III DISEASES OF VEGETABLES

ASPARAGUS

STEM CANKER (Phoma asparagi) was heavy on fern growth of asparagus at Leamington, Ont. (C.D. McKeen).

RUST (Puccinia asparagi). At Leamington, Ont. a 2-acre field of the variety Paradise was heavily infected (C.D. McK.).

BEAN

GRAY MOLD (Botrytis cinerea). Light losses were incurred in field beans at Pokiok, York Co., N.B. and the disease was also present in home gardens (S.R. Colpitts). Slight damage from pod rot was also seen on snap beans for freezing at East Florenceville, N.B. (K.M. Graham). Gray mold was sev. on canning beans in Kings Co., N.S. with up to 10% of the pods affected at harvest (K.A. Harrison).

ANTHRACNOSE (Colletotrichum lindernuthianum) was repeatedly found, mainly as tr. infections on Michelite, in fields in w. Ont. (M.D. Sutton, V.R. Wallen). Infection was 80% in 2 fields of the variety King Horn at St. Damasse, Que. The seed had been grown locally (R. Crête). It was sev. at Arvida, Que. (D. Leblond). Little infection was seen in fields grown from imported seed in York Co., N.B. but second-year seed had a mod. amount of infection (S.R.C.). At Canning, N.S. 22 acres of snap beans were so badly infected that they were ploughed down, Infection apparently originated in a nearby field of Jacob's Cattle beans (K.A.H.)

ROOT ROT (Fusarium solani f. phaseoli). Trace infections were seen in a few fields in w. Ont, (R, M. S., V.R.W.). Damage was sl. in a 2-acre field at Ste, Clothilde, Que. (R. Crête, J. Simard, T. Sirnard),

HALO BLIGHT (Pseudomonas phaseolicola) was 1-sl./3 commercial fields and 1-sl. 1-sev. in garden plantings nr. Lethbridge, Alta. (F.R. Harper). Trace infections occurred in plantings of the Soldier variety in York Co., N.B. (S, R, C.). Commercial plantings were relatively free of the disease until late Aug. in Kings Co., N.S. A heavy infection, however, was seen in a home garden at Kentville (K.A.H.).

SCLEROTINSA WILT (S. sclerotiorum). Lush growth and high moisture levels favored an unusual amount of infection in n. and c. Alta, (W.P. Skoropad), In w. Ont. it was found in most fields, ranging from tr. -sl. but occasionally sev. on succulent growth on low-lying ground (R. M. S., V.R.W.). It was sev. in plots at the Muck Soils Exp. Sta, , Ste. Clothilde, Que. (D. W. Creelman). Up to 100% infection, such that beans could not be harvested and dried, occurred in-some fields in the Canaan, N. S. district (K.A.H.).

RUST (Uromyces phaseoli) was sev. in 1 field of Michelite in w. Ont, (R. M. S., V. R. W.).

COMMON BLIGHT (Xanthornonas phaseoli) was sl. on pole beans at Lavington, B.C. (G. E. Woolliams),

MOSAIC (virus). Both common and yellow mosaic were prevalent in many fields in w. Ont. (R. M. S., V. R. W,). It was 2% in a garden at Salisbury, N, B. (S. R. C.).

CHEMICAL INJURY. Dry weather apparently prevented the complete breakdown of pro-merge weed killer and some injury occurred to beans when the trifoliate leaves were expanding in early July. The symptoms resembled mosaic but the plants eventually recovered (K. A. H.).

FROST INJURY caused sl, -mod. damage to 4 fields in early May at Ste. Clothilde, Que. (R. C, , J. S, , T. S.).

MAGNESIUM DEFICIENCY caused sl. -sev. damage over half a 2-acre field at Chipman Corner, N. S. In some spots plants produced only one-quarter normal growth (K. A. H,),

OEDEMA (excess moisture) resulted in pods with numerous watery pimples that showed reddish cells when the skin was broken. The crop of 28 acres involved at Canning, N. S, could not be canned since the discoloration remained after processing (K. A. H.).

WIND INJURY. High winds in late May caused heavy damage to bean fields along Lake Erie, south of Harrow, Ont. Some 30-40 acres had to be reseeded (J. Rainforth).

BEET

LEAF SPOT (Cercospora beticola) was mod. -sev. in a field nr. Guelph, Ont. (D. W. Creelman) and tr. in a field at Sherrington, Que. (R. Crête, J. Simard, T. Simard). It affected from tr. -10% of the leaf surface of most plants at the Peat Substation, Colinet, Nfld, (O.A. Olsen).

LEAF SPOT (Phoma betae). Infection was about 10% at Lower Canard and Sydney, N. S. (C. O. Gourley).

BROAD BEAN

WILT (Fusarium oxysporum, f. fabae) caused about 40% loss in 2 fields at Saguenay and Chicoutimi, Que: (Gy. Ola'h).

BROCCOLI

BORON DEFICIENCY resulted in some blackening of the center of heads at Canning and Kentville, N. S. (K. A. Harrison).

BRUSSELS SPROUTS

VASCULAR DISCOLORATION AND HEAD ROT (Xanthomonas campestris) affected 10% of the plants on 80 acres at Rogersville, N.B. The pathogen is suspected of being seedborne on the hybrid variety Jade Cross, the seed of which had been grown in Japan (K. M. Graham).

CABBAGE

DOWNY MILDEW (Peronospora parasitica) developed on plants under hotcaps at Eastport, Nfld. Unprotected plants were not affected. Dusting with a copper fungicide arrested the spread of the disease (O.A. Olsen).

CLUB ROOT (Plasmodiophora brassicae). was sev. in a market garden on muck soil nr. Cloverdale and sl. in a market garden on clay soil nr. Ladner, B. C. (H. N. W. Toms). Damage was sev. in a field at Ste Clothilde, Que. (J. Simard, R. Crête, T. Simard). Light infections were seen or reported from several areas of Kings Co., N. S. (K.A. Harrison).

WIRE STEM (Rhizoctonia solani). A light, general infection occurred over a 4-acre field at Avonport, N. S. (K. A. H.).

SCLEROTINIA ROT (S. sclerotiorum) occurred to an unusual degree in n. and c. Alta. (W. P. Skoropad). Trace-sl. amounts were observed on the Bradford Marshes, Ont., at Macdonald College, Que. and in the Ste Clothilde area of Que, (D. W. Creelman).

OEDEMA (improper water relations) was common and sev. on the outer leaves of cabbage in the Quebec City region in late June and early July. It seemed to be related to extremes of day and night temperatures (D. Leblond). It was also common in plantings in Sunbury Co., N. B. (S. R. Colpitts).

CARROT

LEAF BLIGHT (Alternaria dauci) was commonly seen in fields on the Bradford Marsh, Ont. (D. W. Creelman). It was rated 1-tr. 4-sl. -mod. /14 fields surveyed in the muck soil area in s. -w. Que. (J. Simard, R. Crête, T. Simard).

