

DISEASES OF CEREAL CROPS

WHEAT

HEAD DISCOLORATION (Alternaria spp.) was observed in 8/11 fields examined. Severity was variable between and within fields. The maximum severity observed was 96% of the heads bearing a trace to 30% of the glume area discolored. Specimens received of grain weathered because of delayed harvest showed a high incidence of infection by Alternaria spp. (W. A. F. H.).

LEAF SPOT (Ascochyta sorghi). Trace amounts were observed in 2 fields in s. Sask. Specimens were received from Yorkton and Melfort (R. D. T.).

SPOT BLOTCH (Bipolaris sorokiniana) was sl. in 1/228 fields in Sask. The infection was in the s. e. part of the province (R. D. T.).

COMMON ROOT ROT (Bipolaris sorokiniana, Fusarium spp.). Damage was extensive on 'Winalta' winter wheat at Vulcan; specimens were also received from Kinsella, Bruce, St. Paul and Granum in n. Alta. (A. W. H.). It was rated 5-tr. 2-sl./24 spring wheat and 1-sl./8 winter wheat fields in s. Alta. (J. S. H., T. G. A.). Field surveys indicated that common root rot was somewhat less severe in Sask. than in 1964, the average rating being 10.4 compared with 13.5. The 1965 ratings for crop districts 1 to 9 were, respectively: 9.6, 10.4, 13.9, 12.1, 9.1, 12.1, 9.0, 8.9 and 8.9. (B. J. S.). It was rated 1-tr. 4-sl./8 fields examined nr. St. Catharines, Ont. (T. R. D.).

ERGOT (Claviceps purpurea). Trace amounts were recorded in c. Alta. (L. J. P.) and it was rated 1-tr./24 spring wheat fields in s. Alta. (J. S. H., T. G. A.). Ergot was widely distributed throughout Sask. although it was not serious. Ratings were 34-tr. 2-sl./211 fields examined (R. D. T.).

ANTHRACNOSE (Colletotrichum graminicola). Specimens were received from Vulcan and High Prairie, Alta. (A. W. H.).

GLUME SPOT (Epicoccum nigrum). This saprophyte was isolated in s. Alta. from glumes and kernel's of 3 samples of spring wheat that exhibited considerable sterility. The organism was deter-

mined by Mary E. Elliott, Plant Research Institute, Ottawa (T. G. A.).

POWDERY MILDEW (Erysiphe graminis). 'Gaines' fall wheat was 50% infected and damage was moderate in a 1-acre plot at Abbotsford, B. C. Infection was present on leaves and heads and even on beard hairs. Nearby 'Ridit' wheat was not infected (H. N. W. T.). Trace amounts only were recorded in c. Alta. (L. J. P.) while infection ratings in s. Alta. were 2-sev./24 spring wheat and 1-sev./8 winter wheat fields (J. S. H., T. G. A.). It was rated 2-tr./8 fields nr. St. Catharines, Ont. (T. R. D.). Infections were moderate at Harrow and mod.-sev. on late-maturing crops at Ridgetown, Guelph and Ottawa, Ont. (R. V. C.).

MOLDY GRAIN (Fusarium spp.). Wheat seed received from Wolseley, Sask. was bright red in color due to growth of Fusarium spp. during storage under damp conditions (R. D. T.).

TAKE-ALL (Ophiobolus graminis) caused extensive damage at Rich Lake and was reported from Beauvallon, Alta. (A. W. H.). It was observed in a few fields north and east of Lacombe (L. J. P.) and was 1-mod. 1-sev./8 winter wheat fields surveyed in s. Alta. (J. S. H., T. G. A.). Slight infection occurred in plots at Regina, Sask. where stubble from a previous crop of grass was present. A specimen was also received from Tisdale (B. J. S.). It has been pointed out (Trans. Brit. Mycol. Soc. 35: 29-33, 1952) that the proper binomial for this fungus is Gaeumannomyces graminis (Sacc.) v. Arx & Oliver (D. W. Creelman).

BASAL GLUME ROT (Pseudomonas atrofaciens) was severe in 1 field and trace in 2 in s. Sask. (R. D. T.).

