

PRECISION BLENDED TOP DRESSING

Custom blended to your specifications
by our modern equipment.

*Buy when you need —
Eliminate costly storage*

We sell an air-dried, uniform and
free flowing top dressing.

ASK THE MAN WHO HAS USED IT.

HENRY FRENZER

Area Code 847
658-5303

620 Webster St.
Algonquin, IL
60102



**HALLORAN &
YAUCH, INC.**

IRRIGATION
SYSTEMS

28322 Ballard Road
Lake Forest, IL 60045

Telephone: 847-281-9400

Fax: 847-281-9780

- * Irrigation & Pump Station Design
- * Irrigation Installation
- * Drainage Systems
- * Pump Station Installation
- * Irrigation Pipe & Supplies
- * Pond Aerators



360 Schaumburg Rd.
Streamwood, IL 60107

(630) 830-7405

FAX (630) 830-9652

**CLAUSS
BROTHERS, Inc.**
**GOLF COURSE
CONSTRUCTION AND RENOVATION
LARGE TREE MOVING**

**PEERLESS
FENCE**

Div of Peerless Ent. Inc.
THE FENCE PEOPLE • SINCE 1949



Member American
Fence Association

3N381 Powis Rd.
West Chicago, IL. 60185
(630) 584-7710
IL (800) 543-6511
FAX (630) 584-7746

John M. Seger CFP
Senior Sales Manager
Certified Fence Professional

Paving the Finest Golf Courses on the North Shore

KAPLAN
TRUCKING & PAVING CO. INC.

847 • 949 • 1500

M.A.G.C.S. Member

P.O. Box 200 • Lincolnshire, IL 60069 • www.KaplanPaving.com



Master of the Links®

Course Accessories and A Lot More

www.masterofthelinks.com

Toll Free (888) TURF-888

Local (630) 545-2474
Fax (630) 545-2782

Poa annua Infestation in Sod What Golf Superintendents

Annual bluegrass (Poa annua L.) has long been the most serious weed problem in highly maintained turf. Annual bluegrass possesses a poorly developed root system and generally won't persist through an entire summer of Midwest conditions.

... Annual bluegrass is a serious problem because of its ability to produce copious quantities of seed. Once an area becomes infested with AB, the seed populations become so high that subsequent plantings are always infested with AB.

Historically, annual bluegrass (AB) has been considered a problem in turf on golf courses and athletic fields. Irrigation has been identified as a key factor in the invasion of AB into desirable turfs. Turfs that are not irrigated rarely have a serious AB problem. This perhaps explains the increase in annual bluegrass in sod production fields, as sod growers have gradually increased their level of maintenance over the past 20 years. Fields that were not irrigated often during the summer are probably receiving more frequent irrigation than in the past. Sod growers have also ventured into specialty turfgrasses that require higher levels of maintenance, such as bentgrass mown at 0.4" or less for golf course use or elite bluegrass blends for sports turf use. The higher level of maintenance on one portion of a farm will increase the problem across the entire farm since equipment, foot and vehicular traffic, and animals can easily spread AB seed.

In recent years, we have fielded many calls from sod growers with questions on the control of AB. Golf turf managers have asked, "How can I eradicate *Poa* that came with recently purchased sod?" The following is a review of some of the cultural approaches to managing AB in sod as well as highlights from some of the research that has been conducted with funds granted by Turf Producers International. Essentially, the main reason that AB is so difficult to control is that there does not exist a selective, postemergence herbicide to remove AB from cool-season turfs. Should such a product be discovered, AB will be considered a turf weed not unlike dandelion or crabgrass—troublesome, but nothing to lose sleep over. Until then, sod growers must employ a variety of approaches, none of which will provide completely satisfactory results.

The Problem with Annual Bluegrass

In a nutshell, AB is a serious problem because of its ability to produce copious quantities of seed. Once an area becomes infested with AB, the seed populations become so high that subsequent plantings are always infested with AB. Once the problem reaches this point, it will surely continue.

