II DISEASES OF FORAGE AND OTHER FIELD CROPS

A. FORAGE LEGUMES

ALFALFA

BLACK STEM (Ascochyta imperfecta) was observed in 25/32 fields surveyed in Sask. It was late in developing but increased in late Aug. and early Sept. The average damage was light (H. W, Mead).

WINTER CROWN ROT (low-temperature basidiomycete). Ratings were 4-sl. 2-mod. 1-sev. /32 fields in the area n. -e. of Nipawin, Sask. (H.W. M.).

BACTERIAL WILT (Carynebacterium insidiosurn). Infections were rated 18-tr, -sl. 2-sl. -mod, 6-mod. -sev. /79 fields examined in s. Alta. (E. J. Hawn), In Sask. it was 3-tr. 1-mod. /32 fields n. -e. of Nipawin (H. W, M.).

GROWN BUD ROT (Fusarium roseum, Rhizoctonia solani, Ascochyta imperfecta) was 30-tr. -sl. '30-sl. -mod. 6-mod, -sev. /79 fields surveyed in s. Alta. (E. J. H.).

STEM NEMATODE (Ditylenchus dipsaci) was rated 7-tr. 4-mod. /77 irrigated fields examined in s. Alta (E, J. H.), All plants from a single clone were sev. infested in a greenhouse at Saskataon, Sask. (H.W, M.),

YELLOW LEAF BLOTCH (Leptotrochila medicaginis). The average rate of infection at 3 locations in Queens and Kings counties, P. E, I. was 0-10% with slight damage (C. B. Willis).

COMMON LEAF SPOT (Pseudopeziza trifolii f. sp. medicaginis-sativae). Very little infection developed in Sask. in 1962 with only 4-tr. infections seen in 32 fields (H, W. M.). Infection was very heavy at 3 locations surveyed in P, E. I, with ratings of 60-80% and about 50% of the leaf surface affected (C. B. W.).

BORON DEFICIENCY was observed in 1 field in the Lethbridge, Alta. area (E. J. H.) and was mod-sev. at St-Henri and Fortierville, Que. causing yellowing and reddening (D. Leblond).

COMMON CLOVER

WINTER CROWN ROT (law-temperature basidiomycete) caused slight damage in a field of alsike at Squaw Rapids, Sask, (H. W, Mead).

LEAF SPOT (Cercospora zebrina) infection was slight on ladino clover at the E x ~ Farm, Caplan, Que. (D. Leblond). Infections, up to 5% caused slight damage to T, pratense at 12 locations in P. E. I. (C. B, Willis).

SOOTY BLOTCH (Cymadothea tril'olii) affected up to 10% of the plants of T. pratense and up to 80% of the plants of T. hybridum at 12 locations in P, E. I. On T. hybridum, 25-30% of the leaf surface was affected (C. B. W.).

POWDERY MILDEW (Erysiphe polygoni) was frequently found on T. pratense in the Summerland, B. C. district (G. E, Woolliams). Infection was slight in 1 field at Pas Trail, Sask. (H. W. M.). It was rated 0-10% on both T. pratense and T. hybridum at 12 locations in P. E. I. (C. B. W.).

NORTHERN ANTHRACNOSE (Kabatiella caulivora) occurred as tr. -sl. infections on T. pratense at 2/12 locations surveyed in P. E, I. (C.B. W.).

COMMON LEAF SPOT (Pseudopeziza trifolii f. sp. trifolii-pratensis). Infection of both T. pratense and T. hybridum was generally light early in the season but by—Oct. up to 15% of the leaf surface in newly-seeded areas was affected (C. B. W.).

LEAF SPOT (Pseudoplea trifolii) was general but light on T. pratense throughout P. E. I. Lesions remained small and damage was negligible. It was found on T. repens only in Kings Co. (C. B. W.).

LEAF SPOT (Stemphylium sarcinaeforme)was common on T. pratense as tr. -mod. infections in all areas of P. E. I. (C. B. W.)

RUST (Uromyces trifolii). Infections in P. E. I. were 1-10% on T. pratense and less than 1% on T. hybridum. Damage was not significant (C. B. W.).

MOSAIC (virus). Distinct vein-clearing was observed in T. pratense at 1 location in Kings Co., P.E.I. (C. B. W.).

PHYLLODY (virus). Moderate infections were common in plots of ladino clover at La Pocatière, Que. (D. Leblond). It was common in clover adjacent to a strawberry field affected with green petal at Canaan, N. S. (K.A. Harrison). Phyllody was Observed in both wild and cultivated red clover throughout P. E. I., usually in trace amounts. One field in Queens County had 5-10% of the plants affected (C. B. W.).

