

VI. DISEASES OF HERBACEOUS ORNAMENTAL PLANTS

ALTHAEA - Hollyhock

Rust (Puccinia malvacearum) occurred, to a slight degree, in the Okanagan Valley, B. C. (G. E. Woolliams). It was common in the Quebec City area and specimens were received from Baie St. Paul, and Montreal, Que. (D. Leblond, H.S. Thompson). It was prevalent in N.B. (S.R. Colpitts). Infection was extremely heavy at Shelburne, N.S. (K.A. Harrison) and was lighter than usual in P.E.I. (J.E. Campbell).

AMARYLLIS

Leaf scorch (Stagospora curtisii). A specimen was received from Renfrew, Ont. (P.K. Basu),

ANTIRRHINUM - Snapdragon

Gray mold (Botrytis cinerea). A number of plants in a greenhouse crop at Falmouth, N.S. were killed by a collar rot caused by B. cinerea (K.A. Harrison).

AQUELIGIA - Columbine

Powdery mildew (Erysiphe polygoni) was common, late in the season, in the Okanagan Valley, B. C. (G. E. Woolliams),

ARABIS - Rock Cress

Downy mildew (Peronospora parasitica) occurs annually on A. albida in a rockery at Vancouver, B. C. Damage is confined to a yellow leaf-spotting and early maturity of older foliage (H. N. W. Toms).

BEGONIA

Gray mold (Botrytis cinerea). Infected specimens were received from Ottawa, Ont. (P. K. Basu).

Powdery mildew (Erysiphe communis). Infection was heavy on specimens forwarded from St. Albert, Ont. (P. K. B.).

Spotted wilt (virus). Four of 12 plants of B. semperflorens were affected at the Research Station, Summerland, B. C. Plants were dwarfed, with deformed, bronzed leaves (G. E. Woolliams).

CALENDULA.

Aster yellows (Callistephus virus 1) affected a few plants in a bed at Kentville, N.S. (K.A. Harrison),

CALLISTEPHUS - China Aster

Rust (Colcosporium asterum). Infection varied from sl.-sev. on individual plants at Kentville, N.S. (K.A. Harrison).

Wilt (Fusarium oxysporum f. callistephi). Several infected plants were found in a home garden at Fort Garry, Man. The organism was isolated and identified (E. Peturson).

Aster yellows (Callistephus virus 1) was common in gardens in Edmonton, Alta. and vicinity (W. P. Campbell). Infection spread slowly at Kentville, N.S. but by Oct. up to 50% of the plants in some beds were infected (K.A.H.). The disease was general in P.E.I. but not as sev. as in 1960 (J.E. Campbell).

CHRYSANTHEMUM

Dodder (Cuscuta campestris) was found in a greenhouse at Haney, B.C. (H.N. W. Toms), and occurred in abundance in a St. Catharines, Ont. greenhouse, parasitizing the variety Illini Igloo. Other varieties seemed not to be affected. Parasitized plants showed little or no ill effects at the time of observation (W.G. Kemp).

Powdery mildew (Erysiphe communis). Approximately 80/100 plants of White Indianapolis were mod. infected in a greenhouse at Kingsville, Ont. White Shasta was infected to a lesser degree (W.G.K.).

Root-lesion nematode (Pratylenchus penetrans). Five chrysanthemum greenhouses in the Leamington, Ont. area had high populations of P. penetrans (W.B. Mountain, R.M. Sayre (C.P.D.S. 41:5. 376. 1961).

Rust (Puccinia chrysanthemi) was heavy on most plants of the varieties Iceberg and Bluechip in a greenhouse at Ruthven, Ont. (W.G.K.).

Stunt (virus). Yellow Shasta was 10-15% infected and Taffetta 2-3% infected in a greenhouse at Kingsville, Ont. Flowering of infected White Shasta plants was noticeably delayed (W. G. K.).

CONVALLARIA - Lily-of-the-Valley

Leaf spot (Gloeosporium convallariae). Infection was sl. on a house plant specimen from Ottawa, Ont. (P.K. Basu).

Rust (Puccinia sessilis) disfigured 15% of the foliage in a garden planting at Kentville, N.S. (K.A. Harrison).

