DISEASES OF CEREAL CROPS'

WHEAT

LEAF SPOT (Ascochyta sorghi). In Alta. mod.–sev. leaf spot was found in 2 fields of spring wheat and in 1 of winter wheat (J.S.H., T.G.A.).

SMUDGE (Alternaria sp.) was troublesome in a few districts n. and w. of Saskatoon, Sask., where samples contained up to 20% discolored kernels (R.J.L.).

ERGOT (Claviceps purpurea). Trace amounts were found in 1/232 fields examined in Saskatchewan (R.D.T.) and in 2/24 fields in Man. (W.A.F.H.).

COMMON ROOT ROT (Cochliobolus sativus, Fusarium spp.) was less sev. in Sask. in 1967 than in the previous few years: the average disease rating for the province was 8.1. For crop districts 1 to 9 in Sask., disease ratings were 8.2, 5.9, 11.3, 6.4, 9.7, 7.9, 6.5, 8.7, and 8.9, respectively. The average disease rating for 172 stubble crops examined was 7.71; for 58 fallow crops, 8.27 (R.D.T.). In Alta. 9 fields of spring wheat were rated 2–tr. 7–sl. and 8 fields of winter wheat, 1-tr. 3–sl. 4–mod. (J.S.H., T.G.A.).

SPOT BLOTCH (Cochliobolus sativus) was rated sl. in 1 field in n.e. Sask. (R.D.T.).

ANTHRACNOSE (Colletotrichum graminicola) was rated sl. in 1 field of winter wheat in Alta. (J.S.H., T.G.A.).

POWDERY MILDEW (Erysiphe graminis). In the Lethbridge, Alta., area, mildew was rated tr.-sl. in winter wheat but was mod.–sev. in 4 fields of spring wheat (J.S.H.) and was also reported near Calgary (A.W.H.). Tr.-sl. infection was noted in 2/17 fields in Niagara and South Townships in s.w. Ont. (T.R.D.) and was similarly present on winter wheat in the Ottawa area (R.V.C.). Mildew was mod. on all varieties of spring wheat throughout P.E.I. (G.W.A.).

HEAD BLIGHT (Fusarium spp., Gibberella zeae) was present in tr.-light amounts in winter wheat at Ottawa, Ont. (R.V.C.) and was mod. on all varieties of spring wheat in P.E.I., where infection was favored by high temperatures and high humidity (G.W.A.). In Nova Scotia head blight was found in all fields examined near Clarence and Grand Pre; incidence ranged from tr. on 'Selkirk', 1–2% on 'Pembina', 'Tuffy', and 'Justin', 1–5% on 'Manitou' and 'Opal', to over 50% on 'Kloka' (C.O.G.).

PINK SNOW MOLD (Fusarium nivale) was reported in tr.-sl. amounts in 7/9 fields examined in the Lethbridge, Alta., area (J.B.L., J.S.H., T.G.A.).

TAKE–ALL (Gaumannomyces graminis (Sacc.) Arx & Oliver = Ophiobolus graminis Sacc.) was found in 3/232 fields examined in Sask.; it was rated tr.-3% at Kelvington and 20% at Meath Park and was also reported from Turtleford (R.D.T.).

BASAL GLUME ROT (Pseudomonas atrofaciens) was found in tr. amounts in only 1/18 fields examined in Man. and was also found in experimental plots (W.A.F.H.).

STEM RUST (Puccinia graminis f. sp. tritici) was reported in tr. amounts from 4/232 spring wheat fields examined in s.e. Sask., where it appeared late in the season and caused negligible damage (R.D.T.). In Man. rust was first found on July 11 in winter wheat plots at Winnipeg but was not found on resistant varieties of spring wheat throughout the season (G.J.G.). In the rust nurseries, infection of susceptible varieties occurred only in Man., Ont., and Que. For information on races of P. graminis f. sp. tritici found in Canada in 1967, see CPDS 48:9-11, 1968. Tr.-sl. infection was reported in 6/17 fields in s. Ont. (T.R.D.) and rust ranged from tr.-sev. on varieties of winter wheat in experimental plots at Ottawa (R.V.C.).

