end of the spring crop each year (C. D. McK.).

CATFACE (physiological). This disorder and generally rough fruit were common in the first pickings of most crops in N. B. (S.R. C.).

CHEMICAL INJURY. Damage from 2, 4-D was observed at Edmonton, Leduc, Cayley, Grande Prairie and Calgary, Alta. (A. W. H., D. S.).

MAGNESIUM DEFICIENCY. Symptoms were severe on 90% of the plants of a greenhouse crop of 'Vetomold' at St. John's West, Nfld. (O.A. O.).

SUNSCALD was observed on a few plants at Winnipeg, Man. (W. A. F. H.).

DISEASES OF FRUIT CROPS

A. Pome Fruits

APPLE

CROWN GALL (Agrobacterium tumefaciens) affected a few trees on 'Beautiful Arcade' rootstock in a nursery at Wolfville, N. S. (R. G. R.).

GRAY-MOLD ROT (Botrytis cinerea) is becoming more important in the Okanagan Valley, B. C. since the introduction of water immersion dumpers, Some damage occurred at Kelowna, mainly on 'Delicious' which has an open calyx (L. E. L.).

CANKER (Cytospora sp.) was seen at Camrose, Two Hills and Bon Accord, Alta. (A. W. H., D, S.).

FIRE BLIGHT (Erwinia amylovora). The only report of fireblight in the Okanagan Valley, B. C. in 1966 was from Kamloops (L. E. L.). It was reported from 19 localities scattered throughout Alta. (A. W. H., D. S.). Fireblight was prevalent on apples and crabapples in the Saskatoon, Sask. area but damage was generally slight (R. J. L.). Incidence was low in the Niagara Peninsula, Ont. in 1966 (J.N.). Cankers, confirmed to be those of fireblight, were found in apple orchards adjacent to infected pear orchards at 7 locations in the Annapolis Valley, N. S. Its presence has not previously been confirmed in that province (C. O. G., C.L.L., R.E.C.L.).

BULL'S-EYE ROT (Gloeosporium perennans). Infection of 'Newton' apples was very light in the Summerland, Penticton and Naramata areas of B. C. (L. E. L.).

QUINCE RUST (Gymnosporangium clavipes). Trace infections were seen on 'Cortland' and 'Delicious' at La Pocatikre (H. G.) and slight to moderate infections occurred at St. Jean Port Joli, L'Islet Co., Que. (D. L.).

CORAL CANKER (Nectria cinnabarina) caused moderate damage to limbs of 'Red Delicious' in an orchard at Aylesford, N. S. (R. G. R.).

EUROPEAN CANKER (Nectria galligena). Traces of damage were seen in 2 orchards in the Gagetown, N.B. area (S.R. C.).

ANTHRACNOSE (Neofabraea malicorticis) caused severe distortion of older l l on a neglected tree in a home garden at Richmond, Lulu Island, B. C. (H. N. W. T.).

PERENNIAL CANKER (Neofabraeaperennans). Extension of existing cankers on 'Newtown' was much less than that of the previous season, probably because of the relatively mild winter of 1965-66 (L. E. L.).

COLLAR ROT (Phytophthora cactorum) killed 'M II', 'MM III' and 'MM 104' rootstocks at Summerland, B. C. (D. L. McI.).

POWDERY MILDEW (Podosphaerea Zeucotricha). Infection was general on tips of new growth in late summer in home gardens in the Vancouver, B.C. area (H. N. W. T.). It was prevalent and severe on foliage of susceptible varieties in the Okanagan Valley, B. C. (D. L. McI.). 'Jonathen' was extremely severely infected in an orchard in Gosfield South Twp., Essex Co., Ont. Leaves were 100% infected and it also caused fruit deformity and russeting. 'Delicious' and 'McIntosh' in the same orchard were less severely affected (J. R. C.). It developedinsome orchards of 'McIntosh' in the Niagara Peninsula, Ont. in May and June butdefoliationwasnot serious (J.N.). Damage was moderate to severe on terminals of 'Cortland' at Greenwich and Rockland and slight on 'Gravenstein' at Greenwich, N. S. This is the first report from N. S. of powderymildewin bearing commercial orchards. Previous occurrences have been on seedlings (R. G. R.).

CALYX-END ROT (Sclerotinia sclerotiorum) caused traces of damage at Pokiok and Gagetown, N. B. (S.R. C.). A corky, dry rot was found on the calyx end of 'Delicious' apples in several orchards in the North Okanagan and Salmon Arm districts of B. C. (D. L. McI.). The symptoms, as described, are strongly suggestive of sclerotinia rot (Ed.).

SCAB (Venturia inaequalis) was common on foliage and fruits in Vancouver, B. C. home plantings (H. N. W. T.). Fruit infection reached 50% in a 'McIntosh' orchard at Maidstone, Essex Co., Ont. where an inexperienced orchardist used too little fungicide at improper times (J.R. C.). Little scab developed in the Niagara Peninsula, Ont. because of dry weather (J.N.). A 10-25% foliar infection caused slight damage in an orchard at La Pocatière, Que.

