

VII. DISEASES OF ORNAMENTAL PLANTS

ALTHAEA ROSEA - Hollyhock

Leaf Spot (Cercospora althaeina). A slight infection was recorded at Morden, Man.

Leaf Spot (Colletotrichum Malvarum (Braun. & Casp.) Southw.). A slight infection was observed at Morden, Man.; first record for Manitoba.

Rust (Puccinia Malvacearum) was recorded across Canada as follows: Widespread on Vancouver Island and the Lower Mainland, B.C.; severe late in the season at Winnipeg, Man.; very prevalent in Ont., and injured many hollyhocks so badly that the beauty of the plants at flowering time was destroyed; moderate infection at Ste. Anne de la Pocatiere, Beaumont and Lennoxville, Que.; damage much less in a young, more open planting than in an older crowded one; severe on several plants at Grand Pre, N.S.; in general heavy and destructive throughout P.E.I.

ANTIRRHINUM - Snapdragon

Grey Mould (Botrytis cinerea) destroyed some plants of snapdragon and clarkia in Lincoln Co., Ont., by the decay of the crown; the weather was cloudy and dull.

Wilt. Fusarium Solani, F. Solani var. Martii, F. Scirpi, F. Scirpi var. acuminatum and F. oxysporum forma were associated with a wilt of snapdragons in the Winnipeg area, Man. (W. L. Gordon)

Rust (Puccinia Antirrhini) was reported widely: General on Vancouver Island and the Lower Mainland, B.C.; moderate damage to a seed crop at Keatings in July; very destructive at Summerland; severe infection in some plantings in the Winnipeg area during September; slight damage in a greenhouse in August at Sussex, N.B.

Drop (Sclerotinia sclerotiorum) caused severe damage in one garden at Summerside, P.E.I.

Yellows (virus) affected several plants in a garden at Charlottetown, P.E.I.

AQUILEGIA - Columbine

Powdery Mildew (Erysiphe Polygoni) lightly infected some leaves and flower stalks at Summerland, B.C.

ASTER

Powdery Mildew (Erysiphe Cichoracearum). A moderate infection occurred on occasional plants at Morden, Man.

AZALEA - Rhododendron

Leaf Curl (Exobasidium Vaccinii) was present on a few plants of A. Hinodegiri in a garden at Clayburn and in a nursery at Burnaby, B.C.

BERBERIS - Barberry

Rust (Puccinia graminis) affected green and purple barberries (B. vulgaris) rather heavily at Upton, Que. Mature aecia were seen at Saint Andrews and St. Stephen, N.B. on July 3, while they were still im-

mature at Shediac on July 6. Aecia were just appearing at Grand Pre, N.S. on June 4. A few affected leaves were seen in Queens Co., P.E.I.

CALLISTEPHUS - China Aster

Wilt (Fusarium conglutinans var. Callistephi) affected about 20% of the plants in the beds at the Station, Ste. Anne de la Pocatiere, Que. (R. O. Lachance)

Yellows (virus) was observed on several varieties in the garden at the Station, Agassiz, B.C., the highest infection being 10% in Peach Blossom; occasional plants at Cartwright, Man.; prevalent in beds containing several varieties at the Arboretum, Ottawa, Ont.; all the plants in 5 gardens examined in Queens Co., P.E.I.

CARAGANA

Polyporus Tulipiferae was abundant on a few plants at Macdonald College, Que.

Leaf Spot (Septoria Caraganae) caused slight damage at Edmonton and Lacombe, Alta.; severe leaf spot and drop at Brandon, Man., and a moderate infection at Morden.

CELOSIA - Cockscomb

Yellows (virus) was severe on a few plants of cockscomb in Queens Co., P.E.I.

