

## VI. DISEASES OF ORNAMENTAL PLANTS

### ABUTILON

Nematode galls were found on house plants thought to have been brought from E. Canada 2 or 3 years ago to Saskatoon, Sask. The galls on Abutilon, Begonia and Coleus were caused by Meloidogyne incognita Kofoid & White according to Miss G. L. Brown, Nematode investigations, Ottawa (T. C. Vanterpool).

### ALTHAEA - Hollyhock

Rust (Puccinia malvacearum) was present in mod. amounts at Fort Garry, Man. in Aug.; in Sept. infection was sev. (W. L. Gordon). Sev. affected specimens were received from Knowlton and St. Elzear, Que. (H. S. Thompson), and from Montreal (P. Duval). In N. S. specimens were received from Hants, Kings, and Halifax counties (J. F. Hockey). Sev. damage was caused to many varieties in Queens and Kings Counties, P. E. I. Single varieties showed very little rust. Dithane Z-78 was recommended and prevented defoliation; 3 or 4 applications at 10-14 day intervals were made. Unsprayed plants were sev. defoliated and produced only dwarfed flower stalks (R. R. Hurst).

### AMARYLLIS

Red Blotch (Stagonospora curtisii) was present in mod. amounts on A. hippeastrum in greenhouses at Montreal Botanical Garden, Que. (P. Duval).

### ANTIRRHINUM - Snapdragon

Stem Rot (Botrytis sp.) was found on 2/1000 seedlings in flats at Hamilton, Ont. The fungus was sporulating on the base of the stem (W. G. Kemp).

Powdery Mildew (Oidium sp.). A mod. infection was observed on half of 1000 White Spartan seedlings in flats at Hamilton, Ont. (W. G. Kemp).

Wilt (Rhizoctonia solani). A number of plants in a greenhouse in Brampton, Ont., were wilted. R. solani was isolated from diseased specimens (H. N. Racicot).

### ASTER

Rust (Coleosporium solidaginis) covered all the plants of A. dumosus cultivated in a nursery in Portneuf Co., Que. (J. Ringuet).

### ATROPA

Berry Rot was observed on A. belladonna at La Gorgendiere, Que., Botrytis cinerea and Cladosporium sp. were present on the rotted fruit (D. Leblond).

### BEGONIA

Blight (Botrytis sp.) affected cuttings in Portneuf Co., Que. (D. Leblond), and 3 plants in a garden in Queens Co., P. E. I. (R. R. Hurst).

Powdery Mildew (Erysiphe cichoracearum) sev. affected cuttings rooted in sand in a greenhouse in Hamilton, Ont. (W. G. Kemp). It was sev. on tuberous begonias at several places in Montreal (E. Jacques), and two places in Quebec City, Que. (D. Leblond).

Nematode galls see ABUTILON

#### CALENDULA

Aster Yellows (Calistephus virus 1) infections were sl. -mod. in a plot at Saskatoon, Sask. (T. C. Vanterpool). Leafhoppers were scarce until late in the season and infestations were not as heavy as in the past 3 years (T. C. Vanterpool). Yellows were not as troublesome as usual this year. Infection appeared later and some N. S. gardens were free of this disease (K. A. Harrison). One garden in Queens Co., P. E. I., was sev. affected; 75% of plants were diseased (R. R. Hurst).

#### CALLISTEPHUS - China aster

Wilt (Fusarium oxysporum f. sp. callistephi) was present in 2 gardens in Edmonton, Alta.; 10% of the plants were affected in one garden (A. W. Henry). A diseased plant was brought in from a home garden in St. Catharines, Ont.; a few plants were also affected in the laboratory garden (W. G. Kemp). Infected specimens were received from a garden in Montreal, Que. (P. Duval).

Yellows (Calistephus virus 1) affected half the plants in the laboratory garden, St. Catharines, Ont.; the blooms were malformed, colors broken and the foliage yellow. A single plant was infected among 1500 New Ball White examined at Brampton, Ont. (W. G. Kemp). Yellows affected a few plants in the flower beds at Ste. Anne de la Pocatiere, Que. (R. O. Lachance). It was observed in several gardens at Kentville, N. S. (J. F. Hockey).

#### CANNA

Leaf spots on a specimen from Ste. Foy, Que., collected by D. Leblond were found to bear a Leptosphaeria sp. and a Phaeoseptoria sp. No record of members of these genera on Canna has been found (R. A. S.).

