Essex Co., Ont. where CO_2 generators using natural or propane gases apparently released toxic fumes (J.R.R.).

CHEMICAL INJURY (soil toxins). Sudden and sev. wilting resulted in a greenhouse in Essex Co., Ont. where corn cobs were worked into soil low in organic matter. The plants recovered after about 3 weeks but yields were reduced by about 25% (J.R.R.).

GROWTH CRACKS. Hot, dry weather followed by cool, wet weather resulted in sev. cracking of fruits of processing tomatoes in Essex Co., Ont. Even varieties normally resistant to cracking were affected. It resulted in poor keeping quality and high mold counts (J.R.R.). Growth cracks were observed in all fields surveyed at Oromocto and Hampstead, N.B. (S.R.C.).

MAGNESIUM DEFICIENCY was mod.-sev. in a field at Waterboro, N.B. (S.R.C.).

MANGANESE TOXICITY caused a sev. necrosis in new growth in some greenhouses in Essex Co., Ont. Tissue analyses showed manganese levels as high as 2000 ppm as compared to the normal level of 50 ppm. Sodium chelate sprays at 1.5 lb./acre seemed to correct the disorder. The high levels of manganese may have resulted from soil steaming (J.R.R.).

NECROSIS (cause undetermined). Necrosis of new growth was sev. and caused substantial losses in some fields of the variety '1350' in Essex Co., Ont. after an extended period of hot, dry weather. The injury may have been caused by the application of maneb or solely by the extreme weather conditions (J.R.R.).

DISEASES OF FRUIT CROPS

A. Pome Fruits

APPLE

CROWN GALL (Agrobacterium tumefaciens). The incidence of crown gall on apple nursery stock was the lowest in years in the Okanagan Valley, B.C. (L.E.L.).

CANKER (Botryosphaeria obtusa (Schw.) Shoem.) was sev. on a single tree at Winnipeg, Man. (J.A.H.).

FIRE BLIGHT (Erwinia amylovora) was less serious in the s. Okanagan Valley than in 1963 but was more serious in the n. Okanagan (M.F.W.). Specimens were received from Edmonton, Millet, Wetaskiwin, Camrose, Calgary and Leduc, Alta. (A.W.H., D.S.). It was virtually absent in s. Alta. with only one specimen being received for diagnosis (P.E.B.). Fire blight spread rapidly in June and caused sev. injury in some orchards in Essex Co., Ont. (J.R.C.). A slight infection continues to persist in a nursery at Strathroy, Ont. (A.E.S.). Specimens were received from Berthier, Megantic and Charlesbourg, Que. (D.L., J.R.).

SOOTY BLOTCH (Gloeodes pomigena). Infection was heavy on 'McIntosh' at Windsor, N.S., seriously affecting the appearance of the fruit. It was also reported on the same variety at Blomidon (R.G.R.).

STORAGE ROT (Gloeosporium album). 'Golden Russett' apples packed in polyethylene sleeves at several points in the Annapolis Valley, N.S. in Dec. 1963 developed gloeosporium rot late in Jan. and had to be diverted to processing plants. Losses in 4 cold storage plants were: Middleton, 11.1%; Coldbrook, 4.2%; Wolfville, 3.3%; Canning, 1.1%. The rot was most serious from areas most affected by early fall frosts (C.L.L.).

BULL'S-EYE ROT (Gloeosporium perennans) was generally light on 'Newtown' in the Okanagan Valley, B.C. Some rot developed on 'McIntosh' from CA storage at Kelowna. Most of the rot was centered around the stem and in most cases was difficult to detect. Bull's-eye rot in 'McIntosh' held in common storage is rare and presents no problem (L.E.L.).

RUST (Gymnosporangium clavipes). Aecia were observed in the La Pocatière, Que. area on up to 10% of the fruits of 'Fameuse', 'Cortland', 'Delicious', 'Lobo', and crabapple. Infection was also noted on 'Lawfam', 'McIntosh', 'Sandow', 'O-294', 'O-297', 'Hume', 'Rouge Hâtive', 'Linton', 'Shiawassee', 'Milton', 'Secor' and 'Fireside' (J.B.J.).

BROWN ROT (Monilinia fructicola). A specimen was received from Charlesbourg, Que. (D.L.).

CORAL CANKER (Nectria cinnabarina) was seen in 11/33 orchards visited in the Gagetown, N.B. area. Average damage to trees was 5%. The affected trees had suffered previous winter injury (S.R.C.).

EUROPEAN CANKER (Nectria galligena) Trace amounts were seen in 23/67 orchards surveyed in N.B. (S.R.C.).

