

Summer Stress Syndrome in Bentgrass

This trial was conducted on a Penncross creeping bentgrass green at the Hancock Turfgrass Research Center, E. Lansing, MI. The plot area was mowed at 0.130". Fertility was maintained at ¼ lb. N/1000 ft²/ month (using 18-3-12) with 1/8 lb N/1000 ft² applications being made on 6/3, 6/16, 6/30, 7/12, 7/26, 8/10, and 8/24. The Gary's Green combinations and the Emerald Isle combinations received adjusted amounts of urea to offset the nitrogen contained in the products (any where from 0.06 – 0.12 lbs N). The total nitrogen they received was equivalent to all of the other treatments. The study was set up in a randomized complete block design with four replications of each treatment. Plots measured 2' x 4.5' with 1' alleys. Treatments were applied at 36 PSI in a 48 GPA spray volume using a CO₂ backpack sprayer and a single 8002E Tee-Jet flat fan nozzle, unless otherwise noted in Table 9. Initial application of most treatments was made on May 19, unless otherwise indicated in Table 9. Re-applications of treatments on a 14 day schedule were made on 6/3, 6/16, 6/30, 7/15, 7/28, 8/10, and 8/23, or as listed in Table 9. In addition, a Daconil Ultrex treatment (3.2 oz/1000 sq ft) was applied to the Emerald Isle treatments on 7/28, 8/10, and 8/23 to control dollar spot. Quality ratings were visually estimated using a 1 to 10 scale, where 1 = poor, 10 = excellent, and 7 = acceptable. Data were analyzed using ANOVA and means separated by LSD (p= 0.05).

This growing season was mild in terms of stress on our bentgrass green study. Many of the treatments tested provided superior turf quality compared to the control which received only fertilizer. Treatments such as various Signature combinations and program treatments, Gary's Green combination programs, and Aviator/Pentathlon combinations provided good turf quality throughout the study.

Table 9. Mean Quality Ratings of Summer Stress in Creeping Bentgrass 2004
Location: Hancock Turf Research Center, E. Lansing, MI.
Rating Scale: 1-10 scale, where 1 = poor, 10 = excellent and 7 = acceptable.

Treatment and Rate/1000 sq ft	Interval (Days)	Mean ^a	Mean ^a	Mean ^a	Mean ^a
		28-Jun	26-Jul	13-Aug	24-Aug
Ch Signature Aliette 4 oz + Daconil Ultrex 3.2 oz	14	7.8 ab	7.5 ab	7.5 ab	7.8 a
Gary's Green 6 fl oz + PK Plus 6 fl oz + Ultra Plex 3 fl oz + Daconil Ultrex 2 oz	14	8 a	7.8 a	7.8 a	7.5 ab
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	14	7.3 a-d	7 a-d	7.5 ab	7.5 ab
Aviator 1 fl oz + Pentathlon 4LF 12 fl oz/M	5/7, 5/19	6.8 c-f	7.3 a-c	7.0 b-d	7.3 a-c
Vital Sign 6 oz + Concorde 82.5WDG 3.2 fl oz	14 days from 6/24 - 8/10				
Aviator 1 fl oz + Pentathlon 4LF 12 fl oz/M	8/23				
Chipco Signature 4 oz + Daconil Ultrex 3.2 oz	7/3	7 b-e	7 a-d	7.0 b-d	7.3 a-c
Chipco Signature 4 oz + Bayleton 0.5 oz	6/16				

