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Inside This Issue Of Hole Notes

MGCSA EVENTS

SEPTEMBER 15
MTGF / UM FIELD DAY
TROE Center
Host: Brian Horgan, Ph.D.

OCTOBER 3
WEE ONE FUNDRAISER
North Oaks Golf Club
Host: Jack MacKenzie, CGCS

OCTOBER 17
MGCSA FALL SHOOT
Minnesota Horse & Hunt Club
Host: Bill Gullicks

DECEMBER 7
MGCSA AWARDS & RECOGNITION BANQUET
Brackett's Crossing Country Club
Host: Tom Proshek

JANUARY 3, 2011
SUPER TUESDAY
Minneapolis Convention Center
Host: MTGF

REGISTRATION FORMS AND MORE INFORMATION CAN BE FOUND AT

www.mgcsa.org

SEPTEMBER 2011 HOLE NOTES

ADVERTISERS

ABOUT THE COVER

Mark Michalski, golf course technician at Wayzata Country Club, making room for new sod on No. 10.

PRESIDENT'S MESSAGE

Where Does the Insanity End?

By Paul Diegnau, CGCS

As my Presidential term winds down, I am inclined to jump up on the soapbox and attempt to wake up some people regarding the realities of "movements" within our nation. What got me riled up AGAIN? It was a recent conversation I had with Dr. Brian Horgan about INTERNATIONAL CODE COUNCIL (ICC) activity that will eventually be coming to a city near you under the umbrella of "sustainability." As you may or may not know, Dr. Horgan has taken on the responsibility of giving a voice to the environmental and economical positives of turfgrass and the turfgrass industry at the national and international levels. Earlier this year, Dr. Horgan attended the INTERNATIONAL GREEN CONSTRUCTION CODE (a sub-branch of the ICC) meetings held in Dallas, Texas. The following is from the ICC website:

"The ICC association is dedicated to building safety, fire prevention and energy efficiency, develops the codes used to construct residential and commercial buildings, including homes and schools. Most U.S. cities, counties and states choose the International Codes, building safety codes developed by the International Code Council. The International Codes also serve as the basis for construction of federal properties around the world, and as a reference for many nations outside the United States."

The meetings were attended by all the heavy hitters in construction, architecture and regulatory agencies at all levels including the U.S. EPA. Currently there exists within the new "GREEN" code provision to limit the amount of turfgrass used on residential and commercial new construction sites. In the infinite wisdom of these "GREEN" regulators, they have arbitrarily chosen 40% as the maximum allowed area planted to turfgrass on any given new construction site. From the IGCC proposal: "402.3.5.7 Turfgrass. Not more than 40% of the area of the vegetated area of the building site shall be planted with turfgrass."

This provision was obviously gleaned straight from the 2009 EPA WaterSense Program to bolster site sustainability goals. Dr. Horgan recently responded to this proposed stipulation during the public comment period that ended August 12. He references approximately 25 scientific studies that back the environmentally beneficial attributes of turfgrasses that we are all keenly aware of. His response can be viewed on Page 20.

So why should you be concerned? Think about it. A turfgrass scientist quotes 25 science-based studies supporting all the wonderful things that turfgrass does to benefit the environment and the silence from the response will be deafening. It appears that science is playing less and less of a role in the increasing flurry of regulations raining down upon us and the business world. More importantly…where does it end?

On a lighter note, if you haven't heard, PCNB is back on the market! My golf course budget just let out a sigh of relief. Some of you may have moved on to other product combinations but I welcome the redeployment of this old standby. I think it is hard to beat the price/efficacy of PCNB but that is just one turf warrior's opinion.

This fall is a very busy time for the MGCSA. I hope you are able to break away from your work and relax a bit at one or two of our upcoming events. After a season like this one you know you deserve it. Registration information for all events can be found on the MGCSA website: U of MN Field Day, TROE Center, September 15; Stodola Research Scramble, Forest Hills Golf Club, September 19; Wee One Scramble, North Oaks Golf Club, October 3; Fall Sporting Clays Shoot, Minnesota Horse and Hunt Club, Prior Lake, October 17, and the MNLA/MTGF Pesticide Recertification Seminar, U of Minnesota, November 18.

Thank you to Superintendent Joe Wollner, his staff and Ruttger's Bay Lake Lodge for hosting the 2011 MGCSA Championship. I was unable to attend but heard the course was excellent and everyone had a great time. As you may or may not have noticed or heard, attendance at our MGCSA events has been on the decline. I remember the days not so long ago when some of these events sold out and had waiting lists. The 2011 Championship attracted only 40 participants. We all realize that this golf season was not "normal" by any stretch of the imagination. Combine these Mother Nature variables with a weak economy and you have a recipe for Golf Supers unable or reluctant to leave their courses. Hopefully this is just a short-lived trend. This fall, the MGCSA BOD will be addressing declining member participation and exploring options to reverse the trend. If you have thoughts or ideas on how to increase attendance, please share with the board.