POWDERY MILDEW (Podosphaera leucotricha) was sev. on foliage of susceptible varieties in the Okanagan Valley, B.C. and spot infections could be found on leaves of more resistant varieties (D.L.McI.). Infection was fairly prevalent on 'Idared', 'Cortland' and 'Jonathan' in Essex Co., Ont. Slight damage was incurred in some orchards but it was generally well controlled by karathane or sulphur sprays (J.R.C.).

CALYX-END ROT (Sclerotinia sclerotiorum) was tr. in some orchards in the Annapolis Valley, N.S. (R.G.R.).

CANKER (Valsa ambiens, Valsa leucostoma). Affected branches and twigs were received from Charlesbourg, Que. (D.L.).

SCAB (Venturia inaequalis) was mod.-sev. in home gardens at Vancouver, B.C. (H.N.W.T.). No infections occurred in the s. Okanagan Valley, B.C. but one infection period in the n. Okanagan at full bloom resulted in some infection on early leaves. There was no subsequent spread in well-sprayed orchards despite numerous later infection periods (M.F.w.). It was well controlled in all commercial orchards in Lambton, Huron and Middlesex Counties, Ont. until 15 June when a few light infections were seen in Middlesex Co. Many orchards had light infections by harvest and a few were sev. affected. Pin-point scab was present in most orchards that failed to receive a spray application about 25 Aug. when the district experienced a heavy and prolonged rainfall (L.F.M.). Scab was well controlled in Essex Co., Ont. (J.R.C.). An early sepal infection of 'Golden Delicious' nr. Fonthill, Ont. prior to the first fungicide application resulted the complete loss of the crop despite a full fungicide program following the early infection (R.W.). Conditions were only moderately favorable for scab development in s.w. Que. in 1964. Of 5 infection periods in the Farnham district, only 1 could be classed as sev. Some growers, however, did not have adequate protection during the prolonged bloom period and in these orchards rather sev. scab developed on the fruits (R.D.). The disease was well controlled in N.B. and only traces of scab were seen in 6/67 orchards visited (S.R.C.). The first ascospore discharge in the Annapolis Valley, N.S. was on 10 *May* and the first infection period 11-12 May. First scab lesions appeared 4 June. There were 15 infection periods up to 30 July and there was considerable late or pin-point scab in poorly-sprayed orchards at harvest (R.G.R.). Infection was sev. at Glovertown and sl. at Bay Roberts, Nfld. (O.A.O.).

CHAT FWIT (virus). The recurrence of symptoms in the same 5 'Lord Lambourne' trees in successive seasons at Summerland, B.C. increases the probability that the source of infection was in the shipment of clonal rootstocks on which these trees were propagated (M.F.w.).

CHLOROTIC LEAF SPOT (virus). A Russian crabapple, Malus atrosanguinea, and 'R12740-7A', M. floribunda, topworked on old 'McIntosh' trees at the Smithfield Exp. Farm, Ont. showed symptoms of chlorotic leaf spot (M.F.W.).

LEAF PUCKER (virus). Symptom severity was mod. on 'McIntosh' in the Okanagan and Similkameen Valleys, B.C. Heat units in the 2 weeks following bloom were slightly below average. This maintains the previously observed negative correlation between heat units and symptom severity. Symptoms on 1 tree at Ottawa, Ont. were suggestive of the disease as it occurs in B.C. (M.F.W.).

RING RUSSETING (virus). Symptom severity on 'Newtown' was mod.-sev. adding to the accumulated evidence of a negative correlation between heat units and severity of symptoms (M.F.w.).

STEM PITTING (virus) was sev. in Smithfield and Ottawa, Ont. plantings on most topworked 'Virginia' crab and '0-524' examined. Unworked '0-524' was not affected, suggesting that stem pitting virus occurs commonly in variety clones in Ont. At Franklin and Frelighsburg, Que. the crab varieties 'Virginia', 'Hyslop' and 'Garnet' used as frameworks commonly showed stem pitting symptoms, 'Garnet' less severely than the other two. Moderate-sev. symptoms were also seen on 'Golden Delicious'. 'Robusta V" stock showed no symptoms in either Que. or Ont. (M.F.w.).

BLISTER BARK (suspected virus). Spur-type 'Delicious' trees in 3 young orchards in Essex Co., Ont. showed blisters on the bark of twigs, scaffold limbs and trunks (C.D.McK.).

COARSE RING RUSSET (suspected virus) affected one 40-year-old 'McIntosh' tree at Penticton, B.C. All fruits were culls and there was sev. leaf flecking. This is a new syndrome with symptoms quite distinct from those of McIntosh leaf pucker but almost certainly with virus etiology (M.F.W.).