CENTAUREA

Leaf Spot (Septoria ?centaureicola Brun, var. brevispora Pk.) moderately infected C. suaveolens and C. imperialis at Morden, Man. A rather short-spored Septoria was found. This is the first record of Septoria on the above hosts in Manitoba. (W. L. Gordon)

CHRYSANTHEMUM

Wilt (Botrytis cinerea) affected about 75% of the cuttings of Mistletoe in the propagating bed and those already rooted at Falmouth, N.S. in May; other varieties were less affected.

Powdery Mildew (Erysiphe Cichoracearum) was very destructive on several greenhouse varieties at Charlottetown, P.E.I.

Leaf Spot (Septoria Chrysanthemi). A slight infection was found in a greenhouse at Lacombe, Alta.

CLARKIA

Rust (Pucciniastrum Epilobii) caused severe defoliation at Lennoxville, Que.; Epilobium sp. growing as a weed in the border was also heavily infected. (D. B. O. Savile)

CLEMATIS LIGUSTICIFOLIA

Leaf Spot (Septoria Clematidis). A moderate infection was present at Morden and Brandon, Man.

COREOPSIS

Powdery Mildew (Sphaerotheca Humuli var. fuliginea) affected about 10% of the leaves of C. grandiflora at the Station, Summerland, B.C.

COSMOS

Grey Mould (Botrytis cinerea). Abundant sclerotia were found on old stalks in a garden at Kentville, N.S. (J. F. Hockey)

COTONEASTER

Dark Berry (Phytophthora Cactorum) was general and caused severe damage to C. horizontalis in the Victoria and Vancouver districts, B.C., in the fall of 1940. (W. Jones)

CRATAEGUS - Hawthorn

Leaf Spot (Entomosporium Thuemenii) was relatively severe on August 30, imparting a brownish tinge to the entire clipped hedge at Lennoxville, Que. (D. B. O. Savile). This leaf spot was reported to have been observed for the past 3 years on C. Oxyacantha at Pocologan, N.B.; brown spots appear in August and the leaves fall off. (I. L. Conners)

Rust (Gymnosporangium clavariaeforme) caused severe damage, in a nursery at Courtenay, B.C., to C. Oxyacantha. (W. Newton)

DAHLIA

Stem and Blossom Blight. Fusarium Scirpi was associated with a stem and blossom blight of dahlias at Winnipeg, Man. (W. L. Gordon)

Mosaic (virus). Many varieties are showing symptoms at Charlottetown, P.E.I.; the damage is severe. (R. R. Hurst)

DELPHINIUM - Larkspur

Powdery Mildew (Erysiphe Polygoni) was quite heavy early in the season at Summerland, B.C. The disease was severe and frequently caused complete defoliation at Beaumont and Ste. Anne de la Pocatiere, Que. Powdery mildew was widespread in York Co., N.B., late in the season. It was severe on all plants in one garden at Kentville, N.S. Many plants were severely damaged in Queens Co., P.E.I.

Bacterial Blight (Phytophthora Delphinii) was reported as follows: Severe in a garden at Gull Lake, Sask.; severe on an occasional plant at Morden, Man.; abundant, causing moderate damage at Lennoxville, Que.; heavy on 3 plants in a border at Wolfville, N.S.; slight to severe in Queens Co., P.E.I.

Mosaic (virus). Several cases of mosaic were reported in P.E.I.

DIANTHUS

Root Rot was severe in a large outdoor planting of carnations at Edmonton, Alta. causing the death of some plants. Fusarium avenaceum was isolated from the diseased roots. (S. B. Clay)

Leaf Spot (Heterosporium echinulatum). A slight infection was present on greenhouse carnations at Victoria and the Station, Sidney, B.C.

Rust (Uromyces caryophyllinus). Infection was severe in green-

house carnations at Edmonton and slight at Lethbridge, Alta. Rust apparently caused some damage at Cap de la Madelaine, Que. (L. J. S. Laporte). Rust caused moderate to severe damage on King Cardinal in a commercial greenhouse at Sussex, N.B.