#### CHRYSANTHEMUM

Powdery Mildew (Erysiphe cichoracearum) occurred only in tr. amounts on White Shasta and Yellow Shasta in Wentworth Co., Ont. (W. G. Kemp).

Stem rot (Rhizoctonia solani) affected only Indianapolis White cuttings in a bed where 15 varieties were being rooted at St. Catharines, Ont. (W. G. Kemp).

Wilt (Sclerotinia sclerotiorum). An unusual attack of mature greenhouse plants occurred in Brampton. The infection developed on the stem at leaf scars. Sclerotia were found in the pith. About 100/800 White Top plants were affected (W. G. Kemp).

Leaf Spot (Septoria sp.) was sev. on Ethrelda and Monty at Leamington and Revelation at London. Septoria sp. and Cylindrosporium sp. were isolated

from the lower leaves of Coquette sent in from Port Burwell, Ont. The Septoria was associated with well defined spots whereas the *Cylindrosporium* induced a blotch (W.G. Kemp).

Foliar nematode (*Aphelenchoides* sp.). A specimen from Bras d'Or Twp., Victoria Co., N.S., was slightly damaged by nematodes (K.A. Harrison).

#### CIMICIFUGA - Bugbane

Leaf Spot (*Ascochyta* sp.) was found in tr. amounts in Quebec City, Que. (D. Leblond).

#### CLEOME

Leaf Spot (*Ascochyta* sp.). A sl. infection was found on spider plant (*C. spinosa*) at Ste. Foy, Que. (D. Leblond).

Yellows virus was present in mod. amounts in the same planting.

#### COLEUS

Nematode galls; see ABUTILON.

#### CONVALLARIA

Grey Mold (*Botrytis cinerea*) was present on plants of *C. majalis* sent from Chateau d'Eau, Que. (D. Leblond).

#### CYCLAMEN

Soft Rot (*Erwinia carotovora*) damaged all 6 potted plants in a greenhouse in Queens Co., P.E.I. (R.R. Hurst).

#### DELPHINIUM

Powdery Mildew (*Erysiphe polygoni*) damaged some plants in Edmonton, Alta. (W.P. Campbell). It was very sev. on a few plants in the laboratory garden at St. Catharines, Ont. (W.G. Kemp). Tr. amounts were present in a garden at Contrecoeur, Que. (E. Jacques). Sl. amount was found in Quebec City (D. Leblond). Damage in Prince and Queens Counties, P.E.I. ranged from sl. - sev. (R.R. Hurst).

Bacterial Blight (*Pseudomonas delphinii*) was observed in 5 Quebec nurseries; infections varied from 10 to 75% (J. Ringuet). Mod. damage was done in an abandoned garden in Kings Co., P.E.I. (R.R. Hurst).

Yellows (*Calistephus virus 1*) damaged a few plants sev. in a garden at Lethbridge, Alta. (M.W. Cormack).

#### DIANTHUS - Carnation

Flower Blight (*Botrytis* sp.) was sev. on first year growth at Norval, Ont. (H.S. Thompson). A few Midas plants were affected in a greenhouse at Brampton. The blooms were enveloped by mycelium and the organism was sporulating freely. (W.G. Kemp).

Stem Rot (Fusarium sp.) affected cuttings grown in a greenhouse in Alta. (A. W. Henry). Fusarium sp. was isolated from rotted stem tissue of a specimen sent in from London, Ont. (W. G. Kemp).

Wilt (Fusarium sp.) was very sev. on 2 year old Northland plants; all plants were affected in a greenhouse bench at Brampton, Ont. (W. G. Kemp). A display plot was sev. affected at the Botanical Garden, Montreal, Que. (P. Duval).

Fairy Ring Spot (Heterosporium echinulatum) was sev. on leaves of Haney plants received from B. C. (H. S. Thompson).

Stem Rot (Rhizoctonia solani). The pathogen was isolated from Mamie and Jupiter plants from St. Catharines and from greenhouse plants from Brampton, Ont. (W. G. Kemp).

Sclerotinia Rot (S. sclerotiorum) was isolated from 2 plants, the only ones affected, in a greenhouse bed at Leamington, Ont. (H. S. Thompson).

Rust (Uromyces caryophyllinus). White Sim plants that were sl. rusted when brought into greenhouse from outdoors at Grimsby, Ont., were mod. infected by flowering time. Midas and Northland were mod. infected outdoors at St. Catharines. In a Brampton greenhouse Apollo, Wm. Sim and Northland were affected. In another greenhouse in Brampton rust on Red Sim was present on newly rooted cuttings but Parzate sprays at 14-day intervals kept the rust at tr. amounts (W. G. Kemp). A mod. outbreak occurred in a greenhouse in Montreal, Que. (E. Jacques).

