1. DISEASES OF CEREAL CROPS

WHEAT

BLACK **POINT** (Alternaria spp.) was generally present in durum wheats in Sask. Four samples examined had **20,** 23, 26 and 45% of the seeds affected. Isolations yielded abundant cultures of Alternasia and a few of Cladosporium spp. and Bipolaris sorokiniana (B, J. Sallans), Mod. infections were found in Man. from Winnipeg west to Baldur and south to the International Border (W. A, F, Hagborg),

LEAF SPOT (Ascochyta sorghi). Infection was rated as 7-tr, 3-sl, 1-mod, 4-sev. / 35 spring wheat fields surveyed in s. Alta. (J.S. Horricks, T. G. Atkinson). Tr-sl. infections of several varieties were recorded at 3 locations in's. -w. Sask, (R. D. Tinline).

COMMON ROOT ROT (Bipolaris sorokiniana. Fusarium spp.) was rated 3-sl. 3-mod. 1-sev. /35 spring wheat and 4-tr. 10-sl. 9-mod. 2-sev./40 winter wheat fields in s. Alta. (J.S. H. , T, G. A,). The average disease ratings in Sask. for crop districts **1** to 9 were: 12.6, 11.0, 13.0, 17.2, 14.3, 12.4, 18.1 , 13. 6 and 8. 5 respectively. The average for the province was 13.2; up from 12. 1 in 1961 (B. J, S.).

SEEDLING BLIGHT (Bipolaris sorokiniana). Isolations from samples received from Regina, Sask. all yielded B. sorokoniana (W. A. F. **H.**).

ERGOT (Claviceps purpurea) was heavy in scattered fields in n. and c. Alta. (W. P. Skoropod) and occurred commonly in all wheats, but especially durums, in w. , s-w. and s-c. Sask. **(B.J. S.)**. In Man. , traces were found in Selkirk at McCreary and on durum in the Pasqui development area at Le, Pas (W. L. Gordon, G. J. Green). It was tr. at the Exp. Farm, Caplan, Que. (D. Leblond).

ANTHRACNOSE (Golletotrichum graminicola) was tr. in plots at the Exp. Farm, Caplan, Que. (D. L.).

POWDERY MILDEW (Erysiphe graminis), normally rare in n. and c. Alta. , developed moderately in 1962 probably favored by lush, dense growth. It contributed to a considerable amount of head discoloration (W. P. S.). It was 2-mod/35 spring wheat and **1**-mod. /40 winter wheat fields surveyed in s. Alta. (J.S.H., T. G.A.) It was tr. in 1 field in n. -c Sask. (R. D. T.); mod. on winter wheat at Ridgetown, Ont, (D. W. Creelman), and prevalent on both **spring and** winter wheat at Ottawa where infections of previously resistant varieties suggested the appearance of new races (R. V. Clark).

HEAD BLIGHT (Fusarium spp.). It was reported from Indian Head that **2** carloads of durum wheat at Viceroy, Sask. were rejected because of Fusarium blight (D. W. C.). Infection was tr, at McCreary, Man. Isolations

yielded, in addition to F. poae, Bipolaris sorokiniana, It was mod-sev. in winter wheat plots at Ridgetown, Ont. (D. W. C.).

BASAL GLUME ROT (Pseudomonas atrofaciens) was fairly prevalent in Sask. as evidenced from samples of durum wheat (R, D. T.).

STEM RUST (Puccinia graminis) was 1-sev./35 spring wheat fields in s. Alta (J.S.H., T.G.A.). Ratings in Sask. were 11-tr. 1-sl. 1-sev./149 fields (B. J. S.). There were scattered infections in spring wheat fields and heavy infections in winter wheat fields in the Ottawa, Ont. area (R, V, C.).

LEAF RUST (Puccinia recondita) was sl, on Ridit and Dawson's Golden Chaff in plots at Oyster River, B, C. (H.N. W. Toms). Infection was rated 39-tr. 29-91. 12-mod. 12-sev./152 fields in Sask, (B, J. S.). Infection was mod, -sev. in winter wheat plots at Ridgetown, Ont. (D. W. C.). Considerable leaf rust developed oh spring wheat and it was sl. -mod. on winter wheat at Ottawa, Qnt. (R, V. C.). It was abundant in plots at the Exp. Farms at La Pocatière, Normandin and Caplan, Que. (D. L.).

STRIPE RUST (Puccinia striiformis) was tr, in 4/35 spring wheat fields examined in s. Alta, (J.S.H., T.G.A.).

