

How Long Does Your Dollar Spot Control Last?



By Steve Abler, Jonathan Rivers, and Dr. Geunhwa Jung, Turfgrass Diagnostic Lab, Department of Plant Pathology, University of Wisconsin-Madison

Sclerotinia dollar spot is the most important disease of Wisconsin golf courses during the growing season. The disease is so common and destructive that multiple fungicide applications are required to prevent severe losses of bentgrasses and annual bluegrass.

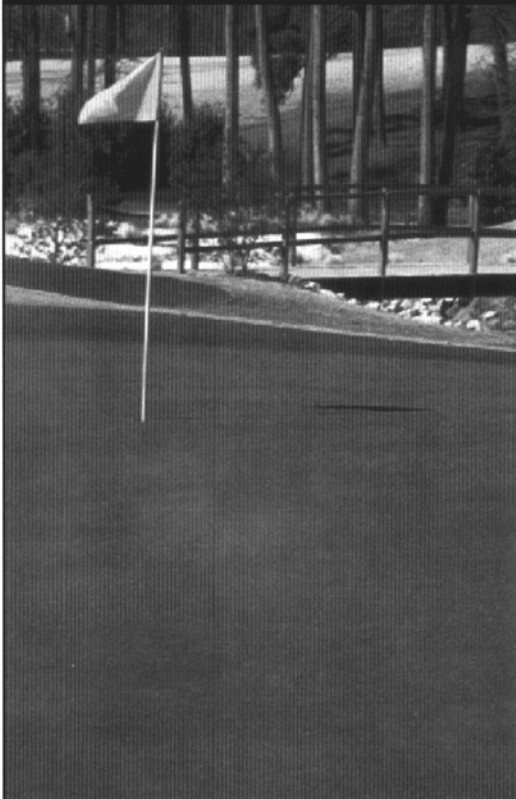
Fortunately, there are currently a dozen fungicides registered to control dollar spot in Wisconsin. Many of these products provide acceptable control when used on a ten or fourteen day spray schedule, but often times control does not last for much longer. On the other hand, some products provide twenty days or more control and have the potential to

reduce the frequency of fungicide applications and possibly the cost of dollar spot control per day.

In order to determine which fungicides have the longest duration of control, field plots in which fungicides are applied and then left untreated until disease develops must be established. This is unlike most fungicide efficacy studies conducted by universities and the industry who apply fungicides at set intervals, usually between seven and twenty-eight days. These studies are not designed to determine the duration which fungicides control a particular disease, only whether or not the fungicide is effective when following the specific schedule.

Because these studies do not compare the longevity of control afforded by individual fungicides, a field trial to assess fungicide the longevity of dollar spot control was performed at the O.J. Noer Turfgrass Research and Education Facility at Verona, WI, in the summer of 2004.

Field plots were established on a sand-based Penncross creeping bentgrass green maintained at a mowing height of 0.156 inch. Individual plots measured 3 X 5 feet and were arranged in a randomized complete block design with four replications. Treatments included in this study represented the high-label rate of all fungicides registered for use on dollar spot.



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Fungicides were applied at a nozzle pressure of 40 p.s.i. using a CO₂ pressurized boom sprayer equipped with two XR Teejet 8005 VS nozzles. Fungicides were agitated by hand and applied in the equivalent 2 gallons of water per 1000 ft² on June 16th and June 30th, 2004. At the time of initial fungicide application, there were approximately five dollar spots per plot. The number of dollar spots per plot was recorded on July 14th, July 25th, August 2nd, and August 17th. The data was subjected to an analysis of variance to determine statistical differences between treatments (see table).

There were significant differences in dollar spot control efficacy between the fungicides tested. Also, there were marked differences in the duration of dollar spot control afforded by individual fungicides.

2004 Ratings of Dollar Spots per Plot at the OJ Noer Facility, Verona, WI.

Treatments	Rate	Mean Patches Per Plot*			
		July 14	July 25	August 2	August 17
1 Untreated Control		5.5	14.3	23.5	26.0
2 Chipco 26GT	4.00 FL OZ/M	0.3	9.8	26.8	29.5
3 Emerald	0.18 OZ/M	0.0	0.0	0.3	0.8
4 Banner MAXX	2.00 FL OZ/M	0.3	1.0	4.8	7.0
5 Spotrete	5.00 OZ/M	6.8	14.8	24.0	25.5
6 3336F	4.00 FL OZ/M	0.3	1.8	5.5	9.5
7 Curalan EG	1.00 OZ/M	0.0	5.0	16.5	23.5
8 Revere 4000	3.00 FL OZ/M	3.5	14.5	23.5	24.3
9 Fore Rainshield	8.00 OZ/M	6.5	16.8	24.5	36.3
10 Daconil Ultrex	5.00 OZ/M	4.0	13.5	22.8	28.0
11 Rubigan AS	1.50 FL OZ/M	3.0	8.3	11.0	12.5
12 Eagle	1.20 OZ/M	0.3	0.0	0.3	0.3
13 Bayleton	1.00 OZ/M	0.8	2.5	5.3	4.5
LSD (P=.05)		3.27	6.88	11.52	12.97

* If the difference of two individual treatment means is greater than the LSD, the two treatments are statistically different (P=.05).