LEAF RUST (Puccinia recondita = P. triticina Erikss.) was not generally observed in Sask. until Aug. when it became fairly widely distributed but occurred in only tr. amounts in 82/232 fields: s.w. Sask. appeared to be free from leaf rust (R.D.T.). In Alta. leaf rust was found in tr. amounts in 2 fields of winter wheat and 1 of spring wheat (J.S.H., T.G.A.). In Man. rust development was fairly extensive on 'Selkirk' wheat at maturity but infection developed too late to reduce yield (D.J.S.); by Aug. 10 leaf rust was light and scattered, ranging up to 50% in 12/18 fields examined (W.A.F.H.). Tr.-sl. infection was found in 2/17 fields in s. Ont. (T.R.D.) and rust was light–mod. in plots at Ottawa (R.V.C.). For distribution of physiologic races, see CPDS 48:6-8, 1968.

STRIPE RUST (Puccinia striiformis) in Alta. was rated 3–sl. 2–mod. 1-sev. in 6 fields (J.S.H., T.G.A.).

SPECKLED LEAF BLOTCH (Septoria spp.). Speckled leaf blotch caused by S. avenae f.

'Abbreviations used in this section include the use of initials to identify the contributors listed in the Index of Contributors: others include tr. = trace, sl. = slight, mod. = moderate, sev. = severe, n. = north, e. = east, etc.; the names of the provinces are abbreviated, e.g., B.C. = British Columbia, Ont. = Ontario. Figures denoting prevalence of disease in fields or counties are sometimes presented as follows: 6/17, indicating that 6 units were affected out of 17 examined.

sp. triticea (stat perf , Leptosphaeria avenaria f. sp. triticea) was especiallv prevalent in the c., w , and n. crop districts of Sask.; of 232 f elds examined 11 were rated tr. 28-sl. 20-mod. 1-sev. (R.D.T.). In Man. a Septoria sp. with pycnidiospores measuring 24-33u in length was reported causing speckled leaf blotch in 1/24 fields (W.A.F.H.). L. avenaria f. sp. triticea was reported as light on winter wheat at Ottawa and Ridgetown, Ont. (R.V.C.). S. tritici caused leaf blotching of winter wheat at Guelph, Ont. (R.V.C.) .

GLUME BLOTCH (Septoria nodorum) was reported at High Level and Manning, Alta. (A.W.H.). In Sask. it occurred in the w., c., and n.w. crop districts where favorable moisture conditions prevailed; 11/232 spring wheat fields were rated 5-tr. 4-sl. 2-mod. (R.D.T.). S. nodorum was also noted in winter wheat plots at Ridgetown, Ont. (R.V.C.) .

LOOSE SMUT (Ustilago tritici) was found in 6/12 fields of durum wheat in Man. and e. Sask.; incidence averaged 1%, with a maximum of 7%. Traces occurred in 11/73 fields of common wheat surveyed in n.e. Sask. and n.w. Man. (J.J.N.). Of 232 fields surveyed in Sask., traces were found in 3 fields of durum wheat in s. Sask. and in 5 of common wheat in n.w. Sask. Specimens were received from Naicam and Turtleford, Sask. (R.D.T.).

BACTERIAL BLACK CHAFF (Xanthomonas translucens). Specimens were received from Turtleford and Stenen, Sask. (R.D.T.). It was not observed in 24 fields examined in Man. (W.A.F.H.).

BARLEY YELLOW DWARF (barley yellow dwarf virus). Trace infections were found in 5 fields in Alta. (J.S.H., T.G.A.). Thirty fields surveyed in Man. and s. Alta. were rated tr.-11, 1%-4, 5%-2, 10%-1 (C.C.G., P.H.W.).