Populations of AB seed in the soil of heavily infested turfs can be truly staggering. Estimates from golf course turfs have yielded numbers of seed as high as 8 to 11 million viable seeds per thousand square feet. Considering that Kentucky bluegrass is often seeded at 2 to 4 million seeds per thousand square feet, it is no wonder that annual bluegrass will end up a significant portion of the turf.

Production: Course Should Know

Annual bluegrass infestations tend to show an exponential population increase. In other words, a new sod field, one that has been in corn or soybeans for the last 25 years and is converted into sod production, will have relatively little to no AB when first planted to sod. Over time, AB is gradually introduced into the field through contaminated seed, animals or foot or vehicular traffic. Since AB is self-fertile, one plant is enough to begin producing seed. AB is also unique in that the seed can ripen off the plant. So, mowing a newly formed seedhead does not mean that viable seed won't be produced. One plant leads to many more plants. After several years of low-level AB infestations, populations rise exponentially. It is at this point that many sod growers become concerned; however, by now it is too late and the problem will persist for many years.

Thus, there are two approaches to dealing with AB. First, how do you keep it from becoming a problem in fields where the problem doesn't exist? And second, if AB is a problem, what

can you do to minimize its occurrence? As you might guess, these are two entirely different strategies.

Annual Bluegrass Research Conducted at the University of Illinois

During our research on the soil fumigant Basamid, we developed a technique to estimate the number of viable annual bluegrass seeds in the soil. This procedure was done in the greenhouse from soil cores collected in the field. We decided to extend this approach to determine the extent of the problem in sod producers' fields.

Beginning in the summer of 2001, we asked sod producers in the central United States to submit soil cores from fields that they would consider free of significant AB infestation as well as fields that they considered contaminated. We then took these cores and sectioned them in 0.4" intervals. The soil from each section was air-dried, ground and topdressed onto sterilized soil in small flats in the greenhouse. The flats were placed under a mist system for 21 days to encourage

AB germination. After 21 days, the numbers of emerged AB seedlings were counted and this number was used as an estimate of the number of AB seeds in each soil section.

We received samples from 11 sod producers with all of the producers hailing from Illinois or Indiana. The results were all over the board. Most of the cores that we received were 4" in diameter. One sample was estimated to contain more than 1,000 viable seeds from that single 4" core, and that was only from the top 0.4"! If we assume that the rest of the field is infested at the same level, then that particular field could contain more than 11 million seeds per thousand square feet. Other samples from other fields had much lower numbers of viable seeds, and some farms sent samples that had no viable AB seeds. Of the 45 samples we analyzed, 23 of the samples had no viable AB seed. So, approximately half the samples appeared free of AB contamination. Of the 22 samples that did have AB contamination, most of the AB seed

(continued on page 24)



**ILLINOIS
PUMP, INC.**

2525 S. Clearbrook Drive • Arlington Heights, Illinois 60005
Your reliable source for pumps, motors, equipment and professional service

24-Hour Emergency Service
Call 847-ILL-PUMP (847-455-7867)

◆ **WE RESPOND!** ◆
Sales • Service • Parts

James "Big Jim" Shanley

Phone: 847-439-9205 EXT 238
Fax: 847-439-9388
E-mail: jim@illinoisump.com

RIVERWALLS LTD.

P.O. Box 562, Barrington, Illinois 60011

GOLF COURSE ENHANCEMENT

Shoreline Stabilization, Creek Crossings
Stream and Spillway Re-Construction

DARRYL SCOTT BURKETT
C.E.O.

1-888-254-4155
OFFICE: 847-382-9696
FAX: 847-516-0116
MOBILE: 847-366-5400

E-mail: riverwallsltd@aol.com

was confined to the top 0.4". On a seed-number basis, and averaged over all samples containing AB seed, 83% of the viable seed in the whole sample was in the top 0.4" of soil. Another 8.5% was in the second 0.4". More than 90% of the viable AB seed in infested sites is located in the top 0.8" of soil (Figure 1).



