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ABOUT THE COVER

Jennifer Sameryke has perfectly captured the Christmas face of WGCSA member Lars Helgeson, known around Wisconsin as "The Golf Course Santa." Read about Lars and his second career inside this issue of *The Grass Roots*.

"...The season of frosted window-panes and crackling fires, when the blast howls through the black-ash trees of our avenue, and the drifting snow-storm chokes up the wood paths and fills the highways from stone wall to stone wall."

- Nathaniel Hawthorne

THE GRASS ROOTS

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Fall

By **Marc Davison**, Golf Course Superintendent, Green Bay Country Club

It seems like only a few months back that I was writing about how much rain we had been getting all through the spring. The spring of 2004 will be remembered as one of the wettest on record. Now that the summer has come to an end, four months later, we find ourselves very dry and short on rainfall. August and September were both much below average for rainfall amounts. In fact, September was the fourth driest month on record. So just watch, we will end the year and the record book will reflect that we had an average amount of precipitation for 2004. It just goes to show you how careful we must be when looking at averages. Would you consider this year average?



Overall we have had a super golf season in Wisconsin, at least in the N.E. portion of the state. Except for the wet spring, the summer has been unique in that the heat and humidity were never a big factor. September was our warmest month of the entire summer. The dry fall is great for those of us that aerify during September. I don't ever remember having such a great stretch of weather during the three weeks in September when we typically aerify. Absolutely perfect!

As your Board of Directors starts thinking about next year, we begin to wonder where our monthly meeting sites will be. Please consider hosting a meeting next year. If you are interested, but would like to know more about what is involved, please contact Dave Van Auken or any board member. I would like to thank all of our members who have hosted events this year. Your hospitality and generosity is greatly appreciated by our association!

As many of you are aware, Mike Kilpatrick, who was a superintendent with Waukesha Park District, died from a heart attack on Thursday October 7th. Mike, who was a member of our association since 1979, had recently retired from his position and was beginning to enjoy the "good life" retirement brings. Wayne Otto passed away on October 21st after an illness of several months; he is remembered by Dr. Frank Rossi elsewhere in this issue of *The Grass Roots*. Please keep these members' families in your prayers.


Having these three unfortunate situations in our association makes me think about what may lie ahead in my future. We don't know what God's plan is for any of us. I am sure you have seen the emails about enjoying today as if it was your last day. We do need to keep this in mind everyday, don't we? Don't put off today what is important. Spend more time with your family; tell them how much you love them and how much they mean to you.

The Couples Fall Diner Dance was held recently at Lake Arrowhead Golf Course. A big thank you to Eric and Lynn Jasin for being our hosts for the weekend. The weather was not the best but bearable, I was told. I want to thank Steve Wasser for organizing the hospitality room and also thank all the vendors that sponsored the hospitality room Friday evening. The generosity of our vendors helps make this a great event. We are always looking for more couples to attend. Please consider attending in future years; it's guaranteed you will have a good time.

The 39th Annual Turf Symposium is November 16th and 17th this year at the American Club in Kohler. This is always a special educational event for our association. The speaker line up is outstanding this year with Dr. Kussov, Dr. Carrow, Dr. Murphy, Jim Moore, Bob Vavrek, Phil Brown and others speaking. The topic this year is centered on managing the pressures of soils. We will have our annual fall business meeting prior to the start of the Symposium on Tuesday November 16th at 11:00 a.m. Hope to see many of you there.

Enjoy the fall! The snow, cold and ice cover will soon be here. ♣





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New Chemistry for Selective Control of Creeping Bentgrass

By Dr. John Stier and Mr. Kurt Steinke, Department of Horticulture, University of Wisconsin-Madison

When I lived outside of Los Angeles during the mid-1980s I always admired my mom's bottle-brush plants (*Callistemon rigidus*). These small trees had attractive foliage and beautiful red flowers that looked like the business end of a large test tube brush. Little did I know this unique plant had other characteristics which could someday benefit the turf industry.