FRUIT DEFORMITY AND RUSSETING (suspected virus) affected 7 'Delicious' trees in an orchard at Summerland, B.C. Fruit of entire trees or certain main limbs was unmarketable. This appears to be a new disease causing fruit symptoms only (M.F.w.).

HIBERNAL DECLINE (suspected virus). 'Delicious' trees on 'Hibernal' frameworks in a several-acre planting at Gilford, Ont. were dead or in varying stages of decline.

There was a sev. bark necrosis on the 'Hibernal' framework but none on the 'Delicious' tops. 'McIntosh' and 'Melba' trees on the same frameworks were healthy and vigorous. 'Delicious' on 'Robusta V' frameworks were normal. It would appear that the 'Delicious' stocks carried a virus that affected 'Hibernal' (M.F.W.).

CHEMICAL INJURY. Spray drift from an aerial application of 2,4-5-T had a hormonal effect in 3 orchards at Burton, N.B. preventing the normal June drop and causing the fruit of early varieties to remain on the trees beyong maturity. Damage to next year's fruit buds is suspected (S.R.C.).

DEEP SCALD was seen on 'Laxton's Fortune' in a storage trial at Kentville, N.S. (R.G.R.).

FROST CANKER. Trunk cankers were encountered on 45 young 'McIntosh' trees at Rougemont, Que. Cankering seemed to be a residual effect of applications of manure. 'Bancroft' and 'Cortland' were not affected (R.D.).

FROST INJURY. Frost at or near bloom caused a reduction in yield in all areas of w. Que. except in Deux-Montagnes Co. At Farnham, the temperature registered 26.5°F for 4 hours at the calyx stage. Several growers at Dunham and Frelighsburg, Missisquoi Co. and at Hemmingford, Huntingdon Co. experienced total crop losses; others at St. Paul, Rouville Co. and at Havelock and Franklin Center suffered a 50% loss. The 1964 crop in Missisquoi was 70% less than in 1963; 75% less for 'McIntosh'. In Rouville and Huntingdon Counties it was 20% less; 45% less for 'McIntosh' in Rouville Co. The crop in the Sherbrooke district was reduced 80% (R.D.).

HOLLOW FRUIT (caused undetermined). Deformed apples, with accumulated water in the core and only 1 or 2 seeds were commonly found in the varieties 'McIntosh' and 'Cortland' at harvest in w. Que. (R.D.).

MAGNESIUM DEFICIENCY. Leaf and fruit drop caused by magnesium deficiency was seen in 3/67 N.B. orchards visited (S.R.C.).

RUSSETING was heavy in most orchards in s.w. Que. Counts on 'McIntosh' showed 7% of the apples with 25% or more of the surface affected. Frost banding was seen on 'Delicious' and 'Melba' (h.D.).

WATER CORE (physiological) was prevalent in early varieties in the Gagetown, N.B. area. Traces were seen in the late crop but symptoms disappeared in storage (S.R.C.).

WIND INJURY. Heavy winds in the Farnham, Que. district caused sev. damage to foliage and some damage to fruits through rubbing (R.D.).

PEAR

CROWN GALL (Agrobacterium tumefaciens). Infection averaged between 5-10% on pear seedlings in nursery stock at Kelowna, B.C. (L.E.L.).

FIRE BLIGHT (Erwinia amylovora) was very light s. of Summerland, B.C. To the n., it was sl.-mod. in the Kelowna area, epidemic at Winfield on 'Bartlett' and 'Anjou', epidemic at Okanagan Center, absent at Oyama and prevalent around Vernon (L.E.L.). It was reported from Spruce Valley, Alta. (A.W.H., D.S.). Infection was sev. in 4 or 5 orchards of 'Bartlett', 'Bosc' and 'Kieffer' and tr. in *many* other orchards in Essex Co., Ont. Streptomycin sprays applied at the proper time were effective in checking blossom infection but the best control was obtained by thorough and regular pruning-out of diseased wood.(J.R.C.). Observations would indicate that hold-over cankers in 1-and 2-year old wood constitute the main source of inoculum in current year infections in orchards. There is a high degree of correlation between high fertilization, extensive sucker growth and susceptibility to fire blight (C.D.McK.). Fire blight was more prevalent in Lambton, Huron and Middlesex Counties, Ont. than in 1963. It was first observed as a sl. infection on 19 *May* nr. London and continued to develop throughout the 3 counties, especially in the Arkona area (L.F.M.). It was a major disease of pears in the Niagara Peninsula, Ont. in 1964. The disease spread rapidly from shortly after bloom until the last week of July when its progress slowed. Oozing cankers were commonly seen at bloom and by late summer *many* trees had several hundred infections that caused killing-back of 6-8 inches on twigs. It was most commonly seen on 'Clapp's Favorite', 'Bartlett' and 'Bosc' (R.W.). All trees in a 5-acre block of 'Bartlett' interplanted with 'Bosc' and 'Anjou' in Wentworth Co., Ont. were severely infected with up to 80% of the twigs involved. The numbers and virulence of fire blight outbreaks in s. Ont. have increased to alarming proportions (J.A.C.).

