down the path towards using more fine fescues for golf courses. Anyone wanting to build an experimental, low-maintenance and environmentally sensitive golf course in the upper Midwest might do well to try fine fescue/colonial bentgrass fairways and velvet bentgrass greens. Ryegrass, regularly overseeded, might be a good option for tees. As Dan Lucas said, "We need a philosophy, not just a single grass, for an environmentally sound golf course."

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Not Your Ordinary Turfgrass Program

By Dr. R. Chris Williamson, *Turfgrass and Ornamental Specialist, Department of Entomology, University of Wisconsin-Madison*

Unlike many other programs that are reactionary responses to an immediate or developing problem, the University of Wisconsin-Madison Turfgrass Research and Extension Team has been involved over the past year developing an Integrated Turfgrass Management (ITM) program. The ITM program is a proactive program that will provide the necessary training, education, and outreach (consulting) to turfgrass managers of five contiguous acres or more. Such information will enable all turfgrass managers to develop practical turfgrass management programs that are cost-effective, agronomically and environmentally sound, without compromising ecosystem quality, yet are in compliance with foreseeable and likely state and federal regulations.

Since its conception, everyone involved in the development of the ITM program has been working diligently to ensure that the program is of the highest quality, professional, useful, as well as successful. Yet another step has been successfully completed, on January 1, 2002 Kevin Hensler officially joined the ITM program. Kevin's title is Integrated Turfgrass Management Specialist. His responsibilities will include: collaborative development of an ITM manual, coordination and delivery of educational workshops and training seminars, on-site consultations and annual visits, interpretation of soil sample results and respective fertility recommendations, as well as marketing of the ITM program.

Without question, Kevin has his "work cut out." However, we are confident that with everyone working together, we can make the ITM program a success. As we near the final and the most important stage of the program, this is where you, the end user, comes into the picture. Most importantly, in order for this program to truly become a success, we need your support. The ITM program invites you to get on board and take a proactive role in the pursuit of environmentally responsible turfgrass management.

Since the ITM program is a self-funded (fee-based) outreach program, a modest program fee will be associated with participation. Enrollees will be entitled to the ITM manual, full-scale training and educational workshops, an annual on-site consultation, turfgrass diagnostic services, and access to an interactive turfgrass web site. A program brochure that outlines the types of program packages is now available. This brochure will be mailed to everyone that is a member of the Wisconsin Turfgrass Association, Northern Great Lakes Golf Course Superintendents Association, Wisconsin Golf Course Superintendents Association, Wisconsin Landscape Federation, and the Wisconsin Sports Turf Managers Association. Should you have any questions, please contact Kevin Hensler at 608-845-2545 or hensler@entomology.wisc.edu.

We are confident that the ITM program will provide valuable information, education, and resources, as well as aid turfgrass managers in their continually increasing need to justify management plans, policies, and procedures. Participation in the ITM program may also enhance the frequently perceived public opinion or misconception that turf is potentially an environmental hazard. Moreover, this program has the impetus to potentially reduce unwarranted or unjustified inputs, thus saving monetary resources, and providing agronomically and environmental sound management practices.

What is the Role of TDL?

By Dr. Geunhwa Jung, *Department of Plant Pathology, University of Wisconsin-Madison*

Wow! It has been two years since I was appointed as a turfgrass pathologist at the University of Wisconsin-Madison. Until recently, I was primarily focused on research in the lab, which requires more time to get established. My graduate students are now well trained and have a clear and solid understanding of their research objectives and how to solve various problems that they might face. Now the time is fully ripened for me to concentrate my efforts into real world problems and to become a valuable instrument for people working with turfgrass in Wisconsin.

My primary responsibility is to provide you with accurate and fast diagnosis of diseased samples received from commercial (golf courses superintendents, sod producers, athletic field managers, lawn care managers, and others) and homeowners through the vehicle of TDL (Turfgrass Diagnosis Lab), previously called TDDL (Turfgrass Disease Diagnosis Lab) as well as with recommendation of disease management. The main reason to change the name was to centralize one place to handle any turfgrass related problems. To make the recommendation reasonable and practical, research plots at the O.J. Noer Research Facilities and right at your golf courses, should be maintained and tested with new products for the control of diseases which are most severe in Wisconsin.

