III DISEASES OF VEGETABLES

ASPARAGUS

CROWN INJURY (low winter temperatures). Extreme winter temperatures, dry soil conditions, and lack of cover combined to cause 10-15% injury in some fields in Colchester Twp., Ont. Yields were reduced and growers discontinued cutting early. Subsequent fern growth was good (J. Rainforth).

FROST INJURY. Heavy frosts on May 7 and 13 froze asparagus shoots in Annapolis and Kings counties, N. S. (K.A. Harrison).

BEAN

POD SPOT (Bipolaris sorokiniana) was mod. on approx. 1000 acres of snap beans at Florenceville, N.B. late in Aug. causing black lesioning on the pods. The weather was extremely wet in the area (K.M. Graham, S.R. Colpitts, R.A. Shoemaker). This organism has not been previously reported to the Survey as a pathogen on Phaseolus (D. W. Creelman).

GRAY MOLD (Botrytis cinerea) affected 1,400 acres of beans at Florenceville, N.B. during wet weather in Aug. Blossoms, foliage and pods became infected and harvested beans left in the field for 12 hours become a complete loss (S.R. C.). Trace amounts only were seen in Kings Co., N.S. (K.A.H.).

ANTHRACNOSE (Colletotrichum lindemuthianum) was widespread in gardens and among small growers in N.B. Large commercial growers had only a trace. Some small plantings were 80% affected (S.R. C.).

ROOT ROT (Fusarium solani f. phaseoli). Moderate damage was recorded in 2/20 fields examined in s.-w. Ont. The affected variety was Michelite (R. M. D. Sutton, V. R. Wallen).

HALO BLIGHT (Pseudomonas phaseolicola) was sev. in I field at Coaldale, Alta. in July and 2-tr. 1-sl./5 fields nr. Taber in Aug. Mod. damage was found in 2 gardens at Lethbridge (F.R. Harper). About 40% of the gardens and small plantings in N.B. were affected. Average damage was 10% (S.R. C.).

STEM CANKER (Rhizoctonia solani). Post-emergence damping-off and cankering resulted in poor stands in a commercial planting in the Montreal, Que. area (A.E. Straby). About 40% loss occurred in beans on old potato land in a 250-acre field at Florenceville, N.B. (S.R. C.).

SCLEROTINIA WILT (S. sclerotiorum) occurs on pole beans in peat soils in the Lower Fraser Valley, B.C. It is thought that most of the damage is done at the 2-leaf stage but the white mold is seen each year high up on mature plants (H.N.W. Toms). One/20 fields inspected in

s. -w. Ont. was severely affected. The habit of growth of the affected variety, Saginaw, seems to render it susceptible (R. M.D.S., V.R. W.). Trace amounts of pod infection were found in I, 400 acres at Florenceville, N.B. (S.R.C.).

RUST (Uromyces phaseoli var typica). Three fields of Sanilac, 2 of Seaway and I of Saginaw had tr. infections /20 examined in s. -w. Ont. (R.M.D.S., V.R.W.).

BACTERIAL BLIGHT (Xanthomonas phaseoli) was sl. in several gardens at Saskatoon and specimens were received from Montmarte, Sask. (R. J. Ledingham). Trace infections occurred in 10/20 fields surveyed in s. -w. Ont. None was seen in fields planted with Michigan-grown seed. The dry season limited spread in infected fields (R. M. D. S., V. R. W.). Damage was sl. -mod. in 10 acres of a new variety of beans ns. St. Jean, Que. (R. Crête). Brittle Wax, Pencil Pod and Contender were all severely infected late in the season at La Pocatiere, Que. (H. Genereux).

MOSAIC (virus) affected about 20% of the beans planted near gladiolus at Kentville, N.S. Plants were affected as they began to fruit and pods were badly deformed (K. A. H.).

CHEMICAL INJURY. A combination of injuries from fertilizer burn and a pre-merge weedkiller caused the discing-in of 5-acre field at Port Williams, N. S. (K. A. H.).

SUNSCALD affected the upper foliage of 20% of the plants on 1,000 acres at Florenceville, N. B. Yields did not seem to be affected (S.R.C.).

WIND DAMAGE. High winds in late May caused heavy damage to snap beans along Lake Erie south of Harrow, Ont. Thirty-40 acres were reseeded (J. Rainforth).

BEET

LEAF SPOT (Cercaspora beticola) is seen in almost all beet fields in the Montreal, Que. region but damage is not sufficiently serious to necessitate the use of fumgicides (E. Lavallée).

LEAF SPOT (Phoma betae) was tr. on Detroit Dark Red at Port Williams, N. S. (C. O. Gourley).

DAMPING-OFF (Phoma betae, Pythium spp.) was responsible in part for a poor stand in a field nr. Taber, Alta. (F.R. Harper).