Root Rot was severe in a greenhouse at London, Ont. The carnation plants were robust when planted, but 5 weeks later they had thrown no new roots from the original ball of soil. Some varieties were more severely affected than others, but none had made normal growth. The trouble was apparently due to excess salt concentration, for after the affected beds were thoroughly leached with water, the plants outgrew the trouble. (J. K. Richardson)

DIMORPHOTHECA

Crown Rot (Botrytis cinerea). A few plants wilted in a bed at Kentville, N.S.; B. cinerea was isolated in pure culture from diseased tissue. (J. F. Hockey)

EVONYMUS ALATA

Twig Blight (Diplodia ramulicola Desm.) was quite heavy on twigs of this shrub collected by Dr. Irene Mounce at the Station, Sidney, B.C.

One affected twig bearing perithecia of a Gibberella was sent to Dr. W. L. Gordon. He found the asci in the perithecia immature, but the presence of abundant sporodochia of Fusarium lateritium Nees in close proximity to them, when they were planted on agar, suggests that the perithecia represent the perfect stage of this fungus, which is Gibberella haccata (Wallr.) Sacc. F. Scirpi var. acuminatum was also isolated by him, but to a very slight extent. (I. L. Connors)

FRESIA

Blindness affected 75% of fresas in a shipment received from California on August 27, and planted October 15 in a greenhouse of the Dale Estate, Brampton, Ont. This trouble develops if corms are stored at 55°F. or lower; the recommended temperature is 65°F. (F. L. Drayton and W. A. Fowler)

GLADIOLUS

Botrytis Rot (B. cinerea). Some 4,000 to 5,000 corms were affected by Nov. 22, at Long Branch, Ont. The corms were harvested Oct. 1, cleaned Oct. 15, and the rot first noted on Nov. 1. The trouble was probably due to poor storage conditions. (F. L. Drayton)

Yellows (Fusarium oxysporum forma) affected occasional plants of the primulinus varieties at Morden, Man.; a slight infection was also noted at Winnipeg and at Clearwater Bay, Lake of the Woods, Ont. (W. L. Gordon). As a root rot, this disease (F. sp.) caused slight damage in an Edmonton garden, and killed some plants in a planting at Lacombe, Alta. Very little of this disease developed in P.E.I. in 1940.

Corm Rot. Fusarium oxysporum f. Gladioli was isolated from corm rot of gladioli at Winnipeg, Man.; infection was slight. (W. L. Gordon)

Penicillium Rot (P. Gladioli) was severe as a storage rot in one cellar in Winnipeg, Man.

Bacterial Blight (Phytomonas Gladioli). A slight infection was found at Lacombe, Alta.

Scab (Phytomonas marginata) was general, but the damage was slight on Vancouver Island, B.C. (J. E. Bosher). A slight infection was found in several plantings at Edmonton and Lacombe, Alta.

Dry Rot (Sclerotinia Gladioli) was generally distributed, but the damage was slight on Vancouver Island, B.C. (J. E. Bosher)

Hard Rot (Septoria Gladioli) was affecting a few corms in a lot grown in Queens Co., P.E.I.

GLOXINIA

Spotted Wilt (virus) affected the entire lot of 50 plants in a greenhouse in Lincoln Co., Ont. (G. C. Chamberlain)

GODETIA

Root Rot. Fusarium Solani and Cylindrocarpon radicum were associated with a root rot and wilt of Godetia in the University gardens, Winnipeg, Man. (W. L. Gordon)

Rust (Pucciniastrum Epilobii) was severe in a private garden late in the season at Saskatoon, Sask.

HELLEBORUS NIGER - Christmas Rose

Leaf Spot (Coniothyrium Hellebori) was severe on the leaves of a few plants at Metchosin, B.C. (W. R. Foster)

HELIANTHUS - Sunflower

Powdery Mildew (Erysiphe Cichoracearum) slightly infected ornamental sunflowers at Morden, Man.

HELIOPSIS

Powdery Mildew (Erysiphe Cichoracearum) was also slight on heliopsis at Morden; the first record of its occurrence on this host in Man.

