and stalk rot of hybrid field corn. Widely separated fields were surveyed in the following counties: Essex (6 fields), Kent (5 fields), Lambton (2 fields), Middlesex (3 fields), Elgin (3 fields). Root and stalk rot was present in all fields examined and ranged from 1 to 20%. The average for all counties was 5.5%. The disease was more common in Kent and Essex than in the other counties, especially Lambton, where the corn was later. Damage was sev. in a few fields in the Harrow district of Essex Co. but only sl. in other counties. Gibberella zeae was isolated consistently from the stalks of diseased plants from all five counties (N. J. Whitney).

MUSTARD

WHITE RUST (Albugo candida) damaged one stand slightly at Taber, Alta. (F.R. Harper). It affected 10/18 s. Alta. fields surveyed: 9-tr. 1-mod. (E. J. H.).

ROOT ROT (Rhizoctonia solani). Trace amounts were found in 13/18 s. Alta. fields (E. J. H.).

ASTER YELLOWS (Callistephus virus 1). A trace infection was found at Enterprise, Man. (W. E. Sackston).

PEPPERMINT

RUST (Puccinia menthae) caused heavy defoliation of all plants in a row at Kentville, N.S. in the middle of Aug. (K. A. Harrison).

TOBACCO

Tobacco Diseases

Z. A. Patrick and L. W. Koch

Seedbed Diseases

Blue Mold or Downy Mildew (Peronospora tabacina) was not observed in Ont. or Que. Growers are advised to continue the recommended program for blue mold control (P. D. S. 34: 95. 1954).

Damping-off or Bed Rot (Pythium spp. and Rhizoctonia solani) was the most common disorder in seedbeds. It occurred in a few small patches in the beds and did not cause much damage.

Yellow Patch (excessive nutrients) was the next most common seedbed trouble, especially in the burley tobacco area. This condition arises in most instances as a result of over-fertilization or from seeding too soon after steaming the soil.

Chemical Injury. There were a few cases of 2,4-D injury from the use of improperly cleaned sprayers or drift from weed control operations. Creosote toxicity were noted in a few new greenhouses where this wood preservative had been used.

Field Diseases

Leaf Spot (physiologic). Tobacco leafspot, mainly of the non-parasitic type, was the most common and most serious disorder of tobacco in Ontario in 1957; the loss is estimated to be 5,000,000 lbs. The disease appears to be caused by the interaction of certain nutritional and environmental factors. The exact causal factors are unknown.

Brown Root Rot is another disease which has increased in the last 5 years. The disease occurs in all the tobacco growing areas and at present is next in importance to leafspot. It is most severe on light sandy soils following a rye rotation where large populations of the root-lesion nematodes, Pratylenchus spp., are found. The diseases of tobacco listed below, although they occur each year, do not usually cause extensive damage. The damage from these diseases is, in most instances, confined to a few plants in the field.

Blue Mold (Peronospora tabacina) was not observed in Ont. and Que. fields.

Black Root Rot (Thielaviopsis basicola) was noted in a few fields. The tobacco varieties used in Canada are moderately resistant and damage is confined to low lying parts of the field or poorly drained fields.

Frenching (? soil toxins) was confined to fields where the soil type is unfavorable for growing tobacco. Symptoms usually appear in the upper leaves of the plant. The loss amounts up to 30% in affected areas.

Soft Rot (Pythium spp.) and Sore Shin (Rhizoctonia spp.). These diseases were confined mainly to transplants. Affected plants show brown or black discolored areas occurring on one side or entirely girdling the stem near the ground. Often only superficial tissues are involved and the plants recover under favorable growing conditions.

Angular Leaf-Spot and Wildfire (Pseudomonas angulata and P. tabaci) caused considerable damage to 2 fields in which up to 50% of the plants were diseased. In the other areas they were found on only a few plants.

Brown Spot (Alternaria longipes) caused sl.-mod. damage to flue cured tobacco. The lesions are large, circular and frequently marked by concentric rings.

Frogeye (Cercospora nicotinae) attacks maturing leaves. The lesions are small, one-fourth inch or less in diameter. The centers of the lesions become parchmentlike with a scattering of minute, black dots. Damage was sl. -mod.

Hollow Stalk (Erwinia carotovora and E. atroseptica). A few cases of "stalk soft rot", where the bacteria break down the parenchyma tissue of the stem, or "hollow stalk" where the pith of the stalk is broken down were noted. The disease is the result of topping damage and the use of suckering oils.

Mosaic (Tobacco mosaic virus). Injury from TMV was widespread throughout the burley and flue-cured tobacco growing areas of Ont. and Que. Only a few plants in each field were affected and the damage was not serious.

Etch (Tobacco etch virus) damage was sev. only on burley tobacco in the Leamington-Harrow areas where most of the fields were up to 60% affected. Some etch was also noted on flue-cured tobacco in this area but the symptoms on the flue-cured varieties were very mild.

Other Virus Diseases were present throughout the tobacco growing areas of Ont. and Que. Only a few affected plants were found in each field, and the losses were negligible. The ring spot virus, streak virus, vein banding virus and several of the cucumber mosaic viruses and the potato viruses were observed.

E. CULTIVATED AND OTHER GRASSES

AGROPYRON

Brittle Dwarf (? virus) damage was moderate to severe at Saskatoon, Sask. A. intermedium plants at plot margins were distinctly stunted and brittle (H. W. Mead).