Over the last five years Mr. Jeff Gregos, program manager for Horticulture and Plant Pathology, has played an important role in keeping two main tasks described above rolling successfully. I really appreciate his unselfish dedication to keep the TDL reputation high and to continue providing valuable information to you. Without hesitation, I can commend his many contributions to Wisconsin turfgrass research during the years that I have been acquainted with him. Simply, we are extremely fortunate to have him. Another important person, whenever we are talking about the TDL, who should not be forgotten is Mr. Gary Gaard. Every summer Gary has been out at the O.J. Noer to diagnose homeowners' samples. This is all boiling down to teamwork. We are all in the same boat to put turf research programs at the University of Wisconsin-Madison on top. In addition, because of the importance of fungicide recommendation and TDL, I hired one Post-Doc fellow to design and evaluate the experimental plots, analyze the data, prepare reports, and make the best recommendation. This Post-Doc will also diagnose the diseased samples along with Jeff and Gary. Basically I want to fortify and strengthen a wall of the TDL and Plant Pathology responsibility.

Most of all, over the past years your active participation in either financial contribution as contractors or your faithful commitment of sending samples truly allows the staff and me to understand what our role means to you. Your continued involvement is extremely important for us to keep the lab active and accessible, as well as to provide you the best quality of services and information.

As a token of many thanks to you, I would like to summarize two years' TDL activities by reporting on how many samples Jeff and Gary processed each year, how diseases occurred in each year, which disease was the most frequently diagnosed, and when the disease actively occurred during the year. Therefore, we might have an idea of seeing a bigger picture of the possible outbreaks of certain diseases in each month and over the year so that future plans of scheduling preventive fungicides can be anticipated and initiated in a timely manner. I do want to emphasize that our observations or conclusions listed below were not drawn from planned experiments. It is simply my interpretation of what we received and diagnosed at the TDL over the years.

The total number of samples processed in 2000 and 2001 were 184 and 133, respectively.

The following conclusions were made by the interpretation of disease samples received and diagnosed during last two years:

Patch diseases (necrotic ring spot, summer patch, and take-all)

- Most predominant disease in homeowner's samples is necrotic ring spot (NRS), one of the ectotrophic root-infecting fungi which seems to peak in mid summer.
- Kentucky bluegrass species, in 5-6 year old sods with blend of cultivars, is most susceptible to NRS.
- The other ectotrophic root-infecting fungi found in cool season climate zones like Wisconsin are take-all and summer patch.
- However, spring dead spot and bermudagrass decline are patch diseases infecting warm season grass species.
- Summer patch is destructive primarily on Annual bluegrass, Kentucky bluegrass, and fine-textured *Festuca*.
- An interesting finding is the constant occurrence of NRS and summer patch throughout the whole year due to irrigation and rainy weather, promoting the development of symptoms.
- Take-all is a destructive disease on newly established creeping bentgrass greens.

Snow mold (Microdochium patch called pink SM and *Typhula incarnata* and *T. ishikariensis*, called gray SM and speckled SM)

- Pink SM occurs in early spring and late fall. It can occur all year long as long as the weather is cool and wet regardless of snow.
- Typhula blight, meaning both gray SM and speckled SM, occurred predominantly in 2001 (9 samples) due to a longer snow cover than 2000.

Dollar spot

- There is a trend of two outbreaks throughout a year, summer and late fall. This is a well-understood observation.
- You might recall our difficult time of controlling dollar spot in 2000, which is reflected in the number of samples processed.

