UCRTRAC Accumulative Research Summary
Section C: Unbiased Product Testing (fertilizers, pesticides, equipment, etc.)
Project 13

Title: The Evaluation of Slow-Release Nitrogen Fertilizers Applied on Arizona Common Bermudagrass During the Warm Season.

Objective: To evaluate the performance of slow-release nitrogen (N) fertilizers, and a fast-release N fertilizer, in terms of visual turfgrass quality and color, when applied during the warm-season on an Arizona common bermudagrass that is maintained similar to fairway conditions.

- Five fertilizer treatments were applied at 1.5 lb N/1000 ft^2 on 3 May and 31 July 2000; four replicate plots per treatment; plot size = 4.5 x 6.0 ft (see Figure 1 for fertilizer treatments).

- Visual turfgrass quality and color ratings were taken once every 2 weeks, 19 May to 7 Oct.

- Study area maintained similar to fairway conditions, including being mowed at a 0.5-inch mowing height with a reel mower, two times per week.

Location: An Arizona common bermudagrass plot located at the UCR Turfgrass Field Research Facility. The plot was seeded in May 1999.

Duration: One warm season.

Funding Source: TRI-Pro, Inc.

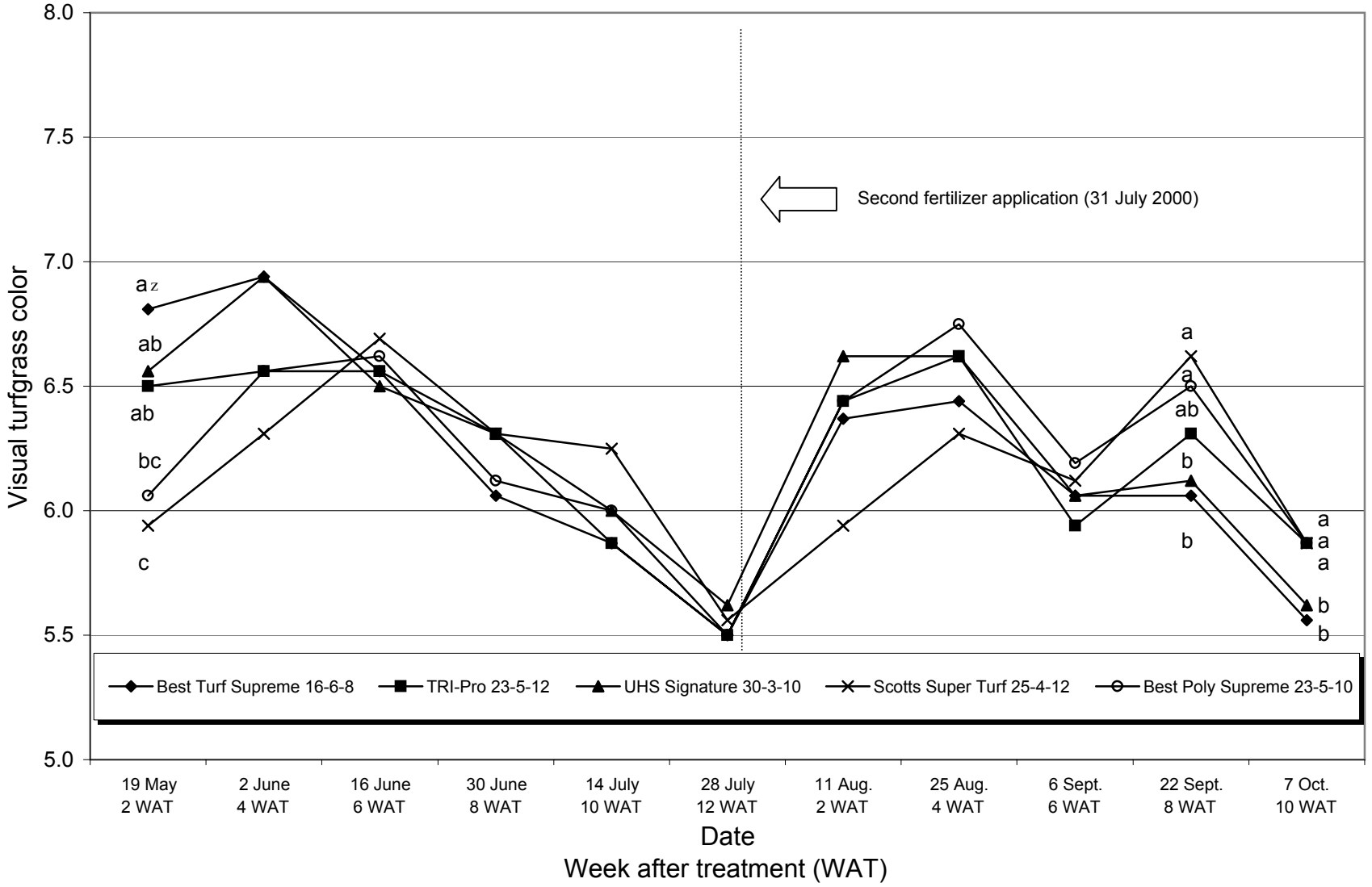
Findings:

- All fertilizer treatments performed similarly, in terms of visual turfgrass color and quality (Figure 1; Tables 1 and 2).

