were seen, all in Manitoba and extending from Sprague in the southeast corner westwards to Brandon. Infections were listed as trace (3), and 2, 10, 30, 40, (3), and 95% respectively. Few aphids were observed. Each infected field was an isolated case.

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A SURVEY OF BARLEY LEAF DISEASES IN THE PRAIRIE PROVINCES, 1960

H. A. H. Wallace[1]

A field survey of barley leaf diseases was carried out during the period 10-18 August, 1960. The survey was made along the route Winnipeg to Regina, Calgary, Three Hills, Red Deer, Edmonton, Lloydminister, St. Walberg, Price Albert, Swan River, Winnipeg. A total of 247 fields were examined, 89 in Manitoba, 93 in Saskatchewan, and 65 in Alberta, The percentage of fields showing light to severe infection by one or more leaf diseases in 1960, as compared with 1956, (in brackets) was as follows: Manitoba 58 (94), Saskatchewan 84 (74), and Alberta 68 (81). Generally, leaf diseases were more severe in the northern areas. They were much lighter than usual in southern Manitoba.

Spot blotch (Bipolaris sorokiniana) was confined mostly to Manitoba and was present only in trace amounts. Net blotch (Drechslera teres) occurred as light infections in about two-thirds of the fields examined in the southern parts of each of the three provinces. In northern Saskatchewan and Manitoba more than half the fields had moderate to severe infections, while in northern Alberta infection was quite variable, ranging from a trace to severe.

A trace infection of powdery mildew (Erysiphe graminis) was found in one field in Manitoba. Rusts were relatively scarce. Stem rust (Puccinia graminis) was encountered as light to moderate infections in seven fields in Manitoba and leaf rust (Puccinia hordei) was seen in trace to slight amounts in five Manitoba fields,

Scald (Rhynchosporium secalis) was extremely scarce in Manitoba and was found in trace amounts in only two fields in the north part of the province. It was much more prevalent in northern Saskatchewan where 20 of 24 fields examined between St. Walberg and Spiritwood were infected. Some severe infection was seen but most of the infections were light to moderate. Scald was commonly observed in Alberta but usually in trace amounts.

Speckled leaf blotch (Septoria passerinii) was scarce, except for local, light infections in the Swan River, Manitoba district and at scattered points in southern Manitoba. It was also found as light infections in 7 fields in the Fairholme to Cater area of northern Saskatchewan. No speckled leaf blotch was found in Alberta. Barley yellow dwarf was observed at Carman, and Treesbank, Pigeon Lake, Manitoba in trace amounts and a light infection occurred at Stead,

Some observations were also made on the occurrence of smuts on barley during the survey. The following amounts were recorded: Loose smut (Ustilago

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nuda), in Manitoba; High Bluff 12%, Manson, 6%, Ashville, Headingly and Ste. Agathe, 5%; In Saskatchewan; Stenen, 10%, Wawota, 3%. False loose smut (Ustilago nigra), in Manitoba; Manitonas 10%, Benito, 8%. Covered smut (Ustilago hordei), In Manitoba; Ashville, 5%; in Saskatchewan; Mont Nebo, 10% Fenton, 6%, Kendal and Kelstern, 5%, and Stenen, 4%; in Alberta; Sylvan Lake, 10%.

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SEVERE LOOSE SMUT IN YORK BARLEY IN SOUTH-WEST ONTARIO

S. G. Fushtey[1]

The first report of an unusually high level of loose smut in barley was received in mid-July from Mr. Don Black, the Agricultural Representative for Wellington County. A spore germination study confirmed that Ustilago nuda was the causal organism. Two more reports followed in quick succession and field and laboratory tests again showed U. nuda to be the pathogen concerned. In all three cases York was the barley variety affected. The amount of smut varied from 6 to 20 per cent as determined by the average of 4 counts of 100 heads in each of 4 rows selected at random.

Immediately following these reports a survey was made in 8 other barley fields in the area. Two were free of smut; 4 showed less than one per cent; one had 10 per cent and one had 19 per cent loose smut. Both fields with the high smut incidence were sown to the variety York.

York is a comparatively new variety which was licensed for sale in 1958. It has high yielding capacity and possesses resistance to stem rust and powdery mildew. Apparently, a number of seed stocks of this variety were turned down for registration in 1959 because of high loose smut rating as determined by the embryo test, It is possible that some of these stocks were marketed as commercial seed which would account, at least in part, for the high incidence of loose smut in the 1960 crop.

It is apparent that York barley is highly susceptible to loose smut as there have been no reports of such high smut incidence in any of the other varieties grown in this area.

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