

*

DISEASES OF TREES AND SHRUBS

ABIES - Fir

WITCHES' BROOM (Melampsorella caryophyllacearum). Infections were frequently observed in the Cavendish-Rustico area of P.E.I. (D.W.C.)

ACER - Maple

ANTHRACNOSE (Gloeosporium apocryptum) was mod. on 200 trees of A. rubrum in a nursery at Galt, Ont. (A.E.S.) and an infected specimen of A. platanoides was received from Beaumont, Bellechasse Co., Que. (D.L.). It was common but light in intensity at many locations in N.B. and was observed at 4 places in P.E.I. The disease was widespread in P.E.I. and shade trees of A. saccharum were affected in many towns (L.P.M.).

CORAL CANCKER (Nectria cinnabarina) caused sev. injury to maples at Corner Brook, Nfld. (J.H., W.C.P.).

WILT (Verticillium sp.). The pathogen was isolated from 3 wilted maple trees at Ottawa, Ont. (H.S.T.).

CHEMICAL INJURY. 2,4-D drift caused some injury to 100 maples in a nursery at Spencerville, Ont. (A.E.S.).

DETERIORATION (adverse environmental conditions) was again common on A. saccharum along roadsides in s. Ont. (B.W.D., D.F.L.). A street tree of A. saccharum at Ottawa showed considerably die-back on one side (H.S.T.).

FROST AND WIND INJURY was mod. on 75 trees of A. saccharum at Oxford Mills and wind injury was mod. on 200 trees of A. rubrum at Galt, Ont. (A.E.S.). Affected specimens were received from Sillery and Ste. Foy, Québec Co., Thetford Mines, Megantic Co., Notre Dame du Lac, Temiscouata Co.

*

Diseases referred to 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 Forest Entomology and Pathology Branch, Canada Department of Forestry, Ottawa, Ont.

and Ste. Perpetue, Nicolet Co., Que. (D.L.).

LEAF SCORCH (cause unknown) was prevalent on A. saccharum and other deciduous trees along roadsides throughout s. Ont. (B.W.D., D.F.L.). Leaf scorch and premature leaf fall were pronounced on roadside maple trees, particularly A. saccharum in Three Rivers and Québec City and from Montmagny to Rivière du Loup, Que. (G.B.O.).

AESCULUS - Horsechestnut

LEAF BLOTCH (Guignardia aesculi) was common throughout N.S. but its intensity was below 1963 levels (L.P.M.).

AMELANCHIER

RUST (Gymnosporangium sp.). Infection was sev. on leaves and fruit of native amelanchiers at St. John's Vest, Nfld. (O.A.O.).

BERBERIS - Barberry

ROOT-KNOT NEMATODE (Meloidogyne hapla) caused 5-10% loss in a planting of red barberries in Louth Twp., Ont. Larvae were recovered at the rate of 3600/lb. of soil. (J.L.T.).

RUST (Puccinia graminis) was mod. on 200 plants nr. Kingston, on 50 at Clarkson, on 2 at Galt and 1 at Ottawa, Ont. It was sev. on 20 plants at Campbell's Bay, Que. (A.E.S.). Berberis vulgaris and its variety atropurpurea were examined at 15 locations in Que. Its incidence was recorded as follows: tr. at Ste. Foy, sl. at Courville, Giffard and Charlesbourg, Québec Co., mod. at Ste. Petronille, Montmorency Co. and St. Nicholas, Lévis Co., sev. at Ancienne Lorette and Beauport, Québec Co. No rust was found at 7 locations in Québec City (D.L., M.F.).

WILT (Verticillium dahliae) was sl. at Charlesbourg and mod. at Ste. Foy, Que. on B. thunbergii (D.L., J.E.).

CARAGANA - Pea Tree

SHOOT AND LEAF BLIGHT (Phyllosticta sp.) was observed at Wetaskiwin, Alta. (A.W.H., D.S.).

