



Many homeowners give up on bermudagrass when dead spot becomes severe, but tests show the disease can be controlled with fungicides.

Control of spring dead spot of bermudagrass

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Bermudagrass is commonly grown as turf in warm areas such as the San Joaquin Valley and southern California. Until the appearance of spring dead spot, no serious disease of bermudagrass occurred in the state. Following severe outbreaks of the disease in the Tulare and Visalia areas of the San Joaquin Valley in the mid 1970s, spring dead spot has become very severe and common in that area, primarily on residential lawns. In southern California, the disease has spread to several golf courses and has also been observed on home lawns.

Spring dead spot receives its name from the circular dead spots that appear in the grass as it emerges from winter dormancy in the spring. The spots are 6 to 12 inches in diameter and often coalesce to form larger blighted areas in the turf. By late summer, the affected areas have usually filled in with new growth of mostly healthy bermudagrass. All cultivars of bermudagrass, *Cynodon dactylon*, are susceptible; interspecific hybrid varieties such as Tifgreen are the most commonly affected. The disease occurs year after year and becomes so severe that many homeowners replace their bermudagrass lawns with other varieties of grass.

In recent investigations, we have proved that spring dead spot disease in California is caused by the fungus *Leptosphaeria korrae*. An identical disease

caused by *L. korrae* occurs in Australia, where it is controlled by five monthly drenches of the fungicides thiram or nabam beginning in October, which is equivalent to May in California. A disease with similar symptoms but of unknown cause also occurs on bermudagrass in the southeastern and eastern United States, where control trials have shown that Tersan 1991 (benomyl), appears to give some control.

TABLE 1. Effect of fungicide drenches for spring dead spot control in bermudagrass

Material, rate/1,000 sq ft	Disease rating January 1986*
Systhane 40W, 5 oz†	0.8 a
Banner 1.1EC, 4 oz†	1.4 a
Spotless 25W, 1 oz†	1.6 a
Rubigan 1F, 4 oz	2.0 a
Tersan 1991, 50W, 8 oz‡	2.4 ab
Summit 25DF, 4 oz	3.0 abc
Award 10W, 3.5 oz†	3.0 abc
Folicur (HWG 1608) 25W, 1 oz	3.6 abcd
MF-743 84%EC, 6 ml‡	4.2 abcd
Dyrene 4F, 2 oz	4.6 abcd
CGA 449 50W, 3.5 oz	6.0 bcde
Fungo 50 50W, 8 oz‡	6.8 cde
MF-690 50W, 3 oz	7.4 de
No treatment	8.8 e

* Ratings on a scale of 0 to 10, with 0 indicating no disease and 10 indicating 100 percent diseased. Ratings followed by different letters are significantly different at the 5 percent level using Duncan's multiple range analysis.

† Slight phytotoxicity to leaf tip.

‡ Moderate phytotoxicity to leaf tip.

Because effective methods of controlling spring dead spot disease were lacking, we evaluated a number of new and old fungicides for control of the fungus.

The trial was conducted in the fall and winter of 1985 on common bermudagrass on a golf course fairway in Orange County. Applications began in August 1985 and continued on a monthly basis for five months. Results were evaluated in January 1986 as the grass emerged from dormancy.

The test design was a complete randomized block with each treatment replicated five times in plots of 5 by 10 feet. Each treatment was applied in 2 gallons of water from sprinkler cans, followed by a wash of 1 gallon. It is essential to wash the fungicides into the soil, because the fungus mainly attacks the roots and bases of the stems by means of fungal hyphae that grow over these organs belowground.

The five monthly applications beginning in August were timed to coincide with the period during which the fungus is suspected to be active in causing infections. Future work will test whether fewer applications beginning later in the season will control the disease.

Slight phytotoxicity to the leaf tips was noted in plots treated with Systhane (myclobutanil), Banner (propiconazole), Spotless (diniconazole), and Award (penconazole). Moderate phytotoxicity occurred with Tersan 1991, MF-743 (tridemorph), and Fungo 50 (thiophanate-methyl). All phytotoxic effects were limited to the plant leaf tips and were removed with mowing.

Systhane, Banner, Spotless, Rubigan (fenarimol), and Tersan 1991 gave excellent control. Summit (triadimenol) and Award gave good control. Folicur (HWG-1608, ethyl trianol), MF-743, and Dyrene (anilazine) were less effective. The least effective control was by CGA-449, Fungo 50, and MF-690.

Of the five most effective controls, only Tersan 1991 is currently registered in California.

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