C. Root Crops

SUGAR BEET

BLACK ROOT (Aphanomyces cochlioides). In July in experimental plots at Acadie, Que., seedlings of cultivars Kuhn–R, Monogerme, H.C-11, and Cercopoly were severely infected. Infection of Polykuhn was mod. (L.J.C.).

ROOT ROT (Fusarium, Phoma, Pythium, Rhizoctonia, Rhizopus). In June, seedlings of Kuhn–R, Polykuhn, H.C–11, Monogerme and Cercopoly growing in experimental plots at Acadie, Que. were examined and found to be severely infected by Rhizoctonia solani (L.J.C.). At Taber, Alta. a sl. necrosis to the tap roots due to Rhizoctonia was observed in 1 field: a root rot affecting the tips of a few maturinq beets caused by Pythium and Fusarium was observed in another: a wet rot (Rhizopus?) of the lower part of the tap root of young beets was found in a portion of 1 field where irrigation water had stood for several days: root rot, Fusarium, Pythium, Rhizoctonia and Phoma was sev. In low areas of several fields in the area. On the mature beets there was no evidence of rot, only the stand was reduced. Damage corresponded to the occurrence of flooding caused by heavy rains in the seedling stage (F.R.H.).

BORON DEFICIENCY was It.–mod. in a 15 acre field at St. Edouard, Que. (R.C.).

CHEMICAL INJURY. A 15 acre field near Sherrington, Que, exhibited spray injury on the foliage (R.C.).

D. Miscellaneous Crops

FIELD CORN

ROOT AND STALK ROT (Fusarium graminearum) was prevalent in Essex Co., s.w. Ont. Drought after mid–July led to early dying of lower leaves and deterioration of stalks in Aug. and Sept. Heavy rains and winds in early Oct. resulted in much lodging and stalk rot. Throughout southwestern Ont. the delay in harvest caused by rain in Oct. and early Nov. increased problems from stalk breakage (C.G.M., L.F.G.).

SMUT (Ustilago maydis (D.C.) Cda., [U. zeae (Beckm.) Ung.]). Trace amounts of infection caused by U. zeae were found in Sask. where this disease is rare (R.S.). U. maydis was present in Oxford, Essex and Norfolk counties in s.w. Ont. (A.A.R.). and was observed also in the area of St. Jean, Que. (R.C.).

STREAK MOSAIC (wheat streak mosaic virus). Individual corn plants and annual grass plants infected with WSMV were seen in several fields in the Harrow, Ont. area. The virus was found in occasional plants in many fields of winter wheat in the spring and again in the autumn (C.G.M., L.F.G.).

KERNEL RED STREAK (Red striped pericarp), observed in s.w. Ont. since 1964, developed in 14 var. of corn in experimental plots at Ottawa but affected only mature ears into which wheat curl mites (Aceria tulipae [K]) from wheat were introduced manually on Aug. 11th. The condition was induced by nonviruliferous mites as well as by mites carrying either wheat streak mosaic virus or wheat spot mosaic virus (J.T.S.). This condition, caused by the feeding of the wheat curl mite on the kernels, was common in s.w. Ont. and easterly to Port Hope, Ont. (L.F.G.).

TOBACCO

LEAF SPOTS (Alternaria spp.) in combination with physiological leaf spot increased significantly in Ont. due to the extremely wet weather. In individual farms with imperfectly drained soils losses were sev. (S.K.G.).

ANGULAR LEAF SPOT (Pseudomonas angulata) in Ont. was observed in numerous fields near Delhi and the Port Hope area. Wet weather stimulated 'water soaking' of the leaves and facilitated infection. Losses were not apprecialbe (S.K.G.).

DAMPING–OFF (Pythium spp., Rhizoctonia solani and Fusarium spp.) was common in flue-cured seed beds. Although the seedlings were adequate for supplying the field, choices in each pulling were limited. Longer periods for transplanting occurred in Ont. where sev. cases of damping–off were recorded (S.K.G.).

SORE–SHIN (Rhizoctonia solani) was sev. in s. Ont. due to wet conditions. Infection was up 10–15% in certain fields. No chemical control has been recommended (S.K.G.).

POLE ROT (Rhizopus spp. other fungi and bacteria) of leaves in Ont. during curing was less frequent than last year as the leaves were riper and smaller. Leaves of the 3rd and 4th primings showed sl. rotting (S.K.G.).

BLACK ROOT ROT (Thielaviopsis basicola). Prevailinq weather conditions and improved sterilization of seedbeds in the greenhouses at Delhi, Ont. reduced the amount of infection that occurred in 1966. On heavy soils in the field losses were sev. and greater than in 1966 due to the wet cold weather prevalent after planting (S.K.G.). Two tobacco fields in N.S. were found to be

infested with black root rot (S.K.G.). In Kings Co., N.S. lt. infection caused root tips to rot off (C.L.L.). Roots contained in 399 samples of tobacco soil examined in Ontario were rated for black root rot as follows: no disease in 32 samples, trace in 128, light in 132, mod. in 58, sev. in 40, and very sev. in 9 (H.A.O.).