The bottle brush plant has given us a potentially exciting new chemistry for weed control in turf. Scientists investigating the lack of

weeds near bottle brush plants assayed numerous compounds from the plant and ultimately identified one, leptospermane, as the source of the allelopathy. Interestingly enough, the same compound has been used as a pharmaceutical for certain childhood diseases! Because greenhouse tests yielded only moderate control of test weed species, chemists began analyzing the leptospermane structure. Scientists found that by substituting a few atoms of the molecule, they could enhance the activity 20 times of

the original leptospermane. The resulting product was called mesotrione.

Mesotrione belongs to the chemical family known as the Callistomonones. This is the newest class of herbicides to be introduced for turf weed management. Mesotrione kills weeds by inhibiting a compound known as plastoquinone, a controlling molecule for many biochemical processes in plants. The net effect of mesotrione is to prevent the production of plant pigments known as carotenoids. These are

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the same pigments that give us the strikingly orange tree foliage in autumn. Carotenoids are important to the plant because they protect chlorophyll (the green pigment responsible for photosynthesis) from destruction by sunlight. Without carotenoids, chlorophyll is degraded and the weeds die from lack of photosynthesis. We see the activity as a bleaching—affected leaves turn white several days after application. This is the same mode of action as another compound we've tested (isoxaflutole) but is more environmentally friendly.

Mesotrione has a relatively low soil sorption ($K_d = 0.3-5$) and an octanol:water partitioning coefficient of 73 as a median value. These characteristics indicate a potential for the compound to leach in soil, however, the water solubility is low (160 mg/Liter) and the half-life is short, only about 15-21 days in soil. Given these characteristics and its source of origin, mesotrione has a Reduced Risk Status as determined by the Environmental Protection Agency (EPA). The potential for labeled use on turf in the U.S. looks good.

Both roots and foliage can

absorb mesotrione, making it suitable for use as both a pre- and post-emergent product. Mesotrione is a true systemic with movement through both xylem and phloem, meaning all plant parts, even below-ground structures like rhizomes, can be affected.

Most of the initial research focused on pre-emergent weed control. Weeds such as broadleaf plantain, white clover, and purslane speedwell are readily controlled by pre-emergent activity. Further investigation showed weeds such as yellow woodsorrel, henbit, creeping Charlie, mouse-ear and common chickweed can be controlled post-emergent. Research by Dr. Shawn Askew at Virginia Polytechnical Institute (VPI) indicates a number of other weeds can be suppressed, though not necessarily killed, by post-emergent applications: white clover, yellow nutsedge, zoysiagrass, dandelion, and orchardgrass. Mesotrione does not seem to affect annual bluegrass, rough bluegrass, Kentucky bluegrass, tall fescue, hard fescue, or perennial ryegrass.

Other research indicates post-emergent applications may be useful to control barnyardgrass

and even creeping bentgrass. Selective control of creeping bentgrass in bluegrass fairways would be a huge boon to those golf courses which struggle with keeping bentgrass out of the fairways. Currently only non-selective herbicides are available for controlling bentgrass, an obstacle which has caused more than one golf course to undergo a costly renovation.

We conducted a study in 2003 to investigate the potential for selective removal of creeping bentgrass and/or supina bluegrass (*Poa supina*) in a fairway-height turf. On 27 June 2003, we applied several new and conventional herbicides to a mixed stand of creeping bentgrass and supina bluegrass (Table 1). The 5-year old turf had been maintained at 0.5 inch height, received 3 lb N per 1000 ft² annually, and was irrigated 3 times weekly at 100% E.T. Each treatment was applied a second time on 22 July. Both applications were made using XR 8004 flat fan nozzles with a carrier volume of 1 gal water per 1000 ft². Phytotoxicity ratings were collected two weeks after the final application and the percent cover of plants were rated 4 weeks after

