



What's Up with All These Ants?

By Dr. R. Chris Williamson, Department of Entomology, University of Wisconsin-Madison

Ant mounds on golf courses, especially in high-profile areas such as putting greens, tees and fairways can be problematic and tough to manage! Worker ants are responsible for excavating underground nest chambers, consequently pushing up soil that creates “volcano-shaped” mounds. These mounds, typically 2 - 4 inches in diameter, not only do they disrupt the smoothness and uniformity of putting green surfaces, but they also smother patches of turf as well as dull mower blades. For these reasons, golf course superintendents often get quite frustrated battling these troublesome pests. Consequently, many golf course superintendents often make surface applications of fast-acting (quick knockdown) conventional insecticides to eliminate the nuisance ants that create the unwanted mounds. Unfortunately, this management approach merely reduces the number of worker ants, and does not eliminate the queen (i.e., the source of the problem). Thus, repeated insecticide applications are often necessary.

The reason ants are more abundant in some areas and not in others remains somewhat unsolved. Research evidence does suggest that ants are typically more prevalent where sand-based soil mixes are used. However, this is not to say that ants are not common in fairways or roughs and even putting greens where native soils are prevalent.

The ants that are found in turf on golf courses are commonly referred to as “turfgrass ants,” they are officially recognized as cornfield ants (*Lasius neoniger*). This species of ant is native and occurs throughout the United States and Canada. It is a social insect that lives in colonies that are comprised of thousands of sterile female workers, and typically only one reproductive queen. An individual ant nest is commonly comprised of multiple interconnected chambers approximately 10 - 15 inches deep. Each passage to the surface is capped with a mound. Depending on the time of year (i.e., spring vs. summer), there can be a considerable variation in the number of ant mounds per nest, ranging from 2 - more than 10. Generally, the number of ant mounds steadily increases from early spring to late summer as the colony grows. Previously conducted research has revealed that as food resources become more abundant in the spring, the queen steadily increases egg production. However, once this peak production occurs, the offspring from this brood develop relatively slowly, starting in May and continuing into July. Soon thereafter, new adult workers (all



Ant mounds on putting green can affect ball roll and dull mowers.

females) begin to emerge, after which mound-building activities dramatically escalate. Finally, as ant colonies begin to mature by late-summer and even into early-autumn (late-August - October), a sizable portion of the colony develops into winged-reproductives (swarmers) consisting of new queens and drones.

Once the colony reaches this stage, typically in the late-afternoons, on warm days, new queens and drones typically swarm by the thousands. This event is especially common after rains and thunderstorms. During this swarming process, the new queens and drones partake in a nuptial flight whereby they mate while flying. Soon thereafter, queens seek-out new locations to build chambers. However, before constructing a new chamber, new queens chew-off their wings. Oddly enough, most queens die before making a chamber, however those that do survive typically construct a small chamber in the soil beneath the turf, often creating a small mound of soil approximately 3/8 - 1/2 inch in diameter. Surviving queens typically lay a relatively small number of eggs in the chamber. Within several weeks (< 6), new worker ants (typically about 1/2 the size of normal workers) break open the chamber to forage for food. At this point, colony activity ceases as winter weather prevails. For the colonies that endure and survive the winter, they typically resume activity in the spring as temperatures are favorable and food sources become available.

Based on previous research findings, it is widely understood that each nest has only one queen, thus the future of the colony is dependent on her. This is not to downplay the importance of workers, they too serve a

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crucial role by both defending (protecting) and foraging for food for the colony. As far as the types of foods that ant species feed-on, respective ant species have various or different food preferences. *Lasius* ants appear to like foods that contain the three primary nutritional components: protein, carbohydrate (sugar), and fat rich foods. In turf, they commonly forage on the surface for small insects and insect eggs, however they also are known to tend (protect) subterranean root aphids in order to obtain the sugary honeydew that the aphids produce. Because these mound-building ants are important predators of the eggs and small larvae of sod webworms, white grubs, and other insect pests, they are also considered beneficial insects.