(H. G.). Infections were very light and caused only traces of damage in commercial orchards in N.B. although uncared-for trees were heavily infected (S. R. C.). In N. S., scab infection at harvest ranged from a trace to 3% on the varieties 'McIntosh' and 'Cortland'. (C. O. G.). Most fruits were scabbed on unsprayed trees at Manuels and Bay Roberts, Nfld. (O. A. O.).

MOSAIC (virus). Pronounced symptoms were seen on 2 trees in an orchard nr. Smithville, Ont. (T. R. D., W.R.A.).

LEAF PUCKER (virus). Symptoms on 'McIntosh' were moderate to severe at Summerland and Kelowna and moderate at Cawston, B. C. (M. F. W.).

RING RUSSETING (virus). Symptoms on 'Newtown' were very mild at Naramata and at Summerland at the lake level; moderate at Oliver and at higher levels at Summerland and severe at Penticton and Kaleden, B. C. These variations in symptom expression can probably be attributed to different temperatures during bloom in the various districts (M. F. W.).

SUNKEN BLOTCH (cause unknown). This condition, characterized by sunken, purple skin blotches with necrotic flesh underlying, occurred on the fruit of many trees in 8 or more orchards in the Oliver-Osoyoos district of the Okanagan Valley, B. C. The varieties 'Winesap', 'Stayman' and 'Delicious' were affected with the condition being especially serious on 'Winesap'. There was no apparent correlation with nutrition or water relations (M. F. W.).

BITTER PIT (physiological) caused severe losses in early varieties in 2 orchards nr. Fredericton, N. B. (S. R. C.).

CORKY CORE (boron deficiency) was moderate to severe in 2 orchards at St. Pacome, Kamouraska Co., Que. (D. L.).

FRUIT COLOR BREAK (cause unknown). Fruits on 2 trees of 'Northern Spy' at Aylmer, Ont. exhibited green stripes of varying widths extending from the calyx toward the stem. These stripes persisted in the ripening fruits. Some of the leaves developed irregular, chlorotic patterns (T. R. D., W. R. A.).

FRUIT DEFORMITY (? early frost). Elongate, flattened and misshapen fruits were common in 'McIntosh' in the Picton and Brighton areas, Ont. and a somewhat different deformity seen in 1965 was again evident on several varieties at Collingwood (T. R. D., W. R. A.). Malformed fruit was again encountered in most N. B. orchards but the condition was not nearly as severe as in 1965 (S. R. C.).

IRON DEFICIENCY was the suspected cause of chlorosis at Ponoka, Drumheller, Calgary and Warburg, Alta. (A. W. H., D. S.).

MAGNESIUM DEFICIENCY caused some leaf drop in 2 orchards at Gagetown, N.B. (S. R. C.). A mineral deficiency, possibly of magnesium, was seen at Westlock and Edmonton, Alta. (A. W. H., D. S.).

STORAGE SCALD. Specimens were received from Ste. Foy, Que. (D. L.). Scald was very severe on a lot of 'Cortland' stored by mistake under controlled atmosphere storage at Keswick, N. B. (S. R. C.).

WINTER INJURY was the probable cause of cankering of apple at Winnipeg, Man. A basidiomycete and the Cytospora stage of a Valsa were also present (W. A. F. H.). A high incidence of dieback of leaders in a new orchard at Keswick, N. B. was attributed to winter injury. (S. R. C.).

PEAR

LEAF SPOT (Coniothyrum pirinum). Affected leaves were received from Huntingdon, Que. (D. L.).

FIRE BLIGHT (Erwinia amylovora). Infections were generally light throughout the Okanagan Valley, B. C. and late-season spread did not occur (L. E. L.). Fire blight was found in all 17 pear orchards surveyed in the Annapolis Valley, N. S. in 1966. Several trees in one orchard were killed by the disease and severe cankering was evident on others. This is the first report of fire blight from N.S. (C. O. G., C. L. L., R. E. C. L.). See Gourley, Lockhart and Layne. Can. Plant Dis. Surv. 46:4. pp. 139-142, 1966 for a more complete account (Ed.).

PHYTOPHTHORA ROT (Phytopthora cactorum). Green fruits of 'Bartlett' pear were infected in an orchard nr. Summerland, B. C. (D. L. McI.).

FRUIT ROT (Sclerotinia sclerotiorum). Fruit from 3 orchards at Woodsdale, north of Kelowna, B. C. developed dark, sunken spots in storage. The organism isolated resembled S. sclerotiorum in culture except that the sclerotia were sparse and very small. Infections probably came from infected windfalls (L. E. L.).

SCAB (Venturia pirina). Trace infections occurred at Keswick and Cocagne River, N. B. (S. R. C.).

CORKY PIT (virus) occurred in fruit from one tree in a Vancouver, B. C. home garden. The symptoms were similar to those described by Keane and Welsh, Plant Dis. Reptr. 44:8. pp. 636-638. 1960. The fruit tended to break down in common storage more rapidly than healthy fruit from the same tree (H. N. W. T.).