Remember to order your MGCSA logo golf shirts with the MGCSA office. New orders are placed the first of each month. Order forms can be found on our website.

I don't know about you, but I may actually tear up when I see my first snowflake this fall. Amen!

Until Next Time,
Paul Diegnau, CGCS

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Editor
Jack MacKenzie, CGCS
jmackenzie426@msn.com

MGCSA OFFICE
AND HOLE NOTES OFFICE

Executive Director
Scott Turtinen
P. O. Box 617
Wayzata, MN 55391
952-473-2582 Fax: 952-473-2586
Toll Free: 1-800-642-7227
scott@mgcsa.org

Sauk Centre CC Superintendent Dan Dickinson Wins 2011 MGCSA Championship at Ruttger's

On August 15, Superintendent Dan Dickinson, Sauk Centre Country Club, was able to handle the tight fairways of The Lakes course at Ruttger's Bay Lake Lodge enroute to a score of 73 to win the 2011 MGCSA Championship. Drew Ekstrom, Superior Golf Cars, finished second at 76. Ben Walker, Somerset Country Club, finished third with an 81. Dan had nine hole scores of 36-37 and Drew fired an opening 41 but followed up with a back nine 35. Walker shot nines of 39-42.

The Minnesota Golf Course Superintendents' Association extends thanks and appreciation to Ruttger's Bay Lake Lodge for hosting our Championship. The support from the club and the prime condition of the course made for a spectacular day to celebrate golf.

Superintendent Joe Wollner, along with his staff, had the course in great condition. Golf Professional Jamie Alderman and his staff were very helpful in pre-tournament preparations.

Host Superintendent, Joe Wollner won the First Flight with a net score of 74. Tom Jandl, Ruttger's Bay Lake Lodge used his home course knowledge to shoot a net

HOST SUPERINTENDENT JOE WOLLNER
Ruttger's Bay Lake Lodge

75 and finish second. Tom won a scorecard playoff with Charlie Miller, Goodrich GC, and Brian Horgan, University of Minnesota.

This year's Senior Champion is John Monson, Long Prairie GC. John shot a net 68. Jim O'Neill, Cycle Works Golf Supply came in second with a net 79.

Winning the Callaway Flight was Greg Bondy, Turfwerks, edging out Turfwerks Zach Davis. Greg shot a net 72 and Zach had a 73. Larry Thornton, Superior Turf Services, Inc. finished third

2011 MGCSA CHAMPION DAN DICKINSON
Superintendent, Sauk Centre

with a net 74.

The two Long Drive Champions were David Thalberg, Prestwick GC, and Zach Wignall, The Meadows at Mystic Lake. Isaac Kasper, Columbia CC, and Ben Wallin, Victory Links GC sank the longest putts of the day. The five winners of the closest to the pins were Jeff Pint, New Prague Golf Club, Charlie Miller, Goodrich GC, David Johnson, Territory Golf Course, Zach Wignall, The Meadows at Mystic Lake and Gary Deters, St. Cloud CC.

Special thanks go out to Dan O'Brien and Superior Golf Cars. Superior Golf Cars teamed up with the Minnesota PGA, Minnesota Golf Course Superintendents' Association, the Upper Midwest Chapter of the Club Managers Association of America and the Midwest Golf Course Owners Association for the inaugural Superior Golf Cars/Club Car Charity Classic which benefitted the allied associations. Superior Golf Cars donated a portion of the proceeds to the MGCSA.

Thank you to the following Affiliate member companies for sponsoring the 2011 Championship: Agrotain International, BASF, Bayer Environmental Science, Cycle Works Golf Supply, Duininck Golf, Excel Turf & Ornamental, Frontier Ag & Turf, Hartman Companies Inc., MTI Distributing Inc., Par Aide Products Company, Plaisted Companies Inc., Precision Turf & Chemical Inc., Specialty Ag & Turf, Superior Turf Services Inc., Syngenta Professional Products, Turfwerks, and Versatile Vehicles, Inc.