CHEMICAL INJURY, from drift of herbicides, was recorded on a hedge at Wakaw, Sask. (B.J.S.).

CHAMAECYPARIS

ROOT ROT (Phytophthora spp.). Phytophthora root rot of ornamental evergreens, particularly of Lawson's cypress, C. lawsoniana continues to be a serious disease in some large nurseries in the Lower Fraser Valley, B.C. In recent years P. lateralis has been isolated more frequently from C. lawsoniana than has P. cinnamomi. A third, as yet unidentified, species of Phytophthora has been infrequently isolated from C. lawsoniana from 3 widely-separated nurseries in the Lower Fraser Valley, but it has not as yet been encountered on Vancouver Island. P. cinnamomi has been isolated as well from Tams baccata from one mainland nursery and from T. baccata and T. cuspidata from a nursery in the Victoria area (R.G.A.).

CORNUS - Dogwood

CROWN CANKER (Phytophthora cactorum) caused the killing of many branches of a large tree of C. nuttalli in Butchart's Gardens, Victoria, B.C. The cambium was darkened to about 18" above soil level. The fungus was isolated by the green apple technique and produced typical paragynous antheridia in 2 days at 20°C (R.G.A.).

CORYLUS-Filbert

POWDERY MILDEW (Phyllactinia guttata) was sev. on the foliage of filberts at Sunshine Bay, R.C. Cleistothecia were abundant (D.L.McI.).

COTONEASTER

LEAF SPOT (Phyllosticta contoneastri Allesch.) was mod. on 500 shrubs in a nursery at Rougemont, Que. (A.E.S.).

FASCIATION (cause undetermined) has occurred for some years on C. microphylla in plantings on the University Campus, Point Gray, B.C. The condition has likely been perpetuated unwittingly by rooted cuttings (H.N.W.T.).

CRATAEGUS - Hawthorn

RUST (Gymnosporangium spp.). Leaves of C. columbiana were infected at Vernon and those of C. brevispina bore 1-20% infection at Vernon and Summerland, B.C. (G.E.W.). Rust was tr. on 50 shrubs in a nursery at St. Hilaire, Que. Pycnia only were observed (A.E.S.).

ELEAGNUS - Russian Olive

RUST (Puccinia caricis-shepherdiae) was observed on E. angustifolia at Yorkton, Sask. (B.J.S.).

WILT (Verticillium albo-atrum) severely affected an ornamental specimen tree of E. angustifolia at Summerland, B.C. (G.E.W.).

FRAXINUS - Spindletree

CROWN GALL (Agrobacterium tumefaciens) was found on most plants in a planting of 12 in an Ottawa, Ont. nursery (A.E.S.).

FAGUS - Beech

BARK CANKER (Libertella faginea Desm.). The fungus, identified by R.A. Shoemaker, was found fruiting profusely on dead or dying beech trees in a new housing sub-division at St. Catharines, Ont. (R.S.W.).

FORSYTHIA - Golden Bells

BACTERIAL BLIGHT (Pseudomonas syringae) was observed in a number of gardens on S. Vancouver Island (W.R.F.) and occurred on 1 bush in a garden also containing infected lilac and Japanese flowering cherry at Capilano, B.C. (H.N.W.T.).

FRAXINUS - Ash

ANTHRACNOSE (Gloeosporium aridum). Infections were common but generally light in N.B. and N.S. One tree at Upper Musquodoboit, N.S. suffered sev. defoliation (L.P.M.).

RUST (Puccinia sparganioides) was sev. in the Round Hill - Mochelle area of Annapolis Co., N.S. where many trees were apparently dying. Severe damage was also reported from Lansdowne (L.P.M.) and Wolfville, N.S. (L.P.M., R.G.R.).

HYDRANGEA

CORAL CANKER (Nectria cinnabarina) caused a trace of damage to 125 shrubs in a nursery at Ste. Rose, Que. (A.E.S.).

