

R-166863



Fertilizer Study 2008

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Introduction:

The objective of this experiment was to compare different types of green height turf fertilizers and observe their affect on turf quality in a stand of Penncross creeping bentgrass (*Agrostis stolonifera*) established on a USGA style green. This trial was located at the Iowa State University research station near east of Gilbert, Iowa.

Materials and Methods:

This experiment was conducted in as a randomized complete block design with 3 replications. There were 6 treatments including the control (Table 1). Plot sizes for this study were 9 ft². Biweekly applications of the fertilizer treatments were made on starting on August 8, 2008 until the study was terminated due to snow cover. All granular treatments were applied with shaker box containers which were then dropped through a screen to further evenly distribute the particles. The urea treatments were applied in 102 ml water per plot with a CO₂ sprayer backpack sprayer. Treatments were watered in after application. The creeping bentgrass stand was maintained at 0.125" with a triplex mower and later in the study a walk behind mower.

Quality ratings were taken from 1-13 weeks after the first application of fertilizer using the NTEP scale 0-9 where 9 = best quality turf possible, 6 = minimum acceptable turf, 1 = dead turf.

Results:

Plots treated with Micropel without urea had lower quality ratings than either urea treated plots or plots with urea + Micropel. Urea treated plots with and without Micropel generally had the same quality ratings.

The Contec 18-9-18 produced better quality ratings than urea alone or Contec 20-0-10 late in the study. The phosphorus (P) levels are rather low on this area and it was assumed that the improved response from the 18-9-18 was due to the P in the product.

We plan to continue this work next year on the same sight and to do an additional trial with that contains urea with and without P.

Table 1. Treatments, Material, LBS N/1000ft ² and Water				
TRT.#	Treatment	Material	LBS N/1000ft ²	Water
1	Control	0	0	0
2	Urea	2.7 g	0.3	102 ml
3	Micropel	23.3 g	0	0
4	Micropel + Urea	23.3 g + 2.7 g	0.3	102 ml
5	Contec 18-9-18	6.8 g	0.3	0
6	Contec 20-0-10	6.1 g	0.3	0

Table 2. Treatment means and LSD's week 1-13

TRT.#	1 wat	2 wat	3 wat	4 wat	5 wat	6 wat	7 wat	8 wat	9 wat	10 wat	11 wat	12 wat	13 wat	Mean
1	7.0	7.0	7.0	7.0	6.0	6.3	6.3	6.0	5.0	5.7	4.7	4.7	4.3	5.9
2	7.0	7.0	7.0	7.0	8.0	7.6	7.3	7.3	7.3	7.7	6.7	6.7	6.7	7.2
3	7.0	7.0	7.0	7.0	6.7	6.6	5.3	5.7	5.3	5.7	5.0	5.0	5.0	6.0
4	7.0	7.0	7.0	7.0	8.0	8.0	8.0	7.7	7.3	8.0	6.7	6.7	6.3	7.3
5	7.0	7.0	7.0	6.0	6.7	7.0	7.0	6.7	6.7	7.7	8.0	7.7	8.0	7.1
6	7.0	7.0	7.0	7.0	7.7	8.0	7.7	6.7	6.7	6.7	6.3	6.3	6.0	6.9
LSD	NS	NS	NS	0.0	0.7	0.7	0.9	1.2	1.3	1.5	1.2	1.5	1.8	0.5