

# The GREEN Breeze



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## Mark Your Calendar

Miami View Country Club	Superintendents' Championship	August 4
OTF Research Center	OTF Field Day	August 6
Firestone, North Course	OTF Scholarship Tournament	September 23
Terrace Park Country Club	Super /Pro Details to follow	October 6

OTF Conference and Show  
Kalahari Resort & Convention Center

## Announcements

## Upcoming Event



## From the President

Sadly, I am writing this month to inform our membership of Bob LaChance's decision to resign his position as our chapter administrator. Mr. LaChance has served our chapter faithfully for more years than most of us can remember. For many of us Bob has been the face of our association for the entire time we have been members.



2013 -2014 President  
Ron Frecking

Bob has seen many changes to our chapter over the years, not the least of which was the advent of the computer age. Everything has changed over time; the format for the meetings was once much more formal than it is today. We used to register our meeting attendance with phone calls and voicemails and social events were all the rage. Bob has persevered through all these changes, and more, and we are fortunate to have had him for as long as we did.

Our chapter has remained relatively strong over the years through economic downturns and other challenges to the golf industry. We all owe Bob a debt of gratitude for the work he has done to keep us on solid ground. Replacing Bob will be no small task, and the next to hold his position will have big shoes to fill and will work in his shadow for a long time.

They say all good things must come to an end and I guess it is true. Bob—we will miss you and don't be surprised if your phone rings from time to time as we try to find some obscure information or simply have questions on how things have been done in the past. You have always been my "go to" source of information during my years on the board, and I want to personally thank you for making my time as president an enjoyable one.

Ron Frecking

President, Greater Cincinnati GCSA

## Greater Cincinnati GCSA Happenings

### Meeting Information

- Registration: 11:00
- Buffet style lunch: 11:30
- Shotgun Start: 12:30
- Lunch & Golf: \$30.00
- Cash Bar
- Practice Range available
- Registrations must be made online. Payment will be accepted on line or at the event.

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for a new beginning.*



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# Turfgrass Research Field Day

## August 6th

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# Our Host Facility for August: Miami View Golf Club

Jim Riley is our host at Miami View Golf Club. Jim started his career in the early 1970's managing three different golf courses (Pleasant Run CC, City of Fairfield, and G.E. Park) before landing at Miami View. Jim has been at Miami View for the past fourteen years. He has an associate's degree in horticulture and a bachelor's degree in science from U.C.

Jim has been married for thirty-three years to his wife Paula. They have three children, Beau 28, Kate 31, Christy 32, and a beautiful granddaughter Macie who is 2 years old. Jim enjoys watching all sports, playing golf, and drinking beer with the boys.

Jim has a very seasoned staff that he works with. Staff includes Assistant Tim Roever, 15 years, Eddie Vignale, 11 years, mechanic Dan Rohrer, 8 years, Joe Kidd, Bob Simonson,

and Roy Pasmore all with 20 plus years.

Miami View was the brain child of four frustrated western Hamilton County golfers. After following a frustrating day of waiting for a tee time at a local public course, the four came up with the idea to build their own golf course while sitting at their favorite watering hole. Money was raised, and by June 3, 1961, they had a membership of 263 people.

The course was designed by Robert Diddle and was built by the membership. The front nine opened in 1961 and the back opened one year later. Willie Byrd was the superintendent for thirty-four years before retiring and was credited with polishing this beautiful piece of property.

Miami View has undergone many projects since Jim started. Projects include: redesign of green surrounds on 5 & 6, new fairway on

8, new tees, fairway drainage, cart paths, and a driving range etc. Brian Huntley did the master plan work, Golf Construction Association did the construction and Southern group was responsible for the irrigation. Miami View is currently into the third year of a five year program, installing part circle rough heads in all of our fairways.



Statistics for Miami View Golf Club	
Average number of Rounds	25,000
Course/Slope Rating (White)	70.2 /128
Acrage Under Maintenance	140
Putting Green Goal	Consistency

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# The Ball Mark Scar

By Charles Anfield, CGCS, Heritage Bluffs Golf Course. Channahon, IL

For a Greenkeeper, the ball mark scar on a golf green is one of the most annoying turf related "challenges" we have to deal with.