JUGLANS - Walnut

LEAF SPOT (Gnomonia leptostyla, stat. conid. Marssonina juglandis) was sev., causing a premature defoliation, on walnut at Charlesbourg, Que. (D.L.).

DIE-BACK (Melanconis juglandis) caused mod. damage to a tree at Kingston, Ont. The pathogen was identified by R.M. Arnold (H.S.T.).

BACTERIAL BLIGHT (Xanthomonas juglandis). Specimens showing the typical pits and breakdown of shells were received from Chilliwack, B.C. (H.N.W.T.).

JUNIPERUS - Juniper

RUST (Gymnosporangium spp.). A survey for the presence of gymnosporangium rusts on Juniperus spp. in nurseries in w. Ont. was carried out by the following inspectors of the London office of the Plant Protection Division, C.D.A. : G.T.A.Fenney, C.Ashton, F.Strubin and J.Kimpinski. The survey was conducted in June and collections were identified at Ottawa by J.A.Parmelee and A.E.Straby. They report as follows:

G. ciavipes: on J. virginiana: tr. in 1 nursery each at St. Thomas, Brantford and Beamsville; mod in 1 at St. Thomas; tr.-sev. in 1 at Port Dover; sev. in 1 at Simcoe; on J. v. var. glauca: tr. in 1 nursery at London and sev. in 1 at Simcoe; on J. v. var. canaerti: tr. in 1 nursery at London.

G. globosum: on J. virginiana: tr. in 1 nursery each at St. Thomas, Sarnia and Brantford; mod in 1 nursery at St. Thomas and tr.-sev. in 1 at Port Dover: on J. v. var. glauca: mod in 1 nursery at St. Thomas, Sarnia, Brantford and Petrolia: on J. sp.: tr.-sev. in 1 nursery at Galt.

G. juniperi-virginianae: on J. virginiana: tr. in 1 nursery each at Sarnia and Simcoe: on J. v. var. glauca: sev. in 1 nursery at Simcoe: on J. v. var. canaerti: tr. in 1 nursery each at Port Dover, Strathroy and Petrolia.

No rust was found on J. v. var. sabin, tamariscifolia, communis suecica or communis depressa at Simcoe.

TWIG BLIGHT (Phomopsis juniperovora) caused mod killing of twigs of J. sabin at Haney, B.C. Specimens of J. sabin tamariscifolia with about half the foliage dead were also received from Pitt Meadows. Pycnia bore alpha spores only. Nurserymen reported this disease to be widespread in lower Fraser Valley nurseries in 1964. Above-average rainfall and cloudy weather may have contributed to its prevalence (R.G.A.) •

LIGUSTRUM - Privet

ANTHRACNOSE (Glomerella cingulata) killed plants in a part of a hedge of the supposedly-resistant L. amurense at Lynwood Village, Ont. It apparently followed winter injury (H.S.T.).

LONICERA - Honeysuckle

LEAF BLIGHT (Herpobasidium deformans) was sev. on L. tatarica at Charlesbourg, Que. (D.L.).

POWDERY MILDEW (Microsphaera penicillata var. loniceræ). affected specimens of L. tatarica were received from Duberger, Québec Co., Que. (D.L.).

MAHONIA - Oregon Grape

LEAF SPOT (Phyllosticta sp.) was sl. on 6 shrubs in a nursery nr. Ottawa, Ont. (A.E.s.).

MALUS - Flowering Crab

FIRE BLIGHT (Erwinia amylovora) occurred on Malus sp. at Peace River, Alta. (J.A.B.) and affected ornamental Malus spp. at St. Romuald, Levis Co., and Québec City, Que. (G.B.O.).

CORAL CANKER (Nectria cinnabarina) was observed on Malus sp. at Dimsdale, Alta. (J.A.B.).

POWDERY MILDEW (Podosphaera leucotricha) . Affected leaves of crab were received from Champigny, Que. (D.L.)

SCAB (Venturia i n n) was common on ornamental Malus spp. in Québec City, Que. and vicinity (G.B.O.).