WHEAT STREAK MOSAIC (wheat streak mosiac virus) was found on winter wheat in experimental plots at Swift Current, Sask. (C.C.G., P.H.W.) and was suspected in 2 fields of spring wheat in s.c. Sask. (R.D.T.). It was reported in Alta. in 4 fields of winter wheat (3 tr., 1 sev.) and in tr. amounts in 4 fields of spring wheat (J.S.H., T.G.A.). Of 11 fields of spring wheat examined near Lethbridge, WSM was rated tr. in 1, 1%in 2, 5%in 1, 15%in 1, and 75% in 3. A tr. was found in 1 field of durum (C.C.G., P.H.W.). WSMV was found in a perennial grass Alopecurus aequalis Sobol collected in sloughs and ditches near wheat fields in s. Alta. in Sept. 1967. Although symptomless in the field 6/21 plants collected near Spring Coulee and 3/10 collected near Lethbridge carried the virus, which was transmitted manually to wheat and oats and which reacted with an antiserum specific for WSMV. None of 63 other A. aequalis plants from similar sites in other areas of s. Alta. were infected. Eriophyid mites (Aculodes sp.) found on A. aequalis did not survive when transferred to wheat, and Aceria tulipae, the vector of WSMV from wheat, did not survive on A. aequalis. Therefore the latter grass probably does not play a role as a reservoir-of WSMV infecting wheat in the field (J.T.S.). In Ontario WSMV was transmitted manually from samples of scattered winter wheat plants with mosaic symptoms in 4 fields in Essex County in May 1967. The virus was similarly identified in plants collected by Dr. L.F. Gates in 6 other fields in the same county in NOV. 1967 (J.T.S.).

SOIL-BORNE WHEAT MOSAIC was found in 121/136 fields of winter wheat examined in s. Ont. in early May. The survey route included the Niagara Peninsula, Windsor, Goderich, Guelph, and New Market. In 87 of the fields bronze discoloration and unthrifty growth associated with severe mosaic symptoms were evident in large patches or scattered throughout the field. In 26 other fields, the disease was milder and occurred in limited patches; in 8 fields it affected only scattered plants or small patches of plants. Severity appeared to be correlated with frequency of cropping with winter wheat. The disease did not occur in fields in which winter wheat had not been grown for 8 or more years before the current crop, In the Ottawa Valley, where winter wheat is grown infrequently, soil-borne wheat mosaic was found only as a light infection at the Central Experimental Farm, Ottawa, in a field in which plots of winter wheat have been grown in a 3-year rotation. As in previous years wheat fields that appeared to be disastrously affected during the cool conditions of spring recovered remarkably during the warm weather of summer and produced acceptable yields (J.T.S.).

CHEMICAL INJURY. Damage attributed to herbicides was found in tr. amounts in c. Sask. Head distortion was apparent in 4 fields, but injury was much less prevalent than in 1966 (R.D.T.).

LOW TEMPERATURE INJURY. Chlorotic banding, probably due to low-temperature injury, was noted at 7 locations in Alta. (A.W.H.). Ice sheeting caused sl. damage in 1 field of winter wheat near Lethbridge (J.B.L.).

EAR AND LEAF TIP DRYING. Blighting of upper spikelets and leaf tips of plants in a number of fields in Sask. was attributed to peaks of intense solar radiation (R.D.T.).

SPLOTCH (physiological). In s. Sask. 9 fields of durum were rated 2-tr. 1-sl. 2-mod. (R.D.T.). Two fields of spring wheat in Alta. were affected, 1-tr. 1-sev. A tr. of leaf blotch was noted in 1 field of winter wheat in Alta. (J.S.H., T.G.A.).

CROP RESIDUE DAMAGE was found in 1 field of winter wheat in Alta. (J.S.H., T.G.A.).

OATS

ERGOT (Claviceps purpurea) was reported from 1 field in c. Alta. (W.B.B.).

LEAF BLOTCH (Drechslera avenacea) was observed in tr. amounts in Alta. (J.S.H., T.G.A.).

POWDERY MILDEW (Erysiphe graminis) affected all plants of 'Eagle' oats in experimental plots near Vancouver but damage was slight (H.N.W.T.).

ROOT ROT (Fusarium spp.) occurred in tr. amounts in 6 fields in Alta. (J.S.H., T.G.A.).