White Heads (cause undetermined). A. cristatum plants produced white heads that did not set seed. This condition has been seen for several seasons (H. W. M.).

Purple Spot (cause undetermined) was observed on A. smithii at Lethbridge, Alta. (E. J. Hawn).

BROMUS

Ergot (Claviceps purpurea) caused slight damage in 9/18 Sask. fields; less than in 1956 (H. W. M.).

Leaf Blotch (Helminthosporium bromi) caused slight damage at Creston, B. C. (E. J. H.). In Sask. 6/18 fields were found to have slight infections. In experimental plots at Saskatoon different clonal lines differed in disease severity (H. W. M.). Brome grass on wooded headlands near oat plots at Kemptville, Ont. had severe infection. The perfect state Pyrenophora bromi was also present (R. V. Clark).

Leaf Spot (Selenophoma bromigena) was regularly found causing sl. damage on roadsides in s. Alta. Sl.-mod. damage was observed in 2 fields near Strathmore, and tr. infection occurred near Milk River (E. J. H.). Although Selenophoma leaf spot was evident at Lethbridge, H. bromi was the more serious parasite in the Edmonton district (R. A. Shoemaker). Selenophoma caused sl-mod. damage in 12/18 fields observed in Sask. It also occurred on brome growing on roadsides, and in plots at Saskatoon and Melfort. Some clonal lines had some resistance (H. W. M.).

Scald (Rhynchosporium secalis) caused slight damage to a few clonal lines at Saskatoon, Sask. (H. W. M.).

Bacterial blight (Pseudomonas coronafaciens) caused sl. damage to several clonal lines at Saskatoon. Bacteria oozed readily from the lesions when mounted in water (H. W. M.).

DACTYLIS GLOMERATA

Powdery Mildew (Erysiphe graminis) caused damage ranging from slight to severe at Lethbridge, Alta. (E. J. H.).

Purple Leaf Spot (Mastigosporium rubricosum) was found at Agassiz, B. C. Damage was slight. The pathogen was isolated and identified in culture (E. J. H.).

Brown Stripe (Scolecotrichum graminis) caused sl.-mod. damage to spaced plantings at Agassiz, B. C., and sl. damage at Lethbridge, Alta. (E. J. H.). In Nfld. in plots at St. John's 70-80% of leaves were affected and 50% of the leaves were killed. In plots near Cormac 90-100% of leaves were attacked and 60% were killed. In a field near Heatherton 20% of leaves were affected and damage was slight (O. A. Olsen).

ELYMUS CONDENSATUS

Ergot (Claviceps purpurea) was widespread around Kamloops, B. C. It affected at least 1 or 2 spikes of each plant (G. E. Woolliams).

FESTUCA

Snow mold (low-temperature basidiomycete). Trace infection was noted in 1 field examined at Edmonton, Alta. (J. B. Lebeau).

HORDEUM JUBATUM

Stripe Rust (Puccinia glumarum) was observed on a few plants at various points at Lethbridge in mid-June (W. C. Broadfoot).

LOLIUM PERENNE

Scald (Rhynchosporium secalis) was found on a specimen received from Saanichton, B. C. (E. J. H.).

PHLEUM PRATENSE

Eye Spot (Heterosporium phlei) occurred in trace amounts on Climax timothy at C. E. F., Ottawa, Ont. (R. J. Baylis). Heavy infection occurred on

80% of leaves in all 6 fields examined in Avalon Peninsula of Nfld. However, the damage to the leaves did not appear to extend beyond the limit of the small lesions (O. A. O.).

Brown Streak (Scolecotrichum graminis). Sl. infection was found on a few leaves of a crop grown on reclaimed bogland near Cabinet, Nfld. (O. A. O.).

Leaf Spot (Helminthosporium sp.) caused slight damage to plots at St. John's Nfld. (O. A. O.). Five species are known from timothy: H. giganteum, H. sorokinianum, H. triseptatum, H. victoriae and H. dictyoides var. phlei but only the first two mentioned cause leaf spots (R. A. Shoemaker).

POA PRATENSIS

Powdery Mildew (Erysiphe graminis) infection was sl. in plots at Lethbridge, Alta. (E. J. H.).

Melting-Out (Helminthosporium sp.) caused sev. damage to 1 field near Edmonton. Two other fields examined were not affected (J. B. L.).

Leaf Rust (Puccinia poae-nemoralis) caused sl. damage in plots at Lethbridge (E. J. H.).

Snow mold (low-temperature basidiomycete) ratings were: 1-mod. 1-sev./3 fields near Calgary (J. B. L.). Moderate to severe damage was done to lawns and a football field at U. of Sask., Saskatoon (H. W. M.).

TURF

Pink Patch (Corticium fusiforme). Lawns at Saanichton were damaged slightly. The pathogen was isolated from diseased specimens (R. Turley, E. J. H.).

Brown Patch (Rhizoctonia solani) damage was mod. in some lawns at Lethbridge, Alta. (E. J. H.).

Snow Mold (low-temperature basidiomycete). Lawns and golf greens at Lethbridge had small patches damaged by this disease (E. J. H.).

Discolored leaves of lawn grasses in Que. frequently were infected by a fungus tentatively identified as Vermicularia herbarum (D. Leblond).