The golf green is the highest profile, most vulnerable and delicate turf on the golf course. The greens, by far, require our highest course maintenance inputs (except maybe bunkers, more on that in another article). The golf green has the lowest mowing heights, sustains the most concentrated foot traffic and is where the majority of the game of golf is played. We primp and prod our greens by vertical mowing, topdressing, rolling, dew whipping, spiking, applications of plant protectants, deep tining, core cultivation, fertilizing, growth regulating and mowing, mowing and more mowing. Greens are watched over more carefully than any other part of the golf course. The golf green is where we search for the holy grail of perfection. We want them smooth, fast, green and vigorously growing to handle the stresses caused by the extremes of the weather and of the masses of people playing on them. A set of smooth, fast greens can define a Green-

keeper's reputation and make or break their career.

For Golfers the greens are also very important. To the golfer, high quality, fast greens will define the level of overall conditioning on the course and more than likely the

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*After the ball hits the green it will leave some kind of mark. This is a critical time for the future of a ball mark scar. At this point here comes Joe Golfer arriving at the green to continue his play. Will he even fix his ball mark?*

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affect the cost of the green fee. Good putting can make or break a golf game and often determines the outcome of a tournament. People often will determine the quality of their overall playing experience based on their experience on the golf greens. Almost all golfers will say they like them fast. It's a bragging right. "Here at XYZ Country Club, our greens are 17.7 feet on the stimpmeter!" "Those greens at Podunk Golf Club are shaggy". Not good for public relations. Greens are without a doubt the most important part of

the overall golf course.

So I head out on my morning rounds to inspect the greens and ohhhh yuck. A ball mark scar, and another one and there's another one, they're everywhere! It's like an outbreak of acne for a teenager. Why me?

How did we get so marked up? All of the sudden, I feel ugly and self-conscious. Unrepaired golf ball marks can leave localized necrotic scars, raised turf prone to mower scalping, loss of surface smoothness and the

potential for weed (*Poa annua*) encroachment. Improperly repaired ball marks are just as bad, maybe worse.

Let's break it down. A golf ball hits the green. Is it a high wedge shot or a short chip? The height and velocity of the shot will affect the impact point. Multiply the number of impact points by the number and type of shot into hit into the green. Some courses handle less

*continued on page 5*

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volume of play than others. Those courses will have less ball marks, less imperfections. The more play, the more potential for imperfections, it's a numbers game.

After the ball hits the green it will leave some kind of mark. This is a critical time for the future of a ball mark scar. At this point here comes Joe Golfer arriving at the green to continue his play. Will he even fix his ball mark? Have you ever been to a course where there are too many ball marks to even count? Sad, but true. How does this happen? Proper golf course etiquette requires you to repair yours and one other. If everyone did that.... Yeah and if everyone raked their bunkers and replaced their divots....At my course we start each day out by fixing all the ball marks prior to mowing, so we start each day fresh. From that point on it's up to the golfers to "maintain" the ball marks.

Joe Golfer being my kind of guy, after marking his ball on the green, is going to begin his search for "his" ball mark. What will he use to repair the ball mark? There are dozens of different kinds of tools out there. Believe it or not, there have been expensive and extensive University studies undertaken to determine the "best" ball mark repair tool. Joe only has

a tee. Not the best tool for the job but in the right hands it will work just fine. That was the result of the study. It's not the arrow folks, it's the Indian. Proper repair technique is critical for the ball mark repair to recover from the injury. Most people want to pop up the center of the ball mark, tearing the roots out, exposing soil to the surface. "Hey at least it's flat and you can putt on it". Wrong! That soil scar will be there for three weeks! A properly repaired mark where the sides are pulled to the center will leave all grass exposed and heal over in a couple of days. If performed properly there may not even evidence of a mark. Some of the

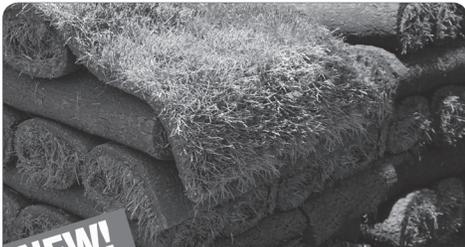
new tools with shorter prongs work better because the user cannot pop up the center of the mark with the shorter prong. They do work. Any tool will work. Some clubs have a great "culture" built in because of the deep commitment they have to having smooth, firm greens. They may either have Members policing themselves or a "Ranger" cruising around searching for neglectful offenders. Nobody wants to be called out for not doing what they are supposed to be doing.

