Hole Notes The Official Publication of the MGCSA

Snow Mold fungicide application timing: Does it really Matter?

Vol. 55, No. 8 September 2020



Upcoming MGCSA EventsThe Wee OneOctober 5The ScrambleOctober 13Pesticide RecertificationNovember 18

On The Cover:

Dr. Paul Koch and the turf research scientists at UW Madison provide definitive information about snow mold chemical application timing and getting the very best results with this 'one-time' spray. Pages 16 - 22

In The Hole: *The Freedom to Fail* Pages 48 - 51

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Feature Articles:		
UMN Announces New Turf Extension Specialist By Kristine Moncado, UMN	pages	10 - 12
2019 - 2020 Snow Mold Timing Evaluation Trials By Dr. Paul Koch, Kurt Hockemeyer and Paul Melton UW - Madison	pages	16 - 22
Affiliate Bio: Eric Counselman, Superior Turf Services By Joe Berggren, The Wilds Golf Club	pages	24 - 32
MDA Golf-Centric Bulletin: Properly storing Pesticides and Fertilizers By Corinne duPreez, Minnesota Department of Agriculture	pages	34 - 46
In The Hole - The Freedom to Fail By Matt Cavanaugh, Rush Creek Golf Club	pages	48 - 51
Affiliate Spotlight: Norby Golf Course Design	pages	52 - 55
Monthly Columns: Edi	itors:	
	Cavanaugh อาเพาเรา	

pages 56 - 59

By Scott Thayer

By Jack MacKenzie

In Bounds

Matt Cavanaugh MATTC@UMN.EDU Liza Chmielewski LIZA@GERTENS.COM



What a great month for Minnesota golf! Although a bit warm, it has

by Scott Thayer, Legends Club

been just nice enough to fill the tee sheets completely once again. Record numbers of rounds seems to be the norm this year. But will this play continue? I expect it to be busy through the year, but my golf course, and likely yours also, has some bumps and bruises caused by the incredible amount of traffic. All of our Covid-rescheduled events were squeezed into August and September, making for a full course. Between the events, leagues and weekend play, Legends Club hasn't had too many gaps on the tee sheet; great for golf revenue, but often a headache for the golf course staff. The roller coaster weather pattern in the south metro has been unpredictable. The drop in high temperatures from the mid-80's highs to low 50's is a shock to

the system. We even had a 37-degree morning in early September! Well this is Minnesota and the temperature and weather forecast has always been fun to work around and keeps us on our toes. I am looking forward to a nice warm but relaxing fall so all our courses can go to bed peacefully! Who doesn't enjoy these great Minnesota falls on a golf course?

residential Perspect

I know golf turf managers have been hard at it all year, but so have our affiliates who are always on the road, on the phone, and answering our e-mail and texted questions. Without the hard work of the affiliates that call on us, we couldn't do our jobs as efficiently as we do. This season has been as demanding on them as we have been on our playing surfaces. On behalf of the MGCSA Class members, I want to say thank you to all the affiliates for going that extra mile this year. You all never bat an eye at doing what we need and ask, so I say again, "Thank You" from the bottom of my tired heart! I encourage anyone with an EOP, equipment or design/ construction meeting over the next couple of months to thank any affiliate that walks in through the turf management center door. Covid-19 has changed our educational formats from in-person to on-line. Exciting opportunities are coming. Pesticide recertification, sponsored by Winfield United, will be in a webinar format on November 18. How cool is that? No more fighting traffic or getting up early to sit in uncomfortable chairs all day! Now you can sit at home or at your desk and get your credits for pesticide recertification taking golf-centric education. Winfield United has a terrific line up. Thank you, Aaron, Brad, Chris and Kevin, for your support.

Concurrent with the recertification program is the new, "Multiple GC-SAA Educational Conference comes to you" program. Multiple GCSAA chapters, led by Carolina's GCSA ED Tim Kreger, have come together to provide online classes for interested association members.

Basic Concept: Conference Comes to YOU

- 30 Sessions
- 2 hours each session
- Session begin at 1 PM EST (so 10 am on west coast and 7 pm in GB / Ireland)

• Sessions run one per day from November 2. – Dec. 18, 2020.

• NO Sessions November 23-27.

• Goal to have at least 15 of the sessions pesticide or aquatics points eligible

• 2 GCSAA CEUS per session

Vision of Seminar:

1 pm – open with Syngenta
 / president welcome message (90 seconds)

• 1:02 pm – intro prof and let them teach.

• 2 pm – 5 min break with 90 second commercial (1 of 30 available spots)

• 2:05 pm – session resumes

• 3 pm – proctor (member of our staff) thanks prof and audience

and reminds them to insert state and pesticide license number or gcsaa # into chat area

Participants (our target audience):

- May sign up for 1 to 30 classes
- Gain access to 30 Days of Turf for 30K
- Target participants all superintendents that are members of GCSAA Chapters

30 Days of Turf 30K Giveaway (participation 'perks')

- Consists of 30 corporate commercials
- One commercial will be aired during each session (a unique commercial each day if you took all 30)
- Once registered for any one or more seminars participants granted access to all of the commercials
- You have from Nov. 2- Dec. 18 to complete all 30 (90 second) commercials
- Once you have completed viewing all you are eligible for prizes
- Members only eligible for this contest (membership extended to all GCSAA partnering chapters)

• For each class you take you get ONE entry – example take 10 sessions get 10 entries into Challenge

GCSAA Chapters (association 'perks'):

- Create partnerships with other chapters
- Their obligation: agree and promote the event to their members
- Cohort obligation: Offer those participating chapters "member pricing", allow them into 30 Days of Turf for 30K, AND GIVE THEIR CHAP-TER BACK \$5 per session sold to their members

This is a great program for our members and the many members all over the country. The MGCSA Education Committee and I hope you take advantage of this exceptional education opportunity.

Lastly, I wanted to promote our October fundraising golf events: the Wee One at Brackett's Crossing on the 5th and the Scramble here at Legends on the 13th. Tom Proshek and I are very excited to host these two events and hope to see you all there. Both venues plan on being "Covid-safe" and hopefully, with good weather, we can enjoy each other's company and two great golf courses. Please sign up and take a break from a long year on the course. Like Jack says, it won't be the same without you!

Opportunities coming your way:

The Wee One Tournament The Scramble for Scholarship and Research Golf-centric Pesticide Recertification event "Conference Comes To You" courses Northern Green

If you have any suggestions for additional programming please reach out to one of the MGCSA Directors, Jack or me and let us know what you want. Your insights and values are critical in creating meaningful social and educational activities.

Our association really wouldn't be the same without you!