STORAGE ROT (Gloeosporium album). One lot of 'Clapp's Favorite' pears received at a cold storage plant at Canning, N.S. in ripe condition in mid.-Sept. was 100% affected with typical gloeosporium lesions by the end of Nov. In addition, black, tough, solid lesions yielding Cladosporium ?herbarum were present. Pears were re-infected with Cladosporium only with difficulty (R.G.R.).

TRELLIS RUST (Gymnosporangium fuscum). The infestation at Chilliwack on the main-

land of B.C. has been virtually eliminated and only a trace of rust was found on 2 pear trees, close together, in 1964. Junipers in the district have been sprayed with Actidione BR in the spring and fall. The center of infestation on Vancouver Island has been reduced by some 90% since 1961 as evidenced by infection on pears. It is still, however, well established and will require painstaking work to eradicate (W.R.F.).

NEMATODES (Pratylenchus penetrans). Pear trees in a 1.5-acre block in Niagara Twp., Ont. were stunted and some were dying. P. penetrans was recovered at the rate of 5400/lb. of soil (J.L.T.)

SCAB (Venturia pirina). Trace infections were seen in 1 orchard at Keswick Ridge, N.B. (S.R.C.).

FRECKLE PIT (virus). Symptoms on 'Anjou' in the Okanagan Valley, B.C. were unusually mild in 1964 and confined mostly to fruit in the upper half of the trees. Most of the flesh discoloration disappeared after a month or more in storage (J.M.W.).

STONY PIT (virus) was widely distributed though mod. on 'Bosc' and 'Anjou' in the Okanagan Valley, B.C., less commonly on 'Anjou'. Most of the fruit on affected trees is unmarketable every year. A longitudinal wood pitting has been associated with this disease, the severity of which increases as the tree grows older (J.M.w.).

ANJOU PIT (cause unknown) was found occasionally in the Okanagan Valley, B.C. on young trees and on trees with a light crop (J.M.w.).

PINK END (cause unknown). Premature softening and breakdown at the calyx end in 'Bartlett' occurs in occasional years in the Okanagan Valley, B.C., usually when the simmer has been cool and wet as was the case in 1964 (M.F.w.).

SCALD (physiological). A scald-type injury developed on 'Bartlett' pears held in cold storage for processing in Kings Co., N.S. Seven/17 growers surveyed averaged 12.5% loss. The total loss equalled 10% of the 'Bartletts' processed (C.L.L.).

B. Stone Fruits

APRICOT

BROWN ROT (Monilinia fructicola). Infections occurred on both green and ripe fruit in the Okanagan Valley, B.C. (M.F.W.).

WILT (Verticillium dahliae) was observed on bearing trees in several orchards in the Okanagan Valley, B.C. (G.E.W.).

RING POX (virus) is still spreading slowly in the Okanagan and Similkameen Valleys, B.C. (T.B.L.).

CHERRY

LEAF SPOT (Higginsia hiemalis). Incidence on sour cherries in the Niagara Peninsula:, Ont. was more sev. than it has been for a number of years. Above-normal rainfall in July and Aug. prevented a build-up of residual fungicides. Dodine, as in most years, appeared to be the most effective fungicide (R.w.). A 20% infection was seen in an orchard at Moncton, N.B. (S.R.C.). The variety 'Napoleon' was 50% infected with 10% defoliation at Acaciaville, N.S. Severe infection occasionally occurs in the province where protective measures are inadequate or neglected (C.O.G.). A 30% infection was recorded at St. John's, Nfld. (O.A.O.).

BROWN ROT (Monilinia fructicola) was sev. in some orchards at Kelowna, B.C. where fruit was slow to ripen. This was particularly true where early infection had been present on apricots in adjacent trees (L.E.L.). It presented a serious problem in the Niagara Peninsula, Ont., particularly after heavy rains on 11 and 12 July caused fruit splitting, providing many infection courts (R.W.).

POWDERY MILDEW (Pcdosphaera clandestina). Infection was sev. on fruit and foliage in several plantings in the B.C. Interior (D.L.McI.). A specimen was received from Levis, Que. (D.L.).

NEMATODES (Pratylenchus penetrans). Soil samples from 3 orchards in the Niagara Peninsula, Ont. where sour cherry trees showed uneven growth, stunting or unthriftiness yielded 774, 918 and 2080 P. penetrans per pound of root respectively (J.L.T.).

