N.S., fruit rot was sev. in several commercial plantings that had not received fungicide protection (C.O.G.). In P.E.I. both ripe and green fruit were severely decayed, with about 80% incidence on 'Tweed' following a prolonged period of frequent showers, very high humidity and high night and day temperatures (G.W.A.).

SPUR BLIGHT (Didymella applanata) was of minor importance in the Lower Fraser Valley, B.C. (H.S.P.) and infection was generaliy light throughout the Annapolis Valley, N. S. (C.O.G.).

ANTHRACNOSE (Elsinoe veneta) was found in 4/11 plantings in N.B., where damage ranged from tr. to 20% (S.R.C.). Slight infections were reported in all plantings examined in the Annapolis Valley, N.S. (C.O.G.).

YELLOW RUST (Phragmidium rubi-idaci) caused 60% damage in 1/11 plantings examined at Moncton, N.B. (S.R.C.).

BACTERIAL BLIGHT (Pseudomonas syringae) was rare in the Lower Fraser Valley, B.C. and no damage was reported (H.S.P.).

POWDERY MILDEW (Sphaerotheca macularis) was severe on nursery stock at Melvern Square, N.S. 'Trent' was less severely affected than 'Fairview' (C.O.G.).

WILT (Verticillium albo-atrum) caused 40% damage in a planting at Westfield. N.B. (S.R.C.).

LEAF CURL (raspberry leaf curl virus) was present in 7/7 plantings in N.B. where the disease continues to be serious in many home plantings; incidence ranged from tr. to 100% (S.R.C.).

MOSAIC (virus) was also found in the 7 plantings examined in N.B., with incidence of tr.-100% (S.R.C.). At South Berwick, N.S., about 2% of the plants in a foundation plot were infected (C.O.G.). Mosaic was sev. in a planting at Rivière-Quelle, Que. (H.G.).

E. Other Fruits

BLUEBERRY

CROWN GALL (Agrobacterium tumefaciens) occurred in younger plantings of highbush blueberry in the Lower Fraser Valley but was of little economic importance (H.S.P.). At Centreville, N.S. 50% incidence and 20% damage was reported in several varieties of blueberry (C.L.L.).

BLOSSOM AND TWIG BLIGHT (Botrytis cinerea) caused tr. to 60% damage in 7/21 plantings at Pennfield, N.B. (S.R.C.). Tr. infection was reported on 'Jersey' at Sheffield, N.S. (C.L.L.).

RED LEAF (Exobasidium vaccinii) continues to increase in N.B. where tr.-20% damage occurred in 21/21 fields examined in Charlotte Co. (S.R.C.). Heavy infection of native lowbush blueberry was reported from Avondale, N.B. (O.A.O.).

CANKER (Godronia cassandrae f. vaccinii). Despite a dry summer in the Lower Fraser Valley, B.C., little cane mortality was observed (H.S.P.).

POWDERY MILDEW (Microsphaera penicillata var. vaccinii). Severe infection occurred in 'Jersey' and 'Burlinqton' at Morristown. N.S. (C.L.L.).

MUMMY BERRY (Monilinia vaccinii-corymbosi) was prevalent in all districts where highbush blueberry is grown in the Lower Fraser Valley, B.C. In heavily infected fields, damage (loss of fruit) was more than 20% in susceptible varieties (H.S.P.).

TWIG AND BLOSSOM BLIGHT (Monilinia vaccinii-corymbosi). At Sheffield, N.S., incidence was rated tr. on 12% of 'Burlington', 12% 'Colville', and 6% of 'Jersey'; damage was estimated at 1-2% (C.L.L.).

WITCHES'-BROOM RUST (Pucciniastrum goeppertianum) was found in 3/3 plantings in N.B.; incidence was rated tr. in most fields, but 30% damage occurred in a 150-acre planting at Sackville (S.R.C.). Infection was very light on native lowbush blueberries at Avondale, Nfld. (O.A.O.).

RING SPOT (virus). Incidence and damage were estimated at 1-2% in 'Blueray' at N. Kingston, N. S. (C.L.L.).

STUNT (virus) was observed in a single plant in a 2-acre planting at Sheffield, N.S. (C.L.L.).

DIE-BACK (winter injury) caused 70% damage to a planting at Sackville, N.B. (S.R.C.).

CRANBERRY

LEAF SPOT (Gibbera compacta) affected about 10% of a bog at Aylesford, N.S., with heavy infection in one area (C.O.G.).

SPECKLE (Acanthorhynchus vaccinii, Guignardia vaccinii, and Gibbera compacta see Carlson and Boone, Plant Dis. Reptr 50:539-543, 1966). In N.S. fruit infections resembling speckle affected 5% of the crop at the Aylesford Bog and 20% at the Saulmerville bog; foliage was heavily infected at both. Isolations from more than 1000 fruit yielded Acanthorhynchus, 2%; Guignardia, 3%; and Gibbera, 1%. G. vaccinii was also identified with a rot that occurred in the field at Margaretsville, N.S. in 1966 (C.L.L.).