FRECKLE PIT (virus). Symptoms were more severe on 'Anjou' pears in the Okanagan Valley, B. C. than they have been for several years. In many cases the entire crop of infected trees was unmarketable. Weather conditions appear to affect the severity of symptom expression (J. M. W.).

QUINCE

FRUIT SPOT (Fabraea maculata). Spotting occurred on fruit from the lower Fraser Valley, B. C. (H. N. W. T.).

B. Stone Fruits

APRICOT

FRUIT SPOT (Cylindrosporium sp. indet.) caused pronounced, sunken black spots on a few fruits at Peachland, B. C. No perfect state was found (L. E. L.). A similar undetermined species of Cylindrosporium was reported on apricot fruit from B. C. in 1948 (Ed.).

BROWN ROT (Monilinia fructicola) developed on fruit left unpicked in some orchards at Summerland, B. C. (L. E. L.).

BROWN ROT (Monilinia laxa). Infection was light in one tree at Salmon Arm, B.C. (L.E.L.). See also under cherry (Ed.).

CORYNEUM BLIGHT (Stigmina carpophila) caused widespread spotting on several varieties throughout the orchard districts of B. C. (L.E. L.).

WILT (Verticillium dahliae) was found in Okanagan Valley, B. C. orchards where it had occurred in other years (G. E. W.).

BACTERIAL SPOT (Xanthomonas pruni). Damage was moderate to severe on susceptible varieties in Essex Co., Ont. Fruit infection was heavy on 'Earliril', 'Veecat', 'Viceroy' and 'Perfection'. Defoliation was severe on 'Earliril'. 'Alfred' and 'Farmingdale' showed noticeably less infection (B, N. D., J. R. C.).

RING POX (apricot ringpox virus). Infection was less than 1% in 5/17 orchards with a history ARP occurrence in the Okanagan Valley, B. C. (A. J. H.).

CHERRY

BLACK KNOT (Apiosporina morbosa). Affected specimens were received from St. Isidore, Dorchester Co., Que. (D. L.). In a small planting at Gagetown, N.B., 7 trees were infected, 5 of which had been killed (S.R. C.).

GRAY MOLD (Botrytis cinerea) was the most prevalent rot of cherries in B. C. in 1966. It developed in storage on particularly soft fruit from the Kelowna area (L. E. L.).

SHOT HOLE (Higginsia hiemalis) was not a serious problem in the Niagara Peninsula, Ont. in 1966 (J.N.). About 10% infection was seen in an orchard nr. Moncton, N. B. (S.R. C.).

BROWN ROT (Monilinia fructicola). Although the disease was kept to a low level in most N. S. orchards a few that were unsprayed or that received only 1 or 2 sprays had up to 10% infection (C. O. C.).

BROWN ROT (Monilinia laxa). Fruit in an isolated orchard at Salmon Arm in the Shuswap district of B. C. was heavily infected. Infection was also found in neglected peach and apricot trees near this orchard. The cherries had been badly split by rain (L. E. L.). This organism has been reported at various times from apple in the Kootenays and from stone fruits on Vancouver Island and has been the cause of some difficulty in exporting B. C. fruit to some countries. It should be emphatically stated that it has never been found in the Okanagan Valley but only in regions geographically isolated and climatically distinct from the Okanagan (Ed.).

POWDERY MILDEW (Podosphaera clandestina). Some severe infections were seen on sour cherries at different locations in the Okanagan Valley, B. C. (C. E. W.). Heavy foliage infections were common in the Niagara Peninsula, Ont. (J. N.). Infection was rated 2-sl 4-mod. 1-sev in surveys of nurseries in Que. (J.R.). The variety 'Montmorency' had 50% of the terminal growth infected in an orchard at Kentville, N. S. (C. O. G.). This is the first report to the Survey of this diseasr on sour cherry in N. S. (Ed.).

BACTERIAL CANKER (Pseudomonas morsprunorum). There has been no spread of this disease in N S beyond the 2 originally infected orchards and none has been found on wild Prunus species. The cool, wet conditions conducive to its spread have not occurred in the last 2 seasons (C. O. G.).

WILT (Verticillium dahliae) was found in both sweet and sour cherries in the Okanagan Valley, B.C. It recurred in orchards where it had been found in other years (G. E. W.).

LAMBERT MOTTLE (virus) occurred in 3/9 sweet cherry orchards examined in the Okanagan Valley, B. C. at a rate of 1-3 trees per orchard. Six newly infected trees were found (A, J. H.).

LITTLE CHERRY (virus). Severe symptoms were seen in all commercial sweet cherry varieties in the Kootenay Valley, B. C. Several promising seedlings from the cherry breeding program produced good quality fruit despite inoculation with little cherry virus (J.M. W.).

