

Incidentally, the deadly disease is not a problem in Wisconsin areas mainly due to two reasons, 1) little perennial ryegrass cultivars (host source) are growing in our environment because of the lack of cold tolerance; 2) the fungal pathogen has not adapted to our climate yet.

Eight months ago the Wisconsin Sod Producers agreed to support our research proposal "Genetic characterization and fingerprinting of Kentucky bluegrass cultivars using DNA marker". We would like to share some information learned from the research in order to help superintendents who are considering replacing fairways with Kentucky bluegrass cultivars to make a good choice.

The two articles made a similar conclusion; they suggested a blend of different types of bluegrass cultivars for optimal performance. In order to meet the requirement, cultivars in the blend must have not

only similar quality (appearance, leaf texture, and color), but maintain also maximum genetic diversity among them in order to prevent them from being devastated by abiotic and biotic stresses. Maximizing genetic diversity of cultivars in blending is not an easy task with currently available information. Very limited number of morphological traits were utilized for the classification of Kentucky bluegrass cultivars. Also, the morphological traits used are very sensitive to environment, meaning the expression of traits is largely influenced by environment. Therefore, the morphological traits based classification could lead an erroneous conclusion. That is exactly why a study of genetic relationships among Kentucky bluegrass cultivars using a DNA marker type, RAPD (random amplified polymorphic DNA) called "rapid" should be done.

We had major research objec-

tives. First, how much genetic variability (difference in DNA level) exists in Kentucky bluegrass cultivars? This question is important because if continued selection from the same material can narrow the genetic base of elite material and ultimately increase the potential vulnerability to abiotic and biotic stresses. Secondly, is the classification based on morphological traits similar to ones based on DNA marker? Thirdly, is it possible to fingerprint (differentiate) each cultivar using a fast and accurate DNA marker technology? The advantages of using DNA markers compared to morphological traits are as follows:

1. an unlimited number of polymorphism (never ran out of the number of difference among samples),
2. easy collection of data (morphological traits must be evaluated in field with replications), and
3. environmentally neutral (the expression of morphological traits

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varies according to where plants are growing but DNA never changes).

In conclusion, when bluegrass cultivars need to be selected for the blend used in golf course fairways, roughs, or any place, very careful consideration is recommended. Based on results of previous research and our current research, here are some suggestions, which will help superintendents choose the right cultivars for their needs.

1. To consider information on morphological characteristics of old cultivars from published papers listed above and newer cultivars from a recent year's NTEP results, especially conducted under similar climatic conditions.
2. To consider information on their pedigree (the record of the ancestry, parents involved in the development of a particular cultivar) from seed company's breeders. The reason is that our results indicate that cultivars with different names do not necessarily mean they are genetically different from each other.
3. To consider information on DNA markers/sequences based genetic similarity/dissimilarity. We understand it sounds silly. However, if you did not ask of them now, researchers in public and private sectors simply will not plan a future research. Three (BVMG, Compact-Midnight, and Compact-Midnight) out of 12 types with in three categories were correlated with groups of DNA marker derived genetic distance. As soon as our current research project is fully completed, then more information will be available to the public. We strongly feel that more systematic and through research on this topic needs to be accomplished in the near future as more cultivars are developing and the importance

of Kentucky bluegrass is increasing every year.

In present time we are looking at other technologies to improve or reconfirm what we knew about the genetic relationship of Kentucky bluegrass cultivars using DNA marker technology.

