

2019-2020 Snow Mold Research Underway

By Kurt Hockemeyer, TDL Manager, Plant Pathology, University of Wisconsin-Madison



Salutations from the Turfgrass Diagnostic Lab. It is a bit of a strange sight as I look out of my window today and still see quite a bit of snow on the ground a day before Halloween. We might even be getting more snow tonight. So a white Halloween might be in our future here. Hopefully the snow melts off relatively quickly. I know we have lots of snow mold studies that still need to be put out, but I imagine a lot of golf course guys and lawn care guys still have quite a bit to do yet this fall.

Our large snow mold study this year is 82 treatments. We conduct this study in Marquette, MI and Wausau, WI. In the past we have also replicated this study in Madison, but for the past 5 or so years we have had ZERO snow mold disease on our study locations in Madison. So we decided this year to stop putting this study out in the Madison area. We have speculated that snow cover in the Madison area just has not been nearly enough to insulate the soil temps and keep them from dipping too far below freezing. When soil temps remain right around freezing, that's when snow mold runs rampant. Even Wausau in some years does not have enough snow cover to insulate the soil, and we have only a small amount of snow mold disease in the plots. Marquette, being next to Lake Superior, is pretty reliable in getting significant snow cover, and we can pretty much count on that location giving us great snow mold data year in and year out (Figure 1).

Our snow mold timing study, which is replicated in Minocqua, Wausau, and Madison, is aiming to come up with a temperature based timing threshold to



Figure 1. The Marquette snow mold trial in April 2019. Nontreated areas on the left, and treated areas on the right.

Continued on page 3

PRESIDENT'S MESSAGE

2019 Is Coming To A Close

By Paul Huggett, Paul's Turf & Tree Nursery



The growing season is completed for 2019. All that is left to do is put everything to bed for the cold and snowy winter we are sure to have. As you are giving your turf everything it needs to make it through the winter with minimal damage and trying to get your equipment under cover, it is a good time to reflect on the season. Mother Nature can certainly throw a variety of growing conditions at us. Each year

it seems the box that you have to think outside of is getting larger and larger. With the help of fellow turf managers, sales reps and sometimes pure luck, you make it through the growing season.

Thank you for supporting the Wisconsin Turfgrass Association. By coming to Field Day, participating in the golf outing, Bruce has assured me that he will get someone else to be in charge of the weather for the golf outing and attending Research Day, the WTA is able to support the valuable research that is done at the O.J. Noer Facility.

The holiday season is right around the corner. Take the time to enjoy the company of family and friends. Time goes by so quickly. If you are a hunter, be safe out in the woods and enjoy the tranquility that the woods can provide.

See you in 2020! ■



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help folks properly time their snow mold applications. This study has been going on for several years now and hopefully we get some good data again this year and get this study that much closer to publication.

Over the past few years we have been trying to perfect our technique for getting pink snow mold to develop on research plots here at the Noer. Currently our technique involves applying various fungicides in 3 ft by 4 ft plots and letting that sit for 24 hours. Then we come in with rye grain that has the *Microdochium* fungus growing on the grains and spread that over said plots. We have built some wood frames with some pink insulation board on top. These frames are placed over the plots, and a Greenjacket impermeable cover goes on top of the frames. The frames and the Greenjacket help insulate the soil and keep it from getting too cold. This creates the perfect environment for *Microdochium* to grow and infect the turf under the covers (Figure 2). For the past couple of years this technique has worked extremely well. This is about the only way we can get snow mold to develop in Madison. We have been testing various fungicides applied at different water volumes, and this year we are adding some of the new SDHI fungicides to evaluate their efficacy against *Microdochium*. For all of these snow mold studies, keep an eye out for our reports next spring on the TDL website (tdl.wisc.edu).

As we approach the end of the year, I will be sending out TDL Contract Renewals soon. So please be on the lookout for those renewals and please renew your contract if you can. If you are not already a contract member, please consider becoming one and help be the foundation that holds up the TDL. Without our contract members, the TDL would simply not exist. In addition to submitting samples at a reduced price, getting the bi-weekly TDL Updates during the summer, and getting timely diagnoses, I also have copies of Dr. Aaron Patton's 'Weed Control for Professionals' and a TDL winter hat. Dr. Patton's book supplies up-to-date herbicide and plant growth regulator information that turfgrass managers can use to develop effective herbicide programs for golf courses, athletic fields, lawns, etc. The winter hat keeps your head warm in style. If you would like me to send you a book and/or a hat, please let me know after you have renewed your contract for 2020. I sent these books and hats to most of our contract members last year, so please let me know if you want

some more of either. More information on becoming a TDL contract member can be found on the following webpage, by visiting the TDL's website (<https://tdl.wisc.edu/contract-membership/>). Please contact either

myself (hockemeyer@wisc.edu) or Dr. Koch (plkoch@wisc.edu) if you have any interest in becoming a contract member. Or you can phone the lab at 608-845-2535. Thank you for your time and consideration. ■



Figure 2. The pink snow mold trial at the OJ Noer. The insulation frames help create the perfect environment for *Microdochium* to grow and infect even without adequate snow cover.