YELLOWS (virus). Weather conditions in the spring of 1966 favored the symptom expression of sour cherry yellows virus in most parts of the Okanagan Valley, B. C. Random tests of 42 trees, 5 years of age or older, from 4 orchards showed that not

more than 8 were free of the virus (A. J. H.). The variety 'Montmorency' was 100% infected at Tupperville, N.S. (C. O. G.).

FRUIT DEFORMITY (cause unknown). Six 'Lambert' trees in an orchard at Winfield, B. C. were found to be mildly to severely affected by a fruit deformity syndrome. The trees showed no symptoms of twisted leaf. A sap-transmissible virus has been isolated from the most severely affected tree (A. J. H.).

SUNSCALD caused injury to limbs of cherry trees at Ange Gardien, Montmorency Co., Que. (D. L.).

PEACH

CROWN GALL (Agrobacterium tumefaciens). Infection ranging from 10-100% caused 40% damage to 2-year-old plants in a nursery at Harrow, Ont. The identity of the rootstocks is not known but the scion varieties included 'Jubilee', 'Elberta', 'Sunhaven', 'Early Elberta', 'Envoy', 'Kalhaven' and 'Babygold-7' (B. N. D.).

BROWN ROT (Monilinia fructicola). With no stone fruit crop in 1965. the carryover of brown rot in the Okanagan Valley, B. C. was very light. Infections appeared late in the season at Summerland and Naramata but no brown rot was reported south of Penticton. It was not a problem in commercial crops but some heavy infections developed on neglected garden trees (L. E. L.). Low rainfall during bloom in the Niagara Peninsula, Ont. resulted in a negligible amount of blossom blight which was in turn reflected in a low incidencc of fruit rot (J.N.). Traces only were seen in King's Co., N. S. probably because of the dry weather in late summer (C. O. G.).

FRUIT ROT (Phytophthora cactorum) affected green fruits of 'Veteran' peach in an orchard at Summerland, B. C (D. L. McI.).

FRUIT ROT (Rhizopus nigricans). Incidence was low in the Okanagan Valley, B. C. in fruit picked for the fresh fruit trade and negligible in canning fruit treated with Botran (L.E.L.). Its incidence was also very low in the Niagara Peninsula, Ont. (J. N.).

CORYNEUM BLIGHT (Stigmina carpophila) was widespread in the peach and apricot growing districts of B. C. (D. L. McI.). A few infected fruits were received from an orchard at Kingsville, Ont. Incidence was reported to be low (C. D. McK.).

LEAF CURL (Taphrina deformans) was of little importance in the Vancouver, B. C. area (H. N. W. T.). Infection was severe on 'Dixired', 'Early Elberta' and 'Loring' and particularly heavy on 'Sunhaven' in a 10-acre orchard of 6-7-year-old trees at Harrow, Ont. Preventative sprays had not been used (B. N. D.). Trace infections were common in commercial orchards and small plantings in Kings Co., N. S. Severe infections were seen in several unsprayed home plantings of 1 and 2 trees (C. O. G.).

CANKER (Valsa spp.) caused severe dieback of twigs in one orchard in Essex Co., Ont. and a moderate amount in several others. A hail storm in the fall of 1965 provided wounds for infection courts and tree growth was retarded by a cool spring (J.R. C.). In the Niagara Peninsula, Ont. approximately 10% of the peach fruit buds were lost due to the girdling of 1-year-old wood by Valsa spp. This is attributed to the unusual growing conditions of the previous fall that favored not only the late maturation of wood but the establishment of the fungi in such areas as leaf scars (J.N.).

WILT (Verticillium dahliae) was found in the Okanagan Valley, B. C. mainly on young trees in orchards with a previous history of the disease (G. E. W.).

BACTERIAL LEAF SPOT (Xanthomonas pruni). Surveys in s. w. Ont. showed that the incidence of this disease is relatively high and that it is established in many young orchards. Many varieties suffered defoliation with 'Kalhaven', 'Envoy' and 'Dixired' being the most severely affected. The disease appeared early, developed very slowly until mid-July and spread rapidly after that date (B.N. D., J. R. C.). Its distribution in the Niagara Peninsula, Ont. was scattered and its intensity was slightly more severe than usual. Fruit of standard 'Elberta' was lightly infected at harvest at Vineland and 'California Clingstone' had 5% of the fruit heavily infected at St. David's (J. N.). X. pruni was isolated from cankers on peach trees at Acaciaville, N. S. (C. O. G.).

PLUM

BLACK KNOT (Apiosporina morbosa) continues to occur on old plum trees on Lulu Island, nr. Vancouver, B. C. Neither pruning nor spraying is practiced yet the trees survive and produce enough fruit for home use (H. N. W. T.). Nine trees of the variety 'Mont Royal' were infected in a nursery at Repentigny, L'Assomption Co., Que. (J.R.). It was seen on wild and cultivated plum trees in most parts of N. B. At Queenstown, 17/33 trees were diseased and 5 had been killed (S. R. C.). Many neglected plum trees are severely infected in King's Co., N. S. (C. O. G.).

