IV. DISEASES OF FRUIT CROPS

A. POME FRUITS

APPLE

BRANCH ROT (Daldinia sp.). D. sp. was found fruiting on several branches of apple trees in the University orchard, Edmonton, Alta. It was associated with deformity and splitting (A.W. Henry). Specimens were also collected from an orchard near Athabasca (G.B. Sanford).

FIRE BLIGHT (Erwinia amylovora) was present and caused severe damage to many susceptible trees in the University orchard, and elsewhere in Edmonton, Alta.; but it has not yet spread to the orchard at Oliver. It was also seen at Lethbridge and Calgary (M.W.C.). Blight was general but not severe in the Montreal district, Que. (F. Godbout). Considerable infection occurred in a block of Wealthy at Hemmingford, but little elsewhere in the orchard; it was cut out and little spread occurred (C.E. Petch). A specimen was received from Franklin Center (L.T. Richardson). Considerable early infection was seen near Quebec City, but it did not spread greatly; infection comes mainly from neglected orchards (O. Caron).

STORAGE ROT (Gloeosporium album). A trace only was seen in the storage cellar of the Experimental Station, Fredericton, N.B. (J.L. Howatt). Mr. E.M. Mason, Imperial Mycological Institute, found the Fredericton fungus to be identical with that known as G. album Osterw. (1907) in England. Some years ago Dr. John Dearness found the conidia of the Fredericton fungus to average slightly larger than those of the type and co-type of G. allantoideum Pk. (1891) but noted no other differences. It may be necessary to reduce G. album to synonymy (S.F. Clarkson).

BITTER ROT (Glomerella cingulata). A single infected Wagener was found at Kentville, N.S., in April, 1946; the organism was cultured and yielded ascospores 14-17 x 5 microns (K.A. Harrison).

RUST (Gymnosporangium clavipes). A scattered infection of McIntosh, confined to the calyx end of the fruit, occurred in the laboratory orchard, St. Catharines, Ont., near a cedar tree (G.C. Chamberlain).

STORAGE ROT (Penicillium expansum) caused losses up to 50% in stored seedling stock of the Experimental Station, Fredericton, N.B. (J.L. Howatt).

BLACK ROT (Physalospora obtusa) was conspicuous on McIntosh in an orchard at Guelph, Ont. Large cankers showing S. Malorum were seen on a single unidentified tree in Lincoln Co. (G.C. Chamberlain). Specimens affected by black rot were received from Knowlton, Que. (L.T. Richardson). S. Malorum occurred on dead twigs in a young orchard at Ste. Anne de la Pocatiere, Que., in April, 1946, but it is possible that winter injury contributed to the damage (C. Perrault). A leaf spot thought to be due to the black rot organism was seen in Queens Co., P.E.I. (R.R. Hurst).

POWDERY MILDEW (Podosphaera leucotricha) was very prevalent in the Okanagan Valley, B.C., on the susceptible varieties Jonathan and McIntosh; it is the most serious foliage disease in the district (H.R. McLarty). The new growth of a single tree was severely affected at the Botanical Garden, Montreal, Que. (J.E. Jacques).

SCAB (Venturia inaequalis) was severe on leaves and twigs of two crab apples in the University orchard, Vancouver, B.C. (I.C. MacSwan). Scab was not severe in the northern part of the Okanagan Valley; 3 sprays gave almost 100% control (H.R. McLarty). Severe damage was found in an orchard at Innisfail, Alta. (G.B. Sanford).

In Ont. scab was in general fairly well controlled. On McIntosh in the experimental orchard at St. Catharines infection of harvested fruit ranged from 2.5% for the most effective sprays to 50% for the least effective; infection was 80-90% on unsprayed trees (G.C. Chamberlain). In the Montreal district, Que., perithecia were numerous in the spring. Heaviest infections occurred during pre-pink and pink stages. Hot, dry weather in late June and early July enabled growers to check the infection and most commercial crops were quite clean (F. Godbout). Scab was much less serious than in 1945 near Quebec City (O. Caron). Scab was seen in late June at Ste. Anne de la Pocatiere, but was checked by dry weather that lasted until late August. Infection was seen in September even in well-sprayed orchards (C. Perrault). Small orchards at St. Roch des Aulnaies and on Ile aux Coudres were heavily infected (F. Godbout).