STEM RUST (Puccinia graminis). Damage was severe on 'Garnet' at St. Paul. It was also recorded on 'Garnet' at Legal, 'Canthatch' at Brooks and Clandonald, winter wheat at Edmonton and hybrid wheat at Edmonton and Ranfurley, Alta. (A. W. H.). It occurred in two-thirds of the fields examined north and east of Edmonton with $\frac{1}{2}$ of these fields scoring severe. It was seen on 'Garnet', 'Cypress', 'Chinook', 'Thatcher' and 'Red Bobs' at the Lacombe Experimental Farm and was severe in the Ashmont, Alta. area (L. J. P.). Stem rust was rated 2-tr. 1-sev./24 spring wheat and 1-tr./8 winter wheat fields in s. Alta. (J. S. H., T. G. A.). Ratings were 80-tr. 32-sl. 14-mod. 6-sev./193 fields surveyed in Sask. Of the 6 severely infected fields, 3 were seeded to 'Lee'. Durum wheats were rated 4-tr. 1-mod. 6-sev./14.

* see Appendix "A" for list of contributors, their addresses and affiliation.

'Pelissier' and other susceptible varieties were severely affected in s. w. Sask. (B. J. S.). Infections were rated 1-tr, 1-sl, 1-mod./8 fields examined nr. St. Catharines, Ont. (T.R.D.) and was severe on susceptible varieties at Harrow. Stem rust appears to be a serious problem in w. Ont. since reports indicate the presence of new races for which resistance is not available. Infections were heavy at Guelph, Ridgetown and Ottawa, Ont. (R. V. C.).

LEAF RUST (Puccinia recondita). Infection was extensive at Athabaska and at St. Paul, Alta. on 'Garnet'. It was also reported from Winterburn, Vulcan and Clandonald (A. W. H.). Leaf rust was the major disease problem on wheat in c. Alta. where it occurred in severe proportions in 90% of the fields surveyed (L. J. P.). Ratings in s. Alta. were 2-tr, 1-sl, 9-mod, 3-sev./24 spring wheat and 1-tr./8 winter wheat fields. Infection was light on most late-maturing spring wheat crops but was heavy in a few fields of 'Red Bobs', 'Garnet' and soft white spring wheat (J. S. H., T. G. A.). Leaf rust in Sask. was generally present in slight amounts by 15 July. By 31 July infections were mod. -sev. and by 9 August a large proportion of the fields were defoliated. Fields surveyed 9-24 August were rated 7-sl, 38-mod, 142-sev./187. Ratings on durum wheat were 2-tr, 1-mod./15 (B. J. S.). Traces of leaf rust were present in Man. by 14 July and by 3 Aug. infection ranged as high as 100% on the flag leaves in c. Man. (W. A. F. H.). It was rated 2-tr./8 fields surveyed nr. St. Catharines, Ont. (T. R. D.). Moderate to severe infections were recorded at Harrow, Guelph, Ridgetown and Ottawa, Ont., especially on late crops (R. V. C.).

STRIPE RUST (Puccinia striiformis). Infections were rated 1-tr, 1-sev./24 spring wheat and 1-tr./8 winter wheat fields in s. Alta. (J. S. H., T. G. A.).

BROWNING ROOT ROT (Pythium graminicola). Specimens were received from Standard and Brownvale, Alta. where the disease was reported to be prevalent (A. W. H.). Specimens were also received from Leader, Sask. (R. D. T.).

SPECKLED LEAF BLOTCH (Septoria avenae, f. sp. triticea). Trace amounts were observed in c. Alta. (L. J. P.). The disease was generally distributed throughout Sask. and was rated 2-tr, 10-sl, 8-mod./198 fields surveyed. Specimens were also received from Swift Current and Melfort (R. D. T.). Moderate infections were seen at Harrow and Ridgetown, Ont. (R. V. C.).

GLUME BLOTCH (Septoria nodorum) was observed at Athabaska, Bawlf, Grand Prairie, High Prairie, La Crete, St. Paul, Vegreville, Vulcan and Wetaskiwin, Alta. It was severe on 'Park' wheat at Wetaskiwin (A. W. H.). It was widely distributed in Sask. Infections were rated 19-tr, 24-sl, 9-mod./207 fields surveyed. Specimens were received from Canora, Davidson, Hudson Bay, Norquay and Pad-dockwood (R. D. T.). Infections were trace to slight at Harrow and Ridgetown, Ont. (R. V. C.).