The next MGCSA event will be the MTGF/University of Minnesota Turf and Grounds Field Day on September 15. The Stodola Research Scramble will be on September 19 at the Forest Hills Golf Club and the second Annual Wee-One event will take place on October 3 at North Oaks Golf Club. The Fall Mixer at the Horse and Hunt Club will be on October 17. Our Annual Awards Banquet will take place on December 7 at Brackett's Crossing Country Club. *(See Results on Page 6)*

Dan O'Brien, Superior Golf Cars, left, presented a check to MGCSA Research Chairman Scottie Hines, CGCS, Windsong Farm Golf Club. *Superior Golf Cars teamed up with the MGCSA, Minnesota PGA, Upper Midwest Chapter of the Club Managers Association of America, and the Midwest Golf Course Owners Association for the inaugural Superior Golf Cars/Club Car Charity Classic which benefitted the allied associations. Superior Golf Cars donated a portion of the proceeds to the MGCSA.*

MGCSA CHAMPIONSHIP RESULTS

AUGUST 15, 2011

RUTTGER'S BAY LAKE LODGE, DEERWOOD, MN

CHAMPIONSHIP FLIGHT - GROSS SCORES

DAN DICKINSON	SAUK CENTRE CC	73
DREW EKSTROM	SUPERIOR GOLF CARS	76
BEN WALKER	SOMERSET CC	81
BEN WALLIN	VICTORY LINKS	84
DEAN WOJTCZAK	WHISPERING PINES GC	84
NICK WALTERS	MEDINA GOLF & CC	85
JIM WALL	VERSATILE VEHICLES, INC.	86
GARY DETERS	ST CLOUD CC	89
DAVID JOHNSON	TERRITORY GC	90
JEFF PINT	NEW PRAGUE GC	94
SCOTTIE HINES, CGCS	WINDSONG FARM GC	98

FIRST FLIGHT - NET SCORES

JOE WOLLNER	RUTTGER'S BAY LAKE LODGE	74
BRIAN HORGAN, Ph.D.	UNIVERSITY OF MINNESOTA	75
TOM JANDL	RUTTGERS BAY LAKE LODGE	75
CHARLIE MILLER	GOODRICH GC	75
CHRIS KESKITALO	WILDFLOWER GC	76
AARON JOHNSEN	WINFIELD SOLUTIONS	77
DAVE KAZMIERCZAK, CGCS	PRESTWICK GC	77
ARIK HEMQUIST	BRACKETT'S CROSSING CC	78
MARK RIES	PRESTWICK GC	78
ZACH WIGNALL	THE MEADOWS AT MYSTIC	78
DAN O'BRIEN	SUPERIOR GOLF CARS	80
SCOTT MELLING	PAR AIDE PRODUCTS	82
ISAAC KASPER	COLUMBIA CC	83
DOUG MAHAL	THE JEWEL	83
DAVID THALBERG	PRESTWICK GC	85
JUSTIN ELLISON	MEDINA GOLF & CC	87

SECOND FLIGHT - NET SCORES

JEREMY STAFNE	TURFWERKS	84
JOHN MEYER	AGROTAIN INTERNATIONAL	86

SENIOR FLIGHT - NET SCORES

JOHN MONSON	LONG PRAIRIE CC	68
JIM O'NEILL	CYCLE WORKS GOLF SUPPLY	79

CALLAWAY FLIGHT - NET SCORES

GREG BONDY	TURFWERKS	72
ZACH DAVIS	TURFWERKS	73
LARRY THORNTON	SUPERIOR TURF SERVICES	74

Pump Up That Seed: Priming and Pregermination

By DR. JOHN C. STIER
Department of Horticulture
University of Wisconsin-Madison

Have you ever worried about getting a new green established for a spring tournament? How about renovation of tees or cart path areas during the post or pre-season? Sometimes a helping hand can speed up Mother Nature although its important to know how and why some systems may be more appropriate than others.

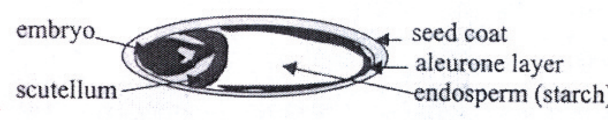
The seed germination time of turfgrasses is based largely on the genetics of each species (Table 1). True, seeds generally germinate faster in the warmer soils of late summer than in cold soils during the spring, while there seems to be relatively little one can do to stimulate germination under a given set of conditions. But golfers don't always wait until a green is agronomically mature before playing on it, and maintaining a decent stand of turfgrass on tees and high traffic areas is a constant battle at many courses.

