



# Hole Notes

The official publication of the MGCSA



## Rochester Golf and Country Club A Taste of Tilly

Vol. 48, No. 5 June 2014



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Schedule of events:

11:00 am                      Registration, range open  
12:00 noon                    Shotgun Event  
5:00                              Reception and awards

Dress Code for Golf & Post Meal: Must wear collared shirts, slacks or Bermuda length shorts. No denim.

Golf & Dinner: \$100 Dinner Only: \$35

Casual attire acceptable at dinner

- \_\_\_\_\_ Championship Flight - Gross Event
- \_\_\_\_\_ 2nd Flight - Handicap 20-26
- \_\_\_\_\_ 1st Flight - Handicap 9-19
- \_\_\_\_\_ Callaway Flight (No Handicap)
- \_\_\_\_\_ Senior Flight - Age 50+ (Net event)

**CHECK APPROPRIATE FLIGHT**

Name: \_\_\_\_\_ Handicap: \_\_\_\_\_

Golf Course / Company: \_\_\_\_\_

Post Meal(s) Only (Spouses Welcome): \$35 ea.

**Deadline: July 14, 2014**

Total Enclosed:

PAYMENT METHOD:

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Fun photo from Brian Boll,  
Superintendent at  
North Oaks Golf Club

*June 30th  
South East Exposure  
The Bridges Golf Club  
Host Kyle Kleinschmidt*

*July 8th  
Equipment Managers Tour  
Turfco  
Host Scott Kinkead*

*July 21  
The Championship  
Rochester Golf and Country Club  
Host Nick Folk*

*July 28  
Northern Lakes Exposure  
The Wilderness at Fortune Bay  
Host Vince Dodge CGCS*

*September 8  
Badgerland Exposure  
Lake Wissota Golf  
Host Kris Woppert*

*October 13  
The Wee One  
Brackett's Crossing Country Club  
Host Tom Prosheck*



**EDITOR**

**DAVE KAZMIERCZAK, CGCS**  
DAVE@PRESTWICK.COMCASTBIZ.NET

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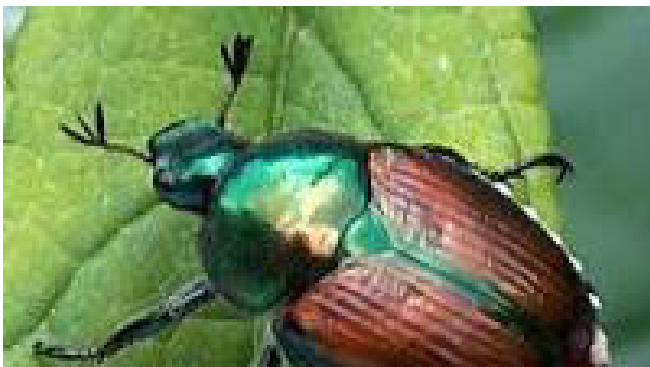
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Championship**



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**Controlling  
Summer Grubs  
Now**

**Hole Notes** (ISSN 108-27994) is digitally published monthly except bimonthly in November/December and January/February by the Minnesota Golf Course Superintendents' Association, 10050 204th Street North, Forest Lake, MN 55025. Jack MacKenzie CGCS publisher. Please send any address changes, articles for publication, advertising and concerns to [jack@mgcsa.org](mailto:jack@mgcsa.org).



# Presidential Perspective

by Roger Stewart, CGCS Superintendent at TPC Twin Cities

Recently, I was privileged to join our Executive

Director, Jack MacKenzie, for a tour of the T.R.O.E. Center with Dr. Brian Horgan and Dr. Eric Watkins. In addition, we were treated to a discussion about the proposed project at Les Bolstad Golf Course on the U of M campus. I am convinced, now more than ever, that these two facilities hold the future for turf research here in Minnesota.

The proposed project for Les Bolstad Golf Course will be a model for restoration and renovation projects for golf courses in the future. The concept of the re-design is to provide an example of how to renovate courses using three components of sustainability to insure the long term success of the facility. Those components are agronomic, economic and environmental principles and procedures that will culminate in a comprehensive business model for success. In addition, there

will be a demonstration area for ongoing research projects that will provide valuable information for superintendents complimenting the work going on at the T.R.O.E. Center. MGCSA supports this project because it will provide beneficial case studies for courses interested in renovation projects now, and in the future. It will also provide crucial information for golf course architects and golf course construction companies for renovation projects they will be involved with in the future. Owners, club officials, general managers and golf professionals who are at courses considering a renovation project will also benefit from information related to how to manage the economic sustainability of their facilities during and after the project. To learn more about the Science of the Green project, visit the website at [www.scienceofthegreen.org](http://www.scienceofthegreen.org).

We also had the pleasure of touring the T.R.O.E. Center to see all the work and research that is

currently in process with the U of M. I can tell you this is not the same T.R.O.E. Center I was on at the last field day-far from it. As we were treated to a discussion of the various research projects and breeding efforts, it very quickly became apparent to me that MGCSA members needed to see what we were seeing. From the run off/nitrogen fate study, to the rain shelter and



drought resistance research, to the fine fescue breeding, to the bentgrass research plots, to the MGCSA Member Driven Research initiatives, my reaction was nothing short of “I had no idea!”. Many of you know that the Field Day was replaced last year with a number of virtual field days produced by Dr. Horgan, Sam Bauer, Eric Watkins and others that were very

informative and convenient because you could watch them anytime or anywhere you had internet access. We will certainly see more of those presentations in the future. This year the Field Day returns with a vigor that you can only experience

if you go. We were promised that the Field Day this year “is not your father’s Field Day,” with the change being in the traditional tours that will provide more opportunity for

discussion and interaction. There is so much to see that you really can’t afford to miss it this year and you also will be able to hear more about the Science of the Green project. So mark your calendars and clear your schedules for Thursday, August 7 and watch for more information to come from the MGCSA on the details. It is going to be a special day and I hope to see you there!!!

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Player Name \_\_\_\_\_

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***RSVP REQUESTED by July 20th***

**MGCSA and Non-MGCSA Area Superintendents**

**and staff are welcome and encouraged to attend this event**

**Scan or Mail to Jack MacKenzie Executive Director MGCSA**

**jack@mgcsa.org**

**MGCSA**

**10050 204th Street North**

**Forest Lake MN 55025**

**or call 651-324-8873**



# In Bounds

by Jack MacKenzie, CGCS

“Hurry up and wait.”

Perhaps my greatest fault, at least from my perspective, is my inability to maintain patience. Although not quick to become angry, my frustration level can be accelerated if I do not focus upon patience, especially when working in the bureaucracy of the public arena.

As a golf course superintendent in the private sector with somewhat autonomous management, I could appreciate a challenge, create a solution and put the remedy into place quickly and confidently...of course taking budgetary and time limitations into account. However, when working with the state and national governments, “fast-tracking,” which is a really good idea, just doesn’t happen much and likely ever on my timetable.

It isn’t that progress can’t be made through enlisting the aide of state

agencies, forging relationships and promotion of ideas. Rather, it just takes a lot of time and I need to temper my expectations, realizing that the operational pace is intentionally slow to fully vet the proposal with all involved stakeholders. Their constituents always scrutinize state agency actions.

Under the direction of the Board of Directors, shortly after becoming your Executive Director, I placed emphasis upon existing opportunities and relationships with our state agencies in an effort to promote the good story of our industry and pursue support for our environmental stewardship initiatives. For the first year and a half, the attention we received was topical and didn’t carry the emphasis I had anticipated, especially considering the energy we were putting into our self-promotional campaign. Last year, the Minnesota Bureau of Water and Soil Resources picked up our initiative with great enthusiasm.