LOOSE SMUT (Ustilago tritici). Five percent of the heads of 'Canthatch' wheat were smutted at Wil-lingdon, Alta. (A. W. H.). It was found in Sask. only in durum wheats and in the bread wheat 'Lee'. Infections in durum were rated 3-tr./16 fields and in 'Lee' 2-sl./4. No infections were seen in 190 fields of other bread wheats (B. J. S.). In a survey of 77 fields in Sask. a 4% infection was seen in 1 field of 'Lee' and 1 infected head in each of 4 fields of the varieties 'Pembina' or 'Selkirk'. Of durum fields examined, 8/10 showed infection ranging from tr. -5% with the mean at 1.7%. In Man., 5/47 fields of bread wheat showed infection. Two fields of 'Lee' had 2 and 5% smutted heads and 3 fields of 'Pembina' or 'Selkirk' had 1 smutted head each. Infections in durum in Man. ranged from tr. -6% with the mean at 1.2% in 16/22 fields (J. J. N.). In another Man. survey of 14 fields, 1 field with 'Lee' as an admixture had 6% infection (W. A. F. H.). It was rated 1-tr./8 fields surveyed nr. St. Catharines, Ont. (T. R. D.).

BACTERIAL BLACK CHAFF (Xanthomonas translucens) was reported from Brightview, Clandonald, Elk Point, Ponoka, St. Paul, Stettler, Was-katanan and Westlock, Alta. (A. W. H.). Considerable amounts were observed in the Lacombe and Ponoka areas of Alta. (L. J. P.). A trace infection was seen in 1 field in s. w. Sask. (B. J. S.). The organism was isolated from leaf samples of 'Manitou' wheat from 2 farms at Domain, Man. and from heads of the durum line 'D. T. 184' from Regina, Sask. All isolates were pathogenic to wheat seedlings (W. A. F. H.).

BARLEY YELLOW DWARF (barley yellow dwarf virus). Trace infections were found in 7/10 fields examined in Man. and e. Sask. (C. C. G.).

WHEAT STREAK MOSAIC (wheat streak mosaic virus). It was rated 2-mod, 4-sev./24 spring wheat and 1-sl./8 winter wheat fields surveyed in s. Alta. (J. S. H., T. G. A.). Severe damage in s. Alta. occurred only in spring wheat and was restricted to the Warner-Skiff-New Dayton area s. e. of Lethbridge. Inoculum almost invariably originated in overwintered volunteer winter wheat (T. G. A.).

WHEAT STRIATE MOSAIC (wheat striate mosaic virus) was observed as a trace in 1 field nr. Morden, Man. No infection was found in 17 other fields examined in Man. and e. Sask. (C. C. G.).

LEAF BLOTCH (physiological). A previously unreported leaf blotch occurred on 'Winalta' but not on other commercial varieties of winter wheat throughout the winter wheat area of s. Alta. The bleached, necrotic blotches were most prevalent and extensive on that portion of the blade exposed to the direct rays of the sun. Damage was confined to the flag leaf and attempts to isolate a causal organism failed. Weather records before and at the time of the appearance of the condition suggest that it may have an etiology similar to that reported for a non-parasitic spot of oats (Plant Disease Repr. 43: 337-342, 1950) (T. G. A., M. N. G.).

SPLITCH (physiological). Damage was sl. in 1/24 spring wheat fields surveyed in s. Alta. (J.S.H., T.G.A.). It was rated 3-sl. 1-mod./16 fields of durum examined in s.w. Sask. (R.D.T.).

CHEMICAL INJURY (2,4-D injury). Slight to severe stunting, ragged growth and death of some plants were observed in several fields in s.w. Sask. These had been sprayed with mixtures of herbicides and earlier or later than the recommended time (R.D.T., B.J.S.).

WINTER KILLING was rated 4-tr. 6-mod. 7-sev./17 winter wheat fields surveyed in Alta. (J.B.L.).