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For The Second Time

By Bruce Schweiger, Manager, O.J. Noer Turfgrass Facility

The 2019 WTA Fall Golf Outing was to be held at Tuckaway Country Club on September 30th in Franklin, WI. As the day drew near, the attendance was not what I thought it should be and I feared the worst. The week before the event, industry rallied once again to make a drive to get player numbers close to 90. Some of you may remember, although many of you are not old enough to remember, the Greater Milwaukee Open (GMO) was held at Tuckaway Country Club from 1972 until 1993 before it moved to Brown Deere Park Golf Course. At the time, it was said that *“Tuckaway is known as one of the best Country Clubs in the state. With large undulating greens, tree-lined fairways and strategically placed bunkers, Tuckaway can be a tough golf course from the back tees but can also be very friendly from the other tees.”* I know, Jim Poitz and his staff had the course in GMO shape and were planning on everyone having a fantastic time.

All was going as planned as Audra and I were getting into the truck. Then that dreaded early morning telephone call came from Superintendent, Jim Poitz. Due to all the rain and 100% humidity over the weekend the course was soaked. There was a decision that had to be made. There was an offer to allow us to play but no carts and

some areas might be so waterlogged they might not be playable. It was not an easy decision to make but after Tuckaway Country Club had worked so hard and the members and board had worked hard to make this happen, I could not go through with the event. No carts, I had this vision of some sort of mud event with people helping others out of bunkers by using their golf clubs and falling. Now that is a site I did not want to see. As many of you know, I cancelled the WTA Fall Golf Outing. The event has been cancelled only one other time in its long history. Some of you may remember it because it was **last year!** If anyone knows of a golf course under a dome, please let me know.

The WTA Fall Golf Outing is the largest fundraiser for the WTA. A canceled event can create a huge revenue loss. Again, this year I was reminded what a great industry I have worked in and with my entire career. The vast majority of the players and sponsors made comment like this, *“The golf is fun but really the day is about supporting research at the UW, so please keep my money as a donation”*. Below are the many who made that extra donation to the WTA this fall:



David Brandenburg	Rolling Meadows GC	\$150.00
Dominic Frese	Meadowbrook Country Club	\$150.00
Scott Verdun	Personal Donation	\$150.00
Danny Quast & Joe Jehnsen	DHD Turf and Tree	\$725.00
Peter Meyer	National Golf Graphic	\$600.00
Shane Griffith	Weedman	\$725.00
Beth Duschack	Corteva	\$150.00
Wayne Horman	Landmark Turf & Seed	\$600.00
John Turner	Aquatrols	\$275.00
John Jensen	Reinders, Inc	\$725.00
Brian Bonlander	West Bend CC	\$300.00
Matt Kregel	The Club at Strawberry Creek	\$300.00
Phil Spitz	Syngenta	\$725.00
Jon Hegge	Evansville Country Club	\$300.00
Mike Krupke	WSTMA	\$725.00
Jon Hegge	Evansville CC	\$300.00
Rob Johnson	Waupaca Sand & Solutions	\$150.00
Tom Wentz	Life of Leisure	\$150.00
Chad Grimm	Blackhawk CC	\$150.00
Garrett Luck	Hidden Glen	\$150.00
Kristin Witkowski	Pendelton Turf	\$275.00
Todd Fregien	Advanced Turf	\$275.00
Steve Houlihan	Oconomowoc CC	\$300.00
Patrick Reuteman	Westmoor CC	\$300.00
Todd Marten	Pine Hills CC	\$275.00
Aaron Goninen	Reinders Irrigation	\$150.00
Dave Radaj	Midwest Turf	\$275.00
Josh LaPine	Maple Bluff CC	\$300.00
Harrison Beal	Kenosha CC	\$150.00
Mike Bremmer	JW Turf	\$425.00

Please thank them when you see them. Without people like these organizations like the WTA might not exist. If I forgot someone, please let me know and I will include your name in the next newsletter.

Plans are already in the works for next year. I am looking for a volunteer to assist me as the weather coordinator. All people interested, please contact me as soon as possible; I might need your influence for Summer Field Day also! ■

Chemical Control of Annual Bluegrass on a Wisconsin Athletic Field

By Nick Bero MSc., Doug Soldat, Ph.D., Department of Soil Science, University of Wisconsin-Madison

Introduction

Control of annual bluegrass on athletic fields is a huge challenge for sports turf managers in the Midwest and all over the world. Annual bluegrass is a light green, bunch type grass with a weak root system and poor stress tolerance. When soils become wet and compacted desirable turf thins and annual bluegrass gains a foothold in these bare areas which it will not easily relinquish. While it is classified as a winter annual in the handbooks, there are many biotypes that allow this weed to behave like an annual or perennial. Annual bluegrass can form a nice turf cover at certain times of the year, but because of its poor stress tolerance it is often not there for you when you need it most.