View of greenhouse trial used to estimate viable annual bluegrass in the top 1/2" of soil. Note the tremendous density of annual bluegrass seedlings. The flat pictured was topdressed with the surface 1/2" of soil from an area of less than two-tenths of a square foot.

The information we collected leads to several interesting points. First, even though 22 of the samples contained no viable seeds, this does not mean that these fields are completely free of AB. In fact, it is highly unlikely they are totally free of annual bluegrass seed. A 4" diameter core is not representative of an entire field and a different sampling methodology needs to be employed in order to make inferences regarding an entire field. These fields are undoubtedly low in AB populations, but AB populations may be increasing nonetheless. Second, AB has an amazing ability to produce viable seed under turf culture. While I think of crabgrass and dandelion as being troublesome turfgrass weeds, these plants were hardly ever observed in our assays and if present there was usually only one or two seeds per sample. The numbers of AB seeds in some of these samples were truly amazing.

Management Implications

When fields become infested with AB, a grower has several options. First, one or two crops sold as lower-quality sod, and cut as thick as possible when harvested, should go a

long way towards reducing the extent of the problem. It is clear that most of the seed is at or near the soil surface.

Fumigation is another option that should be explored on high-value acreage like bentgrass sod. Note, however, that in our experience fumigation rarely kills more than 70 to 80% of the soil seed reservoir. A reduction of 70 to 80% sounds impressive, but when initial seed levels are at 10 million, an 80% reduction still leaves 2 million viable seeds. The reason that fumigation only controls 70-80% is because some of the seed is so deeply dormant that it is not respiring enough to take in sufficient amounts of the fumigation gas to actually kill the seed. So, while some seed is not killed, what is left behind is not capable of germinating right away. Fumigation thus creates a "Poa-free" germination period where competition during establishment is minimized. However, in my experience this window closes very quickly so seeding needs to be planted as soon as possible after fumigation. Fumigation can allow the sod grower to produce a crop that is nearly free of AB but will still have a significant quantity of viable AB seed near the soil surface. Subsequent harvest and removal will further reduce the extent of the problem.

Some sod growers attempt to bury the problem by plowing under infested fields. This practice seems destined to make matters worse. Plowing doesn't bury the entire problem, just a portion of it. Subsequent plowing not only buries more seed, but also turns up seed from previous plowings. Our soil data shows that is much better to turn over the crop quickly, thereby removing as much of the problem as possible from the sod. Tillage of infested fields should be kept to minimum following harvest, and seed should be planted as early in the planting season as possible. This recommendation must be balanced with the knowledge that tillage is useful for suppression of certain diseases and the reduction of compaction. Annual bluegrass germinates in the cooler conditions of the spring and fall; a late-planted field is ripe for AB inva-

Mild winters tend to lead to an AB explosion, not because of a lack of winterkill, as many think, but because of conditions that allow it to germinate and put on some growth while other grasses are not growing.

sion. I'm convinced that AB makes most of its ingress into a turf in the late fall and early spring. When grasses like Kentucky bluegrass and creeping bentgrass aren't growing, AB is. Mild winters tend to lead to an AB explosion, not because of a lack of winterkill, as many think, but because of conditions that allow it to germinate and put on some growth while other grasses are not growing. Infested fields should be harvested early in the season and planted in early August and fertilized liberally so that the bluegrass is as far along as possible by the time cooler fall weather hits. A competitive, completely filled-in turf is the best defense against AB.

The research we conducted at the University of Illinois has helped frame the problem of AB in sod production. With a better understanding of how much seed is produced and where it exists, sod producers can alter their management strategies to reduce the occurrence of this troublesome weed. Obviously, successful management of AB by sod producers has enormous implications for golf course superintendents.

