## Helminthosporium on Western Grasses

R. A. Shoemaker

Collections of grass leaf spots were made during July, 1957 in order to extend the scope of a study begun in eastern Canada. The stations visited were: University of British Columbia, Vancouver; Washington State College, Pullman; Science Service Laboratories at Lethbridge (southern Alta.); Edmonton (central Alta.); Saskatoon, Sask.; and Winnipeg, Man.; in that order.

At U. B. C. the cereals and forage grasses were particularly healthy. They were growing in a light soil, and despite heavy rain were fairly free of disease. For example, in a 2-acre planting of oats only a few immature lesions typical of H. avenae were found. The only new record is H. triseptatum on Holcus lanatus. With G. W. Bruehl, Washington State College, collections were made in the area around Pullman. Cereal leaf spots were found readily. H. teres was the most destructive species and in one field caused severe damage. At Lethbridge the most noteworthy collection was H. triticirepentis on durum wheat. The disease was fairly severe on durum and appeared as elliptical spots with yellow margins and gray centers. In the Edmonton area (c. Alta.) a more extensive survey was made with W. P. Campbell. The unusual finds were: H. tetramera on Bouteloua sp., H. dictyoides var. phlei on Phleum pratense, and H. tuberosum on Secale cereale. At Saskatoon, leaf spots were extremely rare. There had been very little rain and netblotch of barley which was moderate to severe at other locations was found in relatively small amounts only. At Winnipeg the leaf spots were well represented. This was the last collecting area visited and the fresh material subsequently yield d a higher proportion of viable parasites.

A summary of positive identifications is given below. This list could be extended by intensive local surveys. If any workers find Helminthosporium leaf spots on grasses I will be glad to identify the pathogen in exchange for some of the diseased material.

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| AGROPYRON SPP. | H. triticirepentis (Died.) Died., Wash., s. Alta., Man. |
| AVENA SATIVA | H. avenae Eidam, Wash., s. Alta., c. Alta., Sask., Man. |
| AVENA FATUA | H. avenae Eidam, Wash. |
| DESCHAMPSIA DANTHONIOIDES | H. sorokinianum Sacc. in Sorok., Wash. |
| BOUTELOUA SP. | H. tetramera McKinney, c. Alta. |
| BROMUS SPP. | H. bromi (Died.) Died., c. Alta., Man. |
| ELYMUS INNOVATUS | H. triticirepentis (Died.) Died., c. Alta., Man. |
| FESTUCA ELATIOR | H. dictyoides Drechs. Wash., s. Alta., c. Alta., Man. |
| HOLCUS LANATUS | H. triseptatum Drechs., B. C. |
| HORDEUM VULGARE | H. teres Sacc., Wash., s. Alta., c. Alta., Sask. |
| | H. sorokinianum Sacc. in Sorok., c. Alta. |
| | H. gramineum Rab. in Schlecht., Wash., Idaho. |

Barley was the most seriously affected cereal. H. teres caused moderate damage in most areas. Root rot and subsequent vascular water-soaking and necrosis was observed near Lacombe, Alta. H. sorokinianum was abundant on the roots. Spot blotch was not severe and stripe, caused by H. gramineum was not observed in Canada.

KOELERIA CRISTATA H. vagans Drechs., Wash.
LOLIUM PERENNE H. siccans Drechs., Wash.
PHLEUM PRATENSE H. dictyoides var. phlei Graham, c. Alta., Man.

Practically all specimens of timothy observed had necrosis extending downward from the leaf apex. H. dictyoides var. phlei was isolated from some of these specimens, but a direct examination made at regional laboratories would probably show that this disease has a wider distribution than is indicated above.

POA SP. H. vagans Drechs., Wash.
SECALE CEREALE H. triticirepentis (Died.) Died., s. Alta.
H. tuberosum Atk., c. Alta.
TRITICUM AESTIVUM H. triticirepentis (Died.) Died., Wash., Man.
TRITICUM DURUM H. triticirepentis (Died.) Died., s. Alta.

## Smuts of Cereals in Manitoba in 1957

W. Popp

The essential features of the field survey of smut of cereal grains in Manitoba in 1957 are the low amount of loose smut in wheat and the low amounts of loose and covered smut of oats (Table 5).

Table 5. Smuts of Cereal Grain in Manitoba in 1957

| Kind of grain | Kind of smut | % smut Range | Mean |
|---|---|---|---|
| Wheat | Loose | 0-6 | 0.2 |
| | Bunt | - | 0.0 |
| Barley | Loose | 0-10 | 0.9 |
| | Covered | 0-20 | 0.8 |
| | False loose | 0-10 | 0.2 |
| Oats | Loose | 0-Trace | Trace |
| | Covered | 0-Trace | Trace |

This scarcity coincides with the growing of more resistant varieties. Selkirk wheat is highly resistant to loose smut and is now widely grown. Rodney and Garry oats are highly resistant to oat smut and have largely replaced susceptible varieties. Smut is still quite prevalent in barley. All currently grown