WILT (Verticillium dahliae) occurred on bearing trees of both sweet and sour cherries at Summerland and Kelowna, B.C. (G.E.W.).

LAMBERT MOTTLE (virus) has disappeared from some of the Okanagan Valley, B.C. orchards where it formerly caused serious losses (T.B.L.).

LITTLE CHERRY (virus) caused severe damage to both 'Bing' and 'Lambert' sweet

cherries in the Kootenay region of B.C. The Kootenay Bay strain of 'Lambert' is still the most promising resistant variety (J.M.W.).

NECROTIC **RING SPOT** (virus). Etch symptoms, which indicate the presence of this virus in sour cherries, were very prevalent and tended to be more sev. than usual in the Niagara Peninsula, Ont. This virus spreads very rapidly in orchards over 5 years old and which have 10% or more of the trees already diseased. Since the NRS virus is carried from tree to tree by pollen, no control measures are possible in fruiting orchards. The use of virus-free stock and isolation offer the best protection (T.R.D.).

SOUR CHERRY YELLOWS (virus). Symptoms, in the Niagara Peninsula, Ont., were less sev. than usual in 1964. The most striking symptom of this disease is a bright yellow mottling of leaves which drop readily in late fall. This disease spreads less rapidly than necrotic rind spot but causes coneiderably more damage in affected trees by causing a gradually increasing reduction in fruit set (T.R.D.).

SWEET CHERRY VIRUSES. Surveys conducted in 1963 and 1964 in the Niagara Peninsula, Ont. have shown various types of leaf mottling and tatter leaf symptoms to be prevalent in sweet cherry trees. Tests have shown that these symptoms are caused by two or more viruses. Affected trees carry necrotic ring spot and/or sour cherry yellows and probably one or more other viruses that have been isolated but not yet fully identified (T.R.D.).

TWISTED LEAF (virus) of sweet cherry is still spreading slowly in the Okanagan and Similkameen Valleys, B.C. The virus causing this and the ring pox disease in apricots has been demonstrated in wild cherry throughout the interior dry belt of B.C. (T.B.L.).

DIMPLE (cause unknown). Cherry dimple is a descriptive name applied to a surface blemish that developed on stored sweet cherries. No breakdown of underlying tissue was involved but the appearance of the fruit was poor and it was downgraded to a considerable degree. The disorder occurred mainly at Kelowna but som was seen in all districts of the Okanagan Valley, B.C. A similar condition has been present for some years in cherries grown in Wash. but this is the first time it has been seen in B.C. (L.E.L.).

OFF-TASTE (cause unknown). One rail car of sweet cherries from Westbank, B.C. was rejected at Winnipeg because of a very powerful and persistent taste redolent of iodoform. The shipment included fruit from a number of growers throughout the Westbank area. The taint was within the fruit, not on the surface, and was not related to the use of any agricultural chemical (L.E.L.).

PEACH

CROWN GALL (Agrobacterium tumefaciens) was very light on peach nursery stock in the Okanagan Valley, B.C. in 1964. This was due in part to nurseries using new land where the wild rose was not present (L.E.L.).

BROWN **ROT** (Monilinia fructicola). Mummified fruit bearing many viable conidia were found on the ground at Naramata and Summerland, B.C. in mid.-May. No apothecia were seen and presumeably primary infections arise from such conidia in dry spring seasons such as the one in 1964. Infection was extremely heavy in Aug. at Summerland and Kelowna in orchards that had not been cleaned up following the previous year's infection and had received no protective sprays (L.E.L.). Slight infections were seen in 'Elberta' plantings in Essex Co., Ont. toward the end of the season (J.R.C.). It was well controlled in Lambton, Huron and Middlesex Counties, Ont. except in some late 'Elberta' plantings that did not receive a harvest spray in late Aug. (L.F.M.). Brown rot became serious in the Niagara Peninsula, Ont. in Aug. when frequent rains and cool temperatures prevailed (R.W.).

CORYNEUM BLIGHT (Stigmina carpophila) caused very severe injury to twigs, fruit and foliage in several widely-separated orchards at Armstrong and Keremeos, B.C. For many years, in the drier regions of B.C., this has been considered to be a disease of apricot only. In the last few years there have been increasing numbers of reports of damage to peach. The several orchards that came to notice in 1964 were the most severely affected seen as yet w. of the moister Kootenay districts (M.F.W.).

LEAF CURL (Taphrina deformans). Slight infections developed in several orchards in Essex Co., Ont. where growers were unable, because of rapid bud break, to apply a protective spray (J.R.C.).

CANKER (Valsa spp.). There was heavy infection in some young orchards planted in Essex Co., Ont. in the spring of 1963. This infection resulted from injury to trees in the nursery row. In older cankered orchards there was considerable limb breakage due to the heavy crop (J.R.C.).

