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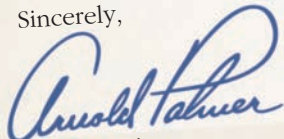


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THE GRASS ROOTS

is the bi-monthly publication of the Wisconsin Golf Course Superintendents Association. No part of the THE GRASS ROOTS may be used without the expressed written permission of the editor.

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ABOUT THE COVER

The logo for the new Wee One Endowment Fund

I cannot endure to waste anything as precious as autumn sunshine by staying in the house. So I spend almost all the daylight hours in the open air. By American Author Nathaniel Hawthorne , 1804-1864

This quote by Hawthorne can be a reminder to enjoy our daily journeys on the golf course this fall. Take time to notice the beauty that God's nature provides us.

Visit our Website at
www.wgcsa.com

Fall is Finally Here

By Jeff Millies, Certified Golf Course Superintendent, Edgwood Golf Course

It is official, as of September 22nd summer is over and fall has begun. This year has certainly had its challenges. With the mild winter, early spring, and a dry summer we all face many challenges thanks to Mother Nature. Irrigation systems were running at maximum capacity providing you had enough water and localized dry spots just kept popping up and wouldn't seem to end. At least rounds were up and mosquitoes were down.

WGCSA Board of Directors has also been busy. We had the honor of having The GC-SAA Board of Directors fall business meeting here in Milwaukee in conjunction with The WEE One. One of the meetings they facilitated was with our allied partners, GCOW, Wisconsin PGA, American Society of Golf Course Architects, and other special guests discussed the various industry efforts to grow, market, and advocate the game of golf here in Wisconsin. I believe industry leaders need to have joint meetings to collectively work together to help shape the future of golf. We are all faced with new challenges, and we can't solve new problems while using old ideas. GC-SAA recognizes the need for the industry as a whole to collaborate as our roles continue to expand.

GCSAA also meet with the WGCSA Board of Directors to discuss what they could do to help with our chapter needs. GCSAA re-

alizes that their success is dependent on our success. Their willingness to listen and help our chapter is truly appreciated.

As many of you have heard by now, Dr. Jim Kerns has accepted an offer to become the Turfgrass Pathologist at NC State which allows him to be closer to family. Dr. Kerns has been a tremendous asset to the UW Turfgrass Program and gifted speaker at many of our meetings. His talents will be missed here in Wisconsin, we wish him

well in his new adventure.

Upcoming events include the 47th Wisconsin Golf Turf Symposium, December 4th-5th at the American Club in Kohler. This year's topic is, What's in Your Tank? Please plan on attending this year end event and network with fellow Superintendents .

It's been a long year and I hope everyone is having a great fall. See you at the Symposium.



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WGCSA MISSION STATEMENT

The Wisconsin Golf Course Superintendents Association is committed to serve each member by promoting the profession and enhancing the growth of the game of golf through education, communication and research.

WGCSA VISION STATEMENT

The Wisconsin Golf Course Superintendents Association is dedicated to increase the value provided to its members and to the profession by:

- Enhancing the professionalism of its members by strengthening our role as a leading golf organization in the state.
- Growing and recognizing the benefits of a diverse membership throughout Wisconsin.
- Educating and promoting our members as leaders in environmental stewardship.
- Offering affordable, high value educational programs at the forefront of technology and service.
- Being key to enjoyment and the economic success of the game of golf.



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2012 Snow Mold Research

By Dr. Paul Koch, Turfgrass Diagnostic Lab Manager, O.J. Noer Turfgrass Research and Education Facility &
By Dr. Jim Kerns, Department of Pathology, University of Wisconsin - Madison

It was not long after I submitted my last article to Dave for publication in *The Grass Roots* that I realized I should have been my snow mold preview article. We'll chalk it up to the long, hot summer. Alas, I realize that most of you have already made your snow mold fungicide selection and some may have even applied their first applications. Hopefully many of you consulted the 2012 Snow Mold Reports online at the TDL website (www.tdl.wisc.edu) when making your selection for this year.