The long-term solution to an annual bluegrass invasion is to alter the growing conditions that are causing the desirable grass to thin. In most cases, these aren't easy fixes. Root zones might need to be replaced, drainage might need to be added, trees (that may not be on your property) might need to be cut down, or fields might need to be added to distribute the traffic effectively. When cultural fixes like these are impossible or impractical, managers turn to chemical control practices to keep annual bluegrass in check. As the name suggests, annual bluegrass is closely related to Kentucky bluegrass, so finding a herbicide that controls annual bluegrass without killing the desirable Kentucky bluegrass is difficult. A handful of partial or conditional chemical control options exist, but the industry is still searching for a silver bullet. To get a better handle on how the various chemical control options perform, the Wisconsin Sports Turf Managers Association funded a study to evaluate different combinations, timings and rates of three herbicides (Prograss, Xonerate, and Tenacity) for the control of annual bluegrass in a Kentucky bluegrass athletic field.

Materials and Methods:

This study was conducted on a silt loam Kentucky bluegrass practice athletic field infested with annual bluegrass at Oregon High School in Oregon, WI. We sincerely appreciate the assistance of Ron Novinska (2012 STMA Football Field of the Year

Table 1. Treatments and application rates for the products used in the trial.

Treatment Description	Rate	Timing	Application Interval	Application Dates
Prograss 2 apps	1.5 oz/1000 ft ²	2 apps fall	21 days	9/20, 10/12
Prograss 3 apps	1.5 oz/1000 ft ²	3 apps fall + spring follow up	21 days	9/20, 10/12, 11/5, 5/21
Tenacity 3 apps	5.3 oz/acre	3 apps fall	14 days	9/20, 10/4, 10/19
Tenacity 5 apps	3.2 oz/acre	5 apps (2 per wk) fall	3-4 days	9/20, 9/24, 9/27, 10/2, 10/4
Xonerate 2 apps	2 oz/acre	2 apps fall	14 days	9/20, 10/4
Xonerate 4 apps	1 oz/acre	4 apps fall	7 days	9/20, 9/27, 10/4, 10/12
Xonerate and Tenacity 2 apps	1 oz, 4 oz/acre	2 apps fall	14 days	9/20, 10/4
Xonerate and Tenacity 3 apps	1 oz, 4 oz/acre	3 apps fall	14 days	9/20, 10/4, 10/19
Untreated Control	n/a	n/a	n/a	n/a

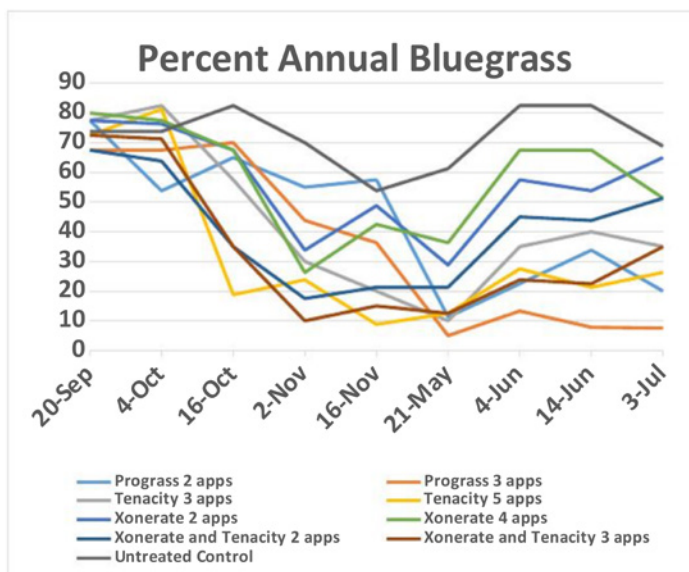


Figure 1. Visually estimated percent annual bluegrass coverage over time as affected by chemical treatment.

Winner) and his staff for allowing us access and maintaining the site during the trial. The trial began during the fall of 2018 and continued through the 2019 season. The study was designed as a randomized complete block design with eight treatments and four replications (Table 1). It would be impractical to evaluate all possible rates and timings and tank mixes, so we worked with the Wisconsin Sports Turf Managers Association to pick a reasonable number of combinations that we felt would provide useful information. Individual plots measured 6 x 4 feet. The herbicides were applied using a CO₂-powered backpack sprayer calibrated to deliver 86 gallons per acre. About twice per month, we evaluated the percent cover of annual bluegrass, desirable turf, and bare soil. We also assessed any injury to desirable turf on a 0 to 9 scale with 0 being no injury and 9 being complete turf death. Treatment means were separated

using Fisher's Least Significant Difference at alpha = 0.05.

