

Nature Safe[®] Research

University Research Data

TITLE: Evaluation of Nature Safe Fertilizer for Management of Spring Dead Spot of Bermudagrass

TEST CONDUCTED BY: Oklahoma State University, Nathan Walker, Associate Professor Turfgrass IPM/Turfgrass Pathology

I. Introduction and Procedures

The objective of this study is to determine the efficacy of Nature Safe 10-2-8 for the suppression of spring dead spot of bermudagrass turf. Test conducted on Tifway 419 bermudagrass, Fairfax Golf Club, Edmond, OK.

II. Test Results

Spring dead spot is a common and severe disease of bermudagrass fairways in Oklahoma. The entire study area received an application of synthetic fertilizer (1.5 lb. N/1,000 sq. ft.) on 4/15. No treatment effects were observed for disease severity on 4/10, 4/17 or 4/24 and 5/22 (Table 1). Disease severity was lowest for plots treated with fungicide on 5/1 compared to all other treatments except the fall application of Nature Safe. Disease severity was lowest for plots treated with fungicide on 5/9 and 5/15 compared to all other treatments except the season long application of Nature Safe (May: 1 lb. N/1,000 sq. ft.; remaining months: 0.5 lb. N/1,000 sq. ft.): 5/31, 6/30, 7/28, 8/30 and 10/3). No treatment effects were observed for turfgrass quality on 4/10, 4/17, 4/24 or 5/22 (Table 2). Turfgrass quality was greatest for plots treated with fungicide on 5/1 compared to all other treatments. Comparisons of disease severity from one year to the next revealed that plots treated with fungicide all improved compared to all treatments except to plots treated season long with Nature Safe (Table 3).

Table 1. Disease severity following applications of Nature Safe fertilizer for the suppression of spring dead spot.

Treatments	4/10 ^w	4/17	4/24	5/1	5/9	5/15	5/22
Non-treated Control	3.00	3.00	3.00	2.75 b ^y	3.50 b	4.25 bc	4.25
Synthetic Fertilizer	2.50	2.75	3.25	2.75 b	3.25 b	3.75 c	3.75
Nature Safe	3.00	2.75	3.75	3.25 b	4.25 ab	5.00 ab	5.50
Fungicide	4.25	3.50	4.50	5.00 a	5.25 a	5.75 a	5.25 a

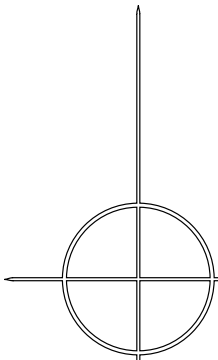
^wDisease severity was evaluated on a scale of 1 to 6, where 1 = no living plants present in patches, 3 = 50% living plants present in patches, and 6 = no evidence of diseased turfgrass.

^y Means within the same column followed by the same letter are not significantly different ($P < 0.05$) according to Fisher's protected least significant difference test.

(See Table 2 and Table 3 on reverse side.)

III. Conclusion

Disease severity in season long Nature Safe treated plots was better than plots treated with synthetic fertilizer. Results of this study indicate that season long applications of Nature Safe reduces the prevalence of spring dead spot.



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Table 2. Turfgrass quality following applications of Nature Safe fertilizer for the suppression of spring dead spot.

Treatments	4/10 ^w	4/17	4/24	5/1	5/9	5/15	5/22
Non-treated Control	3.00	2.75	2.75	3.25 b ^y	4.00 ab	4.50	4.25
Synthetic Fertilizer	2.50	2.75	3.00	2.75 b	3.00 b	3.75	3.50
Nature Safe	2.75	3.00	3.25	4.00 b	4.25 ab	4.75	5.00
Fungicide	4.00	3.75	4.50	5.50 a	5.25 a	5.75	5.00

^wTurfgrass quality was based on a scale of 1 to 6, where 1 = large, well defined dead patches and unsightly turfgrass, 3 = moderately acceptable turfgrass, and 6 = thick, healthy turf and no appearance of patches or disease.

^y Means within the same column followed by the same letter are not significantly different ($P < 0.05$) according to Fisher's protected least significant difference test.

Table 3. Difference in spring dead spot disease severity in one year.

Treatments	Rating ^w
Non-treated Control	2.25 bc ^x
Synthetic Fertilizer	2.00 c
Nature Safe	2.75
Fungicide	3.00 a

^wThe same plots were compared to each other and rated on a scale of 1 to 3, where 1 = disease severity increased, 2 = disease severity remained the same, or 3 = disease severity decreased from one year to the next.

^xMeans within the same column followed by the same letter are not significantly different ($P < 0.05$) according to Fisher's protected least significant difference test.