In the St. John River valleys, N.B., ascospores were mature on May 22, and discharge started June 6 during bloom. On June 14 about 65% of the ascospores were still undischarged; and further discharge occurred during the week of June 21. Primary infection was seen on June 28. Secondary infection was easily controlled because of dry weather (S.F. Clarkson). The crop was one of the cleanest in the history of N.S., scab being easily controlled even with the milder fungicides; but infection was abundant on unsprayed trees (J.L. Howatt). Perithecia were abundant in N.B. The first mature spores were found April 15; but they were not abundant until April 30, when a few empty asci were found. The first general discharge occurred May 5-8. Primary infections produced conidia by May 20. Spraying conditions were favorable except on wet ground, and applications were generally thorough. Dry weather in June and July aided scab control. The crop was exceptionally clean, although some storage scab appeared on unsprayed fruit. (J.F. Hockey).

CRINKLE MOSAIC (virus). Severe symptoms again developed on a 13-year-old seedling at Fredericton; see P.D.S. 25: 88 (D.J. MacLeod).

MOSAIC (virus). One infected tree was seen in Kings Co., P.E.I. (R.R. Hurst).

CHLOROSIS (?excess lime). What may be lime-induced chlorosis of apple, pear, plum, raspberry, strawberry, and other plants was severe on the irrigated plots at the Experimental Station, Lethbridge, Alta. Similar symptoms occurred on apple and pear near an alkali spot at Edmonton (G.B. Sanford).

DROUGHT SPOT, etc. (boron deficiency). Drought spot was found on an unidentified apple in an experimental home planting at Fort Fraser, B.C. (G.E. Woolliams). A Delicious tree at Creston, left untreated in an orchard in which McIntosh had been given boron, showed rough bark and serious die-back (M.F. Welsh). Corky core was severe in untreated, and unusually prevalent in treated, orchards in N.B., owing to dry weather. McIntosh was seriously affected (J.L. Howatt). Because of the drought, symptoms were particularly severe on hillside orchards. In McIntosh there were no external symptoms, but in Fameuse there was typical cork and in Cortland the fruit was rough to the touch (S.F. Clarkson).

HAIL INJURY was severe in a few orchards in the New Minas and Gaspereaux districts, N.S., and 80% of the fruit was marked in the Experimental Station orchard, Kentville (J.F. Hockey).

SPRAY INJURY. Very little russetting resulted in N.B. this year from the use of early copper sprays or of Formate and Puratized (J.L. Howatt). Leaf injury from arsenical sprays was severe on Cortland, Delicious, Gravenstein and McIntosh in Queens Co., P.E.I., considerably reducing the crop (F.M. Cannon).

PEAR

DAMPING OFF (Botrytis cinerea). Pear seedlings in the greenhouse at the Experimental Station, Kentville, N.S., showed 40% infection in flats sown with seed pressed from the cores and with some pulp and carpel tissue adherent. Flats sown with clean seed from another source were unaffected (D. Creelman).

FIRE BLIGHT (Erwinia amylovora) was not pronounced in the Okanagan Valley, B.C., but a few isolated cases were seen (H.R. McLarty). In a block of 400 Bartletts in Lincoln Co., Ont., 3-4% in one corner showed extensive crotch cankers and were cut down; infection spread from neglected trees on the adjacent property. Several trees in a block of 30 5-year-old Bartletts in Niagara Twp. Lincoln Co., showed serious cankers and two were lost; infection was from nearby old apple trees (G.C. Chamberlain).

