

Nitrogen Fertility Timing and Carrier Disease Studies

Burroughs Farms Golf Course, Brighton, MI

Establishment

The long-term disease-fertility plots were established on an irrigated annual bluegrass (Poa annua) fairway mowed to 5/8". The plots were laid out in either three replications or four replications of a randomized block design. The fertilizers were pre-weighed and applied by hand while the fungicide was applied with a CO₂ small-plot sprayer at a volume of 40 gal/acre. All fertilizer and fungicide applications were made as indicated on the data charts. Disease ratings were made on September 1, 1981.

Results

IBDU-Urea Anthracnose Fairway Fertility Study

Plots receiving no fungicides showed no significant differences among treatments for anthracnose management regardless of nitrogen carrier (Table 15). The nitrogen treated plots were not significantly different from the untreated control or from plots receiving Panasea. Plots receiving fungicide treatment did show significant differences among treatments for anthracnose management with the 1 lb. IBDU (coarse) and the 1/2 lb. (fine) treatments giving significant management of anthracnose compared to plots which received no nitrogen.

Nitroform-Urea Fairway Disease Fertility Study

The significant differences occurred between the fungicide treated compared to the non-fungicide treated plots regardless of nitrogen fertility schedule in the anthracnose study (Table 16).

In the Sclerotinia dollarspot study there were significant differences between fungicide treated and non-treated plots as well as among nitrogen fertility timing treatments with Treatment 2 (plots receiving nitrogen primarily in the summer and fall) giving better management of dollarspot than the spring-fall nitrogen treatment (Treatment 1).

Table 15. Burroughs Farms - IBDU Anthracnose Study - 1981.
 Rating scale - 1 (no disease) - 9 (90% infection or greater) caused
 by anthracnose (Colletotrichum graminicola). Rated 9/1/81.

<u>Treatment**</u>	<u>Rate/1000 ft²</u>	<u>No fungicide applied</u>			AVE	DMR
		<u>Replication</u>				
		I	II	III		
Control	---	3	3	3	3	A
IBDU (Fine)	1/2 lb. N	3	4	3	3.3	A
Panasea	2 oz.	2	4	2	3.7	A
Urea	1/2 lb. N	2	9	2*	4.3	A
IBDU (Coarse)	1/2 lb. N	6	8	1*	5	A
IBDU (Coarse)	1 lb. N	3	8	5	5.3	A
IBDU (Fine)	1 lb. N	6	8	2*	5.3	A
Urea	1 lb. N	4	6	7	5.7	A

1 oz/1000 ft² Tersan 1991 applied curatively August 4, 1981

<u>Treatment**</u>	<u>Rate/1000 ft²</u>	<u>Replication</u>			AVE	DMR
		I	II	III		
IBDU (Coarse) + Tersan 1991	1 lb. N + 1 oz.	1	3	1	1.7	A
IBDU (Fine) + Tersan 1991	1/2 lb. N + 1 oz.	2	2	1	1.7	A
Urea + Tersan 1991	1/2 lb. N + 1 oz.	3	2	1	2	AB
Urea + Tersan 1991	1 lb. N + 1 oz.	2	2	2	2	AB
IBDU (Coarse) + Tersan 1991	1/2 lb. N + 1 oz.	2	3	2	2.3	AB
IBDU (Fine) + Tersan 1991	1 lb. N + 1 oz.	3	3	1*	2.3	AB
Control	---	3	3	3	3	B

Treatments followed by the same letter are not significantly different from each other at the 5% level of significance.

*Plots primarily clover.

**Treatments applied November '80, June '81, July '81, August '81, September '81.
 Panasea applied only during 1981 treatments.

Table 16. Burroughs Farms - Nitroform-Urea Annual Bluegrass Fairway Fertility Study - 1981. Rating scale - 1 (no disease) - 9 (90% infection or greater) caused by anthracnose (Colletotrichum graminicola). 9/1/81.

Treatment No.	Replication				AVE	DMR
	I	II	III	IV		
2A	1	1	1	1	1	A
1A	1	2	1	1	1.3	A
3A	2	1	1	1	1.3	A
3	3	2	3	2	2.5	B
1	5	3	4	2	2.5	B
2	3	5	4	2	3.5	B

Disease caused by *Sclerotinia homeocarpa*

Treatment No.	Replication				AVE	DMR
	I	II	III	IV		
1A	1	1	1	1	1	A
2A	1	1	1	1	1	A
3A	1	1	1	1	1	A
2	3	2	2	3	2.5	B
1	4	3	2	4	3.3	BC
3	3	3	4	5	3.8	C

Treatments followed by the same letter are not significantly different from each other at the 5% level.

Treatment 1: May '81 - 1 lb. N (1/2 lb. powder blue (nitroform), 1/2 lb. urea)
 June '81 - 1 lb. N (3/4 lb. powder blue (nitroform), 1/4 lb. urea)
 Sept '81 - 2 lbs. N (1 lb. powder blue (nitroform), 1 lb. urea)

Treatment 2: Nov '80 - 1 lb. N (urea)
 June '81 - 1/2 lb. N (1/4 lb. powder blue (nitroform), 1/4 lb. urea)
 July '81 - 1/2 lb. N (1/4 lb. powder blue (nitroform), 1/4 lb. urea)
 Aug '81 - 1/2 lb. N (1/4 lb. powder blue (nitroform), 1/4 lb. urea)
 Sept '81 - 1 lb. N (1/2 lb. powder blue (nitroform), 1/2 lb. urea)

Treatment 3: No nitrogen

Treatment A: Tersan 1991 at 1 oz./1000 ft² applied August 4 and 27.