STORAGE ROT (Godronia cassandrae f. vaccinii and other fungi) affected 3.5% of fruit in storage at Aylesford, N.S. G. cassandrae was isolated from 22.8% of the fruit plated, and other major storage pathogens from about 10% (C.L.L.).

FIELD ROT. Guignardia vaccinia was associated with a rot that occurred in tr. amounts in the field at Margaretsville, N.S., in 1966 (C.L.L.).

BLACK SPOT (Mycosphaerella nigro-maculans) was reported for the first time in Canada in 1966 but could not be found in the same planting at Pitt Meadows, B.C. in 1967 (H.S.P.).

BERRY ROT (Sphaeronema pomorum Shear). S. pomorum was found for the first time on cranberries in N.S.; it was isolated from 13.1% of the fruit from the Saulmerville bog (C.L.L.). This is the first report of this disease to the Survey -- Ed.

FALSE BLOSSOM (virus) affected 2-3% of the blossoms in a 16.5-acre bog at Melville, N.S., and 4% of a 2-acre bog at Auburn. Trace infections were found in a 20-acre bog at Aylesford and a 5-acre bog at Auburn, N.S. (C.L.L.).

GRAPE

POWDERY MILDEW (Uncinula necator). Because of the consistently warm, sunny weather, incidence was unusually low throughout the Okanagan Valley, B.C. (A.J.H.).

STRAWBERRY

GRAY MOLD (Botrytis cinerea). Fruit rot was prevalent on 'Agassiz' in a planting at Summerland, B.C. (D.L.McI.). The cool, wet weather that prevailed in the Maritimes at blossom time and through much of the growing season contributed to extensive gray mold infection. In N.B. fruit rot was prevalent in all 38 fields examined, with damage ranging from tr. to 60% (S.R.C.). In N.S. gray mold was found in most plantings (C.O.G.) and was of major economic importance, with many soft berries breaking down before reaching market (A.A.MacN.).

LEAF BLIGHT (Dendrophoma obscurans). Trace to mod. infections were found in most plantings in the Annapolis Valley, N.S. (C.O.G.).

LEAF SCORCH (Diplocarpon earliana) occurred in tr. amounts in 21/38 fields examined in N.B. (S.R.C.).

LEAF BLOTCH (Gnomonia fructicola) was more prevalent than usual on both old and new plantings at Kentville, N.S.; most varieties were affected (C.O.G.).

LEAF SPOT (Mycosphaerella fragariae) was prevalent (75% incidence) and caused severe damage to old plantings throughout Bellechasse Co., Que. (H.G.). In N.B. 33/38 plantings were affected, with damage ranging from tr. to 100%; 7 fields of 'Cavalier' were severely defoliated (S.R.C.). Severe infection was observed on some varieties in the Annapolis Valley, N.S., by mid-September (C.O.G.).

RED STELE (Phytophthora fragariae). In the Lower Fraser Valley, red stele was prevalent in low, poorly drained fields (H.S.P.). At Cambridge, N.B. 10% damage occurred in 2/2 fields that were in their second year of production (S.R.C.). At the Kentville, N.S. Research Station it was found that the runner plants taken from symptomless mother plants frequently developed symptoms when brought into the greenhouse in late fall (C.O.G.). Tr. infections were found in 3 commercial plantings of 'Cavalier' and 'Redcoat' near Charlottetown, P.E.I., while entire plantings were killed in 2 home gardens (C.B.W.).

POWDERY MILDEW (Sphaerotheca macularis) occurred generally throughout the Lower Fraser Valley, B.C., on the foliage of susceptible varieties; some minor fruit infections were observed (H.S.P.). Foliage infection was prevalent on 'Agassiz' in 1 planting at Summerland, B.C. (D.L.McI.). The entire crop of a planting of 'Cavalier' was destroyed by mildew at Waterboro, N.B. (S.R.C.).

STORAGE MOLD (Typhula sp.). Losses of 6-26% occurred among strawberry plants in cold storage at three locations in N.S. (C.L.L.)

WILT (Verticillium dahliae) caused 3% damage to a planting of 'Redcoat' at Berwick, N.S. (C.L.L.). In King's Co., N.S., about 25% of a newly planted 2-acre field of 'Redcoat' was affected. Infection occurred during the summer and the pattern of disease development was indicative of soil infestation from a previous crop. A similar source of inoculum was apparent in a small first-year planting in Lunenburg Co. where differences in varietal reaction were apparent; percentages of plants affected were: 'Redcoat', 50; 'Sparkle', 30; 'Dunlap', 0. (A.A.MacN.).

ROOT ROT (various organisms and nematodes) was prevalent in all 38 fields examined in N.B.; many mother plants were killed and rootlet development affected (S.R.C.).