PARTHENOCISSUS - Virginia Creeper

CHEMICAL INJURY (2,4-D drift) was sl. on 2 young vines at Ottawa, Ont. (D.W.C.).

PEPEROMIA

ROOT ROT (Pythium spp.) affected newly all the rooted cuttings of Peperomia in a Toronto, Ont. greenhouse (A.E.S.).

PHILADELPHUS

WILT (Verticillium albo-atrum) . The pathogen was isolated from diseased plants from Pointe Claire, Que. This appears to be a new host record for North America (W.E.S.).

PICEA - Spruce

RUST (Chrysomyxa ledicola) affected all the trees of P. pungens in a planting at Sydney, N.S. (C.O.G.). Some rust was seen on most native spruce trees examined at St. John's, Foxtrap and Bay Roberts, Nfld. (O.A.O.).

TWIG CANKER (Cytospora kunzei Sacc.) . Five trees of P. pungens were infected in a nursery at Abbotsford, Que. (A.E.S.).

DAMPING-OFF (Pythium sp.) affected seedlings in artificial culture in a nursery at Oliver, Alta. (AWH, D.S.).

DIE-BACK (*Sphaeropsis ellisii* Sacc. = *Diplodia picea* (Desm.) Kickx = *Macrophoma picea* (Desm.) Petr. & Syd.) caused slight injury on 100 shrubs of *P. pungens kosteriana* in a nursery at Rougemont, Que. The perfect state of the fungus is probably *Botryosphaeria ribis* Gross. & Dug. (A.E.S., R.A.S.).

FROST INJURY killed early-emerging shoots and caused slight injury to 100 small trees of *P. pungens* in a Spencerville, Ont. nursery (A.E.S.).

PINUS - Pine

RUST (*Cronartium coleosporioides*) affected a young planting of *P. sylvestris* on Lulu Island, B.C. Nearby *P. contorta*, a native species, was infected (H.N.W.T.).

GALL RUST (*Cronartium quercuum*). A large, sporulating canker was collected from a small tree of *P. banksiana* at Westmeath, Ont. (H.G. C., D.W.C.).

BLISTER RUST (*Cronartium ribicola*). Infection was sev. in a 60-year-old planting of 10-year-old *P. strobus* at Laval, Montmorency Co., Que. Damage was estimated at 15-20%. *Ribes gladiosum*, an alternate host growing in the vicinity, bore scattered uredinal pustules (D.L., MF). A specimen bearing a large fruiting canker was received from Sutton, Que. (D.W.C.).

TWIG CANKER (*Cytospora kunzei*) was tr. on 100 *P. strobus* trees on a nursery at St. Hilaire, Que. (A.E.S.).

PLATANUS - Sycamore

ANTHRACNOSE (*Gnomonia veneta*) was widespread in coastal B.C. in the spring (W.R.F.).

POPULUS - Poplar

CANKER (*Cytospora* sp.) occurred at Acme and Leano, Alta. (A.W.H., D.S.).

CANKER (*Dothიცiza populea*) caused sev. damage to a tree of *P. nigra* var. *italica* at Dartmouth, N.S. (C.L.L.).

CANKER (*Septoria musiva*) was prevalent in a shelter belt at Millet, Alta. (A.W.H., D.S.). It was sev. on 3000 trees of 'Griffin' poplar (*petrowskyana* x *deltoides*) in a nursery at Estevan, Sask. An export certificate was denied (A.E.S., H.Z.).

LEAF SPOT (*Septoria musiva*). A specimen of affected *P. balsamifera* was received from Charlesbourg, Que. (D.L.).

YELLOW LEAF BLISTER (*Taphrina populina*) was mod. on 500 trees of *P. nigra* var. *italica* at Ocean Falls, B.C. (A.E.S.) and was sev. on the same species at St. John's, Nfld. (O.A.O., H.S.T.).

