...Pink Snow Mold

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mowers. This streaking-effect often is confused with a *Pythium* disease, especially during late spring outbreaks of *Fusarium* patch. When damage occurs under snow, the extent of injury usually is more severe than without snow cover. After snow recedes, the patches are bleached white and may or may not have a pink fringe. Normally, most plants in affected patches under snow are killed.

Management

***Fusarium* patch injury can be reduced by using a balanced N-P-K fertilizer in the autumn and by avoiding excessive, late-season applications of water-soluble nitrogen.** Ammonium sulfate may be suggested as a nitrogen source where soils are alkaline and *Fusarium* patch is common. Modest amounts (≤1.0 lb N/1000 ft^2; 50 kg N/ha) of ammonium sulfate or other water-soluble nitrogen sources applied in late autumn, however, are not likely to enhance *Fusarium* patch in mature turf. Avoid the use of limestone where the soil pH is above 7.0 since soil alkalinity may encourage this disease. **Continue to mow late in to the autumn to ensure that snow will not mat a tall canopy.** On golf courses, snow fences and windbreaks should be used to prevent snow from drifting onto chronically damaged greens. **Divert skiers and snowmobiles around greens to avoid snow compaction.**

Pentachloronitrobenzene (PCNB, PenStar, Quintozene, Terraclor, Turfcide, others), chlorothalonil (Daconil), azoxystrobin (Heritage), fludioxonil (Medallion), iprodione (Chipco 26 GT), vinclozolin (Curalan, Touche, Vorlan), thiophanate (CL 3336, Fungo), myclobutanil (Eagle), propiconazole (Banner MAXX), triadimefon (Bayleton), and mancozeb (Fore) all have been reported to provide good control of *Fusarium* patch. **Except for possibly PCNB, most fungicides in any given year may provide only marginally acceptable Fusarium patch control when applied alone. Therefore, two or more of these fungicides normally are applied in a tank-mix combination.** Tank-mix combinations improve the level of control as well as provide a more broad spectrum scope of control of *Fusarium* patch, *Typhula* blight (also known as gray snow mold), and yellow patch. Some common tank mixes for the control of snow mold complexes include: PCNB + Chipco 26GT + Daconil; Chipco 26GT + Daconil; or PCNB + one of the following: CL 3336, Curalan, Fungo, Heritage, Medallion, Touche, Vorlan, or a sterol inhibitor (i.e., Banner MAXX, Bayleton, or Eagle). High rates of PCNB can yellow turf, particularly if applied during warm weather. ***Fusarium* patch control is best achieved with a preventive fungicide application made prior to the first major snow storm of the year. Subsequent applications to putting greens or other prone locations should be made during mid-winter thaws and at spring snow melt in areas where the disease is chronic.** As noted previously, turf covered with blankets should be monitored frequently for disease between autumn and spring. During extremely wet or snowy winters, *Fusarium* patch can cause extensive injury to lawns. It is best to spot apply fungicides to lawns where the disease has developed in localized pockets. Widespread blighting of lawns on some occasions may require a blanket fungicide treatment. In most regions of the United States, *Fusarium* patch prevention with fungicides is only warranted for golf course turf, and bentgrass/annual bluegrass bowling greens and tennis courts.

Reference

Smith, J.D., N. Jackson, and A.R. Woolhouse. 1989. *Fungal Diseases of Amenity Turf Grasses.* E. & F.N. Spon, New York.

RESEARCH SUMMARY

Winter Overseeding of High-Density Dwarf Hybrid Bermudagrasses on Putting Greens

Concern has been expressed regarding the ability to establish a winter overseeding of cool-season turfgrasses into the new, very-high density, dwarf bermudagrass (*Cynodon dactylon* x *C. transvaalensis*) cultivars. Comparisons were made in three different warm-season environments including: hot-dry desert, hot-humid inland, and warm-humid coastal areas, using the cultivar Champion. The experimental sites were maintained at a 3.2 mm height of cut, with 3 replications for each of the 6 seed mixtures, 2 preplant methods, and 3 seeding rates. Monthly assessments made following winter overseeding included visual estimates of percent seedling coverage, and visual estimates of turfgrass quality. Shoot densities of the overseeded turfgrasses were counted, and the mat and root depths of the *Cynodon* were measured. Results indicated: (1) the best timing for overseeding should be determined by soil temperature rather than a calendar date; (2) the **optimum mixtures and seeding rates were:** (a) **8 lb/1000 ft^2 (4 kg 100 m^{-2}) of rough bluegrass (*Poa trivialis*) and 2 lb/1000 ft^2 (1 kg 100 m^{-2}) of creeping bentgrass (*Agrostis stolonifera*), followed in 30 days by 2 lb/1000 ft^2 (1 kg 100 m^{-2}) of rough bluegrass,** (b) **10 lb/1000 ft^2 (5 kg 100 m^{-2}) of rough bluegrass and 2 lb/1000 ft^2 (1 kg 100 m^{-2}) of creeping bentgrass, and** (c) **8 lb/1000 ft^2 (4 kg 100 m^{-2}) of rough bluegrass,** (3) **higher winter overseeding rates suppressed the spring root growth of bermudagrass substantially,** and (4) spring transition was successful using timely cultural methods involving lowering the cutting height, increasing the nitrogen rate, and weekly vertical cutting. By SI Sifers and JB Beard, *1999 Agronomy Abstracts,* p. 122.