IRIS

Gladosporium herbarum was exceedingly abundant on the leaves of iris at Macdonald College, Que. (I. H. Crowell)

Elworms (Ditylenchus dipsaci) affected 3-5% of the plants in bulbous iris plantings of 3 growers in the Fraser Valley and on Vancouver Island, B.C.; none were present in plantings of 5 other growers. (R. J. Hastings)

Soft Rot (Erwinia carotovora) affected occasional plants at Brandon, Man. It was observed for the first time at the Laboratory, Ste. Anne de la Pocatiere, Que., where it was moderate to severe; the spring was particularly rainy. (R. O. Lachance)

Root Rot was severe in one garden in Saskatoon, Sask.; Fusarium and Pythium spp. were isolated. (T. C. Vanterpool)

Leaf Spot (Heterosporium gracile) was reported as follows: General and severe at three growers and a trace or absent at 5 others in B.C.; moderate infection in a planting at Edmonton, Alta.; general, varying from slight to moderate at Brandon and Morden, Man.; rather severe in Victoria Park, Niagara Falls, Ont.; very heavy infection at Beaumont, Que., in a garden where the leaves are not regularly removed, but slight at Ste. Anne de la Pocatiere; exceedingly abundant on certain varieties of the Iris collection at Macdonald College; moderate infection at Kentville, N.S., new leaves began to be infected on May 23 at Wolfville.

Ink Disease (Mystrosporium adustum) caused severe damage in 3 plantings of bulbous iris in B.C. (R. J. Hastings)

Grey Bulb Rot (Sclerotium Tuliparum). In an outdoor planting of bulbous iris at a nursery in Esquimalt, B.C., in an area of 100-150 sq. ft., every plant was rotting at or near the soil level with sclerotia in the decayed soil "I have not encountered this disease before", writes R. J. Hastings on Jan. 22, 1941. The organism was cultured and determined to be Sclerotium Tuliparum. (F. L. Drayton)

LATHYRUS ODORATUS - Sweet Pea

Yellowing or Root Rot (Fusarium and Rhizoctonia) was common in many gardens at Charlottetown, P.E.I.; in addition 22 enquiries were received concerning this disease. (R. R. Hurst)

Powdery Mildew (Microsphaera diffusa) was light to heavy in Queens Co., P.E.I., in August (R. R. Hurst)

Mosaic (virus). A trace of pea mosaic (Pisum virus 2) was found on sweet pea in 2 gardens at Fredericton, N.B. (D. J. MacLeod)

Streak (virus) caused slight to severe damage in Queens Co., P.E.I. (R. R. Hurst)

Root Rot (cause undetermined) destroyed occasional plants at Brandon, Man.

LAVATERA

Root Rot (Fusarium oxysporum forma). Scattered plants were killed at Brandon, Man.; isolations yielded a form of F. oxysporum only. (W. L. Gordon)

LIGUSTRUM - Privet

Leaf Spot (Cercospora) was reported severely injuring a Lodense Privet hedge, in Waterloo, Ont. Some of the infected leaves were sent to Dr. J. Dearness, who concluded the pathogen was an undescribed species of Cercospora. If the extent and severity of the disease this year is any criterion, the fungus is capable of causing very severe injury to privet. (J. E. Howitt)

LILIUM - Lily

Blight (Botrytis elliptica) was severe on scattered plants at Morden, Man. Many plantings of Madonna and Regal lilies were disfigured by this blight in 1940; in one garden, over 30% of the plants were markedly injured by the disease (J. E. Howitt). The disease was quite severe on L. Hanseni at Charlottetown, P.E.I.

Rust (Uromyces Holwayi) slightly infected L. polyphyllum x L. Humboldtii at Duncan, B.C.