BROWN ROT (Monilinia fructicola). Affected specimens were received from Vancouver, B. C. (H. N. W. T.). Infection was 20% on the variety 'Mount Royal' at Charlottetown, P. E. I. (G. W. A.).

PLUM POCKETS (Taphrina communis). Specimens were received from Montmagny (D. L.) and infection was severe at St. Eleuthiere, Kamouraska Co., Que. (C. A.). Traces were seen at Moncton, N. B. (S.R. C.) and several trees of a Japanese variety at Middleton, N. S. were 100% infected (C. O. G.).

C. Ribes Fruits

CURRANT

BLISTER RUST (Cronartium ribicola) was observed on a total of 70 red and black currant bushes in 9 nurseries surveyed in Que. (J.R.).

CLUSTER-CUP RUST (Puccinia caricina) occurred on currants at Barrhead, Alta. (A.W.H., D.S.).

POWDERY MILDEW (Sphaerotheca mors-uvae) was seen on black currant at Summerland, B.C. (G.E.W.) and at Three Hills, Alta. (A.W.H., D.S.). Infection was heavy on black currant at Gloverstown in the Bonavista Bay district of Nfld. (O.A.O.).

GOOSEBERRY

ANTHRACNOSE (Drepanopeziza ribis). Heavy infections were observed on gooseberry at Forestville, Saguenay Co., Que. (G.B.O.).

CLUSTER-CUP RUST (Puccinia caricina) was observed on gooseberry at Barrhead, Alta. (A.W.H., D.S.).

POWDERY MILDEW (Sphaerotheca mors-uvae). Specimens were received from Pincher Creek, Alta. (P.E.B.) and Levis, Que. (D.L.).

D. Rubus Fruits

LOGANBERRY

LEAF AND CANE SPOT (Septoria rubi) affected 5-10% of the leaves of both thorned and thornless varieties in the Saanich Peninsula, B.C. (H.S.P.).

CANKER (cause undetermined). A canker condition of current season's canes has occurred in B.C. for the last several years. Later death of the canes is associated with winter injury. The symptoms resemble those of spur blight. Up to 75% of the canes were affected in one planting in 1966 and the amount of killing will depend on the severity of the 1966-67 winter (H.S.P.).

RASPBERRY

GRAY MOLD (Botrytis cinerea) caused some damage at Red Deer, Alta. (A.W.H., D.S.) and in a few plantings at St. Raphael, Bellechasse Co., Que. (J.R.).

SPUR BLIGHT (Didymella applanata) was particularly noticeable on 'Willamette' and other commercial varieties in the Lower Fraser Valley, B.C. in 1966 (H.S.P.). Infection was seen at Bentley, Berwyn and Spirit River, Alta. (A.W.H., D.S.). It caused slight damage at Arborfield (R.J.L.) and specimens were received from Assiniboia, Sask. where 100% of the plants were reported to be infected (R.M.). Heavy damage was seen in a planting at Chatham, N.B. (S.R.C.) and infections were generally light in Kings and Annapolis counties, N.S. Slight infections only were seen on the susceptible variety 'Newburgh' (C.O.G.).

ANTHRACNOSE (Elsinoë veneta). Infected plantings were seen at Lacombe, Round Hill and Grande Prairie, Alta. (A.W.H., D.S.). Damage ranged from a trace to 15% in 3/11 plantings examined in N.B. (S.R.C.). Slight infections were observed in all plantings examined in Kings and Annapolis counties, N.S. (C.O.G.).

ORANGE RUST (Gymnoconiapeckiana). A heavily infected specimen of a wild raspberry plant was received from the province of Que. (V.R.W.).

CANE BLIGHT (Leptosphaeria coniothyrium) was seen in plantings at Berwyn, Derwent and Round Hill, Alta. (A.W.H., D.S.). Trace infections only were encountered in N.S., eveninuncared-for garden plantings (C.O.G.).

LEAF SPOT (Mycosphaerella rubi). Infection was slight to moderate on an unknown variety at Billtown, N.S. (C.O.G.).

LATE YELLOW RUST (Phragmidium rubi-idaei). The aecial stage was seen in a home garden in Vancouver, B.C. The infected variety was probably an old one since the rust is rarely seen on the currently used commercial varieties (H.N.W.T.). Specimens were received from Lacolle, St. Jean Co., Que. (D.L.) and 10% of the fruit was infected in a planting at Narrows, N.B. (S.R.C.).

BACTERIAL BLIGHT (? Pseudomonas syringae) was seen in all parts of the upper section of the Lower Fraser Valley, B.C., where it occurred on several varieties. One grower with a 2-year history of the disease in his planting obtained control by using three sprays of Bordeaux mixture. The last portion of the crop in infected plantings was lost following an increase in disease activity after heavy June rains (H.S.P.).

POWDERY MILDEW (Sphaerotheca macularis) was slight on 'Latham', moderate on 'Carnival' and 'Rideau' and severe on 'Tweed' on plants grown for certification at Lavaltrie, Berthier Co., Que. 'Viking' was also severely infected at St. Amable, Verchkres Co. (J.R.).