Annual Bluegrass Change Over Time:

Annual bluegrass comprised about 70% of the plot area on the study site at the onset of the trial, with the remaining 30% consisting of Kentucky bluegrass. The trial was located on the south end of the athletic field, near a tree line which partially shaded the plots. From Figure 1, you can see that all the chemical programs reduced annual bluegrass cover to less than 50% by the following spring. However, at the end of the evaluation period in July 2019, the percentage of annual bluegrass was highly variable depending on the chemical treatment. The most effective chemical treatment was the three fall applications and one spring application of Prograss, which had single digit levels of annual bluegrass in July. The next group, which was moderately

Continued on page 6

effective against annual bluegrass, consisted of a group of four treatments including both of the Tenacity treatments, the treatment with two fall applications of Prograss, and the treatment consisting of three applications of Xonerate and Tenacity. In this group, annual bluegrass coverage ranged from 20 to 35%, showing a reduction in annual bluegrass populations of 50% or more. The remaining

three treatments, which all contained Xonerate were not very effective at controlling annual bluegrass under the conditions of this study with annual bluegrass coverage above 50% by July 2019 -- less than 30% weed control. For those that want to dig deeper, all data from Figure 1 and statistical differences are shown in Table 2.

Table 2. Visual estimate of annual bluegrass cover by date during the study. Different letters indicate statistically significant differences (p = 0.05).

Treatment	20 Sept	4 Oct	16 Oct	2 Nov	16 Nov	21 May	4 June	14 June	3 July
	----- % of plot cover -----								
Prograss 2 apps	77.5 a	53.8 c	65.0 ab	55.0 ab	57.5 a	11.3 e	22.5 ef	33.8 cd	20 cd
Prograss 3 apps	67.5 a	67.5 abc	70.0 ab	43.8 bc	36.3 abc	5.0 e	13.3 f	7.8 e	7.5d
Tenacity 3 apps	77.5 a	82.5 a	57.5 b	30.0 bcd	20.0 cd	10.0 e	35.0 de	40.0 cd	35.0 bc
Tenacity 5 apps	72.5 a	81.3 a	18.8 c	23.8 cd	8.8 d	12.5 de	27.5 def	21.3 de	26.3 cd
Xonerate 2 apps	77.5 a	76.3 ab	67.5 ab	33.8 bcd	48.8 a	28.8 bc	57.5 bc	53.8 bc	65.0 a
Xonerate 4 apps	80.0 a	77.5 ab	67.5 ab	26.3 cd	42.5 ab	36.3 b	67.5 ab	67.5 ab	51.3 ab
Xonerate and Tenacity 2 apps	67.5 a	63.8 bc	35.0 c	17.5 d	21.3 bcd	21.3 cd	45.0 cd	43.8 cd	51.3 ab
Xonerate and Tenacity 3 apps	72.5 a	71.3 ab	35.0 c	10.0 d	15.0 cd	12.5 de	23.8 ef	22.5 de	35.0 bc
Untreated Control	73.8 a	73.8 ab	82.5 a	70.0 a	53.8 a	61.3 a	82.5 a	82.5 a	68.8 a

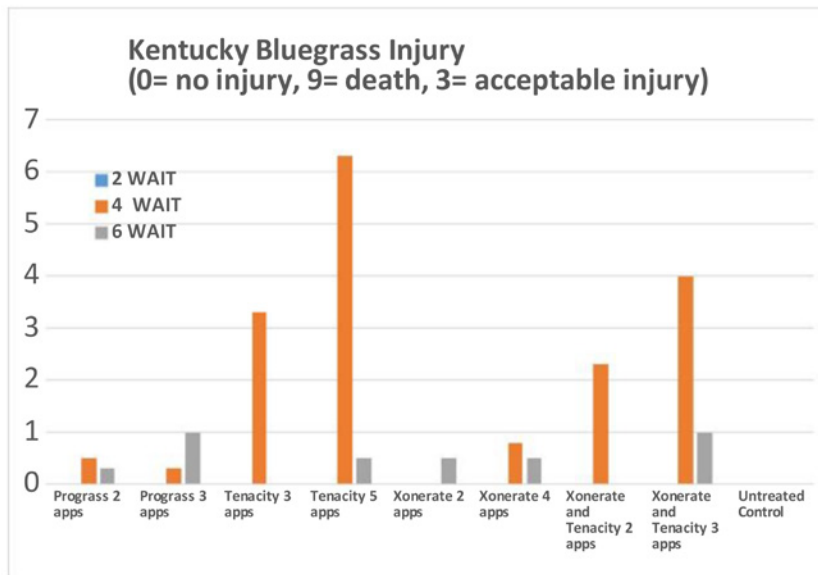





Figure 2. Kentucky bluegrass injury as affected by treatment. The injury scale is 0 – 9, with any injury above 3 considered unacceptable. WAIT = weeks after initial treatment.