LONICERA - Honeysuckle

Blight (Glomerularia Lonicerae) caused considerable defoliation of the lower branches of the more susceptible spp. at Lennoxville, Que. (D. B. O. Savile)

LUPINUS PERENNIS

Leaf Spot (Septoria lupinicola Dearn.) was reported to be rather severe in several gardens at Pembroke, Ont. (F. L. Drayton)

LYCIUM HALIMIFOLIUM

Powdery Mildew was very prevalent, nearly all leaves being affected at Summerland, B.C.; only the oidial stage has been found. (G. E. Woolliams)

MALOPE

Root Rot. Scattered plants were killed at Brandon, Man.; isolations yielded a form of Fusarium oxysporum only. (W. L. Gordon)

MATTHIOLA - Stocks

Root Rot. Fusarium Solani was associated from a root rot and wilt of stocks in the University gardens, Winnipeg, Man.

NARCISSUS

Smoulder (Botrytis narcissicola) caused 5-30% damage in early varieties and 1-5% in late ones in the Fraser Valley and on Vancouver Island, B.C., where the bulbs were not treated; only a trace was present in treated narcissi. (R. J. Hastings)

Helworms (Ditylenchus dipsaci) were general and caused severe damage in plantings of 18 growers out of 35 in B.C.

White Mould (Ramularia vallisumbrosae). A trace occurred in isolated areas on Vancouver Island, B.C., affecting Sir Watkin, Ornatus, Golden Spur. (R. J. Hastings)

Leaf Scorch (Stagonospora Curtisii) was general in all B.C. plantings; the damage was very slight.

Mosaic (virus). A single plant was affected in a home garden at Ste. Anne de Bellevue, Que. (I. H. Crowell)

Virus diseases affected a trace to 2% of the plants in 46 fields, 2-20% in 19 and 20-50% in 3, in the Fraser Valley and on Vancouver Island, B.C. Severely affected varieties were - Lucifer 90%, Southern Gem 60%, Mme. de Grey, 50%, Princeps 47%, Queen of North 30%, and Incomparable 28%. (R. J. Hastings)

NEMESIA

Root and Crown Rot (Sclerotinia sclerotiorum). Several annuals were affected in a large planting at Edmonton, Alta. Sclerotia were usually present in the decayed tissues. The damage was as follows: Moderate to severe on Nemesia; slight on Salvia; and a trace on Alyssum, Lobelia, Petunia and Scabiosa.

PAEONIA - Peony

Blight (Botrytis Paeoniae) was reported as follows: Severe on Souvenir de Bretonneau, Duchesse d'Orleans; and moderate on Beauty of France, Reine de Hortense, Eugene Verdier and Magnifica at the Station, Sidney, B.C.; slight infection in plantings at Edmonton and Olds, Alta.; slight infection on Marguerite Gaudichan at Morden, Man.; about 25% of the flower buds on most varieties were blighted before opening in the beds at the Station, Ste. Anne de la Pocatiere, Que., severe at Lennoxville; severe damage to the buds and leaves in a planting in Saint John Co., N.B., but damage slight at the Station, Fredericton; many outbreaks reported in Queens Co., P.E.I.

Leaf Spot (Cladosporium Paeoniae) was moderate on Souvenir de Bretonneau and Charlemagne; and a trace on Marguerite Gerard, Mme. d'Hour, Duchesse d'Orleans, and Magnifica at the Station, Sidney, B.C. (W. Jones). A trace was found at Macdonald College, Que.

Ring Spot (virus). A slight infection was present on a few varieties at Morden, Man. A well defined ring spot with slight dwarfing was observed at the Station, Fredericton, N.B.; attempts to transmit the disease by sap inoculations were unsuccessful. (D. J. MacLeod)

Chlorosis and Distortion (virus suspected) has been affecting one plant in my garden at Charlottetown, P.E.I., for some years; it has now spread to other plants. (R. R. Hurst)

PELARGONIUM - Geranium

Leaf Spot and Blight (Botrytis cinerea) was general in October in the beds at the Station, Sidney, B.C.; its spread was favoured by rainy weather.