Coming soon: Herbicidal and fumigation approaches to controlling annual bluegrass.





"The Water Quality Company"

Testing • Evaluation • Treatment



Exclusive Distributor of the
Prime Turf Series 900 Injection Station

For All Your Water Quality Needs Call:

14200 S. Parker Road • Lockport, IL 60441
(800) 677-8097 • Fax: (708) 301-3351

Consistent

Quality

Consistent

Service

Consistent

Soil Type

**Executive Blend Bluegrass Sod
Penncross & L-93 Bentgrass Sod
StrathAyr Soil-Free
42" Big Roll available**



**HUBER RANCH
SOD NURSERY INC.**

P.O. Box 188, Schneider, IN 46376

800-553-0552 • (219)552-0552

www.hubersod.com

**fertilizers so good,
we put our name
on them.**

Performance and quality is one thing,
genuine value for our customers is another.

Genuine value comes only when you're able
to gather the best components on the market,
combine them in a way for the best possible
performance, then deliver that combination
in the best possible manner.

That's United Horticultural Supply and
UHS Signature Brand Fertilizers™. We've done
all the work so you get the results you're after.
You have our name on it.

Contact your local UHS representative
for more information.

(800) 411-5115
www.uhsonline.com

UHS Signature Brand Fertilizers are a product of
United Horticultural Supply





Using technology
to increase length and control
is a story as old as golf itself.



We don't make the turf. We make it better.



Always read and follow label directions.

Emerald is a registered trademark of BASF Corporation. ©2003 BASF Corporation. All rights reserved.



Dollar spot's never seen anything like new Emerald® fungicide. Emerald is the first all-new class of fungicide chemistry in years—and that's good news for superintendents battling resistance issues. **Emerald** sets a new standard for dollar spot control, offering you the first fungicide to reliably control dollar spot for three to four weeks with a single application. If you're tired of losing sleep over dollar spot, now you can rest easy knowing **Emerald** is on the job. It's the only fungicide you can really trust to consistently provide you with dependable dollar spot control for weeks at a time. It's time to make room in your fungicide rotation for the next generation of dollar spot control—**Emerald fungicide**. To learn more, visit www.turffacts.com.

SETTING A NEW STANDARD.

BASF

the Bull Sheet

John Gurke, CGCS
Contributing Editor

DATES TO REMEMBER

November 5 — 51st Annual Midwest Turf Clinic at Medinah Country Club, **Tom Lively**, CGCS host.

November 15 — Annual MAGCS Fall Dinner Dance at Aurora Country Club, **Julie and John Gurke**, CGCS hosts.

November 17-20 — 2003 Turf and Ornamental Seminar at Purdue University, West Lafayette, IN. For details, call 765-494-8039

November 18-19 — 38th Annual Wisconsin Golf Turf Symposium dedicated to the memory of O. J. Noer, held at the American Club in Kohler, WI. Details follow.

December 10 — 5th Annual West Side Superintendents Holiday Party at Dave & Buster's. Contact **Gary Hearn** at 630-773-4790 for details.

On November 18 and 19, the 38th Annual Wisconsin Golf Turf Symposium will be held at the American Club in Kohler. This year's event has been dedicated to the memory of O. J. Noer, and promises to be one of the best. The theme, "Poa—20 Years Later," will be expounded

upon by several of the industry's top *Poa annua* researchers, including Dr. Joe Vargas, Dr. Frank Rossi, Dr. John Stier and Dr. Ron Calhoun. For information, call the American Club at 800-344-2838.

MAGCS wishes **Bob Williams**, who took ill in October, a speedy recovery. Our thoughts are with you and your family, Bob.

The Midwest extends best wishes to longtime member **John Hogan**, Tuckaway Golf Club, who is battling cancer. John would surely welcome encouragement from his colleagues during this difficult time. Send your messages to John at his home address, 347 S. Center Ave., Bradley, IL 60915.