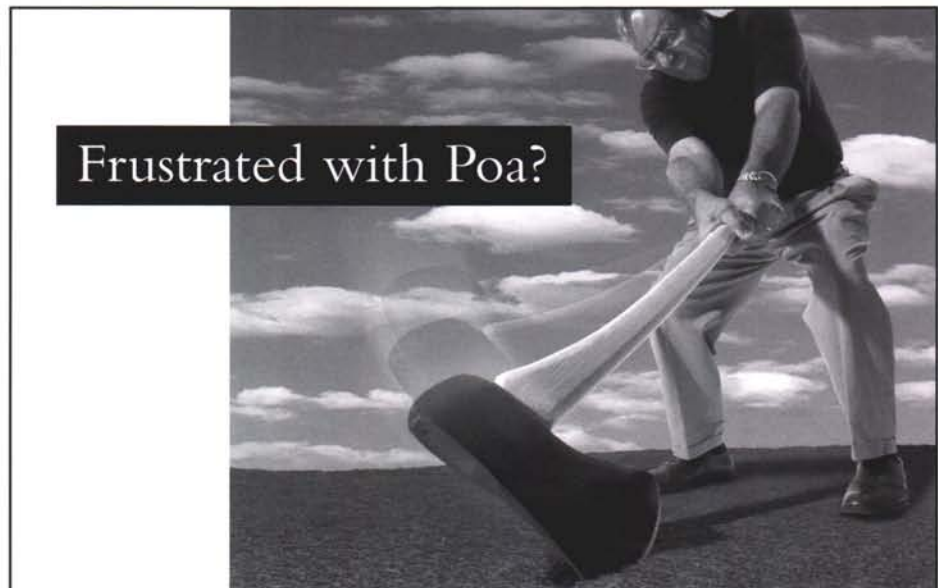
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**RANSOMES**

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# Chlorothalonil: What You Should Know About the New Labeling



By Jeff Gregos, Department of Plant Pathology, University of Wisconsin-Madison

Unless you have been living under a rock, you know that there are going to be some changes with the labeling of all chlorothalonil products. These new changes are going to set maximums for individual applications and amount of active ingredient per year. Another addition will be a minimum spray interval. With the testing this past year, I believe that there should be no problems with these changes and this will ensure that chlorothalonil will be there for you to use in the future.

These changes have been brought about because of the Food Quality Protection Act (FQPA) which has required several changes on labels over the past couple of years. It is important that you follow these changes as to stay consistent with current laws.

Below is a general outline of the changes and are provided for reference, but should not replace the label. You will find that tees, greens, and fairways have separate designations to the amount of active ingredient that can be applied in a season. This may have impact on some spray programs if chlorothalonil is a regular participant. Another important note is that

this labeling includes all chlorothalonil, so it is important to know the active ingredients of products that you are applying.

The following are the set maximums for pounds of active ingredient (AI) of chlorothalonil for designated areas on a golf course:

<b>Greens</b>	<b>73 lbs./acre</b>
<b>Tees</b>	<b>52 lbs./acre</b>
<b>Fairway</b>	<b>26 lbs./acre</b>

During a season, there are also application maximums. For 82.5% AI chlorothalonil product the maximum single application will be 7.3 lbs. AI/Acre or 8.8 lbs. of product per acre. This can also be converted to 3.2 oz/1000 sq. ft. There is an exception for this as you can apply two applications per season (mainly the rates required for snow mold applications) of 11.3 lbs. AI/Acre. This is equivalent to a 5.5 oz/1000 of a 6F formulation of chlorothalonil. The final change is the minimal spray interval, which is 7 days. ♣

## Products that have chlorothalonil as an active ingredient:

<b>Daconil 2787</b>	<b>Daconil Ultrex</b>
<b>Daconil WeatherStik</b>	<b>Daconil Zn</b>
<b>Manicure 6 Flowable</b>	<b>Manicure T/O Flowable</b>
<b>Manicure Ultrex</b>	<b>Thalonil 4L</b>
<b>Thalonil 90DF</b>	<b>Echo 720</b>
<b>Echo DG</b>	<b>Concorde SST</b>
<b>Twosome Flowable</b>	

## Dollar Spot Ratings from Summer 2000 Trials with Maximum Ai/A rates

<b>Chemical</b>	<b>Rate/1000ft<sup>2</sup></b>	<b>Appl. Interval</b>	<b>Turf Type</b>	<b>Rating 8/15*</b>
Daconil Ultrex	3.2 oz	14 Day	Fairway	0.0
Bayleton 50	0.5 oz	28 Day	Fairway	5.0
Chipco 26 GT	2.0	21 Day	Fairway	0.0
Untreated Check			Fairway	65.0
Daconil WeatherStik	4.125 oz	14 Day	Green	1.7
Daconil Ultrex	3.2 oz	14 Day	Green	3.3
Echo 720	4.125 oz	14 Day	Green	3.3
Concorde SST	4.125 oz	14 Day	Green	3.3
Bayleton 50	0.5	28 Day	Green	0.0
Chipco 26 GT	2.0	21 Day	Green	0.0
Untreated Check			Green	40.0