GREEN PETAL (virus). In N.B. damage ranged from tr. to 3% in 17/38 fields examined. Surveys of first-crop-year plantings in N.S. showed the disease to be widespread in all fields. In Colchester, Pictou and Cumberland counties 6/6 fields were affected, with incidence ranging from 4 to 70% and damage averaging 32% for 2324

clones examined: 5 of the 6 fields were free from clover. In 5/5 fields in Yarmouth and Digby counties, incidence was 0.7 to 25%, with damage averaging 5.5% for 6100 clones examined. Damage averaged 8.4% for 6500 clones in Westmoreland, Queens, and York counties, where incidence varied from 0.5 to 31% in 9/9 fields. In Kings Co. incidence of 2.3 to 21% and damage of 6.9% was estimated for 13,800 clones examined in 10/10 fields (H.T.S. and A.A.MacN.). In P.E.I. 10% infection of 'Sparkle' was reported from a 25-acre planting, with lesser amounts in 'Redcoat' and 'Cavalier'. 'Sparkle' also showed higher incidence (30%) in a 5-acre field. Most other plantings near Charlottetown contained up to 3% infected plants (C.B.W.). Green petal was also reported in 9/9 plantings in Queen Co., P.E.I., with incidence ranging from 12% to 70%, and damage averaging 34.5% for 3500 clones examined (H.T.S.). Green petal was also found in a number of fields in the lower St. Lawrence region of Quebec, mostly in Kamouraska Co., but it was less severe than in 1966. Striking symptoms were evident during the first 2 weeks of July. Infection levels at other locations surveyed were as follows: La Pocatiere: 'Red Coat', 1 field - 20%; 1 field (near the St. Lawrence R.) - free; 'Senator Dunlap', 1 field (3rd crop) - 30%. St. Philippe: 'Red Coat', 1 field (1st crop) - 5%; 'Sparkle', 1 field - 100%. Riviere Quelle: 'Red Coat', 1 field - free. St. Roch: 1 field - free, 1 field (1st crop) - 30%; 1 field (3rd crop) - 50%. At St. Pacombe green petal appeared suddenly in a field of 'Sparkle' on August 8, and within a few days 80% of the plants showed symptoms. Other records were Ste. Louise: 1 field - 15%; St. Jean: 1 field - 50%; St. Charles: 'Sparkle', 1 field - 100%; 'Red Coat', 1 field (25 acres close to the 'Sparkle' plot) - free. In Bellechasse Co., green petal was not found in 22 fields examined (H.G., L.D.).

WITCHES' BROOM (virus) was reported in one field at Moncton, N.B.; damage was less than 1% (S.R.C.).

CHEMICAL INJURY. At Stanley, N.B., 60% damage was reported in one field where 2,4-D applied the previous fall caused deformed buds and fruit (S.R.C.).

HEAT DAMAGE. In the Lower Fraser Valley, B.C., severe drought conditions during June caused greatly reduced yields in non-irrigated fields; mature and near-mature fruits turned a dark color and were unacceptable to processors. Little permanent damage was done to plants with good root systems (H.S.P.).

DISEASES OF TREES AND SHRUBS

ACER - Maple

ANTHRACNOSE (Gloeosporium apocryptum) caused only light leaf browning on sugar maples (A. saccharum) in N.B. and N.S. during 1967 (G.A.V.S.). In Nfld. 50% of the leaves on a tree at St. John's were attacked by G. apocryptum (O.A.O.).

HYPOXYLON CANKER (Hypoxylon mammatum) was recorded on A. ginnala at Pontrilllis, Sask. (B.C.S.).

NECTRIA CANKER (Nectria cinnabarina) was found on three or four branches of several Norway Maples (A. platanoides) at St. John's, Nfld. (O.A.O.).

TAR SPOT (Rhytisma punctatum) was observed on a specimen of A. macrophyllum at Vancouver, B.C. (H.N.W.T.).

DETERIORATION of roadside maples was most apparent near Sault Ste. Marie, Ont., and in s. Ont. The condition was associated with winter salting of roads (M.J.L.).

CHEMICAL INJURY - Chlorosis and dwarfing of leaves, presumably from herbicide damage, was observed on Manitoba maple (A. negundo) in s. regions of Ont. (M.J.L.).

AESCULUS - Horsechestnut

CANKER (Nectria cinnabarina) affected a tree at St. John's Nlfd. (O.A.O.).

AMELANCHIER - Juneberry

RUST (Gymnosporangium spp.) infection was observed at Lamont, Calgary, Wainwright, and Beaverlodge, Alta. (A.W.H.). Severe infection by G. clavariiforme was reported at La Pocatière, Que. and vicinity (H.G.).

CARAGANA - Pea tree

LEAF SPOT (Septoria caraganae). The distribution pattern of this disease differed markedly from that reported in 1966. It was found infrequently around Winnipeg, Riverton, and Swan Lake, Man., and was not reported from the western grasslands of Sask., where it caused severe defoliation in 1966 (B.C.S.).

DIEBACK (Tuberculoria vulgaris, Curcurbitaria caraganae, and Camarosporium caraganae) was locally severe in shelterbelts in Man. and Sask. and reduced the effectiveness of windbreaks (B.C.S.).

CATALPA

LEAF SPOT (Alternaria sp.). An Alternaria sp. was isolated from material received from Fenwich, Ont. (T.R.D.).

CHAMAEDAPHNE - Leatherleaf

RED LEAF (Exobasidium vaccinii). Light to moderate infection was found on plants growing in a cranberry bog in King's County,