BROWNING ROOT ROT (Pythium arrhenomanes) was seen in 5/10 fields in the Bounty, Rosetown and Biggar areas of Sask. Specimens showing sl. - mod infections were received from Yellowgrass, Stranraer, Leader, Wilkie, Maple Creek and Meadow Lake, Sask. (B. J, S.).

SPECKLED LEAF BLOTCH (Septoria spp.) Trace-mod. infections of S. tritici were faund in 16/157 fields in Sask. Six of the infected fields were durum wheat (R, D. T.). Infection by S. avenae f. sp. triticea was sl. -mod. on Ramsay in Man, (G. J, G. and W. C. McDonald). Slight-sev. infections, depending on variety, were seen in winter wheat plots at Ridgetown, Ont. (D. W. C.) and tr. infections occurred on winter wheat at Ottawa, Ont. (R. V. C.).

GLUME BLOTCH (Septoria nodorum) was mod, on Selkirk at Gainsborough, Sask. (W. A. F. H.)

DWARF BUNT (Tilletia contraversa) occurred as traces in 3/21 winter wheat fields in s. Alta. (J, S.H., T. G. A.).

LOOSE SMUT (Ustilago tritici), Three/110 fields of bread wheat showed trace infection and ratings were 15-tr. 7-1%/ 38 durum fields in Sask. (B. J. S.). There was a spectacular increase in loose smut in durum wheat in Western Canada in 1962, partially attributed to the greater susceptibility of Ramsay (W. J. Cherewick).

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BACTERIAL BLACK CHAFF (Xanthomonas translucens). The only infections seen in Man. and Sask. were in plot experiments (W. A. F, H.).

BARLEY YELLOW DWARF (virus) was 7-tr. /117 common wheat and 7-tr. /39 durum fields in Sask. (R. D. T.). Infections in Man. were limited to trace amounts in about one-third of the fields examined (W, A. F. H. , J. T. Slykhuis), It was tr. in plots at Ottawa, Ont. (R. V. C.).

SOIL-BORNE MOSAIC (virus) was again observed on winter wheat in s. -c. and s. -w. Ont. in 1962 but the incidence was much lower than in 1961. The fields in most areas in 1962 dried quickly in contrast to 1961 when the soil remained wet and cold for several months in early spring, Disease incidence in fields examined was 3-tr. /4 in Simcoe Co. , 1-tr. 3-sl. /4 in Huron Co. , 2-tr. /3 in Middlesex Co. , 1-mod, /3 in Essex Co. , 4-tr. 2-91. 9-abundant/18 in Kent Co. No soil-borne mosaic was seen in 4 fields examined in Durham Co. , 1 in Lambton, 3 in Norfolk, 5 in Welland or 5 in Lincoln counties, nor has the disease been found east of Peterborough (J. T. S.).

STREAK MOSAIC (virus) was rated 1-sl. 5-mod. 2-sev./38 spring wheat and 2-tr. 7-sl. 3-mod. 5-sev. /40 winter wheat fields in s. Alta. (J. S. H. , T. G. A.).

STRIATE MOSAIC (virus) was trace in 1 field and 1% in another in s. -w. Sask. (R. D. T.). It was not found in Man, (W. A. F.H.).

FALSE'BLACK CHAFF (physiological). Melanism was general in the empty glume tissues and exposed portions of the lemmas of a sample of Marquis wheat received from Bindloss, Alta, No indication of infection by pathogens on saprophytes could be found (W, A. F, H.).

SPLOTCH (physiological) was general in the durum crop throughout Sask. In 39 fields examined its incidence was 10-tr. -sl. and 10-mod. -sev. (R, D. T.). It was sl; at Starbuck and nr. Melita, Man. (W. A. F. H.).

OATS

COMMON ROOT ROT (Bipolaris sorokiniana, Fusarium spp.) was 10-tr. /23 fields examined in s. Alta. (J. S. Horricks, T. G. Atkinson).

ANTHRACNOSE (Colletotrichum graminicola) was 2-tr. /23 s. Alta. fields (J. S. H. , T. G. A,). In variety test plots in Que. it was sl. -sev. at Peribonka, Roberval Co. , tr. -sl. at Caplan, Bonaventure Co., and tr. at Thetford Mines, Megantic Co. The variety Shefford was the variety most affected at each of the stations (D, Leblond).