SPECKLED LEAF BLOTCH (Leptosphaeria avenaria f. sp. avenaria). Tr. was noted in 1 field in Alta. (J.S.H., T.G.A.) and in 3/36 fields in Sask. (R.D.T.). It was light–mod. in most fields examined in e. Ont. and adjoining N.Y. (R.V.C.). Severe damage occurred on all varieties throughout P.E.I. (G.W.A.).

HALO BLIGHT (Pseudomonas coronofaciens) was rated 2–tr. 3–sl. 1–mod. in 12 fields in s. Ont. (T.R.D.).

CROWN RUST (Puccinia coronata f. sp. avenae). Development of crown rust in W. Canada was the lightest in recent years and losses were negligible (G.F.). Rust was mod–sev. on all varieties in e. Ont. (R.V.C.). See CPDS 48:14-16, 1968 for distribution of races in Canada in 1967.

STEM RUST (Puccinia graminis f. sp. avenae) was found in Man. on July 17 and was less prevalent in W. Canada than in any other year since 1961. Few fields in Man. suffered significant losses in yield, and rust was not found in Alta. or Sask. (J.W.M.). In Ont. stem rust was light near barberry infestations only (R.V.C.), and was light in rust nurseries at La Pocatière and Macdonald College, Que.; none was reported from the Maritime Provinces (J.W.M.). In mid–August a tr. was found in 1 field in Ont. s. of the St. Lawrence R., but none was observed in 2 others in s.e. Ont. nor in 8 fields in adjoining N.Y. and 2 in Pa. (R.V.C.). The distribution of races in Canada was discussed in CPDS 48:17-19, 1968.

LOOSE SMUT (Ustilago avenae). None was found in 40 fields surveyed in Man. and e. Sask. (J.J.N.).

COVERED SMUT (Ustilago kolleri) was absent in 40 fields in Man. A tr. was found in 1 field in Alta. (J.S.H.! T.G.A.) and in 4 fields in w.c. Sask.; in n.w. Sask. a tr.-2% were observed in 3 fields (R.D.T.).

RED LEAF (barley yellow dwarf virus) was observed in 5 Alta. fields (3–tr. 2-sev.) (J.S.H., T.G.A.). Of 39 fields examined in Man. and s. Alta., the disease was absent in 20 fields, 1%in 2, 5%in 2, 10%in 2, 12%in 1, 24% in 1. Observations on insect transmission in Man. were discussed in CPDS 48:101-103, 1968. It was rated tr.-light in e. Ont. (R.V.C.).

STREAK MOSAIC (wheat streak mosaic virus) was observed in 1 field in Alta. (J.S.H., T.G.A.).

BLUE DWARF (oat blue dwarf virus) was not observed in commercial fields, although a high percentage of the vector Macrosteles fascifrons collected from oats and carrots near Portage la Prairie, Man. were viruliferous (C.C.G., P.H.W.).

BLAST (physiological) was rated sl. in 3 fields in Alta. (J.S.H., T.G.A.) and was noted near Redwater, Alta. (A.W.H.). It was widely distributed in tr.-sl. amounts in 36 fields throughout Sask. (R.D.T.). In s. Ont. it was rated tr.-mod. in all 12 fields examined (T.R.D.).

CHLOKOTIC BANDING .(physiological) was noted near Evansburg, Alta., and was ascribed to low temperature injury (A.W.H.).

PREMATURITY BLIGHT of undetermined cause was found in tr. amounts in s.c. Sask. and 1% in a field in n.e. Sask. (R.D.T.).

LEAF SPOT (cause unknown) was observed in 5/36 fields in Sask. (3–tr. 2–mod.) (R.D.T.).

GRAY SPECK (Manganese deficiency) was reported from Thorhild and Redwater, Alta. (A.W.H.) and caused mod. infection on the varieties 'O.T. 427', 'O.T. 717', and 'Victory' in experimental plots at Glenlea, Man. (W.A.F.H.).