Seed Germination is a Risky Business

Germination is a tremendous risk for a seed. Once started the process is irreversible. Inside the hard portion of the seed (the caryopsis), a miniature plant exists, complete with the first leaf and the first root (called the radicle) (Fig. 1). The majority of the space inside the grass seed is occupied by a starchy substance known as the endosperm. The endosperm provides energy to initiate growth. Seed germination begins when a seed imbibes (absorbs) water. The water causes the release of hormones from the scutellum (particularly gibberellic acid, or GA). The GA is absorbed by cells in the aleurone layer which then releases enzymes (hydrolases) capable of degrading the starchy endosperm into small sugar molecules. These sugar molecules are absorbed by the scutellum which transfers them to the embryo. The energy in the sugar molecules is used by the embryo to initiate growth - we see this as the emergence of the first root and leaf. At this stage the young plant is said to be heterotrophic, as it relies completely on stored energy rather than making its own energy.

Once the first leaf emerges above the soil and begins photosynthesis, the seedling is said to be autotrophic, that is, able to synthesize energy, in this case from sunlight. Animals, including humans, are autotrophic because we must consume other organisms for the energy they contain rather than producing our own energy. Only green plants and a few microorganisms are truly autotrophic. The seed is truly at risk following imbibition and prior to the development of leaves and roots because, once the starch in the endosperm is used up, the seedling has no other energy source. This is why seeded areas are prone to failure if subjected to intermittent wet and dry periods. Each time the seed or seedling is moistened, more of the enzymes are released from the seed and more of the starch in the endosperm is degraded. When the seed dries, the seedling stops growing and the enzymes disintegrate. Planting the seed too deep can also result in poor establishment. If the enzymes and/or the endosperm are used up before the developing seedling establishes a leaf system above the soil level and begins photosynthesis, the seedling will die.

Fig. 1. Diagram of a Grass Seed



The optimal soil temperature range for germination of cool season grasses is between 60°-85°F. When germination is needed fast under suboptimal conditions several alternatives may be tried. These include soil heating, seed pregermination and seed priming.

Heat that Soil!

Unless you have an in-ground heating system it may seem impossible to heat the soil to aid germination and establishment. If you have ever covered your greens, though, you know how fast the grass under the covers can start growth compared to uncovered grass. The covers help retain solar heat which increases the soil temperature.

Sometimes only a few extra degrees can make all the difference. Covers can also be used to promote establishment from early spring seedings. You do need to monitor the conditions under the cover to ensure the environment does not become unfavorable for the grass (too hot, too dry) or promote diseases (e.g., Pythium). Temperature is easily monitored with an inexpensive soil thermometer. If the temperatures or humidity levels become high, the covers can be temporarily pulled back to return to favorable conditions. Black plastic covers heat the soil fastest though any plastic, black or clear, can quickly result in high humidity and free moisture levels that favor fungal diseases. If plastic is used, punch holes in it to allow air movement and water penetration. Geotextile blankets may also be used, as well as Typar or Reemay. Be aware that

(Continued on Page 8)

Table 1. Germination requirements of cool season turfgrasses (adapted from Christians, 1998)

Species	Species (Scientific name)	Days to Germinate
Creeping bentgrass	*Agrostis palustris*	6-10
Colonial bentgrass	*Agrostis capillaris*	7-14
Kentucky bluegrass	*Poa pratensis*	6-28
Supina bluegrass	*Poa supina*	unpublished, faster than P. pratensis
Rough bluegrass	*Poa trivia lis*	6-21
Perennial ryegrass	*Lolium perenne*	3-10
Tall fescue	*Festuca arundinacea*	4-12
Creeping red fescue	*Festuca rubra*	5-12
Hard fescue	*Festuca longifolia*	5-12
Chewings fescue	*Festuca rubra commutata*	5-12

Pump Up That Seed-

(Continued from Page 7)

any cover which prevents sunlight from penetrating (especially black plastic) can stop seedling growth following germination unless removed immediately prior to or at time of germination.

High intensity discharge (HID) lamps may be useful to aid soil heating when sunlight is insufficient. Metal halide or high pressure sodium lamps are the most readily available because they are used in the greenhouse industry. Depending on their wiring, either 110 or 208/220 volts may be required. Oakland Hills Country Club used lamps (borrowed from a university) to help germinate a new seeding of creeping bentgrass in preparation for the 1996 U.S. Open.

What's the difference between seed priming and pregermination?

The difference between seed priming and pregermination is basically a matter of time and stage of germination. Pregermination uses seed which has been brought to the point of germination while primed seed has imbibed some water but has not undergone all the steps necessary for germination. You can tell when pregerminated seed is ready because some of the seed has a little white fuzz on it which, on closer inspection, is not mold (hopefully!) but small roots with abundant root hairs. Pregermination can be performed using the following steps:

1. Place up to 50-100 Ibs. seed in a 55 gal. drum. Smaller vessels can also be used.

2. Fill the drum with sufficient water to completely cover the seeds. A few seeds (up to several hundred) may float on top, don't worry about these.

