IV. DISEASES OF FRUIT CROPS

APPLE

SCAB (Venturia inaequalis). The Salmon Arm and Lavington districts, B.C., experienced the worst epidemic of scab in their history in 1935. In the Salmon Arm district the weather was unfavourable for scab infection almost to the end of June and little scab was found even on unsprayed trees. But around July 1st it rained continuously for 56 hours, 2.26" falling in that period. As a result, 95-100% of the apples became scabby on unsprayed trees. About 50% of the McIntosh crop were culled out due to scab, and 75% of the fruit that was shipped bore scab lesions. Other varieties such as Delicious, were also badly scabbed, but not quite so severely. Scab was nearly as destructive in the Lavinton district (G.E. Woolliams). No data in the other Interior valleys were received, but a slight infection was reported from Vancouver island.

Scab lightly infected the leaves and fruit at Indian Head, Sask.; it was severe on apple seedlings at Morden, Man. and lightly infected one tree at Winnipeg.

Scab was quite severe throughout the Niagara peninsula, Ont., and along the north shore of Lake Ontario; only in the better sprayed orchards was the disease kept well controlled. Ascospore discharge occurred first on April 30 when the trees had reached the pre-pink stage. The critical period for infection was between April 29 and May 11, when cool cloudy and wet weather prevailed as the trees passed from the pre-pink to the pink stage. Primary infection was noted on May 27. In the Laboratory orchard, St. Catharines, foliage infection differed widely on the various varieties, being worst on McIntosh, where 89.5% of the leaves were affected on unsprayed trees and 38.1% on the sprayed. Similar differences were recorded between the infection on unsprayed vs. sprayed trees in other varieties.

At Abbotsford, Que., only traces of scab developed on Fameuse and McIntosh in well sprayed orchards, while early and midsummer infections were present on 40% of the fruit in poorly sprayed orchards. Traces only developed in the College orchard, Ste. Anne de la Pocatière, Que., as a result of 5 years careful spraying. An exceptionally wet season made it difficult to control disease and a few heavy late infections were noted.

Where a complete spray schedule was carried out, little or no scab developed in N.B., but where the schedule was incomplete or no spray applied, scab was severe. (S. Clarkson & J.L.Howatt)

In N.S. well sprayed areas showed usually under 2% of scabby fruit. On the other hand unsprayed areas bore 40-90% scabbed fruit. Heavy ascospore discharge occurred during blooming and about 2 weeks later. First conidia on new lesions were found June 5. Late fruit infection did not exceed 20%, but considerable late foliage infection was observed. (J.F. Hockey)

FIRE BLIGHT (Erwinia amylovora) was found for the first time on Sylvia crab in the University gardens, Saskatoon, Sask.

Relatively heavy blossom infections were encountered on Tolman Sweet, Greening, Gravenstein and Alexander in a few orchards visited in the Niagara peninsula, Ont. It was found chiefly in neglected orchards; in one, however, it was brought in apparently by pollinating insects from neglected pear and apple trees on a neighbouring farm, as no hold-over cankers could be found. It was reported also from Westboro, Gananoque, Willow Beach and Kapuskasing.

Fire blight was about as prevalent this year in the apple growing districts of western Que. as in 1934. A slight amount of both blossom and twig blight was present in almost every orchard. It was apparently disseminated by the rains falling May 27-28, 31 and June 4-7, but after this period practically no spread took place. Nearly all branches bearing old cankers were killed by the winter. The amount of fire blight by district was as follows: Abbotsford, same as last year, moderate in two orchards on Alexander and Winter Arabka and neighbouring trees, slight in other orchards; Rougemont, slight, slight increase especially in orchards containing Alexander and Wolf River trees; St. Hilaire, traces to slight; Chateauguay, traces in most orchards, a decrease from last year; Hemmingford - Covey Hill - Franklin Centre, Oka - St. Joseph du Lac and Cowansville - Frelighsburg districts, traces to slight, no change. Fire blight was severe in 2 orchards on Mt. Shefford and on apple and crab apple trees at Waterloo. At Lennoxville twig infections were severe on Atlas and Pedro, moderate on Winton and slight on Severn. The disease was severe on apple trees at St. Felix, Warwick and Pointe du Lac and slight at St. Paul de Chester (H.N. Racicot et al). Fire blight was induced on Aronia melanocarpa by atomizing the blossoms with a suspension of the bacteria. (B.O. Savile)

Fire blight was severe on several trees in an abandoned orchard in P.E.I.

