



CHIPS & PUTTS

OFFICIAL PUBLICATION OF THE
POCONO TURFGRASS ASSOCIATION

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1936

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JULY 1999



BASIC GRUB BIOLOGY



White grubs are the larval, or immature stage of a group of beetles known as scarabs. Most of the important species, e.g. Japanese beetles, masked chafers, European chafers, green June beetle, Oriental beetle, and Asiatic garden beetle have annual or one year life cycles. The beetles (adult) are active in summer, mainly from June until mid-August. Eggs are laid in moist turf soils. Eggs hatch in about two weeks, and the young grubs begin feeding on grass roots. They grow quickly, molting (shedding their skin) twice and becoming nearly full-sized by autumn. (*Editor's Note: This is when Mach 2 does its work.*) Grubs that have molted once, or twice, are referred to as second or third instars, respectively. About the time of the first frost, the grubs move deeper in the soil for hibernation. They return to the root zone and resume feeding in early spring. When mature (typically late spring, depending on specie and geographic location), the grubs form an earthen cell and transform into pupae. The new beetles emerge a few weeks later to complete the one year life.

Damage from grubs with annual life cycles usually is more severe in summer through early autumn when the grubs are vigorously feeding and the turf is otherwise stressed. With severe infestations there may be fifty or more grubs per square foot. Often, the roots are entirely consumed, causing patches of dead turf that can be easily lifted from the soil. Skunks, raccoons, crows, moles and other varmints may dig or tunnel in the turf to prey on these juicy "land shrimp!" Grub injury is usually less apparent during the spring feeding period. Green June beetles have somewhat different habits. They feed mainly on organic matter, but damage turfgrass by tunneling and pushing up small mounds of soil.

The black turfgrass atanius (*Ataenius spretulus*), a sporadic pest of golf courses, departs from this pattern. It has two generations per year with grubs present from late spring to early summer, and again in mid to late summer. There is only one generation in upstate New York and New England, with grubs present from early to midsummer.

NIKE TOURNAMENT

Center Valley Club

Congratulations to **John Romig** and **Chris Butler** on an agronomically successful Nike Tournament. A comparison could be made by switching channels. The Nike was on one channel and the PGA Buick Classic was on another. The Center Valley Club looked much better! Again, congratulations on a job well done.

FROM THE WALLS OF
Paul Weiss, Jr., Blue Ridge C.C.

Whoever could make two blades of grass grow where only one grew before, would serve better of mankind, and do more essential service to his country, than the whole race of politicians put together.

Jonathan Swift

In this issue.....

- Understanding Mach 2 & Merit
- Some Dates to Remember
- Meeting Results



President's Message.....

Mid-summer is here and all the summer help has been hired, the irrigation system is up and running, equipment is peak performance, and there are no turf problems... yeah, right!

We have a group of people that meet once a month at various clubs throughout the Pocono area that can lend an ear or offer some advice if asked. The July meeting is a perfect place for open discussions or helpful hints on golf related items. Information is in the meeting notice, which you should have received by now.

The Education Program has been running smoothly with various speakers scheduled for all our meetings. Thanks go to Gene Huelster.

We recently had a special meeting with the GCSAA representative Don Bretthauer. This meeting was open to all members, but unfortunately, was poorly attended. The subjects discussed were our PTGA Program and preparation for the future. Thanks go to Ron Garrison for putting this meeting, along with some others, together for us.

What I am trying to say concerning the above is that we have finally put the issue of "lack of education at our functions" to rest.

Logo shirts are now available at the cost of \$20.00 each. We will have them at all our meetings. There are three styles to choose from (one of each, maybe?). Finances are looking good. The books are always open to members. Just come to a meeting and ask to see them. Tony's the man to see. Don't forget your raffle tickets.

See you next meeting!

Jack Bird



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From the Editor's Desk.....

Now we are halfway through the editorial season, it is time to express my appreciation to all who have contributed to this vessel. I don't know how Melinda can keep up with all the Association tasks and yet do such a fine job with *Chips & Putts*. Many thanks to her!

Now for the remainder of you who have been so generous with your contributions, I am deeply indebted. To show my appreciation and the gratitude of Melinda and I, we are holding a steak and lobster cook out at the farm for those who have been so cooperative. So for those of you to which this applies, please call the editor for the time and place of this extravaganza!