Five of the fungicide treatments, namely Spotrete (thiram), Revere 4000 (PCNB), Fore Rainshield (mancozeb), Daconil Ultrex (chlorothalonil), and Rubigan AS (fenarimol) were not statistically dif-

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ferent from control plots throughout the experiment. Since we have not previously noticed any sign of resistance to these fungicides in our plots, lack of efficacy is probably due to the chemical properties of the fungicide, and not fungicide resistance. Because of this, these fungicides would be poor choices to be used singularly for extended or curative dollar spot control program.

The remaining fungicides tested controlled dollar spot to an acceptable level (one dollar spot or less per plot) at least 14 days following the last fungicide application. After 25 days from the last fungicide application, Chipco 26GT (iprodione) was not statistically different from untreated plots. Also, Bayleton (triadimefon), Curalan EG (vinclozolin), and 3336F (thiophanate-methyl), had statistically less disease than the untreated control, but no longer pro-

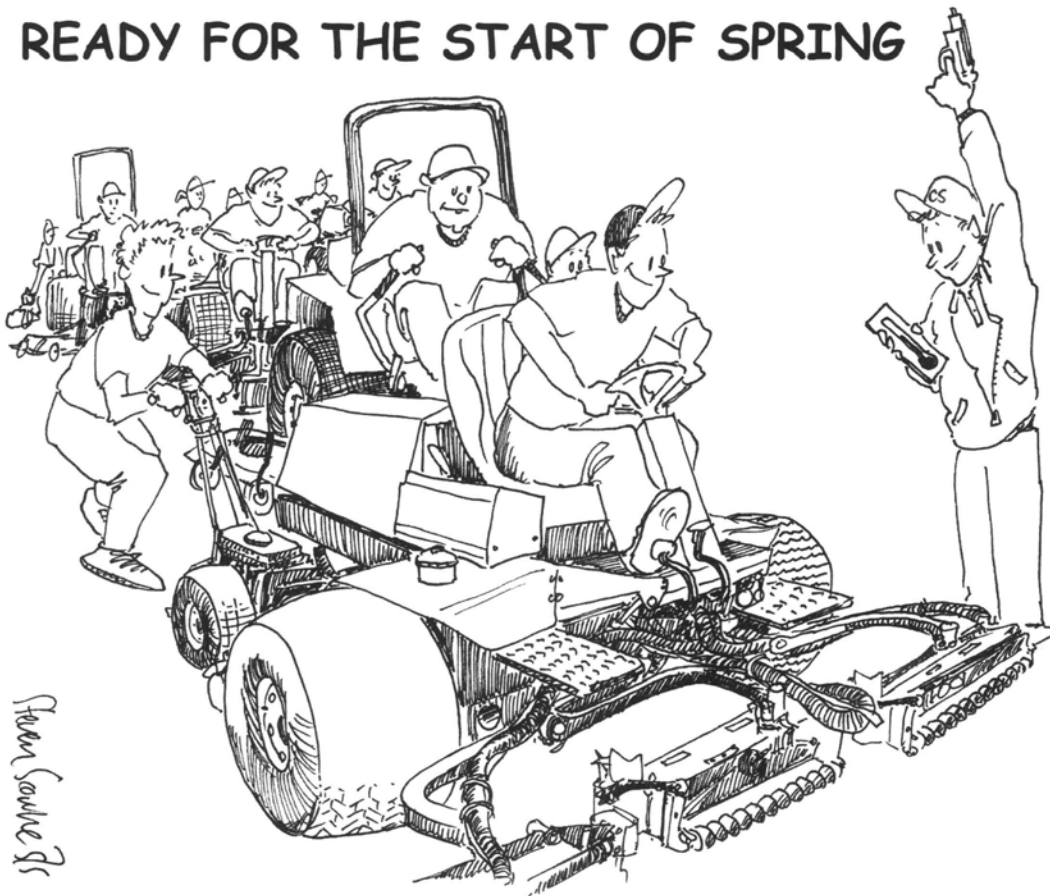
vided acceptable control. On day 33 after treatment, Banner Maxx no longer provided acceptable control, but was still significantly better than untreated plots. Two fungicide treatments provided excellent control with less than one dollar spot per plot 48 days after the last treatment. These treatments were Emerald (boscalid) and Eagle (myclobutanil). Emerald is a newly registered fungicide that is labeled for dollar spot and bentgrass dead spot whereas Eagle is a sterol biosynthesis inhibiting fungicide (a.k.a. DMI or SI) that is labeled to control over a dozen turfgrass diseases.