BLACK ROT (Physalospora obtusa (Sphaeropsis malorum) was severe as a leaf spot on an apple seeding at Morden, Man. Black rot has appeared in most orchards suffering from winter injury in

western Que. Cankers have spread rapidly, but opinion differs whether or not the trees would have recovered if black rot had not developed. Foliage infection was slight to moderate at Macdonald College. The disease is common throughout N.B. on the foliage and sometimes on the fruit. In the Experimental orchard, Fredericton, 90% of the fruit of Crimson Beauty and Dudley were infected at picking time. (J.L. Howatt et al)

RUST (Gymnosporangium clavipes) affected from 0.5% to 40% of the fruit depending on the variety in the College orchard. Ste. Anne de la Pocatière, Que. The most severely rusted were: Alexander, St. Lawrence, Transparent, Excelsior, Greening, McIntosh and Wealthy, while Golden Russet, Pewaukee, Peach Astrachan, Hyslop, and Martha were only slightly affected (E. Campagna). Rust was also found on Gravenstein and Red Siberian crab at Kentville, N.S.

A few rust infections occurred on the leaves of a Fameuse standing near a red cedar affected with G. globosum at Abbotsford, Que. The rust developed normally on hawthorne, but on apple only pycnia developed. This rust has not been previously reported on apple in Canada.

POWDERY MILDEW (Podosphaera leucotricha) caused up to 5% damage on Vancouver island, B.C.; the infection was heavier than in 1934. It was also severe on susceptible varieties, chiefly Jonathan and McIntosh, in the southern Okanagan valley; the damage was 10%. A trace was present on nursery stock at Lennoxville, Que.

ANTHRACNOSE (Pezicula malicorticis) caused up to 50% damage in some orchards at Duncan, B.C.; heavy infections occurred after early fall rains before spraying was begun. Eighty trees were removed from a 10-acre block at Okanagan Centre on account of anthracnose; also nearly every McIntosh tree in a 3-acre block was affected.

PERENNIAL CANKER (Gloeosporium perennans) was severe in an orchard of Newton at Okanagan Centre, B.C.; nearly every canker, often up to ¾" in diameter, was formed where woolly aphis had been present the previous year. The disease was found at Creston on McIntosh by Mr. A.A. Dennys, Dominion Entomological Laboratory, Vernon; this is the first record of its occurrence in the Kootenay district.

BULL'S EYE ROT (Gloeosporium perennans) affected 50% of the apples in a few boxes of Wagner at Okanagan Centre, B.C. (H.R. McLarty)

EUROPEAN CANKER (Nectria galligena) caused slight damage in a few orchards in the Vancouver district, B.C. (J.W.Eastham). At Macdonald College, Que. 80% of the Yellow Transparent trees, 52% of the McIntosh, 18% of the Fameuse and a trace of the Wealthy were affected with European canker, 1 to 28 cankers being present on the trees. None or a trace was present on other varieties. (R.F. Suit)

DROUGHT SPOT (Non-parasitic) was more severe this year than last in the Okanagan valley, B.C. Although loss is difficult to estimate, it is safe to say that 100-125 thousand boxes were affected and most of them would be unfit for sale (H.R. McLarty). The fruit of 5 McIntosh trees in an orchard in a deep sandy soil with low water table in York county, Ont., were discoloured and shrivelled at the calyx end and the tissue below the skin was browned. Two trees affected in 1934 were healthy in 1935.