WILT (Verticillium albo-atrum). Thirty % of the plants were infected in a nursery nr. Montreal, Que. (J.R.).

LEAF CURL (virus). Infection was slight in a planting at Wakaw, Sask. (R. J. L,).

MOSAIC (virus). Infection ranged from a trace to 8% in 8/11 plantings examined in N. B. (S. R. C.) andthreeplants were infected in a planting of foundation stock at South Berwick, N. S. (C. O. G.).

IRON DEFICIENCY was reported in plantings at Wetaskiwin, Calgary, Sangudo, Vauxhall, High Prairie, Leduc, Taber, Calgary and Edmonton, Alta. (A. W. H., D. S.). A specimen was also received from Cardston, Alta. (P.E. B.).

MAGNESIUM DEFICIENCY developed in a commercial planting of 'Newburgh' at St. Raphael, Bellechasse Co., Que. following a heavy application of potassium (J.R.).

WINTER INJURY was seen in most parts of N. B. but thedamagewasnot as severe as in 1965 (S. R. C.).

E. Other Fruits

CRANBERRY

RED LEAF (Exobasidium vaccinii). A heavy infection was observed in a 3-year-old planting at Pitt Meadows, B. C. A heavy fertilizer program may have predisposed the plants to infection (H. N. W. T., H. S. P.).

BLACK SPOT (Mycosphaerella nigro-maculans Shear) occurred on 5% of the fruits in a 3-year-old planting at Pitt Meadows, B. C. Cuttings had been imported from the nearby State of Washington where the disease occurs but is not considered important (H. S. P.). This is the first report of this disease in Canada and its occurrence points out again the dangers of importing live plant materialwithout ensuring that it is absolutely free of disease (Ed.).

BLUEBERRY

CROWN AND CANE GALL (Agrobacterium tumefaciens) continues to occur in highbush blueberry plantings in the Lower Fraser Valley, B. C. There seems to be a correlationbetweenthe age of the planting and the incidence of the disease (H. S.P.).

RED LEAF (Exobasidium vaccinii). Damage ranged from a trace to 2% in all 7 fields of lowbush blueberries examined at Pennfield, N. B. Its incidence seems to be increasing in older fields (S. R. C.). Incidence was less than 1%at Pidgeon Hill and more than 10% at Nappan, N. S. (C. L. L.). Red leaf was more prevalent than usual in fields at Avondale, Nfld. (O.A. O.).

CANKER (Godronia cassandrae f. vaccinii) was general on susceptible highbush varieties throughout the Lower Fraser Valley, B. C. It was less common in older plantings (H. S. P.).

MUMMY BERRY (Monilinia vaccinii-corymbosi) was prevalent on highbush blueberries throughout the Lower Fraser Valley, B. C. and occurred in some districts where it had not previously been reported. Some growers reported a heavyloss of fruit but those who applied calcium cyanamid at the recommended time obtained good control. The apothecial state was observed for the firsttime in B. C. (H. S. P.). Traces were seen in a highbush planting at Sheffield Place, King's Co., N. S. (C. L. L.).

CANKER (Phomopsis vaccinii) caused 50% damage in a new plantingof highbushblueberries at Kingston, N. S. The plants had apparently beenweakened by extremely dry conditions after they were set out in 1965 (C. L. L.).

LEAF SPOT (Phyllosticta vaccinii Demaree and Wilcox). The variety 'Burlington' in a planting at Pitt Meadows, B. C. was 80-90% infected. As the season progressed there was partial defoliation. The grower reported that he had seen this zonate leaf spot on the same variety in the last two seasons. A somewhat similar leaf spot, accompanied by defoliation, had been noted in propagation beds in the 1950's but the pathogen was never identified (H. N. W. T., H. S. P.). This is the first report of the occurrence of this disease in Canada (Ed.).

WITCHES' BROOM (Pucciniastrum goeppertianum) was observed in trace amounts in most lowbush fields in N. B. but at 3 sites nr. Sackville, representing about 225 acres, infection was heavy (S. R. C.). Infection was generally light on native blueberries at Avondale, Nfld. (O.A. O.).

LEAF SPOT (Septoria sp. indet.) caused traces of damage at East Mines, Colchester Co., N.S. (C. L. L.).

FASGIATION (genetic)was seenin part of a large highbush planting at Pitt Meadows, B. C. Symptoms were not severebut affected canes protruded into the lanes between rows hindering normal cultural practices. It is thought that the grower had accidently perpetuatedthe problemby propagating affected cuttings (H. N. W. T.).

CHEMICALINJURY. A slight amount of arsenical injury, consisting mostly of spotting on leaf margins, occurred following the application of an arsenical dust for maggot control at East Mines, Colchester Co., N. S. (C. L. L.).