\*Percent damage



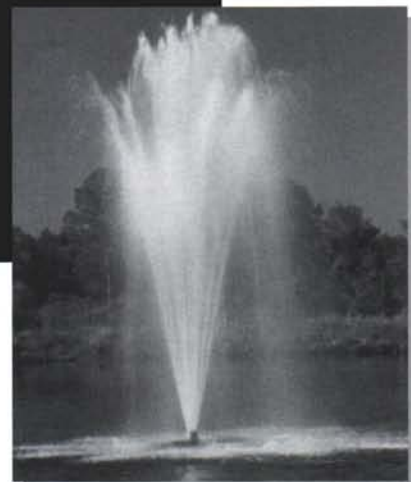
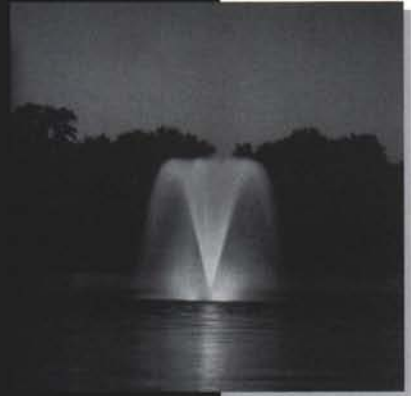
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# GCSAA Business

By **Al Jansen**, Golf Course Superintendent, Baraboo Country Club

What is the GCSAA? From what I have gathered over the last five years as a member, it is a business. A \$20 million enterprise that professes to follow the philosophy of those 60 greenkeepers who met at Sylvania Country Club in 1926. They pledged to build an association to educate and inform its membership and to strive for the betterment of greenkeepers' future.

Nearly two years later the society of greenkeepers declared itself to be a non-profit enterprise where the signers placed into law their Articles of Incorporation. They also professed to provide for and enhance the recognition of the superintendent, to advance the art of greenkeeping and the science of turfgrass management, and to collect and disseminate information concerning efficient and economical management of golf courses and related environments.

These fine men, in their exuberance to fulfill the needs of the superintendent of the day, followed their mission to the tee. To them, dissemination was a literal term for their activities: to spread widely, throughout the growing association, information regarding the technology and scientific advancement being made by researchers and fellow superintendents; to provide information on new and advanced greenkeeping and cultivating equipment; and to promote advancement in the careers of all those who made a living at the art of golf course maintenance.

Today, the GCSAA's mission has been clouded by big business by increasing dollars and increasing diversity. In their exuberance to join the elite organizations like the PGA and the USGA, the GCSAA has turned more toward providing golf with another force, rather than providing for the needs of its members. They are more focused on giving the industry information on its membership than they are on giving their members information on the industry. The CEO of the association has now been named "one of the top movers and shakers in the industry."

So what is being moved and shaken? Why, it's the role this association is trying to play in the golf business, not the role the association is playing in the lives of its members.

The Professional Development Initiative (PDI) is just another example of the new philosophy the GCSAA has adopted: to provide the industry with a stimpenter to measure the GCSAA member and to determine which of them will roll farther in the fast-paced future of greenkeeping and course management. Those not measuring up to the new standard will be forced out of their class and must now take a back seat to all those willing to sign

on to this new philosophy. Those members, who in their own right have proven themselves to employers and players, will no longer be judged by their performance but by how they measure up to the next guy.

Now, the mission of the GCSAA should read, "The GCSAA, in our attempt to play with the big boys, provides for and enhances the industry by showing the differences in our members; improves the art of greenkeeping by making sure that each member complies with our standards regardless of their circumstances; and collects and disseminates background information on our members so that employers will have a clear choice who will be better at economically and efficiently managing golf courses and the surrounding environment."

What do we want as members? What do we need from our association? Is our association more interested in its role in golf or its role in the lives of its members? You decide by your vote. ♣



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# JUNE MEETING AT FOX FIRE GOLF COURSE



By **Mike Berwick**, Golf Course Superintendent, Golf Courses of Lawsonia, Inc.