SWEET CLOVER

LEAF SPOT (Ascochyta meliloti) was sev. at Rimouski, Que. (D. Leblond).

GREY LEAF SPOT (Stagonospora meliloti) caused some defoliation in 2/10 fields examined in Sask. (H, W. Mead).

ROOT ROT (Plenodomus meliloti). The epidemic of root rot reported in Sask. in 1961 was not repeated in 1962. Pathogenicity tests with isolates of P. meliloti made in 1961 gave practically negative results with very little infection (H. W. M.).

B. OIL SEED CROPS

FLAX

RUST (Melampsora lini) was not found in farmers' fields in Man. but was observed in plots at Glenlea and Fort Garry on such varieties as Arny, Cree, Redwood, Redwing, Bison and Marina (W. L. Gordon, D. J. Samborski, B. Peturson),

PASMO (Septoria linicola) could be found in most fields in Man. in late Aug. and in Sept. Infection was more common on leaves than on stems and damage, if any, was slight (W.L.G.).

RAPE

WHITE RUST (Albugo cruciferarum). There was a significant increase in the incidence of white rust in n. and c. Alta. Losses up to 30% were recorded in 5/20 fields examined (W. P. Skoropod).

SAFFLOWER

LEAF SPOT (Alternaria carthami) was mod,, but damage was slight at Lyleton, Man. (W.C. McDonald). It was prevalent on all varieties at Ottawa, Ont. (R.V. Clark).

HEAD BLIGHT (Botrytis cinerea, Fusarium spp.). Wet weather at blossom time contributed to considerable infection at Ottawa, Ont. (R.V. C.).

RUST (Puccinia casthami). Infection at Ottawa, Ont. ranged from 0-50%, depending on the variety (R. V. C.).

SOYBEAN

DAMPING-OFF (Rhizoctonia solani) resulted in a heavy loss of plants in a large field on Pelee Island, Ont, (C. D. McKeen).

SUNFLOWER

GRAY MOLD (Botrytis cinerea). All heads in a planting at Kentville, N. S. showed lesions. Some were completely rotted (K. A. Harrison).

RUST (Puccinia helianthi). In a survey in Man., infections were rated 11-sl. 7-mod. 7-sev./25 fields of Mennonite and 11-tr./XI fields of Admiral and Advent (J.A. Hoes). Moderate - sev. infection of all leaves of Mennonite was noted in 2 fields in the Morden, Man. area (W, L. Gordon, D.J. Samborski). It was common on H. maximilianus in a roadside patch at Westbourne, Man, (W, L, G., G. J. Green).

SCLEROTINIA WILT (Sclerotinia sclerotiorum). Ratings were 5-5%. 2-10%. 2-20-25%. 1-40%/36 fields surveyed in Man, (J.A.H.).

LEAF SPOT (Septoria helianthi) was rated 4-el. 2-mod. 4-sev./36 Man. fields (J.A.H.).

DOWNY MILDEW (Plaamopara halstedii) was more prevalent than usual in Man. Infections were 2-tr. 2-sl. 2-mod./36 of the fields examined (J.A.H.). Infection at La Pocatière, Que, waa rated at 25% with about 10% damage (J. Santerre).

LEAF MOTTLE (Verticillium albo-atrum) was 23-sl./3-mod. 10-sev./36 fields in Man, Loss was nearly 100% in 2 fields, 50% in 5, and 10-15 % in 3 (J.A.H.), Sev, infection was recorded in 2 fields in the Morden, Man. area (W.L.G., D.J.S.).

C, ROOT CROPS

SUGAR BEETS

LEAF SPOT,(Cercospora beticola)was tr, on several varieties at La Pocatière, Que. (J. Santerre).

FUSARIUM YELLOWS (F. oxysporum) was sev, in a field nr, Lethbridge, Alta, The damage occurred in a localized area where debris from the previous year: s crop was spread (J.E. Moffatt).

SUGAR BEET NEMATODE (Heterodera schactii) was found in the Stirling and Raymond districts of a. Alta. (E. J, Hawn),

DAMPING-OFF (Pythium spp.) caused a sev, reduction in stand in a field nr. Lethbridge, Alta. (J.E.M.).

D. MISCELLANEOUS CROPS

BUCKWHEAT

LEAF SPOT (Ascochyta fagopyri Brss.) was el. in plots at Pointe aux Outardes, Que, (D. Leblond).

GRAY MOLD BLIGHT (Botrytis cinerea) was sev. on leaves in plots at Pointe aux Outardes, Que. (D. L.).