It is evident from this study that there are significant differences in the efficacy of particular fungicides in controlling dollar spot. Additionally, it is evident that variability exists with respect to the longevity of control afforded by

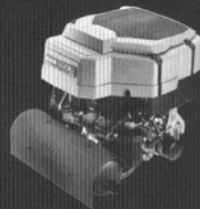
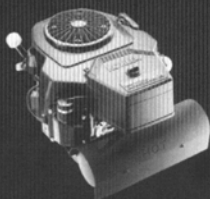
fungicides labeled for use on dollar spot. Longevity is just one factor when determining which fungicide to use. Other factors that are important when choosing the best fungicide for your needs include the fungicide's cost, spectrum of control, chemical family, mode of action, safety, and formulation.

This information is not intended to advocate the repeated use of one fungicide. Multiple consecutive applications of fungicides with the same mode of action greatly increase the risk of fungicide resistance development by target and non-target pathogens. It should be stressed that the data presented in this article is preliminary and is based on only one year's field data. This experiment and other similar studies will be repeated in the summer of 2005 to confirm the accuracy of these results. ♣

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A Good Winter & A Better Spring



By **Pat Norton**, Golf Course Superintendent, Nettle Creek Country Club

A good winter in north central Illinois includes many subtle positive elements that...when taken together permit us all to survive the three toughest months of the calendar year. It is a challenge to keep a positive attitude during the dreary months of December, January, and February. Sometimes it is too easy to let yourself slide into non-motivation, and then total boredom.

This winter, though, has been a little bit different for me and for my family. As a guy who is getting older and a little bit wiser, it becomes easier to reflect on the general good fortune of our family...especially when others that we deal with daily have much tougher lives...and a very uncertain future.

In addition to being involved with this golf course, my wife Susan and I own rental property. We deal with five different families on a constant basis. All of those current tenants and almost all past tenants are in their rental situations because of credit and debt problems. These are all good people who simply do not manage money very well.

In fact, all of our current tenants have freely admitted to us that they are renting housing because of bankruptcy situations. Within these five families there is also a subset of further money problems. Some tenants have good monthly income and pay their rent promptly. Another family has four young kids, multiple car problems, employment issues...but still manages to pay rent on time each month.

Still another family has had serious trouble the past two winters finding work. No work, no money, no rent for the landlord. And, although we fret and worry about past due rent, we also fret and worry about their ultimate welfare. What are the future prospects for a guy that looks like a deserter from the Union army circa 1864...with shoulder length greasy hair, emaciated frame, who smokes like a chimney, and in all likelihood drinks way too much booze? Not real good, I speculate. This description is of one of our problem tenants.

But so far, we cannot bring ourselves to evict these people, especially during the winter months. We have a mutual understanding with this couple that come spring, other living arrangements may be necessary.

And although we fret and worry about rental cash flow, rising property taxes, rent increases, and rental property upgrades...we also fret and worry about the people themselves. What kind of future do they have ahead of them?

Grundy County is only one county away from Cook County/Chicago...and is consequently growing and

expanding in certain sectors of the economy. Real estate/housing is booming...as is the construction of roads, bridges, sewer, water, et al needed to service these instant neighborhoods.

The other side of this boom is that which happens every winter. Lots of people are laid off until March or April, and there is a definite lack of quality jobs for a large chunk of the working population.

I remember the Clinton gang and Congress touting the benefits of NAFTA back about 10-12 years ago. Hey, let's give our American companies every possible reason to relocate down to Mexico and leave lots of American workers high and dry...with a great future at McDonalds. Manufacturing jobs move out or close down...are replaced with service sector jobs...and people scramble to update their job skills and can then hopefully pay their rent.



