Keeping Summer Lawn Diseases in Check

Using Integrated Management Practices

Plus, KAFMO Cup Open and 2015 Field of Distinction Winners
“The Penn State Golf Course Turfgrass Management Program is the foundation of my career as a golf course superintendent.”

Paul Latshaw, MSM, CGCS Muirfield Village Golf Club

Get the edge you need to succeed in turfgrass management in just 18 months.

turf.psu.edu/certificate

Penn State is committed to affirmative action, equal opportunity, and the diversity of its workforce.
Features

7 Research Summary
Update on Research by Penn State’s Turf Team

8 Cover Story
Keeping Summer Home Lawn Diseases in Check Using Integrated Management Practices

12 Between the Lines
KAFMO Cup Open and 2015 Field of Distinction Winners

Departments

6 President’s Update
7 Penn State News
14 Calendar of Events
14 Advertiser Index
Outsmart Mother Nature... Year Round!

EVENGREEN™ TURF COVERS

With 30 years of field proven experience and the longest warranties, EVERGREEN™ from COVERMASTER is the smart choice

SMART EDGE TECHNOLOGY™
- Hems and grommets are not required
- Unlike Polypro fabrics, EVERGREEN™ will not unravel
- Can be cut to custom sizes and shapes on site
- Anchor pins can be placed anywhere on the cover

UNIQUE DESIGN CREATES A TRULY 4-SEASON TURF COVER
- Winter blanket • Early spring green-up • Summer overseeding & repair • Frost protection • Extend your growing season

BE SURE TO ASK FOR EVERGREEN™, THE ONE WITH COLOR
- Provides additional light spectrum benefits for the turf
- Choose color based on your climate

Can be cut or shaped without fraying thanks to Smart Edge Technology™
The with and without look of natural turf using the EVERGREEN™ cover

Call Toll Free: 1-800-387-5808
Int’l: +1-416-745-1811 • FAX: 416-742-6837
E-mail: info@covermaster.com
www.covermaster.com

© 2013 Covermaster Inc.

The Progressive ADVANTAGE

- Tri Deck cutting widths: 12’, 15.5’, 22’ & 36’
- Roller mower cutting widths: 65’, 90’, 12’, 15.5’, 22’ & 29.5’

✓ Proudly designed and manufactured in North America
✓ Features to reduce your cost of operation over the long haul
  - Maintenance Free Blade Spindles
  - Four blade choices to optimize cut and costs
  - 100 hour extended service PTOs
  - 3 yr. gearbox warranty
✓ An extensive Dealer network that you can rely on
  - Knowledgeable and dedicated to the Turf industry
✓ Widest range of rotary finishing mowers available from one source
  - Two models with galvanized decks
  - Four models with the Pro Lift-N-Turn™ system

Learn more about Progressive and our Dealers at:
(800) 668-8873 (519) 527-1080 fax: (519) 527-2275
www.progressiveturfequip.com info@progressiveturfequip.com

The Better Built Choice™
Greetings, PTC members, friends and colleagues. It’s that time of year yet again! Summer is here, and for green-industry professionals, workweeks have lengthened, expectations are at their highest, and steps that were taken during the off-season to plan and prepare are now paying off.

Nothing is more rewarding in summer than receiving positive feedback and appreciation for all that you do from clients, members, guests and superiors. I don’t believe anyone would disagree that the green industry truly makes a difference in the lives of many. Whether you are responsible for maintaining a golf course, sports field, school grounds, a park, residential lawns, commercial properties or a research facility, or you provide products and or services to those who maintain these entities, you play a vital role in the green industry. Personally, I am responsible for the maintenance of an 18-hole golf course and the grounds of a private country club. I take great pride in our club’s staff and the product that we provide for our members and guests every day. Nothing is more rewarding than receiving their appreciation for the hard work and the long hours that my team and I dedicate to their club. Be sure to know that your hard work, expertise and dedication are not going unnoticed this summer season, in whichever sector of the green industry you may be serving.

Over the winter months, green-industry professionals spend countless hours preparing for the year ahead. Educational opportunities are paramount for staying abreast of the latest advancements in the industry. The PTC provided several opportunities to learn of these innovations in 2015, and we are striving to continue this excellence in 2016. The PTC has many exciting events and opportunities on the 2016 calendar. If you were unable to attend an educational conference over the winter season, please check the Calendar of Events on page 14 and take note of the several PTC events listed.

Finally, please take the time to share this publication with your friends and colleagues, and remember that your hard work, expertise and dedication to the green industry aren’t going unnoticed this summer season! I thank you for reading this update and for your continued support of the PTC. If I or the PTC can help you in anyway this summer, please do not hesitate to contact me (610-451-3229 or andrewd@berkshirecountryclub.org) or the PTC office (814-237-0767 or info@paturf.org).