LEAF BLIGHT (Cercospora carotae) occurred along with A. dauci in most plantings on the Bradford Marsh, Ont. (D. W. C.). It was rated 4-tr. -mod/ 14 muck soil fields in s. -w. Que. (J. S., R. C., T. S.). Infection was first noted in fields in Kings Co., N. S. in late July. A spray program based on 4

sprays of zineb, where followed, gave excellent control, In an untreated field at Port Williams there was a 60% loss of foliage by late Sept. The disease was also seen in the Sydney and Port Morien areas on Cape Breton Island (K. A. Harrison), Alternaria and Cercospora leaf blights seem to occur in equal intensity on the Bradford Marsh in Ont. and in crops on muck soils in s.-w. Que. They assume a greater importance, however, in Que. for two reasons; first, a larger proportion of the Que. crop reaches the market as bunching carrots where blemishes on the foliage detract from the saleability of the product and, second, most of the harvesting of mature roots in Que. is done by mechanical means, in contrast to hand harvesting on the Bradford Marsh. Even moderate infection by leaf blight weakens the tops to such an extent that they break off when harvested mechanically and many roots are left in the ground. No figures are available for any estimate of reduction in yield caused by the two organisms (D. W. Creelman).

SOFT ROT (Erwinia carotovora]. Most of the roots of plants with symptoms of aster yellows in a field at Ste, Clothilde, Que, showed extensive rotting (D. W. C.).

ROOT-KNOT NEMATODE (Meloidogyne hapla). Trace-mod. infestations were seen in many fields examined on the Bradford Marsh, Ont. (D. W. C.). Infections were rated 4-tr.-sev./7 fields in the Ste. Clothilde region and 2-sl./4 at Sherrington, Que. (J. S., R. C., T. S.).

SCLEROTINIA ROT (S. sclerotiorum), A considerable amount developed in storage in n. and c. Alta. (W. P. Skoropad). Several specimens from the 1961 crop in storage were received at Kentville and field rotting, an unusual occurrence in N.S., was seen in a large field at Port Williams, N. S. (K. A. H.).

ASTER YELLOWS (virus). Trace infections were seen in fields on the Bradford Marsh and in the Guelph, Ont. district (D. W. C.). Infections were 1-tr./7 at Ste. Clothilde and 2-tr./2 in the Farnham area, Que. (J. S., R. G., T. S.) and it was tr. in the region of La Pocatikre, Que, (H. Généreux). No infections were seen in Kings Co., N. S. until late Aug. after which time they developed rapidly and some fields showed sev. infection. Larger fields tended to have more yellows than small plantings, The disease was more sev. than in 1961 but not as sev. as in 1960 (K. A. H.). Infection was less than 1% in the Notre Dame Bay and St. John's districts in Nfld. (O. A. Olsen).

CHEMICAL INJURY (herbicide). Excess application of pre-merge herbicide was suspected to be the cause of many misses and poor growth on a farm nr. Cloverdale, B, C. (H. N. W. Toms),

CAULIFLOWER

BORON DEFICIENCY was responsible for loss of plants in a planting at Kentville, N. S. Stems were hollow and broke down with soft rot (K. A. Harrison).

CELERY

ROOT-KNOT NEMATODE (Meloidogyne hapla). Slight-mod. infestation was seen in one end of a large planting on the Bradford Marsh, Ont. (D. W. Creelman). Ratings were 1-sl./5 fields surveyed in the Ste. Clothilde region, Que. (J. Simard, R. Crête, T. Simard).

BACTERIAL BLIGHT (Pseudomonas apii). Specimens were received from Ste. Clothilde, Que. (D. W. C.).

PINK ROT (Sclerotinia sclerotiorum) was tr, in plots at Ste Clothilde, Que. (J.S., R.C., T.S.).

LATE BLIGHT (Septoria apii) was mod.-sev. at one end of a 1-acre field on muck soil nr, Cloverdale, B, C. (H.N. W. Toms). Light infections were seen in several fields on the Bradford Marsh, Ont, (D. W. C.). Ratings were 1-sev./5 fields at Ste. Clothilde and 5-91./9 at Sherrington, Que. (J.S., R.C., T.S.).

ASTER YELLOWS (virus). Traces were seen in celery fields in the Bradford Marsh, Ont, (D. W. C.). and in 2 of 5 fields at Ste. Clothilde, Que. (J.S., R.C., T.S.).

MOSAIC (virus) was trace in plots at the Muck Soils Substation, Ste. Clothilde, Que. (J.S., R.C., T.S.).

CORN

SEEDLING BLIGHT (Fusarium moniliforme), The pathogen was isolated from diseased seedlings in localized spots in a field of late-planted sweet corn in Essex Co., Ont. (R.E, Wall).

NORTHERN LEAF BLIGHT (Bipolaris turcicum). Heavy infections were common on late plantings of sweet corn in Essex Co., Ont. (J. Rainforth).

SMUT (Ustilago maydis) was tr. in plots at Fort Garry, Man. (W. L. Gordon). A few infected ears were seen in plantings in w. Ont., at Macdonald College and in the Montreal Botanic Gardens (D. W. Creelman). It caused mod. losses in a planting at La Pocatikre, Que. (H. Généreux) and a specimen was received from Ste. Monique, Que. (D. Leblond).

MAGNESIUM DEFICIENCY. Very sev. symptoms were seen in the Waterville district of Kings Co., N. S. It was more common in the county than usual (K. A. Harrison),

CUCUMBER

LEAF SPOT (Alternaria cucumerina) was mod. -sev. in several home gardens inspected in the Ottawa, Ont, area (D. W. Creelman) and was sl, -mod. at St. Nicolas, Levis Co., Que. where a Phyllostictawas also present in some spots (D. Leblond), Numerous specimens were received at Kentville, N, S. including one from River Philip, Cumberland Go., where the grower reported 100% infection and a total loss of the crop. This is a very troublesome disease in N. S, (K.A. Harrison).

STEM ROT (Botrytis cinerea) became a problem in many greenhouses in Essex Co., Ont. during cloudy weather in Feb. and March. Where careful control measures were applied the loss was not substantial (J. Rainforth),

SCAB (Cladosporium cucumerinum). Considerable scab was seen on some lots of locally-grown cucumbers on the farmers' market at Ottawa, Ont. (D. W, Creelman). Trace-mod. amounts occurred in 6 fields surveyed in the Farnham area (R. Crête) and damage was 10% in a planting at Quebec and 15% in 2 fields at Massabielle, Wolfe Co., Que. (G. Ola'h). Table cucumbers of non-resistant varieties were almost a complete loss in N. B. (S. R, Colpitts). A field of Marketer was abandoned as a complete loss at Centerville, N. S. Even the growing tips of the vines were killed, The disease was general throughout the province (K. A. H.).

ANTHRACNOSE (Colletotrichum lagenarium) caused some defoliation in a large greenhouse at Learnington, Ont. Weekly applications of maneb brought the disease under control (C. D. McKeen). Trace infections were seen in all 6 fields surveyed in the Farnharn area, Que. (R. C.).

DODDER (Cuseuta sp.). At Oromocto, N, B. , greenhouse flats became infected. After transplanting, about 60% of the plants were killed before fruit was formed (S. R. C.).

BACTERIAL WILT (Erwinia tracheiphila) killed a few plants in a small field nr. St. Catharines, Ont. (J, F. Bradbury). Wilt was present in most gardens in the regions of La Pocatière, Que. Up to 25% of the plants were affected (H. Généreux).

POWDERY MILDEW (Erysiphe communis) was observed on greenhouse cucumbers as early as 10 Feb. in Essex Co., Ont. and continued to be a problem during the remainder of the growing season, Losses from mildew were substantial. Abnormally cloudy weather in Feb. and March resulted in soft tissues in the cucumber plants which were very susceptible to injury from chemicals used in control (J. Rainforth). Sl. infection was seen in a greenhouse at Falmouth, N. S. (K. A. H.).