Chipco Signature 4 oz + Heritage 0.2 oz	6/30				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	7/15				
Chipco Signature 4 oz + Bayleton 0.5 oz	7/28				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	8/10				
Chipco Signature 4 oz + Bayleton 0.5 oz	8/23				
Aviator 1 fl oz + Pentathlon 4LF 12 fl oz/M	5/7, 5/19	7.3 a-c	7.8 a	7.0 b-d	7 b-d
GX-734 9 fl oz	14 days from 6/24 - 8/10				
Aviator 1 fl oz + Pentathlon 4LF 12 fl oz/M	8/23				
Prudent Plus 5 fl oz + Nutrol 3 oz + Daconil Ultrex 3.2 oz	14	7 b-e	7.5 ab	7.0 b-d	7 b-d
Spectro 4 oz + Alude 5.5 fl oz	14	6.8 c-f	7.3 a-c	7.3 a-c	7 b-d
Chipco Signature 4 oz + Compass 0.15 oz	5/19	7.5 a-c	7 a-d	6.8 c-e	7 b-d
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	6/3				
Chipco Signature 4 oz + Bayleton 0.5 oz	6/16				
Chipco Signature 4 oz + Compass 0.15 oz	6/30				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	7/15				
Chipco Signature 4 oz + Bayleton 0.5 oz	7/28, 8/10, 8/23				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	6/3	6.8 c-f	7 a-d	7.0 b-d	7 b-d
Chipco Signature 4 oz + Bayleton 0.5 oz	6/16				
Chipco Signature 4 oz + Compass 0.15 oz	6/30				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	7/15				
Chipco Signature 4 oz + Bayleton 0.5 oz	7/28				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	8/10				
Chipco Signature 4 oz + Bayleton 0.5 oz	8/23				
Gary's Green 6 fl oz + PK Plus 6 fl oz + Ultra Plex 3 fl oz	14	7.3 a-d	6 d-f	6.5 d-f	7 b-d
Chipco Signature 4 oz + Compass 0.15 oz	5/19	8 a	7 a-d	7.0 b-d	6.8 c-e
Chipco Signature 4 oz + Daconil Ultrex 3.2 oz	6/3				
Chipco Signature 4 oz + Bayleton 0.5 oz	6/16				
Chipco Signature 4 oz + Heritage 0.2 oz	6/30				
Chipco Signature 4 oz + Chipco 26GT 4 fl oz	7/15, 7/28, 8/10, 8/23				
Emerald Isle #3 CPR 6 oz + NRTF N 3 oz + NRTF NPK 3 oz + NRTF Si 3 oz + Daconil Ultrex 3.2 oz ^b	14	7 b-e	6.3 c-f	6.5 d-f	6.8 c-e
Emerald Isle #2 CPR 6 oz + NRTF NPK 3 oz + NRTF K 3 oz + NRTF N-Ca 3 oz + NRTF Si 3 oz + Daconil Ultrex 3.2 oz ^b	14	6.5 d-f	6 d-f	6.3 ef	6.8 c-e
Alude 5.5 fl oz + Protect 8 oz	14	6.8 c-f	7.3 a-c	6.3 ef	6.5 d-f
Endorse 4 oz + Alude 5.5 fl oz	14	7 b-e	6.8 e	6.8 c-e	6.5 d-f
Spectro 4 oz + Magnum 3 oz	5/19	6.3 ef	7.3 a-c	6.8 c-e	6.3 ef
CL-EXP-2-04 2 oz + Magnum 3 oz	6/3				
Banner Maxx 2 fl oz + Spotrete 6 oz + Magnum 3 oz	6/16				

Spectro 4 oz + Alude 5.5 fl oz	6/30				
Endorse 4 oz + Protect 6 oz + Alude 5.5 fl oz	7/15				
3336 4 oz + Protect 6 oz + Alude 5.5 fl oz	7/28				
Endorse 4 oz + Protect 6 oz + Alude 5.5 fl oz	8/13				
Gary's Green 6 fl oz + Ultra Plex 6 fl oz	14	7.5 a-c	6 d-f	6.0 f	6.3 ef
Control	---	6 f	5.5 ef	6.0 f	6.3 ef
Prudent Plus 5 fl oz + Nutrol 3 oz	14	6.8 c-f	6.3 c-f	6.3 ef	6 f
Emerald Isle #1 CPR 6 oz + NRTF N 3 oz + NRTF K 3 oz + NRTF Si 3 oz + Daconil Ultrex 3.2 oz ^b	14	6 f	5.5 ef	6.0 f	6 f

^a Mean of 4 replications; means followed by the same letter do not significantly differ (LSD, p=0.05).

^b Treatments initiated on 6/3 and Daconil Ultrex (3.2 oz/1000 sq ft) applied on 7/28, 8/10, and 8/23 .

Summer Stress Syndrome in Annual Bluegrass

This trial was conducted on a *Poa annua* fairway at the Hancock Turfgrass Research Center, E. Lansing, MI. The plot area was mowed at 0.5". Fertility was maintained at about ¼ lb N/1000 ft²/ month (18-3-12). All treatments received ½ lb N/1000 ft² application on 6/22 followed by 1/8 lb N/1000 ft² applications to all treatments except the Gary's Green and Emerald Isle treatments on 6/3, 6/16 7/12, 7/26, 8/10, and 8/24. The Gary's Green combinations and the Emerald Isle programs received adjusted amounts of urea to offset the nitrogen contained in the products. The total nitrogen they received was equivalent to that received by all of the other treatments in the study. The study was set up in a randomized complete block design with four replications of each treatment. Plots measured 2' x 4.5' with 1' alleys. Treatments were applied at 36 PSI in a 48 GPA spray volume using a CO₂ backpack sprayer and a single 8002E TeeJet flat fan nozzle. Initial application of all treatments was made on May 19, unless indicated otherwise in Table 10. Re-applications of treatments on a 14 day schedule were made on 5/19, 6/3, 6/16, 6/30, 7/13, 7/28, 8/10, and 8/24, or as listed in Table 10. The Emerald Isle treatments received a Daconil Ultrex (3.2 oz) treatment on 7/23, 8/10, and 8/24. Turfgrass quality was visually estimated using a 1 to 10 scale, where 1 = poor, 10 = excellent, and 7 = acceptable. Data were analyzed using ANOVA and means separated by LSD (p= 0.05).

As can be seen in Table 10, many treatments provided significantly better turf quality than the control. The Signature combination and program treatments provided very good turf quality throughout the study as did the Aviator/pentathlon program, Spectro + Alude, Prudent Plus program, Emerald Isle program, and Gary's Green programs. Since the weather was so mild this season, the Daconil Ultrex treatment provided good turf quality that was not significantly different from any of the top-performing treatments.

Table 10. Mean quality ratings for summer decline in annual bluegrass 2004