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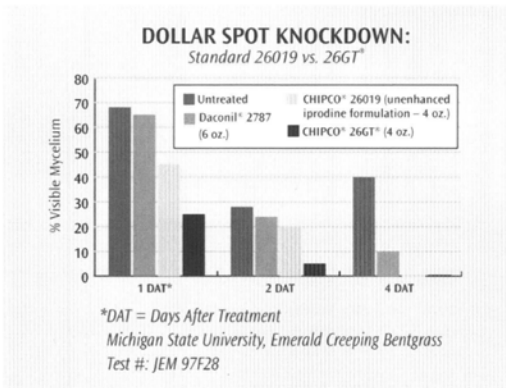
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Also this winter, lots of uncertainty for our public schools. The bad habits of overspending and deficit financing by local school districts over the past ten years are now colliding with the closing of a major local power plant. The resulting lower valuation of that property results in millions less being paid in taxes, which is causing a major crisis for the school districts and our library district. Huge school budget cuts...i.e....teacher layoffs...are causing lots of anxiety for many people locally.

So, compared to all of those problems in the lives of people that are right here in our community...we in our family feel very blessed and fortunate this winter.

I will admit to the fact of wondering about my future in golf. The owner of this golf facility will be 80 years old this May...and has expressed his desire to market this golf property within a few years. How will a late forties, veteran superintendent fit into a new ownership scheme? Honestly, I know that I'd be the first one dismissed due to my salary level. Should I worry about that? Maybe. Am I worried about that? Overall, not very worried at all. I expect some life altering changes here within 2-3 years, and am mightily trying to be prepared for change.

There are many future possibilities out there...and many of them do not include a future here at little old Nettle Creek. To have optimism for the future depends on having an optimistic, positive state of mind on pretty much a daily basis.

April and May are just around the corner. Winter has been survived yet again...with very little discomfort. Every night this winter we snuggled up with abundant food, abundant central heat, warm interior lighting, and later a nice hot shower and then bedtime. Not too tough of an existence, is it?

We cannot imagine how tough living conditions were for our ancestors. Son Ryan gave me a very good biography of John Adams, our second President, for Christmas. After reading about our founding fathers and colonial America, I gained a further appreciation of being an American. Our more immediate ancestors who settled Wisconsin and Illinois in the 19th & 20th century had to be tough, or not survive.

My mind recollects the family stories of the generations of our family that came to Green County after the Civil War. I think about my grandfather, father, and uncles growing up on a dairy farm outside of Juda, Wisconsin in the Depression and WWII years...and of families trying to survive in urban Chicago during that same period of time.

A few years ago, I devoured *Band of Brothers* on HBO. On many cold winter nights since then, I've thought about those WWII Army vets who fought at Bastogne in the Battle of the Bulge. These guys spent night after freezing night outside in foxholes, trying to survive the weather and the combat. How much mental toughness they had! I tried a few times to deliberately force myself to stay out-

side on December nights and imagine myself in their situation. Every time I scooted for the door...after about five minutes...I said a little 'thank you' and vowed to appreciate my life even more.

All in all, it has been a good winter. This mid-February writer can walk right outside my office door and breathe in lots of frigid country air, and strongly feel the warmth of the afternoon sunshine. If I decide to hang around here long enough this Friday afternoon, I can still expect to see the sun hang around with me. I may decide to jump in the truck or possibly go take a walk on the course...which permits an easy inspection of the very abundant signs of spring.

As I drive along these country roads heading for home, I think about the good winter just past and the better spring ahead. I know that I'm very grateful for not having to worry about ice on this golf course this winter. In fact, I would welcome ice...sort of a natural herbicide for the *Poa* that is starting to infest us after ten years. My winter life is really easy for various reasons.

I think that we are permitted to really enjoy life because of the dues paid by past generations.

I think that is our duty is to help others...our children, our friends, and our fellow citizens...to gain a good life.

In all cases, however, people must be in the habit of working to help themselves before they go asking for assistance.

I think that as we age...we become more philosophical...and understand our purpose.

I think that it's easy to put these thoughts down on paper today...the afternoon is beautiful and the weekend is upcoming.

I think that I'd better quit with the philosophy and turn into the driveway of this somewhat familiar looking residence.

I think that the address here is 111 Sherwood Place. I think that I'll go in and harass my wife and kids. They expect that from me. I think that I'm home. ♡



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A Desire To Learn Has Shown Him Many Aspects of the Turf Industry

By Lori Ward Bocher

In my nearly 15 years of writing the Personality Profile column for The Grass Roots, I don't know if I've ever met anyone who has worked in as many aspects of the turf industry as Alan Nees. Golf course maintenance, lawn care, irrigation sales, equipment sales, fertilizer sales and marketing, business manager - he's done it all. Firestone Country Club, ChemLawn, Reinders Brothers, Milorganite, Agrotain International - he's worked for them all, plus a few more.

"I think my current job will take me into retirement pretty easily," says Alan, who will turn 53 this spring. "I think my drive (to try different jobs) up to this point has been based on my willingness and desire to learn new things. I've always tried to learn more and experience more rather than just jump around for bigger dollars."