GRAPE

CROWN GALL (Agrobacterium tumefaciens) affected 25% of the plants of 'Golden Muscat' in a vineyard at Oliver, B. C. Most of the plants of many varieties that were severely affected in 1965 showed no sign of active gall growth (A. J. H.).

DOWNY MILDEW (Plasmopara viticola). Dry weather in the Niagara Peninsula, Ont. kept the incidence of this disease at very low levels (J.N.).

POWDERY MILDEW (Uncinula necator) was observed in 17/26 vineyards surveyed in the Okanagan Valley, B. C. 'Himrod' and some, but not all, of the Vitis vinifera varieties were affected. The disease was less severe in the southernportions of the Valley where high summer temperatures prevail (A. J. H.). It developed rapidly in the Niagara Peninsula, Ont. in August but was serious only in a few inadequately sprayed vineyards (J.N.).

STRAWBERRY

GRAY MOLD (Botrytis cinerea) caused minor losses in plantings at Didsbury and Lethbridge, Alta. (P.E. B., F. R. H.), Some severely diseased plants were received from the Winnipeg, Man. area (W. A. F. H). Incidence was low in the Niagara Peninsula, Ont., presumably because of dry spring weather (J.N.). Graymoldwas seen in 21/42 fields examined in N. B. but losses were serious in only 2 plantings (S. R. C.). Infections were light inmost areas of N. S. Dry weather and improved cultural practices are assumed to be responsible for reducing the amount of fruit rot (C. O. G.).

LEAF SCORCH (Diplocarpon earliana). Traee infections were seen in 11/42 plantings examined in N. B. (S. R. C.).

LEAF BLOTCH (Gnomonia fructicola). Severe infections developed in both new and old plantings of the varieties 'Sparkle' and 'Gorella' in late August and September at Billtown and Kentville, N. S. Infection averaged 75% (C. O. G.).

LEAF ,SPOT (Mycosphaerella fragariae) caused slight damage at Lake Lenore and Lashburn, Sask. (R. J. L.). Infection ranged from a trace to 70% in 37/42 plantings surveyed in N. B. Seven of the fields suffered defoliation and crop reduction (S. R. C.). It was not a problem in King's Co., N. S. early in the season but some moderate infections were seen on first-year plantings by mid-September (C. O. G.).

RED STELE (Phytophthora fragariae) continues to be a problem in B. C. wherever strawberries are grown in low-lying, poorly drained fields (H. S. P.). Trace infections onlywere seen in commercial plantings in N. S. In variety trials at the Research Station, Kentville and at Acaciaville the varieties 'Acadia', 'Cavalier', 'Cambridge', 'Favorite', 'Senga Sengana' and 'Gorella' were infected. No infection was found on 'Temple', 'Sparkle', 'Redcoat' and seedling 'K59-8' (C. O. G.).

POWDERY MILDEW (Sphaerotheca macularis) was general on susceptible varieties in B. C. Some minor fruit infections were observed (H. S.P.). The variety 'Cavalier' was moderately affected at Kentville and severely affected in the Melvern Square area, N.S. (C. L. L.).

WILT (Verticillium dahliae) affected 10-20% of the plants in a commercial planting of 'Redcoat' and 'Cavalier' at St. Charles, Bellechasse Co., Que. (J. R.). Infection in mid-July in a planting at Waterville, N. S. was rated as follows: 'Acadia' - 3%, 'Guardsman' - 10%, 'Redcoat' - 18%. The disease progresseduntil 60% of the planting was affected and the plants were plowed under (C. L. L.). A field of 'Redcoat' that followed a crop of potatoes at Middleton, N. S. suffered 25% loss of plants (C. O. G.).

ROOT ROT (various organisms) caused slight damage in a garden planting at Medicine Hat, Alta. (P.E.B.). Slight injury were seen in 17/42 fields surveyed in N. B. The injury was accentuated by dry conditions at fruiting (S.R. C.).

GREEN PETAL (virus) was recorded in many fields in the Lower St. Lawrence region of Que. with the disease being especially serious in Kamouraska and Bellechasse counties. Striking symptoms were evident during the first two weeks of July. Infections of 50 and 60% were seen at St. Pascal and Rivière Ouelle in third-crop fields. At La Pocatikre infections ranged from 10-50% in 8 second and third crop fields plantedwith certified stock. In 10 fields visited at St. Charles and La Durantaye, Bellechasse Co., infection ranged from 10-50 percent. Three first-crop fields originating from certified stock were 10-20% infected. On the other hand no green petal was found in 10 fields surveyed at Beaumont, some 10 miles farther west. Traces were seen at St. Arskne, Témiscouata Co., a 10% infection was recorded in a small planting at Ste. Louise, L'Islet Co. and a garden planting at St. Anselme, Dorchester Co. was 100% infected. In all cases clover plants growing in or around the affected fields showed symptoms of clover phyllody. Striking phyllody symptoms were also observed on Potentilla recta L. growing as a weed in an infected strawberry field at La Pocatikre (H.G.). An infected specimen was received from Ste. Angele de Laval, Nicolet Col, Que. (D. L.). This, according to our records at Ottawa, represents the most westerly extension of green petal disease (Ed.). Detailedsurveys of 42 new commercial plantings in the Maritime Provinces, set in 1966 with plants from growers producing certified stock, showed only 2 plantings to be free of green petal. Thirty-nine of the plantings examined were in Kings, Yarmouth, Digby, Cumberland, Annapolis, Pictou and Colchester counties, N.S., two in N.B. and one in