Anthracnose

- This disease is becoming more of a problem in old courses, mainly due to overpopulation of *Poa annua* which is the most susceptible host species during warm weather.
- The samples came in all season long (May through October) during both years

Some diseases such as rust and powdery mildew

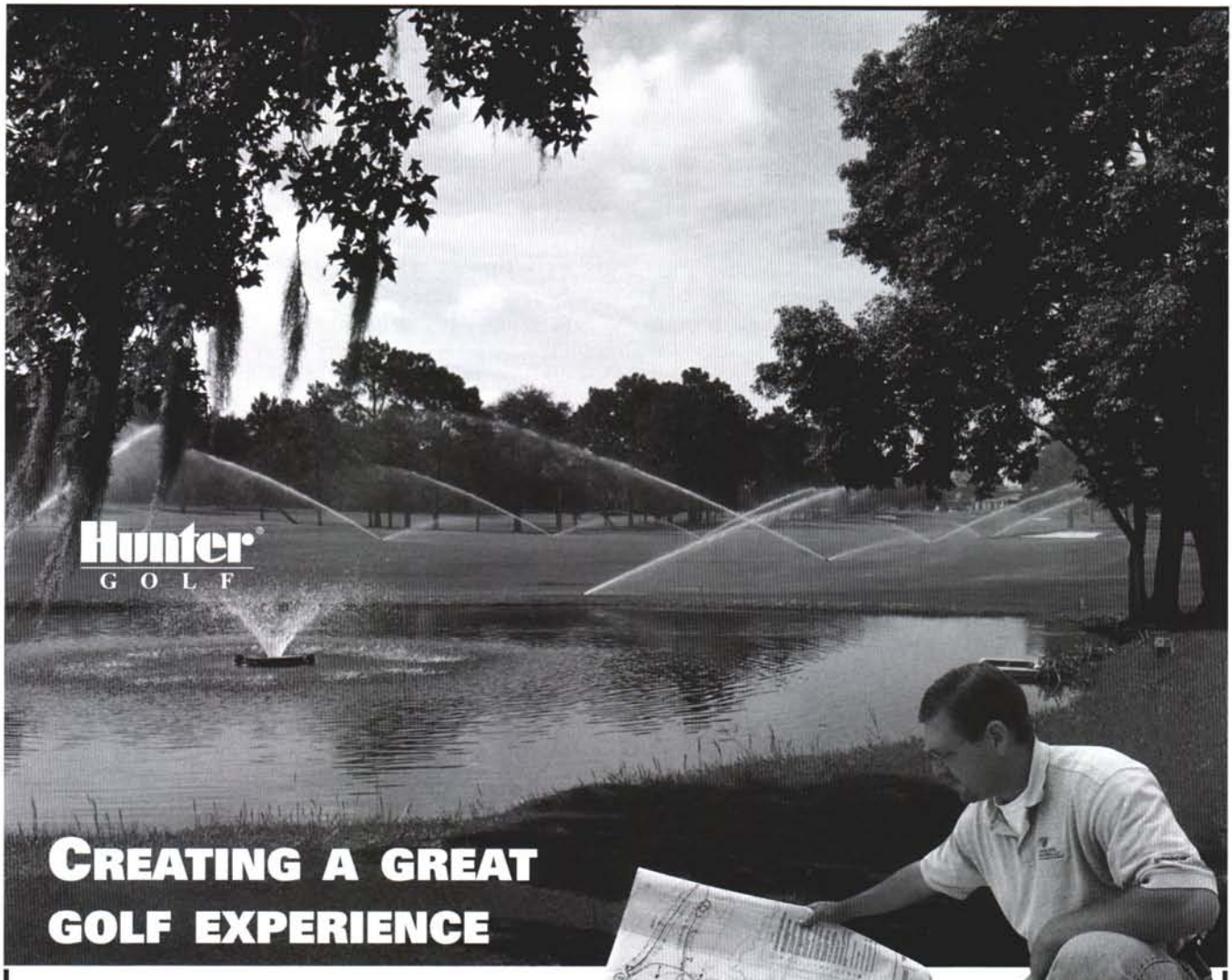
- The TDL did not receive any samples diagnosed for rust and powdery mildew in 2001. It does not mean these diseases did not occur at all. It means that fewer outbreaks occurred in 2001 than 2000 which can be mainly due to weather conditions.