ANGULAR LEAF SPOT (Pseudomonas lachrymans). Infection was about 5% in a commercial field at Osoyoos, B. G. (G, E. Woolliams) and was sev. in 2 garden plantings at Lethbridge, Alta. (P. E. Blakeley, F. R. Harper). A 2-acre portion of an 8-acre field at Harrow, Ont. was sev. infected (C. D. McKeen). Damage was mod. in a field of several acres at Brantford, Ont. (C. B. Kelly) and was mod. -sev. in 6 fields examined in the Farnham district and sev. in 1 field at Sherrington, Que. (J. S. , R. C., T, S.). The disease was sev, at Ste. Foy, St. Nicolas and Joly, Que. (D. L.). Infection was 5% at Gagetown, N. B. (S. R. C.).

SCLEROTINIA ROT (S. sclerotiorum) was unusually prevalent in n. and 'c. Alta. (W. P. Skoropad) and was mod. in a greenhouse at Medicine Hat, Alta. (P.E.B.).

MOSAIC (virus) was sev. at Arvida and Caplan, Que. (D. L.).

BLOSSOM-END BLIGHT (cause unknown) caused sev. reduction in the marketable yield in a greenhouse at Lethbridge, Alta. The stem end of fruits was normal but the blossom end was shrivelled (J.B. Lebeau, P. E. A.).

CHEMICAL INJURY. In 2 greenhouses in Essex Co. , Ont., cucumber crops were planted in soil treated with the fumigant "Vorlex" before the gas had escaped from the soil, The crops were killed. Reworking the soil and replanting resulted in the loss of approximately 3 weeks' production (J.R.). Injury similar to that caused by 2,4-D occurred on cucumbers planted near tomatoes to which a "fruit set" hormone had been applied at Falmouth, N. S. (K. A. H.). A field of pickling cucumbers in Essex Co. , Ont, , plants where black walnut trees had been removed the previous year suffered sev. wilting. Some injury was also seen near standing trees. It was first noticed in early July as harvesting was about to commence (J. R.).

EGGPLANT

WILT (Verticillium dahliae) varied from tr. -100% in fields in Essex Co. , Ont. Yield losses in heavily infected fields were considerable (C. D. McKeen).

LETTUCE

GRAY MOLD (Botrytis cinerea) was sev. on lettuce in variety trials on peat soil at Aylesford, N. S. (K.A. Harrison) and affected 3% of the plants in plots at St. John's West, Nfld. (G. A. Nelson).

DOWNY MILDEW (Bremia lactucae), Infection was rated 4-tr. -sl./7 fields examined at Ste. Clothilde, Que. (J. S. , R. C. , T. S.) and was sev. in several fields in the Sydney area, N. S. (K. A. H.).

BIG VEIN (Olpidium sp. and TMV associated), Many fields at Leamington, Ont. showed varying degrees of incidence, No crop was free of the disease (C.D. McKeen).

STUNT (Pythium sp.) was sev. in a 3-acre field on the Bradford Marehes, Ont., causing a loss of 25% of the plants. Trace amounts were observed in 2 other fields (L.V. Busch).

BOTTOM ROT (Rhizoctonia solani). Infection was 3-tr. -sl./7 fields examined at Ste. Clothilde, Que. (J.S., R. C., T. S.).

DROP (Sclerotinia sclerbtiorum) was 4-tr. -sl./7 fields at Ste Clothilde, Que. (J.S., R. C., T. S.). Trace infections were seen at Kantville, Grand Pré and Sydney, N. S, (K. A, H.).

ASTER YELLOWS (virus). Trace amounts were observed on the Bradford Marsh, Ont. (D. W. Creelman). In Que, it was 4-tr./7 fields at Ste, Clothilde and 1-tr./1 at Sherrington (J.S., R. C., T. S.).

MOSAIC (virus) was 2-tr./7 fields at Ste Clothilde, Que. (J.S., R. C., T. S.).

MELON

LEAF SPOT (Alternaria cucumerina) was present in fields in Essex Co. Ont. where regular applications of fungicidal sprays were not applied (C. D. McK.).

POWDERY MILDEW (Erysiphe communis) was prevalent on most melon crops in Essex Co., Ont. Protective sprays containing maneb, where applied, held it under fairly good control (C. D. McK.).

MUSKMELON

SCAB (Cladosporiurn cucumerinum) was sev. on the Early Champlain variety growing near infected cucumbers at Kentville, N. S. (K. A. Harrison).

ANTHRACNOSE (Colletotrichum lagenarium) was serious in a few unsprayed muskmelon fields nr. Harrow, Ont. It was not present in sprayed fields (C. D. McKeen).

ONION

PURPLE BLOTCH (Alternaria porri), Trace infection was seen in 1 field at Napierville, Que. (J. Simard, R. Crête, T. Simard).

NECK ROT (Botrytis spp.),(B. allii' was common in storage in the Okanagan Valley, B. C, (G. E. Woolliarns). Specimens yielding B. cinerea were

received throughout the winter from the local markets in Quebec City (D. Leblond).

BLAST (Botrytis spp.) was generally distributed in onion fields in the Winnipeg, Man. area. Infection was sev. in portions of some fields (W. L. Gordon). A considerable amount of infection was seen in fields at Learnington and on the Bradford Marsh, Ont. (D. W. Creelman). In s.-w. Que. it was rated 2-mod./3 fields at Ste. Clothilde, 2-sl./9 at Sherrington and 3-sl./3 at Napierville (J.S., R.C., T.S.). Blast was sev, and growth seriously retarded in fields in Kings Co., N.S. early in Aug. (K.A. Harrison).

BULB ROT (Fusarium oxysporum f. cepae) caused up to 50% rot in the newer hybrid varieties in the Oliver district and about 1% in the Kelowna. B.C. districts. The disease appeared to be more prevalent on new hybrids than on the older, standard varieties such as Yellow Globe Danvers, etc. (G. E. W.). It was rated 3-tr./3 fields at Napierville and 2-sl./5 fields at Farnham, Que. (J.S., R.C., T.S.).

PINK ROT (Fusarium solani) was quite general in the Kelowna, B.C. district (G. E. W.).

ROOT-KNOT NEMATODE (Meloidogyne hapla) was observed to be 3-tr./9 fields at Sherrington, 1-tr./3 at Napierville and 1-sl./5 at Farnham, Que. (J.S., R.C., T.S.).

DOWNY MILDEW (Peronospora destructor) was rated 2-sl./3 fields examined at Ste. Clothilde (J.S., R.C., T.S.); it was observed at Champigny (Gy. Ola'h) and was sev, in most gardens at La Pocatière, Que. where it appeared exceptionally early in the season (D. Leblond).

PINK ROT (Pyrenochaeta terrestris) occurred in a number of fields of set onions in the Learnington, Ont. area. Damage was restricted to small areas in the affected fields (J. Rainforth).

WHITE ROT (Sclerotium cepivorum). One field in the Sherrington, Que. district was mod.-sev. infected and 2 others showed sl, infection (J.S., R.C., T.S.). This is the first report of S. cepivorum in Eastern Canada. It had previously been reported from Man. (C.P.D.S. 39:50. 1960). The onions at Sherrington had been grown from seed, the origin of which was not known to the growers, Rotational practices have been recommended (D. W. C.).

SMUT (Urocystis cepulae) occurred in most commercial onion fields at Kelowna, B.C. (G.E.W.). It was present in some fields on the Bradford Marshes, Ont, (D. W. C.).