WILT (Verticillium dahliae) was found in several orchards at Summerland, B.C. (G.E.W.).

BACTERIAL SPOT (Xanthomonas pruni). Infection in Essex Co., Ont. was widespread but generally lighter than in 1963 (J.R.C.).

PLUM

GRAY MOLD ROT (Botrytis cinerea) occurred at Boutellier's Point, N.S. In each case where Botrytis was found on the fruit or foliage, a dead petal was attached (C.O.G.).

SCAB (Cladosporium carpophilum). A specimen was received from St. Ursule, Que. (D.L.).

BLACK KNOT (Dibotryon morbosum). Specimens were received from St. Andre and St. Jean, Ile Orleans, Que. (D.L.). It was general on plums in home gardens and on wild Prunus spp. in N.B. (S.R.C.).

BROWN ROT (Monilinia fructicola). Infections developed on ripe fruit in the Okanagan Valley, B.C. (M.F.W.) and was 10% on the variety 'Mount Royal' at Charlottetown, P.E.I. (G.W.A.).

FRUIT ROT (Phomopsis pernicosa Grove) was found on all fruits of a sample received from Boutellier's Cove, N.S. (C.O.G.). This is the first report, to the Surve , of this organism on Prunus (D.W.C r e e d

PLUM POCKETS (Taphrina communis). Cultivated plums and native cherries were affected in a garden at Edgeley, Sask. (B.J.S.). A trace infection was seen at Moncton, N.B. (S.R.C.).

BACTERIAL SPOT (Xanthomonas pruni) caused severe shot-holing of foliage and numerous small cankers on twigs at Falmouth, N.S. About 5% of the fruit was affected. The pathogen was isolated from twigs and fruit (C.O.G.).

IRON DEFICIENCY CHLOROSIS occurred at Wakaw, Sask. (R.J.L.).

PRUNE

LEAF CURL, FADING AND DROPPING. This syndrome, which was most sev. on Italian prune at Oliver, B.C. in 1962, has not appeared ln 1963 and 1964. It is characterized by reduced terminal growth and cropping, leaf curling, fading of the green color, and premature dropping. The cause is unknown but an imbalance of essential mineral elements is suspected (D.L.McI.).

STEM-END WITHERING (cause unknown) occurred in much of the Italian prune crop in Lambton, Huron and Middlesex Counties, Ont. (L.F.M.).

C. Ribes Fruits

CURRANT

BLISTER RUST (Cronartium ribicola). Light infections were seen on several varieties of black currants at St. John's West, Nfld. (O.A.O.).

POWDERY MILDEW (Sphaerotheca [redacted]-uvae). Specimens were received from Camrose and Wainwright, Alta. (A.W.H., D.S.).

GOOSEBERRY

LEAF SPOT (Mycosphaerella ribis). Infection was heavy at the Exp. Farm, St. John's West, Nfld. (G.A.N.).

POWDERY MILDEW (Sphaerotheca mors-uvae). A specimen was received from Notre Dame du Lac, Que. (D.L.) and infection was heavy at Botwood, Nfld. (O.A.O.).

D. Rubus Fruits

LOGANBERRY

CANE SPOT (Mycosphaerella rubi) was sev. and widespread throughout tne Saanich Peninsula, B.C. Abnormally cool, wet summer weather was undoubtedly responsible (R.G.A.).

RASPBERRY

CROWN GALL (Agrobacterium tumefaciens). About 20% of the canes in a planting at Chester, N.S. were affected (C.O.G.).

GRAY MOLD WILT (Botrytis cinerea). Specimens were received from Drummondville and L'Islet, Que. (D.L.). A slight infection was seen at Moncton, N.B. (S.R.C.).

SPUR BLIGHT (Didymella applanata). Specimens were received from Beaverlodge, Alta. (A.W.H., D.S.), Shellbrook, Sask. (R.J.L.), Drummondville, Levis, St. Crsimir and La Tuque, Que. (D.L.). Canes of 'Newburg' were 100% infected and defoliation was 50% in nursery stock plantings at Melvern Square and Berwick. Infection waa 90% in a planting at Chester, N.S. (C.O.G.).

ANTHRACNOSE (Elsinoë veneta). Damage ranged from tr.-5% in 8/11 fields examined in N.B. (S.R.C.). It was sl. on 'Viking' and 'Carnival' at Melvern Square and Berwick and sev. on an unknown variety at Chester, N.S. where yields were greatly reduced (C.O.G.). 'Viking', which is not usually severely affected by anthracnose, was heavily infected at Scotch Village, N.S. (K.A.H.).

LEAF SPOT (Mycosphaerella rubi). The variety 'Trent' was 100% infected at Melvern Square; N.S. (C.O.G.).