Since that time the MGCSA, UMN and our golf allies have conducted several meetings with BWSR, and the state agencies MDA, DNR and MPCA, in an effort to create a plan which would allow continuous access to water, although limited in times of drought, in exchange for individual course certification. The idea is simple to understand: if a club is willing to fulfill certification through the implementation of industry accepted BMPs and documented compliance with all state regulations, including the creation of a crisis irrigation management plan, that club would never have its water permit suspended completely; thus insuring a viable economic destination.

The same certification principal should be acceptable for securing access to plant protectants and nutrients when they come under scrutiny, which they will, also.

This 'concept' if implemented today, would only impact the surface water users consisting of roughly 20 percent of all golf courses in

Minnesota, as those waters are continuously monitored for flow and depth. However, and this must be recognized by the golf industry now and into the future, I am learning through participation at groundwater strategic planning sessions that water stored, used and recharged in our aquifers is now measured on a regular basis with additional monitoring wells coming on line regularly. This increase in surveillance will eventually impact groundwater users and make them equally susceptible to permit suspension like their surface water peers.

“Patience, patience”, I counsel myself. Moving forward at my pace is impossible and sometimes it seems that we move backwards on this project, but we do now know what a few of our agencies currently desire:

The MDA would like compliance of existing regulations and to that end, have even created a special communication position and program specific for golf courses.

The MDA also would like to see

an assessment of the industry. Sam Bauer and the UMN are picking up this pilot plan. The material will provide representative information from a range of clubs and include both surface and aquifer water users.

The DNR would like to see the MGCSA encourage the surface water users to drill wells for greater assurance of access to water or find alternative sources. Options being suggested include using waste water from local industries and drilling a small well with a 'kicker' pump to irrigate tees and greens when the surface water permits are suspended. Some access is better than none.

The MPCA would like to see the development of practical BMPs to support pollution prevention. This background material is already available and ready to roll when the time is right.

Will fulfilling these criteria promise access to limited water during times of crisis? Will developing an Environmental Stewardship Certification program assure the

Minnesota golf industry access to nutrients and pesticides when they become micro-managed? We don't know yet, as the process is still in the beginning stages and current regulations don't allow for changes.

Is this endeavor worthwhile? Yes. Something we do know is that our interest in working with state agencies for the public good is highly regarded by the MDA, DNR, MPCA and BWSR. Also, the MGCSA's presence upon several agency committees also lends viability to our professionalism and good intentions.

Will this project be completed on my timeline? No, and I need to take a pill to suppress my type 'A' expectations. With your endorsement I will continue to position our industry in the best possible light, and help provide you, the members of the MGCSA, materials on how you can do your part to support the initiative. Without your help, insuring the access to water, nutrients and plant protectants likely will not happen.

# A TOAST, IN APPRECIATION OF YOUR BUSINESS. HERE'S TO YOU.

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## *Honey Bees and Golf Courses, One Sweet Partnership Part I*

*Rebecca Masterman, UMN Bee Squad Coordinator*

Bees are in the news these days due to the multiple threats that they face to their health. Scientists agree that it is a combination of factors including poor nutrition, pesticides, pathogens and pests that are interacting to threaten the health of honey bees. While approximately 1 out of every 3 bites of food we eat are benefited by bee pollination, we are also losing 1 out of every 3 honey bee colonies each winter due to these multiple health challenges. The honey bee is often the attention getter when it comes to news because beekeepers are able to track these losses easily and report them. Most people aren't aware that Minnesota has between 350-400 different species of non-managed bees that are also impacted by similar issues. These wild bees, nesting in tunnels and stems, additionally suffer from a loss of habitat.

In response to the bee decline that has occurred since 2006, the Bee Squad was founded by Dr. Marla Spivak, MacArthur Fellow and Distinguished McKnight Professor in Entomology at the University of Minnesota. The Bee Squad operates within the University of Minnesota's Bee Lab. Our goal is to bring back

a bee friendly world. We provide ways for beekeepers and a relatively new, rapidly growing group of bee supporters, to help bees. We are committed to educating, training, and assisting people engaged in making bees thrive. By promoting awareness about the critical contribution of pollinators to nutritious foods and a green environment, the Bee Squad helps people make choices that are good for the bees and ultimately good for us all.

One of our programs for our bee supporters is called Hive to Bottle, where families and organizations own honey bees and hire the Bee Squad to manage them. As the Bee Squad Coordinator, one of my favorite locations to manage honey bees is on the rooftop of the Somerset Country Club maintenance building. These



Honey bee colonies at the end of the season in 2013 at Somerset Country Club in Mendota Heights, MN. Photo by Rebecca Masterman

bees are sponsored by one of their members. Often, I am able to have a conversation about how the bees are doing with golfers in the tee box visible from their rooftop home. These interactions nicely represent how our Hive to Bottle program has been successful in sharing the bee decline story with the public.

Maintaining bees at the Town & Country Club is also at the top of my list for bee management location favorites. The bees are supported by people from all levels of their organization and they make every effort to help them thrive. I have the opportunity to give numerous presentations about the Bee Squad and the

bee crisis throughout the year. At these talks, I am excited to highlight the golf courses where we manage bees. I am often questioned about the relationship between bee health, golf courses, and pesticide after my presentations. In response, I describe the commitment that I have seen from both golf courses to use chemicals prudently. The audiences are always impressed to hear about Town & Country Club's Audubon and Green Restaurant Certifications.

In addition to the wise use of pesticides, both of the golf courses where we manage bees have made a commitment to plant food for them also. It is good news for the bees of Minnesota that we are seeing a significant number of our



Honey bee colonies at Town & Country Club in St. Paul, MN  
Photos by Rebecca Masterman

Hive to Bottle customers as well as the public take up this cause. Planting food for bees and other pollinators on golf course properties can be as simple as selecting good pollen and nectar sources that provide food throughout the growing season (Plants for Minnesota Bees) and caring for

them in ways that will ensure that the food will be clean

(<http://www.pollinator.org/golfcourse.htm>). Pollinator gardens are becoming more popular as people want to contribute to the bee decline solution.

Healthy bees make surplus honey and that is the sweetest reward for participation in our Hive to Bottle program. Both Somerset Country Club and Town & Country Club had generous supply of honey extracted from their colonies



last year. As a part of the Hive to Bottle program benefits, we manage the bees and then extract any surplus honey that the bees make. We make sure to leave enough for the bees to survive the winter (about 100lbs), but then are eager to deliver the extras to our customers.

With the increased level of awareness regarding bee health issues today, the UMN Bee Squad is excited to be in the position of helping people and organizations, like golf courses, help bees. We are especially grateful to our Hive to Bottle program participants for their commitment to being part of the solution to this issue. Participation in our Hive to Bottle program provides the additional benefit that is gained from managing honey bee colonies across the Twin Cities metro area. We are able to collect data on colony health throughout the management season. We use these data to identify trends and direct research.

Participating in the Hive to Bottle program takes some planning. Honey bee colonies are ordered in January for the arrival in April. It is often a good idea



to check out potential colony sites well ahead of time in order to determine the best location for bees on a property. Part 2 of Honey Bees and Golf Courses will highlight our Hive to Bottle golf course customers and explore the benefits that they have gained from participating in our program. For now, if you would like more information about participating in our Hive to Bottle program, please send an email to [beesquad@umn.edu](mailto:beesquad@umn.edu).