Table 1. Conventional and experimental herbicides for selective control of creeping bentgrass and supina bluegrass at fairway heights, Madison, WI, 2003.

| Trade name | Common name | Formulation | Rate |
|-------------|-------------------|-------------|--------------------------------|
| Mon 44951 | --- | 75 WG | 0.04 lb ai/A |
| Balance | Isoxaflutole | 4 SC | 0.18 lb ai/A |
| Corbel* | Fenpropimorph | 80 EC | 1.78 pt/A |
| Velocity | Bispyribac-sodium | 80 WP | 0.1 lb ai/A |
| Prograss | Ethofumesate | 5 EC | 3 fl oz/1000 ft ² |
| --- | Mesotrione | 4 SC | 0.5 lb ai/A |
| Vantage | Sethoxydim | 1 EC | 0.8 fl oz/1000 ft ² |
| Roundup Pro | Glyphosate | 4 EC | 8 fl oz/A |
| Check | --- | --- | --- |

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Table 2. Phytotoxicity and control of creeping bentgrass (CBG) and supina bluegrass (SBG) in mixed stands maintained at 0.5 inch height, O.J. Noer Turfgrass Research & Educational Facility, Madison, WI, 2003. Products were applied on 27 June and 22 July 2003.

| Treatment | % Injury | | % Control | |
|-------------------|--------------------|------|---------------------|--------|
| | -----8 August----- | | -----21 August----- | |
| | CBG | SBG | CBG | SBG |
| Mon 44951 | 13.9 | 28.3 | 21.2 | -28.1 |
| Isoxaflutole | 28.7 | 6.2 | 78.1 | -81.8 |
| Fenpropimorph | 0.0 | 6.9 | -12.0 | 19.1 |
| Bispyribac-sodium | 5.8 | 45.3 | -4.2 | 9.7 |
| Ethofumesate | 2.8 | 3.1 | 6.1 | -1.0 |
| Mesotrione | 37.1 | 1.1 | 94.1 | -61.1 |
| Sethoxydim | 32.1 | 0.8 | 98.8 | -53.6 |
| Glyphosate | 61.1 | 42.5 | 61.8 | -555.0 |
| Control | 2.1 | 0.0 | -1.8 | 6.8 |
| LSD (0.05) | 7.4 | 9.9 | 14.2 | 22.8 |

the final application in order to determine percent control.

Mesotrione and sethoxydim (Vantage) provided excellent control of creeping bentgrass with minimal to no harm of supina bluegrass (Table 2). Isoxaflutole (Balance) had good efficacy against bentgrass, providing 78% control compared to only 62% control with the low rate of glyphosate. None of the compounds tested effectively controlled supina bluegrass though fenpropimorph appeared the most promising. Supina bluegrass recovered from injury caused by compounds such as isoxaflutole, mesotrione, sethoxydim, and even the ultra-low rate of glyphosate, often filling in voids caused by bentgrass removal (incidentally, label rates of glyphosate are 100% effective at controlling supina bluegrass).

We applied a split-shot application of the products approximately 3 weeks apart. Studies conducted in several other states indicate single applications are relatively ineffective. Secondly, we used the

projected label rate of 0.5 lb ai per acre for our study. Following review by the EPA, the proposed label rate may be limited to a total of 0.5 lb ai per acre annually, with a limit of 0.25 lb ai per acre in single applications. Studies conducted this year at VPI and the University of Nebraska indicated rates of 0.187 to 0.25 lb ai per acre still effectively controlled creeping bentgrass in Kentucky bluegrass turf when applications were repeated at 2 to 3 week intervals (Askew, *personal communication*; Gaussoin, *personal communication*).