Other Considerations:

In addition to understanding how the chemical treatments affected the annual bluegrass, we wanted to evaluate their impact on the desirable turf. Chemical control of annual bluegrass is difficult because of the genetic similarities it shares with desirable grasses, so we also quantified the impacts of the applications on the Kentucky bluegrass. The only substantial injury we observed in this trial was from the treatments containing Tenacity (Figure 2). Tenacity injury is unique, and while it did not result in death of the desirable Kentucky bluegrass, it turned some of the plants white, reaching unacceptable levels of injury for three of the Tenacity treatments around four weeks after the initial application. However, all Tenacity treated turf had acceptable levels of injury at six weeks after initial application and after. Please note that Prograss can be damaging to certain Kentucky bluegrass varieties. The Prograss label lists varieties of Kentucky bluegrass and perennial ryegrass that can endure the herbicide and singles out several varieties of Kentucky bluegrass that cannot endure the application. Make sure you consult the label and test the application on a small area before implementing a program.

When selecting a chemical control strategy on an area with a high percentage of annual bluegrass, you should also consider how the field will look as the annual bluegrass is being controlled. When we evaluated the Kentucky bluegrass injury and percent cover by annual bluegrass, we also evaluated the amount of bare soil visible. We saw large differences in bare soil among the chemical control options in the fall (Figure 3). The Tenacity treatments rapidly reduced annual bluegrass levels which resulted in high amounts of bare soil. In contrast, the treatment consisting of two fall applications of Prograss resulted in very little

Continued on page 7

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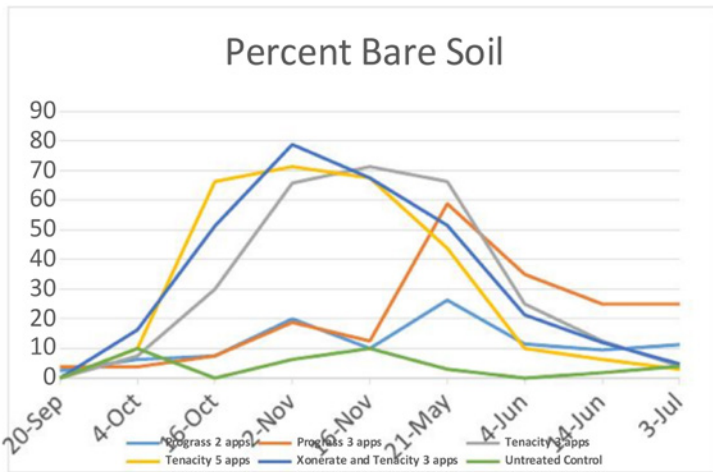


Figure 3. The percent bare soil over the study period as affected by the five most effective annual bluegrass control options evaluated in this trial.

bare soil in the fall and quite similar levels of bare soil as the Tenacity treatments in Spring. The Prograss program with three fall applications and one spring application had the greatest amount of bare soil by the end of the trial (Figures 3 and 4), but was also the most effective chemical control program in the trial.

Conclusion

All things considered, the two Prograss treatments (two fall applications or three fall applications + 1 spring application) were the most effective under the conditions of this study. They provided a high level of control with little observed injury of the desired turfgrass. Prograss also appeared to work more slowly than the other effective chemical in this trial (Tenacity), which resulted in less bare soil in the fall with Prograss treatments. The five fall applications of Tenacity provided a good level of control by the following July, however, and should not be written off. In this trial treatments containing Xonerate did not appear to be effective for controlling annual bluegrass. However, keep in mind that these results are specific to this location and may differ for your soil and grass types. ■