CYCLAMEN

Witches' broom (? virus). About 1% of plants of C. persicum, grown from corms imported from Holland, bore many extra leaves giving a witches' - broom effect. The number of flowers was reduced and leaf pedicels were much shortened and somewhat flaccid (H.N. W. Toms).

DELPHINIUM - Larkspur

Powdery mildew (Erysiphe polygoni) was common, late in the season in the Okanagan Valley, B. C. (G.E. Woolliams).

DIANTHUS - Carnation

Rust (Uromyces dianthi). A mod. infection occurred in a greenhouse at Cambridge, N. S. (K. A. Harrison).

Wilt (Verticillium albo-atrum) affected a few plants in a greenhouse crop at Falmouth, N. S. (K. A. H.).

ECHINO CYSTIS - Mock Cucumber

Wilt (Verticillium dahliae). The organism was isolated from E. lobata grown for ornamental purposes at Kelowna, B. C. (G. E. Woolliams).

EUPHORBIA

Rust (Melampsora monticola Mains). Infection was mod. on E. peplus in Victoria City, B. C. Parks'. (R. G. Atkinson). This is the first report to the Survey, of this rust on Euphorbia (D. W. Creelman).

FICUS - Rubber Plant

Root rot (Armillaria mellea) killed a plant about 3 inches in diameter at Edmonton, Alta. The rhizomorphs formed a fairly close network underneath the bark and only occasionally penetrated into the host tissue (W. P. Skoropad).

Anthracoze (Glomerella cingulata). Plants of F. decora, shipped by air from Victoria, B. C. to Calgary, Alta. developed sev. symptoms after arrival. The plants had been well watered and wrapped in paper for shipping, creating conditions of high humidity favorable to infection during transit (R. G. Atkinson). A specimen was received from Sylvan Lake, Alta. (W. P. Campbell). Severely affected specimens of F. elastica were received from Ottawa, Ont., Montreal and Desbien, Que. (P. K. Basu), and from Quebec City and Taschereau, Que. (D. Leblond).

GAILLARDIA

Aster yellows (Callistephus virus 1) affected 10% of the plants in a perennial border at Kentville, N.S. The early infection appeared to have been carried over from 1960. Later in the season, several of the affected plants developed "green petal" symptoms. Ray petals were suppressed and the heads were a mass of fine green points. Clover in the vicinity had similar symptoms (K. A. Harrison).

GLADIOLUS

Yellows (Fusarium oxysporum f. gladioli). Infection was 5% in a home garden at Winnipeg and 1% in a park at Fort Garry, Man. (B. Peturson).

Scab (Pseudomonas marginata) was tr. on the variety White Sails at Winnipeg, Man. (B. P.). Infection was heavy on 90% of some 2000 corms at Coldbrook, N. S. The corms had been grown in Halifax Co. Several specimens were also received from gardens in Kentville, N.S. (K. A. Harrison).

Dry rot (Stromatinia gladioli). Corms purchased in Ont. had 94% infection at Kingston, and infection was 270 in a lot at Kentville, N.S. (K. A. H.).

Aster yellows (Callistephus virus 1) was noted in several gardens at Edmonton, Alta. (W.P. Campbell) and was seen on the variety Snow Princess at Kentville, N.S. (K.A.H.).

Mosaic (virus) affected 70% of the plants in a planting at Fort Garry, Man. (B.P.). It was widespread and in some instances sev. in Kings Co., N.S. (K.A.H.).

HYACINTHUS - Hyacinth

Bulb and stem nematode (Ditylenchus dipsaci) was found on bulbs from Victoria, B.C. (R.H. Mulvey) (C.P.D.S. 41:5. 357. 1961).

IPOMOEA - Morning Glory

Wilt (Verticillium dahliae) affected plants in a home garden at Summerland, B.C. (G.E. Woolliams).

IRIS

Leaf spot (Didymellina macrospora). Light infections occurred in a few plantings on Vancouver Island (N. Mayers); it was tr. in 10,000 plants at Brentwood (R.G. Atkinson); and specimens were received from Lumby, B.C. (G.E. Woolliams). Infection was general in the vicinity of Kentville, N.S. Leaves were 50% destroyed by the first of Oct. (K.A. Harrison).

