



dicates that they have made all the fat that they are going to make for the season and they've stopped feeding. During this same time, the grubs in Central Ohio are still very white and still feeding! Why is this important? While many insecticides have contact activity (absorbed through the exoskeletons), the primary mode of getting insecticides into the insects is by ingestion! In short, the closer you get to the transition zones, the earlier that annual white grubs may stop feeding for the summer/fall season.

At present, products containing trichlorfon (=Dylox) or clothianidin (=Arena and Aloft) seem to have the best chance of killing large, third-instar grubs—if they are feeding! Both products tend to kill the grubs within 3 to 5 days which will also stop any animal digging. In our field tests, the other neonicotinoids, imidacloprid (=Merit) and thiamethoxam (=Meridian) will kill third instar grubs, but they often take 10 to 14 days. I also commonly recommend spreading Milorganite fertilizer (made from human sewage sludge which no longer contains any heavy metal contaminations) over the area where animals are digging as this will chase them away for a week or so while the insecticide is doing its thing.

ST: What are your recommendations for preventing a future reoccurrence of grubs in the same turf?

Dr. Shetlar: Most of the registered grub control products (other than Duocide which contains carbaryl and bifenthrin) can be used as preventives. This generally means to apply them before egg hatch of the annual white grubs. In most of the cool-season zones, this would be applied by mid-July. In my grub efficacy chart, imidacloprid, thiamethoxam, clothianidin (the neonics) all give 90% or better control if applied in June, July into mid-August. If you move into May, imidacloprid and thiamethoxam seem to run out of effective residuals.

Of course, the new insecticide is chlorantraniliprole (=Acelepryn) which can be applied in April through early August and get excellent grub control! For sport field managers, this should be a product of choice as it also has the most benign environmental footprint. It is also the “least toxic” of the insecticides to mammals which is a plus in sport field situations!

Whether to treat or not can often be answered by the research that was done by Mike Villani when he was at Cornell (unfortunately he passed away while still a relatively young turfgrass entomologist). He surveyed lots of golf courses and lawns in New York over several years. He found out that if an area of turf had a damaging population of grubs, it was in the 80% risk level of repeating a damaging population the following year. In short, treat areas where grub damage has been previously noted.

Dr. McGraw: I think that, especially on sports fields, we can minimize the effects of white grub damage substantially by developing a healthy turf stand: all the things you learn in Turf 101: adequate (not excessive) nutrients and water, minimize compaction, improve drainage as much as possible, and most importantly, develop a deep and extensive root system.

A healthy stand will definitely tolerate more white grubs without showing signs of damage than a stressed stand. Also, spend a day or two scouting out and mapping infestations. Take a golf course cup cutter, regularly sample (in certain grid like patterns), break apart the core in 1/4s and visually assess whether grubs are present. Try to identify what species of grub it is by looking at the raster pattern (row of spines on their butts). But most of all: keep good records. Grubs tend to appear in the same areas year after year. Find out what it is about that area that causes them to return: adult food sources, under-watered, over-watered, shaded, full sun, turf species?

ST: Do you recommend using nematodes to combat grubs? Why or why not?

Dr. McGraw: Nematodes may provide both short and long term suppression of white grubs and definitely have a place in grub management. You need to become educated in their proper use and application though. These are living organisms and need to be handled with care. There are some major hurdles in their adoption in many areas, namely their price and the product supply chain. However, as is the case in many states like NY where we have a ban of chemical pesticides on primary school grounds and daycares, this may be one of the handful of options that a sports field manager has in controlling white grubs. I hope that their adoption is greater in the future because it is an environmentally responsible approach. However, it is a case of economics right now. There needs to be a greater interest or demand from turf managers before the market can respond to the supply issues. Only then will the price come down.