OATS

LEAF BLOTCH (*Drechslera avenacea*) was prevalent in a seedling stand on sandy soil at Willingdon and specimens were received from Ponoka, Alta. (A.W.H.). Trace to slight infections were observed in the Lacombe, Alta. district (L.J.P.). It was moderate to severe on 'Fundy' oats on the Experimental Farm, St. John's West, Nfld. (G.A.N.).

POWDERY MILDEW (*Erysiphe graminis*). Infections were rated 1-tr. 1-sl./4 fields surveyed nr. St. Catharines, Ont. (T.R.D.).

ROOT ROT (*Fusarium graminearum*). Ten-20% infection caused slight to moderate damage in Queens Co., P.E.I. in 2 fields that were particularly low in fertility and were seeded deeply (C.B.W.).

OAT-CYST NEMATODE (*Heterodera avenae*). Heavy infestations were recorded in 2 fields nr. Bowmanville, 2 nr. Stouffville, 2 nr. Clinton, 1 nr. Uxbridge and 1 near. Mount Forest, Ont. (S.G.F.).

HALO BLIGHT (*Pseudomonas coronofaciens*) was noticeable in experimental plots at Lacombe, Alta. but little was seen in farmers' fields (L.J.P.). Slight infections were observed in 3/22 fields surveyed in Sask. (R.D.T.). Trace infections of the non-toxin type were seen in 2/6 fields observed in Man. Natural infections in experimental plots involved as much as 50% of the leaf area (W.A.F.H.). It was rated 1-tr. 1-sl. 1-mod./4 fields surveyed nr. St. Catharines, Ont. (T.R.D.).

CROWN RUST (*Puccinia coronata*) was rated 2-tr. 6-sl. 3-mod./21 fields surveyed in Sask. (B.J.S.) and 1-tr./6 fields on 9 Aug. in Man. (W.A.F.H.). Traces were found in 1/4 fields examined nr. St. Catharines (T.R.D.) and it was late in appearing but severe on late crops in e. Ont. (R.V.C.). Slight to moderate infections occurred in Quebec Seed Board test plots at La Pocatière and Rivière Ouelle, Kamouraska Co., Que. but no rust or only traces were seen at 19 other locations (D.L.).

STEM RUST (*Puccinia graminis*). Infection was rated 5% on 'Eagle' and 'Victory' oats in plots at Oyster River, B.C. (H.N.W.T.). Ratings in Sask. were 2-tr. 2-sl. 2-mod./21 fields surveyed (B.J.S.). It was not seen in a survey of 6 fields in Man. in early August (W.A.F.H.). Infection was severe on

late-maturing crops in e. Ont. (R.V.C.). Infections were moderate at 7/21 test plot locations in Que. (D.L.).

SPECKLED LEAF BLOTCH AND BLACK STEM (*Septoria avenae* f. sp. *avenae*) was rated 1-tr. 2-sl./22 fields surveyed in s. Sask. (R.D.T.). It was as severe as has been seen in e. Ont. in recent years although infections appeared late (R.V.C.). Infection was severe at Rivière Bleue, Témiscouata Co., Que. (C.A.).

LOOSE SMUT (*Ustilago avenae*) was not found in 73 fields surveyed in Man. and Sask. (B.J.S., J.J.N.).

COVERED SMUT (*Ustilago kolleri*) was found in 1/14 fields in Sask. Infection was rated 6% (J.J.N.). None was found in another survey of 21 fields in Sask. (B.J.S.) or one of 38 fields in Man. (J.J.N.).

RED LEAF (barley yellow dwarf virus). Traces were seen in a field at Regina, Sask. (R.D.T.). The disease incidence was very light to negligible in Man. and Sask. except in the area between Dauphin and Neepawa, Man. Late-sown oats in this area were heavily infested with aphids and virus infection was severe. Individual ratings were 2-tr. 6-sl. 4-mod. 2-sev./39 fields examined (C.C.G.). Incidence was heavy in certain districts in e. Ont. (R.V.C.).

BLAST (physiological). Damage ranged from trace to severe in about half the fields examined in c. Alta. (L.J.P.) and was trace to slight in most oat fields visited in Sask. (R.D.T.). Moderate damage was seen at Rivière Bleue, Témiscouata Co., Que. (C.A.).

BARLEY

BLACK POINT (*Alternaria tenuis*, *Bipolaris sorokiniana*) was prevalent in the Red River Valley of Man. (W.C.McD.).