BARLEY

SPOT BLOTCH (Bipolaris sorokiniana, stat perf. Cochliobolus sativus) caused sl. damage in 2/43 fields examined in Sask. (R.D.T.) and a tr. was found in 1/4 fields at Sperling, Man. (W.A.F.H.). It was sev. on barley at Guelph, Ont., and on 'Herta' and other varieties in e. Ont. (R.V.C.). In P.E.I. up to 100% infection of 'Herta' and 'Charlottetown #80' barley were observed throughout P.E.I; damage was very severe with low yields of shrunken black kernels (C.B.W.).

COMMON ROOT ROT (Cochliobolus sativus, Fusarium spp.) was rated 4 fields tr. 6 sl. in Alta. (J.S.H., T.G.A.). The average disease rating for 42 fields in Sask. was 10.01 (R.D.T.). It was sev. at Guelph, Ont., where root rot was aggravated by delayed seeding and excess moisture, considerable straw breaking was evident (R.V.C.). Extensive losses were reported from throughout N.B., where yield reductions of at least 65% were experienced (S.R.C.). At Lacombe, Alta., root rot was more prevalent than in the preceding 2 years. 'Gateway'

barley grown on barley stubble had a lower incidence of root rot than when grown on fallow (L.P.). The effects of rotation and fertilizer on incidence of the disease was discussed in CPDS 47:108-109, 1967.

POWDERY MILDEW (Erysiphe graminis) caused sl. infection in 'Jubilee' barley at Saskatoon (R.D.T.). In s. Ont. 8/9 fields were affected (1-mod. 2-sev.) (T.R.D.), and in e. Ont. mildew appeared early and was widespread on susceptible varieties of both spring and winter barley (R.V.C.).

HEAD BLIGHT (Fusarium spp.) affected up to 5% of the heads of 'Herta' and 'Charlottetown #80' barley throughout P.E.I., but damage was very slight (C.B.W.).

STEM RUST (Puccinia graminis) was less prevalent than usual in Sask. and was observed in tr. amounts in 3/43 fields in s.e. Sask. (R.D.T.). In the rust nurseries stem rust was light on barley and rye, and rye was affected at only 10/36 locations in Canada. Wheat stem rust was believed to have caused most of the infections observed on 'Montcalm' barley (G.J.C.). In e. Ont. stem rust appeared late and was very light (R.V.C.).

LEAF RUST (Puccinia hordei) was found in 8/9 fields in s. Ont., where 2 were rated mod. or sev. (T.R.D.), and was very light in e. Ont. (R.V.C.).

NET BLOTCH (Pyrenophora teres, stat. imperf Drechslera teres) was rated tr. in 2 fields, sl. in 2, mod. in 1 in Alta. (J.S.H., T.G.A.); seedling infection was prevalent in s. Alta. following a wet spring (A.W.H.). In Sask. the incidence and severity of net blotch was lower than in the past few years: of 43 fields examined 2 were rated tr., 7-sl. 2-mod. chiefly in the w.c. and n.w. crop districts. It was sev. in barley at New Liskeard, Ont., particularly in plots that were heavily fertilized, and mod. at Kapuskasing, Ont. (R.V.C.).

BROWNING ROOT ROT (Pythium sp.) is rarely encountered in s. Alta., but in 1967 it affected 1 field severely at Lethbridge and 1 moderately at Granum, Alta. Soil analyses showed low levels of available P and adequate N at hoth locations (T.G.A., J.S.H., F.R.H.).

SCALD (Rhynchosporium secalis was observed at tr. and mod. levels in 2 fields in Alta. (J.S.H., T.G.A., A.W.H.). In w.c. and n.w. Sask. scald was reported from 10/43 fields examined (7-tr. 1-sl. 2-mod.) (R.D.T.). It was also found in 8/9 fields in s. Ont. (T.R.D.) and was light on susceptible varieties of winter barley in e. Ont. (R.V.C.).

SPECKLED LEAF BLOTCH (Septoria passerinii) was rated tr. in 2 fields and mod. in 1/43 examined in n.w. Sask. (R.D.T.).

