Turfgrass Nematicide Studies - 1979

Kentucky Bluegrass Nematicide Study

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The Kentucky bluegrass nematode trials were conducted on a highly-maintained Merion Kentucky bluegrass turf on the Michigan State University Soils Research Farm in East Lansing, MI. The plot area was showing symptoms of high nematode populations prior to treatment.

The plots were laid out in three replications of a randomized block design. The treatments were applied with a Scotts drop-type spreader. All treatments were drenched into the root zone immediately after application.

The soil samples were taken before the treatments were applied on June 22 in order to determine pre-treatment nematode population levels. Subsequent samplings were taken on July 11 and August 9. Data are given in Tables 1-4.

The experimental nematicide U.C. 21865 (5 GR) at 20, 15 and 10 lbs ai/A; Dasinat at the 3 lbs/1000 sq ft and Nemacur at 3 lbs/1000 sq ft all showed significant reduction in Tylenchorhynchus populations three weeks after treatment. Six weeks after treatment on 8/9 all the nematicides were still showing significant stunt nematode population reduction when compared to the untreated control which again had an increase in stunt nematode population during this interval. Significant control of the ring nematode (Criconemoides spp.) was more difficult and erratic; 3 weeks after treatment only Nemacur at the 3 lbs/1000 sq ft rate and U.C. 21865 (5 GR) at the 10 lbs ai/A rate gave significant ring nematode population reductions and 6 weeks later (8/9) only Nemacur and Dasinat at the 3 lb/1000 sq ft rate gave significant ring nematode population reductions.

Creeping Bentgrass Nematicide Study - 1979

The creeping bentgrass nematicide studies were conducted on a heavily infested Toronto bentgrass practice green on the Maple Lanes Golf Course in Warren, MI.

The study was laid out in three repetitions of a randomized block design. Treatments were applied with a Scotts drop-type spreader. All treatments were drenched into the root zone immediately after application.

Soil samples were taken before the treatments were applied on May 31 in order to determine pre-treatment nematode population levels. The tow species of pathogenic turfgrass nematodes present in problematic numbers were the ring nematode (Criconemoides spp.) and the stunt nematode (Tylenchorhynchus spp.). Subsequent samplings were taken on June 20 and August 22. Data are given in Tables 5-8.

The July sampling was accidentally lost during processing.

Table 1. Kentucky Bluegrass Nematicide Study - 1979

% reduction - Tylenchorhynchus (stunt) nematode

6/22 - 7/11

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR
U.C. 21865 (5 GR)	20 lbs ai/A	25	74	78	59	A
Dasinat	3 lbs	54	30	36	40	A
U.C. 21867 (5 GR)	10 lbs ai/A	48	62	6	38.7	A
Nemacur	3 lbs	-21	80	55	38	A
U.C. 21865 (5 GR)	15 lbs ai/A	-16	23	62	23	A
Check	-	-200	-14	-94	-102.6	B

Table 2. Kentucky Bluegrass Nematicide Study - 1979

% reduction - Criconemoides (ring) nematode

6/22 - 7/11

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Nemacur	3 lbs	16	72	-3	28.3	A
U.C. 21865 (5 GR)	10 lbs ai/A	34	34	-12	18.6	A
Dasinat	3 lbs	-44	-40	20	-21.3	AB
U.C. 21865 (5 GR)	20 lbs ai/A	-3	43	-106	-22	AB
Check	-	15	-56	-169	-70	AB
U.C. 21865 (5 GR)	15 lbs ai/A	-195	33	-220	-127.3	B

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

Table 3. Kentucky Bluegrass Nematicide Study - 1979

% reduction - Tylenchorhynchus (stunt) nematode

6/22 - 8/9

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR
Nemacur	3 lbs	72	87	76	78.3	A
Dasinat	3 lbs	69	74	67	70	A
U.C. 21865 (5 GR)	20 lbs ai/A	60	58	73	63.6	A
U.C. 21865 (5 GR)	15 lbs ai/A	57	51	54	54	A
U.C. 21865 (5 GR)	10 lbs ai/A	40	81	37	52.6	A
Check	-	-77	-45	-14	-45.5	B

Table 4. Kentucky Bluegrass Nematicide Study - 1979

% reduction - Criconemoides (ring) nematode

6/22 - 8/9

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Nemacur	3 lbs	42	64	47	51	A
Dasinat	3 lbs	41	63	43	49	A
U.C. 21865 (5 GR)	10 lbs ai/A	24	-55	28	-1	AB
U.C. 21865 (5 GR)	20 lbs ai/A	-17	20	-146	-47.7	AB
Check	-	16	-59	-134	-59	AB
U.C. 21865 (5 GR)	15 lbs ai/A	-145	27	-136	-84.7	B

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

Table 5. Creeping Bentgrass Nematicide Study - 1979

% reduction - Tylenchorhynchus (stunt) nematode

5/31 - 6/20

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Nemacur	3 lbs	63	-12	44	31.7	A
Dasinat	3 lbs	42	37	-68	3.7	A
Check	-	73	25	-100	-.7	A
U.C. 21865 (5 GR)	15 lbs ai/A	15	-227	-5	-72.3	A
U.C. 21865 (5 GR)	10 lbs ai/A	-19	-420	17	-140.7	A
U.C. 21865 (5 GR)	20 lbs ai/A	59	-1700	11	-543.3	A

Table 6. Creeping Bentgrass Nematicide Study - 1979

% reduction - Criconemoides (ring) nematode

5/31 - 6/20

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Desinat	3 lbs	57	53	31	47	A
U.C. 21865 (5 GR)	15 lbs ai/A	83	-36	-18	9.7	AB
U.C. 21865 (5 GR)	20 lbs ai/A	77	-28	-43	2	AB
Check	-	91	-175	-107	-63.7	B
Nemacur	3 lbs	-250	-669	-18	-312.3	B
U.C. 21865 (5 GR)	10 lbs ai/A	-425	-774	9	-369.7	B

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

Table 7. Creeping Bentgrass Nematicide Study - 1979

% reduction - Tylenchorhynchus (stunt) nematode

5/31 - 8/22

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Nemacur	3 lbs	82	93	37	70.7	A
Dasinat	3 lbs	53	56	57	55.3	A
U.C. 21865 (5 GR)	10 lbs ai/A	60	30	47	45.7	A
U.C. 21865 (5 GR)	15 lbs ai/A	20	-61	38	-1	A
Check	-	-238	72	9	-52.3	A
U.C. 21865 (5 GR)	20 lbs ai/A	-23	-400	73	-116.7	A

Table 8. Areeping Bentgrass Lematicide Study - 1979

% reduction - Criconemoides (ring) nematode

5/31 - 8/22

Treatment	Rate/1000 ft^2	Replication				
		I	II	III	AVE	DMR*
Dasinat	3 lbs	9	71	-30	16.7	A
Nemacur	3 lbs	-20	-15	44	3	AB
U.C. 21865 (5 GR)	20 lbs ai/A	2	26	-13	-1.7	AB
U.C. 21865 (5 GR)	15 lbs ai/A	-110	-82	-25	-72.3	AB
Check	-	-220	-25	-220	-115	AB
U.C. 21865 (5 GR)	10 lbs ai/A	-462	-48	-56	-188.7	B

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