Dr. Shetlar: I only recommend the insect parasitic nematodes for organic lawn care and for homeowners who wish to use non-pesticide techniques. They are still relatively expensive to use and you need to arrange with the supplier to ship the nematodes at the time you are going to apply them. In short, you have to use fresh nematodes! And, when you get them, they have to be applied quickly, with lots of pre-irrigation and post-irrigation. Even with the best of applications, it has been my experience that they will fail about 25 to 40% of the time. However, when they work, they often work very well! Bottom line, they are expensive, difficult to use and the risk of failure is relatively high. ■

Waukegan (IL) SportsPark Field #2

- ⊙ **Level of Submission:** Schools/Parks
- ⊙ **Category of Submission:** Soccer
- ⊙ **Head Sports Turf Manager:** Noel T. Brusius
- ⊙ **Title:** Parks Maintenance Worker III - Athletic Fields
- ⊙ **Education:** Bachelor's degree, GIS & Sports Turf Management, University of Wisconsin-Oshkosh
- ⊙ **Experience:** 1999-2004: Oshkosh Area School District: Athletic Field Maintenance Worker. 2005: St. Paul Saints, Ground Crew Intern. 2006-2007: Detroit Tigers, Ground Crew. 2008-2010: Peoria Chiefs/Bradley University, Head Groundskeeper. November 2010-Present: Waukegan Park District SportsPark Sports Turf Manager.
- ⊙ **Full-time staff:** Noel Brusius, Tony Diaz
- ⊙ **Other crew to recognize:** Steve Ems, Carlos Aguayo, Joe Ayala, Ted Holisky, Lance Moon, Billy Biang, Stan Cielez, and Taylor Carlile
- ⊙ **Original construction:** 2010
- ⊙ **Turfgrass variety:** 70% Kentucky bluegrass: NuChicago, Rush, Everest, Award, Beyond; 30% perennial ryegrass: CSI, Revere GLX, Accent
- ⊙ **Overseed:** Entire field in Spring/Fall using a Seed-a-vator set at 2 lbs/1000 - 70/30 mix. Goal mouths overseeded weekly during use: in-play months: 100% Perennial Ryegrass with 50% CSI (Rhizomatic); out of play months: 70/30 Kentucky Blue Mix. Centers, sidelines, etc. overseeded as necessary; routinely after tournaments. 2012 Totals through 10/1 - (fall seeding not yet started): Seed-a-vator: 4 times (3/27, 5/21, 8/21, 9/14) = 300 lbs. Goal mouths: 18 times = 54 lbs. Other areas (centers, sidelines, etc): 19 lbs. Total overseed (through 10/1) = 373 lbs.
- ⊙ **Drainage:** Fields 2&3 were graded in pairs, in a uniform plane diagonally at a consistent 1.25% slope. The slope is from the NW corner to the SE corner.

CHALLENGES

The overwhelming challenge in maintaining adequate turfgrass on this field is related to two very common issues that occur when a field is constructed using native soils: 1, the soil was aggressively compacted by the contractor in order to meet grading



JOHN MASCARO'S PHOTO QUIZ

Answers from page 17

AS YOU CAN SEE by the pile of flooring in the photo, there has been a concert on this field or in this case an ongoing construction project as the blue and grey area is in the shape of a ladder. The obvious guess would be that a summer concert caused heat burn stress on the Ryegrass turf; however this actually happened in early April in Denver. There was an ongoing construction project installing new, larger video boards with two cranes. The construction company left the small aluminum ladder on the grass just outside of where the field covers reach on what would be a record cold night with a single digit low of 6 degrees F. The ladder imprint is the result of direct low temperature injury to the young ryegrass turf. The extra cold transferred by the ladder from the air to the turf put this grass over the cold temperature injury threshold. Luckily, the marks were turf canopy damage only and the area was allowed to grow and the damage was simply mowed off. ■

Photo submitted by Ross Kurcab, CSFM, Denver Broncos Football Club, Sports Authority Field at Mile High Stadium.