Snow mold was pretty hard to come by in the incredibly warm winter of 2011-2012, and 4 of the 5 sites we tested at had very little snow mold present. We were fortunate that in the snow belt of Michigan's U.P., at Wawonowin Country Club, a thick cover of snow fell early in the season on relatively unfrozen ground and produced conditions conducive for snow mold development. After a few days of traveling to sites without any snow mold, it was quite a sigh of relief to finally see snow mold. This may seem odd, but it meant results for both the Midwestern turfgrass managers and the chemical cooperators who fund the studies and a portion of our program.

The Wawonowin Country Club evaluation was conducted on a creeping bentgrass and annual bluegrass golf course fairway maintained at a height of 0.5 inch. Early applications were applied on October 6th, 2011 and late applications


were applied on November 1st, 2011. There was continuous snow cover on the plots from mid-November until mid-March of 2010, a total of approximately 120 days. Disease severity, turf quality, and turf color were recorded on March 19th, 2012. Disease severity was visually rated as percent area affected, turfgrass quality was visually rated on a 1-9 scale with 6 being acceptable, and non-diseased turfgrass color was visually rated on a 1-9 scale with 6 being acceptable color. Data was subjected to an analysis of variance and means were separated using the Waller Duncan test. Means for disease severity, turf quality and color for individual treatments are presented in the following tables.

The 2011-2012 trial had a wide variety of both standard snow mold fungicides and new experimental products (Table 1). Disease pressure was high at Wawonowin with non-treated controls averaging 65% disease (Figure 1). The primary pathogen causing disease was *Typhula ishikariensis*. Neither *T. incarnata* nor *M. nivale* were observed. All treatments reduced disease compared to the non-treated control. Despite the fairly high disease pressure, 56 of 75 treatments provided acceptable snow mold control (<10% disease). Of these, 13 treatments provided complete control of snow mold. Most treatments that provided acceptable disease control contained 3 or more active ingredients in the applica-

tion. Turfgrass quality mirrored disease severity, with 53 treatments providing acceptable turfgrass quality. Products containing pigments provided the greenest color with the greatest increas-

es in color coming from those treatments including Civitas, Interface, Reserve, Tartan, and PAR. Finances always play a huge role when selecting snow mold fungicides, second only to efficacy. A lot of news has been made over the lifting of the stop sale order on PCNB, and it is available for sale this fall. The primary advantage of PCNB was that it was a solid snow mold product that was very affordable. But it appears the primary advantage of using PCNB, the low cost, is no longer available. To be blunt, if the cost is similar there are many more effective snow mold fungicides than PCNB, many of which are present in this study. Look over the results of these trials with your sales representatives to find a product that works for a price you can afford.

These trials are conducted to provide information to chemical companies on the efficacy of their products, but also for you as consumers for an unbiased comparison of the best products available under heavy snow mold pressure. The 2012 Snow Mold Reports for each site, with pictures of each treatment, are available at the Turfgrass Diagnostic Lab's website (<http://www.tdl.wisc.edu/research.php>). Fungicide reports for both summer and winter diseases from past years are also available at the same site. Please use these reports to create your fungicide programs, and if you have any questions please do not hesitate to email (plkoch@wisc.edu) or call (608-845-2535).

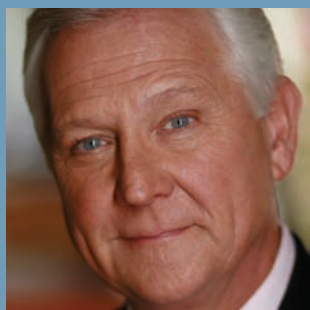
Special thanks to the five host superintendents in 2011-2012: Brent Belanger from Les Bolstad GC in St Paul, MN; Andy Hakkarinen from Wawonowin CC in Champion, MI; Jeff Jushka from Odana Hills GC in Madison, WI; Matt McKinnon from Craguns Resort in Brainerd, MN; and Gary Tanko from Sentryworld GC in Stevens Point, WI. Without their generous hospitality and support, these trials would not be successful. 

| | |
|--|---|
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NORTHERN GREEN EXPO

JANUARY 9-11, 2013
MINNEAPOLIS CONVENTION CENTER

A SNEAK PEEK! Below is a sneak peek at a few of the speakers and topics from the upcoming Northern Green Expo! Complete schedule is on NorthernGreenExpo.org.