There are a few variables to help reduce the ball mark scar, which we as Greenkeeper's

do have control over. Surface firmness is one variable that we can attempt to control. Obviously, if we are deluged by heavy rains, the greens may be softer than we desire. Overwatering can also result in less than firm conditions. Frequent rolling can increase surface firmness. One way we can significantly impact overall surface firmness is by managing the organic content in the top 2 inches of the soil profile. This organic matter is often the culprit of the deep mushy ball mark. We can reduce the depth of the ball penetration by reducing this organic component with regular organic removal/dilution maintenance. This is accomplished with topdressing, core cultivation, grooming and vertical mowing. We need a work "window" and a commitment from our owners/ members to implement such a plan. Managing organic material is often messy, time consuming and may impact the ball roll for a short time. The long term benefits of a smooth scar free putting surface outweigh the short term inconvenience. Neglecting this organic matter management will have a negative effect on impact of a ball mark and resulting potential scar. Typically, smoothness comes with firmness. The name of the game is to reduce the

*continued on page 11*

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# Turfgrass Disease Profiles: Anthracnose

By Richard Latin, Professor of Plant Pathology, Purdue University

recovery time of the ball mark, reducing the severity of the ball mark scar. It's a great big circle centered on organic management.

**A**nthrachnose is caused by a fungus (*Colletotrichum graminicola*) that survives and thrives on dead and decaying organic matter. Although anthracnose may occur occasionally in turf maintained for athletic fields, professional landscapes and residential lawns, it is largely a disease of intensively managed annual bluegrass and creeping bentgrass used on golf courses. Under stressful summer conditions, the pathogen may cause a foliar blight. During cool wet periods in spring, the fungus can cause a basal stem rot on annual bluegrass and creeping bentgrass. It is not clear how the foliar blight and basal stem rot diseases are related.

## Foliar Blight Anthracnose

A variety of summer stresses predispose turfgrass plants to the foliar blight phase of anthracnose. These stresses include heat, drought, nitrogen deficiency, close mowing and compaction. Stress leads to premature decline and senescence and limit the potential for turf recovery. There also is evidence that certain herbicides and plant growth regulators contribute to stress that predisposes plants to anthracnose infection. Under these stress conditions, dead leaf blades are readily colonized by the anthracnose fungus. When conditions are especially favorable, green leaf tissues and possibly crown tissues are infected, resulting in serious damage to the turf stand.

From a distance, anthracnose-infected turf tends to have a yellow-orange cast and appears to lack its usual vigor. Areas of affected turf are not well defined although they may occur in clusters (Fig. 1).

Irregularly shaped tan leaf spots may occur on infected leaves. The occurrence of anthracnose leaf spots on green leaf tissues is an indication of aggressive disease activity. More often, infected leaves turn yellow and decay from the tips downward. The

pathogen also produces huge quantities of spores on infected leaves within specialized structures called acervuli. The acervuli also contain dark, bristle-like features called setae that serve as diagnostic signs of the disease (Figures 2 and 3). The setae are easily visible with a 10x hand lens. The foliar blight anthracnose spreads by rain-splashed and windblown spores and does not result in any visible surface mycelium.

## Basal Rot Anthracnose

The basal rot anthracnose is favored by stress triggered by low mowing, deficient nitrogen levels, and practices that wound plant tissues (topdressing and verticutting). This phase of anthracnose appears to be especially severe on putting greens. It seems that annual bluegrass is most vulnerable to basal rot infection during cool wet spring conditions. Extensive symptom expression and turf damage may not be appear until plants suffer summer stress.

Basal infection causes rapid chlorosis and decline of individual plants. Leaves turn yellow-orange, usually beginning at the leaf tips. Close inspection of affected areas reveals numerous dime-sized spots of symptomatic plants. Crown tissues of infected plants have a dark necrotic appearance from which the disease takes its name (Figure 4.)