EUROPEAN CANKER (Nectria galligena) was quite general on Anjou in the orchard at Univ. of British Columbia, Vancouver, B.C., girdling twigs and small branches (R.E. Fitzpatrick).

SCAB (Venturia pirina). A moderate infection occurred on leaves and fruit of several trees at Univ. of British Columbia (I.C. MacSwan). It severely damaged the fruit of a single Flemish Beauty at Creston, B.C.; Anjou and Bartlett in the same orchard were unaffected (M.F. Welsh). Specimens of Bartlett and Kieffer were received from Simcoe, Ont.; one third of the fruit was stated to be conspicuously scabbed; these varieties are not usually affected (G.C. Chamberlain). Flemish Beauty was severely affected in Queens Co., P.E.I. (R.R. Hurst).

STONY PIT (virus) was seen on Bosc in the orchard at Univ., of British Columbia (R.E. Fitzpatrick). Stony pit was seen on various varieties in the Okanagan Valley rather more often than in previous years (T.B. Lott).

BLACK END (cause unknown) appeared in a block of young Kieffer pears in Niagara Twp., Ont. (G.C. Chamberlain).

CHLOROSIS. See Apple.

QUINCE

RUST (Gymnosporangium clavipes). A sample of fruit bearing aecia was received from Thornbury, Ont., in July (J.D. MacLachlan).

BLACK ROT (Physalospora obtusa). Affected fruits sent in from Lincoln Co., Ont., showed swellings and blackening; pycnidia were readily induced (G.C. Chamberlain).

B. STONE FRUITS

APRICOT

CORYNEUM BLIGHT (Clasterosporium carpophilum) caused severe leaf and fruit spots and cankers throughout the Kootenay and Creston districts, B.C., except in Lakeview, near Creston. This anomaly is difficult to explain as no spraying was done (M.F. Welsh). It was less severe than usual in the few orchards in which it occurs in the Okanagan Valley (H.R. McLarty).

BLACK KNOT (Dibotryon morbosum). A specimen was received from Agassiz, B.C. (R.E. Fitzpatrick). Apricot is recorded as a host, but this seems to be the first Canadian record (I.L. Conners).

TWIG BLIGHT (Sclerotinia laxa). Slight to moderate infection occurred in the Univ. of British Columbia orchard, Vancouver, B.C. (I.C. MacSwan).

DIE BACK (boron deficiency). Observations indicate that apricots and peaches are sometimes affected in the Okanagan Valley, B.C., when boron is applied at 3-year intervals. More frequent applications seem to be needed where the soil is very light (H.R. McLarty).

CHERRY

GREY MOULD (Botrytis cinerea) seriously affected Bing sweet cherries after packing at Creston and Erickson, B.C., infection varying from pin-point to complete decay. Wet weather just as this variety ripened was apparently responsible; no trouble was found with Lambert, which was unripe during the wet spell. Where packing houses handled fruit quickly under dry conditions there was much less trouble than where it was held in boxes for several days (M.F. Welsh).

BLACK KNOT (Dibotryon morbosum) was heavy in small, unsprayed blocks in Ont. (J.E. Howitt). It was severe on sour cherries in Queens Co., P.E.I., and was very abundant on wild cherries (R.R. Hurst).

LEAF SPOT (Higginsia hiemalis) was light to heavy on all cherries in the Kootenay district, B.C., and caused considerable leaf drop; the fungus fruited freely on the pedicels (M.F. Welsh). Leaf spot was of minor importance in the Niagara Peninsula, Ont., until late in the season; it caused some premature defoliation in September. In the Laboratory orchard, St. Catharines, leaf infection was 26.3% on unsprayed and 0.3-2.5% on sprayed Montmorency (G.C. Chamberlain). Specimens were received from Windsor, Ont. (L.T. Richardson).