COVERED SMUT (Ustilago hordei). Tr. amounts were observed in 2/43 fields in Sask. (R.D.T.), in 1 field in Man. (J.J.N.), and 1 in Alta. (J.S.H., T.G.A.).

FALSE LOOSE SMUT (Ustilago nigra) was found in 3/42 fields in Man. and e. Sask. (2-tr. 1-3%) (J.J.N.).

LOOSE SMUT (Ustilago nuda was reported from Drumheller, Alta. (A.W.H.) and traces were found in 2 other fields in Alta. (J.S.H., T.G.A.). It was identified on a sample of 'Galt' barley from St. Walburg, Sask. (R.M.). In a survey of 44 fields in Sask., loose smut was found chiefly in s.c. and n.w. areas of the province (4-tr. 1-1%, 3-2 to 3%, 1-10%) (R.D.T.). In Man. infection of up to 4% (av. 0.3%) was observed in 7/42 fields (J.J.N.). Up to 2% infection was observed in 6/9 fields in s. Ont. (T.R.D.); tr. amounts occurred in winter barley in e. Ont. (R.V.C.).

BACTERIAL BLIGHT (Xanthomonas translucens) occurred in tr. amounts in 2 fields in Alta. (J.S.H., T.G.A.) and was rated mod. in a field near Champion, Alta. (G.A.N.). Also in Alta. 'Conquest' barley was affected near Pincer Creek (1/12 fields, <1% plants affected), Grande Prairie (1/4 fields, up to 5% infection), and Spruce Grove (1/11 fields, <1% infection) (M.D.S.). In Sask. tr. amounts were found in 2/43 fields in s.e. Sask. (R.D.T.) and in plots at Swift Current (M.D.S.). Approximately 12% of the plants in 1/9 fields examined near Portage la Prairie, Man. and <1% of the plants in 1/6 fields near Brandon, Man. were affected (M.D.S.).

ASTER YELLOWS (aster yellows ?virus) occurred in tr. amounts in 2 fields near Swift Current and Bolney, Sask. It was not found in any other fields in Sask., Alta., and Man. Near Bolney AYV was found commonly on stinkweed (Thlaspi arvense) and was believed to have overwintered in this host. The low level of the disease occurred despite the highest level of AYV recorded in barley in 1966 and was attributed to the low population of the six-spotted leaf-hopper in 1967 (C.C.G., P.H.W.).

BARLEY STRIPE MOSAIC (barley stripe mosaic virus) was found in tr., 1%, 20%, 50% levels in 4/12 barley fields near Lethhridqe, Alta. (C.C.G., P.H.W.). It was also recorded in tr. amounts in two other fields in Alta. (J.S.H., T.G.A.). Two fields containing 10% and 15% infection were observed in s. Man. but the disease was not found elsewhere in Sask. and Man. BSMV was found only in varieties of 2-row barley, which is the predominant type grown near Lethbridge (C.C.G., P.H.W.).

BARLEY YELLOW DWARF (barley yellow dwarf virus) incidence was low in Man. and s. Alta. and was negligible in other areas of the Canadian prairies (C.C.G., P.H.W., J.S.H., T.G.A.). Of 41 barley fields examined, infection was rated tr. in 11 fields, 1% in 1, 2% in 1, 5% in 2, 10% in 1 (C.C.G.,

P.H.W.). Insect transmission of BYDV in Man. in 1967 was discussed in CPDS 47:101-103, 1967. Tr.-light infections were found in e. Ont. (R.V.C.).

WHEAT STREAK MOSAIC (wheat streak mosaic virus) was found in tr. amounts in 1/10 fields of barley near Lethbridge, Alta. (C.C.G., P.H.W.).

CHLOROTIC BANDING (physiological), possibly due to low temperature injury, was noted at Barrhead, Athabasca, Millet, and Evansburg, Alta. (A.W.H.).

RYE

ERGOT (Claviceps purpurea). Trace amounts were reported in 1 commercial field and in plots at Saskatoon and in plots at Melfort, Sask. (R.D.T.). Sl.-mod. infections were found in 2 fields in s. Ont. (T.R.D.). and in a 2-acre field near La Pocatière, Que. (H.G.).