ASTER YELLOWS (virus) was tr. in 2/2 fields in the Farnham region, Que. (J.S., R.C., T.S.),

YELLOW DWARF (virus), Early bunching onions in 2 fields at La Salle, Ont. were slightly infected with yellow dwarf (C. D, McKeen).

CALCIUM DEFICIENCY was tr, in 1 field in the Farnham, Que. region (J. S., R. C, , T. S.).

CHEMICAL INJURY. Arsenical injury occurred in a field of Spanish onions in Essex Co., Ont. The field was 2 years removed from an apple orchard. Circular areas of very poor growth, roughly 10 ft. in diameter and corresponding to tree location occurred throughout the field. Subsequent analysis showed arsenic to be present in toxic amounts near the trunks of standing trees in an adjoining orchard.

PARSMP

LEAF SPOT (Cdrcospora pastinacae). Trace infections were observed on small leaves in mid-July at Port'Williams and Kingsport, N. S. By the first of Aug. sev. infections had developed in all parsnip fields in the area. Good control was obtained by spraying with either maneb or zineb. Very deep lesions developed on petioles but the foliage'remained green and functioning until late Oct. (K.A. Harrison).

ASTER YELLOWS (virus). Infection was 5% in a field adjacent to a moderately infected carrot field at Port Williams, N. S. (K.A. Harrison).

PEA

FOOT ROT (Ascochyta pinodella) was present in all fields surveyed in the Ottawa Valley, Ont. with losses ranging from tr. -30%. The variety B. C. Blues seemed very susceptible (V. R. Wallen).

LEAF AND POD SPOT (Ascochyta pisi). All vines in 3 fields totalling 100 acres at East Florenceville, Centerville and Royalton, N. B. were affected with the average damage moderate. Weather conditions were exceptionally favorable for its development and piles of pea vines were left undisturbed after harvest. Defoliation of lower leaves and pot spotting were severe. (K. M. Graham, F. Harding). Infection was 4% on the variety Sprite in trials at Kentville, N. S. It was not seen in commercial fields (K. A. H.).

GRAY MOLD (Botrytis cinerea). Some early pea fields at South Berwick, N. S. showed about 10% damage from stalk and pod infection. Later-planted fields were not affected (K. A. H,).

POWDERY MILDEW (Erysiphe polygoni). Specimens were received from Berthier, Que. (D. Leblond). It was prevalent in home gardens in the Fredericton, N.B. area but field peas were not affected to any degree (S. R. Golpitts). A heavy infection developed on foliage of Fenland Wonder at Kentville,

N, S. after pods were harvested (K. A. H.).

ROOT ROT AND WILT (Fusarium spp.) was very destructive in a garden at Vancouver, B. C. (H. N. W. Toms).

MYCOSPHAERELLA BLIGHT (M. pinodes) caused sev. spotting of 20% of the pods of Chancellor at Rosenfeld, Man. (W. A. F. Hagborg). It was sl. in 1 field of Creamette in the Ottawa Valley, Ont. (V.R. W.). A sev. infection occurred in variety trial plots at the Research Station, Kentville, N. S. (K. A. H.).

DOWNY MILDEW (Peronospora pisi). Infection was sl. in 3/3 plantings examined at Taber, Alta. (F. R. Harper). Two large fields were heavily infected at Morristown, N, S. Little injury was apparent except that Botrytis cinerea became established in many of the old mildew lesions (K. A. H.).

BACTERIAL BLIGHT (Pseudomonas pisi) was associated with lesions on unfilled pods in a field nr. Taber, Alta. (F. R. H.).

SEEDLING BLIGHT (Pythium spp.) caused sev. reduction in stand in part of a field planted with chloranil-treated seed stored for 1 year. No stand reduction occurred in the remainder of the field planted with captan - treated seed that had not been stored (F.R. H.).

ROOT ROT (Pythium and Fusarium spp.) was of no economic importance in s. Alta. in 1962 in contrast to 1961 when mod. -sev. damage was recorded. The growing season in 1962 was abnormally cool whereas it was abnormally warm in the early part of the 1961 season (F.R. H.).

STEM ROT (Sclerotinia sclerotiorum) was reported in several dields of canning peas in Kings Co., N. S. A 10-acre field at Somerset had a number of infected areas (K. A. H.).

LEAF BLOTCH (Septoria pisi) was sev. in a field at Caplan, Que. (D. Leblond).

RUST (Uromyces fabae). Tr. -sl. infections were seen in 2 fields in the Ottawa Valley, Ont. (V.R. W.). It was tr. and caused no damage at Morristown, N.S. (K.A.H.).

STREAK (virus). Infection was as high as 15% in some plantings of Chancellor in the Ottawa Valley, Ont. (V. R. W.).

PEPPER

WILT (Verticillium dahliae) affected up to 20% of the plants in some fields at Kelowna, B. C. (G. E. Woolliams). Infection ranged from tr. -30% in several fields in the Harrow, Ont. area (C. D. McKeen).

BACTERIAL SPOT (Xanthomonas vesicatoria) caused slight damage in 2 fields in Essex Co., Ont. (C. D. McK.).

TOBACCO ETCH (virus) affected most pepper fields in the Harrow, Ont. district. It was estimated that losses in yield were in excess of 30% (C. D, McK.).

PEPPERMINT

WILT (Verticillium albo-atrum) caused sev. damage nr. Grand Bend, Huron Co., Ont. (J. Bradbury).

POTATO

The data presented in Tables 1-3, pertaining to Seed Potato Certification in Canada were shpplied by the Plant Protection Division, Production and Marketing Division, Canada Department of Agriculture. As in 1960 and 1961, the principal causes of rejection of seed fields were the virus diseases mosaic and leaf roll and the bacterial diseases ring rot and blackleg. Ring rot incidence in seed crops was greatly reduced in 1962 but blackleg incidence increased threefold. The big increase in blackleg occurred in crops grown in Prince Edward Island (D. W. Creelman).

EARLY BLIGHT (Alternaria solani). Incidence in seed fields in B. C. was rated 51-sl. 4-mod./383, being most prevalent in the Pemberton and Okanagan districts (N. Mayers). It was generally present but slight in n. Alta, (R. P. Brandrith) and ranged from sl.-sev. in 48/133 s. Alta fields with 1 field 95% infected (R. P. Stogryn). In Sask. it was sev. in some fields by the end of the season (A. Charlebois) while in Man. and n.-w Ont. it was sl, late in the season (D. J. Petty). Early blight was sev. in the Simcoe, Sudbury and Algoma districts of Ont. (H. W. Whiteside) and was 9-sl. 6-mod. 1-sev./69 fields in e. Ont. where it caused tuber rot in 1 field (E. H. Peters). In Que. it was rated 101-sl. 29-mod. 2-sev./926 seed fields, mostly occurring in the Lake St. John and Chicoutimi districts (G. Ethier). It was 2-tr./4 table stock fields in the Sherrington-Napierville, Que. area (J. Simard, T. Simard), It was rarely observed in N. B. in 1962 (C. E. Robinson) and was sl.-mod. throughout N. S. by mid-Aug. where the new variety Hunter appeared to be susceptible (R. C. Layton). Infection was ,extremely heavy at Brigus and. Bay Roberts, Nfld. but not elsewhere in the province (O.A. Olsen).

BLACK DOT (Colletotrichum coccodes) caused early and sev. wilting of Kennebec nr. Estevan, Sask. (R. J. Ledingham). Infection ranged from 0-34% in 3 fields examined in Kamouraska Co., Que (J. Santerre).

Table 1. Seed Potato Certification - Acreage passed by variety and Province - 1962.