Don Shelby

Keynote: The Importance of Sustainability



Erik Christiansen

- Golf Course Irrigation
- Irrigation: Site Inspection
- Irrigation: Design and Specs



Rob Golembiewski

- Interseeding into Established Greens
- Turf Water Use and Soil Amendments



Kevin Norby

- Master Golf Course Planning
- Superintendent Panel Discussion of Master Planning

A complete schedule-at-a-glance can be found online at NorthernGreenExpo.org.

Join the conversation on Twitter [#GreenExpo13](https://twitter.com/GreenExpo13).



David Yocca

The Sustainable Sites Initiative (SITES™) – Project Profiles/Lessons Learned



John Ball

- Trees: Threats on the Horizon
- 2012 Tree Care - The Year in Review



Brian Horgan & Eric Watkins

- Turfgrass Research Update
- Is It Time to Rethink Tall Fescues for Sports Turf? Do They Deserve More Respect?



REGISTER NOW!
www.NorthernGreenExpo.org

TURFGRASS DIAGNOSTIC LAB

Snow Mold and Quality Ratings Recorded on March 19th, 2012 at Wawonowin CC

| Treatment | Rate | Timing ^a | Dis Severity ^b | Quality ^c | Color ^d |
|----------------------|--------------|---------------------|---------------------------|----------------------|--------------------|
| 1 Nontreated Control | | Late | 65.0 a | 2.8 j | 7.0 g |
| 2 Tourney | 0.37 OZ/M | Late | 3.8 hij | 6.3 a-e | 7.0 g |
| 3336 Plus | 4.0 FL OZ/M | Late | | | |
| 3 Velista | 0.7 OZ/M | Late | 10.0 f-j | 5.8 c-g | 7.3 fg |
| 4 Velista | 0.7 OZ/M | Late | 0.5 ij | 6.8 abc | 7.0 g |
| Daconil Ultrex | 5.0 OZ/M | Late | | | |
| Chipco 26GT | 4.0 FL OZ/M | Late | | | |
| 5 Velista | 0.7 OZ/M | Late | 0.5 ij | 6.8 abc | 7.0 g |
| Daconil Ultrex | 5.0 OZ/M | Late | | | |
| Heritage | 0.7 OZ/M | Late | | | |
| 6 Velista | 0.7 OZ/M | Late | 1.3 ij | 6.8 abc | 7.0 g |
| Daconil Ultrex | 5.0 OZ/M | Late | | | |
| Banner MAXX II | 2.0 FL OZ/M | Late | | | |
| 7 Velista | 0.7 OZ/M | Late | 2.5 hij | 6.5 a-d | 7.0 g |
