A SURVEY OF LEAF AND HEAD DISEASES OF BROMEGRASS IN SASKATCHEWAN, 1963

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Brome, Bromus inermis Leyss., is the most important forage and pasture grass in Saskatchewan. A rough estimate would place the acreage at 1,000,000. A field survey of leaf and head diseases of bromegrass was carried out during the period May to September in 17 localities of the province and a total of 48 fields were examined. When necessary, diagnoses were confirmed by isolation, in pure culture, of the causal organism. No attempt was made to identify the virus diseases, undoubtedly present. The aim of the survey was to determine the most important brome diseases in the province.

Table 1. - Prevalence and severity of brome disease in 48 fields

Disease	S	M-S	M	L	Tr	Total
Selenophoma leaf spot	9	5	22	6	3	45
Leaf blotch	2	-	4	2	2	10
Bacterial blights	-	1	6	1	-	8
Scald	-	-	1	-	4	5
Ergot	1	1	-	1	1	4
Powdery mildew	-	-	-	-	2	2
Septoria leaf spot	-	-	-	2	-	2

S = severe; M-S = moderate to severe; M = moderate; L - Light; Tr = traces

SELENOPHOMA LEAF SPOT (Selenophoma bromigena) was the most prevalent disease. Only 3 fields out of the 48 inspected were found free of this disease. The three fields were all in the Nipawin area where the disease was found in trace amounts in two other fields. The disease appeared early in May and reached a peak in July. In 9 fields at 5 different localities (Melfort, Regina, Saskatoon, Unity, Zealandia) the disease was very severe and not only was the leaf blade found affected but also the sheath, stem, pedicels

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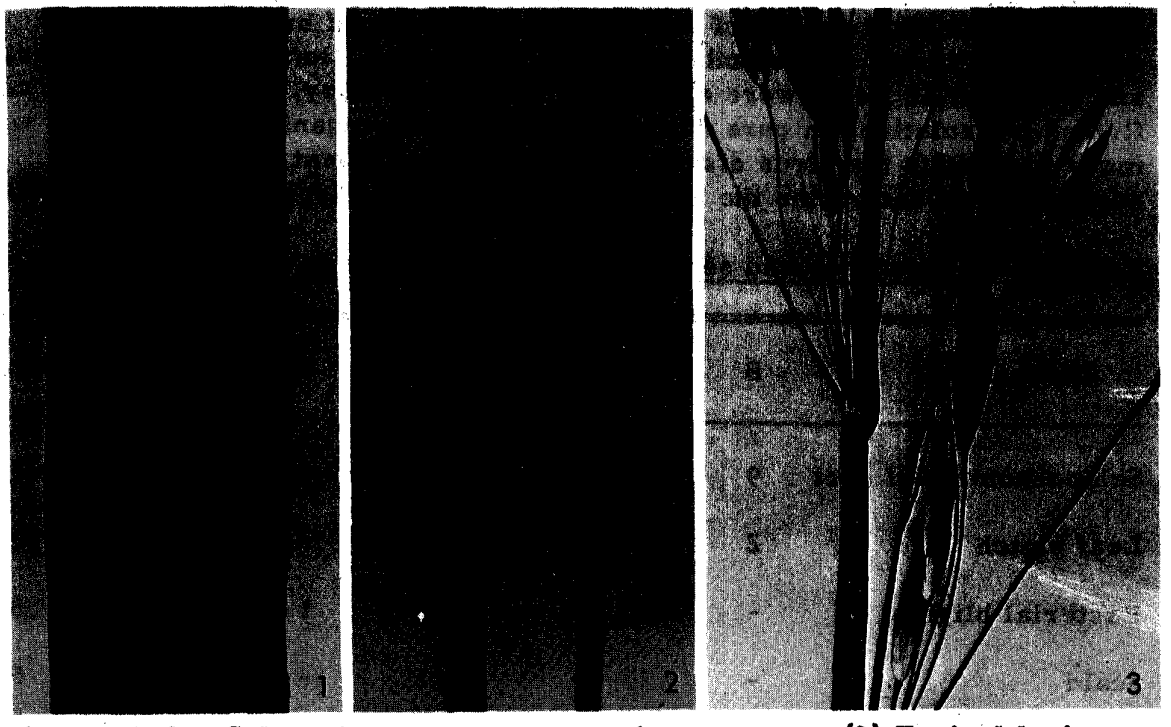
and panicles (Figures 1-3). A remarkable difference in susceptibility was observed among the bromegrass clones in the experimental plots at Saskatoon. Single-spore cultures of wild type isolates from different localities exhibited a great deal of variability in gross morphology. The disease affected the yield (hay quality and seed production) in a significant way and therefore has considerable economic importance. Burning or cutting the stubble early in the spring seems to be a good control measure.



Figures 1-3. Selenophoma symptoms on bromegrass. (1) Typical lesions on leaf blade showing pycnidia in rows.

(2) Lesions on sheath and leaf blade.

(3) Lesion on the inflorescence, especially on pedicels.

LEAF BLOTCH (Drechslera bromi) is a rather common disease of Bromus inermis and was observed in 10 fields at 5 localities (Chamberlain, Melfort, Nipawin, Regina, Unity), in varying degrees of intensity. First symptoms appeared early in June at the Melfort Experimental Farm and subsequently the disease was observed throughout the season.

BACERIAL BLIGHTS (Pseudomonas coronafaciens var. atropurpureum and Xanthomonas translucens f. sp. cerealis). Stripe blight incited by X. translucens f. sp. cerealis was observed in experimental plots at Saskatoon and in one field near Unity where plants were heavily infected. Light to moderate infections of bacterial blight incited by P. coronafaciens were observed in 6 fields at 4 different localities (Craik, Regina, Saskatoon, and Unity).

SCALD (Rhynchosporium secalis) was encountered in 5 fields at 3 localities (Nipawin, Saskatoon, Unity) but the disease was moderate in one field only (Saskatoon).

ERGOT (Claviceps purpurea) was encountered in 4 fields, of which one near Codette was very heavily infected.

POWDERY MILDEW (Erysiphe graminis). A very light infection was observed in two fields in the Unity area, late in July.

SEPTORIA LEAF SPOT (Septoria bromi) was encountered in light amounts in two fields at two localities (Prince Albert and Saskatoon).

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