PENTSTEMON

Leaf Spot (Ramularia sp.) was severe on P. grandiflorus, P. unilateralis, P. secundiflorus. (W. L. Gordon)

PETUNIA

Mosaic (virus). About 10% of the petunias in a private garden at Fredericton, N.B., showed a definite veinal mottle caused by Solanum virus 2. The virus was proved by transmitting it to the standard differentials. (D. J. MacLeod)

PHLOX

Powdery Mildew (Erysiphe Cichoracearum) was severe in a single garden at Summerland, B.C. It was widespread and severe on perennial phlox in gardens in York and Sunbury counties, N.B.

Leaf Spot (Septoria divaricata) slightly affected phlox in the beds at Ste. Anne de la Pocatiere, Que. (R. O. Lachance)

PRIMULA

Bacterial Leaf Spot (Phytophthora Primulae Ark & Gardner). A leaf spot was found on P. polyantha near Victoria, B.C. by W. R. Foster. It agreed well with the symptoms given by P. A. Ark and M. W. Gardner (Phytopath. 26:1050-1055. 1936), irregular circular brown lesions on the older

leaves surrounded by conspicuous yellow halo; spots reach 5-8 mm. in diameter and when abundant, coalesce. Bacteria were abundant in the tissue. (I. L. Connors)

RHAMNUS - Buckthorn

Rust (Puccinia coronata) was very severe on plantings of cascara (R. Purshiana) at Green Timbers Forest Nursery, B.C., according to J. E. Bier. Rust had killed some of the terminal shoots. Specimens were received on May 15 from G. S. Allan (I. L. Connors). Mature aecia were present on R. cathartica in the Arboretum, Ottawa, Ont., on June 8 (H. A. Senn). Pycnia were present on June 1, and aecia were just opening on June 11 at Macdonald College, Que. (I. H. Crowell). A severe infection was present on twigs and leaves of R. Frangula on June 11 at the Station, Fredericton, N.B.; most of the aecia were open on June 17. Aecia were very prevalent on leaves, stems, and fruits on hedges and trees of R. cathartica on July 3 at St. Andrews; no rust was found on the same day on buckthorn at St. Stephen (S. F. Clarkson). A moderate infection was noted on R. cathartica at Charlottetown, P.E.I. on June 27. It was also recorded from Kings Co. (R. R. Hurst)

RHODODENDRON

Leaf Spot (Pestalozzia sp.) caused considerable damage to 70 bushes at Royal Oak, near Victoria, B.C. (W. R. Foster)

RIBES

Leaf Spot (Septoria Ribis) severely infected the leaves of an ornamental hedge of R. oxycanthoides. This is the first record in Manitoba on this host. (W. L. Gordon)

ROSA - Rose

Canker (Coniothyrium Fuckelii). Scattered infections occurred on E. J. Ludding hybrid tea in Lincoln Co., Ont.; entrance was gained through pruning stubs. (G. C. Chamberlain)

Black Spot (Diplocarpon Rosae (Marssonina Rosae)) was reported as follows: Generally distributed and causing slight to moderate damage on the Lower Mainland and Vancouver Island, B.C.; severe on Persian Yellow, and slight on Harrison's Yellow in the University gardens, Saskatoon, Sask.; severe on Etoile de France at Winnipeg, Man.; heavy on Hybrid Tea roses about Guelph, Ont. and rather severe causing complete defoliation late in the season on some varieties in Lincoln Co.; occasionally severe in Queens Co., P.E.I.

Leaf Spot (Mycosphaerella rosicola (Cercospora rosicola)). A slight infection was reported at Morden, Man.

Rust (Phragmidium spp.). P. speciosum was severe on Banshee and Betty Bland, moderate on Tetonkaha, and a trace on Kamschatka in the University gardens, Saskatoon, Sask. A diseased cane of Betty Bland was received from St. Hubert Mission. A severe infection occurred in June at Winnipeg, Man. A bush of Betty Bland in the Macoun Memorial Garden, Experimental Farm, Ottawa, Ont., was badly infected. Last year's canes

were covered with sori, while this year's were clean to all appearances.

