

TURFGRASS TRENDS

Turfgrass Section • Volume 11, Issue 2 • February 2002

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DISEASES

Fungicide Combination Treats Summer Stress Syndrome

By J. M. Vargas Jr.

A study in 1990 by Dr. L. T. Lucas of North Carolina State University identified a complex of pathological and physiological factors that cause cool-season grasses to decline in quality during the South's warm summer weather. Physical factors such as lack of morning sun, shade, poor air movement, poor water utilization by the grass and compacted soil also contributed to this syndrome, which Lucas called Summer Bentgrass Decline.

To combat the problem, Lucas recommended biweekly applications of Aliette and Fore beginning in the spring and continuing until the cool weather to prevent it.

Since Lucas' study, the practice has been widely accepted in the southeastern United States, where creeping bentgrass goes under tremendous stress from hot summer temperatures. The next step was to see if the same complex of problems that Lucas identified in his study occurred in the northern United States.

To get an answer, researchers at Michigan State University posed the question about whether one would see such a dramatic effect on creeping bentgrass in the northern United States where the summers are not as severe.

They also wondered what effect, if any, the fungicide combination that worked so well in the South would have on annual bluegrass turfs, which make up the majority of greens in the North.

The MSU studies showed that the same improvement in turfgrass quality could be obtained in the northern United States on both creeping bentgrass and annual bluegrass greens and fairways as seen in the South (Tables 1 and 2).

Since the MSU study expanded the number of turfgrasses affected by Lucas' com-

The key to having this program be a success is applying the products before the arrival of warm weather.

TABLE 1

Quality ratings for Summer Stress Syndrome on a Creeping Bentgrass Green

| TREATMENT/ 1,000 SQ. FT. | TURF QUALITY |
|--|--------------|
| Signature 4 oz + Chipco 26GT 4 fl oz | 8.5a |
| Signature 4 oz + Daconil Ultrex 3.8 oz | 7.8ab |
| Untreated Control | 6.5c |

ALL TREATMENTS APPLIED ON 14-DAY INTERVALS

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TABLE 2

Quality ratings for Summer Stress Syndrome on an annual bluegrass fairway

| TREATMENT/1,000 SQ. FT. | TURF QUALITY |
|---|--------------|
| *MPK 5/acre + Daconil Ultrex 1.5 oz | 8.0a |
| Nutri Grow P+K 4 oz. + Daconil Ultrex 3.8 | 7.8a |
| Nutri Grow P+K 3 oz. + Daconil Ultrex 3.8 | 7.5a |
| Nutri Grow P+K 2 oz. + Daconil Ultrex 3.8 | 7.5a |
| Untreated Control | 5.3b |

ALL TREATMENTS APPLIED ON 14-DAY INTERVALS EXCEPT* / * TREATMENT APPLIED ON 7-DAY INTERVAL

plex, Summer Bentgrass Decline no longer accurately described the problem. Therefore, the MSU researchers changed the complex's name to Summer Stress Syndrome.

Representatives from the company that produces Aliette and Fore say they discovered the green pigment in Fore contributed to an improved quality turf. Then the company incorporated the pigment into Aliette and called the new product Chipco Signature. This allowed products other than Fore to be combined with Chipco Signature to prevent Summer Stress Syndrome. Two of the most successful products combined with Signature were Daconil Ultrex and Chipco 26 GT. These products helped control dollar spot, which is more of a problem in the northern United States.

These combinations were successful in most cases in controlling Summer Stress Syndrome. The lone problem occurred somewhere in the 10- to 14-day point interval between treatments, when the combination's control of brown patch broke down. This was solved by adding Heritage to the mixture, which not only controlled brown patch, but also helped manage diseases like summer patch, crown-rotting anthracnose and take-all patch. Heritage also contributed to improving turfgrass quality and preventing Summer Stress Syndrome.

These programs on greens proved so suc-

Program for Greens

- Chipco Signature plus Daconil Ultrex or
- Chipco Signature plus Chipco 26 GT or
- Chipco Signature plus Fore

Program for Fairways

- Nutri Grow P+K plus Daconil Ultrex or
- Nutri Grow P+K plus Chipco 26 GT or
- MPK plus Daconil Ultrex or
- MPK plus Chipco 26 GT

cessful in improving turfgrass quality and preventing Summer Stress Syndrome that superintendents wanted to adapt them to fairways. The problem, however, was price.

Though the program is affordable on greens, it was not affordable on fairways. Researchers looked at products similar to Chipco Signature for improving turfgrass quality in creeping bentgrass and annual bluegrass fairways. Two that they looked at in combination with Daconil Ultrex were Nutri Grow P+K and MKP (monopotassium phosphate). They both improved the quality of the turf in the fairways. Other diseases, however, attack creeping bentgrass and annual bluegrass fairways, so additional fungicides will have to be used. But the

improvement in quality should be well worth the application of Daconil Ultrex in combination with either Nutri Grow P+K or MPK.

The success of this program depends on applying the products before the arrival of warm weather. If the products aren't applied in the cool weather, they won't work. If you wait until the turf is under stress, it's too late to apply them. They need to be applied in the cool weather to make the plant healthier going into the summer stress period to prevent Summer Stress Syndrome.

J. M. Vargas Jr. is a professor in the Department of Plant Pathology at Michigan State University, East Lansing, Mich.



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