| Daconil Ultrex | 5.0 OZ/M | Late | | | |
| 3336 Plus | 2.0 FL OZ/M | Late | | | |
| 8 Velista | 0.7 OZ/M | Late | 13.8 e-j | 5.0 f-i | 7.0 g |
| Daconil Ultrex | 5.0 OZ/M | Late | | | |
| 9 Velista | 0.7 OZ/M | Late | 2.5 hij | 6.5 a-d | 7.0 g |
| Medallion | 0.25 OZ/M | Late | | | |
| Banner MAXX II | 2.0 FL OZ/M | Late | | | |
| 10 Pillar G | 3.0 LB/M | Late | 10 f-i | 5.8 c-g | 7.3 fg |
| 11 Insignia SC | 0.7 FL OZ/M | Late | 3.8 hij | 6.3 a-e | 7.0 g |
| Trinity | 1 FL OZ/M | Late | | | |
| Daconil Ultrex | 3.2 OZ/M | Late | | | |
| 12 Honor | 0.84 OZ/M | Late | 4.3 g-j | 6.0 b-f | 7.0 g |
| Trinity | 1 FL OZ/M | Late | | | |
| Daconil Ultrex | 3.2 OZ/M | Late | | | |
| 13 Interface | 3.0 FL OZ/M | Late | 12.5 e-j | 5.5 d-h | 7.3 fg |
| Triton Flo | 0.5 FL OZ/M | Late | | | |
| 14 Interface | 3.0 FL OZ/M | Late | 2.5 hij | 6.5 a-d | 8.0 cd |
| Triton Flo | 0.75 FL OZ/M | Late | | | |
| 15 Interface | 4.0 FL OZ/M | Late | 3.8 hij | 6.3 a-e | 7.3 fg |
| Triton Flo | 0.5 FL OZ/M | Late | | | |
| ES TC006A | 3.0 GAL/A | Late | | | |
| 16 Interface | 4.0 FL OZ/M | Late | 8.8 g-j | 6.0 b-f | 8.0 cd |
| Triton Flo | 0.75 FL OZ/M | Late | | | |
| 17 Interface | 4.0 FL OZ/M | Late | 6.3 g-j | 6.0 b-f | 7.8 de |
| Triton Flo | 0.85 FL OZ/M | Late | | | |
| 18 Interface | 5.0 FL OZ/M | Late | 2.5 hij | 6.5 a-d | 7.8 de |
| Triton Flo | 0.85 FL OZ/M | Late | | | |
| 19 Interface | 6.00 FL OZ/M | Late | 0.5 ij | 6.8 abc | 8.0 cd |
| Triton Flo | 0.85 FL OZ/M | Late | | | |
| 20 Reserve | 4.50 FL OZ/M | Late | 0.0 j | 7.3 a | 7.8 de |
| Interface | 4.0 FL OZ/M | Late | | | |
| 21 Reserve | 4.5 FL OZ/M | Late | 0.0 j | 7.0 av | 7.8 de |
| Tartan | 1.5 FL OZ/M | Late | | | |
| 22 Reserve | 6.0 FL OZ/M | Late | 0.0 j | 7.0 ab | 8.0 cd |
| Interface | 5.4 FL OZ/M | Late | | | |
| 23 Torque | 0.6 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.0 g |
| 26/36 | 4.0 FL OZ/M | Late | | | |
| Spectro | 3.6 OZ/M | Late | | | |