Rust was common on Rosa rugosa in a bed at Ste. Anne de la Pocatiere, Que. Rust (P. americanum) was moderate to severe on hybrid roses at Kentville, N.S. (R. J. Baylis). Rust was occasionally severe in Queens Co., P.E.I.

Powdery Mildew (Sphaerotheca pannosa) was quite prevalent on a few susceptible varieties at the Station, Summerland, B.C.; most varieties were free from infection. The disease was moderate on Etoile de France at Winnipeg, Man. Powdery mildew was very prevalent and destructive particularly to certain Rambler varieties in many parts of Ont. The disease was observed causing slight damage in Three Rivers, Two Mountains, Terrebonne, and Berthier counties, Que. Powdery mildew was quite common and destructive in P.E.I., particularly on Crimson Rambler, Hybrid Perpetuals and Dorothy Perkins; dusting with extremely fine sulphur has given good results.

Witches' Broom (?virus) was observed affecting some canes at Morden, Man.; the number of spines was greatly increased on affected canes.

RUDBECKIA - Golden Glow

Powdery Mildew (Erysiphe Cichoracearum) was reported at Summerland, B.C.

SOLIDAGO - Goldenrod

Rust (Coleosporium Solidaginis) severely infected and destroyed the leaves of some ornamental goldenrods at Morden, Man.

SYRINGA - Lilac

Powdery Mildew (Microsphaera Alni) caused slight damage in gardens at Fredericton, N.B.

Blight (Phytophthora Syringae) slightly infected leaves and more particularly young shoots as they emerged from the ground near the main branches at Ste. Anne de la Pocatiere, Que. This is the first time the disease has been observed at Ste. Anne. The wet spring was probably very favourable for the disease. (R. O. Lachance)

Mosaic (?virus). About 2% of the lilac bushes at the Station, Fredericton, N.B. show a definite mosaic. A diffuse veinal mottle is present in most leaves of the affected bushes. (D. J. MacLeod)

TAGETES - Marigold

Yellows (virus). Scattered plants of Crown of Gold were affected at Morden, Man.

TULIPA - Tulip

Dry Rot (Armillaria mellea). Brown or blackish decayed areas with rhizomorphs attached were found on a few bulbs in Vancouver, B.C. (J. W. Eastham)

Fire (Botrytis Tulipae). Primary infection was severe in 17 fields, slight in 30 and absent in 2 out of 49 fields examined on the Lower Mainland and Vancouver Island, B.C. First infections were observed on Feb. 19 (R. J. Hastings). A rather extensive infection was seen in a perennial bed

in Lincoln Co., Ont. (G. C. Chamberlain). Fire caused a great deal of damage in many parts of Ont. in 1940. A large commercial planting of tulips consisting of several thousand plants near Fergus, Ont., was inspected; hardly a blossom could be found that was not spotted and disfigured by the disease (J. E. Howitt). Fire was reported at Kentville, N.S. The disease was most severe on Darwin tulips and other late varieties at Charlottetown, P.E.I., but some was present on the early tulips. (R. R. Hurst)

Storage Rot (Penicillium sp.) caused a trace to severe damage on the Lower Mainland and Vancouver Island, B.C.

Break (virus). Usually less than 1% of the plants were affected in plantings in B.C. (R. J. Hastings)

VERONICA

Leaf Spot (Septoria Veronicae) was severe on some plants at Morden, Man.

ZINNIA

Wilt (Sclerotinia sclerotiorum) caused moderate damage in the University gardens, Winnipeg, Man.; a first record on this host in Manitoba (W. L. Gordon). About 5% of the plants were destroyed after the plants had begun to bloom at the Station, Ste. Anne de la Pocatiere, Que.