CANKER (*Valsa sordida*). Moderate infection was seen on a tree of *P. deltoides* at Quebec City, Que. (D.L.).

SHOOT BLIGHT (*Venturia ?tremulae*). Specimens were received from Mannville, Penhold and Three Hills, Alta. (A.W.H., D.S.).

PRUNUS - Native and Flowering Cherry

BLACK KNOT (*Dibotryon morbosum*) was reported on *P. padus* at Camrose and Calgary, Alta. (A.W.H., D.S.). It was common and caused sev. injury to *P. pensylvanica* in all areas of Nfld. (J.H., W.C.P.). A number of first-year tumors were observed in 1964 (O.A.O.).

LEAF BLIGHT (*Monilina seaveri*) affected 50% of the leaves of *P. serotina* nr. Carp, Ont. on 25 May. Apothecia had been collected on 4 May. This fungus was first collected in the area in 1963 (M.E.E.).

BLADDER PLUM (*Taphrina cerasi*). Heavy infections were observed on *P. pensylvanica* at Cavendish, P.E.I. (D.W.C.).

PYRUS - Mountain Ash

CANKER (*Cytospora* sp.) was observed at Edmonton, Alta. (A.W.H., D.S.).

FIRE BLIGHT (*Erwinia amylovora*) occurred on mountain ash at Alix, Alta. (A.W.H., D.S.) and at St. Romuald, Levis Co., Quebec City and Grondines, Portneuf Co., Que. (D.L., G.B.O.).

RUST (*Gymnosporangium* sp.) was sl. on native mountain ash at St. John's West, Nfld. (O.A.O.).

MINERAL DEFICIENCY. Specimens received from 5 locations in Alta. were affected by a marginal leaf necrosis, possibly caused by a mineral deficiency (A.W.H., D.S.). A lime-induced mineral deficiency caused pronounced marginal necrosis at Winnipeg, Man. (W.A.F.H.).

QUERCUS - Oak

FROST INJURY caused heavy damage to leaves of 200 trees of *Q. borealis* in a nursery at Spencerville, Ont. (A.E.S.).

RHAMNUS - Buckthorn

RUST (*Puccinia coronata* f. sp. *agrostidis*) was extremely light on *R. frangula* at Ottawa, Ont. (D.W.C.).

RHODODENDRON - Rhododendron, Azalea

GRAY MOLD (*Botrytis cinerea*) caused a 1% loss of rhododendron seedlings at Kentville, N.S. (C.O.G.).

LEAF SPOT (*Cercospora handelii*) affected some of the leaves on 75% of a planting of azaleas, *R. indicum*, at Falmouth, N.S. in July. Maneb sprays effectively controlled the disease and the plants were in excellent condition in Oct. (K.A.H.). This is the first report, to the Survey, of this disease (D.W. Creelman).

LEAF SPOT (*Diplodina eurhododendri*). Infection was sev. on *R. smirnowii* at Kentville and Truro, N.S. All infected plants at Kentville were removed (C.O.G., R.A.S.). The only previous report of this disease from Canada is from B.C. (C.P.D.S. 19: 107, 1940) (D.W. Creelman).

SHOOT GALL (*Exobasidium vaccinii*) was observed on azaleas in a number of gardens in the s. portion of Vancouver Island, B.C. (w.R.F.).

RIBES - Flowering Currant

ANTHRACNOSE (*Drepanopeziza variable*) occurred on a number of hedges in the Ottawa, Ont. area. Infection ranged from sl.-sev. (H.S.T., D.W.C.). It was mod. on 20,000 shrubs in a nursery at Ste. Rose (A.E.S.) and specimens were received from Charlesbourg, Que. (D.L.). Heavy infection on a hedge at Billtown, N.S. resulted in 75% defoliation (C.O.G.).

ROSA - Rose

GRAY MOLD BUD ROT (*Botrytis cinerea*). Specimens were received from Ste. Foy and Levis, Que. (D.L., J.R.).