CROWN ROT (Non-parasitic) affected another 2% of the trees in the Okanagan valley, B.C. this year, but it was not as severe as formerly. (J.C. Roger)

BITTER PIT (Non-parasitic). A spotting affected up to 50% of the Newton apples in some orchards in the Okanagan valley, B.C., about the time the fruit was picked. The trouble was not typical of bitter pit, but would have to be classed here. It was probably a delayed Drought Spot condition. The disease was so severe in some districts that the Fruit Branch held up the shipment of this variety to the export market for several weeks (H.R. McLarty). In two commercial orchards in N.B. up to 20% of the fruit of Baxter, Baldwin, and Wealthy were affected with Bitter Pit or Blotchy Cork. Last year the Baxter in one of these orchards was a total loss (J.L. Howatt & S. Clarkson). Bitter Pit of the Blotchy Cork type caused, in storage, a loss of 10-20% of the fruit in many lots, especially those of Stark and Baldwin; it did not appear until late in the season. (J.F. Hockey)

CORKY CORE (Non-parasitic) was less severe than last year in the Okanagan valley, B.C. It was estimated that 75 to 100 thousand boxes were affected, some of which would be marketable (H.R. McLarty). A trace was found in one commercial orchard in N.B.

SOFT SCALD (Non-parasitic) caused heavy loss in a 100-barrel overseas shipment of 1934 crop of Jonathan from Ontario.

TWIG BLIGHT (Nectria cinnabarina) affected a few twigs at Franklin Centre, Que.; and was occasionally seen on winter injured twigs and branches in N.B.

TWIG ROT (Peniophora cinerea) was abundant on a winter-injured wild apple tree in Joliette county, Que.

WOOD ROT (Schizophyllum commune). This fungus was present in many orchards in western Que. especially on badly injured trees. It was present in frost cankers on all cultivated varieties in orchards showing winter injury in N.B. Following winter injury to Baldwin at Kentville, N.S. the fungus was fruiting freely on limbs that had been completely killed. Where the limb was only partially dead, Stereum purpureum was in fruit. (K.A. Harrison)

SILVER LEAF (Stereum purpureum) was reported from Franklin Centre. Although the fungus was abundant on half-dead limbs of Baldwin at Kentville on May 31, silver leaf symptoms were not in evidence at the time and very little was present upon later examinations (K.A. Harrison). Silver leaf symptoms were also observed on a few seedling trees. Silver leaf varied from a trace to heavy in 15 orchards examined in P.E.I.

DIE BACK (Non-parasitic) has not been severe during the past 2-3 years in the Okanagan valley, B.C., but without an exact survey the amount present is difficult to estimate. It is commonly met with in every district and occasionally whole orchards may be killed outright. Possibly a better water supply has tended to reduce the trouble.

DIE BACK (Cytospora spp. & Valsa spp.) Cystospora was heavy and some Valsa was present on dead limbs in the University orchard, Saskatoon, Sask. Valsa has been collected on dead twigs in a number of orchards in western Que. Cytospora is common on the bark of frost cankers in N.B.

GREY MOULD ROT (Botrytis sp.) was present on several varieties in storage at Okanagan Centre, B.C. and caused slight damage to Wagner. A trace was present on various varieties in storage at Fredericton, N.B.

BROWN ROT (Sclerotinia americana) attacked all the fruit on a tree of Yellow Transparent at St. Jean de Matha, Que.

BLUE MOULD (Penicillium expansum) rotted about 3% of the apples of the varieties in storage at Fredericton, N.B. Between 1 to 2% of the fruit of Gravenstein in an experimental shipment from N.S. showed rot on arrival at Liverpool, England. The infection was usually centred around a break in the skin. A small shipment of McIntosh, domestic grade, from Ont. was severely rotted on arrival at Liverpool. A severe outbreak of

apple scab developed which was followed by the Penicillium. Apparently high temperatures in transit was the cause of its rapid development. (K.A. Harrison)

PINK ROT (Tricothecium roseum), as a severe "pit" type of rot, developed in barrels of Golden Russet, exposed to the high temperature of 65°F. for several days at Kentville, N.S. A large proportion of the tissue cultures made were pure cultures of the above fungus. (J.F. Hockey)

ROT (Rhizopus nigricans). A trace was present in stored apples at Fredericton, N.B.