Jim MacLaren



1999 MEETING SITES

July 20, 1999	Skytop Lodge Tom Williams
August 16, 1999	Pocono Farms C.C. (Clam Bake) Gene Huelster
September 21, 1999 (changed)	Eagle Rock Resort Doug Witcraft
October 19, 1999	Bethlehem Golf Club Tom Wilchak



Dean Snyder
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JULY MEETING SITE

The Williams Family and SKYTOP LODGE

Tom Williams, our host superintendent at Skytop Lodge has worked at Skytop for 20 years and graduated from the Cook Campus of Rutgers in 1992. He has been a superintendent since then. His father worked at the Lodge for 43 years before retiring, his mother put in 13 years before retiring and his sister has been at Skytop for 10 years. His great uncle, Felix Olsomer, was superintendent, as Tom puts it, when the first rock was turned.

Tom and his wife, Lorraine, have a nine year old son, Adam. Tom enjoys hunting, fishing, and watching the snow-making machines make snow in winter.

Skytop's 18 hole golf course was designed by Robert White and was opened in 1928. Recent improvements include the construction of a new 20 guest room inn/clubhouse (1998), the installation of a Toro OSMAC irrigation system (1998-1999).

A long range improvement program includes the construction of two new holes in 1998 to make room for a new driving range and golf school. The future will see cart path construction, bunker renovation, new tee construction, and a new maintenance facility for Tom Williams.

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RAIN BIRD



GREEN-RELEAF





UNDERSTANDING MACH 2 (*Halofenozide*) and MERIT (*Imidacloprid*)

Root-feeding white grubs are a familiar problem for professional turfgrass managers, but two novel soil insecticides offer new options for controlling these destructive pests. Merit and Mach 2 have longer residual life in soil and thatch than do the traditional grub control products. Thus, they can be applied preventively weeks, even months, before the grubs have hatched. Both products are used at low rates, have very low toxicity to non-insect groups, and pose relatively little hazard to the environment. Nevertheless, there are some important differences in activity and performance between the two. Understanding these differences will help to use these products more effectively.

Until recently, control of grubs relied on curative treatments with short-residual organophosphates or carbonates. With such products, applications are targeted for a week or two after egg hatch (mid to late summer) when grubs are still small. Timing can be tricky, however, insecticide applied too early may degrade before the eggs have hatched, whereas with late applications or "rescue" treatments, severe turf damage may have already occurred. Also, large grubs are much harder to kill. Not surprisingly, many turfgrass managers are turning to the new longer-residual insecticides for preventive control.

MERIT (*Imidacloprid*)



Merit belongs to a new class of synthetic insecticides called chloronicotinyls. Unlike organophosphates and carbonates, which are broadly toxic to vertebrates as well as insects, Imidacloprid has selective activity on the insect nervous system. Thus it poses relatively little hazard to humans, other vertebrate animals or the environment. Merit is applied at low use rates compared to the more traditional products. It kills the insects both by contact and ingestion. It is translocated within the plants, providing good control of stem-tunneling larvae of billbugs or annual bluegrass weevil as well as grubs. It is not, however, very effective against caterpillars, which include sod webworms, cutworms, and armyworms.

Merit will provide residual control of white grubs for 3-4 months or longer in turf. This prolonged residual allows a broad treatment window, as well as multiple targeting of pests. For example, Merit applied in mid to late summer for control of first generation black turfgrass ateniens grubs also gives residual control of annual grubs that hatch in mid-summer.

Turfgrass managers who use Merit for grubs control must rethink the traditional guidelines for treatment timing. Merit is highly active against young, newly-hatched grubs, but it is much less effective against older, second or third instars. Thus, Merit must be applied preventively, before symptoms of turf damage appear. Other soil in-

(Continued on page 5)

Jerry Purcell, CID

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(Continued from page 4)

secticides generally work better for curative control of large grubs in late summer or autumn.

The half-life of Merit is about 5 months. So, if your primary target is the major, annual grubs such as Japanese beetle, masked chafers, or European chafer, it makes little biological sense to apply this product in early to late spring, several months before the target date. Indeed, applying it too early may result in reduced levels of control. In general, the optimal treatment window for controlling annual grub species with Merit is from about 4-6 weeks before egg hatch until the first newly hatched grubs are present. This interval extends from late spring through mid-summer.