Variety	P. E. I.	N. S.	N. B.	Que.	Ont.	Man.	Sask.	Alta.	B. C.	Total
Sebago	17,940	32	758	72	327			2	19	19,150
Kennebec	2,207	147	(1,117	539	128	362		6	57	10,563
Katahdin	444	11	4,332	169	109					5,064
Netted Gem	31	20	1,196		4	1,041	141	1,167	1,201	4,801
Red Pontiac	208	23	2,313		24	229	4	95	36	2,932
Irish Cobbler	1,492	20	111	58	31	167		9		1,889
Green Mountain	407	19	73	968	1				40	1,508
Norland	1		14		12	538	114	2	13	694
Keswick	44	11	326	182	23				3	589
Cherokee	315	16	59	16	35	3		6		450
Warba	21	1	3	8	10	55	11	142	37	288
Hunter	143	14	32		1		1			189
Fundy	38	25	44	1	3		5		1	117
Waseca						80	9	2	8	99
Avon	5	8	49		14		1			77
Manota						60	10		1	71
Chippewa	3		19		46	1				69
White Rase									48	48
Russet Rural			41							41
Others	21	15	17	17	1	40	33	13	43	200
Totals	23,318	362	16,504	2,030	769	2,576	329	1,444	1,507	48,839

Table 2. Seed Potato Certification, Summary bf fields and acres entered and passed - 1962

Province	FIELDS Entered	FIELDS Passed	FIELDS Percent Passed	ACRES Entered	ACRES Passed	ACRES Percent Passed
P. E. I.	5,222	4,391	84. 0	29,595	23,318	79. 0
N. S.	275	220	80. 0	440	362	82. 0
N. B.	2,182	2,003	91. 4	18,818	16,504	87. 7
Que.	926	496	53. 5	3,830	2,030	53.9
Ont.	408	310	75. 9	1,133	769	67. 9
Man.	175	141	80. 5	3.082	2.576	83. 5
Sask.	92	83	90.2	411	329	80. 1
Alta.	190	182	95.7	1,619	1,444	89.2
B. C.	383	305	79. 6	2,019	1,507	74. 7
Totals	9,853	8,131	82. 5	60,947	48,839	80, 1

Table 3. Seed Potato Certification
Fields rejected on field inspection - 1962

Prov.	Leaf Roll	Mosaic	Bacterial Ring Rot	Black Leg	Wilts	Adjacent Diseased Fields	Misc.	Total
P.E.I.	14	86	..3	491	11	14	109	728
N. S.	2	6	7	5	1	4	1	26
N. B.	10	33	69	11	-	2	12	137
Que.	20	186	84	52	-	16	10	368
Ont.	10	23	2	28	11	2	2	88
Man.	-	-	4	18	-	-	12	34
Sask,	-	-		1	2	-	3	6
	-	-	-	-	-	-	-	-
B. C.	45	1	-	1	2	4	15	,68
Total	111	335	169	607	27	42	164	1455

Black Dot (Colletotrichurn coccodes) caused early and sev, wilting of Kennebec nr. Estevan, Sask. (R. J. Ledingham). Infection ranged from 0-34% in 3 fields examined in Kamouraska Co., Que. (J. Santerre).

BACTERIAL RING ROT (Corynebacterium sepedonicum) was found in only 1 seed crop in B. C. It was reported on 9 farms growing tablestock (N. M.). Only 1 infected seed field was found in Alta. and 5 others rejected because of suspected contact (R. P. B., R. P. S.). The disease continues to be widespread in Sask. (R. J. L.). Four/174 fields were rejected in Man, (D. J. P.). It was found in a table stock field in the London area (F.J. Hudson) and in 1 seed field in e. Ont. (E. H. P.). In Que. 84/926 seed fields and 13 bin lots were rejected (G. E.). At La Pocatière, Que., Fredericton seedlihg F 59, Hunter and many other varieties showed wilt symptoms and striking tuber symptoms when knife-inoculated. Teton, Saranac and Merrimack exhibited no tuber symptoms (H. Généreux). Ring rot increased slightly in N. B. with 69/2,182 fields being rejected. Twenty-eight additional fields were rejected for contact (C. E. R.). Ring rot showed a marked decrease over 1961 in P. E. I. (G. C. R.). The striking decrease in ring rot- in P. E, I. and Que. is attributed to extensive programs of disinfection of planting machinery (D. W. C.). Seven/275 fields were rejected in N. S. The variety Katahdin was the most seriously affected with percentages of 5-10% (R. C. L.). It was observed in fields in the Notre Dame Bay and Conception Bay districts of Nfld. (O.A. O.).

BLACKLEG (Erwinia atroseptica). Infection in seed fields in B, C. was rated 822-tr. 4-sl. 1-sev./383. Its incidence increased in the Kootenays and Pemberton areas. (N. M.). Blackleg was found in 90% of the acreage inspected in n. Alta. but no fields were rejected (R. P. B.) and in s. Alta. it was rated 98 tr. -1%/133 fields (R. P. S.). Twenty/93 fields were diseased in

Sask, (A.C.) and 18 fields were rcjected in Man. (D. J. P.). In the Barrie district of Ont., 21/245 fields were rejected. Lesser amounts of disease were found where treated seed was used and also in fields planted with a tuber unit planter (H. W. W.). Blackleg was found in 18/69 fields inspected in *e.* Out. and 3 were rcjected (E.H.P.). In Que. 447/926 fields were diseased and 55 rcjected (G.C.). Trace infections were found in 26% of the fields inspected in N.B., 11 were rcjected (C. E. R.). Blackleg incidence increased markedly in P. E. I. where 491 fields were rejected. Ratings in fields passed were 1504-sl. 1210-mod. 46-sev./ 4,391 (G. C. R.). It was more general than usual in N.S., appearing in 73/275 lields. The highest incidence was in Sebago and Huron (R. C. L.). Blackleg was widespread throughout Nfld. and tuber infection was frequently encountered. It seemed most prevalent on Sebago (O.A. O.).

SEED PIECE DECAY (Erwinia atroseptica). Losses of 50% of the seed pieces were common in fields planted in warm weather at Alliston, Ont. There was a definite correlation between decay and the presence of bean maggot (L. V. Busch).

SOFT ROT (Erwinia carotovora) caused less than the usual losses in the Barrie, Ont. district (H. W. W.). In N. S. it was responsible for losses of 15-40% of potatoes held at; high temperatures for chipping (R, C. L.).

DRY ROT (Fusarium spp.) was found in 12 storage bins in *e.* Ont. (E. H. P.) and was sl. in 4 bin lots of Keswick in Que. (G. E.).

SILVER SCURF (Helminthosporium atrovirens) was present in storages in the Barrie, Ont, area (H. W. W.). Slight-sev. infections were seen on specimens from local markets in Quebec City (D. Leblond) and it was sl. on a few lots of Green Mountain and Kennebec in the lower St. Lawrence areas of Que. (G. E.). Tubers of 11 varieties from north Gaspé, Que, were examined. Infection ratings were as follows: Erie, 70%; Saranac and Irish Cobbler, 50%; Keswick, 47%; Katahdin, 43%; Fundy, 30%; Teton and Kennebec, 26%; Merrimac, Sebago and Avon, 10% (J. Santerre).

GOLDEN NEMATODE (Heterodera rostochiensis) was discovered infesting areas on the south and west shores of Conception Bay, Nflcl. (O. A. O.).

