

Puts Spotlight on Grass Disease Findings

DISEASE pests that attack the grasses of putting greens have been receiving a great deal of attention from specialists. Arnold S. Dahl of the Green Section has been doing considerable experimental work along the line, and the results of his efforts are of importance to greenkeepers everywhere.

Snow mold is one of the nuisances known all over the northern states and Canada as a cause of great damage to grass areas. This is a disease that develops under the snow during the winter and causes patches of dead grass from a few inches to more than a foot in diameter. The patches are usually dirty gray in color and may have a pinkish tinge.

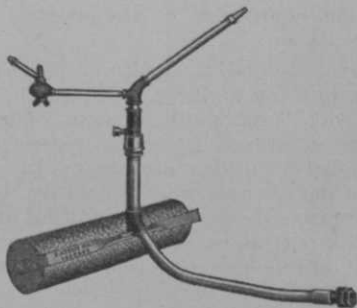
"Snow mold is caused by a fungus growth," Mr. Dahl explains, "and the conditions under which it develops most rapidly are a freezing temperature and a very humid atmosphere. The practices of covering the greens with straw in the fall, and with heavy fertilizer late in the autumn season, often encourage this disease to occur in great severity. In our experimental work, corrosive sublimate and calomel have both been found effective in handling the disease. These remedies should be applied in the fall at the rate of three ounces for 1,000 sq. ft. Smaller quantities, we found, were not sufficient."

Large and small brown-patch, with which many greenkeepers are all too familiar, are two more pests for which Mr. Dahl suggests specific remedies. In describing large brown-patch for identification by those not acquainted with it, Mr. Dahl says that the disease is most likely to occur in patches from a few inches to several feet in diameter during hot, humid periods of the summer. The leaves of grass in the patches are blackened at first and then finally become dry and brown. All the leaves in the patch will probably not be killed unless the condition remains favorable for the disease for several days at a time. The grass will sometimes recover of its own accord if the weather becomes dryer and cooler, or if the turf is treated with the proper fungicides to restore it.

Small brown-patch, the disease that gives a moth-eaten appearance to greens, is usually scattered over an area in patches of two inches or less in diameter. In an attack of this disease the leaves in the patch are killed but the stems and roots remain alive. Small brown-patch can always

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be recognized because the dead leaves look all bleached white.

In their susceptibility both to large and small brown-patch there has been found to be a distinct difference in the grasses used for putting greens. Some grasses are likely to be attacked by both diseases, while some are resistant to one disease and susceptible to the other. Washington creeping bent, for example, is very susceptible to small brown-patch, but resistant to large brown-patch. Metropolitan creeping bent, on the contrary, resists small brown-patch very well, and is often attacked by the large variety. Virginia creeping bent, however, is susceptible to both.

Experiments in the use of fertilizers have shown that some fertilizers encourage the occurrence of the disease while others do not.

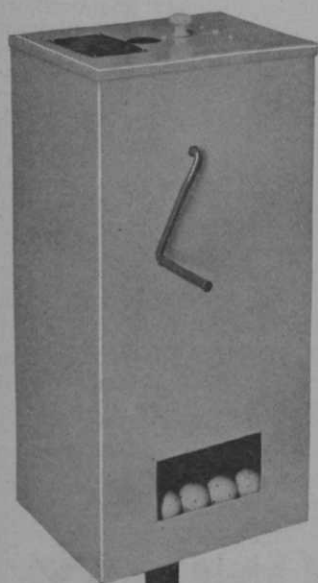
"Urea, especially, when used to excess is likely to bring on large brown-patch," says Mr. Dahl. "Ammonium sulphate, when used too much over a period of years, makes brown-patch quite prevalent. In cases where the diseases were caused by the use of fertilizers, however, the addition of lime has reduced the extent of the disease.

"All of the mercury compounds, except

mercury sulphide, when applied in amounts containing the same weight of mercury, were found to be effective in controlling the disease. Large brown-patch can be satisfactorily and economically controlled by mixing together one ounce of corrosive sublimate and two ounces of calomel and applying it to every 1,000 sq. ft. of grass area. Small brown-patch can be controlled with three ounces of calomel."

While most strains of creeping bent seem to be quite free from the disease called *zonote leaf spot*, Virginia bent is often likely to be attacked. This disease at first causes small spots to appear on the leaves. They are about the size of the head of a pin and of a brownish color. After a while the spots get larger and the centers become straw-colored with brown rings around the edges. When the leaves are wet the disease is quite likely to spread and cover the entire surface. In severe cases the turf may be entirely deprived of its leaves.

In the southern sections where creeping bent is used, *pythium disease* is somewhat likely to occur, but it is never very common. *Pythium* causes small brown patches on the turf, usually two or three inches in diameter. The patches may spread so that



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larger areas are covered. It is not difficult to tell this disease because of the cobwebby growth that appears above the patches. The patches are usually seen in streaks across the green. Pythium kills the leaves, stems and roots of the grass, so that when it does occur it is more serious than any of the other diseases.

Experimental work has been carried on for two summers in connection with zonote leaf spot and pythium. Some favorable results have shown up in the control of zonote leaf spot, Mr. Dahl states, but as yet no definite results have been worked out for either of these two diseases.

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