The anticipated introduction of mesotrione into the turf market is exciting for several reasons. Due to increasingly tight restrictions and registration costs, few new herbicides are being developed for turf. Mesotrione not only introduces a new chemistry, but its humble plant origins make it appear less a concoction of man than of nature. The extremely low use rate (0.25 lb ai or less per acre) means significantly less total product overall will be used, about

10X less compared to many conventional pesticides. The low use rate is important because the pesticide industry is constantly evaluated by the amount of product used—a decline in pounds of active ingredient used annually sends a well-received message to the public. Finally, and perhaps most exciting of all, mesotrione will be the first effective compound for selective control of creeping bentgrass in bluegrass fairways. Though current plans are to label it for the professional market (e.g., golf course) homeowners would find it useful as well. The selective control and low toxicity of the product also removes one of the primary stumbling blocks for acceptance of Roundup Ready creeping bentgrass®. Opponents of the technology have argued no other low-toxicity alternative exists for removing bentgrass: mesotrione adds the benefit of selective removal. Clearly, mesotrione is one up-and-coming compound to watch. ♣

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I Hate to Talk About Winter and EXPO

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

It's hard to believe that the 2005 Wisconsin Turfgrass and Greenscape EXPO will be here before you know it. I don't like to think about winter this early, especially during the nice autumn we're having. One very bright spot about winter though is EXPO on January 11th and 12th. The roster of speakers this year is exceptional. In addition on January 10th, there will be a WGCSA/GCSAA educational seminar held in conjunction with EXPO.

The location for EXPO is its traditional venue, the Marriott West in Middleton, which has plenty of rooms for the large trade show and numerous seminars. Numerous seminar rooms are needed because three different turf presentations are held concurrently. There are talks for those in the golf industry, sports turf industry, and lawn care and landscaping industry. This is where EXPO gets exciting to talk about.

The roster of speakers is exceptional. The opening session will star recently retired UW-Madison athletic director Pat Richter. Mr. Richter was the longest tenured director of athletics in the Big Ten Conference. He took a program that was failing both athletically and financially and turned it into the nation's 10th best, according to the Sporting News in 2001. He'll have many interesting UW athletic stories that you won't want to miss.

You likewise won't want to miss the roundtable discussion about "The Phosphorus Controversy." This will occur right after Pat Richter's presentation. There will be experts from both sides of the fence discussing the issues. The roundtable will include specialists from the DNR, UW Limnology Department,

UW Soil Science Department, and US Geological Survey.

You'll be further enlightened after that by the exceptional roster of seminar speakers. The roster of speakers include Dr. Bruce Martin from Clemson University. Many of you are familiar with Dr. Martin who gives exceptional seminars at the GCSAA National Convention. He will give several presentations to include; "Rapid Blight in Cool Season Turfgrasses — A New and Unusual Turf Disease" and "Designing Summer Disease Control Programs for Managing Bentgrass".

Another veteran turf specialist is Dr. Mike Agnew from Syngenta. He is giving two important disease presentations. His talks are, "Improving Fungicide and Plant Growth Regulator Performance" and "Anthracnose on *Poa Annua* Greens".

Someone known to everyone in the sports field industry is Pam Sherratt. She is coming to EXPO from the Ohio State University where she serves as sports turf extension specialist. She writes their popular sports turf web page and speaks at many national and local conferences on sports turf issues.

The list of acclaimed speakers goes on and on. There is Dr. Brian Horgan from the University of Minnesota, Bob Vavrek from the USGA Green Section, Paul Zwaska from Beacon Ballfields, Rich Riggs from Rettler Association, and many others. The UW turf program professors will also have several presentations during the day in addition to their "Research on Parade" segment.

The educational presentations are only part of what EXPO is about. There is likewise a huge trade show to experience. Over 40 vendors to



Opening Session
Keynote Speaker,
retired UW-Madison
Athletic director,
Pat Richter.

the turf industry will be there to answer all your equipment, supplies, products, and services questions. They are there to help you grow healthier grass next season.