Pimple (Xanthomonas oryzae var. dianthi) infection was sl. less than 1% of 450 cuttings of Apollo. Hermes and Achilles were affected in a greenhouse at Guelph, Ont. (E. H. Garrard).

Bacterial Wilt (Pseudomonas caryophylli) occurred on cuttings imported from U. S. A. The cuttings were grown in a greenhouse in Brampton, Ont. About 20% of 4,050 Red Sim plants were affected in 1954 but no trace of the disease has been seen since then (E. H. Garrard).

Yellows (virus). Affected specimens were received from Amos, Abitibi, Co., Que. Infection was mod. but appeared to be spreading rapidly (P. Duval).

#### EUONYMUS

The Tubercularia vulgaris stage of Nectria cinnabarina was present on a specimen of E. alatus received from a nursery in Ottawa, Ont. (H. N. Racicot, H. S. Thompson).

#### EUPHORBIA - Poinsettia

Stem rot (Pythium sp.). Isolations from potted plants showing stem rot and wilt symptoms received from Grimsby, Ont. yielded Pythium sp. and bacteria; only Pythium was pathogenic when tested (W. G. Kemp).

Stem Rot (Rhizoctonia solani) was sev. on unrooted cuttings in a greenhouse in Brampton, Ont. Half the plants in a propagating bed were affected (W. S. K.).

## GAILLARDIA

Yellows (*Callistephus virus 1*) damaged plants sev. in Queens Co., P. E. I. (R. R. Hurst).

## GLADIOLUS

Corm Rot (*Curvularia trifolii* f. sp. *gladioli*) was observed at Ste. Foy (D. Leblond) and Quebec City, Que. (H. S. Thompson).

Core Rot (*Botryotinia draytoni*). Several corms imported from Holland were sev. affected on arrival at Lethbridge, Alta. (R. P. Stogryn). Over half the 1955 crop produced by a grower at Navan, Ont., was sev. affected. The disease developed in storage. Other residents of Navan had similar symptoms on their corms (H. S. Thompson). Late season foliage infection was general in a 3 acre block in Kings Co., N. S. (J. F. Hockey).

Fusarium Yellows (*Fusarium oxysporum* f. *gladioli*) was present on some varieties and caused mod. - sev. damage at Carp, Ont. (H. S. Thompson). Infections in an Ottawa nursery were: Patrol 100%, Evangeline 80%, White Goddess 25%, High Finance 75%, Chamony 50-80% while others had 0-tr. amounts (H. S. Thompson). Diseased specimens were received from Aylmer East, Berthierville, South Roxton, Ste. Eustache, Que. (H. S. T.) and St. Francois du Lac, Beaumont, Ste. Foy, Que. (D. Leblond).

Leaf Browning (*Penicillium* sp.) appears darker than that caused by Fusarium yellows. Old and young corms yielded only 1 organism, *Penicillium* (D. Leblond).

Leaf Spot (*Phyllosticta* sp.) of Yellow Herald occurred at Ste. Foy, Que. (D. Leblond).

Hard Rot (*Septoria gladioli*) was present on specimens received from Huttonville, Ont., where it caused sev. damage to 200 plants and from a garden in Montreal, Que. (H. S. Thompson).

Dry Rot (*Stromatinia gladioli*) caused mod. damage to 2000 plants at Ancaster, Ont. (H. S. T.). Disease was noted at Baie St. Paul, Ste Foy, Que. (D. Leblond), Montreal and Quebec City (H. S. T.). Also noted from Moncton, N. B. (H. S. T.) and Kings Co., N. S. where up to 20% of some varieties showed stem rot (J. F. Hockey). The disease has increased in commercial fields during recent years (D. W. Creelman).

*Verticillium albo-atrum* was found on corms from Champlain, Que. (D. Leblond).

Scab (*Pseudomonas marginata*) was observed on corms received from Maxville, Ont., Granby, Aylmer East, Que. (H. S. T.) Champlain, Que. (D. Leblond) Montreal (P. Duval) Moncton, N. B. (H. S. T.) and Queens Co., P. E. I. (R. R. Hurst).

White Streak (virus) was sev. on leaves of Burma and Circe, mod. on Frank Hall at Ste. Foy, Que. (D. Leblond).

Break (virus) was sev. on petals of Burma and mod. on Frank Hall at Ste. Foy, Que. (D. Leblond).