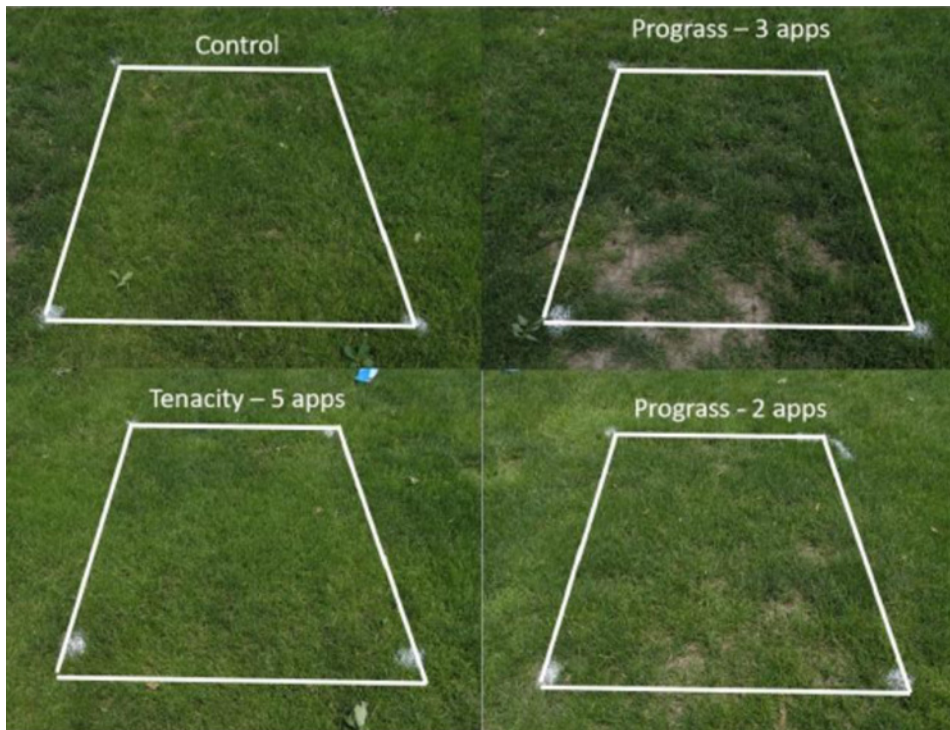


Figure 4. Pictures from June 14, 2019 of some plots from some of the better performing treatments in the study relative to the non-treated control plot.



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The Roundup Wars Aren't Just in California

By Paul Koch, PhD, Plant Pathology, University of Wisconsin – Madison

I think everyone in the turf industry is aware of the recent litigation in California involving multi-billion dollar awards to individuals who claim exposure to Roundup caused their cancer. It seems the old Sunday morning mesothelioma commercials have been replaced by Roundup ones as the lawyers race to cash in. Though the initial litigation was in California, the reverberations are being felt across many places in Wisconsin and around the Midwest. I have received numerous questions/concerns from turfgrass managers throughout Wisconsin and beyond that are being pressured to end Roundup use, and below are my thoughts on the situation and some strategies I use when responding.

It's important to have compassion for their concerns.

This might seem an odd place to start, but I think that understanding the basis for their concerns helps in developing a response. Most of their concern usually stems from the risk of cancer, particularly in children. Almost all of us have been touched by cancer in one way or another, and wanting to reduce the chances that any of us will develop cancer is a noble goal. While I have interacted with some people who are acting more on an anti-turf or other irrational basis, the vast majority of people I have dealt with are trying to protect people, pets, and the environment from harm.

The science surrounding Roundup toxicology has not changed.

Despite their good intentions, it's also true that in most cases they're unfounded. Nothing has changed with regards to the cancer-

causing ability of Roundup. The Environmental Protection Agency recently reaffirmed that there is no undue risk of injury from the labeled use of Roundup, and nearly every regulatory agency around the world has agreed. Really the only major body that has disagreed is the International Agency for Research on Cancer (IARC), which is a part of the World Health Organization. Here it's important to note that IARC did not conduct any new tests or come up with any groundbreaking research results. What IARC does is conduct a summary of the research that has already been done and release a recommendation. While their assessment is not worthless by any means, it's important to understand what it's based off of and that it differs from almost every other scientific body in the world. Taken as a whole, the EPA and most other regulatory bodies around the world have deemed Roundup safe for use.

Stick to the science...even when it's not 'on our side'

You've heard people rip on athletes wading into politics by telling them to 'stick to sports'...well it's important that on this topic we stick to the science. I was recently on a conference call with a parks committee from a large Midwestern city and I cited some EPA data concerning Roundup, and one member of the committee spoke up to say that EPA data is tainted because of certain backdoor dealings with Monsanto. If we get to the point we don't trust government data then we're in trouble on a number of fronts. It's true that most chemical tests for pesticide registrations are conducted by the chemical

Continued on page 9

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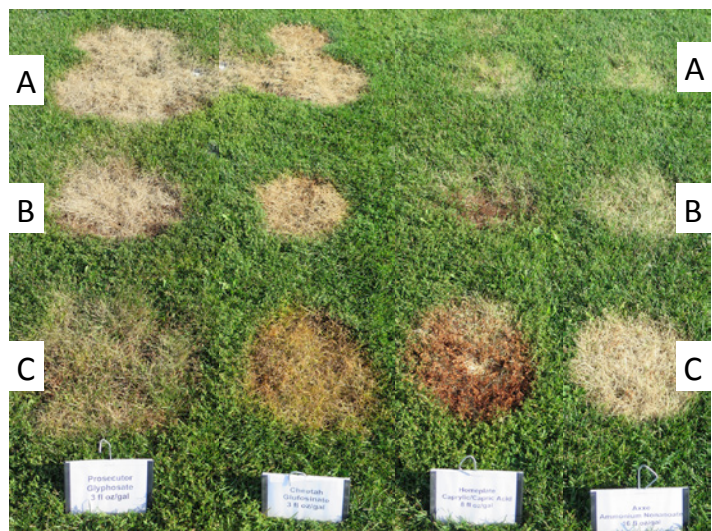


