Milorganite 6-2-0 for improving ailing greens

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"Milorganite is like a tonic!", says a highly experienced turfgrass consultant in Florida who recommends repeat topdressings with a 50:50 mix (by volume) of Milorganite and sand on weak areas on bermudagrass greens.

The Problem

In the late summer and early fall bermudagrass greens in Florida often develop weak, poorly grassed, areas. This probably occurs due to a combination of stresses, including very hot, humid weather, low light intensity due to cloudiness and frequent afternoon rains, wet soils, and close mowing. Carbohydrates are consumed rapidly due to high temperatures. This occurs as carbohydrate production is reduced by low light intensity, wet soils, and close mowing. The grass generally improves in response to clearer skies and cooler weather in the fall, but the damaged areas can be slow to improve and fill in.

The Research

To test the theory that Milorganite sand topdressings can help improve damaged turf on greens, a study was conducted in the fall of 2005 on a 'Tifdwarf' research green at the UF/IFAS Ft. Lauderdale Research and Education Center.

Sufficient (1330 ml) Greens Grade Milorganite sand mix to provide 1/16th inch of topdressing was applied to four replications of plots one yard square on September 8th. The sand, composed of quartz, met USGA specifications for a greens mix. Additional applications were made on September 16th and 23rd.

Other plots in the experiment received either the same amount of Milorganite or sand as was contained in the 50:50 mix (665 ml), plus four check plots were not topdressed. Visual quality ratings for a combination of color and density were made on September 16, 30, and on November 4, 2005. The ratings, averaged over the three dates, were subjected to the analysis of variance statistical procedure, and means were separated by the Duncan's Multiple Range Test.

The Results

Although the Milorganite sand topdressing treatment provided higher average quality score than the untreated check, topdressing with Milorganite alone provided the highest quality score (Table 1). Topdressing with sand alone reduced the average quality score relative to the untreated check. It is concluded that topdressing with Milorganite improved grass quality. Sand need only be included in the topdressing if it is required to help level the surface or to dilute thatch.

Table 1. Effect of topdressing treatments on Tifdwarf bermudagrass quality scores

Treatment	Average Rating
Milorganite sand	6.6B
Milorganite only	7.6A
Sand only	5.1D
Check	5.8C

Values in a column followed by the same letter are not statistically different at P < 0.05 by the Duncan's Multiple Range Procedure

In Practice

A condominium golf green in South Florida, displayed severely stressed areas in September, 2006. As a trial, three one foot square plots on the stressed areas were topdressed with Milorganite on October 7, 2006. Over the next few days, in an attempt to improve the weak areas, the green (both treated and untreated areas) reportedly received applications of fungicide, insecticide, herbicide, and fertilization with a complete fertilizer and micronutrients. **Nevertheless, the plots topdressed with Milorganite were strikingly improved in color and growth relative to the surrounding turf.**

Weak spots on a green in south Florida in late September.

Improved bermudagrass growth within red markings in the weak area ten days after Milorganite was applied as a topdressing on October 8.

The Conclusion

Milorganite, applied as a topdressing alone or in a mix with sand, is useful for restoring areas on golf greens that have stress damage from unfavorable late summer environmental conditions. Because Milorganite is very low in soluble salts, and the organically bound nitrogen releases slowly, it can be applied liberally without burning tender, stressed turf. Milorganite also provides phosphorus for encouraging new root growth, and iron for developing deep green color.

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