SPOT BLOTCH (*Bipolaris sorokiniana*) infection was rated 1-sl./13 fields in s. Alta. (J.S.H., T.G.A.) and 1-tr. 3-sl. 1-mod./31 fields surveyed in s.e. Sask. (R.D.T.). Moderate to severe infections were general in all areas of Man. (W.C.McD.).

COMMON ROOT ROT (*Bipolaris sorokiniana*, *Fusarium* spp.). Specimens were received from Big Valley, Brightview, Didsbury, Legal and Olds, Alta. (A.W.H.). It was encountered more frequently in fields west and north of Lacombe than in other areas surveyed in c. Alta. (L.J.P.). Ratings in s. Alta. were 1-tr. 4-sl. 2-mod./13 fields (J.S.H., T.G.A.). The 'average' rating in 25 fields in Sask. was 11.8, considerably lower than in 1964 (B.J.S.). Two diseased fields were observed nr. Stony Mountain, Man. (W.A.F.H.). Infection was 20-30% in a field of 'Herta' and one of 'Charlottetown 80' in Queens Co., P.E.I. (C.B.W.).

ERGOT (*Claviceps purpurea*). A trace was seen in 1/13 fields examined in s. Alta. (J.S.H., T.G.A.) and trace amounts occurred in 6/31 fields observed in Sask. (R.D.T.).

ANTHRACNOSE (*Colletotrichum graminicola*) affected several acres at Didsbury, Alta. (A. W. H.).

STRIPE (*Drechsleragraminea*) was trace in 1/13 fields surveyed in s. Alta. (J.S.H., T. G. A.).

POWDERY MILDEW (*Erysiphe graminis*) was observed in trace to slight amounts, late in the season, in e. Ont. (R. V. C.).

SPIKELET INFECTION (*Fusarium sporotrichoides*) occurred on 5% of the heads of one field in Man. (W.A.F.H., W. C. McD.).

STEM RUST (*Puccinia graminis*) was recorded on the varieties 'Olli', 'Wolfe', 'Gateway', 'Gateway 63', 'Cornpana', 'Parkland' and 'Palliser' in plots at Lacombe. Infection was severe in several commercial fields in the Ashmont, Alta. area (L. J. P.). It was rated 1-tr./13 fields examined in s. Alta. (J.S.H., T. G. A.) and 6-tr. 4-sl. 2-mod./21 fields in Sask. (B. J. S.). Stem rust was light on winter barley in w. Ont. and was more prevalent than usual in some areas of e. Ont. (R. V. C.). It was moderate to severe at 16/21 Quebec Seed Board testing stations in Que. (D. L.).

LEAF RUST (*Puccinia hordei*) was rated 1-tr./13 fields in s. Alta. (J.S.H., T.G.A.). A trace was observed in 1/2 fields examined nr. St. Catharines (T. R. D.) and trace to slight amounts were recorded in e. Ont. late in the season (R. V. C.).

NET BLOTCH (*Pyrenophora teres*). Specimens were received from Didsbury and Big Valley, Alta. (A. W. H.). Ratings of fields examined in the Peace River district of n. Alta. in late July were 36%-tr. 27%-sl. 18%-mod. (B. B.). Few barley fields east and north of Lacombe, Alta. were free of net blotch. Severe infections were, however, more common southeast of Lacombe (L. J. P.). It was rated 2-tr. 3-sl. 4-mod. 1-sev./10 fields examined in s. Alta. (J.S.H., T. G. A.). Net blotch was generally distributed in Sask. Ratings were 1-tr. 5-sl. 6-mod. 9-sev./31 fields surveyed (R. D. T.). Slight to moderate infections occurred in the area north of the Assiniboine River in Man. (W. C. McD.). It was trace in 1 field nr. St. Catharines, Ont. (T. R. D.).