LEAF BLOTCH (Drechslera avenacea) was observed to be tr, in 1 field and sl, in another in n, -c. Sask, (R,D. Tinline),

POWDERY MILDEW (Erysiphe graminis) was tr, on Victory in plots at Oyster River, B. C. (H. N. W. Toms). It was found for the first time in 24 years of surveys of cereal plots in Que. as tr. -mod. infections on 10/24 varieties at 4/2 1 stations; Macdonald College, Lennoxville, Honfleur and St. Skbastien (D. L.).

HALO BLIGHT (Pseudomonas coronafaciens) was found as tr, -sl, infections in 5/14 fields in c, Sask, (R. D. T.). It was recorded as tr, in 5/18 fields examined in Man, and e, Sask. (W. A, F, H.).

CROWN RUST (Puccinia caronata) was generally tr. -sl. in the Ottawa, Ont. area (R. V. Clark). It was particularly heavy in plats at Rivibre Ouelle, Kamouraska Co., Que., (D. L.). A slight infection was seen near buckthorn at Pokiok, York Co., N. B. (S. R. Colpitts).

STEM RUST (Puccinia graminis) was prevalent as tr, -sl. infections late In the season in e, Ont. It caused considerably more damage than did crown rust (R. V. C,). Mod. infections were men at St. Jean, (R. Crête) and it was tr. -sev., depending on variety, at Lennoxville, Que. (D, L.).

SPECKLED LEAF BLOTCH (Septoria avenae f. sp. avenae) was rated 1-tr, 1-sl. 1-mod./11 fields examined in Man. (G. J. Green, W, C. McDonald). It appeared later than usual in the Ottawa, Ont. area but eventually became quite severe (R. V. C.). Light infections occurred on 80% of the plants in plots at the Exp. Farm., St. John's West, Nfld. (G. A. Nelson).

RED LEAF (barley yellow dwarf virus) was 2-tr./23 fislde examined in s. Alta. (J. S. Horricks, T. G. Atkinsan). It was 4-tr./14 fields surveyed in Sask. (R, D. T.), and was found in 8/19 fields examined in Man. and e. Sask, (W. A. F. H.). ,Infection in plot areas at Ottawa, Ont. was heavy but it was generally only tr, in farmers' fields (R. V. C.).

BLAST (physiological) was tr. on Eagle in plots at Oyster River, B, C. (H. N. W. T.).

GREY SPECK (Manganese deficiency) caused yield reductions at High Prairie, Alta, were soils have a high organic content (W. P. Skoropod). It was rated 2-tr. 1-sl. 1-mod. 3-sev./23 fields examined in s. Alta, (J. S. H, , T. G. A.). It is suspected to be the cause of considerable damage in a field at Starbuck and another at Oak Bluff, Man. (W. A. F. H., W. C. McD.).

BARLEY

SPOT BLOTCH (Bipolaris sorokiniana). Infection was 1-sl./18 fields surveyed in Sask. (R. D. Tinline). In Man. it was rated 3-tr. 6-sl. 5-mod./24 (G. J. Green, W. C. McDonald). It was mod. in test plots at the Exp. Farm, Caplan, Que. (D. Leblond), and affected 90% of the plants of several varieties at Colinet, Nfld. (O. A. Olsen).

COMMON ROOT ROT (Bipolaris sorokiniana, Fusarium spp.) was rated 1-tr. 5-sl./8 fields examined in s. Alta. (J. S. Horricks, T. G. Atkinson). The average disease rating in Sask. was 16.2 in 19 fields. It was up considerably from the 1961 average of 11.5 (B. J. Sallans).

ERGOT (Claviceps purpurea). Heavy infections were seen in some fields in n. and c. Alta. (W. P. Skoropod). It was tr. at Riding Mountain and mod. in the Pasqui development area at Le Pas, Man. (W. L. Gordon, G. J. G.).

ANTHRACNOSE (Colletotrichum graminicola) was tr. in variety test plots at Caplan, Que. (D. L.)

NET BLOTCH (Drechlera teres) was sl.-sev. on Vantage in plots at Oyster River, B. C. (H. N. W. Toms). It was rated 1-tr. 1-mod./8 fields surveyed in s. Alta. (J. S. H., T. G. A.) and was found in 14/18 Sask. fields examined, with tr. infections in southern areas and sl.-sev. infection in the northern areas of the province (R. D. T.). Ratings in Man. were 3-tr. 7-sl. 7-mod. 1-sev./24 fields examined (G. J. G., W. C. McD.).