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10:00 registration/range/box lunch 11:00 Shotgun start, proximity prizes Outdoor BBQ reception following Host Superintendent Scott Thayer

It wouldn't be the same without you!

Just \$120 per player or \$480 per team. Electronic registration only by October 6th. Purse prizes will be pro shop gift cards and based upon participation

Register today at mgcsa.org

University of Minnesota Fills Extension Turfgrass Educator Position

University of Minnesota Extension is happy to announce that Maggie Reiter has accepted the position of Extension Educator - Turfgrass.

Maggie earned both her undergraduate and Master's degrees at the University of Minnesota. After graduating in 2016, she accepted a position with University of California Cooperative Extension. While there, she worked with California golf course superintendents to conserve natural resources and enhance ecosystem services on all components of golf course systems. To accomplish this, her research and extension work included implementing new turfgrass cultivars with enhanced stress tolerance, exploring remote sensing tools (like drones) to measure drought response, and optimizing golf course naturalized areas for desired outcomes. Maggie has done an excellent job building a turfgrass Extension program in her current position in central California, and UMN Extension, as well as the <u>Turfgrass Science team</u>, is excited for her to build upon prior Extension efforts in Minnesota.

The Minnesota Golf Course Superintendent Association welcomes Maggie and wishes her the best in her new position



GOLF COURSE TURF PEST MANAGEMENT Live-online workshop: recertification in categories A: Core and E: Turf & Ornamentals

November 18, 2020 Join remotely from your office or home!

Turf and landscape management at golf courses is unique in the different types of turf, how the turf is maintained and management of landscape plants and type of disease, weed and insect situations. This workshop will specifically address the unique educational needs of golf course employees who maintain turf and landscape features.



Topics

The workshop presentations will be given by state and national golf course experts.

Pesticide update

Minnesota Department of Agriculture

- Managing the most severe turfgrass insect pests in a challenging and ever-changing environment Dr. Ben McGraw – Penn State
- Managing microdochium patch on annual bluegrass putting greens using traditional and non-traditional fungicides Dr. Clint Maddox
- Weed control and herbicides Aaron Hathaway – Nufarm
- CDC recommendations and effects on pesticide applicator safety protocol

Jolene Hendrix – UMN Extension

• Pesticides in the environment- considerations for minimizing offsite exposure

Jolene Hendrix – UMN Extension



Registration and Payment

Course date: November 18, 2020 Registration deadline: Nov. 11, 2020, 5:00 p.m. Time: 8:00 a.m.-3:45 p.m. Registration Fee: \$145.00 Registration open new until Nevember 11, 2020

Registration open now until November 11, 2020

- Check-in w/UMN, at roll call show your applicator card.
- No transfers in or out of this workshop.

How to Register

Register and pay online on the University of Minnesota https://z.umn.edu/GTRegister

Payment

We accept credit card payment only at the time of registration, no exceptions.

Cancellation

Cancellations received by email by November 11, 2020 are refundable, minus a \$40 administrative fee. After that, refunds are not issued. Page 11



Maggie will be working for University of Minnesota Extension to provide statewide technical assistance and educational programming leadership for professional turfgrass personnel as well as homeowners in urban areas. She will collaborate closely with the Turfgrass Science research program, campus faculty, other Extension Educators, industry representatives and other stakeholders to extend research into the community. Maggie stated "I'm thrilled to work with the Minnesota golf course superintendents and allied industry. I'm grateful to step into a mature UMN Extension program developed by my predecessors—a program that is built on strong connections with MGCSA. It's important to me to support the needs of Minnesota's superintendents and ensure a strong future for our golf courses, especially in terms of mitigating risks associated with climate change." Maggie will officially join UMN Extension on September 8, 2020. Welcome Maggie!

For more information about Maggie's current work, you can find her on <u>Twitter</u> or visit the <u>Central California Turfgrass Research and Education</u> <u>website</u>.

The Wee One Tournament*

Back at the newly renovated Brackett's Crossing Country Club Covid-Modified for safe networking October 5th

No raffle, skins, mulligans or on-course events. Just golf for a great cause



10:00 am Registration and range10:55 am Wee Putt for a chance at \$10011:00 am Shotgun start, box lunch in your cart

There will be no reception, cash winners will be notified shortly after the event.

Cost per player is \$100, Cost per team is \$400 Register at mgcsa.org

*Due to the Covid related challenges, the 2020 Wee One will be focused on "golf with friends". All generated proceeds will be contributed to the Wee One Foundation.



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2019-2020 Snow Mold Timing Evaluation: OJ Noer Research Facility – Madison, WI Wausau Country Club – Schofield, WI Timber Ridge Golf Club – Minocqua, WI

Kurt Hockemeyer, Reid Melton, and Paul Koch, Ph.D. Department of Plant Pathology University of Wisconsin-Madison

OBJECTIVE

To evaluate optimal timing of fungicide applications and efficacy of alternative products to control gray snow mold (*Typhula incarnata*), speckled snow mold (*T. ishikariensis*), and Microdochium patch (*Microdochium nivale*) on fairway height turfgrass.

MATERIALS AND METHODS

This evaluation was conducted at three locations: the OJ Noer Turfgrass Research and Education Facility in Madison, WI on an 'Alpha' creeping bentgrass (*Agrostis stolonifera*) fairway maintained at a height of 0.5 inches, and at Wausau Country Club in Schofield, WI and at Timber Ridge Golf Club in Minocqua, WI on a creeping bentgrass and annual bluegrass (*Poa annua*) golf course fairway maintained at a height of 0.5 inches. Individual plots measured 3 ft x 10 ft and were arranged in a randomized complete block design with four replications. Individual treatments were applied at a nozzle pressure of 40 psi using a CO₂-pressurized boom sprayer equipped with two AI8004 Teejet air induction nozzles. All fungicides were agitated by hand and applied in the equivalent of 1.5 gallons of water per 1000 ft². Disease severity, turf quality, and turf color were evaluated on 23 Mar 2020 in Madison, on 2 Apr 2020 in Schofield, and on 9 Apr 2020 in Minocqua. Disease severity was visually rated as percent area affected and turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable. Treatment means were analyzed using Fisher's LSD method and are presented in the following tables.

RESULTS AND DISCUSSION

All three locations exhibited strong disease pressure with non-treated controls averaging 56% in Madison, 89% in Wausau, and 98% in Minocqua. The primary snow mold disease present in Madison was gray snow mold (*T. incarnata*), in Wausau it was pink snow mold (*M. nivale*), and in Minocqua it was speckled snow mold (*T. ishikariensis*). Each trial also showed a sharp drop off in disease severity between successive treatment timings. The sharp drop off occurred on 10/26/19 in both Minocqua and Wausau, and on 10/14/19 in Madison, which roughly correlated with HDD surpassing 150 at each site. The alternative products tested failed to provide snow mold suppression at any of the three sites despite 6 applications made throughout the fall. Turf quality and turf color mostly mirrored disease severity. Phytotoxicity was not observed with any treatment, though the iron sulfate treatment was very dark at the end of the study.