# Protecting Pollinators

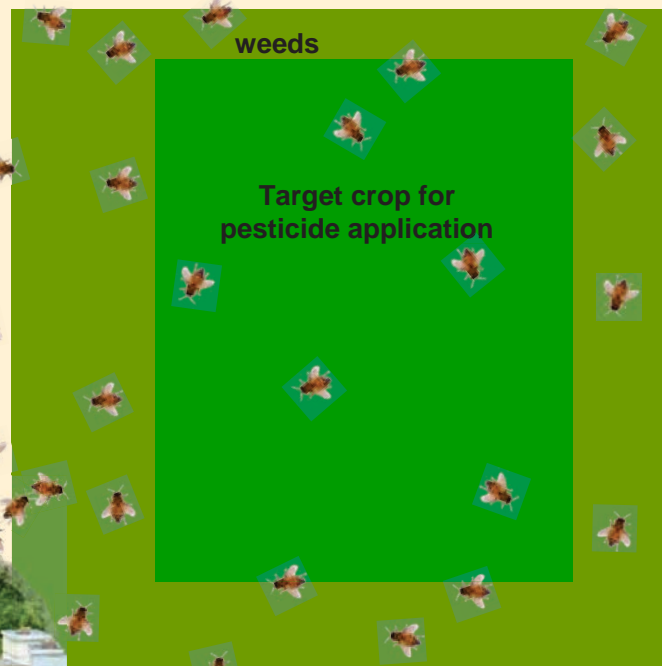
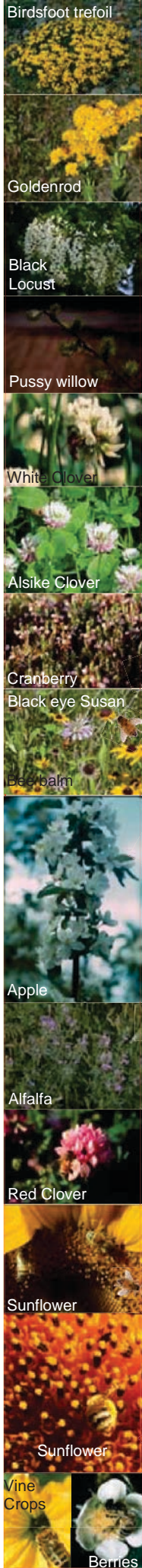
Marla Spivak and  
 Dept. Entomology, U  
[www.extension.u](http://www.extension.u)

## Why should I protect bees?

In Minnesota these crops require insect pollination to set seed and fruit:

- |           |          |                 |
|-----------|----------|-----------------|
| apple     | cucumber | strawberry      |
| blueberry | melon    | sunflower       |
| canola    | pumpkin  | wildflowers     |
| cranberry | squash   | clover, alfalfa |

**If flowers are  
 bees may be**



### Bee hives may be exposed to pesticides

- Direct spray on bee hives
- Pesticide exposure on crop
- Overspray or drift off the target crop

### Because:

- Bees are kept in bee hive boxes
- Bees may be foraging on target crop
- Bees may be foraging on weeds in or around t
- Bees may be foraging on near non-target crop

# While Using Pesticides

and Gary S. Reuter

University of Minnesota

umn.edu/honeybees

2008

are blooming,  
and are foraging.

## BEE CAREFUL!

Some pesticides remain toxic on plants for an extended period. They can be identified by the word "residue" in the label under Bee Caution and put bees at increased risk!

### Things you can do:

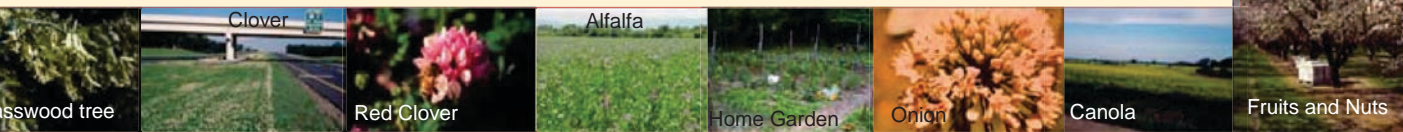
1. Know and communicate with beekeepers about bee locations
2. Scout application area for bees, bee hives and flowering crops or weeds
3. Choose pesticides with LOW toxicity and LOW residue
4. If at all possible, do not spray on blooming plants while bees are foraging
5. Do not allow spray to drift on blooming plants
6. It is best to spray in evening or early morning



Bees fly up to 2.5 miles when foraging

comes from:

target crop



12-27-07

and weeds) bees forage (visit) for pollen and/or honey.



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## TROE CENTER - UFORE NURSERY AUGUST 7 REGISTRATION FORM

### TURF TRACK

#### 10:00 A.M. - 11:00 A.M. - TROE CENTER

Sam Bauer <b>Growing Degree Days for Scheduling PGRs</b>	15 min x 4
Brian Horgan <b>Science of the Green</b>	15 min x 4
Ian Lane <b>Bee Lawn</b>	15 min x 4
Maggie Reiter <b>Drought Trials</b>	15 min x 4

#### 11:00 A.M. - 12:00 P.M. - TROE CENTER

Eric Watkins <b>Fine Fescue Breeding</b>	15 min x 4
Vera Krischik <b>New Turf Insecticides</b>	15 min x 4
Matt Cavanaugh <b>Wetting Agents for Surface Firmness</b>	15 min x 4
Clem Dabney <b>Turf Rhizosphere</b>	15 min x 4

#### 1:00 P. M. - 2:00 P. M. - TROE CENTER

Angela Orshinsky <b>Plant Defense Activators</b>	15 min x 4
Pam Rice <b>Pesticide and Nutrient Runoff</b>	15 min x 4
Garett Heineck / Lindsey Hoffman <b>Perennial Ryegrass</b>	15 min x 4
Andy Hollman <b>Consumer Turf Mixtures</b>	15 min x 4

### FIELD DAY AGENDA - AUG. 7, 2014

9:00 A.M. - Welcome from University of Minnesota and MTGF
9:00 A. M. - 10:00 A. M. - Coffee, Donuts and Vendor Time
10:00 A.M. - 12:00 P.M. - Turf and Grounds Tracks
12 NOON - 1:00 P. M. - Lunch and Vendor Time
1:00 P. M. - 2:00 P.M.- Turf and Grounds Tracks

### GROUNDS TRACK

#### 10:00 A.M. - 11:00 A.M. - TRIAL GARDEN AREA

Karl Foord <b>Pollinators</b>	30 min x 2
Jeff Hahn <b>Insect IPM</b>	30 min x 2

#### 11:00 A.M. - 12:00 P. M. - TRIAL GARDEN AREA

Michelle Grabowski <b>Disease IPM</b>	30 min x 2
Madeline Leslie <b>Display and Trial Garden</b>	30 min x 2

#### 1:00 P. M. - 2:00 P. M. - UFORE NURSERY

Chad Giblen <b>Dutch Elm Disease</b>	30 min x 2
Gary Johnson / Eric North <b>EAB Management Update</b>	30 min x 2

Check Association(s):  MGCSA  MPSTMA  MSA  MASMS  MAC  MTA  MTSC  MNLA

Please register \_\_\_\_\_ people at \$25 ea. for a total of \$ \_\_\_\_\_

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Employer / Company \_\_\_\_\_

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***“A Taste of Ti***  
**The 2014 MGCSA Champi**  
by Nick Folk Superintendent at RG&CC

With Rochester Golf & Country Club approaching its centennial year in 2016, the maintenance staff and membership are excited to host the MGCSA Championship in July. The club’s history dates back to September of 1915, when an avid group of golfers took over a lease of 100 acres from Mayo doctors E.S. Judd and D.C. Balfour. Harry Turple, a Red Wing Course Golf Professional, was brought in to lay out a nine-hole course and Rochester Golf



*lly”*

## **ionship at Rochester Golf and Country Club**

Club was born. The members desired a more challenging golf course and as luck would have it, a Mayo Clinic physician married the daughter of noted golf course architect Albert Warren Tillinghast. Medical care was exchanged for the course design with Tillinghast stopping in every time he was at The Mayo Clinic.