Management Options

Unfortunately, ant control is not as simple as we would like it to be, in fact it can be quite difficult, especially at different times during the growing season. Because throughout much of the growing season, the queen ant, with her eggs and larvae (young) are located underground in nests, surface applications of contact insecticides merely only control workers on the turf surface. So, unless the queen is eliminated, more worker ants will continue to be produced. Currently, there are three different recommended approaches for managing mound-building ants: 1) insecticide treatment applications, in the spring when ant mounds first appear, with relatively short-residual, contact insecticides such as bifenthrin (Talstar), chlorpyrifos (Dursban Pro), and cyfluthrin (Tempo), deltamethrin (DeltaGard), and lambda-cyhalothrin (Scimitar) may provide up to 4 - 6 weeks of control, 2) applications of long-residual insecticides such as thiamethoxam (Meridian), Arena (clothianadin) or Chipco TopChoice, currently registered in most but not all northern states) and imidacloprid (Merit) may potentially provide several weeks (2-12 weeks) control when applied to mounds as they first appear, or 3) granular ant baits such as Advanced Granular Carpenter Ant Bait (abamectin), Maxforce (hydromethylnon), and Firestar (fipronil) may provide 2 - 3 weeks of control. However, because ants are quite sensitive to the quality (freshness) of the bait, it is understood that moisture renders most baits unattractive, likely due to staleness. Therefore, it is critical to apply baits to dry turf; avoid applications prior to anticipated rainfall events and be sure to withhold irrigation for approximately 48 hours.

To further complicate the rather difficult challenge of controlling mound-building ants, during the late-summer and early-autumn months, as described earlier, ants have a distinctively different behavior. During this time, large numbers of winged-swarmers emerge from their nests in the late afternoon. In this situation, the most effect management approach would be to apply a

surface applied, contact insecticide such as bifenthrin (Talstar), chlorpyrifos (Dursban Pro), cyfluthrin (Tempo), deltamethrin (DeltaGard), or lambda-cyhalothrin (Scimitar) to the turf surface with intention of controlling the swarming ants before they have an opportunity to mate and construct new chambers.

Due to the variation in behavior of mound-building ants within a growing season, it is critical that a thorough understanding of the behavior and habits of a pest organism is essential in order to achieve effectively management. More research is needed to better understand the biology of mound-building ants in order to further develop and refine management strategies and tactics. 



6th Annual Wee One Golf Outing Pine Hills Country Club

Monday, September 21, 2009
Pine Hills Country Club
4914 Superior Ave
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Agenda:

- 10 am - Registration - locker rooms and range open
- 11 am - Shotgun start with lunch served on the course
- 4 pm - Prizes and hors d'oeuvres reception
(cash bar)

Golf Format:

- Two person team - Selective Drive/Alternate Shot
- Tee assignments will be made in six-somes
- You may enter as two-some, four-some, or six-some

Entry Details:

- \$150 / Player
- Guests must be entered by member on same entry form and playing in same grouping.
- Enter early. Field is limited to first 162 PAID players. Last year the event was filled.

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Evergreen Hosts Tournament Meeting

By **David Brandenburg**, Golf Course Manager, Rolling Meadows Golf Course

Bill Rogers, General Manager and Mike Schmieden, Superintendent picked a great day for Evergreen Golf Club to host the WGCSA tournament meeting after last years rain out. Now 27 holes the original 18 hole course at Evergreen Golf Club was designed by Ken Killian and Dick Nugent of Chicago in 1973. The course was built on 150 acres of dairy farm while the original clubhouse was a restaurant. The original 18 consisted of the 9 holes of the South Course; the 1st and 9th of what is now the East Course; along with holes No. 1 through 5 and 8 and 9 on the North Course. In 1994 a third 9 designed by Gary Welsh opened consisting of holes No. 2 through 8 on the East and Nos. 6 and 7 on the North.

The day began with a presentation by Steve Randall, GCSAA Chapter Liaison -Association Management. Steve who makes his home in Lawrence, KS has worked in golf administration for nearly 10 years, serving as the regional affairs/media relations director and junior golf manager for the Minnesota Golf Association, the executive director of the Sun Country Amateur Golf Association, which is the governing body of amateur golf for New Mexico and West Texas. He also worked as a golf coach at South Dakota State University.

