

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

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.irc-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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To Participate Contact:

Jack MacKenzie, Executive Director, MGCSA

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or

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. 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. 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.





About WE ARE GOLF

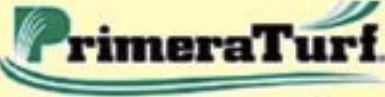
WE ARE GOLF, created in 2010, is an industry coalition that communicates the economic, charitable and environmental impact of golf, as well as its health and wellness benefits and the affordability and accessibility of golf, to members of Congress, the executive branch and regulatory agencies. The goal 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.


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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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