SCALD (*Rhynchosporium secalis*). Specimens were received from Big Valley, Calgary, Didsbury, Olds, Stony Plain and Vegreville, Alta. (A. W. H.). Ratings of fields surveyed in n. Alta. in late July were: 18%-tr. 18%-sl. 27%-mod. 18%-sev. (B. B.). Scald was found in all areas surveyed in c. Alta. It was least prevalent northeast of Edmonton and most prevalent west of Lacombe. There were more severe infections northeast of Lacombe than in the other areas (L. J. P.). It was rated 2-tr. 2-sl. 4-mod./8 fields in s. Alta. (J.S.H., T. G. A.). Infections were slight in 4 fields in n.w. Sask. and moderate in 2 in s.w. Sask. out of 31 surveyed in the province (R. D. T.). Scald was prevalent in experimental plots in the Roblin-Russell area of Man. and was trace to slight in farmers' fields (W. C. McD.). It was observed in a few lines under test at Ridgetown (R. V. C.) and was trace in a field nr. St. Catharines, Ont. (T. R. D.).

SPECKLED LEAF BLOTCH (*Septoria passerinii*) was observed at Didsbury, Alta. (A. W. H.). Its occurrence was general in c. Alta., particularly in areas close to Lacombe. It caused little apparent damage (L. J. P.). Ratings were 3-tr. 3-sl./31 fields examined in Sask. All affected fields were in s. e. Sask. (R. D. T.). It was much more prevalent in Man. than in the last 5 years. Moderate infections were general throughout the province (W. C. McD.).

COVERED SMUT (*Ustilago hordei*). Specimens were received from Calgary and Claresholm (A. W. H.); a 10% infection was seen in 1 field in c. Alta. (L. J. P.) and it was mod. in 1/13 fields surveyed in s. Alta. (J.S.H., T.G.A.). It was rated 2-tr. 2-sl./24 fields examined in Sask. (B. J. S.) and 1-tr. 1-3%/29 fields in Man. (J. J. N.).

FALSE LOOSE SMUT (*Ustilago nigra*) was found in 2/20 fields in Sask. and in 3/29 fields examined in Man. (J. J. N.).

LOOSE SMUT (*Ustilago nuda*). Specimens were received from Berwyn, Dixonville, Spirit River, Mayerthorpe where infection was 10% and Keg River, Alta. where infection was rated 40% or more (A. W. H.). Trace to moderate infections were found in 50% of the fields examined southeast and west of Lacombe and in 60% of the fields east and north of Lacombe, Alta. Only 25% of the fields northeast of Edmonton were affected. One field had 10% infection (L. J. P.). Ratings were 3-tr./24 fields examined in Sask. (B. J. S.). Another survey in Sask. revealed 12/20 fields with trace to 6% infections. The mean infection ranged from tr. -4% with the mean at 0.7% in 9/29 fields in Man. (J. J. N.).

BACTERIAL BLIGHT (*Xanthomonas translucens*) caused damage in a wet, sheltered portion of a field at Stony Plain, Alta. (A. W. H.) and was abundant on 'Olli' and 'Gateway' at the Lacombe Experimental Farm but was not recorded elsewhere in c. Alta. (L. J. P.). Slight amounts were observed in 3 fields at Regina, Sask. (R. D. T.).

ASTER YELLOWS (aster yellows virus). Trace infections were found in 5/45 fields surveyed in Man. and e. Sask. (C. C. G.).

STRIPE MOSAIC (barley stripe mosaic virus) was present in experimental plots at Winnipeg and Portage la Prairie, Man. but was not found in 21 commercial fields examined (C. C. G.).

BARLEY YELLOW DWARF (barley yellow dwarf virus). Incidence was very light in Man. and e. Sask. except in the area between Dauphin and Neepawa where infection was heavy on late-sown crops. Ratings were 17-tr. 2-mod. 1-sev./21 fields surveyed (C. C. G.). Symptoms resembling yellow dwarf were observed in experimental plots at Regina, Sask. Aphids were numerous but the symptoms observed may have been a manifestation of mite damage (R. D. T.).

FROST BANDING was observed on seedlings at Wembley, Alta. in June (A. W. H.).

LEAF SPOT (physiological). This condition was observed in 2/13 fields examined in s. Alta. (J.S.H., T. G. A.).

WINTER KILLING. Winterbarley was completely killed out at Ottawa and considerable killing was encountered at Guelph, Ridgeway and Harrow, Ont. (R. V. C.).

RYE

COMMON ROOT ROT (Bipolaris sorokiniana, Fusarium spp.) was slight in 1/2 fields examined nr. St. Catharines, Ont. (T.R.D.).