POWDERY MILDEW (Podosphaera Oxyacanthae). Two trees of Bing sweet cherries at West Creston, B.C., had half the leaves infected on July 11, and immature perithecia were found on a few leaves. Later the disease was found at Kaslo, Willow Point and Grey Creek; and perithecia became abundant around Creston (M.F. Welsh).

BROWN ROT (Sclerotinia fructicola) was heavy on all varieties of sweet cherry in an orchard at Kootenay Bay, B.C., apparently owing to a wet spell just before Bing ripened. Many reports were received from the Creston, and Nelson districts but in some cases Botrytis and Rhizopus rots may have been confused with brown rot (M.F. Welsh). In Ont. approximately 1-2% blossom blight occurred in sweet cherries, and only a trace of stem rot was seen in sour cherries. The weather was unfavorable for the development of the fungus (G.C. Chamberlain).

WITCHES' BROOM (Taphrina Cerasi) was seen on a single sweet cherry in the Univ. of British Columbia orchard (R.E. Fitzpatrick).

LAMBERT MOTTLE (virus). What seems to be a severe and quick-acting strain of Lambert mottle was seen in three orchards not previously visited in the Kelowna district, B.C. In one a single tree was infected; in a second there seems to have been slight spread for several years; and in a 5-acre block, of which 1/3 were originally Lamberts, where the disease is believed to have been present for 11 years, most Lamberts have now been removed and the rest are severely affected, whereas there is little or no effect in other varieties (T.B. Lott). A trouble allied to Lambert mottle, and identical with that reported from Kelowna, was seen in Lambert at Long Beach in the Kootenay area. One tree developed symptoms in 1944 and was pulled in the spring of 1946 when almost dead; meanwhile two adjacent trees have become severely affected (M.F. Welsh).

LITTLE CHERRY (virus) has now spread into every fruit district in the Kootenay area, B.C., and, according to a newspaper report, has been found in Washington. It was seen in Kaslo, Denver and Renata for the first time, and fruit apparently infected were received from Nakusp (W.R. Foster). A single Bing tree in Osoyoos showed symptoms indistinguishable from little cherry; however, diagnosis from one tree is unreliable and there have been no other reports of the disease from the Okanagan valley (T.B. Lott). Little cherry has spread considerably in the Kootenay area. A packing-house at Nelson received affected fruit from several points along the Arrow Lakes. Prevalence was decidedly higher in the Creston-Erickson district and the

disease appeared in isolated orchards on the edge of the district. Several orchards in Erickson have been slightly affected for three years without significant increase - an exceptional situation (M.F. Welsh). See. W.R. Foster and T.B. Lott. "Little cherry", a virus disease. Sci. Agr. 27: 1-6. 1947.

?NECROTIC LEAF SPOT (virus). Six trees of Montmorency in Wentworth Co., Ont., were suspected of being infected by this disease. Leaves were small, delayed in opening, and sparse. Buds were small and no growth was made (G.C. Chamberlain).

TATTER LEAF (virus). One 20-year-old sweet cherry in a block of 25 trees in Lincoln Co., Ont., showed extremely ragged foliage (G.C. Chamberlain).

TWISTED LEAF (virus). Small numbers of affected trees were seen in several orchards in the Okanagan valley, B.C., in which it was not previously known. Growers believed the infections to be recent (T.B. Lott).

YELLOWS (virus) is widespread on Montmorency in the Niagara Peninsula, Ont. (G.C. Chamberlain).

PEACH

CORYNEUM BLIGHT (Clasterosporium carpophilum) is severe on several varieties, notably Rochester, wherever peaches are grown in the Creston and Kootenay districts, killing large limbs or even whole trees. No spray programme for this disease is practised in the area (M.F. Welsh).