For many more images please link here



	Treatment	Rate	Application Timing ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			56.3ab	3.0cd	129.0-
2	Instrata	9.3 fl oz/1000 ft2	А	70.0a	2.5d	126.0-
3	Instrata	9.3 fl oz/1000 ft2	В	13.8c	5.3b	181.3-
4	Instrata	9.3 fl oz/1000 ft2	С	2.5c	6.8a	175.0-
5	Instrata	9.3 fl oz/1000 ft2	D	3.8c	6.5a	175.3-
6	Instrata	9.3 fl oz/1000 ft2	Е	0.0c	7.0a	180.0-
7	Instrata	9.3 fl oz/1000 ft2	F	0.0c	7.0a	175.5-
8	Banner Maxx	2.0 fl oz/1000 ft2	ABCDEF	0.0c	7.0a	170.8-
9	Duraphite	6.0 fl oz/1000 ft2	ABCDEF	42.5b	3.8c	164.5-
10	Extreme Green 20	6.0 oz/1000 ft2	ABCDEF	52.5ab	3.3cd	171.5-
11	Duraphite Extreme Green 20 Ambient Plus	6.0 fl oz/1000 ft2 6.0 oz/1000 ft2 0.37 fl oz/1000 ft2	ABCDEF	40.0b	3.5cd	176.5-
			LSD P=.05	20.73	1.21	41.32

Table 1. Mean snow mold severity and turf quality were assessed on March 23, 2020 at the OJ Noer Turfgrass Research and Education Facility in Madison, WI.

^aApplication codes: A=9/30/19, B=10/15/19, C=11/4/19, D=11/15/19, E=12/2/19, F=12/6/19

^bMean percent diseased area assessed on March 23, 2020. Means followed by the same letter are not statistically different.

^cQuality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

Table 2: Heating Degree Days and 2-inch soil temperature at the OJ Noer Turfgrass
Research Facility in Madison, WI in 2019-2020.

Trt #	Application Date(s)	HDD ^z	2" Soil Temp (F)
1	Non-treated	NA	NA
2	Sep 30	0	67.8
3	Oct 15	32.3	49.5
4	Nov 4	178.6	43.3
5	Nov 15	491.8	41.8
6	Dec 2	728.4	39.4
7	Dec 6	817.6	32.3
8	All of the above	-	-
9	All of the above	-	-
10	All of the above	-	-
11	All of the above	-	-

^{*z*}Heating Degree Days was calculated by taking the mean temperature for each day beginning on July 1st and subtracting that number from 50° F. Negative numbers (ie means temperatures above 50° F) were removed and the summation is presented here.



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For many more images please link here







	Treatment	Rate	Application Timinng ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			88.8a	1.5b	113.5de
2	Instrata	9.3 fl oz/1000 ft2	А	88.8a	1.5b	123.0de
3	Instrata	9.3 fl oz/1000 ft2	В	82.5ab	2.2b	109.3e
4	Instrata	9.3 fl oz/1000 ft2	С	11.3c	5.7a	241.8a
5	Instrata	9.3 fl oz/1000 ft2	D	0.0c	7.0a	184.8c
6	Instrata	9.3 fl oz/1000 ft2	Е	3.8c	6.7a	197.0bc
7	Instrata	9.3 fl oz/1000 ft2	F	2.5c	7.0a	228.0ab
8	Banner Maxx	2.0 fl oz/1000 ft2	ABCDEF	1.3c	7.0a	188.0c
9	Duraphite	6.0 fl oz/1000 ft2	ABCDEF	87.5a	1.4b	114.8de
10	Extreme Green 20	6.0 oz/1000 ft2	ABCDEF	90.0a	1.2b	119.8de
11	Duraphite Extreme Green 20 Ambient Plus	6.0 fl oz/1000 ft2 6.0 oz/1000 ft2 0.37 fl oz/1000 ft2	ABCDEF	72.5b	2.0b	145.0d
			LSD P=.05	14.31	1.69	31.51

Table 3. Mean snow mold severity and turf quality were assessed on April 2, 2020 at Wausau Country Club in Schofield, WI.

^aApplication codes: A=9/17/19, B=9/30/19, C=10/14/19, D=10/26/19, E=11/7/19, F=11/20/19

^bMean percent diseased area assessed on March 23, 2020. Means followed by the same letter are not statistically different.

^cQuality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

Table 4: Heating Degree Days and 2-inch soil temperature at Wausau Country Club inWausau, WI in 2019-2020.

Trt #	Application Date(s)	HDD ^z	2" Soil Temp (F)
1	Non-treated	NA	NA
2	Sep 17	0	69.1
3	Sep 30	0.9	61.9
4	Oct 14	79.8	43.5
5	Oct 26	296	41.0
6	Nov 7	433	30.2
7	Nov 20	758.6	31.2
8	All of the above	-	-
9	All of the above	-	-
10	All of the above	-	-
11	All of the above	-	-

^zHeating Degree Days was calculated by taking the mean temperature for each day beginning on July 1^{st} and subtracting that number from 50°F. Negative numbers (ie means temperatures above 50°F) were removed and the summation is presented here.

	Treatment	Rate	Application Timinng ^a	Disease Severity ^b	Turf Quality ^c	Turf Color ^d
1	Non-treated control			98.0a	1.0c	76.5d
2	Instrata	9.3 fl oz/1000 ft2	А	99.0a	1.0c	79.4cd
3	Instrata	9.3 fl oz/1000 ft2	В	99.0a	1.0c	78.4cd
4	Instrata	9.3 fl oz/1000 ft2	С	97.0a	1.0c	84.4cd
5	Instrata	9.3 fl oz/1000 ft2	D	93.8a	1.0c	86.2cd
6	Instrata	9.3 fl oz/1000 ft2	Е	15.0c	5.3a	151.6ab
7	Instrata	9.3 fl oz/1000 ft2	F	12.5c	5.5a	166.1a
8	Banner Maxx	2.0 fl oz/1000 ft2	ABCDEF	35.0b	4.3b	128.6b
9	Duraphite	6.0 fl oz/1000 ft2	ABCDEF	99.0a	1.0c	83.7cd
10	Extreme Green 20	6.0 oz/1000 ft2	ABCDEF	99.0a	1.0c	87.1cd
11	Duraphite Extreme Green 20 Ambient Plus	6.0 fl oz/1000 ft2 6.0 oz/1000 ft2 0.37 fl oz/1000 ft2	ABCDEF	99.0a	1.0c	95.3c
			LSD P=.05	7.02	0.51	17.62

Table 5. Mean snow mold severity and turf quality were assessed on April 9, 2020 at Timber Ridge Golf Club in Minocqua, WI.