This year I can't wait to see how the occurrence pattern of different diseases is changed. More interestingly, can we have severe snow molds this year relative to last year?

Table 1. A summary of turfgrass diseases diagnosed at TDL during two years (2000 and 2001) using diseased samples from commercial and homeowners.

Year 2001	Yellow Patch	NRS	Summer Patch	Take-All	Melt Out	Fairy Ring	Microdochium Patch	Anthracnose	Red Thread	Dollar Spot	Pythium	Bipolaris	Rust	Powdery Mildew	Snow Mold	Brown Patch
March-April		1	2	1												
May		1	2	4	3		6	1		1					3	
June		2	1	5	3	1	6	1	2	4					1	
July		6	1				2	1	3		1				5	
August		2	2	13				4		1	5	1				2
September		1	3	1				3				1				2
October		4	2	1		1		2		1		3				
November		2	5													1
Total	**0**	**19**	**18**	**25**	**6**	**2**	**14**	**12**	**5**	**7**	**6**	**5**	**0**	**0**	**9**	**5**

Year 2000	Yellow Patch	NRS	Summer Patch	Take-All	Melt Out	Fairy Ring	Microdochium Patch	Anthracnose	Red Thread	Dollar Spot	Pythium	Bipolaris	Rust	Powdery Mildew	Snow Mold	Brown Patch
March-April	1	3	3	3												
May	8	3	1	8	6	3	6	1								
June	2	1	1	3	6	2		9	6	7	1					
July	1	4	4	7		2		3	5	8		3	2			
August		3	1	2		3		3	1	5	1	7	2	2		
September		3	3			2		2				2		1		
October		1	1				1			2		1	1	2		
November			2				2	1		1		1	1	1		
Total	**12**	**18**	**16**	**23**	**12**	**12**	**9**	**18**	**12**	**23**	**2**	**14**	**6**	**6**	**0**	**0**



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Childhood Dreams Do Come True – With Hard Work and Determination

By Lori Ward Bocher

Think back to your lemonade days, when summer afternoons were spent playing with buddies. Imagine neighborhood boys, 10 or 11 years old, playing golf in the school yard. Some days they go to a nearby 5-hole course along the Sheboygan River for a very good reason – it's free! They stand on the 5th tee, look to the east and say, "Sure wish they'd finish four more holes over the hill."

On rainy days these boys get together to draw up golf course plans, dreaming of different ways to lay out the holes. One of the boys – we'll call him Ed – says to himself or to anyone who will listen, "Some day I'm going to have a golf course of my own."

Fast forward 25 years and young Ed is now the golf course superintendent on the same land where he once played a 5-hole course with his buddies. You see, that land is now part of the River Course at Blackwolf Run – the first two holes and the third tee, to be exact. Fast forward another five years, and young Ed's childhood dream has come true; he owns a golf course.

If you haven't figured it out yet, Ed is Ed Kirchenwitz, owner and operator of Sunset Hills Golf Course and Driving Range near Sheboygan Falls. Before taking the plunge to start his own business, he worked at numerous jobs for the Kohler Company; at one time or another he was superintendent of three of the company's four golf courses.

But before we get too far in this story, let's go back to the lemonade days to see what an important role golf has played in Ed's life and to find out how a childhood dream became a reality.

Stayed close to home...

Ed was born in 1960 in Sheboygan, Wisconsin. "I've lived here my entire life," he says. "I've always worked locally. My first job was at Pine Hills Country Club when I was in high school."

Ever since he can remember, Ed has enjoyed golf. "I grew up about four or five blocks from Pine Hills," he recalls. "All of us neighbor kids golfed at the local school yard. One of my friends had a brother who was the superintendent at Pine Hills. That's how I got my first job at a golf course. Pretty much our whole neighborhood worked there," he adds with a laugh.

After graduating from high school in 1979, Ed continued to work at Pine Hills. In 1985, he went to work for the Kohler Company – just about the same time they announced they would be building a golf course. "I ended up working for their landscape division for two years," he explains. "We took care of all the Kohler Hospitality properties. But whenever we had extra time, we went out to the (soon-to-be) golf course to clear trees, things like that. It didn't seem like a big thing at the time because nobody really knew how fancy of a golf course it was going to be until they started construction."