MOSAIC (?). From 50-75% of the leaves on three young fruit trees of Yellow Siberian crabs showed mosaic symptoms at Kentville, N.S. The trees are under observation in a disease garden. (J.F. Hockey)

CHLOROSIS was general on apple trees under irrigation at the Experimental Station, Lethbridge, Alta. and caused slight to severe damage.

ARSENICAL INJURY. Tolman Sweet apples from Vineland, Ont., showed extensive black areas about the calyx end typical of arsenical injury. Arsenical injury on the fruit was noted as follows in Que.: Abbotsford, a trace; Hemmingford and Mont St. Grégoire a trace to 0.5% on McIntosh.

HEAT INJURY. Windfalls were cooked on the ground in August in York, Sunbury, and Queens counties, N.B. when the air temperature was 102°F. and soil temperature at the surface was 120-130°F.

RUSSETING (Spray?) was common especially on Fameuse, McIntosh, and Dudley throughout the apple growing areas in N.B. (J.L. Howatt and S. Clarkson)

SULPHUR SCALD. A trace was present in most orchards of the St. John valley. The injury is due to fruits sprayed with lime sulphur being exposed to direct sunlight of high intensity. (J. L. Howatt)

SUN SCALD. A small number of the fruit on the south side of Stark trees at Woodville, N.S. were affected. It was also observed in many other orchards especially where a late sulphur dust had been applied. (K.A. Harrison)

APRICOT

BLIGHT (Coryneum Beijerinckii) occurred on a few trees at Long Beach, B.C., and some of the affected fruits were unsaleable. (J.W. Eastham)

DROUGHT SPOT (Non-parasitic) affected all the fruit on some trees and was severe in a few orchards in the Okanagan valley, B.C.; the disease is severe where cultural conditions, especially water supply, are not right. (H.R. McLarty)

BLACKBERRY

RUST (Gymnoconia Peckiana). Diseased specimens were received from Oakville, Ont. and were noted at Kentville, N.S.

CHERRY

SHOT HOLE (Higginsia hiemalis (Cylindrosporium hiemale) caused much less damage than in 1934 on Vancouver island and in the Fraser valley, B.C. At Saanichton the highest infection was 60% on Gros Noir. Shot hole was widespread in the Niagara peninsula, Ont., but it was not severe for spraying had kept disease well in check. In an orchard near Aylmer the trees were practically defoliated and the fruit was small and ripened prematurely (G.C. Chamberlain). Specimens were received from Ste. Adèle en Bas, Que. The disease was widespread in N.B. on both cultivated and wild cherries. It moderately affected cultivated cherries and was severe on wild species in P.E.I.

BLOSSOM BLIGHT (Sclerotinia cinerea) infected 10% of the blossoms and caused 5% damage on Vancouver island, B.C. The disease was frist observed on May 8, a month later than in 1934 and infection was much less than last year (W. Jones). In the Kootenay district it was common on the early varieties Governor Wood and Black Tartarian, while only little was seen on Royal Anne and none on Bing or Lambert. (J.W. Eastham)

BROWN ROT (Sclerotinia americana) destroyed most of the crop on the few sweet cherries at Kentville, N.S. Twig blight was also observed in August. (J.F. Hockey)

BLACK KNOT (Dibotryon morbosum) was moderate to severe at several points in Que. The disease is widespread on wild cherries in N.B. and in abandoned orchards and on wild species in P.E.I.

POWDERY MILDEW (Podosphaera Oxyacanthae) was severe on

seedlings in an orchard in the Oliver district, B.C., but bearing trees did not show infection. It also caused slight damage to Bing at Boswell.

WITCHES' BROOM (Taphrina Cerasi) affected several trees in an orchard at Cloverdale, B.C.

CHLOROSIS (Non-parasitic) was general and caused slight to severe damage to trees under irrigation at Lethbridge, Alta.