## HYACINTHUS - Hyacinth

Soft Rot (*Erwinia carotovora*) was sev. in some gardens in Queens Co., P. E. I. (R. R. Hurst).

Yellows (Xanthomonas hyacinthi). One lot on Vancouver Island and 2 on the B. C. mainland were rejected on account of yellows; tr. amounts occurred in the latter two. (N. Mayers).

#### HYDRANGEA

Powdery Mildew (Oidium sp.) was noted in a greenhouse in Quebec City, Que. (D. Leblond).

#### IMPATIENS

Leaf Spot (Pleospora sp.) was collected on I. balsamina at La Gorgendiere, Que. (D. Leblond).

#### IRIS

Leaf Spot (Didymellina macrospora) caused sl. infection in 1 field on Vancouver Island but was not observed on B. C. mainland. (N. Mayers). The conidial state, Heterosporium iridis caused sev. damage in one garden at Rawdon in Que., (P. Duval) and one in Queens Co., P. E. I. (R. R. Hurst).

Soft Rot (Erwinia carotovora) affected a few plants at Botanical Garden, Montreal, Que. (P. Duval).

Eelworm (Ditylenchus dipsaci) was present in tr. amounts in 1 plot on Vancouver Island, B. C. (N. Mayers).

#### LATHYRUS - Sweet pea

Streak (Erwinia lathyri) was present on a sev. damaged specimen from Queens Co., P. E. I., where diseases have made sweet pea culture difficult (R. R. Hurst).

Mosaic (?virus) affected a specimen from a garden in Montreal, Que. (P. Duval).

#### LILIUM - Lily

Blight (Botrytis elliptica) was mod. - sev. in seedling beds at Ottawa, Ont.; the cool, moist season favored disease development (H. S. Thompson). Samples were received from St. Gabriel de Brandon, St. Cesaine, and Montreal. (H. S. T.). In Kings Co., N. S. Regale plants were heavily infected during early summer and defoliated by Sept. (K. A. Harrison).

Bulb Rot (cause unknown), Isolations from Glow Lily received from Senlac, Sask., yielded Fusarium sp., Colletotrichum sp., Rhizoctonia solani and Ramularia sp. (T. C. Vanterpool).

#### LOBULARIA - Sweet Alysum

Club Root (Plasmodiophora brassicae) affected plants of L. maritima in flowerbeds on a farm adjacent to the Muck Research Station, Bradford Marsh, Ont. (O. T. Page).

## LONICERA - Honeysuckle

Staghead (Glomerularia lonicerae, stat. conid. of Herpobasidium deformans) specimens were received from Boucherville and Orsainville, Que. (H. S. Thompson).

## LYCHNIS - Maltese Cross

Leaf Blight (Volutella sp.) was present in tr. amounts on L. chalconia in a park in Quebec City, Que. (D. Leblond).

## MAHONIA AQUIFOLIUM

Rust (Cumminsia mirabilissima) caused mod. damage to 25 plants at Clarkson, mod. damage to 3/43 plants at Oakville, mod. to 12 plants at Keswick, sev. to 775 plants at Richmond Hill and mod. to plants from Richmond Hill growing at Ottawa, Ont. Sev. affected specimens received from Village des Aulnaies and Ste. Foy, Que. (H. S. Thompson).

## MALVA

Anthraxnose (Colletotrichum sp.) sev. affected plants of M. neglecta at Guélf, Ont. Many plants had most of the leaves or all the above-ground parts killed. (L. V. Busch).

## NARCISSUS

Neck Rot (Botrytis narcissicola) affected 21% of Vancouver Island plantings; ratings were from 0.6 - 8.5%. On the B.C. Mainland 25% of plantings were diseased. The av. infection was 5.2% and one field had 35% infection, the highest ever noted during inspections. Freezing, in the early winter when the ground was bare of snow probably contributed to the damage (N. Mayers).

Leaf Scorch (Stagonospora curtisii) was not found on Vancouver Island, but every planting inspected on the B.C. Mainland was infected. (N. Mayers)

Mosaic (virus). On Vancouver Island 50% of the plantings were affected, infection being 0.15 - 0.6% while the previous year it occurred in every planting. On the B.C. Mainland 27% of plantings were affected compared with 5% last year but the av. infection 0.1%, was the same. (N. Mayers).

Decline (White streak and associated viruses) affected 57% of plantings on Vancouver Island (100% 1955) ranging from 0.3 - 8.3%. On B.C. Mainland 67% were infected ranging from 0.5% to 7%, av. 2.3%. (N. Mayers).