POWDERY MILDEW (Erysiphe graminis) occurred as a tr. in plots near Vancouver, B.C. (H.N.W.T.) and was reported from Fort Vermilion, Alta. (A.W.H.) and Saskatoon, Sask. (R.D.T.).

STEM RUST (Puccinia graminis). Trace infections occurred in plots near Vancouver (H.N.W.T.) and in all 3 fields examined in s. Ont. (T.R.D.). In the rust nurseries 'Prolific' rye was affected at only 10/36 nurseries across Canada (G.J.G.).

LEAF RUST (Puccinia recondita). Light infection was found in plots near Vancouver (H.N.W.T.) and in 3 fields in s. Ont. (T.R.D.). Puccinia sp. was reported on Russian wild rye at Fort Vermilion, Alta. (A.W.H.).

TRITICALE

ERGOT (Claviceps purpurea) was found on triticale (Secale X Triticum) in experimental plots at Lacombe, Alta. (W.B.B.).

LOOSE SMUT (Ustilago nuda) was found in specimens of triticale grown in central Alta. (B.B.).

DISEASES OF FORAGE AND FIELD CROPS

A. Forage Legumes

ALFALFA

BLACK STEM (Ascochyta medicaginis Pk. = Phoma medicaginis Malbr. & Roum. var. medicaginis Boerema). In c. Alta. 11/15 fields examined were affected (8-tr. 3-mod.) (W.B.B.). It was general in all areas of P.E.I. but damage was sl. (C.B.W.).

WINTER CROWN ROT (low-temperature basidiomycete). In the Lethbridge, Calgary, Edmonton areas of Alta. 16 fields were rated I-tr. 7-sl. 4-mod, 4-sev. (J.B.L., J.E.M.).

BACTERIAL WILT (Corynebacterium insidiosum) was found in 3/15 fields in tr. amounts in c. Alta. (W.B.B.), and was found in all 16 fields examined in the Lethbridge, Calgary, and Edmonton areas (11-tr. 3-mod. 2-serv.) (J.B.L., J.E.M.). In s. Alta. 5/10 fields were rated tr.-sl. (E.J.H.).

BULB AND STEM NEMATODE (Ditylenchus dipsaci) was reported in tr.-mod. amounts in 6/10 in s. Alta. (E.J.H.).

CROWN BUD ROT (Fusarium spp., Rhizoctonia solani, Ascochyta medicaginis) was present in the 16 fields surveyed in c. Alta. (10-tr. 3-mod. 3-sev.) (J.B.L., J.E.M.). In s. Alta. tr.-sev. disease was found in the 10 fields examined (E.J.H.).

YELLOW LEAF BLOTCH (Leptotrochila medicaginis) was present in 8/75 fields (4-sl. 4-mod.) in c. Alta. (W.B.B.).

DOWNY MILDEW (Peronospora trifoliorum). A tr. of mildew affected 1/15 fields in c. Alta. (W.B.B.).

COMMON LEAF SPOT (Pseudopeziza trifoli f. sp. medicaginis-sativae) occurred generally in P.E.I., where up to 75% infection and mod. defoliation was observed (C.B.W.). In c. Alta. 7/15 fields had tr. infections (W.B.B.).

ROOT ROT (Fusarium spp., other fungi) caused mod. damage to alfalfa in P.E.I., where the disease was widespread and caused up to 60% infection (C.B.W.).

SCLEROTINIA CROWN ROT (Sclerotinia trifoliorum) caused sl. damage and 0-15% infection in May throughout P.E.I. (C.B.W.).

LEAF RUST (Uromyces straitus) was general throughout the Niagara Peninsula, Ont. (T.R.D.).

FOLIAGE BLIGHT. Second-growth alfalfa in the Niagara Peninsula, Ont., was severely affected by a combination of leaf spot (unidentified agent), black stem (Ascochyta medicaginis) and leaf rust (Uromyces striatus). In 6 fields examined, 50 to 100% of the top growth was killed or severely