MOSAIC (virus) was severe on one tree of Lambert and another of Royal Anne artificially inoculated at Summerland, B.C. The disease has been found in one orchard in the Penticton area (H. R. McLarty). (See Can. Pl. Dis. Survey 14:v. 1935)

SPRAY INJURY. In an orchard of sweet and sour cherries in Lincoln county, Ont., the foliage was severely burned and the trees were becoming defoliated; the fruit was badly pitted and worthless. It is thought that injury resulted from spraying with sulphur fungicides under excessively hot muggy conditions. (G.C. Chamberlain)

CRANBERRY

RED LEAF (Exobasidium Vaccinii) affected a few plants of Howes in a commercial bog at Port Mouton, N.S. (J.F. Hockey). A slight infection was found at Glenfinnan, P.E.I. (E.H.Saunders)

FALSE BLOSSOM (virus) was found in several bogs in N.S. during a survey for healthy bogs. (J.F. Hockey)

CURRANT

WHITE PINE BLISTER RUST (Cronartium ribicola J.C. Fischer) slightly affected leaves of Boskoop black currant at Lavington, B.C. The currant and gooseberry plantings, Horticultural Division, Ottawa, Ont., were inspected several times throughout the season. No rust was found on June 17; black currants were slightly infected on July 5, but no rust was found on red or white currants or gooseberries; on July 17 some varieties of black currant were heavily infected and nearly all varieties were slightly infected, rust was beginning to show up on red and white currants and was also present on "Worcesterberry"; on August 10 nearly all gooseberry varieties were slightly affected; and on August 17 all gooseberries were rusted, nearly all black currants were badly rusted, and nearly all red and white currants were more or less infected. On the last inspection, September 17,

the only varieties on which no rust was found were: Russian Black Seedling currant, and the red varieties, Red Grape, Franco-German, London Red, Simcoe King, and the New U.S. variety, Viking. (H.J. Read and I.L. Conners)

Rust was slightly infecting black and red currants on July 22 at Macdonald College, Que.; it was severe and causing defoliation by September 10. Infections of varied intensity were reported from Ste. Anne de la Pocatière, Farnham, Magog, and L'Assomption on black and red currants.

Rusted specimens were received from Cumberland Co., N.S. and the disease caused slight defoliation in Kings Co.

The rust slightly to heavily infected red and black currants in P.E.I.

POWDERY MILDEW (Sphaerotheca mors-uvae) was heavy in a garden on black currant in zone 10, and a trace was present in zone 12, Alta. It was heavy on one bush of black currant in the University gardens, Saskatoon, Sask.

ANTHRACNOSE (Gloeosporium Ribis) was reported from zone 13, Alta. on red currant.

SEPTORIA LEAF SPOT (S. Ribis) lightly infected black currant at Swift Current, Sask.

A trace of Nectria ?cinnabarina was found on black currant in zone 10, Alta.

GOOSEBERRY

POWDERY MILDEW (Sphaerotheca mors-uvae) was destructive to Lancashire Lad, but none was present on Leveller, Gainer and Leader at Sardis, B.C. A slight infection was noted on June 5 on an English variety in Lincoln county, Ont.

WHITE PINE BLISTER RUST (Cronartium ribicola J.C. Fischer) slightly infected the gooseberries at Charlottetown, P.E.I. It was also found on gooseberries at Ottawa, Ont.(See under currant)

CLUSTER CUP RUST (Puccinia Pringsheimiana) affected about 15% of the leaves of gooseberry in a patch in zone 10. The rust was general, but light at Winnipeg, Man.

SEPTORIA LEAF SPOT (S. Ribis) slightly infected gooseberries at Indian Head, Sask. It moderately infected gooseberries in Kings county, P.E.I.

GRAPE

DOWNY MILDEW (Plasmopara viticola) very lightly infected several European varieties in a vineyard in Lincoln county, Ont. A slight infection was noted on Green Mountain at Macdonald College, Que.