Andrew Dooley
2015–2016 PTC President
Research in the Turfgrass Entomology Laboratory was off to an earlier-than-usual start in 2016, with the above-average temperatures in March stimulating early insect activity. Many of our early-season research projects focus on understanding annual bluegrass weevil (ABW) population development, development of insecticide resistance and forecasting the potential for turfgrass damage. We are continuing a project that was initiated in 2015, investigating the effects that cultural practices have on ABW egg-laying behavior in hopes of developing Best Management Practices (BMPs) for putting greens.

Graduate student Ben Czyzewski is in his second year of his Master’s project, examining the effects that mowing height and nitrogen fertility have on ABW behavior and larval development. Ben observed a strong effect of mowing height on weevil removal. Approximately 30% of adults were removed in a single mowing at the lowest heights (0.100”). However, the majority of removed adults remained undamaged after mowing, which suggests that adults may reinvade turf areas from areas where clippings are deposited.

We will continue to conduct research to advance the BMP project, as well as initiate new projects in 2016, including understanding the potential for ABW to develop on novel host plants and the mechanisms behind the development of pyrethroid resistance.

Update submitted by Ben McGraw, Ph.D., Associate Professor of Turfgrass Entomology, and Ben Czyzewski, Graduate Student, Penn State University.
Understanding the concept of integrated pest management (IPM) is an important facet of disease-management strategy in the lawn care industry. Such knowledge is essential when serving homeowners and clientele who are dedicated to environmental stewardship.

The main concept of an IPM program is to effectively utilize every tool at your disposal without relying solely on chemical control as the solution.

Many turfgrass diseases common in home lawns do not require the use of fungicides unless disease severity has reached the economic threshold (or the amount of damage that surpasses the acceptable level of damage in context of financial output necessary to manage the disease). Knowledge of interactive effects of pathogen biology, susceptible host species and environmental conditions favoring disease development should be your primary goal as a turfgrass manager. Understanding these three components, in addition to knowing your clientele, will assist you in developing an effective IPM strategy.

Monitor for pathogens
Preventing pathogens that are ubiquitous in home lawns — such as red thread, brown patch or chronic root and crown diseases — can be difficult. Careful monitoring of susceptible

By Wakar Uddin, Ph.D., Professor of Plant Pathology, and Gary V. Nolan and Brian Aynardi, Ph.D. Students, Penn State University
turfgrass stands throughout the growing season is essential, particularly when environmental conditions are optimal for disease development.

Monitoring should not apply only to turf but also to the surrounding area. For example, if there is little air circulation and minimal morning sun to an area of a home lawn, it would be prudent to trim shrubs or trees to increase both air flow and sunlight penetration to promote drying of the turfgrass canopy. Monitoring also includes determining what turfgrass species are present. If a property has severe summer patch each year, perhaps transitioning to a non-susceptible host such as perennial ryegrass is the best approach.

Remember, there is no turfgrass species resistant to every disease, nor can we manipulate every environmental condition. Therefore, careful inspection and monitoring for disease signs and symptoms will not only allow turf managers to stay ahead of a potential disease outbreak, but it will help them in recommending proper cultural practices to the property owner.

**Common lawn diseases**

Several diseases are common on home and commercial lawns, including powdery mildew, spring leaf spot, fairy rings, slime mold, red thread, rusts and certain root and crown diseases. Although chemical management is available for most of these diseases, fungicides are most likely not an option for the typical property owner. As a result, your best option may be various cultural practices that may reduce the incidence and severity of these diseases.

**Powdery mildew**

Powdery mildew is primarily a problem on Kentucky bluegrass. The disease is caused by the pathogen *Erysiphe graminis*, an obligate parasite, which means that it obtains its nutrients only from a living host or living tissue. In essence, this disease may not completely kill the host plants; it will only reduce the photosynthetic capacity that could lead to severe chlorosis (yellowing) and weakens the turf stand, which may cause significant thinning of the turf canopy. Leaf surfaces appear white as if coated with massive spores appearing as white dusts (Photo 1). The disease occurs during the spring and fall, typically under cool, cloudy conditions, and is most severe in shaded areas with poor air circulation. Proper cultural practices include increasing air circulation and sunlight, in addition to maintaining the canopy at an adequate height.

**Fairy ring**

Fairy ring can occur throughout most of the year in the Northeast on all grass species. Although fungi that cause fairy ring may not be parasitic to the turfgrass plants, and generally survive on decaying organic matter, they do affect turf negatively. More than 50 different pathogens cause fairy ring; management of this turfgrass disease is difficult and complicated, and efficacy of the control varies.