Non-chemical Management Options:

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## Turfgrass Disease Profile: Anthracnose, continued from page 6

Annual bluegrass and creeping bentgrass varieties appear to be equally susceptible to anthracnose infection. It is likely that those varieties with improved tolerance to summer stress will suffer less from anthracnose outbreaks. Avoiding and/or relieving plant stress in spring and summer will make an important contribution towards limiting the damage associated with anthracnose. Spoon feeding small amounts of nitrogen fertilizer (0.1 – 0.2 lb N per 1000 sq ft) during summer months will help plants maintain vigor during periods of slow growth. Syringing vulnerable turf during the heat of the day will help relieve heat and drought stress. Also, redirecting traffic may reduce stress associated with wear and tear and perhaps relieve some of the effects of compaction. On golf greens with significant annual bluegrass populations, practices that promote the development of healthy turf (such as aeration and topdressing at appropriate times in fall and spring) will help turf tolerate the effects of extended periods of summer stress. Finally, raising the height of cut will reduce exposure to anthracnose infection and hasten recovery from damage.

### Control With Fungicides

Anthracnose development can be limited by the application of effective fungicides at appropriate times. Protection by contact fungicides that inhibit spore germination will limit the extent of severe outbreaks, especially during periods of hot rainy weather. Contact fungicides that are registered for anthracnose control include chlorothalonil products (Daconil and others). Systemic fungicides such as Heritage, Cleary 3336 and DMI products (Banner Maxx, Bayleton, and Eagle) are very effective. The local systemic fungicide Compass also is effective against anthracnose.

Timing of fungicide applications is critical for satisfactory disease control, but there appears to be little data from which to draw valid conclusions regarding timing. Best results have been achieved where outbreaks were anticipated and applications were applied prior to symptom expression. Although effective fungicide will decrease the progress of foliar blight during summer months, sprays applied during cool wet spring conditions will suppress early infections and limit the extent of subsequent foliar blight.

Iprodione and vinclozolin fungicides (eg. Chipco 26GT and Curalan) are not effective against foliar anthracnose. Prostar, an excellent product for brown patch control, also is not effective against anthracnose.

There have been recent reports of strains of the anthracnose fungus that are 'resistant' to strobilurin fungicides. Therefore, turf managers who rely on fungicides for anthracnose control should implement practices that reduce the risk of resistance. Such practices include tank-mixing systemic products with contact fungicides, avoiding the use of the same or similar fungicides for consecutive applications, and limiting the number of applications of related fungicides during the season. Most product labels for systemic fungicides include a discussion of resistance management strategies.

Credit: [https://mdc.itap.purdue.edu/item.asp?item\\_number=bp-108-w#.U83K1mdtphE](https://mdc.itap.purdue.edu/item.asp?item_number=bp-108-w#.U83K1mdtphE)

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# Water Woes

By Keith Happ, Director, North-Central Region

It's just one problem after another for *Poa annua* this season. Some of the *Poa* on greens somehow managed to survive an exceptionally harsh winter only to succumb to basal rot anthracnose. A recent bout of moisture stress caused by a broken irrigation mainline pipe seems to have been the trigger that incited a rapid outbreak of disease activity. Once again,

*Just one short period of wilt due to a broken mainline can be a trigger that causes a rapid outbreak of basal rot anthracnose to Poa annua on a putting surface.*

we are reminded that anthracnose truly is a stress-related disease. Let's hope that yesterday's fertilizer application and tomorrow's fungicide treatment can check further injury to the putting surface.

Source: Bob Vavrekrvavrek@usga.org. July 9, 2014

## USGA Explain: Best Time Of Day To Water—At Night or During the Day

From strictly the standpoint of what is good for the turfgrass plant, water should be applied during the day, preferably during the morning. Doing so reduces the amount of time leaf blades remain wet which reduces disease incidence. While some water can be applied during the day without too much inconvenience to golfers, it is impractical to water the entire course during play. From a water conservation standpoint, the most efficient use of

water occurs at night or early morning when it is generally cooler, less windy and humidity is higher so evaporation losses are less. Well-designed irrigation systems make it possible to precisely apply water at night which can have the added advantage of capitalizing on lower energy rates charged at night, which saves the golf facility money and makes your round of golf more affordable.