FIELD CORN

NORTHERN LEAF BLIGHT (Bipolaris turcicum) was prevalent on a number of hybrids and sev. in some fields in Essex and Kent counties, Ont. (R.E, Wall).

STALK ROT (Gibberella zeae and other soil organisms) occurred throughout s.-w. Ont. (R.E.W.).

NODAL DISCOLORATION AND LEAF WILT (Gibberella zeae) caused sl. damage at Dover, Kent Co,, Ont. (R.E. W,).

LUPIN

GRAY MOLD (Botrytis cinerea) was mod.-sev, in plots at Pointe aux Outardes, Que. (D, Leblond).

TOBACCO

LEAF SPOTS (Alternaria spp.). Leaf spots, caused by Alternaria spp. and others of undetermined origin were the most serious tobacco diseases in the field in Ont. in 1962. All varieties are susceptible and no suitable control measures are known (Z.A. Patrick, L.W. Koch).

DAMPING-OFF (Pythium spp. and Rhizoctonia solani) was the most common seed-bed disorder in Ont, in 1962, occurring in patches in most greenhouses. Overall losses were about 5% (Z.A.P., L. W.K.).

SORE SHIN (Rhizoctonia solani) was sev. early in the season, just after planting, in Ont, The only remedial measure is to replant (Z.A.P., L, W.K.). It caused the loss of about 5% of the plants of the variety Hicks at Steam Mill, Kings Co., N.S. (R.G. Ross), It affected less than 1% of the plants in a crop nr, Montague, P.E.I. (C.B. Willis).

BLACK ROOT ROT (Thielaviopsis basicola) caused extremely heavy losses in some fields in s.-w. Ont, Even varieties considered resistant were severely affected and losses in some fields were as high as 30%. It was not a factor in seedbeds except in a few cases where steaming was not properly carried out (Z.A.P., L.W.K.).

VIRUS DISEASES. 'Tobacco etch caused considerable losses in burley in Essex and Kent counties in Ont, Other viruses noted in flue-cured and burley tobacco were: TMV, cucumber mosaic, streak, ring spot, alfalfa mosaic, curly-top, potato Y. and mottle viruses. *Losses*, apart from those from etch, were slight (Z. A, P., L.W.K.).

WEATHER FLECK (atmospheric pollution), Some fleck was observed in Ont. at the end of the growing season (Z.A.P., L.W.K.).

YELLOW PATCH (excessive nutrients) was observed in some seedbeds, resulting in patches of yellowed, stunted seedlings (Z.A.P., L.W.K.).

E. CULTIVATED AND OTHER GRASSES

AGROPYRON

Ergot (Claviceps purpurea) was extremely heavy on A. repens near infected rye nr, Alliston, Ont. (D.W. Creelman).

Powdery mildew (Erysiphe praminis), Infection was 75% on A. repens at Port Morien, N.S. (C.O. Gourley).

Tar spot (Phyllachora graminis) was mod. on A. repens nr, Alliston, Ont. (D.W.C.).

Leaf rust (Puccinia recondita). Infection was tr. on A. repens at Port Morien, N. S. (C.O.G.).

Speckled leaf blotch (Septoria elymi) was extremely heavy on A. repens at Port Morien, N.S. (C.O.G.),

Stem smut (Ustilago spegazinii). Infection was seen at Trout Creek Point, B.C. It was not as sev, as in recent years (G.E. Woolliams).

AGROSTIS

Ergot (Claviceps purpurea) was sl. on A. alba on a roadside near Alliston, Ont, (D.W. Creelman).

ALOPECURUS

Leaf spot (Mastigosporium album) was heavy on A. pratensis at the Exp. Farm, St. John's West, Nfld, (G.A. Nelson). The only previous reports, to the Survey, of this fungus, are from N.S. **(D.W.C.).**

BROMUS

Ergot (Claviceps purpurea) was tr. on B. inermis nr, Alliston, Ont, (D.W. Creelman) and was sev. on the same host at Matapedia, Que. (D. Leblond),

Anthracnose (Colletotrichum graminicola) was sl. at Caplan, Que, (D. L.).

Leaf blotch (Dreschlera bromi). Light infections were recorded in 2 fields in n.-e. Sask. (H. W. Mead) and it waa sev. on the variety **S-4088** of B. inermis in plots at Caplan, Que. (D.L.).

Tar spot (Phyllachora graminis) was observed on B, inermis in plots at Caplan, Que (D.L.). This organism has not previously been reported to the Survey on this host **(D.W.C.).**

Leaf spot (Selenophoms bromigena) was mod. in plots of B. inermis at Saskatoon, sl. in 4 fields in n.-e. Sask. and very sev. on roadsides at Tugaske, Sask. (H.W.M.). It affected 75% of the plants in a nursery row at St. John's West, Nfld. (G.A. Nelson).