If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to John Mascaro, 1471 Capital Circle NW, Ste # 13, Tallahassee, FL 32303 call (850) 580-4026 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted will become property of *SportsTurf* magazine and the Sports Turf Managers Association.

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requirements; and 2, less than desirable native topsoil was used. Soil testing has shown our soil structure is low in organic matter and high in clay content. The bottom line is ongoing compaction issues have made it extremely difficult to grow grass.

Field #2 was one of the last of the 17 SportsPark athletic fields to be grown in, yet it was expected to perform at the same level as all the other fields. Through field rotation and aggressive cultural practices, the turf conditions have been drastically improved and Field #2 is comparable to the other fields at the site.

In 2012, the district hosted three National Soccer Tournaments in addition to a variety of regional tournaments and normal league play. Some of the best amateur soccer players in the nation played on our fields. One tournament hosted 275 teams, playing from 8am-8pm daily for 7 days. To meet this rigorous tournament schedule, we had to adjust our daily maintenance to complete routine tasks. The high usage along with extreme weather conditions definitely took its toll on the turf. This summer was the warmest and third driest summer on record in Illinois. To make matters worse, not only was Field #2 challenged by the extreme drought and heat; the irrigation system was underperforming. The irrigation system manufacturer's representative was brought on site to address the problems.

Like most agencies, we face over-use and budget constraints. Our strategy is to actively and aggressively address each mainte-

nance issue as it arises. Through networking with STMA members, both local and national, we found an abundance of resources made available to us. We turned to other members who have had previous similar experiences to help us with our problematic situations. To address our soil structure issues we have consulted with some of the industry's elite and are now planning a compost topdressing program, and have been very aggressive in our cultivation practices. The use and budget issues will always be there, but through weekly meetings with our recreation department, we work together to help balance everyone's (including the field's) needs. This team approach sets us apart from the rest.

SportsTurf: What channels of communication do you use to reach coaches, administrators and users of your facility? Any tips on communicating well?

Brusius: Generally my communication to users goes through our Recreation Department (responsible for field scheduling and user groups). However this can be tricky at times because I am the only person on site for all inquiries. We schedule weekly meetings with Recreation Dept. staff, but with everyone so busy these are often cancelled or postponed. Phone calls, text messages, and emails have become our main source of communication. When we know we will be hosting tournaments or other major events, we set up conference calls with the individual user groups so we can work together to balance everyone's (including the fields') needs.

ST: What are your specific job responsibilities? What do find most enjoyable? What task is your least favorite and why?

Brusius: I oversee/manage the maintenance and day to day operations of the 90-acre Sports Complex. This includes all turf maintenance (mowing, irrigating, fertilizing, spraying, field painting, aerating, etc), staffing, ball diamond preps, restroom cleaning/maintenance, trash/recycle duties, and all other miscellaneous tasks. In addition our SportsPark staff, led by Tony Diaz, is responsible for the 12 athletic fields located in various parks throughout the city.

I enjoy making a career out of something I really have a passion for. I enjoy working outdoors and being an integral, but mostly unnoticed, aspect to the sporting events we all take pleasure in. It is also gratifying at the end of a long week to look out at the fields and seeing the direct results of everybody's hard work. Also, I find satisfaction watching former employees and coworkers further and grow their own careers within this industry.

The SportsPark is a first-class facility and is a source of community pride. The SportsPark/athletic field maintenance staff view ourselves as leaders within the industry and we strive to be the best.

I thoroughly enjoy my job and the challenges it provides. However with multiple overlapping agendas and vastly different levels of expectations it becomes difficult to satisfy everyone at all times. My point of view is that we all have to give and take; it simply comes down to finding a happy medium.

Seasonal staffing is also challenging. Many of the guys are college age and maybe only work 3 to 4 months, then return to school in the fall. The reality is that I need a consistent seasonal staff from April through November. We are rehiring and retraining a new

group of staff members almost twice a year. This requires a time commitment to train on mowing, painting and field preps, as well as instilling an understanding of cultural practices.