RHIZOCTONIA (Pellicularia filarnentosa) occurred in all districts of B. C. and was rated 196-sl. 141-mod. 19-sev./383 seed fields. It caused some economic losses due to downgrading (N. M.). It was present in all n. Alta. fields and significant in 10% (R. P. B.) and was tr. in most and mod. in a few fields in s. Alta. (R. P. S.). Incidence in Sask, was higher than in 1961 with 40% of the infections being classed as mod. (A, C.). It was sl. -mod. in 11% of Man. fields (D. J. P,) and present on all varieties, particularly on Sebago, in the Barrie, Ont. district (H. W. W.). Infections were rated 8-sl. 12-mod. 1-sev./69 fields in e. Ont. (E. H. P.). Sixty-six/926 fields in Que. were diseased and at bin inspection it was rated 158-sl. 40-mod. 3-sev. (G. E.).

Losses from rhizoctonia were negligible in N.B. (C.E,R.). It was responsible for some destruction of sprouts in the Scott's Bay, N. S. district (R. C. L.). Rhizoctonia stein canker was seen in many Nfld. fields resulting in yield reductions (O.A. O.).

PINK ROT (Phytophtlora erythroseptica) was found in 4 bin lots of Keswick in Que, (G, E,) and caused losses in Kennebec held for chipping in Kings Co., N. S. (K. A. Harrison).

LATE BLIGHT (Phytophthora infestans). Many table stock growers in the lower Mainland area of B. C. suffered losses from tuber rot, Infection in seed fields was rated 8-sl. 3-mod. 2-sev./383 (N. M.). It was sev. in early Sept. in table stock fields at the Lakehead, Ont. (D. J. P.) and in s.-w. Ont, (F. J. Hudson). Only 5/69 seed fields were affected in e. Ont. (E. H. P.). In seed fields in Que. it was rated 213-sl. 48-mod. 16-sev./926. Tuber rot in bins was rated 197-sl.' 18-mod. 5-sev. Losses in a few lots were up to 30% (G. E.). Specimens of tuber rot were received from local markets in Quebec City, Que. (D. L.). Losses were sl. in N. B. (C. E. R.). It was first reported on 28 July in N. S. but despite abnormally high rainfall, the low prevailing temperature kept it in check until mid. -Aug. when it became widespread and sometimes serious on foliage. Intensive spraying and top-killing programs kept tuber rot to a minimum (R. G. L.). Its incidence was very light in-e, Nfld. and no reports of its occurrence were received from the western part of the province (O. A. O.).

LEAK (Pythium ultimum). Light infections occurred in seed crops in the Interior of B. C. (N. M.). It was seen in 1 crop of Netted. Gem at Prince Albert, Sask. (A. C.). In Ont., it developed under poor storage conditions in north Simcoe Co. (H. W. W.); was reported from widely separated points in the Guelph area (G. B. Scott), and was found in 2 bins in the Ottawa valley (E. H. P.).

STEM ROT (Sclerotinia sclerotiorum). Trace infections were seen in fields of Arran, Victory in the Notre Dame Bay area of Nfld. (O.A. O.).

POWDERY SCAB (Spongospora subterranea). There was a striking increase in the incidence of this disease in the lower St. Lawrence area of Que, It was found in 15% of the bin lots examined, mostly as sl. -mod. infections but a few lots carried infections of up to 40-50% (G. E,). A light infection was observed in a 10-acre field at La Pocatibre, Que. (H. G.). Tubers of a few seedlings under test at St. John's West, Nfld. bore tr. -40% infections (O.A. O.).

COMMON SCAB (Streptomyces scabies) was found in crops in the Cariboo and c. B. C. but was sev. in only-1 field (N. M.). A severely infected specimen was received from Bonnington Falls, B. C. (G. E. Wolliams). Scab was generally present and sev. on Warba and Netted Gem in the Lacombe, Alta. district (R. P. B.) and was mostly mod. -sev. though occasionally sev. 'in crops in Sask. (R. J. L,). There was considerable sev. scab in North Simcoe Co., Ont. (H. W. W.) while in the London, Guelph and Ottawa areas it was

generally sl. (F.J.H. , G.B.S. , E.H.P.). It was rated 218-sl. 81-mod. 38-sev./926 Que. fields. Some lots were 70-80% affected (G.E.). Slight infections were seen at harvest and shipping inspections in N.B. (C.E.R.) and it averaged about 1% in 10/49 bins inspected in N.S. (K.C.L.). Scab was prevalent and sometimes sev. in e. Nfld. (O.A.O.).

WART (Synchytrium endobioticum). Trace -sl. infections were observed along the Labrador coast (H.G.). Infection by wart was widespread and heavy in e. Nfld. In many cases infection was sev. on stalks but tubers escaped infection and some crop was produced. In other cases the entire crop was destroyed (O.A.O.).

WILT (Verticillium albo-atrum, Fusarium spp.). Fusarium wilt was 8-tr. 3-sl. 2-sev./383 seed fields in B.C. (N.M.). In n. Alta. 6% of the inspected acreage showed tr. amounts and in s. Alta. it was tr. -sl. in 36 fields (R.P.B. , R.P.S.). Wilts were tr. -sl. in 23/92 Sask. fields and sl. in Man. and n. -w. Ont. (A.C.), (D.J.P.). It was found principally in Kennebec, in the Barrie and London districts (H.W.W. , F.J.H.) and in 3/69 e. Ont, fields (E.H.P.). Wilts were not as common as in 1961 in Que. (G.E.) and infection averaged tr. in 65/2,182 fields in N.B. (C.E.R.). Incidence in both P.E.I. and N.S. was considerably below that in 1961 (G.C.R. , R.C.L.).

CURLY TOP (virus) was observed on Warba at Normandin, Que. (D.L.).

LEAF ROLL (virus) was rated 97-tr. 16-sl. 2-mod. 23-sev./383 seed fields in B.C. where it was the greatest single cause of rejection. The acreage of seed potatoes on the lower Mainland was reduced 50% in 1962 largely because of the susceptibility of Netted Gem to leaf roll and high aphid populations (N.M.). It was tr. -sl. in 93% of the acreage in n. Alta. (R.P.B.) and was 8-tr./133 fields in s. Alta. (R.P.S.). Leaf roll was observed in 53% of the fields inspected in Sask. (A.C.). It was fairly general in the Barrie, Ont. district where 12 fields were rejected (H.W.W.) and was found in 21/69 fields inspected in e. Ont. (E.H.P.). Twenty Que. fields were rejected and the disease was found in 278/926 fields (G.E.). In N.B. 117/2,182 fields showed some infection (C.E.R.). Ratings were 464-sl. 272-mod. 132-sev. in the 4,391 fields passed in P.E.I. (G.C.R.). It increased in incidence in N.S. in 1962. All fields of Hunter were infected (R, C.L.). It was found in a field of Irish Cobbler at Winterbrook, Nfld. Ordinarily, very little leaf roll is seen in the province (O.A.O,).

MOSAIC (virus). Incidence in B.C. was rated 13-tr. 1-sev./383 fields (N.M.) and was negligible in Alta. (R.P.B., R.P.S.). It was sl. in 27% of the fields inspected in Sask. (A.C.). Sixteen fields, mainly of Keswick and Norland, were rejected in the Barrie, Ont. district (H.W.W.) and 6 were rejected in e. Ont. (E.H.P.). Mosaic in Que. increased considerably over 1961, mainly in the lower St. Lawrence region, It was found in 510/926 fields with 166 fields rejected (G.E.). It was rated 319 tr. -sl./2,182 fields

inspected in N. B. Thirty-three fields were rejected, mostly Green Mountain, Keswick, Fundy and Chippewa (C. E. R.). It increased in incidence in P. E. I. where it was rated 321-sl. 190-mod. 116-sev./4,391 fields passed and was responsible for 86 rejections (G. C. R.). Mosaic was recorded in 109/275 seed fields in N. S. Six were rejected (R. C, L.). It was seen in many fields in Nfld. in 1962. Symptoms were sev, in some fields grown from seed stocks not renewed for several years (O.A. O.).