BROWN ROT (Sclerotinia fructicola) was seen on fruit at the Univ. of British Columbia, Vancouver, B.C. (R.E. Fitzpatrick). In the Laboratory blocks, St. Catharines, Ont., blossom blight did not exceed 3% in Rochester or Elberta. Fruit infection in Rochester was 7-8% in unsprayed and 1-2% in sprayed fruit at harvest; corresponding figures were 31.4% and 2.4-11.5% 4 days after picking, and 59% and 12-19% 6 days after picking. In Valiant and other mid-season varieties infection varied widely from orchard to orchard in the Niagara Peninsula. Although 1946 was not regarded as a bad brown rot year, the incidence of rot in the packed fruit was above average. The recommended spray programme properly applied gave good control; and fair weather during harvest prevented any serious outbreaks. In Elberta there was also little rot in the orchard but more than usual in the packed fruit. Control was good with the regular spray programme, and was improved by an extra mid-season spray when conditions were favorable to brown rot. Great variation in the incidence of rot in the harvested fruit, kept under uniform conditions, indicates that brown rot control is largely a matter of orchard management and harvesting practice (R.S. Willison).

POWDERY MILDEW (Sphaerotheca pannosa). A scattered infection on Golden Jubilee in Lincoln Co., Ont., caused some fruit blemishes (G.C. Chamberlain).

LEAF CURL (Taphrina deformans) heavily infected 20 trees in three orchards at Creston, B.C.; two had not been sprayed, but the owner of the third claimed to have used a 1-12 lime sulphur dormant spray. Eight trees in an orchard of 4-year-old Vedette and Rochester at Nelson were badly damaged; the owner had used 1-10 lime sulphur, applied with a hand sprayer (M.F. Welsh). In the Okanagan Valley an occasional tree was seen with a few leaves infected; leaf curl is rarely important in this area even in unsprayed orchards (H.R. McLarty). In the Niagara Peninsula, Ont., leaf curl is of no importance in sprayed orchards, but caused severe leaf distortion in a block of Elberta that had not received the dormant spray (G.C. Chamberlain). Leaf curl was reported from many parts of Ont., especially sections where peaches are not grown commercially and are seldom sprayed (J.E. Howitt). Specimens were received from the Toronto district (D.B.O. Savile). Light infections were seen at Kentville, Deep Brook and New Germany, N.S. (D. Creelman).

WESTERN X-DISEASE (virus). As in former years small numbers of new infections occurred in the Okanagan valley, B.C. In 13 mapped orchards new infections amounted to 0.4% of the trees (T.B. Lott).

CROWN INJURY (wet soil). Mortality has been heavy in young orchards on poorly drained or shallow soil in the Niagara Peninsula, Ont., owing to crown injury following very heavy rain in the fall of 1945 G.C. Chamberlain).

DIE BACK (boron deficiency). See Apricot.

PLUM

SCAB (Cladosporium carpophilum). A specimen was received from Ottawa, Ont. (L.T. Richardson).

BLACK KNOT (Dibotryon morbosum) is very prevalent in the Fraser Valley, B.C. (R.E. Fitzpatrick). It was abundant in small unsprayed blocks throughout Ont. (J.E. Howitt). Infection was heavy in an orchard at Greenwich, N.S., in contrast to its complete absence in a nearby orchard in which the recommended spray programme had been followed for several years (D. Creelman). Black knot was heavy in a small orchard near Charlottetown, P.E.I. (R.R. Hurst, F.M. Cannon).

SHOT HOLE (Phyllosticta circumscissa) was heavy on most of the leaves of four trees in a small orchard at Ste. Anne de la Pocatière, Que. (B. Baribeau).

BROWN ROT (Sclerotinia fructicola). In the Laboratory orchard, St. Catharines, Ont., incidence of brown rot on unsprayed trees was: Lombard 15.5%, Imperial Gage 12.2%. On sprayed trees the loss was negligible (G.C. Chamberlain). A specimen of twigs of Compass from Hatley, Que., was received in June with Monilia fruiting freely on it (H.N. Racicot). Considerable damage was caused to both Japanese and domestic varieties at Greenwich, N.S., by blossom blight, infection being heaviest on Burbank. No difference was observed on plots sprayed with Fermate, Zorlate or Mulsoid sulphur (D. Creelman). Brown rot was severe in untended orchards in P.E.I. but not where spraying was adequate (R.R. Hurst).