ST: How did you get started in turf management?

Brusius: While going through college I worked summers for the Oshkosh (WI) Area School District, doing ball diamond preps and general athletic field maintenance. Upon graduation I realized I really enjoyed this type of work and wanted to make a career out of it. I then went back to school to receive a turf degree. Working for and with people like Connie Rudolph, Heather Nabozny, Mike Trigg, and so many others I truly feel blessed and look ahead to "paying it forward."

ST: How do you balance your work and personal time?

Brusius: It can be tough at times. It is probably one of the main reasons I am in my current position now working for a Park District. Having worked 6 years at the MLB and MiLB levels, I know all too well what kind of hours and stress you have to endure. Surround yourself with reliable and knowledgeable staff and take advantage of the off-season with family and friends.

ST: What changes are you planning to make or have you made to your maintenance plan for 2013, if any?

Brusius: We've tweaked our fertilizer schedule and increased our overseed practices to help keep up with the increased use the fields are seeing. Through field rotation and aggressive cultural practices, the turf conditions have improved throughout the entire site. I am hopeful to address our topdressing/soil amendment needs by fall. My strategy has always been to actively and aggressively address each maintenance issue as it arises.

ST: Are you yet involved in "sustainable" management practices? If so, what are you doing?

Brusius: Environmental sustainability was taken into consideration at every opportunity during the planning process of the SportsPark. To manage storm water, bioswales were incorporated into the parking areas. Water from the retention pond is recycled for use in the irrigation system. A rain garden catches storm water from the maintenance facility. An additional green initiative was planting of the 16-acre perimeter of the park with native prairie plantings and seed mix creating a no-mow zone. We also have instituted a co-mingled recycling collection throughout the season. I run the irrigation system using ET rates and we will budget for soil sensors to further enhance water usage when they become compatible with our central controller.

ST: How do you see your job changing in the future?

Brusius: I believe Jerad Minnick from the Maryland SoccerPlex said it best: "No longer are we just the people that mow the grass. This is the time that Sports Turf Managers illustrate their wide range of skills: as soil scientists, plant physiologists, and chemists working with grass and fertilizers; as personnel managers, team builders, and teachers working with their staffs; as a uniting leader, a communicator, and a member of the team on the field empowering coaches, athletes, and administrators." ■



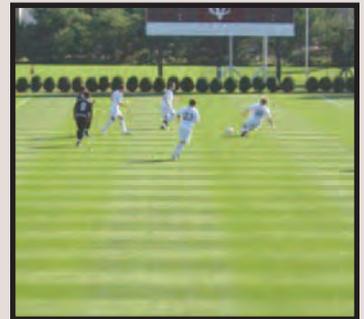
Gordon Field, Vassar College, Poughkeepsie, NY

▼ Anne Beckingham's chocolate lab, Bazyl, is part of the staff, chasing geese off the fields and serving Vassar in many ways, Anne says.





- ⊙ **Level of Submission:** College
- ⊙ **Category of Submission:** Soccer
- ⊙ **Head Sports Turf Manager:** Anne R. Beckingham
- ⊙ **Title:** Athletic Fields Supervisor
- ⊙ **Education:** Bachelor's degree in Business/Golf Course Supt.
- ⊙ **Experience:** Buffalo Bisons internship, 2006; Altoona Curve internship, 2007; Vassar College, 2008 to present
- ⊙ **Other crew to recognize:** Brian Harnen, Josh Wyatt & Jonas Narvarro
- ⊙ **Original construction:** 2006
- ⊙ **Turfgrass variety:** Tuckahoe Kentucky bluegrass with Lofts Supreme Sportsmix/Matrix Fairway Mix in the goal mouths and bench area.
- ⊙ **Overseed:** We overseed CONSTANTLY in the fall. We use a Loft's sports turf mix - KBG and PR in the goals and bench areas. We do this approx 5-7 times per soccer season - usually before a men's game. We solid tine these areas, overseed and then topdress with USGA sand. We also overseed the entire field after core aeration in late October. This year we are going to solid tine (3/4") two directions and then slit seed with our Landpride.
- ⊙ **Rootzone:** 100% sand, with soil amendments including Bolster, Keyplex, Respond III wetting agent, Holganix 38 Special.
- ⊙ **Drainage:** Multiflow Flatpipe which drains into an 8" trunkline around the perimeter of the field and drains into a cistern located next to the field.