I have to admit that I was misleading in my title. Actually, I love winter and always have. It's a time for a lighter work schedule, vacations, winter recreation, and most importantly more time with family. And did I mention EXPO on January 11th and 12th? Make plans now to attend. Your registration brochure will be in the mail in mid-November. ♣

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Turfgrass Industry Loses a Pioneer Turfgrass Pathologist

By **Steve Abler**, Turfgrass Diagnostic Lab, Department of Plant Pathology, University of Wisconsin-Madison

Dr. Houston B. Couch, turfgrass pathologist at Virginia Tech, passed away on Sunday, September 12th at the age of 80. I am sure that most Wisconsin golf course superintendents are familiar with Dr. Couch, either through the talks that he gave throughout the state and country, the journal and trade magazine article he wrote, or the two books he has written about turfgrass diseases. It is very difficult to summarize the accomplishments and personality of a person such as Dr. Couch in just a few pages of text, but I will try to do justice to the impact that Dr. Couch had on the turfgrass industry and the people who knew him personally. Most of the information included in this article is from my personal experience with Dr. Couch when I was his graduate student, and from an interview of Dr. Couch by Dr. David Chalmers in 2001.

Houston B. Couch was born on July 1, 1924 in Estill Springs, Tennessee. He lived on the family farm, where his father was a sharecropper, until around the time of the Great Depression. At this time, the family moved briefly to Chicago before proceeding to Flint, Michigan where Houston's father found work as a machinist for General Motors.

Dr. Couch completed high school in Michigan and was promptly selected in the first US military draft that included 18-year olds. He was assigned to the 517th Parachute Regimental Combat Team known as the Battling Buzzards as a paratrooper (Fig. 1). Dr. Couch and his fellow soldiers in the 517th began their campaign in Italy in June of 1944. Later that year, he was involved in an early morning jump into Southern France and proceeded to the Ardennes where he fought in

the Battle of the Bulge during the bitterly cold winter of 1944-45. In January of 1945, Dr. Couch was wounded during battle in Belgium and received a Purple Heart for his injuries. He returned home in September of 1945 and was discharged honorably in October of the same year.

Dr. Couch would often recount stories of the time he spent in Georgia training for the war and in Europe as a soldier. These stories were often about the hard conditioning that they had to go through while training to be paratroopers and the colorful people he met along the way. It was evident from the majority of his stories that he and his fellow soldiers were typical teenagers who got into a lot of mischief. When it came to the war, he would speak of fellow soldiers that he knew well and the hardships including hunger, lack of sleep, long marches, and the cold. He rarely spoke in detail of the brutality that he had witnessed as a soldier and would become visibly shaken when talking about the "good buddies" that he had lost in the war.

Soon after returning from the war, Dr. Couch met Billie Spencer and following a two-week courtship, the two were married. Houston moved to Tennessee where he enrolled at Tennessee Tech as an agronomy major and biology minor. His first interest in plant diseases was sparked by his plant pathology teacher, Bob Edwards. Upon his graduation in 1950, Dr. Couch decided to continue his plant pathology education as a Ph.D. student at the University of California at Davis. His advisor was R.G. Grogan who graduated from the Plant Pathology Department at the University of Wisconsin under J.C. Walker. As a student of Grogan, Houston studied vegetable diseases, and concentrated his efforts on his dissertation involving lettuce anthracnose and the seed transmission of lettuce mosaic virus. In 1954, Dr. Couch graduated and began searching for a job in his field during a time that had very few open positions in plant pathology.

Dr. Couch began his professional plant pathology career in 1954 when he accepted a forage pathologist position at Penn State. After a couple years of working on forage plants, Dr. Couch started doing side experiments on rust of Merion Kentucky bluegrass. One particular day, he showed his rust control research at a field day where he thanked everyone for stopping by to look at his plots. A golf course superintendent named Marshall Farnham replied, "Get one thing straight young man, we thank you for your efforts, you don't thank us. Anything you need, you give us a call." This was the defining moment in Dr. Couch's career where he realized how sup-



Figure 1. Logo of the 517th Parachute Regimental Combat Team known as the Battling Buzzards.