

Impact of BRANDT nutritional program on the performance of a golf course putting green under summer stress (2017)

DATE: May – August 2017

- **PURPOSE:** BRANDT offers premium and advanced fertilizer technology, including BRANDT[®] Manni-Plex[®] foliar formulations. In this trial, we evaluated an existing program designed to improve turfgrass performance under environmental stress, including heat and drought. The program, offering a mix of soluble and slow release nitrogen (SRN), minor nutrients, seaplant extract, and wetting agent, is designed as a spoon-feeding approach (applied every 7 days) to maintaining high quality turfgrass under low mowing regimes, high traffic, and environmental stress.
- SUMMARY: BRANDT's SUMMER SUCCESS nutritional program significantly improved turfgrass quality under stress compared to untreated plots. Additionally, this program provided significantly better turf quality than urea applied alone (N control) at the same rate. Considering the low mowing heights and high heat, especially toward the latter part of the trial, BRANDT's SUMMER SUCCESS program offers golf course superintendents an effective fertilizer program to combat summer stress on cool season turfgrasses.

GENERAL INFORMATION:

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Study Director: Investigator:	Gordon Kauffman III, Ph.D. – BRANDT Steve McDonald, M.S. – Turfgrass Disease Solutions		* *Weather at time of Appl*
Brandt Rep: Location:	NA Spring Hollow Golf Course, Spring City, PA		

CROP DETAILS:

Annual bluegrass (Poa annua L) and
creeping bentgrass (Agrostis
stoloniferous)

Crop/Variety:

PLANTING TYPE, IRRIGATION & SOIL CONDITIONS:

Irrigation	
Туре:	NA
Planting Type:	NA
General Fertility:	Lean
Soil Type:	California greens mix (USGA
	specifications)
Plot Size:	3X8 ft
Replications:	3 - Random Complete Block

PEST PRESSURE:

Pest1: NA



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WEATHER CONDITIONS:

General Weather Cond.: Warm, other abiotic stress During Application: Variable

TREATMENT DETAILS:

Crop Stage at App.:	Perennial grass cover
Crop Stage at App.:	
Site Type:	Golf Course
Plot Size:	3X8 ft.
Application Date(s):	Weekly April 17 then 24 Apr, 1
	May, 8 May, 15 May, 22 May, 3
	May, 4 Jun, 15 Jun, 22 Jun, 28

	Jun, 6 Jul, 13, Jul, and 21 Jul – 14
	total applications.
Spray Volume/Carrier:	88 GAL H2O/A
Application Method:	CO2 powered boom prayer
Nozzle and Pressure:	4 Flat fan nozzles at 40 p.s.i.

APPLICATIONS DETAILS: (M=1000ft2) (SEE BELOW)

Application 1:	*
Application 2:	*
Application 3:	*
Application 4:	*
Application 5:	*

APPLICATION DETAILS:

Products:

GRIGG[®] P-K Plus[®] (3-7-18; 14% phosphite) BRANDT Manni-Plex Total Turf (4-0-0; 1.2Mg, 2.8Fe, 0.5Mn, 0.6Zn) BRANDT Manni-Plex Mg (5-0-0; 4Mg) BRANDT Converge SRN (30-0-0 70% SRN) BRANDT[®] Foli-Cal[®] (10Ca) BRANDT Manni-Plex Eagle (7-0-14; 0.25Mg, 0.5Fe, 0.25Mn) BRANDT In-Cyte (3-12-0) BRANDT Manni-Plex Root Builder (3-0-0; 0.5 Mg, 0.2B, 0.05Cu, 0.9Mn, 4.7Zn) BRANDT Manni-Plex Mn (7-0-0; 5Mn) BRANDT Manni-Plex Ultra Turf (4-0-2; 0.5Mg, 0.25B, 0.5Cu, 2Fe, 0.5Mn, 0.25Mo) BRANDT Seaweed Max (25% Ascophylum nodosum)

The following maintenance applications were made during the trial to prevent disease and insect pests:

April 24th: Velista® at 0.5 oz/M + Allectus (5% imidacloprid/ 4% Bifenthrin) at 1.5 fl oz/M May 22: Briskway® at 0.725 fl oz/M + Provaunt® at 12 oz/A May 30: Secure® at 0.5 fl oz/M + Acelepyrn® at 12 fl oz/A June 6th: Scimitar® at 10 fl oz/A + Meridian® (17 oz/A) + Torque at 0.6 fl oz/M + Daconil Ultrex® at 5 lbs per acre June 15th: Briskway 0.5 fl oz/M + Ference® (12 fl oz/A). June 28th: Briskway 0.5 fl oz/M + Daconil Ultrex at 2.5 oz/M July 5th: Chipco® 26 GT at 3 fl oz/M + Daconil Ultrex at 2 oz/M July 17th: Lexicon at 0.47 fl oz/M

Treatments:



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Treatment 1: All RATES are 3 fl. oz./1000ft ² (M)
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Application Timing	<u>Products</u>
Week 1	BRANDT Manni-Plex Total Turf
	BRANDT Manni-Plex Mg
	BRANDT BRANDT Converge SRN
Week 2	BRANDT Foli-Cal
	BRANDT Manni-Plex Eagle
	BRANDT In-Cyte
Week 3	BRANDT Foli-CAL
	BRANDT Manni-Plex Root Builder
	BRANDT Converge SRN
Week 4	BRANDT Foli-CAL
	BRANDT Manni-Plex Mn
	BRANDT Manni-Plex Ultra Turf
Every 6 th Spray	BRANDT Seaweed Max

Treatment 2: All RATES are 3 fl. oz./1000ft2

Application Timing	Products
Week 1	BRANDT Manni-Plex Total Turf
	BRANDT Manni-Plex Mg
	BRANDT Converge SRN
Week 2	GRIGG P-K Plus (6 fl. oz./M)
	BRANDT Manni-Plex Eagle
	BRANDT In-Cyte
Week 3	BRANDT Foli-CAL
	BRANDT Manni-Plex Root Builder
	BRANDT Converge SRN
Week 4	GRIGG P-K Plus (6 fl. oz./M)
	BRANDT Manni-Plex Mn
	BRANDT Manni-Plex Ultra Turf
Every 6 th Spray	BRANDT Seaweed Max

Treatment 3: Nitrogen (N) Control (urea) every 14 days 0.10 lb N/M – to match the amount of N in BRANDT's Summer Success Program.

Assessments:

Visual turfgrass quality (14 days) start memorial day Visual turfgrass color (14 days) end Aug 4, 2017.

RESULTS

 Both Summer Success Programs provided extremely high levels of turf quality throughout the trial (Figures 1, 2&3).



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- There was no different between Summer Success Program 1 and 2, indicating that the addition of GRIGG
 P-K Plus did not improve turf quality or color in this trial (Figure 1.)
- Both Summer Success Programs provided significantly better turf quality than the N control (Figures 1&3).
- Both Summer Success Programs provided better turf color than the N control on a majority of the rating dates, including significant differences on Jun 5 and 27 (Figures 2, 3&4).





* Means followed by a different letter are significantly different (P=0.05).



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Figure 2. Turfgrass treated with BRANDT Summer Success program (bottom) compared to an equivalent amount of nitrogen (N). Notice the difference in color.



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Figure 3. Turfgrass treated with BRANDT Summer Success program compared to an equivalent amount of nitrogen (N). Notice the difference in quality AND color.

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Figure 4. Impact of BRANDT Summer Success Program on turfgrass quality compared to an equivalent amount of nitrogen (N) as urea. * Means followed by a different letter are significantly different (P=0.05).

RECOMMENDATIONS

- Maximize turfgrass performance by spoon-feeding and providing complete and balanced nutrition.
- Utilize BRANDT advanced fertilizer technology and GRIGG organic chelation technology to optimize turfgrass performance, quality and color under summer stress conditions.
- The combined soluble and slow release N contained in the BRANDT Summer Success Program appears to provide better color and quality than soluble urea.
- The additional components of the BRANDT Summer Success Program, including seaplant extract and wetting agent positively impact turf quality and performance during environmental stress.
- Apply these programs *preventatively and sequentially* prior to the onset of environmental stress