Bulb and Stem Nematode (Ditylenchus dipsaci) was found in 10% of mainland plantings; 2-sl. 1-mod. 1-sev. (N. Mayers).

Meadow Nematode (Pratylenchus pratensis). Soil samples showed that in 2 adjacent fields kept fallow for 3 years one mod. to tr. amounts and the other none although narcissus and tulips had been damaged 3 years previously. (N. Mayers).

## PAEONIA

Blight (Botrytis paeoniae) was sev. in 1 planting at Calgary and sl. in another at Lethbridge (W.M. Cormack). Sev. damage was observed at Edmonton, Alta. (L.E. Tyner). Mod. infection was observed in Brandon, Man. (J.E. Machacak). Specimens were received from Berthierville, Sherbrooke, and Shawinigan Falls, Que., and St. John, N.B. (H.S. Thompson). A few plants were sev. affected at Kentville, N.S. (J.F. Hockey).

Measles (Cladosporium sp.) affected foliage and stems sev. in a nursery in Norfolk Co., Ont. (C.B. Kelly).

Mosaic (virus). Characteristic symptoms were observed on a few isolated plants in the Botanical Garden, Montreal, Que. (P. Duval).

Ring Spot (virus) was identified on a few plants in a nursery in Kings Co., N.S. (J.F. Hockey).

Winter killing thinned many Alta. plantings during the winter of 1955-56 (L.E. Tyner).

## PAPAVER - Poppy

Bacterial Blight (Xanthomonas papavericola) affected 25% of a planting of oriental poppies in Prince Co., P.E.I. Damage was considerable; peduncles were girdled, blackened, and covered with slime; sepals were blackened and petal development was stopped. (J.E. Campbell).

## PARTHENOCISSUS - Virginia Creeper

Powdery Mildew (Uncinula necator) was sev. in a planting in Winnipeg, Man. (J.E. Machacek), and in another stand in Quebec City, Que. (D. Leblond).

## PELARGONIUM - Geranium

Basal Stem Rot (Botrytis cinerea and Pythium ultimum) affected most commonly grown varieties in the Okanagan Valley, B.C. The rot was general in distribution on cuttings propagated in greenhouses. Losses were from 10% to 75% (av. 50%). Most of the rot was caused by B. cinerea. Varieties varied considerably from quite resistant to very susceptible (G.E. Woolliams). Botrytis stem rot was prevalent in a greenhouse in London, Ont. Some infections occurred at wounds where cuttings had been taken. The fungus was sporulating on the plants which were crowded and very moist. The disease caused mod. damage in a propagation bench in a greenhouse in Brampton (W.G. Kemp).

Gray Mold (B. cinerea) caused very sev. damage to red geraniums in a greenhouse in Queens Co., P.E.I. (R.R. Hurst).

## PETUNIA

Stem Rot (Sclerotinia sclerotiorum) did mod. damage to a planting in Assiniboine Park, Winnipeg, Man. (B. Peturson).

Yellows (Callostephus virus 1) destroyed most of a small planting in Assiniboine Park, Winnipeg, Man. (W.L. Gordon).



## PHILADELPHUS

Leaf Spot (Ascochyta philadelphi). A sev. infection occurred in a nursery in Whitby, Ont. (H.S. Thompson).

Coniothyrium olivaceum var. philadelphi-coronarii was noted on a specimen from La Gorgendiere, Que. (D. Leblond, R.A. Shoemaker).

## PHLOX

Dendrophoma sp. Plants in a rock garden in Quebec City, Que., were blighted (D. Leblond).

Powdery Mildew (Erysiphe cichoracearum) affected several plantings of perennial phlox in Hamilton, Ont. (W.G. Kemp). Sev. diseased specimens were received from Mountain Grove, Ont. and Montreal, (H.S. Thompson), Vaudreuil, (H.N. Racicot) Chaudiere and St. Joseph, Que. (D. Leblond). The disease was general in Montreal and vicinity (P. Duval). Heavy infection caused sl. damage to a planting which had poor air circulation in Charlottetown, P.E.I. (J.E. Campbell).