ERGOT (Claviceps purpurea) was found sparingly in hybrid 'Sangate' x 'Dakold' rye in plots at Edmonton (A. W. H.) and considerable amounts were observed, late in the season, at Lacombe, Alta. (L. J. P.). In s.w. Sask. ratings were 7-tr. 1-sl./9 fields surveyed (R.D.T.). Fifty percent of the heads of 'Tetra Petkus'

had 2-8 ergots per head at St. John's West, Nfld. (O. A. O.).

STEM RUST (Puccinia graminis). Infection was moderate at Edmonton (A. W. H.) and was trace in 6 fields examined in c. Alta. (L. J. P.). Slight infections occurred on fall rye at widely distributed points in Sask. (B. J. S.).

SCALD (Rhynchosporium secalis). Trace infections were recorded in 6 fields examined in c. Alta. (L. J. P.).

SPECKLED LEAF BLOTCH (Septoria secalis). Infection was rated slight in 4/9 fields surveyed in s.w. Sask. (R. D. T.).

STEM SMUT (Urocystis occulata). This rarely-encountered smut was present in 1 field and was observed on volunteer plants in another instance in s. Alta. (T. G. A., M. N. G.). It was last reported to the Survey in 1955 (C.P.D. S. 35: 16. 1956) (D. W. Creelman).

DISEASES OF FORAGE AND FIELD CROPS

A. Forage Legumes

ALFALFA

BLACK STEM (Ascochyta medicaginis). A high incidence of black stem was reported at High Prairie and specimens were received from Feisy and Edmonton, Alta. (A. W. H.).

WINTER CROWN ROT (low-temperature basidiomycete) caused damage to crops in the Edmonton, Alta. district (A. W. H.).

BACTERIAL WILT (Corynebacterium insidiosum) was rated 22-tr.-sl. 40-tr.-mod. 31-tr.-sev./93 irrigated fields in s. Alta. (E. J. H.). In another Alta. survey it was rated 2-tr./5 fields (J. B. L.).

DODDER (Cuscuta sp.) occurred in several alfalfa fields in the northern parts of the Okanagan Valley, B. C. (G. E. W.).

STEM NEMATODE (Ditylenchus dipsaci). Slight-severe infestations were found in 10/93 irrigated fields surveyed in s. Alta. (E. J. H.).

CROWN BUD ROT (Fusarium spp., Rhizoctonia solani, Ascochyta imperfecta). Ratings in irrigated fields in s. Alta. were 3-tr.-sl. 67-tr.-mod. 23-tr.-sev./93 (E. J. H.). Damage was 1-tr. 2-sl. 1-mod. 1-sev./5 other Alta. fields examined (J. B. L.).

YELLOW LEAF BLOTCH (Leptotrochila medicaginis). Minor damage was recorded in 1/5 fields surveyed in c. Alta. (B. B.).

DOWNY MILDEW (Peronospora aestivalis). Infection was rated 1-sl./5 fields examined in c. Alta. (B. B.).

COMMON LEAF SPOT (Pseudopeziza trifolii f. sp. medicaginis-sativae) was prevalent at High Prairie and it was also reported from Cherry Point and Edmonton, Alta. (A. W. H.). It was rated 3-sl./5 fields in c. Alta. (B. B.) and 2-tr./5 fields in s. Alta. (J. B. L.). Infections were general and mostly light on 'Vernal' in P.E.I. Moderate damage occurred in some crops where cutting was delayed (C. B. W.).

ROOT ROT (various organisms). Severe damage was general throughout P. E. I. (C. B. W.).

POTASSIUM DEFICIENCY. Slight symptoms were observed at La Pocatière, Que. (C. A.).

WHITE SPOT (physiological). Symptoms were observed at Edmonton, Peavine and Wetaskiwin, Alta. (A. W. H.).

COMMON CLOVER

BLACK STEM (Ascochyta imperfecta). Infections were rated 1-sl. 3-mod./7 fields of alsike in the Peace River district of B. C. and Alta. and 2-mod./13 alsike fields in c. Alta. On red clover it was rated 3-tr. 2-mod./12 fields in c. Alta. and 2-mod./6 fields in the Rimby-Bluffton area (B. B.).