YELLOW RUST (Phragmidium rubi-idaei) was sev. at St. Casimir (D.L.) and at Ste. Helene, Que. (A.E.S.).

LEAF BLIGHT (Pseudomonas sp.). A leaf blight affected the foliage of young shoots of several plants in a large planting at Aberdeen, B.C. A species of Pseudomonas was isolated and successfully inoculated into the variety 'Willamette'. A second inoculation failed, presumably because the pathogenicity of the culture had lessened (H.S.P.).

POWDERY MILDEW (Sphaerotheca macularis) was sl. on 'Canby' at Melvern Square, N.S. (C.O.G.).

LEAF CURL (virus). Specimens were received from Kamsack, Yorkton and Assiniboia, Sask. (R.J.L.). Four/11 plantings in N.B. had up to 80% damage (S.R.C.).

MOSAIC (virus). A specimen was received from Levis, Que. (D.L.). Eight/11 N.B. plantings were up to 50% infected (S.R.C.).

E. Other Fruits

BLUEBERRY

CROWN GALL (Agrobacterium tumefaciens). Trace mounts occurred in 65 acres of highbush blueberries at Sheffield Mills, N.S. (c.L.L.).

RED LEAF (Exobasidium vaccinii) was tr. on lowbush species in the Lake St. John district of Que. A gall-like symptom caused by E. vaccinii was observed at St. Method, Que. There was no reddening of the foliage and the galls were overgrown by a species of Cladosporium (C.L.L., I.v.H.). Infection was light on native species at Avondale in the Conception Bay district of Nfld. (O.A.O.).

CANKER (Fusicoccum putrefaciens). In plantings totalling 65 acres at Sheffield kills, N.S. the highbush variety 'Jersey' was about 20% infected with 'Coville' and 'Burlington' carrying 5% infection. Cankers were showing up on the oldest plants and infected plants generally had 5 or more cankers per stem. At Aylesford, N.S. 30% of the 1- and 2-year-old stems were cankered at the bases. Here, the perfect state was present as well as a species of Phomopsis. 'Blueray' and 'Earliblue' had trace infections at Somerset and an unidentified variety at Barss Corner was similarly affected (C.L.L.).

POWDERY-MILDEW (Microsphaera penicillata var. vaccinii) was tr. on lowbush blueberries in the Lake St. John district of Que. and on the highbush variety 'Jersey' at Somerset, N.S. (C.L.L., I.V.H.).

BLOSSOM AND SHOOT BLIGHT (Monilinia vaccinii-corymbosi) was recorded on the highbush varieties 'Weymouth' and 'Rancocas' at Pitt Meadows, B.C. This is the first report of this organism from B.C. (H.N.W.Toms).

MUMMY BERRY (Monilinia vaccinii-corymbosi) was found on lowbush fruit at Dolbeau and in one field in the Lake St. John, Que. area. Infection was 10% a.t Rose and tr. at Thunder Bay, Cumberland Co., N.S. (c.L.L., I.V.H.).

WITCHES' BROOM (Pucciniastrum goeppertianum). Light infections occurred on native lowbush species in Nfld. (O.A.O.).

LEAF RUST (Pucciniastrum vaccinii). Infection was tr. on the highbush variety 'Jersey' at Sheffield Mills, N.S. (C.L.L.).

MOSAIC (virus) affected 1 plant of the variety 'Coville' in plots at the Research Station, Kentville, N.S. (C.L.L.).

FROST INJURY. Fall frosts were reported to have caused a 25% loss of crop in highbush blueberries in B.C. (H.N.W.T.).

WINTER INJURY. The highbush variety 'Bluecrop' was seriously killed back with 'Berkeley' and 'Earliblue' less seriously affected during the 1963-64 winter at Digby, N.S. 'Blueray' was the least affected (c.L.L.).

CRANBERRY

STORAGE ROT (Fusicoccum putrefaciens) caused 12% loss in 1 lot grown at Cumberland Bay, N.B. (S.R.C.).

GRAPE

DEAD ARM (Cryptosporella viticola). Some of the plantings of 'Seibel 10878' set out in 1946 in the Niagara Peninsula, Ont. are suffering badly from dead arm despite extensive use of fungicides and rigorous pruning of diseased vines. The French hybrids seem particularly susceptible (R.W.).

BLACK ROT (Guignardia bidwellii) was tr. on leaves of 2-year-old vines in experimental plantings at Gaspereaux and Digby, N.S. (C.O.G.).

ROOT LESION NEMATODE (Pratylenchus penetrans). The variety 'Fredonia' produces a very uneven crop. The loss in 1964 was almost 100% and was probably aggravated by P. penetrans which was recovered at the rate of 3,915 per lb. of soil in Niagara Twp., Ont. (J.L.T.).

