Blister smut in Kentucky bluegrass at Agassiz, B.C.[1]

S.G. Fushtey[2] and O.K. Taylor[3]

Blister smut (*Entyloma dactylidis)* was found in abundance in some cultivars of Kentucky bluegrass *(Poa pratensis)* in turfgrass plots at Agassiz, B.C., in February 1977. No smut was found on the cultivars Merion, Nugget, and Sydsport and only a trace on Fylking, indicating the existence of substantial cultivar resistance.

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En fevrier 1977, on a constaté le presence d'une grave infestation de charbon des feuilles (*Entyloma dactylidis)* en parcelles de gazon composees de quelques cultivars de pâturin du Kentucky *(Poa pratensis),* a Agassiz (Colombie-Britannique). Les cultivars Merion, Nugget, et Sydsport etaient exempts de charbon et Fylking ne manifestait qu'une infestation négligeable, ce qui prouve le haut niveau de resistance de ces cultivars.

Blister smut [*Entyloma dactylidis* (Pass.) Cif.] in Kentucky bluegrass (*Poa pratensis* L.) was found in turfgrass plots at the Agriculture Canada Research Station at Agassiz, B.C., in February 1977, immediately after Gould reported an outbreak of this disease at the Western Washington Research and Extension Center in Puyallup, Washington (personal communication, C.J. Gould, 1977). As far as can be determined this is the first report of this disease occurring on turfgrass in Canada.

The disease was positively identified by comparing symptoms and microscopic features with descriptions published by Fischer (1,2).

Blister smut sori were found in leaves only. They were not found in leaf sheaths as described by Fischer (2). Sori were roughly circular to oval, with the surface raised to give a blister-like appearance but with the epidermis intact; sori were greenish black on green leaves to grayish- or brownish-black on leaves that were severely chlorotic. Some sori had lighter-colored centers. Most sori occupied up to one half the width of the leaf (about 1 mm diam) and occurred in two rows, one on either side of the midrib. Other sori were smaller and were more or less randomly distributed in the leaf.

The disease is apparently peculiar to mild winters. The 1976-77 winter at Agassiz was one of the mildest on record. Fischer (1) reported the disease occurring in epidemic form on his home lawn in Pullman, Washington, on January 1 and stated that the winter weather in the Pacific Northwest so far that season had been unusually mild.

An interesting feature of the Agassiz occurrence is that the disease was not found in fescue and bentgrass plots adjacent to the bluegrass plots and that the disease was severe in some of the cultivars but absent in others. Disease severity ratings were made on cultivar test plots mowed at 1.9 and 3.8 cm. The results are given in Table 1. All cultivars in the test were rated but only the named ones are reported here.

Table 1. Incidence of blister smut in bluegrass cultivars, Agassiz, B.C., 24 February 1977

Cultivar	Disease rating* at two mowing heights (cm) 1.9	3.8
Baron	2	3
Barzan	0	0
Fylking	1	1
Galaxy	3	3
Majestic	0	0
Merion	0	0
Nugget	0	0
Onar	0	0
Sydsport	0	0
Victa	3	3

* 0 = No disease found
1 = Trace, very few spots on very few leaves
2 = Moderate, spots abundant but damage slight
3 = Severe, leaves severely chlorotic due to abundance of blister smut

The plots that rated severe could be picked out at a distance due to a grayish-brown cast as compared to the normal green color of the healthy grass. When the plots were examined again in early April no evidence of the disease could be found. Apparently diseased leaves had broken down and new infections did not occur on new growth.

[1] *Contribution No. 239, Research Station, Agriculture Canada, Agassiz, B.C. VOM 1AO.*

[2] *University of Guelph, Guelph, Ontario, N1G 2W1.*

[3] *Agriculture Canada, Agassiz, B.C.*

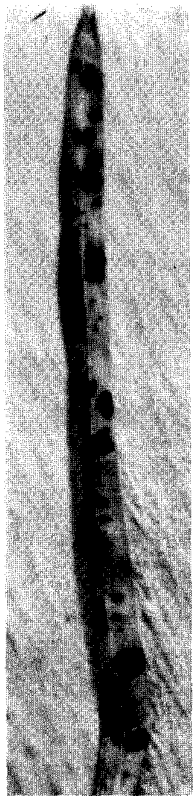

Figure 1. Blister smut sori on leaf of Kentucky bluegrass.

The disease seems to have the potential to do appreciable damage because leaves bearing numerous sori in an advanced stage of development were virtually dead. However, the period of disease activity seems to be limited to midwinter when the grass is dormant or nearly so and the damage is quickly repaired when active growth is resumed. Such a disease is not likely to present a major problem but no information on the biology and control of this disease could be found in the literature. The fact that no disease was found in six cultivars while three cultivars growing in adjacent plots were severely affected (Table 1) indicates the presence of a high degree of cultivar resistance. This information is significant since the popular cultivars Merion, Nugget, and Sydsport are among those which showed this resistance. Possibly the use of such cultivars will be enough to keep this disease from becoming a problem.

Literature cited

1. **Fischer, G.W.** 1951. **A local, winter-time epidemic of blister smut, *Entyloma crastophilum* on Kentucky bluegrass at Pullman, Washington. Plant Dis. Rep.** 35: **88.**
2. **Fischer, G.W.** 1953. **Manual of the North American smut fungi. The Ronald Press Co., New York. pp. 86-88.**