A.W. Tillinghast had become the pre-eminent golf course architect of his time by designing courses such as Winged Foot, Baltusrol and the San Francisco Golf Club. In 1926, Rochester Golf Club became incorporated and changed its name to Rochester Golf & Country Club. Construction began on the new course and it opened the following summer. Tillinghast's rerouting directed the course through more of the valleys on the property opening up some great vistas and steepening the challenge.

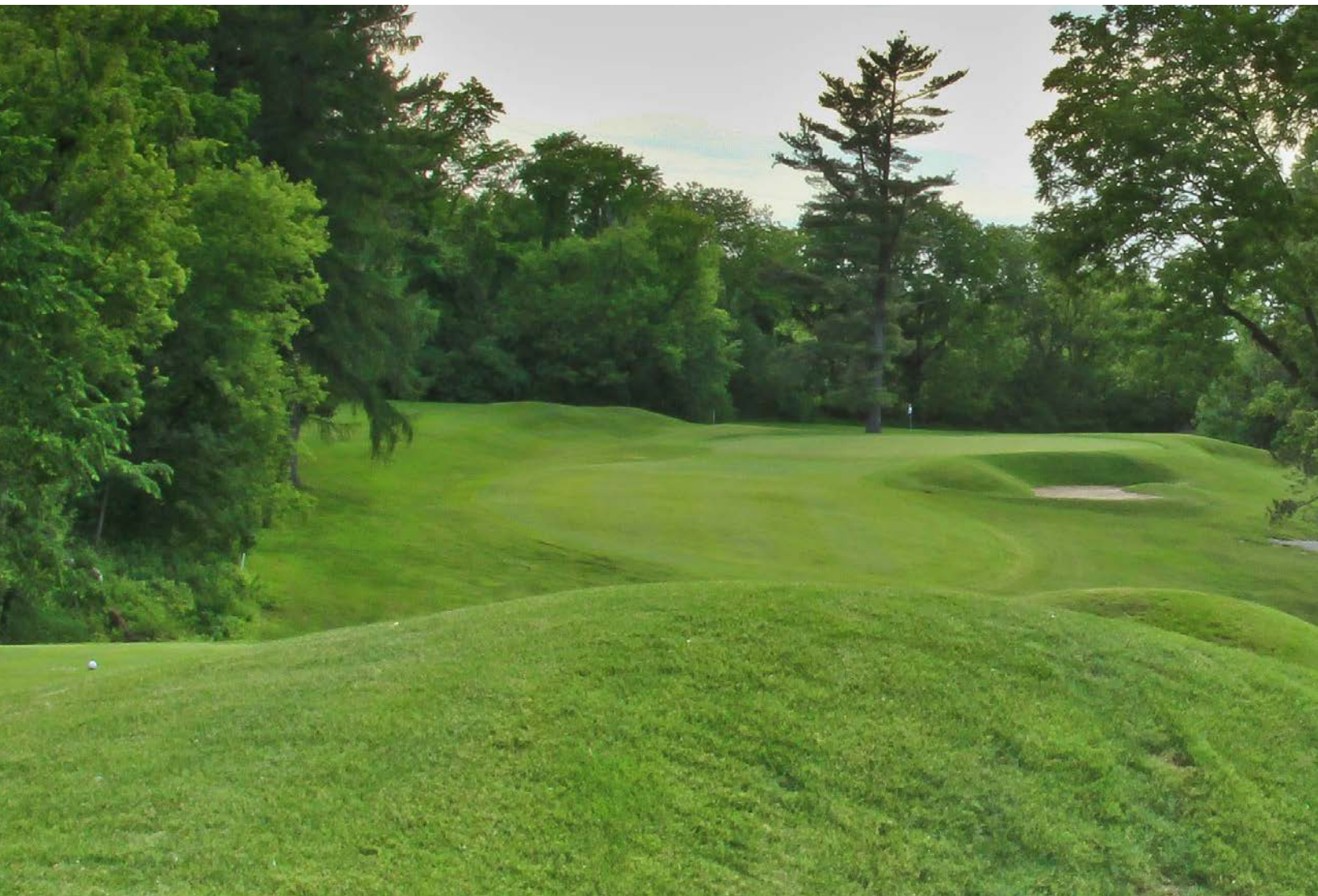
One of the original members, who also left his thumbprint on Rochester Golf & Country Club, was Walter D. "Pop" Sheldon, MD. "Pop" Sheldon had played a great course in Texarkana that was cut out of a pine forest and brought that idea back to Rochester with him. In the early 1930s, he bought 5,000 pine seedlings for ten dollars and started a nursery at the southwest corner of the course. Over 30,000 trees were eventually transplanted to the course over the next fifteen years. Unfortunately, "Pop" passed away before the overall project was completed. He has since been honored by the playing of the Walter D. Sheldon Golf Tournament that is now played as the Member/Guest Tournament every June.







Little construction has been done to the course, but it is a stern test even at its short yardage, measuring only 6,471 yards from the championship tees. Some characteristics about the course are that nine of the holes play uphill, blind tee shots or to blind shots into the greens, with all four par 3s requiring a carry to get on the putting surface. Most notably and what will stick in your mind, will be the towering evergreens throughout the course, most measuring over 60' in height. Precision off the tee will be your friend as an accurate tee shot will help you more than length. Undoubtedly, there will be many of us hitting punch shots out of the trees. The greens are also a good test, with all of them being tilted from back to front. The bunkering throughout the golf course was renovated by Hartman Co. in 2000, with the goal of returning most of them to A.W. Tillinghast's original design. By the scorecard, #4 plays the most difficult measuring 542 yards par 5, but watch out for holes #5, 9, 12, 14 & 15 as the elevation changes require a change in club selection for the correct yardage. The easiest handicap hole is #11, a classic short par 3, measuring only 118



yards from the tips.

This is my 1st season as a Superintendent and I'm blessed to have a couple of veteran full timers on staff. Dan Breitbarth is going on his 35th year as our Equipment technician/irrigation/pool maintenance guru here at RGCC. He has raised three boys and enjoys bowling in the slower winter months; he has several 300 games under his belt too. I'm indebted to be able to lean on him in my 1st season, thank you.

Scott Bearson is our 2nd assistant and has been at RGCC for 16 years. He and his wife Dawn raised two girls who are off to college now. Scott dabbles in many different things, but I think most of all he enjoys conversing with just about anyone about sports.

Our most recent addition is Tim Gallagher as 1st assistant. Tim joined our staff in May after spending the last 12 years in Virginia and Wisconsin. We're all



looking forward to having Tim on staff and utilizing his experiences to help improve RGCC. He's originally from Dubuque, IA and is happy to be back in the Midwest.

I'm honored and excited to be part of hosting this event. I've always thought supporting the local association is the right thing to do and holding an event like this is a great start. If someone would have told me I'd be hosting the MGCSA Championship in my first season as Superintendent I think I would have called them crazy, but here we are and I'm confident that the staff here at RGCC is up to the challenge. A big thank you goes to the members of RGCC, Head Golf Professional Matt Paulius, Chef Bill Eisenmann, Banquet Manager Kendra Markee and the rest of the staff who will make the MGCSA Championship a great event.