LOGANBERRY

DRY BERRY (Haplosphaeria deformans) was much less prevalent than in 1934 on Vancouver island, B.C. Up to 10% of the fruit were affected. (W.R. Foster)

PEACH

LEAF CURL (Taphrina deformans) affected 50-80% of the leaves on Triumph and Rochester and a trace was present on Alexander at Saanichton, B.C. The disease was also noticed in the Fraser valley. The disease was present throughout the Niagara peninsula, Ont.; where no spray was applied the disease was epidemic.

POWDERY MILDEW (Sphaerotheca pannosa var. Persicae) caused slight damage to a few trees on Salt Spring island, B.C. It only slightly affected all varieties at Summerland, B.C. and the fruit loss was unimportant Powdery mildew was general in many orchards particularly on cling-stone varieties in the Niagara peninsula; it caused spotting of the fruits.

BROWN ROT (Sclerotinia americana) did very little damage to most varieties in the Niagara peninsula as the weather was warm and dry during the harvest of early varieties; the later varieties suffered slight damage.

BLIGHT (Coryneum Beijerinckii). A moderate infection was observed with a trace of damage at Sardis and Saanichton, B.C. (W. Jones)

YELLOWS (virus) and LITTLE PEACH (virus) caused considerable loss according to the Provincial Inspection Service throughout the Niagara peninsula, Ont.

SPRAY INJURY was severe on young trees at Cedar Springs, Ont., causing severe defoliation, leaf spotting and injury to the wood; although the spray of the recommended strength was applied, warm wet weather followed its application so that the spray did not dry quickly. (R.S. Willison)

BUMPY FRUIT (Undetermined, probably non-parasitic). Ripe fruit from several young trees just coming into bearing, had a peculiar bumpy appearance, sometimes over the whole surface, sometimes on one side only, in an orchard in Lincoln county, Ont. The pulp was partially disintegrated and gum pockets were evident just beneath the skin. The trees made enormous growth in the early season, but it was extremely dry in July and August. Possibly excessive transpiration from the heavy foliage may have resulted in withdrawal of water from the fruit. (R.S. Willison)

WINTER INJURY, which occurred during the winter of 1933-34 is still showing up in the orchards in the Niagara peninsula. Places on the trunks, where bark was slightly cracked, have become cankered. (R.S. Willison)

POTASH DEFICIENCY. Scattered trees, 1-2 years old, of different varieties were decidedly stunted, the foliage was a poor pale colour and the leaves tended to curl upward and become scorched on the margins, characteristic of potash deficiency, in a nursery in Lincoln county, Ont. (G.C. Chamberlain)

PEAR

FIRE BLIGHT (Erwinia amylovora). Scattered small infections were found in the Okanagan valley, B.C. Traces to moderate blossom and twig infections and some limb and trunk cankers were reported from the Niagara peninsula, Ont.

SCAB (Venturia pirina) was severe in an orchard of Flemish Beauty at Salmon Arm, B.C., although the trees had been sprayed regularly beginning with a pre-blossom spray. It was severe on a few fruits where the spray had not reached them at St. Anne de la Pocatière, Que. Scab was slight to severe on pears in storage at Kentville, N.S. It was heavy on one tree in an abandoned orchard in P.E.I.

PLUM

BLACK KNOT (Dibotryon morbosum). A specimen was received from Mimico, Ont., and 1% of the trees were affected in an orchard at St. Philippe de Néri, Que. A few knots were observed at Kentville, N.S., and it was destructive in abandoned orchards in P.E.I.

PLUM POCKETS (Taphrina Pruni) affected 10% of the plums in the orchard at Agassiz, B.C.; it was severe in an orchard in

zone 10, Alta.; slight infection was noted in the orchard at Brandon, Man. Plum pockets was severe on Prunus nigra in the Arboretum, Ottawa, Ont. It was severe in 7 small orchards out of 9 surveyed at widely scattered points in Que. Specimens were received from Apohaqui, N.B. The complete crop on several Burbank trees was destroyed in Shelburne county, N.S., but the disease was not found on dormant sprayed trees in Kings county. It was severe on German Prune at Charlottetown, P.E.I.