POWDERY MILDEW (Erysiphe graminis) was tr.-sl. on Vantage in plots at Oyster River, B. C. (H. N. W. T.) Ratings in Man. were 2-tr. 2-sl. 1-mod./24 fields examined (G. J. G., W. C. McD.). Infection was tr.-sl. on both spring and winter barley in the Ottawa, Ont. area (R. V. Clark).

HEAD BLIGHT (Fusarium spp., Bipolaris sorokiniana) was tr. at Riding Mountain where isolations yielded Fusarium poae, F. acuminatum and Bipolaris sorokiniana, and at Culross, Man. where B. sorokiniana was isolated from discolored kernels (Wl. L. G.).

STEM RUST (Puccinia graminis). Trace infections were seen in 3/17 fields in Sask. (B. J. S.) and it was tr. in the Ottawa, Ont. district (R. V. C.).

LEAF RUST (Puccinia hordei) was 1-tr./17 fields examined in Sask. (B. J. S.). It was tr.-sl. on spring barley and fairly prevalent on winter barley as slight infections in the Ottawa, Ont. district (R. V. C.). Leaf rust was abundant in test plots at Lennoxville and St. Gédéon, Que. and was noticeably less sev. at 19 other stations surveyed (D. L.).

STRIPE RUST (Puccinia striiformis)., One trace infection was seen in 8 fields examined in s. Alta. (J.S.EX , T.G.A.).

SCALD (Rhynchosporium secalis) was found in tr. -mod. amounts in 3 fields inn. Man. (G.J.G., W.C. McD.).

SPECKLED LEAF BLOTCH (Septoria passerinii) was 1-tr./8 fields surveyed in s. Alta (J.S.H. , T.G.A.) and 1-tr. 1-sl./24 fields in Man. (G. J, G. , W. C. McD.).

COVERED SMUT (Ustilago hordei) was 1-1% and 1-3% in 17 fields examined in Sask. (B. J.S.). There was less than 1% at Doyles, Nfld (O.A. Olsen).

LOOSE SMUT (Ustilago nuda, U. nigra) was rated 7-tr-1%/17 fields surveyed in Sask, (B. J. S.). Degree of infection varied with the variety at Ottawa, Ont. with York and Nordi the most heavily infected (R. V, C.). It was sl. at La Pocatière, Que. (H, Généreux).

BACTERIAL BLIGHT (Xanthomonas translucens) was found in Man. in 1 field of Montcalm at Christie and in plots of Olli at Fort Garry, The inoculum at Fort Garry was apparently seed-borne as adjacent varieties were not affected (W. A. F. H., W. C. McD.).

STREAK MOSAIC (virus) was 1-sev./8 fields examined in s, Alta. (J.S.H., T.G.A.).

STRIPE MOSAIC (virus). Infection was 2-tr. and 1-sl. in n. -e. Sask. (R. D. T.). It was found in Man, only in experimental plots, As in 1961, it occurred in O. A. C. 21 in the cooperative tests and in demonstration plots. It spread from the demonstration plots to border rows of winter wheat from which it was isolated by sap transfer (W. A, F. H.).

YELLOW DWARF (virus) was 2-tr./18 fields in Sask, (R. D. T.). Of the 6 fields examined in Man. and e. Sask. the most severely infected was at Carnduff, Sask. where infection was calculated to be 4% (W, A. F.H.). Trace infections were seen in spring barley at Ottawa, Ont. (R. V. C.).

RYE

ERGOT (Claviceps purpurea). Volunteer rye plants were infected in a wheat field in Sask. (B, J. Sallans). At Brandon, Man, , 100% of the plants and 5% of the kernels were infected in a plot of the variety Prolific. Ergot was more common than usual in Man. in 1962 (W. L. Gordon). Infection was sev. in a field nr. Alliston, Ont. (D. W. Creelman) and was heavy at Gagetown, N. B. (S. R. Colpitts).

POWDERY MILDEW (Erysiphe graminis) was sl. on the variety **Storm** at Oyster River, B.C. (H, N. W. Toms). It was mod. at Fort Garry, Man. with the heaviest infections on the lower leaves (W. **A,** F. Hagborg).

STEM RUST (Puccinia graminis) was tr. on Storm at Oyster River, B.C. (H.N.W.T.),

LEAF **RUST** (Puccinia recondita). Slight-mod. infections were seen on Storm at Oyster River, B.C. (H.N.W.T.). It was sl. on most plants of Dakold and Sangaste in plots at St. John's West, Nfld. (G. **A,** Nelson),

SCALD (Rhynchosporium secalis) was sl. on Dakold in plots at St. John's West, Nfld. (G. **A.** N.).