PURPLE TOP (virus) was seen in 2/133 s. Alta. fields (R. P. S.). Incidence was lower than in 1961 in the Barrie, Ont. area (H. W. W.). It was mod, in a field at Normandin and sl. in one at Peribonka, Que. (D. L.). Trace infections were seen in a few N. B, fields (C, E. R,). Incidence ran as high as 10% in a few Sebago fields but the average was not above 5%. Purple top was negligible in varieties other than Sebago (G. C, R.).

SPINDLE TUBER (virus) occurred in 10% of the fields inspected in Sask. Two fields were rejected (A. C.) and 3 fields were rejected in Man. (D. J. P.). It was observed in the Barrie, Ont. district in Sebago, Huron and Kennebec (H. W. W.). Its incidence in N. B. and N, S. was considerably lower than in 1961 (C. E. R., R. C. L.). In P. E. I, it was rated 126-sl. 84-mod. 71-sev./4,391 fields passed. Eighteen were rejected (G. C. R.).

WITCHES' BROOM (virus). Infection was 17-tr. 1-sev./ 383 B. C, fields, mainly in the Interior (N. M.). It was tr. in 50% of the acreage inspected in n. Alta. and tr. in 3/133 fields in s. Alta. (R. P. B., * R. P. S.).

GIANT HILL (genetic) was found in 12/133 fields in s. Alta. (R. P, S.), in the Cochrane and Temiskaming districts in Ont. (H. W. W.) and in many seed fields in N. S. (R. C. L.).

ENLARGED LENTICELS occurred in a 9-acre field with excessive soil moisture at Eamer's Corners, Ont. (E.H. P.).

FROST INJURY affected 4/69 seed fields in e. Ont. (E. H. P,) and caused losses of 3-10% in 144 bin lots in Que. (G. E.).

HOLLOW HEART occurred in trace amounts in several crops in the Kootenays, B. C. (N. M.).

LIGHTNING caused stem splitting and typical blackening of the pith was seen in a field in Que. The affected area was about 25 feet in diam. (D. L.).

MAGNESIUM DEFICIENCY. Moderate symptoms were observed in a field at Sherrington, Que. (R. Crête). Slight symptoms were seen at Peribonka and specimens were received from Deschambault, Que. (D. L.).

MANGANESE TOXICITY was mod. -sev. on a number of varieties, principally Keswick and Katahdin on sandy loam in l'Islet Co., Que. (H. G.).

PUMPKIN

BACTERIAL WILT (Erwinia tracheiphila) was observed in the La Pocatière region, Que. (H. Généreux).

POWDERY MILREW (Erysiphe communis) became quite prevalent late in the season at Summerland, B. C. (G. E. Woolliams).

FRUIT BLOTCH (various organisms), Pumpkins from 1 field nr. Lethbridge, Alta. daveloped large, dark brown to black blotches during storage. A species of Fusariurn and an unidentified bacterium were consistently isolated from affected tissues. Sunscald may have been a predisposing factor (F.R, Harper].

RADISH

BLACK ROOT (Aphanomyces raphani) seriously affected the variety White Icicle in a garden at Kentville, N.S. (K.A, Harrison),

DOWNY MILDEW (Peronospora parasitica) was sl. in 2 fields at Ste, Clothilde, Que. (J. Simard, T. Simard).

RHUBARB

LEAF SPOT (Ascochyta rhei) was sev. with killing of 50% of the leaves in a planting at Kentville and sl. with no damage at Black Brook, Cape Breton Co. , N.S. (C. O. Gourley).

RED LEAF (cause unknown) caused slight damage in Sask. It is a major problem in rhubarb plantings in this province (R. J. Ledingham).

SQUASH

SCAB (Cladosporium cucumerinum) was sev. on Acorn squash in a garden at Ottawa, Ont. (W. P. Campbell, D. W, Creelman) and was light on Hubbard and Buttercup in a garden at Kentville, N.S. (K.A. Harrison),

STORAGE ROT (Cladosporium herbarum). Losses, averaging 6%, were lighter than usual at Berwick and Grand Pré, N.S. despite the late development of the crop (K.A.H.).

POWDERY MILDEW (Erysiphe communis) became quite general'late in the season on all kinds of squash in the Okanagan Valley, B. C, (C. E. Woolliams)

WILT (Verticillium dahliae). Several plants in a garden at Kelowna, B.C. were affected (G. E. W.).

SWEDE TURNIP

GRAY MOLD (Botrytis cinerea) affected about 3% of the roots in storage at Grand Pré, N. S. Typical rotten spots occurred on the necks (K. A. Harrison).

SOFT ROT (Erwinia carotovora) caused sev. damage at the RCAF Station, St. Margaret's, N. B, (K. M. Graham),

DOWNY MILDEW (Peronospora parasitica) was observed affecting 70-100% of the plants in the Bonavista Bay, Notre Dame Bay, Terra Nova and St. John's districts of Nfld. in Aug. and Sept. Usually about 5% of the leaf area was affected. Cool, wet weather was responsible for its widespread occurrence in the province (O. A. Olsen).

BLACK LEG (Phoma lingam). Infection was about 15% in a field of Laurentian at Grand Pré, N. S. The source of seed could not be traced (K. A. H.).

CLUB ROOT (Plasmodiophora brassicae) caused 20-40% damage in 14/14 fields examined at the following locations in Que: Pontrouge and Neuville, Portneuf Co. ; Albanel, Roberval Co. ; Beauport and Ste. Fay,-Quebec Co. ; Plessisville, Megantic Co. ; Baie St. Paul, Charlevoix Co. ; St. Evariste Village, Frontenac Co. ; Ile Orleans St. Laurent, Montmorency Co. ; l'Isletville, l'Islet Co. and St. Nicolas, Levis Co. (Gr. Ola'h). Swedes planted for the second consecutive year were a complete loss in a field at Woodstock, N. B. Trace amounts were general throughout the province (S. R. Colpitts). Clubroot was mod. in Queen's Co. , P. E. I. though not as sev. as expected in view of the high soil moisture levels. Lower than normal soil temperatures probably limited spore germination and the activity of swarm spores (G, W. Ayers).

SKIN ROT (Rhizoctonia solani) was reported from several localities in n. and c. Alta. (W. P. Skoropad). Infection was rated 5% in a storage at Sydney, N. S. Reports from farmers would indicate that the disease is serious in the Gape Breton area (K. A. H.). It caused 15% damage to Wilhelmshurger in storage nr. St. John's, Nfld. (O. A. O.).

SCLEROTINIA ROT (S. sclerotiorum). Isolations from small sunken lesions around the necks of swedes in a field at Port Williams, N.S. yielded predominantly Sclerotinia. Five % of the roots were affected (K. A. H.).

SCAB (Streptomyces scabies) was tr. at Oromocto, N. B. (S. R. C.) and affected 50% of the roots of Laurentian nr. Sydney, N. S. Infection was generally light with 1-5 lesions per root (K. A. H.).