CHALLENGES

SportsTurf: What channels of communication do you use to reach coaches, administrators and users of your facility? Any tips on communicating well?

Beckingham: Our channels of communication are casual. Normally our coaches either e-mail or give a call to my office or cell phone. If I see them on their fields (and they aren't busy) I like to just say a quick hello and make sure

they're set for games or practices. We have a great working relationship with our assistant athletic director as well as our facilities director. They are always in contact about field use, weather, schedules etc. They understand my concerns about all of our fields and are so helpful in decision making—always trying to do what's best for our facility. We've come a long way as far as getting on the same page regarding field guidelines and

I trust their judgments as far as making good decisions for field use.

ST: What are your specific job responsibilities? What do you find most enjoyable? What task is your least favorite and why?

Beckingham: I'm the Athletic Fields Supervisor. I'm responsible for organizing the maintenance of all aspects of our fields and tennis courts. I manage fertilization, pesticide applications, mowing, trimming—all things that have to do with field maintenance on a daily basis. We are also responsible for three areas on campus that house students and faculty, what we call "outside properties." We are responsible for mowing and maintaining these areas as well. I'm also considered a working supervisor. In my initial job interview I really stressed that I wanted to be able to work right along with my staff and so that's what I do! We make a good team that's for sure.

ST: How did you get started in turf management? What was your first sports turf-related job?

Beckingham: My "real" home is in the Adirondack Mountains—Old Forge, NY. Strictly a tourist area, there wasn't much in the way in employment that didn't have to do with tourism. I was a greenskeeper at our local 18-hole golf course for 14 years. I realized that there would be no advancement for me at this course so I decided to apply to the State University of NY-Delhi. My degree is a bachelor's in business/golf course superintendent. Summer semester requirements were to work as an intern in the turfgrass industry. I was so fortunate to be able to work for two minor league baseball teams for two of my internships and then I was hooked on sports turf management!

ST: How do you balance your work and personal time?

Beckingham: My husband, Pete, and I will be married 35 years this September. He is the most forward thinking, accepting man I know. And, he's my best friend. He lets me live my life and has always encouraged me to reach any goal that I've set for myself. We live a little over 3 hours away from each other. We try to see each other about every other weekend or so (depending on what season it is) and really look forward to wintertime when the fields are put away. We've learned to appreciate each other so much more, mostly because of distance and time restraints. We just make time and try to figure it out! While it has been good for

both of us to be independent, it has also strengthened our relationship. And, I've gotten to see Pete grow in his independence and I know he has definitely seen me grow in mine. I must say, though, that I do miss him.

ST: What changes are you planning to make or have you made to your maintenance plan for 2013, if any?

Beckingham: In the immortal words of Brian Harnan (best bud, co-worker, staff member, and person from whom I have deleted a LOT of files from his head), "Anne, if it's not broken, then don't fix it." Yes, we may tweak our program, experiment with new products etc., but for the most part we're happy with our results. Our aim is to make the best fields for our athletes and coaches. When we get good reviews from them, it means a lot to us and that we've done our job.

ST: Are you yet involved in "sustainable" management practices? If so, what are you doing?