MOSAIC (tobacco mosaic virus). Overall losses in Ont. to TMV were negligible. Ten acres on an Oxford Co. farm were severely infected; this was attributed to a heavy infestation of horse nettles (Solanum carolinense L.) which were infected and acted as the source of the virus (S.K.G.).

OTHER VIRUS DISEASES. Ringspot, cucumber mosaic and etch virus were observed in the flue-cured tobacco crop in Ont. but their incidence was negligible (S.K.G.).

CHEMICAL INJURY. There were a few reports in Ontario of individual heavy losses due to improper application of agricultural chemicals either in the greenhouse or the field (S.K.G.).

WEATHER FLECK (atmospheric pollution) was more sev. in Ont. than in 1966. Favorable conditions for fleck were apparently prevalent at the susceptible stage of the tobacco plants (S.K.G.).

E. Cultivated and Other Grasses

AGROPYRON - Wheatgrass

HEAD SMUT (Ustilago bullata) was observed frequently on A. trachycaulum s. of Winnipeg, Man. (J.J.N.). At Saskatoon, Sask. in a replicate test of introductions of A. trachycaulum, head smut was observed on lines 1710 from the Kustaraj region of the U.S.S.R. (OT1270-70) with 1% infection and 1708 from Godollo, Hungary (1963), which had slightly less than 1% infection. The other lines tested, mostly from Canada, failed to show infection (J.D.S.).

BROMUS - Bromegrass

LEAF BLOTCH (Drechslera bromi) caused tr.-mod. damage in 4/4 fields examined in C. Alta. (B.B.).

SEEDLING BLIGHT (Podosphaeriella verticillata). In a seed sample of northern common brome (S-6610), obtained from the Unity district of Sask., 2% of the seeds surface-sterilized with 70% alcohol developed stromatic coremia and spores (J.D.S.).

LEAF SPOT (Pyrenophora bromi, Selenophoma [Sacc.] Sprague and Johnson, and Rhynchosporium secalis [Oud.] J.J. Davis). See article in C.P.D.S. 47(4):112-115, 1967 (J.D.S.). Moderate infection of Bromus inermis by P. bromi was observed in 68/98 fields examined in the Peace River area Alta. and 54/82 fields in Sask. (J.D.S.). Infection of B. inermis by S. bromigena was mod. at Champion, S. Alta. (G.A.N.); tr.-mod. in 2/2 fields in C. Alta. and mod. in 61/98 fields at the Peace River, Alta. (J.D.S.).

SCALD (Rhynchosporium secalis) caused sl. damage in 13/82 fields examined in Sask. and in 16/98 in Alta. See article in C.P.D.S. 47(4):112-115, 1967 (J.D.S.).

WHITEHEAD (?Thrips, Fusarium spp.). A tr. of damage was observed in 2/2 fields examined in C. Alta. (B.B.).

CALAMAGROSTIS - Bluejoint grass

ERGOT (Claviceps purpurea) occurred on C. canadensis at Rocky Mtn. House, Alta. (A.W.H.).

STRIPE SMUT (Ustilago striiformis). A tr. was observed at "The Narrows," Man. (J.J.N.).

ELYMUS - Wild rye

ERGOT (Claviceps purpurea) occurred on E. innovatus at Rocky Mtn. House, Alta. (A.W.H.).

LEAF SPOT (Pyrenophora tritici-repentis) on E. innovatus caused sl.-mod. damage at Sandy Lake and other wooded areas west of Piprell Lake, Sask. (J.D.S.).

FESTUCA - Fescue

SNOW MOLD. Low temperature basidiomycete caused mod. damage in the Edmonton, Alta. area (A.W.H.).

STEM EYESPOT. In July 1967 a stem eyespot was found in two fields of creeping red fescue (F. rubra L.) near Beaverlodge, Alta. A fungus was found associated with lesions on stems, sheaths, and inflorescences, but no spores or sporophores were detected (J.D.S.).

PHALARIS - Canarygrass

LEAF SPOT (Stagonospora foliicola) was observed in 1 field of P. arundinaceae at Sandy Lake near Candle Lake, Sask. Damage was sl. (J.D.S.).

PHLEUM - Timothy

LEAF SPOT (Heterosporium phlei) on P. pratense caused a tr. of damage in 6/9 fields examined in C. Alta. (B.B.). In the Nipawin/Tisdale area of Sask. 28/28 fields examined showed mod.-sev. damage. Second and