BROWN ROT (Sclerotinia americana). A trace was found at Winnipeg, Man.; diseased specimens were received from Braeside and Perth, Ont.; it was heavy in an abandoned orchard, P.E.I.

SHOT HOLE (Higginsia prunophorae (Cylindrosporium prunophorae) was heavy on Shropshire Damson, Santa Rosa and Columbia and slight on all other varieties at Saanichton, B.C. It was severe on Prunus opata, but slight on Redwing at Brandon, Man. Specimens were received from Almonte, Ont. The disease was severe at Macdonald College, Que. and was light elsewhere.
It was widely distributed in P.E.I., being severe on some trees.

FIRE BLIGHT (Erwinia amylovora) moderately infected a tree of Mammoth in the University orchard, Saskatoon, Sask., but this was the only variety on which it was observed.

CHLOROSIS (Non-parasitic) was general and caused slight to severe damage to trees under irrigation at Lethbridge, Alta.

RASPBERRY

SPUR BLIGHT (Didymella applanata) was reported from zone 13, Alta. The disease was conspicuous in the variety plot, St. Catharines, Ont., where the following infections were recorded: Lloyd George, 23%, lesions extensive; Brighton, 24%; Herbert, 27%; Viking, Cuthbert, Chief and Latham, a trace (G.C. Chamberlain). In Que. spur blight was slightly less prevalent than in 1934. On Herbert it was moderate in one plantation in Champlain county, slight in a few others, and traces in the rest. Traces were also observed on Cuthbert, Viking, Newburg, Latham, Chief and Count and none on Newman, Brighton and Golden Queen. Traces were found on Herbert and Viking in P.E.I.

SEPTORIA LEAF SPOT (S. Rubi) was observed at Indian Head, Sask. A general infection was present at St. Catharines, Ont., on Viking and to a lesser extent on Herbert. The disease was less prevalent than in 1934 in Que. A moderate infection was present on Herbert in Portneuf, Champlain and L'Assomption counties and on wild raspberries in St. Maurice Co. Traces were observed on

Cuthbert in Champlain Co., and on Viking and Newburg in Laval Co.

MOSAIC (virus). Two per cent of mosaic was found on Cuthbert, and 0.5% on Count at Agassiz, B.C. It slightly affected raspberries in zone 2, Alta., and a trace was found in zones 10 and 13. There was only about ½ as much mosaic present in plantations in Que. this year as last. In 25 plantations of Newman, infection varied from 0-15%, with an average of 2.2%. In plantations of other varieties mosaic varied from 8% on Latham to 0.5% on Cuthbert. On one fruiting plantation of Latham in Sherbrooke Co., however, there was 100% mosaic. In one commercial planting 2% of the plants showed mosaic. A trace to severe infections were noted in P.E.I.

LEAF CURL (virus) affected a trace of the plants in a planting in zone 10, Alta. It was found affecting one plant of Lloyd George, in Lincoln county, Ont., which is the first record on this variety in Ontario. The disease was also found on Viking and Chief varieties, which are rarely found to be affected (G.C. Chamberlain). Traces to 1% were observed on Latham, Cuthbert and Viking in Que.

ANTHRACNOSE (Elsinoe veneta) markedly infected canes and petioles causing slight defoliation on Lloyd George in a planting in Lincoln county, Ont. Badly diseased black raspberry canes were received from Harriston. The disease was severe on 65% of the canes in a fruiting plantation of Newman in Yamaska county, Que., while a near-by nursery had only 1% of canes slightly infected. Traces to moderate infections were noted in other Newman plantations inspected, while none or a trace was present on the other varieties. In general the disease was more prevalent than usual. It was reported from East Bay, N.S.

YELLOW RUST (Phragmidium Rubi-idaei). Affected leaves bearing aecia were collected by Mr. J.J. Wood at Agassiz, B.C. on May 21, and the aecia probably opened 2-3 days before. It was less severe than last year. It caused 50-100% infection on Viking, Cuthbert, Franconia, Herbert, and Antwerp, but none was found on Lloyd George, Latham, Newburgh, Count, and Newman.