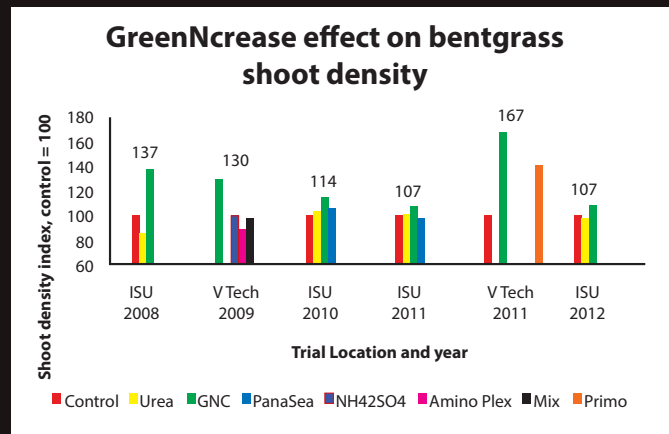
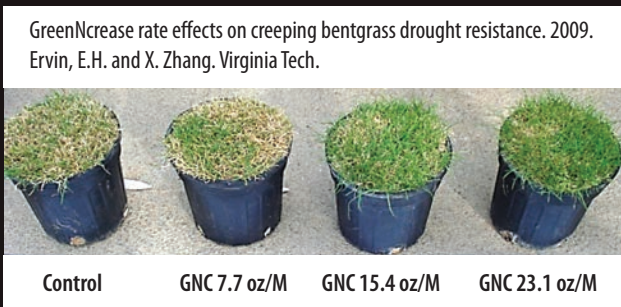
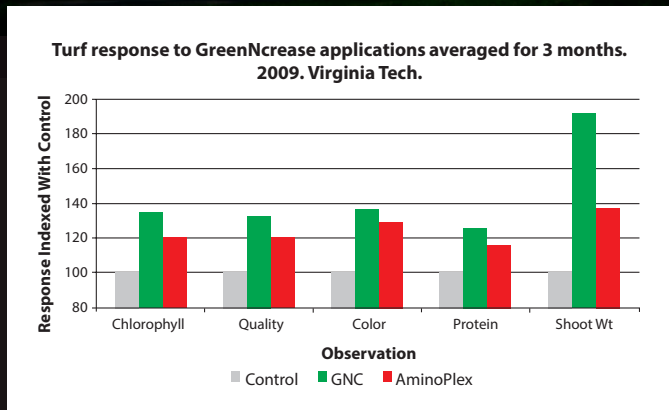
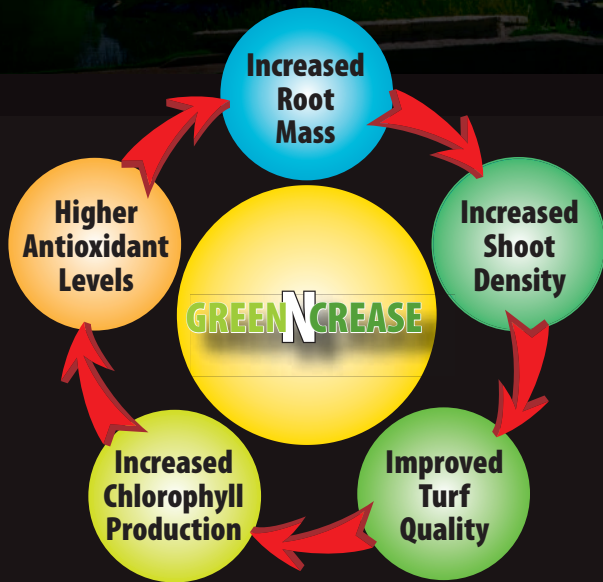
Keep it in the short grass and we'll see you in July!



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# MDA To Increase Fee Structure To Cover ACRRA

The Agricultural Chemical Response and Reimbursement Account (ACRRA) was created to reimburse persons for costs incurred in cleaning up agricultural chemical (pesticide and fertilizer) incidents. The account is funded by annual surcharges assessed on pesticide and fertilizer manufacturers, distributors, applicators and dealers. The surcharge rate has changed through the years of the program. ACRRA surcharges were reduced in 2010 by approximately 2/3rds from levels that had been set in 2005 because the ACRRA fund balance was above the statutory maximum of five million dollars. Since that time, and despite the Minnesota Department of Agriculture's (MDA) efforts to protect the fund, program reimbursements have exceeded revenues, and the fund balance has declined. The balance is projected to drop below the minimum balance of one million dollars during 2015 or 2016 based on current expenditure and revenue trends unless surcharge rates increase.

Commissioner Frederickson is responsible for maintaining the ACRRA fund balance. On April 16, 2014, the MDA held a public hearing to take comments about a proposal to set surcharge rates back to their pre-2010 levels. The Commissioner attended the public hearing and has reviewed comments; and after much consideration, he has approved the ACRRA surcharges increases so that the fund balance will be maintained. These increases will take effect in January 2015.

The new fee structure will be implemented on January 1, 2015; it will be reflected on application forms, reports and other documents sent by MDA. What will these changes mean?

- Commercial and Noncommercial Pesticide applicators will pay a \$25 surcharge on a license vs. the \$8.25 currently paid.
- Structural companies will pay a \$100 surcharge on a license vs. the \$33 currently paid.
- Fertilizer companies will pay a \$50 surcharge on a license vs. the \$16.50 currently paid.
- Pesticide dealers will pay a \$75 surcharge on a license vs. the \$24.75 currently paid.
- Fertilizer tonnage fees will be \$0.30/ton vs. the \$0.10/ton currently paid.
- The ACRRA surcharge on annual gross sales will be 0.30% vs. the 0.10% currently paid.

For more information about the ACRRA fund and the surcharge changes, please visit [www.mda.state.mn.us/acrra](http://www.mda.state.mn.us/acrra). Please feel free to contact Rae Lynn Herbster ACRRA Administrator at 651-201-6490 or at [raelynn.herbster@state.mn.us](mailto:raelynn.herbster@state.mn.us).

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# The 2014 Thank You Dellwood CC





# Scramble C and Eric Peterson



# MDA Initiates Regulation Compliance Program Specific for Golf Courses

I am excited to work as the Minnesota Department of Agriculture's (MDA) golf course compliance assistant to the Minnesota golf course industry. My name is Corinne du Preez, and in this role I will provide you with education regarding pesticide use, handling, and storage. This is a new outreach effort working with Jack MacKenzie that will involve various activities, including a series of bulletins published through the MGCSA Hole Notes starting this season. This is the first bulletin in 2014 and it provides an introduction to the MDA's authority for inspection, an inspection overview, and future topics.

## Authority for Inspection:

Inspection and investigations are conducted by the MDA to document compliance under the authority of:

- Minnesota Statutes 18B; Pesticide Control
- Minnesota Statutes 18C; Minnesota Fertilizer, Soil Amendment, and Plant Amendment
- Minnesota Statutes 18D; Agricultural Chemical Liability

Authority for entry, inspection, and sampling is found in:

- Minnesota Statutes Section 18D.201

Minnesota Statutes and Rules can be found on the Minnesota Office of the Revisor of Statutes website: <https://www.revisor.mn.gov/pubs/>

## Inspection Overview:

During an inspection, an Agricultural Chemical Investigator (ACI) observes business practices to document compliance with Statutes and Rules. The following are primary items an ACI will check:

1. Pesticide Applicator License & Category
2. Pesticide Container Disposal
3. Application Records
4. Pesticide & Fertilizer Mixing and Loading Area(s)
5. Pesticide Labels
6. Backflow Prevention Device(s) on Water Supply
7. Incident Response Plan/Release Response Plan

8. Pesticide Rinsate Use
9. Well Location(s)

Future Topics:

There are rules and regulations specific to golf courses. I will highlight one topic in each of the next five bulletins. The following topics were chosen based on compliance concerns documented by the MDA during inspections at golf courses.

1. Backflow Prevention
2. Pesticide and Fertilizer Storage
3. Incident Response Plan or Release Response Plan
4. Personal Protective Equipment (PPE)
5. Applicators' License and Use Categories

To read about MDA Pesticide and Fertilizer Management Division's events, programs, policies, regulations, and enforcement actions, follow this link to the current issue of the MDA Update: <http://www.mda.state.mn.us/chemicals/mdaup-date.aspx>.

The MDA and MGCSA will evaluate and perhaps modify how I approach this project. The goals are to develop better communication with you, improve compliance with our regulations, and make it easier for you to comply. As your MDA golf course compliance assistant, I'll be interested to hear your opinions, ideas, and questions about your golf course as it relates to requirements in Minnesota Statutes and/or Rules. Please contact me anytime at the number or email address below.