MACH 2 (HALOFENOZIDE) Mach 2 is an Insect Growth Regulator (IGR)



Mach 2 is the first Insect Growth Regulator to be registered for the turfgrass market. IGRs act by disrupting the hormonal systems that control growth and molting in insects. These target sites are not found in humans or other vertebrates, so IGRs typically have very low toxicity to non-insect groups.

Mach 2 belongs to a new class of synthetic IGRs called "MACs" or Molt Accelerating Compounds. It works by mimicking the action of ecdysone, the hormone that regulates insect molting. Ingestion of even a tiny amount of halofenozide "signals" the insect to initiate a premature, ultimately lethal, molt. Affected insects stop feeding within hours, and death occurs within 1-3 weeks.

Because of the unique action of Mach 2, insects may be less likely to become resistant to it and other IGRs than to traditional insecticides. It would be difficult for the pests to evolve a whole new molting system that would be immune to these products.

Although its persistence is not quite so long as that of Merit's, Mach 2 will provide residual control of grubs for up to 2-3 months after application. Mach 2 is highly active against newly hatched grubs so, as with Merit, the optimal treatment window for preventive control is during the month or so before egg hatch. Because it is active against second-instar and early third-instar grubs, Mach 2 also can be used for early curative control in mid to late summer. Mach 2 also is active against turf-infesting caterpillars, which allows for multiple targeting. Applications for white grubs also will suppress sod webworms, cutworms, and armyworms for a month or more.

COMPARING THE PRODUCTS

- ⇒ Both have long residual activity.
- ⇒ Both give excellent control of white grubs.
- ⇒ Both require some rainfall, good control can be expected if rainfall is delayed a week or more.
- ⇒ Mach 2 is more effective against turf-feeding caterpillars and mid to large sized grubs. (Green June beetle)
- ⇒ Merit has a somewhat longer residual, which is useful for multiple targeting of first generation black turfgrass atenioides and annual grubs.
- ⇒ Merit may be more active against a wider range of grub species.
- ⇒ Both products give excellent control of Japanese beetle and masked chafer grubs, but Mach 2 seems to be less effective against European chafer and Oriental beetle grubs.

Thank you to Woodloch Springs

Thank you again to Mark Eisele and crew and all involved at Woodloch Springs for an enjoyable day. The course was in a "very manicured" condition, according to one participant. It brought out the best and the worst of the golfers.

Spreader calibration should never be a problem again after the presentation by Dr. David Spak.

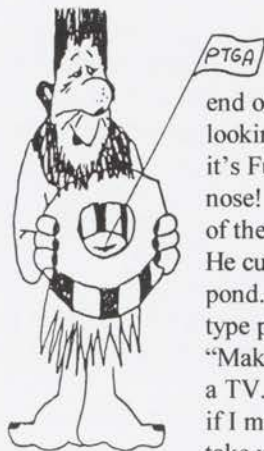
Great Bear Won — PTGA Zero

A good time was had by all at Keith Snyder's Great Bear Golf & C.C. It was a pleasure for all of us to be able to play a Jack Nicklaus Signature Course that was in impeccable condition. Thank you to our hosts Peter Ahnert and Keith Snyder for a very memorable day. We hope we can return soon.



Diary of a Greenskeeper

THURSDAY



My yellow crud is back. Every year it comes at the end of July. Interesting light green spots get weaker looking, then turn yellow, then gray, then dead. Some say it's Fusarium, some say it's Anthracnose, some say it's Funnose! Wife says it's my imagination. My assistant got rid of the persistent red leaf spot patch on the practice green. He cut it out with an eight inch patcher and threw it in the pond. Sure is wonderful what they teach at U-Mass! Sales type person makes a stop. Says if I buy a 55 gallon drum of "Make it Grow" I will get a free TV. Told him I don't need a TV. He says "How about a VCR?" So I say, "How about if I make you go?" He goes. Go home, work around house, take wife out for dinner. Sleep in bed.

**Penn State Turfgrass Science Program
Receives \$150,000.00
From an anonymous donor.**

An anonymous donor has contributed \$150,000.00 to the College of Agricultural Sciences at Penn State to create an endowed graduate fellowship in the Department of Agronomy for students studying turfgrass science. The fellowship will be named in honor of faculty member George W. Hamilton, Jr., a senior lecturer of turfgrass science.