P. E. I. Infections ranged from 0.1 to 11.7% with a mean of 1.5%. Approximately 500-2000 plants per field were individually examined. Ten new plantings set with growers own stock had infections ranging from 0.2 to 14.6% with a mean of 4.2% infected plants. While it is thus obvious that plants from certified growers carry significantly less green petal, they are by no means free of the disease. Only 1/18 picking fields examined was free of the disease and infection in the others ranged from 0.5 to 30%. The heaviest infections seen were at Durham, Pictou Co., N. S. and at Smithport, P. E. I. It was noted that infected plants seldom survived beyond late September. In addition to Macrosteles fascifrons Stål, Aphrodes bicinctus (Schrank) was found in association with strawberry plants in sufficient numbers to be considered an important vector in the Maritime Provinces (H. T. S., A. A. McN.). Incidence in P. E. I. was particularly high in 1966. Varieties in replicated trials at Charlottetown showed 5-100% infection. (C. B. W., L. S. T.). See Willis & Thompson. Can. Plant Dis. Surv. 46:4. 137. 1966 (Ed.).

CHEMICAL INJURY. Some injury was seen in simazine-treated fields in N. B. where overlapping of applications occurred. At Blissville, the herbicide eptan caused severe injury to mother plants and their ability to runner (S. R. C.).

DISEASES OF TREES AND SHRUBS

ACER - Maple

CANKER (Cytosporaambiens) caused damage on 10% of the trees of A. saccharinum in a nursery at Peterborough, Ont. (A. E. S.).

ANTHRACNOSE (Gloeosporium apocryptum). Infection was severe on A. saccharum in a stand at Ottawa West and moderate on the same host at Ridgeway, Ont. (A. E. S.). It caused severe browning of individual trees of A. saccharum and A. rubrum throughout the Annapolis Valley, in Inverness Co., and in most villages from Glenholme to Parrsboro, N. S. Less severe infections were seen in s. e. N. B. (G.A.V.S.).

LEAF SPOT (Phleospora aceris). Specimens of affected A. saccharum were received from Ste. Germaine, Dorchester Co., Que. (D. L.). This fungus, reported as Ascochyta ? aceris Lib. should be assigned to Phleospora as pointed out by Savile. Can. Plant Dis. Surv. 25:101. 1946 (Ed.).

LEAF SPOT (Phyllosticta minima). Many trees of A. saccharum had moderate infections at Ridgeway, Ont. (A. E. S.).

CHEMICAL INJURY. Drift from herbicide applications caused distortion of leaves and marginal leaf scorching of A. negundo at Kinistino and Saskatoon, Sask. (R. M.).

DETERIORATION of roadside maples was recorded throughout s. Ont. but was less conspicuous than in previous years (B. W. D.). In Que., many of the roadside maples that were severely affected in 1965 died in 1966. Leaf scorch and early leaf fall on the remaining trees were, however, much less severe than in preceeding years (G. B. O.).

AESCULUS - Horsechestnut

LEAF BLOTCH (Guignardia aesculi) was commonly seen but generally light in intensity throughout N. S. (G.A.V.S.).

AMELANCHIER

RUST (Gymnosporangium clavariiforme). Slight to moderate infections were observed at La Pocatière and St. Pacome, Que. (D. W. C.) and at St. John's West, Nfld. (O.A. O.).

CARAGANA - Pea tree

LEAF SPOT (Septoria caraganae) was common on C. arborescens in Man. and Sask., especially in the grasslands areas where the host is widely used in shelterbelts. It completely defoliated a number of hedges in s. w. Sask. seriously reducing their effectiveness as windbreaks (J. G. L.).

FROST INJURY was responsible for twig and bud mortality of Caragana shrubs in a nursery nr. Chicoutimi, Que. (G. B. O.).

CATALPA

WILT (Verticillium dahliae). The pathogen was isolated from an affected branch of C. speciosa at F'enticton, B. C. (G.E. W.).

CHAMAECYPARIS - Cypress

ROOT ROT (Phytophthora cinnamomi). Foliar symptoms were evident on 12/183 shrubs of C. lawsoniana var. elwoodii in a planting at Victoria, B. C. The affected plants will eventually die (R. G. A.).

* The diseases reported in this section are mainly those of shade trees and ornamental shrubs, although occasional reference is made to diseases of native forest trees. For a more comprehensive report of tree diseases in Canada the reader is referred to the Annual Reports of the Forest Insect and Disease Survey published by the Canada Department of Forestry, Ottawa, Ontario.