Superintendent Steve Johnson hosted the monthly meeting on Tuesday, June 20, at the FoxFire Golf Course in Waupaca. Morning thunderstorms and showers did not deter anyone, as 62 persons attended to play golf in the one net bestball format. Another heavy downpour during the chicken and steak sandwich buffet lunch seemed to doom the event.

However, after the storm passed Steve deemed the course playable, and the game was on. The afternoon turned out to be sunny and warm, and even with all the rain, Steve and his staff had the course in great condition. The course was challenging with narrow fairways and long native rough areas that caught their fair share of errant tee shots. Following the golf event the participants gathered on the clubhouse porch for conversation, refreshments and the golf awards.

#### The winners of the one net best ball event were:

- 1ST -14 SCOTT HELLENBRAND  
LLOYD COOK  
HANK KOSS  
SETH BROGREN
- 2ND -12 STEVE DOBISH  
ROY JANZEN  
SCOTT STIEMSMA  
JORDAN SENSIBAR
- 3RD -12 ROD JOHNSON  
STEVE SCHMIDT  
WAYNE OTTO  
MIKE BERWICK

#### Winners of the flag events were:

- |                    |                 |
|--------------------|-----------------|
| CLOSEST TO PIN #2  | SETH BROGREN    |
| LONGEST PUTT #4    | ROBERT GOSEWEHR |
| CLOSEST IN 2 #6    | ROY ZEHREN      |
| LONGEST DRIVE #9   | SCOTT BUSHMAN   |
| SHORTEST DRIVE #10 | JOHN JOLIN      |
| CLOSEST TO PIN #12 | STEVE SCHMIDT   |
| LONGEST PUTT #14   | SAM SCHULTZ     |
| CLOSEST IN 3 #18   | JIM VAN METER   |

Special thanks go to Superintendent Steve Johnson, Owner/Pro/Manager George Stoffel and the entire staff at FoxFire Golf Course for inviting our organization and making the day enjoyable. 🌿



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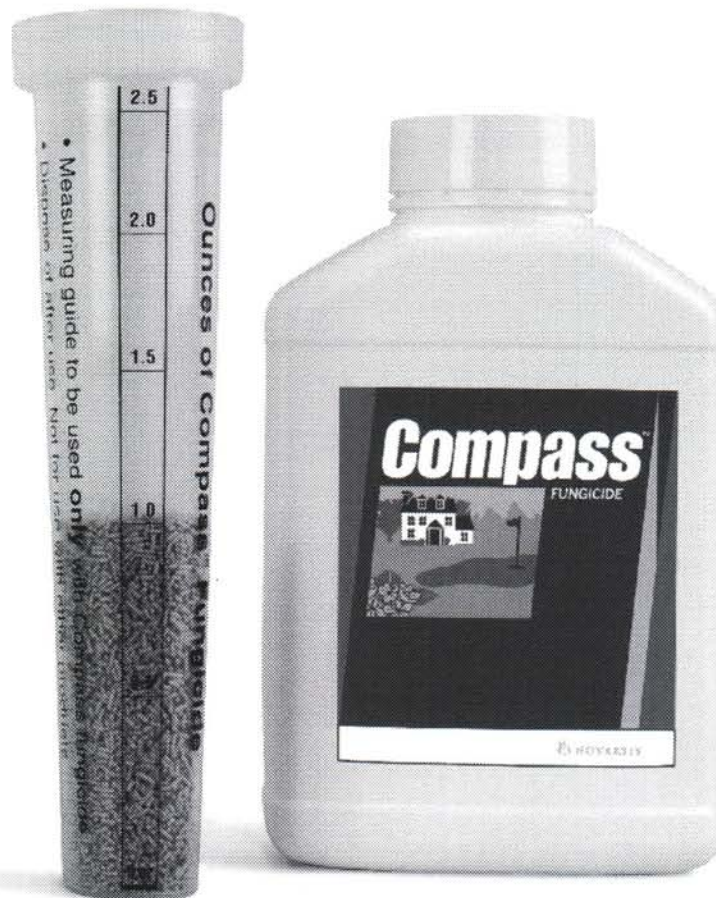
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