PLUM POCKET (Taphrina communis). An enquiry from Colmer, Sask., indicated the occurrence of plum pocket there in 1945 (T.C. Vanterpool). A specimen was received from St. Francois Xavier, Richmond Co., Que. (L.T. Richardson). At Ste. Genevieve, Champlain Co., a block of 12 trees was severely attacked; at least 95% of the fruits were infected (B. Baribeau). Heavily infected wild Prunus nigra was found in Queens and Northumberland Co., N.B. (S.F. Clarkson). Two trees were heavily infected at St. Leonards, Madawaska Co. (D.J. MacLeod). Plum pocket was widespread in Kings and Hants Co., N.S., being seen at Somerset, Canard, Berwick, Port Williams, Currys Corner, and Windsor Forks; and a specimen was received from West Northfield, Lunenburg Co. No infection was seen in two orchards known to have received dormant Bordeaux sprays (M.E. Neary, D. Creelman).

RUST (Tranzschelia Pruni-spinosae (Pers.) Diet. var. discolor (E. Fischer) Dunegan). A specimen was collected by Dr. H.T. Gussow, 21 Oct. 46, at Cowichan, B.C., on a purple English plum; 2 adjacent trees of Italian Prune were unaffected. Comparison with DAOM 6047 (TRT 12053) collected on Prunus serotina, near Burford, Ont., supports the distinction made by J.C. Dunegan (The rusts of the stone fruits. Phytopath. 28: 411-427. 1938). In the B.C. specimen the warts are largely confined to the upper cell, which is larger and more nearly globose than the lower cell and is thickened at the apex (I.L. Conners).

WILT (Verticillium ?albo-atrum). Twenty-five per cent of the trees in a 5-year-old block of Burbank in Saltfleet Twp., Wentworth Co., Ont., showed killing of branches. Interplanting with raspberries seems to have been a factor in the trouble (G.C. Chamberlain).

PRUNE DWARF (Prunus virus 6). Three scattered trees of Lombard were infected in an orchard of 400 trees of various plum varieties at Grimsby, Ont.; no other varieties were affected. The diseased trees lacked vigour and bore no crop (G.C. Chamberlain).

CHLOROSIS. See Apple.

DROUGHT SPOT (?boron deficiency). Fruits of Reine Claude in Barton Twp., Wentworth Co., Ont., showed water-soaked spots and gum pockets (G.C. Chamberlain).

SPRAY INJURY, due to calcium arsenate, was severe in Queens Co., P.E.I. (R.R. Hurst, F.M. Cannon).

SAND CHERRY

BROWN ROT (Sclerotinia fructicola) was heavy on a specimen received from Billings' Bridge, near Ottawa, Ont. (D.B.O. Savile). In the Arboretum at Ottawa blossom and twig blight was a trace on Prunus glandulosa, trace to slight on P. Besseyi, slight on P. pumila, and severe on P. sp. (H.N. Racicot).

C. RIBES FRUITS

CURRANT

WHITE PINE BLISTER RUST (Cronartium ribicola) was reported at the Experimental Station, Charlottetown, P.E.I. (R. Bagnall).

CANE BLIGHT (Nectria cinnabarina) caused slight damage at Kentville, N.S. (D. Creelman).

CLUSTER CUP RUST (Puccinia Pringsheimiana). A light infection was found on black currant at Lacombe and Olds, Alta. (G.B. Sanford).

SEPTORIA LEAF SPOT (Mycosphaerella Grossulariae) attacked one of the rust-resistant black currants from Ottawa, on trial at Ste. Anne de la Pocatiere, Que. (A. Payette).