Figure 1. A small demonstration of Roundup alternatives tested at the University of Wisconsin Summer Field Day in 2019. Each product was applied at three different times: row A is the applications made 4 and 2 weeks prior to field day, row B is just 2 weeks prior to field day, and row C is one week prior to field day. It's clear that the organic products immediately burn down the plants but they recover over the next couple weeks, where glyphosate and glufosinate are slower to work but provide complete kill of the weed

companies, but that's how all pesticide registrations are conducted and they need to follow rigorous EPA procedures. Rather than wade into these conspiracy theory type arguments, or other emotionally based arguments, it's important to 'stick to the science' by providing science-based, unbiased sources of information. My preferred site for this kind of pesticide-information is the National Pesticide Information Center (<http://npic.orst.edu/>), which is a collaboration between the EPA and Oregon State University. Right now, most of the science available does not support the cancer-causing ability of Roundup.

It's also important to note that sometimes the science supports your position, other times it doesn't. Sometime in the next few years the EPA's data will likely show that an important turfgrass pesticide poses too high of a risk for injury and it should be removed. Hopefully, all those who are currently clamoring 'look at what the science says' on the Roundup front will still support the EPA when the science doesn't support their position.

Keep meticulous pesticide application records and have a plan in place

In most cases, people outside the turf industry think we spray WAY more than we actually do. Telling them we don't spray that often or we don't use that much product is not normally a very effective way to dispel their concerns. But showing them your records, and how little you actually do spray (especially Roundup!), is often an excellent way to lessen their concerns. I say this all the time at the Pesticide Applicator Training seminars I conduct for the state... 'Good pesticide records will get you out of trouble way more than they will get you in trouble.'

In addition, people like to know you have a plan in place for how you're using the minimum amount of pesticide required and using it in the safest possible manner. A good plan includes the list of cultural practices you perform to naturally reduce pest pressure, the proper training and certification requirements of all people using pesticides, 'triggers' or 'thresholds' that implement when a pesticide will be used, and how exposure to the applied pesticide will be reduced or eliminated.

Life is full of choices, and those choices have consequences

It's likely that in many cases the people who you're dealing with will continue to demand Roundup be removed from the products you use no matter what information you share with them. In this case, it's best to be honest about the other choices that are available and the consequences that come with them. We conducted a small Roundup demonstration at last summer's field day and the results were interesting (https://tdl.wisc.edu/wp-content/blogs.dir/42/files/Interactive%20Pages/2019_Summer/Reports/KochRoundupAlternatives_FieldDay2019.pdf). We tested three organic, non-selective herbicides (Homeplate, Axex, WeedPharm) and they provided an immediate 'burn down' of the grassy weeds, but the plants grew back within a 2 to 3 week period (Figure 1). This occurred even following a second application 2 weeks after the first. The synthetic non-selective herbicide Finale (glufosinate) provided effective control, but in our assessment was significantly more expensive than Roundup. In short, Roundup was the most effective and the cheapest of the products tested. If a switch to another product is requested or demanded, provide them an economic analysis on the increased time and labor cost it will require. Some people will be willing to pay for this change, others won't. ■

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CALENDAR OF EVENTS

2020

January 7th	WTA Winter EXPO – American Family Training Center.....	Madison, WI
Feb 7-9th	Garden EXPO – Alliant Energy Center	Madison, WI
Feb 19th	WSTMA Meeting – Fox Cities Stadium	Appleton, WI
March 11th	Pesticide Applicator Training – Ingelside Hotel	Pewaukee, WI
March 26th	Pesticide Applicator Training – Arlington Ag Station	Arlington, WI
April 1st	Pesticide Applicator Training – Metropolis Resort.....	Eau Claire, WI
April 8th	Pesticide Applicator Training – Comfort Suites/Rock Garden.....	Green Bay, WI
April 22nd	Pesticide Applicator Training – Ingelside Hotel	Pewaukee, WI
April 29th	Pesticide Applicator Training – Ingelside Hotel	Pewaukee, WI

WTA Members -- If you have an important date you'd like to share with other members, Call 608-845-6536 or email audra.anderson@wisc.edu to include it in the next calendar.