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# Ohio Turfgrass Foundation Notes

By Brian Laurent, Executive Director, Ohio Turfgrass Foundation

Research updates and educational opportunities are typically two of the most common reasons that OTF members indicate as benefits of their membership. We regularly update members of the most recent work being conducted at Ohio State and throughout the region through communication vehicles like Weekly Clippings and Turf Tips emails and also through our bi-monthly magazine, Turf News.

For those that want the latest and greatest information, information that in some cases has not been published in any forum, the upcoming Turfgrass Research Field Day is your opportunity to receive this insight.

- This year's event, taking place on August 6<sup>th</sup> at the OTF Research & Education Facility, is jam packed with sessions focused on the latest tools and trends. Topics include:
  - Functionality of bermudagrass in the north
  - Subsurface investigation with ground penetrating radar
  - Can pigments provide photoprotection

and promote turfgrass health?

- Impact of brushing on putting surfaces
- *Poa annua* control on greens
- Fungicide updates, insect control and much more!

If you've never visited the research facility, don't miss your opportunity to do so! With more than 20 acres of research plots, there's a lot going on at Ohio State. Field Day is a wonderful opportunity to chat with the Turf Team about various products and practices and also to interact with your fellow superintendents as well as with representatives from some of the companies that provide you with products and services.

If you'd like to learn more about or register for the event, visit our website at [www.ohioturfgrass.org](http://www.ohioturfgrass.org). I hope that we'll see you in Columbus on August 6<sup>th</sup> for Turfgrass Research Field Day!



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# Preventative Control of Fairy Ring

By Dr. Jim Kerns, Department of Pathology University of Wisconsin - Madison

The first disease described on cultivated turf was fairy ring. W. Faulke wrote an essay in 1563 entitled, "A goodly Gallerye with a most pleasant Prospect, into the garden of naturall contemplation, to behold the naturall causes of all kynde of Meteors, that first described fairy rings as "those round circles that ignorant people affirm to be the rings of the Fairies dances." Today we know that fairy ring is caused by many different species of basidiomycete fungi, but imagine how much simpler life would be if a fairy did cause fairy ring. Oh how nice it would be to say "I don't believe in fairies!!" and have our fairy ring problem disappear instantaneously. I know it sounds cruel to end poor Tinkerbell's life, but let's face it, fairy rings have become a major issue for golf course superintendents.

The first question that always pops into my mind is - Why? Why has fairy ring become an emerging problem for golf course superintendents? I think the main reason is we have switched from very non-specific fungicides to more specific fungicides. I suspect the fungal populations of turf systems treated with lead-, mercury- and cadmium-based fungicides were not too happy. Another reason may be the dominance of sand-based root zones for putting greens. We do not know a whole lot about the biology of fairy ring fungi, but we do know that they are primary colonizers of substrates. Therefore in a relatively inert rootzone such as sand, these fungi likely move in first.

We also know that fairy ring fungi are ubiquitous soilborne organisms that are everywhere. They are waiting for the opportunity to thrive on an organic matter source. Spores of fairy ring fungi are airborne as well, so they can travel great distances on air currents. Therefore sterilization of soil may effectively limit fairy ring development initially; yet overtime the fungi will establish themselves in the ecosystem. Fungi that cause fairy ring have been around for a long time and have caused disease on turf swards for many years. Like many of our diseases in turf, we know very little about the biology, epidemiology and management of fairy ring. However, some nice work on the biology and preventative control of fairy ring has emerged from North Carolina. Plus we conducted a small preventative fairy ring trial that showed promising results.

## Biology

Fairy ring can be incited by 60 different species of basidiomycete fungi. However, the crew at NC State has collected over 200

isolates of fairy ring from all over the country and has narrowed the species list down to four or five. That's not to say that others cannot cause fairy ring, but from putting greens there seems to be four or five prominent species. They have identified the isolates based on morphological characteristics and molecular characteristics. Eighty-eight percent of the isolates they have collected (which includes isolates we sent them from Wisconsin) were identified as *Vasecellum curtisii* or *Bovista dermoxantha*. Both of these species are puffball fungi and these seem to be the predominate species inhabiting putting greens.