There are three types of fairy ring: Type 1 causes a zone of dead turf (Photo 2); Type 2 causes a green ring of accelerated turf growth (Photo 3); and Type 3 has a ring of mushrooms (Photo 4). Also, mushrooms may be present with the symptoms observed with the first two types.
Typically, management requires a multi-step approach, including aeration, use of wetting agents, water management and a revised fertility strategy. Drenching or deep-infiltration application of fungicides or excavation of the infected soil are alternative options, but they are most likely impractical and too costly for most individual property owners to undertake.

**Slime mold**
Slime mold can affect almost all grass species. Development of slime molds is favored by prolonged periods of cool, wet weather with high humidity.

Symptoms of slime mold first appear as a slimy white or greasy black substance in the leaf surfaces, although colors may vary (Photo 5). Slime mold is not pathogenic to turfgrass, but it reduces photosynthetic capacity similar to powdery mildew. In most home lawn situations, little is done to manage this disease, as it will often disappear when the weather conditions change or be mowed off during routine maintenance.

**Red thread**
Red thread is one of the most commonly occurring diseases in home lawn turf. It is often found in low-input home lawns that are not fertilized adequately with nitrogen.

The disease is visible particularly during warm, humid and cloudy weather when red threads are present in the canopy (Photo 6). Symptoms first appear as small, diffused patches with...
whitish or cream-colored leaf blades. In Pennsylvania, the disease is usually present from late spring to early fall. The best management approaches to controlling red thread are to prune trees and shrubs to promote canopy drying and to increase nitrogen fertility (but not excessively). Several fungicides provide good control the disease effectively, particularly when the disease threshold is relatively low.

Rust
Rust is a common lawn disease also caused by an obligate parasite that does not kill host plants in most cases, but it may cause significant thinning of the turf canopy under severe conditions.

Rust first appears as yellowish spots on leaf blades, developing into orange or reddish-brown blister-like pustules filled with orange or yellow spores (Photo 7). In Pennsylvania, the disease is usually present during the summer months until early fall. Disease development is especially prevalent after periods of heavy dews, light rain or fog when daytime temperatures persist between the low 70s to the upper 80s. Similar to powdery mildew and red thread, management of rust is most effective through cultural practices, particularly through carefully elevating nitrogen fertility.
KAFMO’s Waddington/Harper Scholarship is named in honor of Dr. Donald Waddington and in memory of Dr. John Harper, two legends of the Penn State turf program. The scholarships are intended to identify and recognize outstanding students who plan careers in sports-turf management and to advance their educational potential in the science of turfgrass management. Over the past 15 years, 46 students have received the scholarships.

The KAFMO Cup Open golf tournament is the main fundraiser for the Waddington/Harper Scholarship Fund. Thanks to the generosity of sponsors and golfers, the tournament has raised more than $20,000 for the fund since 2001.

The 16th Annual KAFMO Cup Open will be held on Friday, October 7, 2016, at the Dauphin Highlands Golf Course outside of Harrisburg. The scramble tournament is open to anyone who enjoys golf and camaraderie. Tournament details will be posted at www.KAFMO.org when they become available.

Note from Dr. Andy McNitt

I want to thank the KAFMO board of directors and all KAFMO members for your continued support of the Pennsylvania Turfgrass Council, student travel to STMA’s national conference and sports-turf research at Penn State. Your generous gift is greatly appreciated. I will continue to do my best to put these resources to good use, hopefully benefitting the KAFMO members.

Andrew S. McNitt, Professor of Soil Science – Turfgrass; Director of Penn State’s Sports Surface Research Center, and Coordinator for Turfgrass Science Undergraduate Program

KAFMO Cup Open Supports Waddington/Harper Scholarship Fund

2015 Field of Distinction Winners

Gene Long, Fritz Miller Memorial Field, Lebanon

What on-field maintenance task do you most like performing?

Long: I enjoy doing final game preparations, which includes detailing the batter’s box and the pitching mound, dragging baselines and installing lines. Turning a beautiful, safe ball field over to the local home team is a gratifying experience. However, the specific task that I most enjoy is mowing my infield turf, which is now Poa free!

What’s your least favorite task?

Long: I do not enjoy preparing a wet, storm-drenched field for game activity. Even though players, coaches and event managers may consider the field playable, I know turf compaction and cleat tear outs will occur.

How do you communicate with coaches and administrators?

What is important for success in that part of the job?