Since 2000, Alan has been a business unit manager



and part owner at Agrotain International, a little-known company with big potential. "We produce and market products that significantly improve the efficiency of urea," he explains. "Urea is the most widely used nitrogen source in the world, by far. But it has two drawbacks. Urea is manufactured from ammonia. When you surface apply urea it breaks back down into ammonia, and ammonia is very volatile. Agrotain is a urease inhibitor that reduces the losses from volatilization."

Loves the technology...

"I absolutely fell in love with the technology when I was first offered a chance to join this new company," he continues. "If you can grasp the enormity of how much urea is used around the world and the fact that you could capture 30+ percent of what would be applied, it's huge. There are applications in so many areas."



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Alan and his business partners are “tickled to death” with the progress the company has made in less than five years. “We’re divided into four separate business units,” he explains. “I’m the business unit manager — or BUM, as we say — for North American turf and ornamental sales. I have a counterpart who is the BUM for North American agricultural sales — and that’s really the biggest part of our company.”

“We have an international business unit, and we’re currently selling product in 52 countries around the world,” Alan continues. “We also have a business and production development unit.”

Although Agrotain International is a relatively new company, the product Agrotain has been around a little longer. A business acquaintance of Alan’s had the opportunity to purchase the patent and technology for producing Agrotain - plus a large inventory of the product - and he asked Alan and others to help form a company.

“The inventory lasted four and a half years,” Alan says. “Now we’re making more. The compound is very technical, very sophisticated. It’s being produced at a plant in central Pennsylvania that also makes most of the ibuprofen used in the country.”

The biggest market for Agrotain is agricultural, and it’s sold in liquid form to fertilizer manufacturers to be impregnated on urea or added to UAN solution. The company also utilizes a nitrification inhibitor to stop the nitrogen from converting to nitrate nitrogen once it’s in the soil.

“For our turf market, we add those two inhibitors (urease and nitrification) to urea at two different concentrations,” Alan explains. “The first concentration we call UFLEXX™, ‘U’ being for urea and ‘FLEXX’ because it’s so darn flexible. It has a moderate response and will typically last six to eight weeks. UFLEXX is used somewhat for golf turf, with the wider use coming in the lawn care, retail fertilizer, sod production, and hydroseeding markets — all kinds of applications.

“A step up from that is more of a golf product that we call UMAXX® — ‘U’ again because it is from urea, and ‘MAXX’ for its maximum efficiency, maximum performance, and maximum value,” he continues. “This is a 12- to 16-week product. We sell both products to fertilizer blenders like Spring Valley, EC Grow, and Howard Johnson’s. They’ll blend it with phosphorus and potassium sources to derive their different blends. Because UMAXX and UFLEXX are not coated products, you can melt it in water and spray it. This offers a little more control over nutrient management.”

Back to the beginning...

How did Alan get to this point in his career? Via a long and winding road that started with a little boy who liked to play golf. “I grew up in Chesterton, Indiana, on the southern tip of Lake Michigan,” he explains. “I started playing golf at a pretty early age when I was 10 or 11. That

was pretty much my life. My dad was a pretty good player and about my only golf teacher.”

Alan played in junior tournaments and on his high school golf team that won a few conference championships. He also spent summers working on the grounds crew at Valparaiso Country Club, playing golf in the afternoon when the work was completed.

“I was a good player, but not a real good player,” he admits. “I thought about going the PGA route and playing competitively, but I decided I wasn’t good enough. When looking at my career options after high school, I decided that I really enjoyed the outdoor aspect of golf and the art and science of maintaining the course. So I opted to go to Purdue University -one of the top turf schools in the country.”

Between his junior and senior year at Purdue, he had the good fortune of working as an intern at Firestone Country Club in Akron, Ohio. “They were hosting three televised tournaments a year then,” he says, adding that he was there during the American Golf Classic. “During the tournament we’d work a split shift - early in the morning until 8, and then back again at 4. During the day we’d get to watch the golf tournament.”

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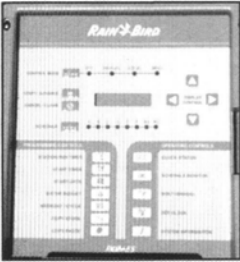
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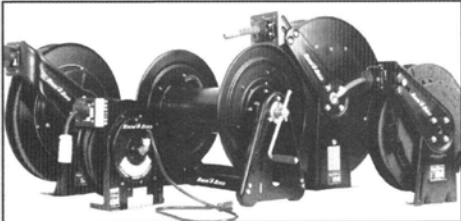
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