SNOW MOLDS

Snow molds damage lawns and fine turf grasses from December to April especially in shaded or wet areas where the snow is slow to melt. Roots, stems, and leaves may be rotted over a wide range of temperatures (25° to 60°F.). Injury may take place under the snow, as the snow is melting, or during cold, drizzly periods when snow is absent. Snow mold damage frequently conforms to footprints, paths, ski or other tracks, etc., because compaction of snow favors the disease. Attack by snow mold fungi ceases when the grass surface dries out; however, infection tends to reappear in the same areas year after year. Snow molds are favored by mid- to late-fall applications of nitrogenous fertilizers or by a cover of straw, leaves, or other moisture-holding debris on the turf. Disease is most serious when air movement and soil drainage are poor and the grass stays wet for long periods.

All lawn grasses grown in Illinois are susceptible to snow mold. They include bluegrasses, fescues, bentgrasses, ryegrasses, and Bermudagrass. The fine-leaved bentgrasses are more often severely damaged than are coarser lawn grasses.

There are two types of snow mold, gray snow mold, also known as Typhula blight or snow scald (caused by the fungi *Typhula* species), and pink snow mold or Fusarium patch (caused by the fungus *Fusarium nivale*). The two types are found in the same geographical areas in the United States, including Illinois. Pink snow mold may be found farther south than gray snow mold.

GRAY SNOW MOLD, TYPHULA BLIGHT, OR SNOW SCALD

Gray snow mold appears in lawns and other turf areas as roughly circular, dead, bleached-brown areas up to about two feet in diameter. Several spots may merge, forming large, irregular areas. The wet grass may be covered at first with a fluffy white mold (mycelial) growth that soon turns bluish-gray to almost black. At other times a silvery membraneous crust develops over the injured turf. It is during this period of active mycelial growth that the *Typhula* fungi produce small, hard, tan to chocolate-brown resting bodies called sclerotia. These sclerotia are embedded in the leaves and crowns of diseased plants and lie dormant during the following summer and early fall. In cold, wet weather — at temperatures as low as several degrees below freezing — they germinate to produce delicate threads (hyphae) under the snow.

A deep snow cover on unfrozen soil produces optimum conditions for disease development. The fungus hyphae infect all tissues of the grass plant and start the disease cycle once again. The fungus is inactivated while the turf and soil are frozen. In early spring, when the snow melts and the turf thaws, the fungus again becomes active, and the infection centers enlarge rapidly. As the weather warms and the turf dries, *Typhula* becomes dormant until late fall. The optimum temperature for growth of the fungi in culture is between 46° and 59°F. The organism is not seed-borne.

PINK SNOW MOLD OR FUSARIUM PATCH

Pink snow mold patches are round and usually smaller than those of gray snow mold, commonly being one to three inches in diameter. Under prolonged cold, wet conditions, the spots may enlarge up to about 8 inches across or merge to cover large areas. In cool, wet weather the bleached-brown patches may be covered with a dense, whitish-pink mold growth. As with gray snow mold, the slimy growth quickly disappears as the grass blades dry. Usually only the leaves are attacked, but the fungus may cause a rotting of the crowns, killing the plant. Conditions favoring pink snow mold include a wet fall and winter, snow falling on unfrozen soil, deep snow, and a late, cold, wet spring. Infection and disease development occur most rapidly when the humidity is high and temperatures are 30° to 45°F (maximum about 65°F).

The Fusarium fungus is dormant at 72°F and above. The causal organism survives from one season to the next in infected grass plants or in dead grass debris. When temperature and moisture conditions are favorable, the fungus produces tremendous numbers of microscopic spores. These spores are carried primarily by air currents and water to grass leaves. Infection occurs through breathing pores (stomates). The fungus can exist and attack grasses in *all* soils from strongly acid to alkaline. (Fungus growth occurs in culture from a pH of 2.5 to 13, with an optimum of about 6.6 to 6.9).

CONTROL

1. Follow a recommended fertilizer program for the grass or grasses being grown. Pink snow mold damage can be reduced by using adequate amounts of phosphate fertilizers. Avoid late fall fertilization. Lawns should *not* go into the winter in succulent condition. Use lime only when the need is indicated by a soil test; avoid excessive use of lime.
2. Keep the grass cut to recommended height (1½ to 2½ inches for bluegrasses, red fescues, and ryegrasses, ½ inch or less for bentgrasses). Mow the turf frequently so that the grass will not be damaged by excessive defoliation at any one mowing. Do not remove more than one-third of the leaf surface at one mowing. Mow throughout the autumn season until grass growth ceases.
3. If the mat or thatch of dead grass is more than ¼ to ½ inch thick, you can use a "vertical mower" or "power rake" to reduce this problem. These machines may be rented at most large garden supply center.
4. Before the first heavy snow or cold, drizzly weather is forecast in November or early December, apply *one* of the following turf fungicides to areas with a history of snow mold infection. *Follow the manufacturer's directions carefully.* Reapply one or more times during winter or early spring as the snow melts.

   For Typhula light — Tersan SP, 65% WP (6 to 9 ounces per 1,000 square feet) and Calo-chor or Calo-Gran (see label).

   For Fusarium patch — Tersan 1991, 50% WP (3 to 8 ounces per 1,000 square feet), Tersan SP, 65% WP (6 to 9 ounces per 1,000 square feet), and Calo-clor or Calo-Gran (see label).

   (Note: Calo-clor and Calo-Gran are cleared for use *only* on golf course greens, aprons, and tees by certified golf course superintendents only.)
5. Repair snow mold damage in early spring by raking the matted grass and fertilizing. Reseed or sod as necessary. Fungicide sprays may be needed.
6. When establishing a new lawn or other turf area, provide for adequate surface drainage by grading for a slope of 2 to 4 percent and filling in depressions to achieve a smooth, uniform surface.

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