Following the naming of the endowment in his honor, Mr. Hamilton and his wife, Becky, pledged \$25,000.00 to create a scholarship for undergraduate and certificate program students enrolled in the turfgrass science program. The George W. Hamilton, Sr. Memorial Scholarship in Turfgrass Science is named in memory of Hamilton's father, who was a golf course superintendent and professional golfer.

Since joining the Department of Agronomy in 1983, Mr. Hamilton has received numerous awards for his inventions in turfgrass and lawn care. In 1997 he received the Innovator of the Year Award from the Northeastern Weed Science Society for his work in developing Penn Mulch, a mulch made of recycled paper for turfgrass and landscape. A Penn State alumnus, he earned his BS and MS degrees in Agronomy in 1983 and 1990, respectively.


The gifts will be invested in the University's pooled endowment fund, where they will earn an annual return. A portion of the annual return is used for the purpose designated by the donors. The remaining portion is added to the principal to protect it from inflation.

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A message from your golf course superintendent and GCSAA





Golf Results from the June Meeting at Woodloch Springs C.C. Captain & Crew Format

FIRST FLIGHT

Tony Grieco, CGCS
John Chassard
Kelly Kressler
Ron Garrison, CGCS

SECOND FLIGHT

Jason Barndt
Eric Reed
Tom Weinert

THIRD FLIGHT

Ron Lee
Mike Condor
Bill McCausland
John Bodock

Closest to the Pin #4
Closest to the Pin #8
Closest to the Pin #17
Longest Drive

Joe Wibbs - 5'11"
Duke Phillips - 4'0"
Bill Rahling - 3'5"
Greg Phillips

MEETING DATES TO REMEMBER

25TH Annual Western PA Turfgrass Tournament
Monday October 11, 1999, Fox Chapel G. C.

23rd Annual Joseph Valentine Memorial Golf Tournament
Monday, October 18, 1999 Gulph Mills G. C.

Penn State Golf Turf Conference
November 9-11, 1999, University Park, PA

Eastern PA Turf Conference & Trade Show
January 11-13, 2000, Valley Forge, PA

Northeastern PA Turfgrass & Grounds Maintenance School
January 27, 2000, The Woodlands, Wilkes-Barre, PA

Western PA Turfgrass Conference & Trade Show
February 9-11, 2000, Monroeville, PA

PTGA LOGO GOLF SHIRTS



The Pocono Turfgrass Association now has three styles of golf shirts for sale at our monthly meetings.

They are of FINE quality as one would expect our president, Jack Bird, to find for us.

And the price is affordable at \$20.00 per item.

Please bring extra money to the Skytop meeting so you can be well attired in the future.

Just think, if you purchase seven, you won't have to do the wash for a week!



POCONO ROUNDUP

NEWS AND VIEWS FROM THE POCONO
TURFGRASS ASSOCIATION

BIOGRAPHY OF ERIC REED

Valley C.C.

Eric came to us in February 1998 from the Stow Golf & C.C. where he assisted in the construction of the course, which included irrigation, drainage, USGA greens and tees, and then gravitated to the superintendent position. Prior to that he worked at Aronomink G.C. upon graduating from Penn State with honors in 1990. He also has a BS in Industrial Management from the University of Akron. He began his golf maintenance career at Firestone C.C. in Akron, Ohio in 1988.

His inauguration to Valley C.C. was not kind. In early summer 1998 his course experienced a rare tornado that blew through the Conyngham Valley and devastated the course one week prior to Member-Guest. Then things calmed down as they moved into renovation of three green complexes and all the other good stuff. What a way to start a new position!

Eric and his wife, Becky, have one daughter, Madison, and they are expecting another child in September.

WEATHER/DISEASE FORECAST DCW CONSULTING

With rainfall deficits between 80% -100% below normal for the past 30 days, be very careful with your irrigation, if you are dealing with ryegrass fairways. The next few weeks are critical to Gray Leaf Spot development and limiting nighttime watering is VERY important NOW! Early morning applications to replace only daily ET is a very effective way to manage this culturally. *Editor's Note: This applies to those who have ryegrass intermediate roughs, also.*

REMINDER
Raffle Tickets and/or money must be returned in
Time for the Clam Bake at Pocono Farms on August 16.



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