Means followed by same letter do not significantly differ (P=.05, Waller Duncan)

^aEarly and late fungicide treatments were applied on Oct, 6th and Nov. 1st 2012, respectively

^bMean % diseased area

^cQuality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

^dColor was visually rated on a scale of 1-9 where 1 = completely brown, 6 = acceptable, 9 = dark green

TURFGRASS DIAGNOSTIC LAB

Snow Mold and Quality Ratings Recorded on March 19th, 2012 at Wawonowin CC

| Treatment | Rate | Timing ^a | Dis Severity ^b | Quality ^c | Color ^d |
|-------------------|--------------|---------------------|---------------------------|----------------------|--------------------|
| 24 Torque | 0.6 FL OZ/M | Late | 5.0 g-j | 6.5 a-d | 7.0 g |
| Affirm | 0.9 OZ/M | Late | | | |
| Spectro | 3.60 OZ/M | Late | | | |
| 25 Torque | 0.9 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.3 fg |
| 3336 Plus | 4.0 FL OZ/M | Late | | | |
| 26 FeDCON | 12.0 FL OZ/M | Early/Late | 13.0 e-j | 5.5 d-h | 5.0 h |
| Torque | 0.4 FL OZ/M | Late | | | |
| 27 FeDCON | 12.0 FL OZ/M | Late | 7.5 g-j | 5.8 c-g | 5.3 h |
| Torque | 0.4 FL OZ/M | Late | | | |
| 28 Instrata | 7.0 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.0 g |
| 29 Instrata | 9.0 FL OZ/M | Late | 1.8 hij | 6.5 a-d | 7.0 g |
| 30 Concert II | 8.5 FL OZ/M | Late | 2.5 hij | 6.5 a-d | 7.0 g |
| 31 Concert II | 8.5 FL OZ/M | Late | 5.0 g-j | 6.0 b-f | 7.5 ef |
| PAR | 0.37 FL OZ/M | Late | | | |
| 32 Concert II | 8.5 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.3 fg |
| Medallion | 0.25 OZ/M | Late | | | |
| PAR | 0.37 FL OZ/M | Late | | | |
| 33 Concert II | 8.5 FL OZ/M | Late | 1.8 hij | 6.5 a-d | 7.5 ef |
| A7087F | 0.5 FL OZ/M | Late | | | |
| PAR | 0.37 FL OZ/M | Late | | | |
| 34 Interface | 3.0 FL OZ/M | Late | 1.0 ij | 7.0 ab | 7.3 fg |
| Torque | 0.6 FL OZ/M | Late | | | |
| 35 A9898A | 1.3 FL OZ/M | Late | 1.8 hij | 6.5 a-d | 7.0 g |
| Daconil Action | 5.4 FL OZ/M | Late | | | |
| 36 A9898A | 1.3 FL OZ/M | Late | 1.8 hij | 6.5 a-d | 7.0 g |
| Medallion TL | 0.96 FL OZ/M | Late | | | |
| 37 A9898A | 1.3 FL OZ/M | Late | 10.0 f-j | 5.8 c-g | 7.0 g |
| A70087F | 0.5 FL OZ/M | Late | | | |
| 38 A9898A | 1.3 FL OZ/M | Late | 0.5 oj | 6.8 abc | 7.0 g |
| A7087F | 0.5 FL OZ/M | Late | | | |
| Medallion TL | 0.96 FL OZ/M | Late | | | |
| 39 Instrata | 9.0 FL OZ/M | Late | 1.3 ij | 6.8 abc | 7.5 ef |
| PAR | 0.37 FL OZ/M | Late | | | |
| 40 Instrata | 5.5 FL OZ/M | Late | 0.0 j | 7.3 a | 8.0 cd |
| A7087F | 0.5 FL OZ/M | Late | | | |
| PAR | 0.37 FL OZ/M | Late | | | |
| 41 Banner MAXX II | 2.0 FL OZ/M | Late | 0.5 ij | 6.8 abc | 7.0 g |
| A7087F | 0.5 FL OZ/M | Late | | | |
| Medallion TL | 0.96 FL OZ/M | Late | | | |
| 42 Banner MAXX II | 2.0 FL OZ/M | Late | 5.5 g-j | 6.5 a-d | 7.3 fg |
| Medallion TL | 0.96 FL OZ/M | Late | | | |
| PAR | 0.37 FL OZ/M | Late | | | |
| 43 Banner MAXX II | 2.0 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.0 g |
| Medallion TL | 0.96 FL OZ/M | Late | | | |
| 44 Interface | 4.0 FL OZ/M | Late | 2.5 hij | 6.5 a-d | 7.3 fg |
| Chipco Triton WDG | 0.3 OZ/M | Late | | | |
| 45 QP TM/C | 6.0 OZ/M | Late | 0.0 j | 7.0 ab | 7.0 g |
| QP Iprodione | 4.0 FL OZ/M | Late | | | |
| QP Propiconazole | 2.0 FL OZ/M | Late | | | |

Means followed by same letter do not significantly differ (P=.05, Waller Duncan)

^aEarly and late fungicide treatments were applied on Oct, 6th and Nov. 1st 2012, respectively

^bMean % diseased area

^cQuality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

^dColor was visually rated on a scale of 1-9 where 1 = completely brown, 6 = acceptable, 9 = dark green