POWDERY MILDEW (Sphaerotheca mors-uvae). All but one of the rust-resistant black currants from Ottawa, on trial at Ste. Anne de la Pocatiere, Que., were heavily mildewed; the exception was attacked by Septoria. Wild Ribes in the vicinity were attacked by Cronartium ribicola and Puccinia Pringsheimiana only (A. Payette).

GOOSEBERRY

WHITE PINE BLISTER RUST (Cronartium ribicola) developed early near Quebec City, Que., and became heavy (O. Caron). A light infection occurred in Queens Co., P.E.I. (R.R. Hurst).

POWDERY MILDEW (Sphaerotheca mors-uvae). A light infection was recorded in Queens Co., P.E.I. (R.R. Hurst).

D. RUBUS FRUITS

BLACKBERRY

ORANGE RUST (Gymnoconia Peckiana). A specimen was received from Lac Marois, Que. (H.N. Racicot). Infection was 100% on wild blackberries at Kentville, N.S. (D. Creelman).

RASPBERRY

CROWN GALL (Agrobacterium tumefaciens). Marked stunting occurred in 5% of Latham growing in light, sandy soil in Pelham Twp., Welland Co., Ont.; the affected plants bore conspicuous galls at the crown (G.C. Chamberlain). Six per cent of the plants in an old Viking plantation in Queens Co., P.E.I., were severely affected (R.R. Hurst).

FRUIT ROT (Botrytis sp.). Severe infection resulted in drying up of fruit at Chilliwack, B.C. (I.C. MacSwan).

SPUR BLIGHT (Didymella applanata) was commonly found on Latham in nursery and commercial plantings in southern Ont. Taylor, Marcy, and Indian Summer also seem to be quite susceptible under nursery conditions; 80-90% of the canes of Latham bore extensive lesions in a planting in Louth Twp., Lincoln Co. (G.C. Chamberlain). Spur blight was reported from many plantations throughout Ont. (J.E. Howitt). It was severe in a small field at Bordeaux, near Montreal, Que. (R. Desmarteau). It was destructive in Queens Co., P.E.I. (R.R. Hurst).

ANTHRACNOSE (Elsinoe venata) caused moderate damage to 90% of a commercial plantation of Taylor in Niagara Twp., Lincoln Co., Ont.; the canes split open and dried out and the tips died back. It was also found in Madawaska, Washington and Marcy in nursery plantings (G.C. Chamberlain). Anthracnose was less important than in 1945 near Quebec City, Que., but a serious outbreak was seen at Berthier, Montmagny Co. (O. Caron).

CANE BLIGHT (Leptosphaeria Coniothyrium) severely damaged 80% of the canes of Latham in a poorly drained location in Peel Co., Ont.; the plants had been seriously weakened by excessive soil moisture (G.C. Chamberlain).

LATE YELLOW RUST (Pucciniastrum americanum) caused some defoliation in a Viking plantation at Goderich, Ont. (G.C. Chamberlain). A sample was received from Forest, on wild red raspberry, Rubus idaeus var. strigosus, (J.D. MacLachlan).

POWDERY MILDEW (Sphaerotheca Humuli). General and moderately severe infection occurred in a Latham planting at Clinton, Ont., causing stunting of the new canes. The rows were wide with too many canes (G.C. Chamberlain).

WILT (Verticillium albo-atrum) killed 6% of the canes of Cumberland black raspberry in a plantation in Louth Twp., Lincoln Co., Ont., (G.C. Chamberlain).

LEAF CURL (virus). All varieties except Newburg were slightly affected in a nursery at Lacombe, Alta. (G.B. Sanford). Damage was severe in a small garden planting at Saskatoon, Sask. Specimens were also received from East End (R.J. Ledingham). A single infected plant of Taylor was seen at Louth Twp., Ont.; it is rarely found in this variety (G.C. Chamberlain). A Viking plantation near Fredericton, N.B., showed 1% infection (D.J. MacLeod).