^aApplication codes: A=8/30/19, B=9/17/19, C=9/30/19, D=10/14/19, E=10/26/19, F=11/7/19

^bMean percent diseased area assessed on March 23, 2020. Means followed by the same letter are not statistically different.

^cQuality was visually assessed where 1 = dead, 6 = acceptable, 9 = dark green.

^dColor was assessed using a FieldScout CM1000 Chlorophyll Meter from Spectrum Technologies, Inc.

Table 6: Heating Degree Days and 2-inch soil temperature at Timber Ridge GC inMinocqua, WI in 2019-2020.

Trt #	Application Date(s)	HDD ^z	2" Soil Temp (F)
1	Non-treated	NA	NA
2	Aug 30	0.6	54.6
3	Sep 17	0.6	62.8
4	Sep 30	0.6	56.4
5	Oct 14	86.7	40.9
6	Oct 26	307.2	37.9
7	Nov 7	705.7	30.6
8	All of the above	-	-
9	All of the above	-	-
10	All of the above	-	-
11	All of the above	-	-

^zHeating Degree Days was calculated by taking the mean temperature for each day beginning on July 1st and subtracting that number from 50°F. Negative numbers (ie means temperatures above 50°F) were removed and the summation is presented here.

The MGCSA wishes to thank the University of Wisconsin Turf Diagnostics Lab and turfgrass scientists Paul Melton, Kurt Hockemeyer and Dr. Paul Koch for their efforts in protecting our fine playing surfaces and educating turf managers across the upper Midwest



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AFFILIATE TURF BIO

By Joe Berggren, SUPERINTENDENT AT THE WILDS

Eric Counselman Superior Turf Services

Personal Turf Facts

How many years have you been in your current position? Previous positions?

2017-Current:	Sales Representative for
	Superior Turf Services
2015-2017:	Public Works Superintendent
	in the City of Byron
2006-2015:	Superintendent at Somerby
	Golf Club
2003-2006:	Assistant Superintendent at
	Somerby Golf Club
2000-2003:	Assistant Superintendent at
	Blackwolf Run/Kohler
2000:	Intern at TPC Avenel
	Potomac, MD
1999:	Intern at Broadmoor in Colorad
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Where else have you worked? In the industry, outside the industry?

Restaurants, Fleet Farm, & a dairy farm before golf.

Turf School Attended (if any)? Or non-turf school

UW-Madison: Soil Science with an emphasis in Turfgrass Science.

Did you have any mentors to lead you into this business?

Ron Bierwirth at Kohler started me on my path to the industry and my cousin Steve VanNatta and Luke Beardmore have been my greatest mentors throughout.

Industry thoughts

What concerns to you have for your specific position?

Too much time sitting on my butt in a truck/office/golf cart. I don't have the physical activity I used to have being on the golf course every day.

What concerns do you have the turf business and the future of golf?

The general lack of the next wave of trained superintendents.

What is your opinion of the cost of golf course supplies?

I'm not sure on much of them, as I don't buy many these days (with a laugh). As a whole, during the 07-08 recession we de-valued the cost of playing golf and though economy came back the revenue from golf unfortunately has not kept up with the cost of maintaining a golf course, especially large capital improvement costs, i.e.: maintenance facilities, equipment, irrigation systems, etc.

What do superintendents not understand about your job?

Some Superintendents have a hard time believing that many of us genuinely care about their well-being and the well-being of their golf course.

How many miles to you put on?

I average 50,000 miles per year. Like I said, lots of time on my butt.

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What are your pet peeves of dealing with superintendents?

No response to communication....it is okay to say 'no thanks' or 'maybe next time you're in the area'. If no response, we must keep that time available due to the uncertainty, complicating the challenges of scheduling.

What is the future of chemical, fertilizer and golf products?

I think environmental impact & sustainability will continue to lead the developments.

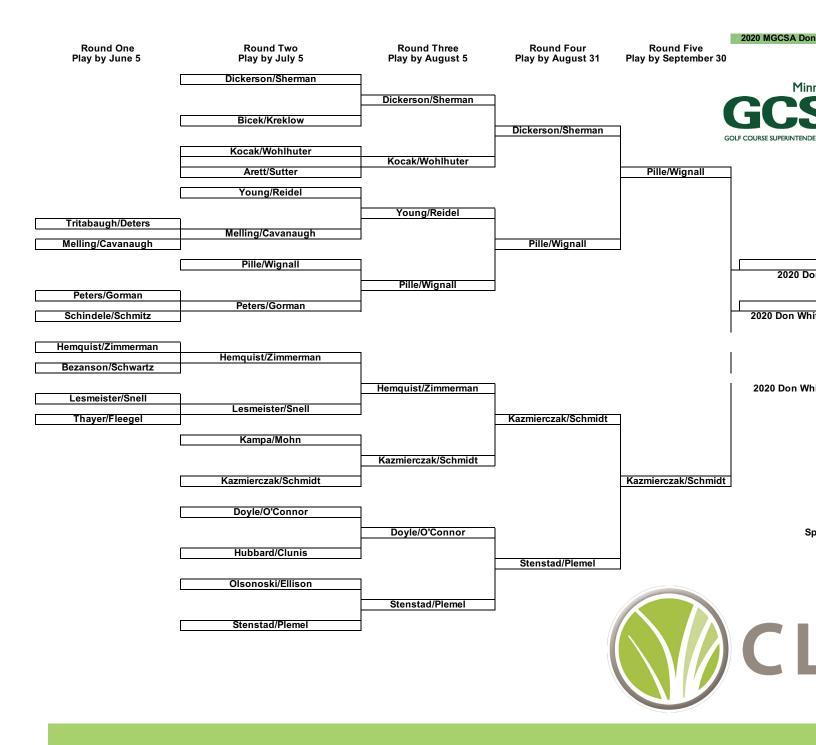
How has COVID affected your position?

Been challenging with 2 younger (6 yrs & 8 yrs) kids & lack of school/ childcare. Took them on many sales calls this spring and I appreciate the patience of my customers and company. They wrecked many nice piles of sand, got car sick, and learned a lot of new words while Dad spoke via Carplay with customers.