## ROSA

Black Spot (Diplocarpon rosae) was sev. on hybrid tea roses; unsprayed plants were defoliated in August at St. Catharines, Ont. Reports indicate that the disease was sev. throughout the Niagara Peninsula (W.G. Kemp). Infection was sl. and the disease readily controlled with Parzate (zineb) in Botanical Gardens, Montreal, Que. (P. Duval). Unsprayed roses commonly had infection ratings up to 50% in Kings Co., N.S. (D.W. Creelman). Foliage sprayed with captan was in good condition while unsprayed hybrid tea and floribunda roses were sev. attacked at Kentville, N.S. (J.F. Hockey). Infection ranged from tr. - sev. in a garden in Queens Co. P.E.I. (R.R. Hurst).

Rust (Phragmidium spp.). Several gardens in Fort Garry, Man., were mod. affected (B. Peturson). Many varieties were sev. infected and damaged in Charlottetown, P.E.I. (R.R. Hurst).

Spot (Sphaceloma rosarum) caused sl. damage on hybrid tea leaves and canes in Prince Co., P.E.I. (J.E. Campbell).

Powdery Mildew (Sphaerotheca pannosa). At Winona, Ont. 100 Halo plants were sev. infected. Better Times and Briercliffe were mod. -sev. damaged at Concord, Ont. (W.G. Kemp). Infection was sev. in a garden at St. Ours, Que. (E. Jacques). Infections of 10-100% caused mod. -sev. damage to unsprayed climbers at Kentville, N.S. (D.W. Creelman). Sev. in Prince, Queens and Kings Counties, P.E.I. (R.R. Hurst) (J.E. Campbell).

Nematode (Xiphinema sp.) found in rotted root of greenhouse roses at Hamilton, Ont. (J.L. Townshend).

Crown Gall (Agrobacterium tumefaciens) was very sev. in a garden in Queens Co., P.E.I. (R.R. Hurst).

## SAINTPAULIA - African Violet

Root Knot nematode (Meloidogyne incognita). Plants from a greenhouse in Grimsby, Ont. had rotted roots and swollen areas at crowns and petiole bases. Encysted larvae and a few pear-shaped females with numerous males

were found in the swollen tissue. The species was identified by J. L. Townshend and confirmed by J. N. Sasser, North Carolina State College (W. G. Kemp).

#### SYMPHORICARPUS - Snowberry

Powdery Mildew (Microsphaera diffusa) was observed causing a sl. infection at Charlottetown, P. E. I. (R. R. Hurst).

Leaf Spot (Phyllosticta symphoricarpi) caused mod. damage at Rimouski, Que. (D. Leblond).

#### SYRINGA - Lilac

Powdery Mildew (Microsphaera alni) was common at Contrecoeur, (E. Jacques) and Macdonald College, Que. (E. O. Callen). Very common on flowering plants but less noticeable on trimmed hedges at Kentville, N. S. (J. F. Hockey).

Leaf Spot (Phyllosticta sp.) was observed in Quebec City, Que. (D. Leblond).

#### TAGETES

Yellows (Callistephus virus 1). Caused sev. damage in a Charlottetown, P. E. I., garden where 50% of the plants were infected. (R. R. Hurst).

#### TULIPA

Fire (Botrytis tulipae). On Vancouver Island 71% of plantings showed early season infection, ranging from 0.2 to 0.5%. Later in the season 83% of plantings were affected. No infection was noted during inspections on the B. C. mainland (N. Mayers). Also noted from Nicolet (P. Duval) and Chamy, Que. (D. Leblond). Sev. infections at late bloom damaged all Orange King plants at Kentville, N. S. (J. F. Hockey).

Mosaic (virus) affected less than 9% of plantings on Vancouver Island and ratings were 0.6 - 0.8% (N. Mayers).

#### VERBENA

Leaf Spot (Botrytis cinerea) was found causing mod. damage to V. rigida in Quebec City, Que. (D. Leblond).

#### VERONICA

Leaf Spot (Septoria veronicae) caused sev. damage to V. alpine in a rock garden in Quebec City, Que. (D. Leblond).

#### VIOLA

Leaf Spot (Cercospora violae) damaged pansy plants sl. at Ste. Foy, Que. (D. Leblond).

#### ZINNIA ELEGANS

Gray Mold (Botrytis cinerea). Mod. infection occurred at Ste. Foy, Que. (D. Leblond).

Stem Rot (Sclerotinia sclerotiorum). Infection was sev. in several gardens at Fort Garry, Man. Typical sclerotia were obtained from the base of stems incubated in moist chambers (B. Peturson, W. C. McDonald).

Yellows (Collistephus virus 1) was observed on 1 plant at Ste. Foy, Que. (D. Leblond) and on 30% of a planting in flower in Queens Co., P. E. I. (R. R. Hurst).