BLACK SPOT (*Diplocarpon rosae*) was seen in several Vancouver, B.C. gardens (H.N.W.T.). Specimens were received from Riceton, Sask. and it was seen in an Ottawa, Ont. garden (H.S.T.). It was mod. at Charlesbourg, sev. at St. Nicolas and specimens were received from Ste. Foy, Que. (D.L.). Black spot was sev. on florabunda roses at Charlottetown, P.E.I. The variety 'Masquerade' suffered complete defoliation (G.W.A.).

SLIME MOLD (*Mucilago spongiosa* (Leyss) Morg. aff. var. *solida* (Sturgis) Lister) was found enveloping stems and associated with unthrifty, or dying plants in 500 bushes of the variety 'Grootendorst' in a nursery at Strathroy, Ont. The organism was identified by G.D. Darker (A.E.S.).

RUST (*Phragmidium* sp.). A heavily-infected specimen was received from Kenora, Ont. No telia were present (D.W.C.).

NEMATODES (*Pratylenchus penetrans*, *Meloidogyne hapla*) were found at the rates of 300/10 gm of root and 144/10 gm of root on roses in Louth Twp., Ont. (J.L.T.).

POWDERY MILDEW (*Sphaerotheca pannosa*). Specimens were received from St. Raphael, Bellechasse Co., Que. (D.L.).

NEMATODES (*Xiphinema diversicaudatum*). Soil samples received from 12 benches in 4 greenhouses in Richmond, Ont. yielded 9-864 nematodes/lb. of soil. It was estimated from past experience that the grower would lose up to 25% of his crop (J.L.T.).

MOSAIC (virus). One plant of the variety 'Peace' was affected in a home garden in Ottawa, Ont. (H.S.T.).

CHEMICAL INJURY (2,4-D) was sl. in an Ottawa, Ont. garden (D.W.C.).

SALIX - willow

CANKER (*Cytospora* sp.) caused sev. damage in a shelterbelt at Leduc and was reported from Edmonton, New Sarepta and Vulcan, Alta. (A.W.H., D.S.).

BLIGHT (*Pollacia saliciperda*). Infection was sev. on ornamental willows at Chapleau (G.B.O.) and a specimen of infected *S. laurifolia* was received from Sillery, Que. (D.L.). *Salix vitellina* was 100% infected at Grand Pre and other points in Kings Co., N.S. A few native willows were also severely infected. Fungicidal sprays, where coverage was adequate, gave excellent control (K.A.H.).

CANKER (*Valsa leucostoma*). An infected specimen of *S. laurifolia* was received from Montmagny, Que. (D.L.).

SAMBUCUS - Elder

CROWN ROT (pathogen undetermined), observed in the Edmonton, Alta. area for several seasons, occurred again in 1964. A similar disease was also reported from Camrose, Innisfail, Rocky Mountain House and Wernerville. A phycomycete has been consistently isolated but pathogenicity trials have not been completed (A.W.H., D.S.).

SPIRAEA

LEAF SPOT (*Helminthosporium ?spiraeae* Syd.) was sl. on 500 bushes of *S. arguta* in a nursery at Actonvale, Que. (A.E.S.).

SYRINGA - Lilac

LEAF SPOT (*Cladosporium ?herbarum*) was observed on an ornamental lilac at Kelowna, B.C. (D.L. McI.).

POWDERY MILDEW (*Microsphaera m-cillata*) was sl. on French lilacs in a home planting at Ottawa, Ont. (D.W.C.) and was sev. at Sussex, N.B. (S.R.C.).

BACTERIAL BLIGHT (*Pseudomonas syringae*) was observed in a number of localities in coastal B.C. (w.R.F.).

WIND INJURY. Specimens were received from Cutknife and Rockhaven, Sask. (R.J.L.).