Beckingham: I really like to experiment with new products especially ones that might reduce chemical inputs into the soil. This past year I had the opportunity to work with Dr. Rossi, Dr. Fefer and Brady Nash. We tried different application rates of a product called Civitas (mainly a golf course product and not registered for sports field usage yet in New York State). I kept in touch with a few of my golf course superiors to see how they were using it and how it performed on their courses. It turned out to be a wonderful product as far as water use—it cut irrigation use almost in half on one of the fields. I also tried different fungicide and fertilizer applications rates throughout the summer and saw some good results with product reduction too. We are willing to try any product that will encourage sustainability, and like to be able to share information with our schools in NYS through seminars. Since there is a "no pesticide law" in effect for our schools, any product that would be helpful to them through our experimentation is a bonus.

ST: How do you see your job changing in the future?

Beckingham: I would like to have things remain the same. My staff does a great job and we take great pride in our fields. We would love to have an NCAA game on ANY of our fields. Our men's soccer team had a great year last year so we're pretty hopeful for all of our teams. However, if there was an MLB groundskeeper looking for a good assistant . . . :D ■



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ETHANOL 101:

TIPS FOR GOOD ENGINE HEALTH

MORE THAN 90% of the fuel pumped in the US is now an ethanol blend, so there's a good chance that your outdoor power equipment might be suffering from the negative effects of ethanol-blended gas. Fuel with more than 10% ethanol, such as E15 is dangerous and in fact, illegal to use in small gasoline engines.

OPE users must equip themselves with a better understanding of how ethanol impacts the engine in order to take steps toward prevention. And then, owners need to understand the best products on the market to help them maintain good engine, and equipment, health.

Ethanol-blended fuel begins degrading 30 days after its

pumped. This means, if fuel sits in a portable gas can for a few months, or even an entire season, the gas should be replaced with fresh fuel. If not, equipment owners can face real challenges, especially inside the engine, where the real issues unfold:

- Ethanol-based fuels attract moisture, which eventually separates from the fuel
- A layer of ethanol-enriched water forms at the bottom of the tank, which is highly corrosive for engine parts
- Gum and varnish forms as the fuel breaks down, resulting in stuck intake valves, clogged fuel lines and carburetor jets

The engine can experience issues such as poor starting, rough running, rust and corrosion, and in many cases, failure. And for equipment owners, repairs can be costly, especially since many warranties do not cover damage from fuel that isn't considered fresh.

Outdoor power equipment dealers are certainly on the frontlines in understanding the engine damage

caused by ethanol-blended fuel. Over the past 3 years, we have heard our own Briggs & Stratton dealers speak more and more about the negative effects of ethanol-blended gasoline. In fact, according to an independent power equipment dealer survey, 93% of dealers said ethanol was a primary cause of engine problems in 2012.

If using fresh fuel is the first step to good engine health, the second is using a fuel stabilizer and treatment that combats the negative effects of ethanol.

Fuel treatments and stabilizers are a cost-effective, successful means for extending the life of equipment, and the equipment's engine.

However, equipment owners need to be careful when choosing the right fuel treatment and stabilizer. It's critical to look for products developed by companies that truly know engines, and that have the engineering expertise to understand how best to protect them. Additionally, owners should feel confident that the product they choose has been thoroughly tested, offers maximum protection, and stabilizes fuel for more than a year after opening.

The best options include several ingredients, including triple antioxidant formulas that protect the entire fuel system. Additional ingredients to look for include:

- Corrosion inhibitors that form a protective barrier on metal parts, to help prevent rust and corrosion
- Metal de-activators, to stop aggressive chemical reactions caused by dissolved metal ions in the fuel
- Detergent ingredients that help prevent gum and varnish build-up
- Water inhibitors, to protect against the harmful effects of water in fuel due to ethanol

And for equipment owners who want complete confidence that ethanol will not cause damage to their engines, they can use 100% ethanol-free canned fuel, now available at many outdoor power equipment dealers and repair centers, as well as major home improvement retailers.

Making proactive choices to protect your equipment from ethanol will protect the life of your equipment and save you time and money by eliminating the need for repair, returns and replacements-by Carissa Gingras, marketing director, consumer engine & service with Briggs & Stratton. ■



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