Ed continued to work for the landscape division while the first course at Blackwolf Run was being built. "Our landscape crew worked as the finishing crew for the prep work on the golf course," he relates. "We put in a lot of long hours. It was a great learning experience, there's no doubt about that."

He'd been there before...

Working on the course brought back childhood memories for Ed. "When I was a kid, we used to go golfing where the first three holes of the River Course are now," he remembers. "It was a 5-hole course that the Kohler Company owned for its employees and the Village of Kohler residents. My father worked for Kohler for more than 30 years.

"We could golf there for free, so obviously we went there a lot," he continues. "It was a nice little course to learn on. Nothing fancy. Not too many people know that it was there. The funny thing is, we used to stand on what was the 5th tee, look to the

Architect, owner and golf course superintendent Ed Kirchenwitz, Sunset Hills Golf Course. *Photo by Jeff Machtig of the Sheboygan Press.*

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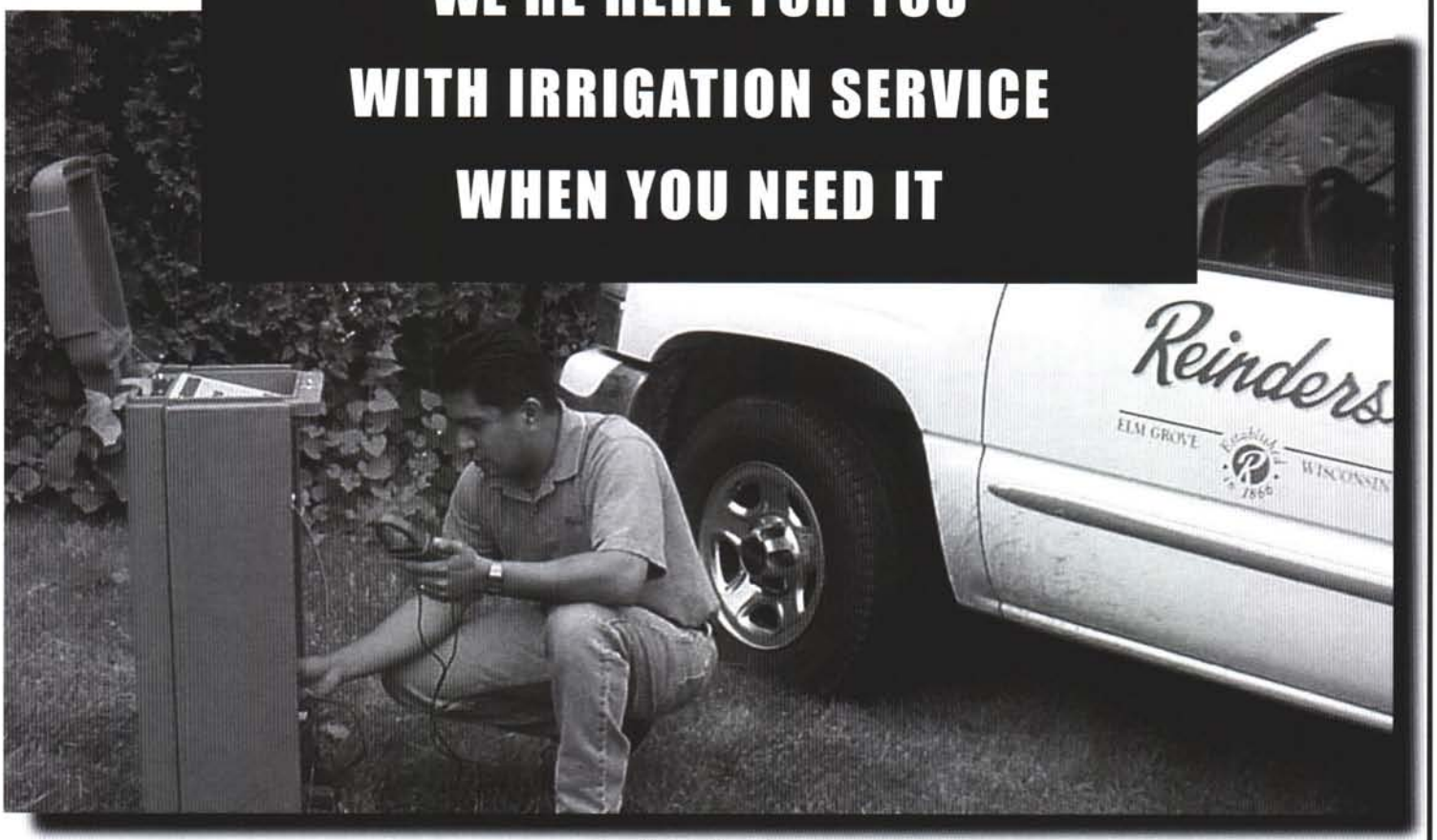