MAGNESIUM DEFCCIENCY was observed at 9 localities in Portneuf, Quebec, Montmorency, l'Islet, Levis, Charlevois and Frontenac counties, Que. (G.O.).

TOMATO

EARLY BLIGHT (Alternaria solani) occurred in most sections of the Okanagan Valley, B. C. but it was particularly serious in the Vernon area where both foliage and fruit were affected. A. solani was responsible for 95% of all fruit rots and it was estimated that it was responsible for losses of 5 tons of fruit per acre (G. E. Woolliams). Infection was widespread in Sunbury Co, , N. B. but losses were kept low by spraying (S. R. Colpitts). It was present, though not severe where spraying was adequate, at Kentville, N. S. Several flats of seedlings were 100% infected at Berwick, N. S. in May (K. A. Harrison).

GRAY MOLD (Botrytis cinerea). During the cloudy weather of Feb. and March, Botrytis stem rot became a problem in many greenhouses in Essex Co., Ont. Losses were not great where control measures were carefully applied (J. Rainforth). Trace infections were observed in plots at the Muck Soil Sub-station at Ste. Clothilde, Que. (D. W. Creelman). Stem rot infections ranged from 20-100% in 6 greenhouses at Falmouth, N. S. with a consequent loss of 3-5% of the crop. In 2 houses, fruit rot was causing additional losses. (K. A. H.).

LEAF MOLD (Cladosporium fulvum) occurred in some greenhouses in the Okanagan Valley, B. C. (G. E. W.). Infection was 2-sl. 2-sev. /5 greenhouses visited at Falmouth, N. S. in July. Infection was also sev. in 1 greenhouse at Grand Pré. Fruit was not sizing (K. A. H.).

ANTHRACNOSE (Colletotrichum coccodes) was general but not serious in the Vernon, B. C. area. It was responsible for about 5% of the total fruit rot (G. E. W.). It was tr. on fruits from plots at the Central Experimental Farm, Ottawa, Ont. (W. L. Seaman). Fruit ripened late in Kings Co., N. S. and little anthracnose was encountered (K. A. H.).

BACTERIAL CANKER (Corynebacterium michiganense) caused significant losses in some fields in the Okanagan and Thompson Valleys, B. C. (G. E. W.). One 2-acre greenbouse at Kingsville, Essex Co., Ont. was heavily infected. The disease was first noticed in Feb, and it continued to spread until the crop was removed in early July at which time 75% of the plants were affected and 50% were dead. Six other greenhouse crops in the district were infected but, as infection appeared later in the season, damage was less sev. Numerous houses had some infected plants in the fall crop (J. Rainforth).

WILT (Fusarium lycopersici) was tr. at Medicine Hat, Alta. (P. E. Blakeley) and sl. at Saskatoon, Sask. (R. J. Ledingham).

ROOT-KNOT NEMATODE (Meloidogyne hapla). A trace infestation was seen in a greenhouse at Calgary, Alta, (P. E. B.).

LATE BLIGHT (Phytophthora infestans). Considerable defoliation and fruit infection occurred by mid-October in plots at the Exp. Farm, Agassiz, B.C. (H. N. W. Toms). Late blight became serious near the end of the picking season in Sunbury Co., N. B. Fruit infection was general (S. K. C.). The heaviest losses from late blight in many years were experienced in N. S. in 1962. Continued wet weather throughout the growing season prevented adequate spraying and crops were infected early. Experimental plots that received 6 applications of maneb or zineb were well protected. The newly-released variety Fundy which is partially resistant to late blight became infected by the end of the season (K. A. H.).

SCLEHOTINIA ROT (S. sclerotiorum). Infection in spray plots at Kentville, N. S. was rated at 25% and resulted in death of leaves and stalks. Fruit was also rotted in many instances. No degree of control was apparent from any of the 18 spray treatments (K. A. H.).

LEAF SPOT (Septoria lycopersici) was extremely sev. in 2 large gardens at Altona, Man. The tops of the plants were destroyed (W. L. Gordon). Trace infections of leaves were seen at the C. E. Farm, Ottawa, Ont, (W. L. S.).

VERTICILLIUM WILT (Verticillium dahliae, V. albo-atrum). Infection by V. dahliae ranged from 0-100% in fields and greenhouses in the Okanagan and—Thompson Valleys, B. C. Crops were reduced in infected fields but death of plants seldom occurred (G. E. W.). Wilt was tr. at Cardston, Alta. (P. E, B.). Virtually every field of early tomatoes on sandy loam in the ,Harrow - Leamington area in Ont. showed a high incidence of V. dahliae. Wilt was also a problem on heavier soils planted to the canning crop, especially where wilt-susceptible crops followed one another in the rotation (C. D. McKeen, J. R.). Sev, damage was observed in a field of staked tomatoes at Kingsville, Ont. (D. W. Creelman). Symptoms of wilt, V. albo-atrum were evident on 60% of the plants df Stokesdale in spray plots at Kentville, N. S. The area had borne several successive crops of tomatoes (K. A. H.).

BACTERIAL SPOT (Xanthornonas vesicatoria) was seen in a few crops of both basket and canning tomatoes in Essex and Kent counties. On one farm there was conclusive evidence that the pathogen had overwintered in the soil following an infected crop the previous year (C. D. McK.).

BLOTCHY RIPENING (virus) was general, but not serious in early pickings in Queens and Sunbury counties, N. B. The incidence fell off as the crop progressed (S. R. C.). Its incidence in greenhouse crops at Falmouth, N. S. was lower than usual. Growers consider that increased applications of potash help to reduce its intensity (K. A. H.).

BROWN WALL (tobacco mosaic virus). A 25-acre field of the canning variety Glamor nr. Harrow, Ont. was almost 100% infected at harvest in mid-Aug. Crop loss was estimated at 10-15 tons per acre. Fruit symptoms were

so sev. that half the fruit was unacceptable for canning (C. D. McK.).

DOUBLE STREAK (TMV + potato X virus) occurred in Essex Co., Ont. in a few greenhouses during the spring and in numerous houses in the fall crop. The Spartan varieties 8 and 10 appeared especially susceptible (J. R.).

MOSAIC (virus) was found in most fields and greenhouses in the Okanagan and Thompson valleys, B. C. Occurrence was more frequent in greenhouses (G, E. W.), It was sl. in a greenhouse crop at Hampstead, N. B. (S. R. C.). Infection ranged from 0 in 1 greenhouse to 100% in others in Hants, Kings and Annapolis counties, N. S. Symptoms were frequently severe (K. A. H.).

SHOESTRING (cucumber mosaic virus). A heavy infection occurred early in a crop of Stokesdale at Kentville, N. S. but it did not spread noticeably during the summer. Some affected plants were very bushy and the fruit badly malformed (K. A. H.).

SPOTTED WILT (virus). Early infection caused severe stunting and partial destruction of 1 plant at Kentville, N. S. Spread to other plants was limited by harvest time in Oct, (K. A. H,).

BLOSSOM-END ROT (physiological) was tr. at Warner, Alta, (P.E. B.) and was general in the Trois Rivières district, Que. It was also seen in a greenhouse crop at Portneuf, Que. (J, Santarre).

CAT FACE (physiological) occurred in a garden crop at Trois Rivières, Que. (J. S.). At least 50% of the tomato crop in Kings Co., N. S. was malformed as a result of cold, wet weather. Fruit from early-set trusses was unmarketable (K. A. H.).

GROWTH CRACKS were common in most plantings in Sunbury Co., N. B. (S. R. C.).