MOSAIC (virus). Several infected plants were found in a garden at Colleymount, near Francois Lake, B.C. (G.E. Woolliams). Mosaic was heavy in Washington, but apparently absent from Newberg in a nursery at Lacombe, Alta. (G.B. Sanford). It caused severe stunting of 10% of Columbia in a planting in Grantham Twp., Lincoln Co., Ont. Infection was 100% in a patch of 50 Sadus purple raspberry in Simcoe Co.; the variety is very susceptible but seems to be quite tolerant; there was no pronounced stunting (G.C. Chamberlain). Mosaic severely injured 1% of Viking in a new plantation near Oromocto, Sunbury Co., N.B. It was common on wild raspberries in York, Sunbury Westmorland, Carleton, Queens, and Victoria Co. (D.J. MacLeod). Mosaic was abundant in some varieties in Queens Co., P.E.I. (R. Bagnall). Infections of 2% in Latham, 3% in Lloyd George, and 17% in Viking were found (R.R. Hurst).

E. OTHER FRUITS

GRAPE

DEAD ARM (Fusicoccum viticola). A scattered infection is commonly seen in Concord vineyards in Lincoln Co., Ont. (G.C. Chamberlain).

BLACK ROT (Guignardia Bidwellii). Infected leaves of Saunders were received from Egmont, B.C. (L.T. Richardson).

DOWNY MILDEW (Plasmopara viticola) was severe on an unsprayed vine in a garden at Outremont, Que. (J.E. Jacques).

CHLOROSIS (cause unknown affected 45% of Concord in a vineyard in Niagara Twp., Lincoln Co., Ont.; the chlorosis was followed by scorching. Niagara in the same vineyard was unaffected. The soil was a shallow clay loam (G.C. Chamberlain).

2-4-D INJURY. The application of 2-4-D to a lawn at Kentville, N.S., injured the young growth of an adjacent vine. Mature leaves were not noticeably affected, but young leaves were curled, pale, and stunted for several weeks (J.F. Hockey).

STRAWBERRY

GREY MOULD (Botrytis cinerea). Botrytis caused a severe blossom blight at Big River, Sask. (T.C. Vanterpool). Grey mould caused considerable damage to seedlings held all winter in flats in a warehouse at Kentville, N.S.; some flats were completely over-run (D. Creelman).

LEAF SCORCH (Diplocarpon Earliana). A light infection was recorded at Charlottetown, P.E.I. (R. Bagnall).

LEAF SPOT (Mycosphaerella Fragariae) was collected at Mission City, B.C. (R.E. Fitzpatrick). It varied from a trace to severe throughout N.B. (J.L. Howatt).

RED STELE (Phytophthora Fragariae) is common, widely distributed and serious in coastal B.C. Most growers in coastal regions lost some of their crop. The estimated loss in the Fraser Valley area is 20% (1,000 tons) of fruit and 10% of plants killed. The disease is also important on Vancouver Island and in the Kootenays. Improving the drainage by ridging seems to reduce the severity of attack (W.R. Foster).

POWDERY MILDEW (Sphaerotheca Humuli). Infection was light at Ste. Anne de la Pocatiere, Que. (R.O. Lachance). Infection was 100% but damage slight at the Experimental Station, Fredericton, N.B. (J.L. Howatt).

JUNE YELLOWS (genetic breakdown) was seen several times in plantings of Premier, in Niagara Twp., Lincoln Co., Ont. About 15% of the plants were affected, being stunted and completely yellow (G.C. Chamberlain). About 90% of the plants were affected in a planting of Premier at Cambridge, Queens Co., N.B.; other varieties were unaffected (D.J. MacLeod). One specimen was brought in for examination at Charlottetown, P.E.I. (R.H. Hurst).

ROOT ROT (cause unknown) was reported from many districts in Ont. It seems to become more destructive and widespread each year (J.E. Howitt). It was encountered wherever strawberries are grown in N.B.; infection varied from 1 to 50% (J.L. Howatt).