Soft rot (Erwinia carotavora) affected 3/17 plants in a home garden and 23/126 varieties in a test garden at the Plant Research Institute, Ottawa, Ont. were mod.-sev. infected (H. S. Thompson).

LATHYRUS - Sweet Pea

Root rot (Aphanomyces euteiches) was mod. in a planting at Lethbridge, Alta. (J.E. Moffatt).

Powdery mildew (Erysiphe polygoni) was heavy in a garden at Winnipeg, Man. (H. A. H. Wallace).

Wilt (Fusarium sp.) caused sev. damage at St. John's, Nfld. (O.A. Olsen).

Mosaic (virus) completely destroyed a small planting at Kentville, N.S. (K.A. Harrison).

LILIUM - Lily

Blight (Botrytis elliptica). A few Regal lilies at Kentville, N.S. were completely defoliated (K.A. Harrison).

Mosaic (virus) caused sev. stunting of 50% of the Regal lilies in a small planting at Kentville, N.S. (K.A.H.).

LYCHNIS - Campion

Aster yellows (Callistephus virus 1) affected one plant of L. alba at Kentville, N.S. It was dwarfed and had green petals. The typical bladder was suppressed (K.A. Harrison).

NARCISSUS

Smoulder (Botryotinia narcissicola) was found in slight amounts in most plantings on the Lower Mainland of B.C. (N. Mayers).

Bulb and stem nematode (Ditylenchys dipsaci) was recovered from specimens from Saanichton and Victoria, B.C. (R.H. Mulvey (C.P.D.S. 41:5-357, 1961).

White mold (Ramularia vallisumbrosae). The variety Recurvis was sev. infected in 2 fields on the Lower Mainland of B.C. The stock had not been lifted for 3 years and weather conditions in 1961 were ideal for its spread (N.M.).

Fire (Sclerotium sp.) was responsible for defoliation in some commercial fields on the Lower Mainland of B.C. (N.M.).

Leaf Scorch (Stagonospora curtisii) was found in all fields inspected on the Lower Mainland of B.C., ranging in severity from tr. -20% (N.M.).

Mosaic (virus) was tr. in 3 fields on the Lower Mainland of B.C. (N.M.).

PAEONIA - Peony

Blight (Botrytis paeoniae). A mod. infection was seen at Lethbridge, Alta. (P.E. Blakeley) and a sl. infection was noted at Fort Garry, Man. (B. Peturson). Specimens were received from Levis, Que. (D. Leblond).

Leaf blotch (Cladosporium paeoniae). One plant was sev. infected at Manotick, Ont. No bloom was produced (H.S. Thompson).

Mosaic (virus) affected all the leaves of a single plant of Festiva Maxima at Montreal, Que. Other varieties in the same planting were not affected (H.S. T.). One infected plant was seen at Kentville, N.S. (K.A. Harrison).

PELARGONIUM - Geranium

Gray mold (Botrytis cinerea) caused a basal stem-rot of cuttings and up to 25% loss in greenhouses in the Okanagan Valley, B.C. (G.E. Woolliams). Infection was heavy on specimens received from Ottawa, Ont. and Cote St. Paul, Que. (P.K. Basu). It was sl. on flowers and old leaves at St. Patrice de Beaurivage, Que. (D. Leblond).

Fasciation (Corynebacterium fascians). Fleshy growth was present on the stem bases of many stock plants in a greenhouse at Fonthill, Ont. (W.G. Kemp).

Wilt (Verticillium dahliae) affected several plants in a home garden at Summerland, B.C. (G.E. Woolliams).

Bacterial stem rot (Xanthomonas pelargoni). A few plants of Red Irene in a greenhouse at Fonthill, Ont. showed typical symptoms of stem rot. Vigor was extremely poor (W.G.K.).

Crinkle (virus). Typical symptoms were seen on a plant at St. Patrice de Beaurivage, Lotbiniere Co., Que. (D.L.).