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So what causes the symptoms we see? First there are three types of fairy ring symptoms- Type I, Type II and Type III. Type I are when the rings become necrotic, type II symptoms are the luxuriant green growth of the outer ring and type III is just a ring of mushrooms or puffballs Fairy ring fungi are happy inhabitants of soil organic matter, so type II symptoms are likely the result of luxuriant growth of the turf due to the liberation of nitrogen from the organic matter. As the fungal body expands, the old tissue dies coating the soil particles with a hydrophobic substance.

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A question that arose at the International Turfgrass Conference was, "Is fairy ring a disease?" A disease is defined as an abnormality in structure or function of a plant caused by the constant irritation of a microbial agent that results in the production of symptoms. I would say that fairy ring meets that definition to the letter! Then the question remains, "are fairy ring fungi pathogens?" Yes they are because pathogens are microorganisms that cause disease, and we have already established that fairy ring is a disease.

When it comes to terminology, I am a hard-liner. Plant diseases cannot be caused by abiotic factors, in other words I subscribe to the philosophy that there is no such thing as an abiotic disease. Yet there are a few cases when a pathogen causes a disease without actually infecting the plant. Of course fairy ring is one of those diseases. Another classic example is sooty mold. This particular fungus lives on aphid excrement, but can cause damage to plants by profusely colonizing the leaves that severely limits photosynthesis. Essentially my point is fairy ring is a disease, even though the causal agents may not infect

the plant.

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## Management

Fairy ring management can be accomplished preventatively or curatively. However, usually the best medicine for any plant disease is preventative treatments.

Research at NC State, The Chicago District Golf Association, Penn State and most recently UW-Madison have demonstrated that preventative applications of fungicides targeting fairy ring should be applied when soil temperatures are between 55 and 65°F. The fungicides that have proven effective are: triticonazole, metconazole, tri-adimefon, pyraclostrobin, azoxystrobin and fluoxastrobin. The current recommendations are to make the first application when soil temperature reach 55°F and follow that application up 28 days later with another application. Each application should be irrigated with 1/8 to 1/4 inch of water. Preventative applications should not be tank-mixed with wetting agents!

The beauty of this program is, most of these chemicals are known to be effective against take-all patch. The timing of applications for take-all patch is similar too. Under severe fairy ring outbreaks preventative control may only be achieved with more applications. For example, most preventative fairy ring

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## Preventative Control of Fairy Ring, *continued from page 10*

programs start and end in the spring, but for severe cases applications in the spring and fall may be necessary. Along with preventative fungicide applications, an aggressive topdressing and aerification program should be followed. We know that fairy ring fungi thrive in organic matter or thatch therefore it is imperative that we limit thatch production. It is also recommended that wetting agents be periodically applied during the summer months.

For curative applications, flutolanil (ProStar®) is really the only fungicide that is recommended. During application the chemical should be mixed with a wetting agent. Efficacy may also improve if applied after spiking the putting surface. Fighting fairy ring curatively is a constant battle because of the sheer amount of the fungus in the soil. Typically the residual activity of flutolanil against fairy ring is 14 to 21 days, so applications will need to continue on a regular interval

during optimal conditions. Yet the problem with the aforementioned statement is, we do not know what the optimal conditions for fairy ring development are!

As far as cultural control is concerned, type II symptoms can be masked with nitrogen or iron applications. Aerification and spiking disrupts the fungal body, which can slow the development of the disease. Minor infestations may be kept at bay with cultural practices, but without chemical intervention the problem could become more severe. Basically, these cultural practices should be coupled with a strong preventative control program to achieve season-long fairy ring control.

Credit: *The Grass Roots*. Publication of the Wisconsin GCSA. November/December 2009.

## The Ball Mark Scare, *continued from page 5*

The name of the game is to reduce the recovery time of the ball mark, reducing the severity of the ball mark scar. It's a great big circle centered on organic management.

There are cosmetic solutions for excessive scarring. Scars can be cored out and filled with green sand. Scars can be removed with small turf plugs. Unfortunately the "patches" can become overwhelming and the overall smoothness is lost.

Next time your golf course superintendent wants to core aerify it isn't because he just likes to make holes and bother golfers, heck, it's a lot

of hard work. No, he just wants to make your greens better and reduce the number of the dreaded ball mark scars. As they say in the Kitchen, "you've got to scramble a few eggs to make an omelet". Bon appetit.

Credit: *On Course*. Publication of the Midwest Association of GCS. October 2009.

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