LATE YELLOW RUST (Pucciniastrum americanum) moderately infected Viking near Cedar Springs, Ont.; Chief and Newburgh alongside were practically free from infection. It was also severe on leaves of Viking received from Scarboro Junction. The rust was reported from Ste. Anne de la Pocatière, Que.

POWDERY MILDEW (Sphaerotheca Humuli) was very widespread and common throughout Ont., in all Latham plantations inspected; in

many stunting of the growth was severe. Latham is very subject to mildew under Ontario conditions. On the other hand, Viking, Cuthbert, Herbert and Lloyd George were infected only occassionally, and Chief and Brighton showed slightly greater susceptibility (G.C. Chamberlain). Powdery mildew was more abundant than usual in Que. It was severe in 2 nurseries and in a fruiting plantation of Latham in Rouville county and it was present in slight to moderate amounts on Latham in 8 other counties.

CANE BLIGHT (Leptospheria Coniothyrium) was present on canes received from Perth, Ont., and East Bay, N.S.

VERTICILLIUM WILT (V. sp.) was found in small amounts in many Cuthbert and Viking plantations in Ont., especially in younger plantings. Chief, Latham, and Newburgh are also susceptible, but to a less extent while Herbert, Brighton, and Lloyd George are rarely affected. Its presence in a planting of Perfection black raspberry has made the planting unprofitable. (G.C. Chamberlain).

CROWN GALL (Phytomonas tumefaciens) was commonly found in nursery plantings in Ont. When they were being rogued for virus diseases. Latham, Cuthbert and Viking appear very susceptible (G.C. Chamberlain). It was noted on Cuthbert in a garden in P.E.I.

WINTER INJURY caused considerable damage in several plantations in Ont. It first was evident when the growth of the buds was well advanced. It was possibly due to the late open growing season in 1934 and consequently the wood of the canes was not fully ripened when winter set in.

SAND and PIN CHERRIES

POWDERY MILDEW (Podosphaera Oxyacanthae) was heavy on sand cherry received from Parkside, Sask.

SHOT HOLE (Higginsia prunophorae (Cylindrosporium prunophorae)was present on all the leaves of sand cherry planted at Brandon, Man.

BROWN ROT (Sclerotinia americana) rotted the fruit and caused a twig blight on sand cherry planted at Morden, Man.

WITCHES' BROOM (Taphrina Insititiae) was present et La Pointe du Lac, Que. on pin cherry.

Tubercularia vulgaris was reported on pin cherry from zone

13, Alta.

STRAWBERRY

LEAF SCORCH (Diplocarpon Earliana (Marssonina Fragariae). Traces only were found on British Sovereign at Saanichton, B.C., although it was severe in 1934.

LEAF SPOT (Mycosphaerella Fragariae (Ramularia Tulasnei) reported from Lanark, Ont. It caused slight to heavy infection in 5 plantings in Que. It was widely distributed in N.B. and P.E.I.

POWDERY MILDEW (Sphaerotheca Humuli) was noted in several plantings in Ont. after several seasons when mildew was not evident. Moisture conditions were apparently favourable for its development. The disease varied from a trace to heavy in 25 plantings surveyed. It caused a crop failure in a few of the worst outbreaks.

ROOT ROT (Pythium sp.) caused the loss of half a planting at Lyn, Ont.

FRUIT ROT (Botrytis cinerea) affected 2% of the blossoms and a few of the fruits, on June 28, at Berwick, N.S.

CHLOROSIS (Non-parasitic) caused slight to severe damage to strawberries under irrigation, Lethbridge, Alta.

MOSAIC (virus) affected 1% of the British Sovereign plants at Agassiz, B.C.

JUNE YELLOWS (Undetermined) affected a few scattered plants in a planting of Olga Petrova in Lincoln county, Ont. (G.C. Chamberlain).