

### Cereal Diseases in Central Alberta

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Some interesting data were recorded from plots containing several varieties of barley, wheat and oats at 17 locations in northern and central Alberta. At most locations the same varieties were grown, but deletions and additions account for the differences at some stations. Where some pattern of disease severity seemed evident a comment was added. In addition, when the data indicated a severe infection a comparison was made between the varietal reaction.

Seven varieties of barley were grown at most stations. Some had six and some had eight or nine.

Scald (Rhynchosporium secalis) ratings at the various locations were Athabasca, 1-tr./7; Barrhead, 2-tr./7; Edmonton, 1-tr. 1-sl./8; Vegreville 1-tr./8; Wainwright, 0/8; Forestburg, 1-tr./8; Castor, 3-tr./6; Metiskow, 0/6; Acme, 5-tr. 3-sl./8; Evansburg, 1-sl. 2-mod. 4-sev./7; Fallis, 3-sl. 2-mod. 2-sev./7; Bluffton, 2-sl. 3-mod. 3-sev./8; Bently, 1-mod. 7-sev./8; Cheddarville 7-sev./7; Leslieville, 3-sl. 1-mod. 3-sev./7; Olds 1-tr. 2-sl. 2-mod. 4-sev./9; Airdrie, 1-mod. 7-sev./8.

Scald was severe at the stations west of a line joining Calgary and Edmonton. East of this line scald was not serious in the test plots. Vantage was the least affected by scald and Trail was the second least affected (R.A.S.).

Net Blotch (Helminthosporium teres) ratings were Edmonton, 2-tr. 2-sl. 2-mod. 2-sev./8; Evansburg 2-tr. 4-sl. 1-mod./7; Fallis, 5-tr. 2-sl./7; Bluffton, 4-tr. 3-sl. 1-mod./8; Leslieville 2-tr. 1-sl. 1-mod./7.; Olds, 3-tr. 4-sl. 1-mod./9; Acme, 2-tr. 4-sl. 1-mod./8; other locations had only trace amounts.

The disease distribution was not so clear-cut as with scald but the stations in the western section had more net blotch than the plots in the eastern section (R.A.S.).

Speckled Leaf Blotch (Septoria passerinii) ratings were Edmonton, 7-mod. 1-sev./8; Fallis, 2-tr. 5-sl./7; Vegreville, 7-sl. 1-mod./8; Wainwright, 3-tr. 3-sl./7; Bentley, 2-tr. 4-sl. 2-mod./8; Olds, 5-sl. 1-mod./9; Acme, 2-tr. 3-sl. 3-mod./8. The other stations had 0 to trace amounts.

Root Rot (Helminthosporium sorokinianum and Fusarium spp.) ratings were Barrhead, 3-tr. 1-sl./7; Vegreville 6-tr. 2-sl./8; Wainwright 2-tr. 5-sl./7; Bluffton, 5-tr./8; Forestburg, 4-tr. 1-sl./7; Castor, 3-tr. 2-sl./6; Athabaska, 2-tr. 4-sl. 1-mod./7; Metiskow, 6-sl./6. Root rot was not recorded at the other stations except Bentley, 3-tr./8.

The stations that had the diseased plants were chiefly in the eastern section. This is in contrast to the other barley diseases which were more severe in the western section (R.A.S.).

Bacterial Blight (Xanthomonas translucens) ratings were Evansburg, 2-tr. 4-sl./7; Cheddarville, 1-tr. 3-sl. 1-mod./7; Leslieville, 4-tr. 1-sl. 1-sev./7; Olds, 1-tr. 5-sl. 3-mod./9; Acme, 4-tr. 1-sl./8; Airdrie, 1-tr. 4-sl./8. No bacterial blight was recorded from the other plots. The disease appeared to be confined to the western section.

Diseases were recorded on 3 or more wheat varieties, usually including Selkirk, Saunders and Thatcher, at the 17 stations.

Root Rot (Helminthosporium sorokinianum and Fusarium spp.) ratings were chiefly as traces. Most of the affected plots were east of a line between Calgary and Edmonton as was the case with barley root rot.

Speckled Leaf Blotch (Septoria spp.) ratings were 0 at 3 stations, 0-tr. at 8 stations and tr.-sl. at 6 stations of which 4 were in the eastern section.

Four to seven varieties of oats were tested at each of the 17 stations. Blast and halo blight were found at most stations.

Blast (non-parasitic) was the chief disease. Ratings were 0 at one station, tr. at 2 stations, tr.-sl. at 5 stations and tr.-mod. at 9 stations, 7 of which were in the western section.

Halo Blight (Pseudomonas coronafaciens) was not observed at 2 stations, was 0-tr. at 7 stations and tr.-sl. at 8 stations, 7 of which were in the western section.

#### Cereal Diseases at Lacombe, Alberta in 1958

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Thirty-seven plots of 6-rowed varieties of barley were surveyed for disease. The diseases, in order of severity, were rated as follows: scald, 2-tr. 6-sl. 16-mod. 8-sev.; net blotch, 6-tr. 14-sl. 11-mod. 5-sev.; speckled leaf blotch, 6-tr. 12-sl. 10-mod. 1-sev.; root rot, 18-tr. 14-sl. 4-mod.; bacterial blight, 3-tr. 6-sl. 3-mod.; loose smut, 11-tr.

Only halo blight and blast were recorded in the 25 oat plots examined. Ratings were as follows: halo blight, 11-tr. 9-sl. 4-mod.; blast, 14-tr. 3-sl. 2-mod. 1-sev.

Twenty-five wheat plots were rated as follows: speckled leaf blotch, 7-tr. 14-sl. 3-mod.; powdery mildew, 1-tr. 4-sl. 1-mod.; loose smut, 3-tr. 1 at 2%, and 1 at 5%.