POWDERY MILDEW (Uncinula necator) was prevalent, particularly on some of the new French hybrid varieties, in the Niagara Peninsula., Ont. (R.W.).

STRAWBERRY

GRAY MOLD (Botrytis cinerea). Fruit rot caused considerable losses where control measures were not followed in coastal B.C. (H.N.W.T.). Ten-20% of the fruit in a planting at Summerland, B.C. was affected (G.E.W.). Gray mold rot was prevalent in N.B. and was seen in 35/40 fields visited. Damage ranged from tr.-85%. It was most sev. in dense plantings (S.R.C.).

LEAF SCORCH (Diplocarpon earliana) was tr.-sl. in 29/40 fields surveyed in N.B. (S.R.C.).

LEAF BLOTCH (Gnomonia fructicola). Trace infections were seen on 'Sparkle', 'Catskill' and 'Cavalier' at Melvern Square and Berwick, N.S. (C.O.G.).

LEAF SPOT (Mycosphaerella fragariae). Infections in 40 N.B. fields ranged from tr.-40% depending on variety (S.R.C.). It was sev. on '59-30', 'Cavalier', 'Redcoat' and 'Sparkle' in that order of intensity at Melvern Square and Berwick, N.S. (C.O.G.). Infection was mod. on 'Sparkle' at St. John's West, Nfld. (O.A.O.).

RED STELE (Phytophthora fragariae). The cool, wet winter and spring resulted in red stele being more widespread than usual in the lower Fraser Valley, B.C. It was most evident in plantings in poorly drained soils (H.S.P.). A 50-ft. section of a row of 'Redcoat' was slightly affected in Queen's Co. P.E.I. (C.B.W.).

ROOT LESION NEMATODE (Pratylenchus penetrans), which is a factor in the strawberry root-rot complex and *may* also influence the severity of verticillium wilt, was found in varying concentrations in association with strawberry plantings in the Niagara Peninsula, Ont. In one field where 50% of the plants had been lost, the concentration of P. penetrans was 27,900/ lb. of soil (J.L.T.). It was found associated with strawberry roots from Yarmouth Co., N.S. (M.O.T.).

CROWN *AND* BUD ROT (Rhizoctonia solani) caused loss of plants in the lower Fraser Valley, B.C., by mid.-June. Abnormally low spring temperatures favored the disease (H.S.P.).

ROOT MOLD (Rhizoctonia sp.). Dormant plants in cold storage at Fredericton, N.B. developed a mold growth on roots resulting in up to 50% loss of the stored plants (S.R.C.).

FRUIT ROT (Rhizopus nigricans). Three lots of strawberries stored under unfavorable conditions at Oromocto, N.B. were a total loss (S.R.C.),

LEAF SPOT (Septoria aciculosa) was tr. on 'Catskill' and on an unnamed seedling at Kentville, N.S. (C.O.G.).

POWDERY MILDEW (Sphaerotheca macularis) was sev., producing conspicuous leaf rolling, at Ste. Foy, Que. (D.L.).

WILT (Verticillium dahliae) occurred in 24/39 fields surveyed in Carleton, Northumberland, Wellington, Lincoln, Norfolk and Elgin Counties, Ont. Estimated average infection ranged from 2% in Elgin Co. to 8% in Northumberland and Lincoln Counties (A.T.B.). It caused about 1% loss in a planting of 'Guardsman' at Berwick, N.S. (C.O.G.).

ROOT ROT (various organisms) was reported from Barrhead, Edmonton, Hardisty and Calgary, Alta. (A.W.H., D.S.). Root rot, combined with low-temperature injury, caused damage ranging from tr.-10% in 40/40 fields visited in N.B. (S.R.C.).

GREEN PETAL (virus). Amounts ranging from 1-5% were found in 22 newly-set fields in N.B. Roguing of new plantings leaves only a tr. in the fruiting year (S.R.C.). About 2% infection was seen in a small planting of 'Sparkle' at Kentville, N.S. (K.A.H.). Infections of up to 5% were seen in Queens Co., P.E.I. (C.B.W.).

WITCHES' BROOM (virus). Trace infections were seen at Hartland and Hampstead, N.B. (S.R.C.).

JUNE YELLOWS (genetic) was seen in tr. amounts at Jemseg, N.B. (S.R.C.).

CHEMICAL INJURY. Fertilizers applied at too high concentrations caused complete defoliation in a field at Keswick and 20% injury at Gagetown, N.B. (S.R.C.).

WINTER INJURY caused a trace of damage to 'Cavalier' and 'Surecrop' at Digby, N.S. (C.L.L.).