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east and say, 'Boy, wish they'd just finish four more holes over the hill.' Little did we know that that was going to happen!"

Ed wanted to switch from the landscape division to the golf course, but that didn't happen. So he left Kohler in the spring of 1988 when someone hired him to build a 9-hole public golf course near Howard's Grove – Heartland Hills Golf Course. "We did everything ourselves – the irrigation, the grassing – except for a little bit of bulldozer work," Ed says, adding that he was in charge and employed two other workers.

With some golf course construction under his belt, Ed was able to get a job at Blackwolf Run in 1989. Once there, he quickly worked his way up through the ranks. "I started out as a crew foreman in 1989," he explains. "In the spring of 1990 a couple of assistant superintendents left, so I went from a foreman to an assistant superintendent. And then in 1992 I became the Meadow Valleys superintendent.

"I did that for two or three years, and then was named superintendent of the River Course," Ed continues. "After two years there I went out to Whistling Straits where I was the superintendent for two years. I've been on three of Kohler's four courses." (The fourth is the newest, Creeks Course, next to Whistling Straits.)

U.S. Open experience...

In 1997 Ed left Whistling Straits and returned to Blackwolf Run for the U.S. Women's Open which was held in July of 1998. "I was the construction superintendent," he explains. "We rebuilt four tees, making them bigger or changing their location a little bit. On the 18th hole we transformed a sand bunker into a pond – just for the tournament."

Much of the tournament preparation took place off the course. "We had to build a whole entranceway to the U.S. Open," Ed points out. "We basically took a big field and converted it into a park setting for all of the tents, a bus drop-off, things like that. We put in a gravel road. Brought in lots of trees and flowers and flag poles."

When the tournament ended in 1998, Ed became the River Course superintendent again for another year. At the same time, he put the wheels in motion to fulfill his childhood dream of becoming a golf course owner. No longer a child, Ed now had nearly 20 years of golf course experience under his belt – 10 of those years with Kohler.

Back to the dream...

But we're getting ahead of the story. How did Ed make the transition from golf course employee to golf course owner? As we mentioned

Ed and his father built this modest and temporary clubhouse. The range tee, sown to low mow Kentucky bluegrasses is in the foreground.

Here is a look backwards at the fourth hole.

before, it started when he was a kid. "It was always a dream of mine to own a golf course," Ed admits. "When I was younger I used to sit around with a bunch of guys from the neighborhood and we'd draw up golf course plans. Most of them we threw away. But I kept one set from when I was about 10 or 11. I still have it upstairs in a closet somewhere." (One of the kids who drew plans with him, Steve Fischer, is now the golf pro at The Bog near Saukville.)

Right after the U.S. Open, Ed began looking for some land for his course. He remembered someone he met in his early days at Pine Hills, someone who did a bit of construction work at Pine Hills and other courses. This man, Ron Krueger, owns Ron's Tree Farm and some land near Sheboygan Falls, with easy access to Highway 23. Ron is in the tree spade business, so he has bulldozers, payloaders and other equipment needed to build a golf course – reasons that made him a good potential partner.