- The 1.5 lb N/1000 ft^2 application rate provided acceptable visual turfgrass color and quality for 10 to 12 weeks after application.

Status: A one-season study was completed and a Final Report prepared. A semitechnical article maybe prepared for a trade journal.

Figure 2. Visual turfgrass color ratings (1 to 9 scale, with 1= brown, 5=minimally acceptable, and 9=darkest green) of Arizona common bermudagrass treated with five nitrogen fertilizers and maintained under fairway conditions.



[z]Means followed by the same letter are not significantly different, Fisher's Protected least-significant-difference (LSD) test, P=0.05.

Table 1. Visual turfgrass color ratings (1 to 9 scale, with 1=brown, 5=minimally acceptable, and 9=darkest green) of Arizona common bermudagrass treated with five nitrogen fertilizers and maintained under fairway conditions.

Nitrogen product treatment (N-P_2O_5-K_2O)	Date (Weeks after treatment)[z]											
	19 May (2)	2 June (4)	16 June (6)	30 June (8)	14 July (10)	28 July (12)	11 Aug. (2)	25 Aug. (4)	6 Sept. (6)	22 Sept. (8)	7 Oct. (10)	Overall
Best Turf Supreme 16–6–8	6.8 a[y]	6.9	6.6	6.1	5.9	5.5	6.4	6.4	6.1	6.1 b	5.6 b	6.2
TRI-Pro 23–5–12	6.5 ab	6.6	6.6	6.3	5.9	5.5	6.4	6.6	5.9	6.3 ab	5.9 a	6.2
UHS Signature 30-3-10	6.6 ab	6.9	6.5	6.3	6.0	5.6	6.6	6.6	6.1	6.1 b	5.6 b	6.3
Scotts Super Turf 25–4–12	5.9 c	6.3	6.7	6.3	6.2	5.6	5.9	6.3	6.1	6.6 a	5.9 a	6.2
Best Poly Supreme 23–5–10	6.1 bc	6.6	6.6	6.1	6.0	5.5	6.4	6.7	6.2	6.5 a	5.9 a	6.2
LSD, P=0.05	0.5	NS	NS	NS	NS	NS	NS	NS	NS	0.3	0.2	NS
Summary of ANOVA effects[x]												
Nitrogen product (N)	*	NS	NS	NS	NS	NS	NS	NS	NS	**	*	NS
Date (D)												***
N × D												***

[z]First and second fertilizer applications on 3 May and 31 July 2000, respectively.
[y]Means followed by the same letter are not significantly different, Fisher's Protected least-significant-difference (LSD) test, P=0.05.
[x]Randomized complete block statistical effects by date and Overall ANOVA by a repeated measures design.
NS,*,**,***Nonsignificant or significant at $P \leq 0.05$, 0.01, or 0.001, respectively.

Table 2. Visual turfgrass quality ratings (1 to 9 scale, with 1=brown, 5=minimally acceptable, and 9=darkest green) of Arizona common bermudagrass treated with five nitrogen fertilizers and maintained under fairway conditions.

Nitrogen product treatment (N-P_2O_5-K_2O)	Date (Weeks after treatment)[z]											
	19 May (2)	2 June (4)	16 June (6)	30 June (8)	14 July (10)	28 July (12)	11 Aug. (2)	25 Aug. (4)	6 Sept. (6)	22 Sept. (8)	7 Oct. (10)	Overall
Best Turf Supreme (16–6–8)	6.6 a[y]	6.8	6.8	6.2	5.9	5.6	6.4	6.3	6.2	6.1	5.8	6.3
TRI-Pro (23–5–12)	6.5 ab	6.5	6.6	6.4	6.1	5.6	6.7	6.7	6.4	6.4	6.1	6.4
UHS Signature (30-3-10)	6.2 abc	6.6	6.6	6.4	6.1	5.8	6.6	6.5	6.5	6.1	5.8	6.3
Scotts Super Turf (25–4–12)	6.0 bc	6.2	6.4	6.4	6.2	5.7	6.4	6.3	6.4	6.1	6.1	6.2
Best Poly Supreme (23–5–10)	5.9 c	6.4	6.6	6.2	6.1	5.7	6.7	6.7	6.4	6.4	6.1	6.3
LSD, P=0.05	0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Summary of ANOVA effects[x]												
Nitrogen product (N)	*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Date (D)												***
N × D												***

[z]First and second fertilizer applications on 3 May and 31 July 2000, respectively.
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