Long: Electronic devices do make communication relatively easy. Even though I work outdoors, in a sometimes-noisy environment, my phone allows me to send and receive email, text messages and voice mail from the tractor seat. The phone is especially handy when fielding early spring high school baseball games. Field conditions change daily, requiring communication throughout each game day. Lines of communication are established each spring with all team managers and coaches and also with school and city officials.

I maintain a website activity calendar for Coleman Memorial Park. The park has four fields, seven home teams and weekend tournaments to schedule. All team schedules are placed on a master calendar, preventing overbooking of the park facilities. Each spring, I hold on-field discussions with team coaches and players. The topics involve safety, equipment upgrades and the specific needs of each team.

I promote team participation in daily field maintenance. Post-game policy concerning specific tasks are discussed and then demonstrated. I believe that player participation — doing daily raking, dragging and cover installation — establishes ownership and pride in their home field.

Contact: Linda Kulp,
Executive Secretary
Phone: 717-921-8803
kulp1451@gmail.com

Contact: Dan Douglas,
President
Phone: 610-375-8469 x 212
KAFMO@aol.com
How has KAFMO helped you in your job?

Long: KAFMO, what a great organization! I have requested help several times from various members, always receiving a prompt response. KAFMO has professional field managers, well-informed product distributors and Penn State turf specialists among the organization’s membership. I have found them all eager to help, and some have actually visited my field to lend a hand. I have received money-saving, field-improving suggestions from each sector of KAFMO’s membership. Brain surgeon or athletic field manager, to succeed you need to be dedicated to your task. KAFMO has “dedicated people.”

Has winning the Field of Distinction Award made any noticeable difference in how your work is viewed by administration?

Long: When applying for “Field of Distinction,” an applicant has the opportunity to explain why a field deserves the honor. The applicant may bring little-known details to light during this process. Lebanon Mayor Capello publicly recognized me for receiving this award. I believe the award brought forth the value of having quality, safely maintained athletic facilities, which are made available for the youth in our baseball region.

What, if any, maintenance changes are you planning for the winning field in 2016?

Long: One application of calcined clay was incorporated into the baseline soil last year. Witnessing improvement of the baseline playability after a rain event, I would like to do a second application this year. I will also continue to use ethofumesate in a maintenance program to prevent Poa annua from reestablishing in my turf.

What on-field maintenance task do you most like performing?

Galdieri: I would say I enjoy mowing the most. It’s a chance to sit down and relax, but also it’s probably the task that has the greatest effect on field appearance. And it’s easy!

What’s your least favorite task?

Galdieri: Dealing with the weather. Putting on and taking off tarps, drying out wet fields in the spring and spending an entire day manually watering the field during the summer are not so fun.

How do you communicate with coaches and administrators?

What is important for success in that part of the job?

Galdieri: Marywood’s athletics department has an online calendar where all practices and games are listed. Events are scheduled months in advance, and the coaches are very good at communicating any last-minute changes. Cell phones make it very easy to shoot someone a text if a game or practice needs to be moved. It’s important to plan ahead in this job, and when the schedules are posted ahead of time and coaches cooperate, it makes the job easier.

How has KAFMO helped you in your job?

Galdieri: KAFMO has opened me up to various vendors and other resources that are very helpful. Sponsoring a program like the Field of Distinction has brought lots of positive attention to the university.

Has winning the Field of Distinction Award made any noticeable difference in how your work is viewed?

Galdieri: Winning the Field of Distinction award has helped me purchase various items, such as a new mower and basic field-maintenance supplies. Money can be difficult to come by these days, and receiving this award has definitely helped my case when asking to purchase things.

What, if any, maintenance changes are you planning for the winning field in 2016?

Galdieri: I’m hoping to have both of my infields (baseball and softball) laser-graded this summer. I wanted to have that done last summer, but I did not have the money. I will also continue the core-aeration program I began last fall. If money allows, I will also look into topdressing.

Sponsors of the 20th Annual KAFMO/PRPS Athletic Field Conference

- Coombs Sod
- Diamond Pro
- Fertl Soil
- Fisher & Son Co., Inc.
- Hummer Turfgrass Systems, Inc.
- Humphrys Coversports
- Hunter Industries
- Intelligro
- Jamco Products
- K & W Designing Environments
- King Sports Turf
- Lawn & Golf Supply Company, Inc.
- Le Grows, Inc.
- Lebanon Turf
- Martin Stone Quarries, Inc.
- Penn State University
- Pennsylvania Recreation and Parks Society
- Sports Turf Managers Association
- Synatek Solutions
- Syngenta
- The Viersma Companies
- Tomlinson
- Bomberger Lawn Care, Landscape & Pest Control
- Turf Equipment & Supply Co.
- Windview Athletic Fields
- World Class Athletic Surfaces
**Turfgrass Calendar**