Steve presented information from GCSAA starting with the Water Use Survey that the association recently compiled. In the United States 408 billion gallons of water is used per day with 137 billion being used for irrigation. Golf uses only 1.5% of the 137 billion or .5% of the total 408 billion or approximately 2 billion gallons.

The average 18 hole course in the north central region irrigates 66 acres of turf and uses a average of 25 million gallons per year. This compares to the southwest where the average 18 hole course uses 149 million gallons per year on much less watered turf. We in this area are fortunate to have available sources of water when compared to our counterparts in the southwest. The average northcentral golf course spends \$4,700 per year on water costs while the average southwest course spends \$107,000 per year.

With water easily available very few Wisconsin Courses are using effluent water. Most of those surveyed sited the lack of infrastructure and seasonal needs as reasons for not considering effluent for irrigation needs.

Steve then turned his attention to recent surveys of core golfers by the National Golf Foundation. 32% of core golfers are playing fewer rounds while 38% are delaying equipment purchases. The little bit of positive



Bruce Schweiger tends the flag on Evergreens 2nd hole.



Rich Chapman 2nd flight winner and Mike Lyons 1st flight winner.

news highlighted the conference board shows consumer confidence rose in spring after sliding down from September to February where it seemed to bottom out. Rounds are also up 1.6% through May countrywide mainly due to better weather.

Steve finished with some information to remind superintendents that they are critical to the overall success of their facility. GCSAA's survey of golfers shows the number one reason players choose a course is because of playing conditions not prestige, the archi-



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tect or difficulty. He also reminded us to take advantage of the many features GCSAA has to fulfill our educational needs.

After a great lunch we headed out to partake in fierce competition for the annual WGCSA Tournament on Evergreens North and South courses. Winning long drive events were Steve Heling and Mark Lockhart while Jeff Christopherson, Rich Chapman and Mike Kelly won closest to the pin events.

In the affiliate flight Ed Witkowski edged out Jim O'Toole with a net score of 70. In the 2nd flight Rich Chapman shot 69 net to edge out Dave Hassle who came in at 70. In the first flight Mike Lyons shot net 67 to beat out Scott Bushman who shot 69. Low gross for the event was Scott Anthes with a 70.

Thanks again to General Manager Bill Rogers and his staff for their hospitality and Golf Course Superintendent Mike Schmieden and his staff who had the golf course in great condition for us. 🌿



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The Dog Days of Summer?

By David Brandenburg, Golf Course Manager, Rolling Meadows Golf Course

By the time you read this it will be the first weeks of August and student employees would have given last day notices so they can enjoy that a couple days doing nothing before it is off to college again. The Fourth of July came so fast this year. I suppose it mainly feels that way because spring was cold and rotten up through the end of May it still feels like early summer to our internal clocks.

Outside of the one hot week in June growing grass has been fairly easy in comparison to how it can be. Of course August can bring its challenges with humid weather and hot afternoons. Hopefully everyone's

winter damage and spring flood damage is on its way to full recovery.

As challenges go I am sure many of us would trade the economy for hot and humid weather given what we know now. It is tough to entice laid off workers to play golf much less buy clubs or other equipment when they have pressing bills to pay.

According to the PGA PerformanceTrak monthly survey, median total revenue for reporting golf courses was down 3.1 percent in May from the same month in 2008. Total median revenues also were down for April (-5.9 percent) and March (-8.0 percent).

The biggest drop in May was in merchandise revenue, which fell 12.9 percent. Food and beverage revenue was down 4.3 percent and golf fee revenues dropped 4.2 percent.

For the first five months of 2009, total median revenue fell 4.6 percent, compared to the same period in 2008. Again, merchandise revenue represented the biggest loss, down 14.9 percent. Revenues for food and beverage and golf fees each fell 3.7 percent for the first five months of the year.

As revenues decreased rounds increased according to National Golf Rounds Report compiled by Golf Datatech. Rounds at U.S. golf

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courses rose in May for the third consecutive month. Rounds rose 1.4 percent in April and 3.4 percent in March when compared to a year ago. Public-course play led the way, rising 1.3 percent while private club rounds fell slightly, by 0.7 percent.

Year to date rounds are up 1.6 percent from the first five months of 2008.