Oedema (physiological) was extremely prevalent on the Irene varieties in a greenhouse range used exclusively to propagate geraniums at Fonthill, Ont. The leaves were covered with watersoaked spots that later became corky. Corky ridges were also found on petioles. The affected plants were closely spaced on benches and humidity was high (W.G.K.),

PETUNIA

Gray mold blight (Botrytis cinerea). Flowers of a red and a white variety in a home garden at Ottawa, Ont. were sev. affected. A purple variety in the same garden was unaffected. The foliage of all three varieties was healthy (H.S. Thompson). Specimens showing a bud blight were received from Levis, Que. (D. Leblond).

Aster yellows (Callistephus virus 1) was light in a planting at Winnipeg, Man. (B. Peturson).

Mosaic (virus) affected 40% of one variety in a mixed planting at Ottawa, Ont. Damage was mod. (D. W. Creelman).

PHLOX

Powdery mildew (Erysiphe communis). Infection was sev. on a specimen received from Cornwall, Ont. (P.K. Basu). Specimens were received from Sillery, Giffard, Quebec City and St. Neree, Que. (D. Leblond), and from Mahone Bay, N.S. (R.G. Ross'). Damage to phlox in P.E.I. was more sev. than for a number of years (J.E. Campbell).

Leaf spot (Septoria divaricata). Infection was sev. on the lower leaves of specimens received from Pubnico, N.S. (R.G.R.).

Wilt (Verticillium dahliae) affected perennial phlox in a home garden at Summerland, B. C. (G.E. Woolliams).

SAINTPAULIA - African Violet

Gray mold (Botrytis cinerea) was heavy on a specimen received from Montreal, Que. (H.S. Thompson).

SALVIA

Abnormal growth (physiological). A greenhouse crop at Charlottetown, P.E.I. was reduced by 40-50% because of the failure of plants to produce true leaves or the tendency of young plants to produce several growing points. The cause of the disorder could not be determined (J.E. Campbell).

SCILLA - Spanish Bluebell

Rust (Uromyces scillarum (Grev.) Lév.) was collected on S. hispanica in a neglected 70-year old garden in Victoria, B.C. where bluebell was widely self-sown. Plants in an area of about 100 sq. ft. were infected (H.N.W. Toms) (C.P.D.S. 41:4. 274. 1961).

TULIPA - Tulip

Fire (Botrytis cinerea) was general, both on Vancouver Island and on the Lower Mainland of B.C. Extensive flower spotting resulting from secondary infections caused considerable financial losses to growers on the Saanich Peninsula and on the mainland (N. Mayers). Fire was serious in a number of plantings in Kings Co., N.S. Its incidence increased towards the end of the season because of heavy rains (K.A. Harrison).

Break (virus) was observed at several locations in the Okanagan Valley, B. C. (G. E. Woolliams).

VIOLA - Pansy

Leaf spot (Centrospora acerina). A bed of 10,000 seedlings at Cambridge, N.S. was severely affected in November, though little was seen in October. The same field had had some spots showing heavy damage in the spring crop in June. The fall infection was so severe that it will probably mean a complete loss of the crop. Infection was light in a spring crop at Coldbrook, N. S. (K.A. Harrison).

Leaf spot (Cercospora granuliformis) was sev. on a small planting of pansies at Kentville, N.S. The lesions were large and irregular with indistinct borders (K.A.H.).

Root rot (cause undetermined). Specimens were received from Montreal, Que. (D. W. Creelman).

ZINNIA

Leaf and stem rot (Alternaria zinniae). Specimens were received from a grower of bedding plants at Virgil, Ont. Lesions were present on both stems and leaves (W.G. Kemp). Infection was extremely heavy in beds at the Central Exp, Farm, Ottawa, Ont. Varietal differences in susceptibility were evident (D. W. Creelman). Specimens were also received from home gardens in Ottawa (P.K. Basu).

Powdery mildew (Erysiphe communis). Some varieties in a large planting at Ottawa, Ont. were 100% infected while others were free of mildew (D. W.C.). Sev. infections were seen in Quebec City, Que. (D. Leblond).

Stem rot (Sclerotinia sclerotiorum). A specimen with typical sclerotia in the infected tissues was received from Summerside, P.E.I. (J.E. Campbell).

Aster yellows (Callistephus virus 1). A light infection was seen in a home garden at Charlottetown, P.E.I. (J.E. C.),