Thank You,

Corinne du Preez, Agricultural Advisor/ACI  
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Pesticide and Fertilizer Management Division  
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Corinne du Preez

# Managing White Grubs In Irrigated Turf

Vera Krischik, Associate Professor, Department of Entomology  
University of Minnesota, 612.625.7044, krisc001@umn.edu

## Using insecticides preventively in an IPM program

There are many components to an IPM program, including scouting for pest activity, spot treating infested areas before the insect's spread, and establishing thresholds of the number of insects per unit area. Remember that beneficial insects are free and the less insecticide that is used the more beneficial insects will control your pest insects. Data shows that as long-lasting organophosphates are no longer used to control cutworms, beneficial insect numbers are increasing in turf and there are fewer problems with moth larvae. A primary target of IPM is to use cultural, sanitation, and biological control methods to suppress pest populations below the economic threshold. However, when you know a pest was a problem in the previous season, preventive insecticide applications may be preferred to the alternative of waiting for damage. Preventive materials are applied before a noticeable pest population develops. Curative materials are typically applied after populations reach a damaging level.

For example, the neonicotinoids and chlorantraniliprole (Acelepryn) provide preventive protection against white grubs and are much less toxic than the older organophosphate materials that were used for many years. There are few cultural practices or effective biological control agents available that provide reliable control of white grub populations. The only option for effective management of high populations of white grubs in this circumstance is preventive application with a neonicotinoid or chlorantraniliprole.

Management of newly hatched grubs requires insecticide application in May thru early June and again in late July thru August. Applications in September will kill grubs if the soil temperature remains above 50 degrees F for 2 weeks, but these grubs are larger and more difficult to kill.

Pheromone traps for Japanese beetles contain a synthetic pheromone of the beetle and a scent lure that smells like roses. Beetles are highly attractive to the traps and their use will only attract more beetles.

## White grub (larval stage) management

White grubs are a general name for the larvae of various beetles in the family Scarabeidae. In Minnesota, there are 6 common species, but by far Japanese beetle adults that are attracted to lights and feed as adults are the most common white grub in turf. The adults of the Northern masked chafer (*Cyclocephala borealis*), are not attractive to lights and do not feed. The adults of the May/June beetle (*Phyllophaga* sp.) are also attracted to lights and feed as adults. The very small *Aphodius* and *Ataenius* beetles overwinter in woodlots, and in the spring the adults form mating balls on turf in early June. A second generation occurs in August. These beetles feed on rotting materials in soils and are not attracted to lights. An economic threshold for Japanese beetle is 7 grubs/ sg ft and for *Ataenius* is 50 grubs/sg ft.



adult Japanese beetle  
*Popillia japonica*  
Japanese beetles have two white rear tufts and five white lateral tufts of hair. Adults found on plants.



adult False Japanese beetle  
*Strigoderma arvicola*  
False Japanese beetles lack the five white hair tufts along wing margin. Adults rarely seen.



adult rose chafer  
*Macrodactylus subspinosus*  
Rose chafers are a light green tan color with long legs. Adults found on plants.



adult May/June beetle  
*Phyllophaga* species  
Adults found at lights.



adult masked chafer  
*Cyclocephala borealis*  
Adults do not feed so adults are not found at lights or on plants.



adult black turf grass *Ataenius*  
*Ataenius spretulus*  
The smallest species found in turf with high organic matter.

**Figure 1. Adult stages of several white grub species.**



**Table 1. Insecticides currently available for adult and grub control of white grubs**

Insecticide	Chemical Class/ (IRA number)*	Timing
<b>Neonicotinoid Grub insecticides</b> It may take a few days to be absorbed systemically and moved throughout the grass, but are effective for weeks.		
imidacloprid (Merit and many generic products)	Neonicotinoid (4A)	Preventive
chlothianidin (Arena)	Neonicotinoid (4A)	Preventive
thiamethoxam (Meridian)	Neonicotinoid (4A)	Preventive
dinotefuran (Zylam)	Neonicotinoid (4A) very water soluble, so can be diluted by irrigation	Preventive
<b>Combination insecticide for grub (4A) and leaf feeder (3)</b> These insecticides contain less neonicotinoid AI (active ingredient) so if you have grub problems, use the single insecticide listed above.		
Maxide (Meridian (thiamethoxam) and Scimitar (pyrethroid))	Neonicotinoid (4A) and Pyrethroid (3)	Preventive
Allectus (Merit (imidacloprid) and Talstar (bifenthrin))	Neonicotinoid (4A) and Pyrethroid (3)	Preventive
Aloft (chlothianidin and bifenthrin)	Neonicotinoid (4A) and Pyrethroid (3)	Preventive
<b>Less toxic to pollinators and beneficial insects.</b>		
chlorantraniliprole (Acelepryn, GrubEx)	Anthranilic Diamide, conserves bees	Preventive
halofenozide (Natural Guard Grub Control)	Diacylhydrazine	Preventive
Milky spore disease, <i>Bacillus popillia</i> , does not appear to be effective	Bacteria unknown MOA	Preventative
<b>Spray on grass blades, does not penetrate deep into the roots where the grubs feed.</b>		
carbaryl (Sevin)	Carbamate (1B)	Curative
trichlorfon (Dylox) break down at above 7.5 pH	Organophosphate (1A)	Curative
Cyfluthrin (Tempo)	Pyrethroid (3)	Curative

Table 2. Spray on foliage of ornamentals for managing Japanese beetle adults		
bifenthrin (Talstar)	Pyrethroid (3)	Curative
cyfluthrin (Tempo)	Pyrethroid (3)	Curative
lambda-cyhalothrin (Spectrazide, Scimitar)	Pyrethroid (3)	Curative
Carbaryl (Sevin)	Carbamate (1B)	Curative
Chlorpyrifos (Dursban)	Organophosphate (1A)	Curative
Imidacloprid (Merit)	Neonicotinoid (4A)	Curative
Triple Crown (bifenthrin (3), zeta-cypermethrin (3), and imidacloprid (4A)	Neonicotinoid (4A) and Pyrethroid (3)	Not for grubs, only adults

\* *The Insecticide Resistance Action Committee (IRAC) ([www.irc-online.org](http://www.irc-online.org)) has assigned IRAC numbers for each chemical class of insecticide.*

The annual life cycle of each of these species is relatively similar as adults fly in early summer and lay eggs in late June to late July. Japanese beetle feeding is the most obvious, as they create damage to leaves of lindens, ivy, grapes, roses, and over 300 other plant species. Larvae feed on turf roots from early July through mid- autumn and again in the spring. Pupae are present in the soil for a week in mid- June to mid- July. The life cycles of the large May/June beetle *Phyllophaga* are a full 3 years and not an annual life cycle and starts about two weeks earlier than Japanese beetle.

## Preventative treatments

There are four neonicotinoids currently available in turf. All of them are systemic and move from the roots and blades through the entire grass plant. Imidacloprid appears to remain active for several weeks, and even a few months in some cases.

Since 1990 when imidacloprid first appeared on the market, there has not been documentation of resistance to the neonicotinyl class of insecticides in grubs. How-

ever, imidacloprid does not appear to have as long a residual activity against grubs as it did back in the 1990's to 2006. Applications of imidacloprid made before early June may not provide level of control of the late summer grubs that was observed when it first appeared on the market. Recent field trials suggest that clothianidin and thiamethoxam have longer residual activity than does imidacloprid. However, I would try the granular formulation of imidacloprid, which takes longer to dissolve than the flowable formulation and is less subject to runoff.