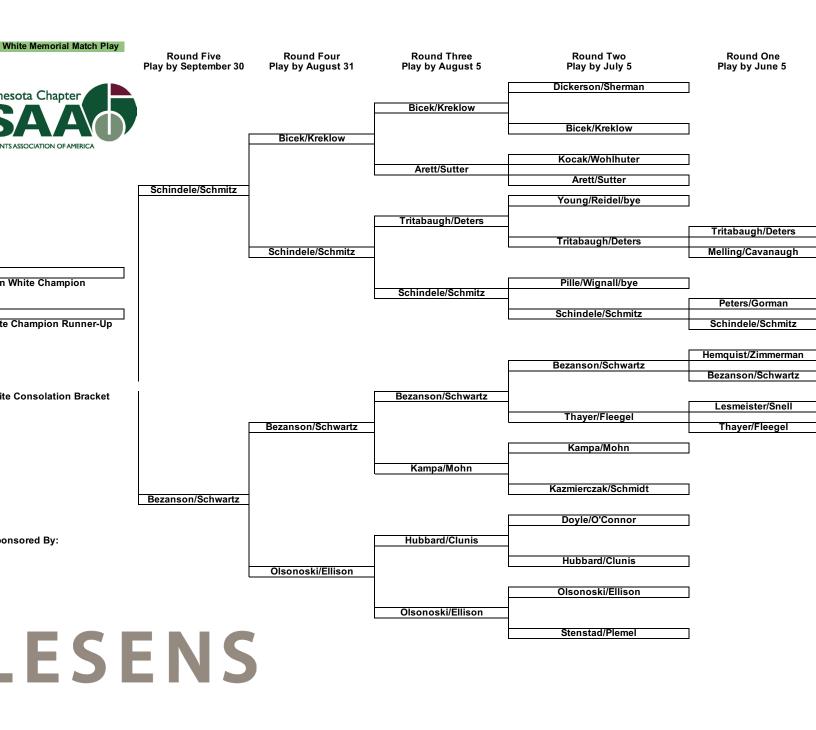
FUN FACTS

Have you ever met a celebrity? Who?

I used to work in the golf shop and caddie at Kohler in the afternoons. During that time I met/encountered many individuals such as Mike Ditka, Tim Allen, Walter Payton, Ray Nitchke, Ken Griffey, Jr. and many pro golfers during the many tournaments we hosted during my time there. Annika Sorenstam during Women's Open probably the top, genuinely kind & friendly. Other than that, not many, never made much of an effort to. If I could pick one, I'd like to meet Steve Rinella.



Thank you players and host supering competitive golf opportunity. The It just wouldn't be th



tendents for participating in this fun ank you Clesens for your support. le same without you!



What is your favorite vacation spot?

Variety is my preferred. I enjoy the outdoors, hunting & fishing trips and camping with the family. Portland and the coast of Oregon, Cape Town, South Africa, Ireland and Germany have all been worth the trip.

What is your favorite memory of starting your turf career?

Learned a lot from the retired guys as a youth, stories from their lives stick in my brain.

What is your favorite part of your job?

Being asked to help with unique turf management challenges of a wide variety.

What is your least favorite part of your job?

Definitely scheduling as was discussed.



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Page 33

DEPARTMENT OF AGRICULTURE

2020 Golf-Centric MDA Bulletin specifically created for the MGCSA and the Minnesota Golf Industry

Properly Store and Handle Small Packages of Pesticides and Fertilizers

This bulletin, by the Minnesota Department of Agriculture (MDA), provides an explanation of requirements for handling, storing, and managing small package pesticide and fertilizer, which includes liguid and dry material, ranging from 55 gallons to 99 pounds (or less). Proper storage of small packages, disposal of rinsates, and handling of containers can significantly reduce unreasonable adverse effects on the environment. This article describes label requirements, inspection violations commonly found by MDA inspectors, small package fertilizer storage recommendations, how to obtain a compliance assistance visit, enforcement, and statutory authority.

Label language

Product labels provide specific product use, storage, handling, and disposal information. It is essential to read and follow product labels when handling or storing small package pesticide and fertilizer products. Improper handling of pesticides and fertilizers, or not following label directions, can result in enforceable action due to the potential risk and harm to people and the environment.

Below are label language examples from pesticides commonly used on golf courses:

1. Trimec Classic, broadleaf herbicide, (EPA Reg. # 2217-543, active ingredients 2, 4-D, MCPP, and Dicamba) The label

WE WENT BACK

AND FORTH

AND BACK

AND FORTH

PERFECTING

THE DESIGN.



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states in part:

"PESTICIDE STORAGE: Store in original container in a locked storage area.

For Plastic Containers – Nonrefillable with capacities equal to or less than 5 gallons: CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying."

2. Merit 75 WSP, insecticide, (EPA Reg. # 432-1318, active ingredient Imidacloprid) The label states in part:

"PESTICIDE STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container."

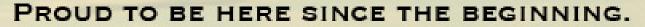
3. Honor Intrinsic, fungicide, (EPA Reg. 7969-255, active ingredients Pyraclostrobin and Boscalid) The label states in part: *"PESTICIDE STORAGE:*

DO NOT contaminate water, food, or feed by storage or disposal. DO NOT store near food or feed. CONTAINER HANDLING: Non-refillable Container. DO NOT reuse or refill this container."

MDA Inspections:

During an MDA Pesticide Facility







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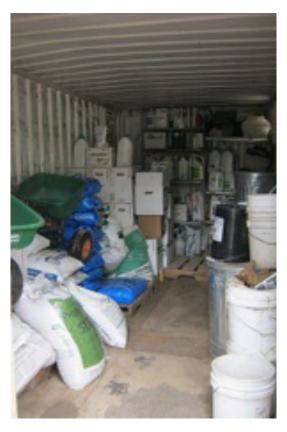
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Inspection, an MDA Inspector will determine if small packaged pesticides are properly stored and managed relating to the requirements described below. The MDA enforces regulations with Orders issued in the field. Additional enforcement may be issued depending on the documented violations. The following violation examples are commonly documented during routine inspections at golf courses.

Are pesticides stored separately from food, feed, or seed? The MDA recommends at least one pallet width, or at least 3 feet, of physical separation of pesticides from food, feed, and seed. Unless specified as prohibited on the label, products can be stored within the same room but in a manner that must prevent cross contamination or co-mingling.

Violation: Pesticide was stored on top of grass seed bags in stacks; therefore, stored too close to or not separate from food, feed, or seed.
ORDER/Statement of Completion:
Store pesticides separately from food, feed, and seed.
Correction: The facility corrected the violation by moving the seed to a different building.



Left: Unacceptable storage



Left: Unacceptable storage. Pesticides stored in room with open drain.

Right: Acceptable storage. Open drain plugged to safeguard the environment.



Is the pesticide storage area free of open drains?

Pesticides must be stored in a manner to prevent their release in the event of an incident. An open drain potentially allows pesticide to escape into the environment and may cause unreasonable adverse effects.