Contact Telephone Numbers

GCSAA	Golf Course Superintendents Association	800-472-7878
Great Lakes	Great Lakes School of Turfgrass Science Online.....	763-767-3518
iLandscape	the Illinois + Wisconsin Landscape Show	630-472-2851
NGLGCSA	Northern Great Lakes Golf Course Superintendents Assoc.....	906-424-4176
Northern	Northern Green	651-633-4987
PAT	Pesticide Applicator Training (Turf and Landscape 3.0).....	608-262-7588
STMA	Sports Turf Managers Association Conference	800-323-3875
TPI	Turf Producers International	800-405-8873
WDATCP	Pesticide Certification & Licensing.....	608-224-4548
Wee One	Wee One Foundation Golf Outing	630-457-7276
WGCSA	Wisconsin Golf Course Superintendents Association	920-643-4888
WGIF	Wisconsin Green Industry Federation	414-529-4705
WPT	WPT Garden Expo	608-262-5256
WSPA	Wisconsin Sod Producers Association	262-895-6820
WSTMA	Wisconsin Sports Turf Managers Association	608-792-9264
WTA	Wisconsin Turfgrass Association	608-845-6536

January 7th, 2020 Turfgrass Research Day Conference
 American Family Corporate Headquarters – Building A
 6000 American Parkway, Madison, WI

8:00 – 8:30am	Registration
8:30 – 8:45	Welcome and Scholarships - Auditorium
8:45 – 9:30	New Insights for Dollar Spot Control Dr. Paul Koch – University of Wisconsin – Plant Pathology
9:30 - 10:15	Highlights and Progress in 2019 Graduate Students
10:15 – 10:30	Break
10:30 - 11:15	Lets Talk Glyphosate Dr. Mark Renz – University of Wisconsin - Agronomy
11:15 - 12:00	Pump House Renovations, Upgrades and Updates Gabe Lopez – Irrigation Protection Services
12:00 – 12:50	Lunch
1:00pm – 1:30	2019 TDL Update Kurt Hockemeyer – Turfgrass Diagnostic Lab
1:30 – 2:15	Summer Trials & Robotic Mowers Dr. Doug Soldat – University of Wisconsin – Soil Science
2:15 – 3:00	Ask the Professionals – Roundtable Discussion Dr. Paul Koch and Dr. Doug Soldat Moderator Jens Arneson – Assistant at Maple Bluff Country Club



Paul Koch is an assistant professor in the Department of Plant Pathology as well as the Molecular and Environmental Toxicology Center at the University of Wisconsin-Madison. He joined the faculty in January of 2014. His research has focused primarily on fungicide breakdown in the environment and snow mold diseases on golf course turfgrass.



Dr. Renz’s research focuses on weed management on invasive plants. His goal is to develop information that will improve management decisions related to weeds to maximize benefits while minimizing environmental impact.



Gabe Lopez started out in this business in the fall of 1988 at Lake Lawn Lodge. He then moved onto Geneva National during the initial construction and grow in of the Palmer and Player course simultaneously. Then he went off the grid for a year and worked in road construction before returning to the golf business as the irrigation service manager for Reinders for 17 years. Finally in the fall of 2012 he started his own company, Irrigation Protection Services, focusing on pump station repairs, renovations and sales in the Midwest.



Kurt manages the Turfgrass Diagnostic Lab at the O.J. Noer Research and Education Facility. He also oversees the field trials conducted as part of Dr. Paul Koch’s research program. He received his B.S. in Turf Science and his M.S. in Turf Pathology both from Purdue University. He has been a member of Dr. Koch’s research team since fall of 2015.



Doug Soldat is a professor and turfgrass extension specialist in the Department of Soil Science at the University of Wisconsin-Madison. He advises turfgrass management students at the UW and teaches courses in the fields of turfgrass management and general soil science.



Jens Arneson is an Assistant Golf Course Superintendent at Maple Bluff Country Club since May 2013. He graduated from the University of Wisconsin-Madison with degrees in Soil Science-Turfgrass Management and Scandinavian studies. He is active on the WGCSA Assistant’s committee, is a Grassroots Ambassador and is currently in the GCSAA EXCEL Leadership Program.

Complete the registration form below and mail with payment to:
WTA / O.J. Noer Facility / 2502 Highway M / Verona / WI / 53593

You may also register online by going to www.wisconsinturfgrassassociation.org
You may fax completed form to 608-845-8162. Registrations must be received by
December 30th, 2019. Registrations received after December 30th, will be an
additional \$10 per person.



Company Name _____
Mailing Address _____
City/State/Zip _____
Phone Number _____
Email Address _____

List of names that will be attending _____

Non-WTA member	\$50 ea X _____	= \$ _____
WTA member	\$40 ea X _____	= \$ _____
2020 WTA Membership Dues	\$150 ea	\$ _____
Total Amount Enclosed		\$ _____

Credit card # _____ Exp date _____ Security code _____

If you have any questions, contact Audra at audra.anderson@wisc.edu or
608-845-6536. Registrations must be received by December 30th, 2019.