DAMPING-OFF (Rhizoctonia solani). Late damping-off, when the beets were a few inches high, occurred on a number of farms in Kent Co., Ont. (J. Rainforth).

SCAB (Streptomyces scabies) affected 2% of the variety Ruby Queen in a garden at Kentville, N.S. (K.A. Harrison).

BORON DEFICIENCY caused about 10% loss in a 50-bu. crop at Somerset, N.S. (K.A.H.).

BROCCOLI

BORON DEFICIENCY affected 40% of the plants in 3 fields at Florenceville, N. B. Subsequent breakdown allowed invasion by soft-rot organisms (S. R. Colpitts).

BRUSSELS SPROUTS

CLUB ROOT (Plasmodiophora brassicae). Damage was about 5% in a 7-acre field at Rexton, N.B. (S.R. Colpitts)

SOFT ROT (Rhizoctonia solani, Fusarium spp.) was prevalent in most fields observed in the Rogersville, N.B. area. Cool, wet weather favored the disease (S. R. C.).

BLACK ROT (Xanthomonas campestris). Slight infection was evident as blackening of vascular tissues at Kensington, P. E. I. (G,W. Ayers).

WHIPTAIL (molybdenum deficiency) was tr. in 7 fields observed at Rogersville, N.B. (S.R. C.).

INTERNAL BROWNING (cause unknown) was mod. at Kensington, P.E.I. Over-maturity is suspected to be the cause (G.W.A.).

CABBAGE

SCLEROTINIA ROT (S. sclerotiorum) affected 5% of the plants in a 15-acre field at Napierville, Que. (R. Crête).

BLACK ROT (Xanthomonas campestris) caused slight losses in a market garden at Lethbridge, Alta. (F.R. Harper). Infection was 75% in a field at Winnipeg, Man. (W.A.F. Hagborg).

CARROT

CROWN GALL (Agrobacterium tumefaciens) was identified from symptoms on a specimen received at Winnipeg, Man. (W.A.F. Hagborg).

LEAF BLIGHT (Alternaria dauci) was rated tr. -sl. in 10 fields surveyed at Ste. Clothilde and Sherrington, Que. (R. Crête, J. Simard, T. Simard). Same late-harvested fields in N. S. were defoliated (K.A. Harrison).

STORAGE ROTS (Botrytis cinerea, Sclerotinia sclerotiorum, bacteria) affected 25% of the roots of a lot in storage at Berwick, N.S. Isolations yielded 39% B. cinera, 11% S. sclerotiorum and 33% unidentified bacteria (C. L. Lockhart).

LEAF BLIGHT (Cercospora carotae). Carrots in the St. Janvier district, Terrebonne Co., Que. are often defoliated to a point where machine harvesting is impossible. Three applications of maneb in Aug. and Sept. gave excellent control on one farm in the district (E. Lavallée). Infection was tr. -sl. in 10 fields surveyed at Ste. Clothilde and Sherrington, Que. (R. C., J.S., T.S.) and was sl. on the variety Nantes at Berwick, N.S. (K.A.H.).

ROOT-KNOT NEMATODE (Meloidogyne sp., probably M. hapla). The carrot-producing area of Terrebonne Co., Que. is infested in varying degrees with root-knot nematodes. Some fields have an estimated 60% of the roots deformed through nematode infection (E. L.).

SCLEROTINIA ROT (S. sclerotiorum) caused mod. damage in scattered localities in c. Alta. (W.P. Skoropad). It was sev. in roots in storage at Sheffield and specimens were received from Point du Chêne, N.B. (K. M. Graham, C.E. Smith).

ASTER YELLOWS (aster yellows virus) was tr. in a garden at Ranier, Alta. (F.R. Harper) and sl. at Saskatoon, Sask. (R. J. Ledingham). Losses up to 33% occurred in Man. (P.H. Westdal, H. P. Richardson). Mild foliar symptoms and a slight amount of hairy root were observed in a home garden at Ottawa, Ont. (D. W. Creelman). In Kings Co., N. S., it was not uncommon to find 5% hairy root and 15% top symptoms in Nov. (K.A.H.). Infections of 10-15% caused mod. damage in Queens Co., P.E.I. (L. Thompson).

STORAGE ROT (cause unknown). Carrots held in polyethylene bags in cool storage at Lethbridge, Alta. were affected by a sharply delimited rot that was dark brown and slightly sunken on the surface and colorless in the interior (F.R. H,).

CAULIFLOWER

DOWNY MILDEW (Peronospora parasitica). Infection was extensive in cold frames in Essex Co., Ont. but after transplanting the change in environment seemed to check the disease. Overall damage was slight (J. Rainforth).

LEAF DROP (Rhizoctonia solani) was tr, in the variety Snowball at Kentville, N.S. Infection occurred where midrib of outer leaves touched the soil (K.A. Harrison).

ROOT ROT (Rhizoctonia solani) was seen in a garden at Lethbridge, Alta. (F.R. Harper).