Violation: Open drain in the pesticide storage area.

ORDER: Cease and desist use of storage area until drain is plugged or pesticides are removed from the area, or containment is provided for the pesticides.

Statement of Completion: Plug the drain(s) or move the pesticide to another area or provide adequate containment for the pesticide.

Are small package pesticides safeguarded as required by the label?

Store small package pesticides in a secure area that prevents people, pets, and wildlife from unauthorized access. Some labels have specific storage requirements. For example, many fumigants must be stored in a secure location, i.e. under lock and key, away from areas occupied by people, and may have



Left and right are examoles of unacceptable storage practices.

storage placard requirements.

Violation: Improper storage. ORDER/Statement of completion: Store pesticides according to label directions.

The MDA determined this facility met the label requirements for storage by being locked and followed best management practices for storing small package pesticides.



Both photos above show fumigant stored in violation of the label (in a building with people present and without proper placarding).





Are wells safeguarded from pesticides in storage?

Individual pesticide containers with a capacity of 25 gallons, or 100 pounds or more must be stored at least 150 feet from a well, unless additional safeguards are provided. Information on additional safeguards, which may reduce this setback, can be obtained from: Matthew Parins, MDA Facility Management Unit Matthew.Parins@ state.mn.us

651-201-6587

Pesticide storage areas with a total combined product volume (cumulative total) of 56 gallons, or 100 pounds or more must be located at least 50 feet from a well.

Are wells safeguarded from pesticide mixing and loading sites? If the total or cumulative volume of small package pesticide containers/application equipment located at the pesticide mix/load site is greater than 25 gallons, the pesticide containers/application equipment must be located at least 150 feet from a well, unless additional safeguards are provided. See above question/answer for more information.

For wells not safeguarded from pesticide storage or mixing and loading sites:

Violation: Required setback between pesticide and well is less than required.

ORDER/Statement of completion: Setback of 150 feet, or additional containment must be established. (For small package, any steel containment, angle iron, or heavy-duty tub that would contain the small package pesticides being stored. Additionally, permitted containment or containment that meets bulk pesticide storage rules.)

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Is pesticide disposal, rinsate use, and container disposal consistent with label directions?

Triple rinse all pesticide containers. Place the rinse water (rinsate) back into your application equipment and apply as directed by the label. DO NOT reuse pesticide containers. Dispose of triple rinsed containers according to label directions. To dispose of fertilizer bags properly, shake the bag vigorously and inspect it to be sure there is no residue left. Once the entire product has been removed, the fertilizer bag can be disposed of in the trash.

Violation: Improper disposal of pesticide, rinsate, or container. ORDER to comply: Dispose of pesticides, rinsate, or containers in a manner consistent with label directions.

Are empty containers used only for their intended purposes?

According to the label, pesticide containers cannot be used for other purposes. The potential for harm to food, feed, seed, and many other



Victoria, MN 55386 952.443.2990

info@hartmancompanies.com www.hartmancompanies.com substances can be prevented by properly handling containers.

Violation: Reuse of pesticide

Right, acceptable container disposal

container.

ORDER: Cease and desist using pesticide containers in a manner inconsistent with label directions.





Agence of the of

Small Package Fertilizer

The following recommendations will reduce the chance of harm to humans, wildlife, and contamination to surface or groundwater.

1. Store small packaged fertilizer in an area that is secure. A fence with a locked gate will prevent people, pets, and wildlife from unauthorized access.

2. Outside bagged fertilizer storage should be covered in a manner that protects product from the physical elements. The storage must be able to contain small spills. In the event of rainfall, fertilizer bags must be protected from getting wet and spilled fertilizer is not allowed to run off from the storage area to enter storm sewers.

3. Small packaged fertilizer that is stored indoors should be kept in an area containing an impervious floor with no open drains.

4. Entrances to storage areas should be posted with warning signs and secured.



5. Storage areas should have sufficient lighting and be adequately ventilated.

Follow the links for additional information on <u>Small Package Fertilizer</u> <u>Storage and Small Packaged Fertilizer Facility Storage Requirements</u>.

Compliance Assistance Visits

Compliance Assistance Visits are part of the MDA's regulatory outreach that occurs apart from a routine inspection or misuse investigation. During compliance assistance visits, MDA inspectors check how facilities are using, storing, and handling pesticides and fertilizers. MDA staff help educate pesticide applicators, dealers, farmers, and ag workers about how to comply with state and federal regulations. You can request a <u>Compliance</u> <u>Assistance Visit with an MDA inspector</u> in your region anytime.



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MDA Website Resources

Follow the links for additional information on <u>Small Package Pesticide</u> <u>Storage</u> requirements and <u>Pesticide Rinsate Management</u>. Additional requirements must be met to store or use mini-bulk containers (greater than 56 gallons). For more details review <u>Pesticide Storage: Mini Bulk Re-</u> <u>quirements.</u>

Additional Enforcement

Due to the potential and actual health and environmental risks associated with the lack of proper storage, disposal, and container management, documented noncompliance may result in additional enforcement, including financial penalties.

Statutory Authority

Follow the links below to read:

Minnesota Statute 18B.07 Pesticide Use, Application, and Equipment Cleaning.

- Minnesota Statute 18B.07, Subd. 2 Prohibited pesticide use.
- Minnesota Statute 18B.07, Subd. 4 Pesticide storage safeguards.

Minnesota Statute 18C.201 Prohibited Fertilizer Activities.

• <u>Minnesota Statute 18C.201</u>, Subd. 1 Storage, handling, distribution, or disposal.

Thank You,

Corinne du Preez, Agricultural Advisor/ACI

Minnesota Department of Agriculture

Pesticide and Fertilizer Management Division 2118 Campus Drive SE, Suite 300

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Important: Always read and follow label instructions. Some products may not be registered for sale or use in all states or counties. Please check with your state agency responsible for pesticide registration to ensure registration status. Turfcide 10G, Turfcide 400, PREMION and FF III are EPA registered pesticides.

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by Matt Cavanaugh, Rush Creek Golf Club

The Freedom to Fail

I don't pay much attention to news, trends, fads or pop culture. I don't watch network television (unless it's sports), national or local news. I don't subscribe to any newspaper (print or digital), magazine or even a word of the day email. I don't read any books unless someone can read them to me while I'm driving or doing a house project. I really don't search the internet unless I want to buy a new speaker (I love speakers), need something for a project or I'm looking for the next family vacation spot. I'm not even a YouTube rabbit hole adventurer which I hear can be very interesting (Bad Lip Reading is pretty brilliant though).