Russ Stachlewitz, who recently began his tenure as turf instructor at Kishwaukee College, has another pair of shoes to fill. Congratulations, Russ, on becoming the executive director of the Midwest Sod Council.

Several MAGCS members were fortunate enough to have competed in the Monday Pro-Am during the PGA Tour's John Deere Classic golf tournament in September. Among the participants were **Dave Ward, Brian Bossert, Bob Lohmann, Ed Kruse, Don Ferreri, Dave Kohley, Rick Wilson and Mike Vilendrer** (and I apologize to those I've omitted). According to one attendee, it was a two-day blast,

including a scramble event at nearby Davenport C.C., and everyone was treated like a king by the good people of John Deere. Also, congrats to Dave Ward and Brian Bossert, who managed to take third place in the Pro-Am along with Tour pro partner, John Daly.

A HUGE pat on the back to the MAGCS Arrangements Committee, which recently announced that all 2004 event locations are confirmed, along with about half of the 2005 dates and sites! This has to be unprecedented, and is a fine reflection on both the hard work of the members of this committee, as well as the willingness of our members to offer their courses as monthly meeting sites. Thank you to all!

Welcome to new MAGCS member "Big" **Jim Shanley** of Illinois Pump. Hopefully, those of you who attended September's monthly meeting at Shoreacres were able to meet Jim (without straining your neck looking up). Again, welcome aboard, Jim.

Some sad news was posted on the MAGCS Web site regarding the passing of Vern Thelen, the founder of Thelen's Sand and Gravel. Mr. Thelen was 78 when he passed away last month. Our condolences go out to the family and friends of Vern.

For sale: Toro 690 irrigation heads, \$35 each; Toro 650 heads, \$25 each. All are complete with guts, solenoids, pilot valves, etc., and are in working condition. Call **Mark Bobb** at Barrington Hills C.C. at 847-381-0140 to place your order.



syngenta

Jim Shone
Syngenta Professional Products

1715 Cambridge Dr.
St. Charles, IL 60174
Tel. 708-217-8509
Fax 630-513-6777
Mobile 708-217-8509
www.syngenta.com

jim.shone@syngenta.com

Terra Care Products, Inc.
Terra Topper, Terra Broom,
Terra Pick up Sweeper
Terra Aerator

T.I.P., INC.
Greens Spiker/Seeder
Amazon/Groundskeeper
Amazon/Combo Seeder

JOHNSON AND ASSOCIATES

of Lombard, Inc.
ROGER O. JOHNSON
630-620-8198 - FAX 630-620-8119
Mobile 630-215-3325 E-Mail: rojassoc@aol.com

109 E. Washington Blvd.
Lombard, IL 60148-2637

Member
MAGCS ITF
NWIGCSA CIGCSA

PARTICULAR ABOUT YOUR FAIRWAYS?



OR DOWNRIGHT OBSESSIVE?

For those who think their fairways can never be too clean, we submit our B Series Lightweight Fairway Mowers and our Fairway Tender Conditioners (FTCs). Just by putting FTCs on our 3215B, 3235B, or our new 3225B, you'll discover what clean really means. Grass stands up for an even, clean cut and a true playing surface.