TURFGRASS DIAGNOSTIC LAB

Snow Mold and Quality Ratings Recorded on March 19th, 2012 at Wawonowin CC

| Treatment | Rate | Timing ^a | Dis Severity ^b | Quality ^c | Color ^d |
|-----------------|--------------|---------------------|---------------------------|----------------------|--------------------|
| 46 QP TM/C | 6.0 OZ/M | Late | 0.0 j | 7.0 ab | 7.3 fg |
| QP Iprodione | 4.0 FL OZ/M | Late | | | |
| QP Tebuconazole | 0.60 FL OZ/M | Late | | | |
| 47 QP Enclave | 8.0 FL OZ/M | Late | 0.0 j | 7.0 ab | 7.0 g |
| 48 QP Enclave | 8.0 FL OZ/M | Late | 0.0 j | 7.3 a | 8.0 cd |
| Foursome | 0.5 FL OZ/M | Late | | | |
| 49 Civitas | 16.0 FL OZ/M | Late | 15.0 e-i | 5.0 f-i | 7.0 g |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| Concert | 4.5 FL OZ/M | Late | | | |
| 50 Civitas | 16.0 FL OZ/M | Late | 27.0 b-e | 5.0 f-i | 7.0 g |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| 51 Civitas | 16 FL OZ/M | Late | 3.8 hij | 6.3 a-e | 7.3 fg |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| Daconil Wstik | 1.5 FL OZ/M | Late | | | |
| 52 Civitas | 16 FL OZ/M | Late | 2.5 hij | 6.8 abc | 7.8 de |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| QP Iprodione | 2.0 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| 53 Civitas | 16.0 FL OZ/M | Late | 3.8 hij | 6.3 a-e | 8.0 cd |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| Trinity | 1.0 FL OZ/M | Late | | | |
| Daconil Wstik | 1.5 FL OZ/M | Late | | | |
| 54 Civitas | 16.0 FL OZ/M | Late | 23.8 b-f | 5.3 e-i | 7.3 fg |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| QP Iprodione | 3.0 FL OZ/M | Late | | | |
| Daconil Wstik | 1.5 FL OZ/M | Late | | | |
| 55 Civitas | 8.0 FL OZ/M | Late | 7.5 g-j | 6.3 a-e | 7.5 ef |
| Harmonizer | 0.5 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| 56 Civitas | 8.0 FL OZ/M | Late | 1.8 hij | 6.5 a-d | 7.5 ef |
| Harmonizer | 0.5 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| Daconil Wstik | 1.5 FL OZ/M | Late | | | |
| 57 Civitas | 8.0 FL OZ/M | Late | 2.5 hij | 6.5 a-d | 7.0 g |
| Harmonizer | 0.5 FL OZ/M | Late | | | |
| Torque | 0.6 FL OZ/M | Late | | | |
| Daconil Wstik | 5.5 FL OZ/M | Late | | | |
| 58 Civitas | 8.0 FL OZ/M | Early/Late | 3.8 hij | 6.3 a-e | 7.8 de |
| Harmonizer | 0.5 FL OZ/M | Early/Late | | | |
| Torque | 0.6 FL OZ/M | Early/Late | | | |
| 59 Civitas | 8.0 FL OZ/M | Late | 8.8 g-i | 6.0 b-f | 7.0 g |
| Harmonizer | 0.5 FL OZ/M | Late | | | |
| Trinity | 1.0 FL OZ/M | Late | | | |
| Daconil Wstik | 1.5 FL OZ/M | Late | | | |
| 60 Civitas | 16.0 FL OZ/M | Late | 32.5 b | 4.5 hi | 7.8 de |
| Harmonizer | 1.0 FL OZ/M | Late | | | |
| Emerald | 0.18 OZ/M | Late | | | |

Means followed by same letter do not significantly differ (P=.05, Waller Duncan)

^aEarly and late fungicide treatments were applied on Oct. 6th and Nov. 1st 2012, respectively

^bMean % diseased area

^cQuality was visually rated on a scale of 1-9 where 1 = completely dead, 6 = acceptable, 9 = dark green

^dColor was visually rated on a scale of 1-9 where 1 = completely brown, 6 = acceptable, 9 = dark green