However, as many of you reading this know, I do enjoy

writing. The enjoyment of writing causes me to have to bend the above rules a little and do a little internet search before or during the process of writing an article.

For the past few years I've had a little phase in my head, "Freedom to Fail". We all make mistakes and it's okay to make mistakes. When I interview a potential new employee, I say several things to each of them. One of them is, "You will make mistakes. You will mess something up. You will break a piece of equipment. You will even kill some grass. I just want you to know that when it happens, I will be okay with it. As long as you know I'm okay with it, you should be okay with it. Just let me know what happened, we'll talk about it and we'll learn

Page 48

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from the situation." To me, that is the definition of "Freedom to Fail" for employees of the Rush Creek Turf Department:

- 1. You made a mistake.
- 2. Know that the boss is okay with it.
- 3. Learn what went wrong.
- 4. Try not to repeat it.

Now I know the whole making mistakes thing isn't new, but the phase "Freedom to Fail". Come on, that's brilliant, right? Well, Mark Zuckerberg thinks so too, crap. Like I discussed above, I started this article by doing the simple internet search of "Freedom to Fail". The first dang thing that came up was a video of Mark Zuckerberg giving a talk about the freedom to fail. Of course, this sucked me down the dang YouTube rabbit hole searching for more people talking about the freedom to fail...and they did. Apparently, the whole idea of the "Freedom to Fail" in this world is not new.

Well, the world is a big place



Have freedom to fail | Mark Zuckerberg

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Page 49

and sometimes it does not include the turfgrass industry. In my experiences, the freedom to fail is not always provided to the young seasonal staff that many in the industry employ for the summer months. Did you scalp a few too many times on a collar? You are relegated to the weed whip the rest of the summer. An alarm doesn't go off and you show up late. You're a bad employee and I don't have much time for you anymore.

Allowing the freedom to fail

continually provides teaching moments. When these failure moments are used as teaching moments it brings that human element to the workplace. None of us are robots and especially not young individuals learning what it means to work. Letting these young employees know that you know mistakes happen and use the moment to teach them a better approach shows that you care about them. Contrary to popular industry belief, I truly believe that every young individual wants to do a good job.



When a mistake happens, take the time to talk with them instead of looking at the mistake, showing frustration, getting back in the cart and driving away.

This type of strategy is not good for anyone and will not foster a sense of

pride in one's work. I find this may not truly payoff until year two of an individual's employment. I know, they have more experience and they should be better in year two. However, many seasonal employees will not even come back for year two based on the fact that they had to walk on pins and needles afraid to make even the smallest of mistakes. Having a staff year in and year out of first year employees is no way to run a golf course. Fostering this freedom to fail attitude will certainly lighten the mood and keep these first-year employees coming



back for a second year.

Based on my lifestyle choices listed above I clearly do not care about the opinion of the majority of the world, so why should you care about an opinion piece I write? You shouldn't, but what I do know is that what I've encountered in my work life, someone has encountered the same thing and they may not have found a way out or a solution. My hope is that my stories can help someone get through an issue. So, thanks for having the same thought as me Mark Zuckerberg.

Thank you Affiliate Supporters!!! **Affiliate Spotlight:**



Norby Golf Course Design began in 1990 when Kevin Norby met Edina-based golf course architect Don Herfort - Minnesota's first member of the American Society of Golf Course Architects (ASGCA). At the time, Kevin Norby was a practicing land planner and landscape architect and, as luck would have it, one of his clients asked if he would help complete construction of Superior National in Lutsen, Minnesota after Don Herfort suffered a heart attack. Over the next few years they became friends and eventually business partners. They worked together for 10 years before forming Herfort Norby Golf Course Architects in 2000. Don Herfort worked on some 60 golf courses between 1963 and 2011. For those of you who are interested in Don's original plans for your course, please call us. We'd like to give you his original plans for safe keeping. For a list of Don's golf courses, please click here. Don Herfort passed away in 2011 and, after 30 years in the golf business, in 2020 Kevin Norby changed the name of the company to Norby Golf Course Design. Today the company Page 52

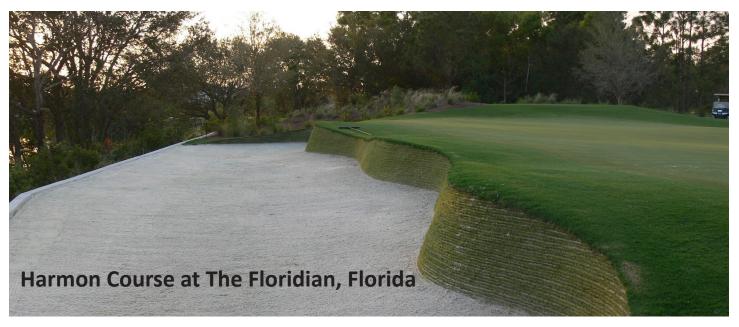
specializes exclusively in the design and renovation of golf courses and golf practice facilities throughout the United States.

Most of our firm's projects are here in the upper Midwest where we live and work. We like working close to home where we know the courses, the soils, the suppliers and the superintendents. However, we have projects throughout the United States and recently completed projects in Florida, New Orleans, Arizona and Iowa.



This month we will open a new 18-hole course in the oil fields of Western North Dakota but most of our work still involves renovations, master plans and practice facilities. Nationwide, we're probably best known for our unique approach to long range master planning for golf courses. A long range master plan is essentially a road map or business plan to iden-

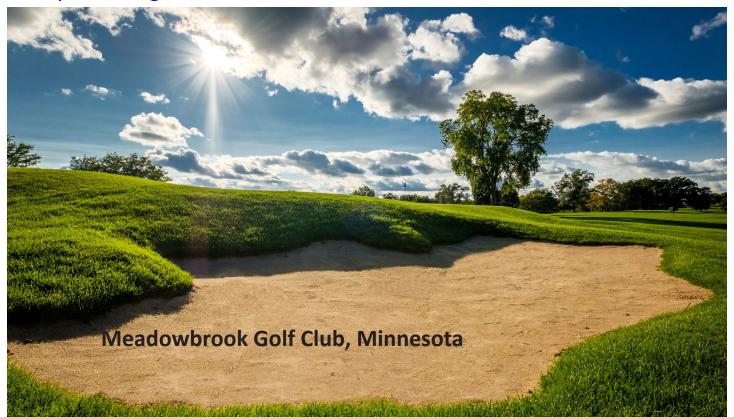




tify existing issues and to clarify those improvements that will be most beneficial to setting the facility on a path to financial success. For the Superintendent, the master plan is particularly helpful in avoiding "pet projects" and arbitrary improvements by well-intended Boards and Greens Committees. The master plans help establish a long term visions and clarify the relative cost of various projects.