**October 5–8**
**NRPA Congress and Expo**  
(Nat. Rec. and Park Assn.)  
St. Louis, MO

**October 19–21**
**LANDSCAPES 2016**  
(formerly the PLANET Green Industry Conference)  
Louisville, KY

**October 20–21**
**GIE+EXPO and Hardscape North America**  
Kentucky Expo Center  
Louisville, KY

**November 15–17**
**Penn State Golf Turf Conference**  
Nittany Lion Inn  
State College, PA

**January 4–5, 2017**
**Eastern PA Turfgrass Conference & Trade Show**  
Valley Forge Casino & Resort  
King of Prussia, PA

**January 19, 2017**
**2017 Northeastern PA Turfgrass Conference and Trade Show**  
Woodlands Inn  
Wilkes Barre, PA

**January 24–27, 2017**
**STMA Conference and Exhibition**  
Orlando, FL

**February 4–9, 2017**
**Golf Industry Show**  
Orange Co. Convention Ctr.  
Orlando, FL

**February 28 – March 2, 2017**
**Western PA Turfgrass Conference and Trade Show**  
Sheraton Four Points North  
Mars, PA

**Advertiser Index**

- **Aer-Core, Inc.** .......................................................... 10  
  www.aer-core.com
- **Beam Clay** ............................................................ 14  
- **Brouwer Kesmac** .................................................... 3  
  www.kesmac.com
- **Central Sod Farms of Maryland, Inc.** ......................... 15  
  www.centralsodmd.com
- **Covermaster, Inc.** ................................................... 5  
  www.covermaster.com
- **CoverSports USA** ................................................... 11  
  www.coversports.com
- **East Coast Sod & Seed** ............................................ 15  
  www.eastcoastsod.com
- **FM Brown’s & Sons** ................................................ 7  
  www.fmbrown.com
- **George E. Ley Co.** ................................................... 15  
  www.gelcgolf.com
- **Lebanon Turf** ......................................................... Back Cover  
  www.lebturf.com
- **Medina Sod Farms, Inc.** .......................................... 15  
  www.medinasodfarms.com
- **Pennsylvania State University** ................................... Inside Front Cover  
  www.psu.edu
- **Progressive Turf Equipment, Inc.** ............................. 5  
  www.progressiveturfquip.com
- **Seedway, LLC** ......................................................... 11  
  www.seedway.com
- **Shreiner Tree Care** .................................................. 15  
  www.shreinerTreeWidgetItem.com
- **Smith Seed Services** ................................................ 15  
  www.smithseed.com
- **Tomlinson Bomberger** ............................................ 15  
  www.mytombom.com
- **Walker Supply, Inc.** ................................................ 15  
  www.walkersupplyinc.com

The Pennsylvania Turfgrass Council (PTC) serves its members in the industry through education, promotion and representation. The statements and opinions expressed herein are those of the individual authors and do not necessarily represent the views of the association, its staff, or its board of directors. Pennsylvania Turfgrass, or its editors. Likewise, the appearance of advertisers, or PTC members, does not constitute an endorsement of the products or services featured in this, past or subsequent issues of this publication. Copyright © 2016 by the Pennsylvania Turfgrass Council. Pennsylvania Turfgrass, is published quarterly. Subscriptions are complimentary to PTC members. Presorted standard postage is paid at Nashville, TN. Printed in the U.S.A. Reprints and Submissions: Pennsylvania Turfgrass, allows reprinting of material published here. Permission requests should be directed to the PTC. We are not responsible for unsolicited freelance manuscripts and photographs. Contact the managing editor for contribution information. Advertising: For display and classified advertising rates and insertions, please contact Leading Edge Communications, LLC, 206 Bridge Street, Franklin, TN 37064, (615) 790-3718, Fax (615) 794-4524.
DON’T COMPROMISE. COLLABORATE.

The best way to provide superior turf quality is to manage it from both sides. That’s why LebanonTurf recommends using Country Club™ MD and Emerald Isle Solutions™ products together to achieve both short-term control and long-term stability.

Country Club MD fertilizer works from the soil up, providing a reliable and predictable dose of slow-release nitrogen and stress-buffering biostimulants. Emerald Isle foliar products perform from the leaf blade on down, giving you control and the ability to micromanage your turf.

Working together with LebanonTurf means you’ll get superior technology, on-time distribution and outstanding value. Country Club MD and Emerald Isle work in unison to bring a new level of consistency, quality and playability to your turf.

Country Club MD… so you don’t have to micromanage. Emerald Isle… because you know you will.

Learn more at CountryClubMD.com.