Neonicotinoids often take several days to start working, but remain active for several weeks or months. Imidacloprid is less water soluble than dinotefuran, thiamethoxam or clothianidin and has less chance of being washed off the grass by irrigation and rain. In my research, I find imidacloprid granular formulations (Merit 0.5%) that dissolve slowly compared to foliar sprays (Merit 2F), to be much more effective. A major issue with killing grubs is that imidacloprid can only be used 1 time in the season at the higher application rate for all formulations. If you apply imidacloprid in May at the maximum rate of 0.4lb/acre, then your second application in late July can be another neonicotinyl such as thiamethoxam (Meridian 0.33G, 25WG) or clothianidin (Aloft GCG, Arena .5G, 50 WDG).

Care should be taken when using any neonicotinoid to avoid applications when honeybees are foraging, such as when clover or Creeping Charlie is in bloom.

Environmentally friendly insecticides that do not kill predatory insects or bees, such as halofenozide (Natural Guard Grub Control) or chlorantraniliprole (Acelepryn) can be used in spring and repeated in mid -July thru Sept.

## **Curative treatments**

In mid-June, grubs pupate and turn into adults so insecticide application is not effective. Most insecticides need to be applied before a grub problem develops, but curatively applications in late August can be made of trichlorfon (Dylox) and carbaryl (Sevin). Both break down quickly in alkaline water with a pH above 7.2, so you may need to buffer the pH of the water in the tank. Ordinarily trichlorfon will



kill what it is going to within one to three days, and it will break down within seven to ten days. Carbaryl tends to be very inconsistent. Carbaryl is also very toxic to honeybees, native bees, and beneficial insects. Pyrethroids also do reach the grubs in the soil, but may kill emerging adults. Once grubs have reached their full size by mid-September, these curative applications will only suppress populations and many grubs will survive to overwinter.

## **Combination products**

Combination products, which contain a neonicotinoid and a pyrethroid, will kill blade and root feeders. The neonicotinoid usually is very effective against white grubs if it is applied when the beetles are laying eggs. The pyrethroid component of the product normally provides excellent control against many insects such as aphids, moth caterpillars, and weevil adults. However, check the labels and the amount of active ingredients, as the amount of neonicotinyl is often lower in combination formulations. If you have a bad grub problem, go with the single insecticide label.

## **Managing adult Japanese beetles**

In July, adults that are emerging and are walking on the turf or when sitting on foliage, can be killed with an application of bifenthrin (Talstar), carbaryl (Sevin), chlorantraniliprole (Acelypyrn), chloropyrifos (Dursban 50W, PRO), clothianidin (Aloft GCG, Arena .5G, 50 WDG), clothianidin +bifenthrin (Aloft), deltamethrin (Deltaguard), imidacloprid+bifenthrin (Allectus, Atera), lambda-cyhalothrin (Battle, Scnitar) and imidacloprid (Merit 2F). A soil application of imidacloprid on plants will kill adults in about 1 week on shrubs and 2 weeks on trees. On shrub roses, Japanese beetle adults feed on flowers to avoid the spiny leaves and foliar sprays appear to be more effective. A very good summary of all pesticides for use on golf courses is the 2014 AG bulletin 408, that is available from North Carolina Cooperative Extension turf files at [http://www.turffiles.ncsu.edu/PDFFiles/004176/AG-408PestControl\\_Professionals.pdf](http://www.turffiles.ncsu.edu/PDFFiles/004176/AG-408PestControl_Professionals.pdf)

## What is pesticide resistance and how does it develop?

When I attended turf meetings in the East, I heard that the overuse of pyrethroid insecticides have resulted in pyrethroid resistance in annual bluegrass weevils. Resistance means that the pesticide does not kill the weevil as it did previously. Pesticide resistance is linked to repeated use of a singular mode of action in a pesticide and the pest develops physiological ways to tolerate or metabolize the insecticide. As time goes by, when that same pesticide (or one with a similar mode of action) is applied again and again the population of pests that are easily controlled by that pesticide decreases, while the population of pests that are resistant to the pesticide increases. The pyrethroid class of insecticides has around 6 active ingredients, but the mode of action or the manner in which they kill the pests is the same.

The Insecticide Resistance Action Committee (IRAC) ([www.iraac-online.org](http://www.iraac-online.org)) has assigned numbers for each chemical class. These numbers are on labels and you need to rotate among the different classes of insecticides and IRAC number to prevent resistance. For example, any insecticide in the neonicotinoid class (e.g., Merit, Meridian, or Arena) will have a 4A IRAC number on the label. Carbamates (class 1A) and organophosphates (class 1B) are in the same group but listed separately because while the chemistry of the two classes of insecticides is different, the mode of action (cholinesterase inhibition) is the same. All the active ingredients of the pyrethroid class have the same IRAC number of 3 and so continued pyrethroid use can create resistance. It is better to rotate the mode of action and the IRA number to prevent the development of resistance.

Here is a brief description of the most common way that pesticide resistance develops. In a given pest population, there will be a few individuals that have naturally occurring resistance to a pesticide while most of the population is susceptible to that pesticide. As a result, when a pesticide is applied correctly, it kills most of the pests that it is intended to kill, leaving behind a few pests with natural resistance to that pesticide to live and breed. Eventually, after many repeated applications of the same or similar pesticide, most of the pest population is resistant. When most of the pest population is resistant to a chemical, the chemical no longer adequately controls that pest.



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651/324-8873

# We Are Golf Effort Showcases Game

in



Scottie Hines, CGCS, third from the right represents Minnesota at the National Capital

WASHINGTON, D.C. - With a focus on environmental issues and proposed changes to the Clean Water Act, members and staff from the Golf Course Superintendents Association of America (GCSAA) joined with other golf leaders for the seventh annual National Golf Day on May 21.

National Golf Day is a broad industry effort under the auspice of We Are Golf - a coalition of the game's leading associations and industry partners - designed to showcase golf's nearly \$70 billion economy, \$4 billion annual charitable impact, environmental value to local communities and fitness benefits.

Golf's leaders met with members of Congress throughout the day to share stories about the game's almost 15,000 diverse small businesses, which employ more than 2 million people and provide \$55.6 billion in annual wage income. In addition, in-

# s Economic, Charitable, Environmental and Fitness Benefits



dustry executives discussed golf courses' positive influences on ecology, tax revenues and tourism.

For GCSAA, the day brought members of its Board of Directors, Government Relations Committee and select staff to Washington for more than 85 individual meetings with lawmakers and their staffs - meetings that focused as much on the broader messages of National Golf Day as on issues of specific interest to golf course superintendents and the golf course management industry.

“National Golf Day presents a unique opportunity not only for the golf industry, but also for GCSAA and its members, to make personal connections with members of Congress and to help them understand the role the game plays in the economic, environmental and charitable life of our communities,” says GCSAA CEO Rhett Evans. “The opportunity to educate lawmakers on issues of importance to our members and the stewardship role superintendents play every day is one we embrace. We are proud of our association with We Are Golf and our participation in National Golf Day.”

One of GCSAA's key messages to lawmakers focused on the Clean Water Act and proposed changes to how the Environmental Protection Agency (EPA) defines “waters of the United States,” a key pillar of the act. If changed, the rule could greatly expand what water bodies falls under federal jurisdiction and, ultimately, negatively impact superintendent's ability to maintain their golf courses.

“This proposed change has the potential to greatly affect almost every golf facility in the country and many maintenance practices that takes place on a golf course,” says Chava McKeel, GCSAA's associate director, government relations. “Our members coming to Capitol Hill and communicating about this important issue, along with many more, sends a strong message and helps strengthen the overall position of both the profession and the association in matters of advocacy and government relations.”