Unlike many golf course architects, we don't have a trademark look or signature style. Instead, we believe that the site, the course and the course's pedigree should dictate the style and overall character of the course. Many of the courses we work on were crafted by the goldenage architects. Understanding the nuances of C.B. McDonald's and Seth Raynor's template holes, MacKenzie's lines of play or Tillinghast's intricate greens and "master bunkers" is important when a Club is trying to differentiate their facility and increase membership. Putting our own stamp or interjecting our own architectural style on an existing golf course is never our goal. We are currently working on renovations at Grand Forks Country Club (R. Bruce Harris, 1964), Eau Claire Golf & Country Club (T. Vardon, 1918) and Golden Valley Country Club (Tillinghast, 1926). The heritage and style of each of these courses are completely different. Some have grass faces with flat sand and some have flashed sand. Some will require bunker liners with \$50 per yard sand and some will have \$170 per yard sand. Our job is to help educate the Club and provide creative solutions that meet their maintenance budget and the needs of their clientele. We are a small firm with three employees. Kevin Norby is a member of the American Society of Golf Course Architects – now Minnesota's only ASGCA member and one of only 177 members worldwide. Kevin is also a 35 year member and long-time supporter of the Minnesota Golf Course Superintendent's Association (MGCSA). Kevin works with golf course designer Jon Schmenk who, prior to coming to our firm, worked for 14 years with Wisconsin-based golf architect Garrett Gill where he was involved in such notable projects as The Legends Golf Club, The Meadows at Mystic Lake and Mankato Golf Club. Jon has been with our firm for 7 years now and brings a wealth of knowledge and experience in golf course design and construction.

If you are looking for some help with a project or looking for some assistance putting your Board and Green's Committee on the right path, please feel free to call us. Kevin can be reached at (612)865-3418 or via email at Kevin@NorbyGolf.com. You can also visit our website at www. NorbyGolfDesign.com.





Prioritized Legislative Water Issues— LCC Subcommittee on Water Policy 2020

Over the summer and behind the scenes, the Subcommittee on Minnesota Water Policy has been meeting via livestream upon the LCC Youtube to discuss the many issues of water quality, quantity and management in the "Land of 10,000 Lakes". The



discussions have been relevant, in-depth, professionally conducted and a great example of how bipartisan politics can be successful in creating a platform for meaningful outcomes.

On March 2, several bills were introduced by LCC Subcommittee Members in the House as follows. The status of bills from the subcommittee is listed below and are based on consensus decisions from the subcommittee members. Most of the bills involved policy decisions that would require minimal funding this session. Generally, the issues require reports to the legislative that would inform funding decisions for the next budget cycle. In so doing, this subcommittee is preparing a substantive legislative agenda for the 2021-22 budget cycle.

HF3940: (Fisher) Requires collaboration among and a report from Legislative-Citizens Commission on Minnesota Resources (LCCMR), Lessard-Sams Outdoor Heritage Council (LSOHC), and the Clean Water Council. HF3941: (Torkelson) Would phase out some of the Clean Water Fund (CWF) as funding source for soil and water conservation districts (SWCDs). Would reduce SWCD grants from CWF in FY21 by \$3 million;

Page 56

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require CWF to fund SWCDs at \$6 million in FY22 and \$3 million in FY23. HF3942: (Lippert) Appropriates funds from the general fund to create pilot watershed-based geological atlas data from existing county geologic/ hydrologic atlases. Also creates a blank appropriation for a well monitoring and education program for private well owners.

HF3943: (Lippert) Requires DNR report on sustainability on Minnesota's groundwater and surface water, with a particular focus on ways to prevent export of groundwater.

HF3944 (Fischer): Appropriates money to develop network for monitoring unregulated contaminants in sources of drinking water.

HF3945 (Brand): Precision agriculture research and outreach funding provided, and money appropriated.

HF3946: (Brand): Agricultural best management practices loan program funding increased.

HF3947: (Poston) Water quality trading third-party broker system funder implemented.

HF3948: (Fischer) Appropriating money to study storm water retention and infiltration.

HF3950: (Lippert) Requires a well water test within six months of sale of property.

HF3951 (Lippert): Artificial aquifer recharge use facilitated where appropriate, and report required.

HF3952: (Fischer) Water quality at beaches funding provided for a monitoring program, and money appropriated.

HF3967: (Heintzeman) Chloride contamination in state waters reduction plan funding provided for training and for feasibility analysis of chloride alternatives and water softening changes.

HF3968: (Heintzeman) Water appropriation allocation priorities modified. HF3969: (Poston) Water quality standards report required on methods to simplify and increase efficiency of process to adopt and amend standards. HF3971: (Torkelson) Advisory Council on Water Supply Systems and Wastewater Treatment Facilities reestablished, and money appropriated to improve drinking water infrastructure.

As you can see, there are a lot of great and bipartisan recommendations on the table, including HF3968, "Water appropriation allocation priorities modified." This Bill also has a Senate File companion and includes the following allocation inclusion: (6) sixth priority, irrigating golf courses that implement best management practices as part of a commissionerapproved plan for conserving water and using water efficiently; Golf courses, who seek category six status would no longer be considered a category 7, "nonessential" entity.

Presented in theory and if made law, the Department of Natural Resources would create, in partnership with the golf industry, Best Management Practices, that if implemented by individual golf destinations, would protect the course from 100 percent suspension of their water permit.

In exchange for an irrigation BMP and agreed upon water use reduction plan as defined and upon request by the DNR, a percent of the water allocation permit would be allowed to maintain specific fine turf acreage.

Environmentally conscientious property managers (you) with a vested interest in protecting their golf courses' lifeblood, water, would actually, given the opportunity, make a proactive effort. The FREE SMMP program may well be a component of the initiative and, beyond water use reduction, will create faster and firmer playing surfaces, money savings through reduced pumping and the realization of resource and environmental responsibility. Obviously the opportunity rests in your hands. The

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process will be demanding and potentially fraught with challenges along the way. However, irrigation water certainty is a pretty sweet outcome.



Hmmm, did I just draw a line in the sand?

There is another caveat to our partnership with the DNR. Soon, Carmelita Nelson, Water Conservation Consultant with the Division of Ecological and Water Resources, will be presenting to all irrigation water users a comprehensive Water Conservation Survey. This could well be the beginning of our BMP programming to be crafted by the DNR if the Bill becomes Law. The MGCSA will be pushing its completion hard.

Carmelita has read our <u>Minnesota Golf Course Water Efficiency and</u> <u>Conservation Handbook</u> and is very impressed with our intentions and format for water use and reduction. Lets amaze her, and the rest of the DNR, with a giant survey participation rate.

Hmmm, was that another line?

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Page 59