ULMUS - Elm

DUTCH ELM DISEASE (*Ceratocystis ulmi*). A northward range extension of about 30 miles, from Callendar to Sturgeon Falls, was recorded in e. Ont. (B.W.D., D.F.L.). It continued to spread in N.B. and was found in 1964 at Seville representing a northeasterly extension of about 40 miles down the Miramichi valley (L.P.M.).

LEAF SPOT (*Gnomonia ulmea*). Infected leaves of *U. pumila* were received from Yorkton, Sask. (R.J.L.).

CORAL CANCKER (*Tubercularia ulmi*) was found on *U. pumila* at Beaverlodge, Alta. (J.A.B.). Specimens on the same host were received from Québec City, Que. (D.L.) and sev. injury was observed on elms at Corner Brook, Nfld. (J.H., W.C.P.).

FROST INJURY caused sl. injury to leaves of 100 trees of *U. pumila* in a nursery at Spencerville, Ont. (A.E.S.).

VIBURNUM

ROOT-KNOT NEMATODE (*Meloidogyne hapla*) was found on roots of *Viburnum* sp. at St. Hilaire, Que. (M.O.T.).

POWDERY MILDEW (*Microsphaera penicillata*). Infection was sev. on *Viburnum tinus*, Laurestinus, in Victoria, B.C. (W.R.F.).

DISEASES OF HERBACEOUS ORNAMENTALS

ALTHAEA - Hollyhock

RUST (*Puccinia malvacearum*) was commonly seen in the Okanagan Valley, B.C. (G.E.W.) and was sev. at St. Casimir, Portneuf Co., Que. (D.L.).

STEM AND CROWN ROT (*Sclerotinia sclerotiorum*). A severely-rotted specimen was received from Victoria, B.C. Sclerotia were abundant in affected tissues (M.E.E.).

AQUILEGIA - Columbine

POWDERY MILDEW (*Erysiphe polygoni*) occurred frequently, late in the season, in the Okanagan Valley, B.C. (G.E.W.) and was reported from Edmonton, Alta. (A.W.H., D.S.).

BEGONIA

GRAY MOLD (*Botrytis cinerea*) caused a leaf blotch on begonias at Edmonton, Alta. (A.W.H., D.S.). Infection was sl.-mod. on 500 tuberous begonias in a greenhouse at Champigny, Que. (A.E.S.).

POWDERY MILDEW (*Erysiphe cichoracearum*). Infected specimens were received from Quebec City in Aug. and Sept. (D.L.).

CALENDULA

SMUT (*Entyloma polysporum*). Volunteer plants growing in a bed at Kentville, N.S. where calendulas were infected in 1963 became severely infected and finally defoliated. The organism apparently overwintered on leaf debris (K.A.H.).

CALLISTEPHUS - China aster

ASTER YELLOWS (aster yellows virus). The variety 'Queen of the Market' was 100% infected in a small planting at Kentville, N.S. by the first of Oct. (K.A.H.).

CHRYSANTHEMUM

POWDERY MILDEW (*Erysiphe cichoracearum*). Specimens were received from Calmar and Westlock, Alta. (A.W.H., D.S.). Heavily-infected leaves were received from Yam, Que. (D.W.C.).

WILT (*Verticillium albo-atrum*). Incidence in the coastal areas of B.C. was the highest in memory. Colder than normal spring temperatures favored the disease (W.R.F.).

DAHLIA

BUD ROT (*Botrytis cinerea*). A specimen was received from Levis, Que. (D.L.).

TUBER ROT (*Sclerotinia sclerotiorum*) affected one to several tubers from about 50% of the plants of the variety 'Unwin' at Summerland, B.C. Infection sometimes developed on the basal parts of old stems. Rot became evident soon after the plants were lifted in late Oct. (G.E.W.).

LOW-TEMPERATURE INJURY. Damaged tubers were received from Saskatoon, Sask. (R.J.L.).

DELPHINIUM - Larkspur

POWDERY MILDEW (*Erysiphe polygoni*) was observed at Edmonton, Alta. (A.W.H., D.S.).