Leaf spot (Septoria bromi Sacc) occurred in plots of B. inermis at Caplan, Que. (D. L.). This is the first report of this pathogen to the Survey (D.W.C.).

Smut (Ustilago bullata) was commonly found on B. tectorum in the Summerland, B. C. area (G.E. Woolliams).

CALAMAGROSTIS

Ergot (Claviceps purpurea) was common on C. canadensis on a roadside nr. Alliston, Ont. (D.W. Creelman) and was sev. in a field at Baie Ste-Catherine, Saguenay Co., Que. (D. Leblond),

Leaf spot (Cylindrosporium calamagrostidis) was mod.-sev. on C. canadensis at Caplan, Que. (D.L.). This disease! has not previously been reported to the Survey (D.W.C.).

Eye spot (Mastigosporium rubricosurn). Mod. infections occurred on C. canadensis at Baie Ste. Catherine, Que. (D.L.).

Crown rust (Puccinia coronata) was observed at Caplan and Baie Ste. Catherine, Que. Infection was mod. at both localities (D.L.).

DACTYLIS

Ergot (Claviceps purpurea) was seen on D. glornerata nr. Allistan, Ont. (D. W. Creelman),

Leaf spot (Mastigosporium rubricosum) infected 80% of the plants of D. glomerata in plots at St. John's West, Nfld. (G.A. Nelson.

Brown stripe (Passalora graminis) was mod. on D. glomerata nr. Alliston, Ont. (D. W. C.).

PHLEUM

Ergot (Claviceps purpurea) was tr, on P. pratense nr. Alliston, Ont. (D.W. Creelman) and was sl. at Baie Ste. Catherine, Que. (D. Leblond).

Eye spot (Heterosporium phlei) was sev. in plots of timothy at the Exp, Farm, Caplan, Que. (D.L.). It ranged up to 30% infection in 4/12 areas examined in P.E.I. (C.B. Willis). Infection was sev. and widespread on the Avalon Peninsula of Nfld. (O.A. Olsen).

POA

Powdery mildew (Erysiphe graminis was widespread and very sev. on both Kentucky and Merion bluegrass in lawns at Saskatoon, Sask. (H. W, Mead). It was conspicuous in shady areas in some lawns at Ottawa, Ont. (D. W.

Creelman).

Melting-out (Drechslera vagans) caused sev. damage to a lawn at Lethbridge, Alta, (J.B. Lebeau) and was mod. -sev. in lawns at Saskatoon, Sask. (H.W.M.). It caused about 5% damage to Poa spp. in lawns at Winnipeg and Fort Garry, Man, (B. Peturson).

Fairy ring (Marasmius oreades) caused sev. damage in 5 lawns at Lethbridge, Alta. (J.B. L., E, J. Hawn) and mod. -sev. in lawns at Saskatoon, Sask. (H, W.M.).

Rust (Puccinia graminis) was sev. in a lawn of Merion bluegrass at Lethbridge, Alta. (J.B.L,) and was mod, on the same variety in a lawn at Ottawa, Ont. (D.W.C.).

Rust (Puccinia poae-nemoralis) occurred in many lawns in the Winnipeg and Fort Garry areas of Mae, Infection ranged from 5-75% (B.P.),

Leaf blotch (Septoria macropoda Pass.var sepulata (Gonz, Frag.) Sprague) affected 60-70% of the leaves of Merion bluegrass in a lawn at Ottawa, Ont, Extensive, necrotic areas occurred at the leaf tips or cut ends but the leaves were not killed. The reddish margins of the lesions described by Sprague were lacking but spore and pycnidrium size agree well with var, sepulata (W,L, Seaman).

TURF

Anthracnose (Colletotrichum graminocola) was isolated from a plug of turf from a golf course in the Vancouver, B.C. area (H.S. Pepin).

Powdery mildew (Erysiphe graminis). Mod, infections were seen on native grasses in the Petaigan area of n.-e. Sask, (H.W. Mead).

Snow mold (low-temperature basidiomycete) damage in turf areas was rated 4-91. at Calgary, 3-mod. -sev. at Banff and I-sl. at Lethbridge, Alta. (J.B. Lebeau). Mod. -sev. damage was seen in turf at Saskatoon, Sask. (H.W.M.).

Slime mold (Physarum cinereum) appeared on lawns in Vancouver about a month earlier than usual (H.N.W. Toms), It occurred on pasture grasses at Berthierville, Que. (D, Leblond). and on a lawn at Hartland, N.B. (K. M, Graham),