3. Stir the seeds for a minute or two to expose all seeds equally to the water and oxygen. Leave uncovered at room temperature (60-70 F).

4. Replace the water daily (each 24 hour period). This removes seed germination inhibitors which have been secreted from the seed coat. Don't worry if a little water is left in the barrel during replacement as it will be diluted by the fresh water. Use room temperature water for best results. Don't forget to stir the seeds at least once a day.

5. Repeat steps 3-4 for at least two days, three to four days at most. Species which have slower germination rates will require more time than species like perennial ryegrass which have rapid germination rates. The water temperature and a few other variables may affect the length of soaking required.

6. The seed on a firm surface which will allow excess water to dissipate (e.g., a concrete slab). Let the seed dry slightly, but not completely, to facilitate spreading. If you are not ready to seed immediately, mist the seed as needed to keep it moist. You may keep the seed in this manner for a few days at most. Once you see the white roots beginning to emerge from some of the seed, plant all the seed immediately. Otherwise you are likely to end up with a mass of root-entwined seeds which cannot be spread.

7. Plant the seed immediately. Mulch as appropriate. You will need to keep the seed moist. Since the seed is moist during the spreading operation, this step can be challenging since moist seed tends to stick to spreaders. Sometimes the seed can be mixed with solid carriers such as sand, corn cob particles, or organic fertilizers. The best method is to use a hydraulic seeder. If a hydraulic seeder is used, set the agitation at or slightly below normal. Do not set the agitation so high that any emerging roots are sheared from the seeds as these will not regrow very well, if at all. To facilitate emptying water from the drum, cut the bottom off the drum before

(Continued on Page 9)

Pump Up That Seed-

(Continued from Page 8)

use. Invert the drum and use the top with the spigot on it to drain the water from what is now the bottom of the container. Fine mesh screen can be placed inside the drum to prevent the seed from flowing out of the spigot.

8. An aquarium aerator can be used to ensure good oxygen supply.

Seeds are living tissues and cannot survive without oxygen for respiration. Seed priming follows the same basic principle as pregermination but the process stops short of any roots or shoots actually breaking out of the seed coat. Osmoconditioning agents which control the rate of water uptake are generally considered necessary for "true" seed priming (Danneberger et aI., 1992). Osmoconditioners include polyethlyene glycol (PEG) or various salts (including table salt). Because the osmotic potential of the solution, temperature, light and air need to be closely monitored for best results, seed priming is often best left to industry. If you are a do-it-yourselfer, you can try the following steps (Brede, 1989):

1. Prepare a solution of 1 Ib salt per 10 gallons water.
2. Spread a layer of seed on a hard surface (concrete or plastic sheet) and thoroughly wet the seeds.
3. Turn the seeds over several times each day.
4. Once each day, drain the seeds and replace with fresh salt solution.
5. Rinse the seeds with fresh water after seven days of treating with the salt solution and allow the seeds to air dry.
6. Plant the seeds using your regular equipment. Alternatively, the seeds can be temporarily stored in a refrigerator (up to three or four weeks).

Some people who have tried this technique suggest the above rather than letting the seeds soak in a solution for several times, probably because it limits the amount of seed which is brought to the "pregermination" or "germination" stage. Some techniques call for soaking the seed in the solution for a few days with an aerator to provide oxygen to the seed.

A number of additives have been evaluated for their effects on seed priming with mixed success. Detzel (1994) found that wetting agents, sulfuric acid seed scarification, and seaweed extracts either had no effect or decreased the percent germination and increased the germination time. Sometimes water soluble fertilizer sources seem to enhance the effects of priming although some may also be toxic (potassium nitrate).

Other techniques have been developed such as solid matrix priming and the drum priming methods. Solid matrix priming uses solids with specific water holding properties to control the amount of water available for seed uptake (e.g., Micro-Cell-E, a calcium silicate compound). Several years ago a British company (Horticultural Research International, Wellesbourne, England) patented the drum priming method in which water availability is controlled by physical means. Seeds are placed in a rotating drum and water is introduced in small amounts from holes in the drum as the drum passes over and through a shallow layer of water (Tryon, 1994).

Both pregermination and priming can allow for quicker establishment than seed from the bag, but results are generally most noticeable during cooler than optimal temperatures. Results are most impressive with slower germinating species (e.g., Kentucky bluegrass) and least noticeable with faster germinating species (e.g., perennial ryegrass).

Primed seed has three advantages over pregerminated seed:

(Continued on Page 11)

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