National Golf Day also featured a day-long exhibit in the Cannon Caucus Room with a host of golf exhibits, including a section that was dedicated to golf course maintenance and its tools manned by members of the Mid-Atlantic Association of Golf Course Superintendents, and a display featuring the soon-to-be-opened Grass Roots exhibit at the U.S. National Arboretum. In addition, live golf lessons for members of Congress and staff were provided by 2012 PGA Teacher of the Year Michael Breed, host of “The Golf Fix” on Golf Channel, and LPGA Professional Dana Rader. Other special exhibits and activities included a “Closest to the Pin” contest utilizing an aboutGolf simulator; state-of-the-art swing analysis from GolfTEC; Birdie Ball, the latest at-home training technology; and a Republican vs. Democrat “Putting Challenge.”

In addition to GCSAA, organizations participating in National Golf Day included the Club Managers Association of America (CMAA), Ladies Professional Golf Association (LPGA), National Golf Course Owners Association (NGCOA), PGA of America (PGA), PGA Tour, United States Golf Association (USGA), United States Golf Manufacturers Council, World Golf Foundation and others.

“Today, we stood together in D.C. to represent the 2 million men and women whose livelihoods depend on the golf industry,” says Steve Mona, CEO of World Golf Foundation and administrator of We Are Golf. “Our unified voice helps Congressional members better understand the profound influence golf has on the American economy.”

Visit the social media hub at [www.wearegolf.org/social-media/national-golf-day](http://www.wearegolf.org/social-media/national-golf-day). Through May 31, be sure to use #NGD14 and tag @wearegolf on Twitter and Instagram to show your support.

## **About GCSAA and the EIFG**

GCSAA is a leading golf organization and has as its focus golf course management. Since 1926, GCSAA has been the top professional association for the men and women who manage golf courses in the United States and worldwide. From its headquarters in Lawrence, Kan., the association provides education, information and representation to nearly 18,000 members in more than 72 countries. GCSAA’s mission is to serve its members, advance their profession and enhance the enjoyment, growth and vitality of the game of golf. Find GCSAA on Facebook, follow

GCSAA on Twitter, and visit GCSAA at [www.gcsaa.org](http://www.gcsaa.org). The Environmental Institute for Golf is the philanthropic organization of the GCSAA, and has as its mission to foster sustainability through research, awareness, education, programs and scholarships for the benefit of golf course management professionals, golf facilities and the game. Visit [www.eifg.org](http://www.eifg.org).





## About WE ARE GOLF

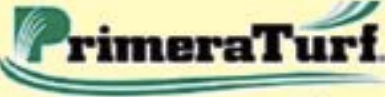

WE ARE GOLF, created in 2010, is an industry coalition that communicates the economic, charitable and environmental impact of golf, as well as its health and wellness benefits and the affordability and accessibility of golf, to members of Congress, the executive branch and regulatory agencies. The goal of WE ARE GOLF is to ensure that laws and regulations that impact the golf industry are equitable and appropriate to an industry that generates nearly \$70 billion in economic impact annually, employs close to 2 million Americans and generates nearly \$4 billion in charitable giving each year. For more information, please visit [www.wearegolf.org](http://www.wearegolf.org).

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# Within the Leather

by David Kazmierczak, CGCS

As we near the halfway point of the season it seems I usually run out of high quality ideas for this column and need to just kind of wing it. So here it goes. We will call this casual musings on the first half of the season.

Let's start with the topic everybody is talking about and sick of talking about at the same time: the weather. Now I'm not sure what God said to Noah that sparked his interest in building an ark, but I'm starting to think he might not have said anything at all. He may have just let what has happened here the last two months happen and Noah figured it out all on his own. If that's the case, we all had better run to the lumber store pretty soon.

Honestly, enough already. This is easily the wettest stretch I have seen in Woodbury since I started here close to 15 years ago. For those of us who drain well, we are just keeping up. For those who don't- yikes!

The silver lining of course, is that the groundwater supply has to be getting near full capacity again after being down for quite some time, helping douse the flames of the water conservation folks- for a little while anyway. However, just because we are in deluge mode doesn't mean water issues are going away, and keep your eyes peeled for the MGCSA's water certification program that will be introduced shortly. It will be good for all of us to participate in this extremely important program. You know the sky spigot will be turned off eventually, and then the joys and sorrows of irrigation will be upon us, along with the outside scrutiny of how we water and how much water we are using.

I played in the MGCSA Scramble at Dellwood Country Club on June 2nd along with a handful of other participants. Despite the rains and the fact that Eric Peterson and his staff have been undergoing a renovation, the place was in fantastic shape and we caught a really nice day to boot. Thank you to Eric and his staff for the opportunity to use the facility



for the Scholarship and Research Tournament. It was just a shame more of you couldn't have shared the experience.

I know I am beating a dead horse here, but member participation in events is a real issue. As a member of the board, I can tell you that it is probably one of the most discussed topics, and the most frustrating. We have heard all the reasons for non-participation in events whether it's cost, don't have time, same guys always win, whatever. Here's my take and you can do with it what you please. Being a member of the MGCSA is not a one-way street. In order for the MGCSA to function and operate as an entity at its maximum potential, it takes involvement from the very people it is trying to support. That means you. If you just want to pay for your membership, get an online magazine and access to the web site and job board and go about your life that's what you will get.

But, if you pay for your membership, attend an educational event or two, sign up for one of the three golf events, network, learn, communicate with your peers, make a new friend, share a laugh, share a thought, share an idea, share a really great meal, then your

membership and the relatively small fee associated with the event is worth every penny. Your support of the association comes back and supports you, and the more of you who do it, the wealthier we all become. Keep that in mind when considering attending in the future.

One other note about this tournament, and it gets a little more personal. Half of this tournament, that used to be its own tournament until attendance started to wane, is the raising of funds for the MGCSA scholarships that are awarded to member's children attending college. They are directly funded from this tournament. It was indicated by Executive Director Jack MacKenzie that the scholarships were covered from the funds raised at Dellwood, but there wasn't much left for research. At least we covered the scholarships. As I drove away from the tournament, I started wondering how many kids of members this has helped over the years. I then started wondering how many of those recipient's parents were in attendance to give back to the fund that helped their families out.

Two years ago my  
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son was awarded the other of three scholarships available- the Garske Legacy Scholarship supported by the good folks at Par Aide. (Thanks again Steve Garske for supporting this.) Now, the truth is, I used a lot of Par Aide products anyway, but you can be damn sure I don't even bat an eye at other products after he landed his scholarship, just like you can be damn sure I will show at every scholarship scramble humanly possible from here on out. How can I not?

My final observation is from last week's U.S. Open. By now I'm sure every one of you saw or heard about Pinehurst's irrigation elimination and the USGA's boast that this is how golf is supposed to now be and on and on. A colleague of mine was actually in attendance last weekend and these thoughts were conveyed by him initially, but I couldn't agree more.

First of all, it looked pretty cool. The native areas framed the holes very nicely and while it didn't present much of a challenge to the pros like normal US Open rough, it seemed to be accepted by the players generally well. But at what cost?

Cost seems to be the interesting fly in the ointment. The powers that be will tell you about the wonderful cost savings by eliminating

irrigation heads and the cost saving from not watering all day long. That works for the tournament, but what about after? Gone will be the plethora of volunteers to pick all the weeds out of the non-irrigated rough. Gone will be the Bermuda edges that have been worn to dirt from lack of virility. Up will be the cost to fix those issues. The budget to take care of No.2 after the tournaments, despite the cost savings from lack of water- probably up. Greens fees to play No.2 after all this water savings? Yeah, right.

I'm all for water conservation and the proper, efficient use of irrigation. Forced brown just doesn't work. The public golfer is not going to accept it, no matter how hard you try -at least on the public side. For private clubs, if a particular membership buys into it, it may. Ultimately, the people will let us all know with their dollars, simple as that. That's my opinion.

Right now however, dry brown grass is the absolute last thing we all need to worry about. Happy swimming!