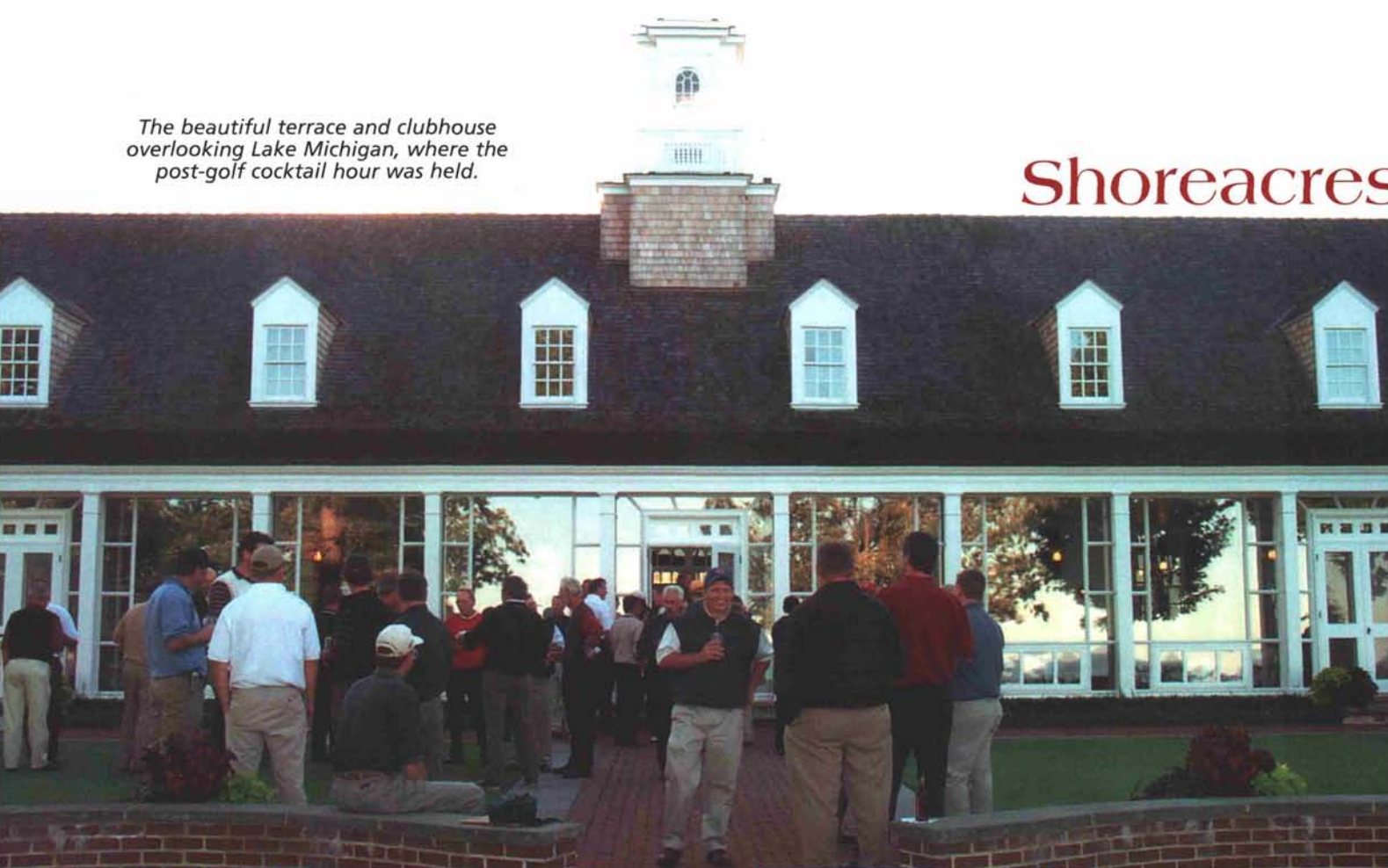
And the rear roller power brush finishes the job up right by removing built-up material as well as dispersing any leftover clippings. You'll also find an improved yoke and ball joints for better grass collecting; and an electric fan drive for improved noise levels and engine cooling. Nothing Runs Like a Deere®

J.W. TURF INC.
14N937 US RT 20
HAMPSHIRE, IL 60140
847- 683-4653



The beautiful terrace and clubhouse overlooking Lake Michigan, where the post-golf cocktail hour was held.

Shoreacres



Our host, Tim Davis.



Championship Flight winner Dave Kohley.



A. J. Huey of Simplot Partners, one of our volunteer(ed) photographers.



New MAGCS member Jim Shanley of Illinois Pump (center) with Dennis Wilson and Erik Johnson.

