8	Primo	0.75	fl oz/1000ft2	14 days	96 GPA
11	Mycoshield	3.0	lb/A (600 ppm)	14 days	96 GPA
12	Primo	0.5	fl oz/1000ft2	14 days	96 GPA
13	Ammonium sulfate	0.125	lb N/1000ft2	14 days	96 GPA
14	Primo	0.5	fl oz/1000ft2	14 days	96 GPA
	Ammonium sulfate	0.125	lb N/1000ft2	14 days	96 GPA
15	Ammonium sulfate	0.25	lb N/1000ft2	14 days	96 GPA
16	Urea	0.25	lb N/1000ft2	14 days	96 GPA
17	Daconil Action	3.6	fl oz/1000ft2	14 days	96 GPA

When symptoms were present, etiolation was relatively uniform across all plots in the study. No treatments were completely effective at eliminating the spindly growth and yellowing of irregular areas among plots. However, the growth regulator trinexapac-ethyl (Primo) clearly increased symptoms with more severe etiolation taking place in these plots than others (data not shown).

Etiolation symptoms have subsided as temperatures have cooled down this summer; however, this study is significant due to the successful initiation of etiolation symptoms with *Acidovorax avenae* subsp. *avenae*. Prior to this, only laboratory and controlled environment studies have been able to replicate natural symptoms caused by this enigmatic disease. Our current working knowledge of effective inoculation techniques and strategies that encourage disease incidence will allow for more research to take place in the future on this new disease.

Stop 9. Effect of Creeping Bentgrass Seeding Rate and Traffic on Establishment for Putting Greens

Thomas O. Green and Dr. John N. Rogers, III

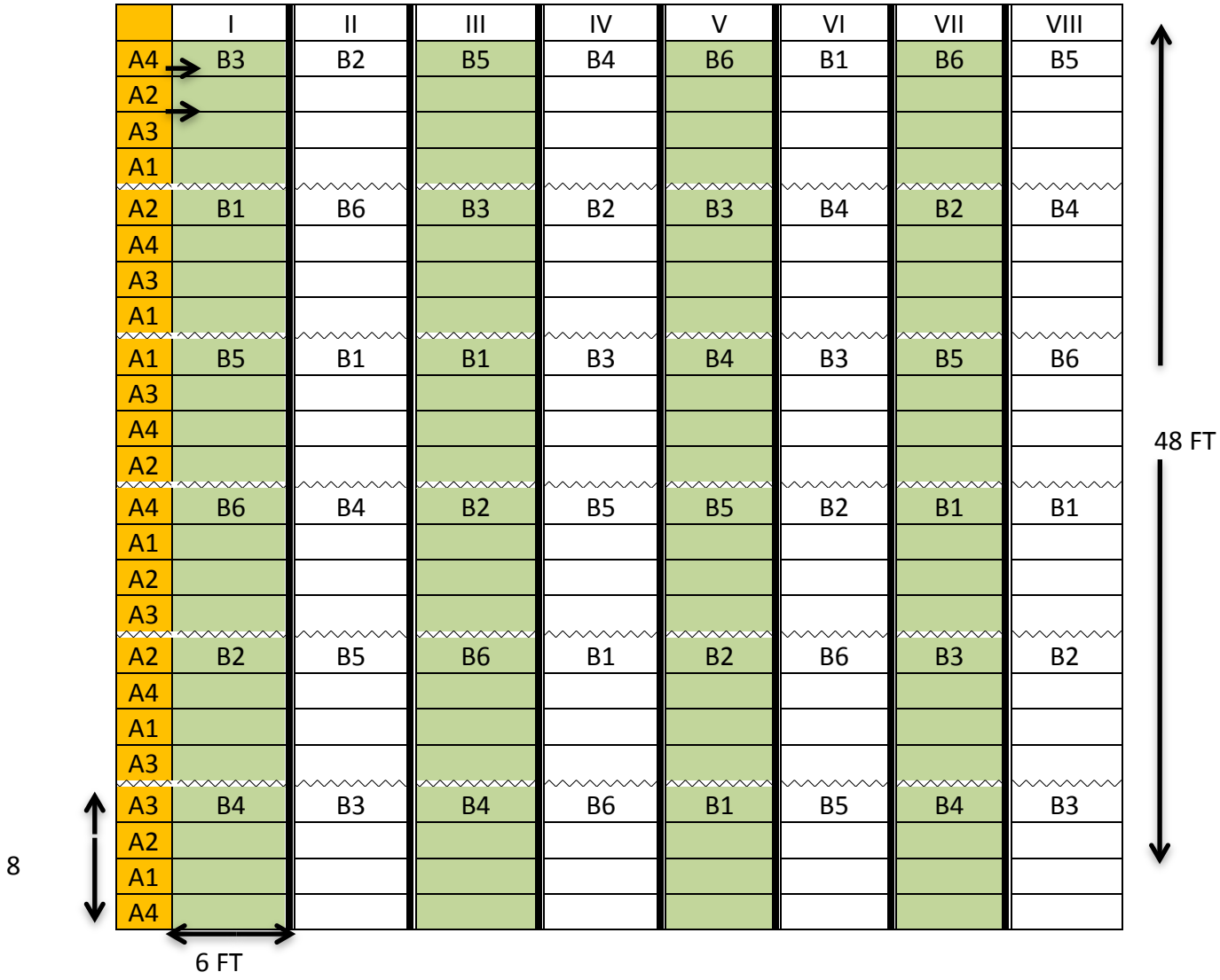
Due to the rapidly increasing breeding efforts in the turfgrass industry, there will be many new and exciting species and varieties available to golf courses over the next years to help save financial and environmental resources. Conversion to these grasses will require complete renovation. This research project is one in a series to begin to investigate the issues surrounding conversion to ensure a seamless transition with minimal disruption and downtime. One of the first priorities is to identify the ideal seeding rate of creeping bentgrass as well as the effect of the seeding rate on traffic tolerance. This is a careful balance in that seed, while relatively inexpensive today, could become a precious commodity due to demand. Also, the relationship between seeding rates and turf density in the first year could play a role in the overall health of the grass.