Rounds information takes longer to process but weather information is already available for June. According to Pellucid's President Jim Koppenhaver, June's Golf Playable Hours (GPH) were up 1.5% for the month in comparison to 2008. The Year-to-Date (YtD) weather impact is up 1% percent vs. the same period in 2008.

The 1% increase in GPH has allowed 1% more rounds to be played YtD while less revenue is being made as courses have discounted rates to attract rounds and golfers have reduced affiliated purchases. Considering revenue pays bills and rounds do not, most operators would prefer to see increased revenue. However when push comes to shove operators are doing what they can to keep the customers coming back.

Keep in mind that the annual Super/Pro Tournament hosted by the PGA and WGCSA has been rescheduled for September 2 at Brown County Golf Course. Scott Anthes the host Superintendent / General Manager promises a great early fall day for us.

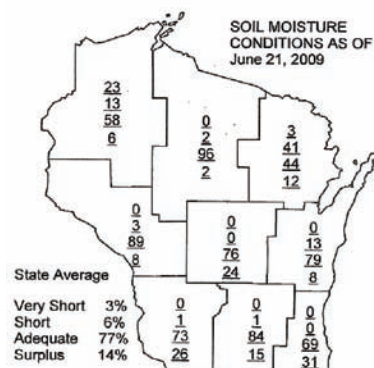
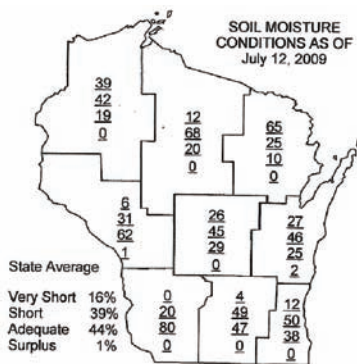
This alternate shot is a great team building event as you get to hit the Pros ball from the middle of the fairway 300 yards off the tee while he gets to hit your power fade into the woods three hundred yards from the green! Your team can sign up at www.wisconsinpga.com. If you do not have a golf professional you can play with anyone in the affiliate division.

Our weather has been odd for lack of a better term. From the

Wisconsin Crop Progress reports Soil Moisture Conditions produced by the Wisconsin Field Office of the USDA's National Agricultural Statistics Office on June 21 and July 12 you can see the over half of the state is in a dry pattern with 16% of the overall state reporting very dry conditions. It appears the north-west and north east have been the driest areas over the period.

Although second crop hay is ahead of the 5 year schedule the corn and soybeans need a good rainfall followed by some warmer temperatures. Our crop is a little different but we also need some rainfall, we just don't need the warmer temperatures. I am sure the fungicide salesmen are waiting for hot and humid to return so they can move some stock and make some profit!

When it does warm up, and it will, we can take comfort in the fact the hottest average high temperatures for the year are on July 17 to the 21 and by the 22 of July the average daily high starts going down again.



Speaking of colder temperatures if your club is looking to provide recreation for your members and customers in the off season Jonathan Wiesel of Nordic Group International would be happy to help your club get started with winter activities.

Close to 100 golf courses in North America already offer formal cross-country skiing, snow tubing, snowshoeing and other winter events. If your area has the snow anyway or the ability to make snow as some clubs have done with some simple equipment purchases you may be able to produce some additional revenue for your club while keeping more staff employed during the winter season.

You can find out more information at Nordic Group's website www.nordicgroupinternational.com or by calling 303-652-1708.

Be ready for a union to come to your facility soon. In the southern states along with many municipal operations unions have been active in the golf industry for some time. New legislation proposed called the Employee Free Choice Act of 2009 (nicknamed "card check") will make organizing a union much easier for employees.

Currently when your employees want to unionize informational meetings are held and an election is held with all employees eligible for the union able to cast a private ballot. If 50.1% vote yes the union is in, and vice versa if 50.1% vote no the union is out.

Under the proposed rules signatures just have to be collected and there is no vote. Once the group has 50.1% of the workers names on a petition or card the union is in.

It opens the door to possible strong-arming and coercion towards those against the union to encourage them to vote for it. It is easy to vote your beliefs in a secret ballot but much harder when your alone with a group of pro-union employees in the