Foot traffic simulation and seeding rate trial was initiated August 8, 2012 on an experimental putting green at Hancock Turfgrass Research Center, Michigan State University in East Lansing,

Michigan. The experiment was a strip plot two-way factorial design with eight replications: six seeding rates (0.125, 0.25, 0.50, 0.75, 1.0, & 2.0 lb/1000ft^2) of 'V8' creeping bentgrass (*Agrostis stolonifera*), and three foot traffic simulation treatments and a control using a modified Jacobsen® 22 inch cut walk-behind greens mower with 116 -'Black Widow' Softspikes®.

Once established, the putting green was mowed five times per week at 0.125 inch height of cut with a Toro® triplex mower (Minneapolis, MN), and fertilizer was applied every ten days at rates of 1/8 lb N/M using CoRoN® '28%' liquid urea. Sand topdressing applied weekly from May to September using a TURFCO® Wide Spin™ 1530 topdresser (Blaine, MN) with rates of 0.193 yd^3 sand per M. Daily irrigation supplied 0.18 inches of water if no rain events occurred.

Turf density was evaluated qualitatively using visual ratings for total percentage green cover and quantitatively using chlorophyll and NDVI meters from Spectrum Technology. Rooting strength was analyzed using a shear vane tester from Turf Tec International. Foot traffic simulation was applied using a 7.5 in diameter aluminum drum roller with 22 in swath. The drum roller unit was drilled and tapped to accept one hundred and sixteen 'Black Widow' Softspikes®. The simulator made four passes across the treatment area, three times per week starting on the designated initiation interval (May, June, and July).



EXPERIMENTAL FACTOR	Treatments	
A1	Walking traffic simulator @ 3x/week with 4 passes each	May traffic initiation
A2		June traffic initiation
A3		July traffic initiation
A4		No traffic
B1	'V8' creeping bentgrass seeding rates	⅛ lb/M
B2		¼ lb/M
B3		½ lb/M
B4		¾ lb/M
B5		1.0 lb/M
B6		2.0 lb/M