WIRESTEM (Rhizoctonia solani). Several instances of this disease were observed in the Annapolis Valley, N.S. in 1963. Damage was 10% in a field at Canning (K.A.H.).

BLACK ROT (Xanthomonas campestris). In one Man. field 100% of the plants were infected (W.A.F. Hogborg),

WHIPTAIL (molybdenum deficiency). Some varieties and lines in a test at Sheffield Mills, N.S. were 100% affected. Varietal differences in susceptibility were evident throughout the test (K.A.H.).

CELERY

BROWN SPOT (Gephalosporium apii). Moderate infection, sufficient to render the crop unacceptable for soup purposes, occurred in a field nr. Portage la Prairie, Man. on which celery had been grown in 1962. The pathogen was isolated from brown discolorations on the inner surface of the petioles (W.C. McDonald). Two previous reports, to the Survey, of this disease have both been from Ontario (D. W. Creelman).

BACTERIAL BLIGHT (Pseudomonas apii). Infection on the varieties Utah 10-B and Utah 1611 was rated 2-tr. 3-mod./5 fields in the Ste. Clothilde–Sherrington district of Que. A 5-acre field of Utah 10-B was severely infected at St. Hyacinthe, Que. (R. Crête, J. Simard, T, Simard).

ASTER YELLOWS (aster yellows virus) caused losses of about 33% in celery crops in Man. (P.H. Westdal, H.P. Richardson).

CUCUMBER

LEAF SPOT (Alternaria spp.). Cucumbers at Greenwich, N.S. were 100% infected. Some of the infection on the variety Marketeer seemed associated with scab infection. That on Highmoor was a mixture of Alternaria and angular leaf spot (K.A. Harrison).

STEM ROT (Botrytis cinerea) was not a serious problem in the spring crops in Essex Co., Ont. but it was prevalent in the fall crop in both glass and plastic greenhouses. Low night temperatures were a contributing factor (J. Rainforth). There was a tr. infection in a greenhouse at Rogersville, N.B. (S. R. Colpitts).

SCAB (Cladosporium cucumerinum) was observed on fruits of a pickling variety on Lulu Island, B. C. Loss was sl. This disease has not previously been reported from B. C. and it is thought that the infection was the result of contaminated imported seed (H.N. W. Toms). In Essex Co., Ont. scab was occasionally seen in field crops. It was sev. in some plastic greenhouses in the spring crop and in glasshouses in the fall crop (J.R.).

Scab is a major problem in the Montreal area, Que. At L'Assomption, traces were seen on 26 Aug. and the disease gradually increased in severity until 60-70% of the fruits were infected on 12 Sept, At St. Amable, Vercheres Co., the crop of a 4-5 acre field was more than 80% infected. August was particularly rainy, cool and humid. In trials at L'Assomption the variety Wondermoor was significantly less susceptible to scab than Ashley, Hybrid Marketeer and Palomar. It showed 4.1% infection compared to 21.7, 32.9 and 31% for the other varieties. Fungicide trials at the same station with captan, 3 lb.; maneb, 2 lb.; and Polyram 3 lb. resulted in infections of 11.5, 11.5 and 14.3%, respectively, as compared with 20% infection in the unsprayed plots. (E. Lavallée). Scab was general and sometimes sev. in both commercial fields and home gardens in N.B. (S.R. C.). Marketeer was 100% infected at Greenwich, N.S. Highmoor, growing adjacent to it, seemed free of the disease. A trace infection was seen on Burpee Hybrid in a plastic house at Grand Pre (K.A.H.).

BACTERIAL WILT (Erwinia tracheiphila) was tr. in a field of pickling cucumbers in Kent Co., Ont. (C.D. McKeen). This disease is of secondary importance in the Montreal region, Que. since growers are particularly careful to control cucumber beetles with sprays or dust containing methoxychlor. A trace infection was seen at St. Augustin (E.L.).

POWDERY MILDEW (Erysiphe communis) was responsible for substantial damage to greenhouse crops in Essex Co., Ont. Cloudy weather in Feb. and March rendered the plants very soft and susceptible to spray injury. It was also a serious problem in field crops (J.R.). Trace infections were seen in a greenhouse at Falmouth, N. S. (K. A. H.).

ANGULAR LEAF SPOT (Pseudomonas lachrymans) was sl. in a field nr. Taber and caused some fruit rot in a garden at Lethbridge, Alta. (F.R. Harper). Injury was sl. in 2 gardens at Saskatoon, Sask. (R. J. Ledingham). Infection was sev. in 3 fields at Ile Jésus, Que. After scab, this is the most important cucumber disease in the Montreal district. Captan and maneb sprays give some control (E. L.). About 30% of the fields visited in N.B. were affected (S. R. C.).

DAMPING-OFF (Pythium debarvanum). In the Montreal, Que. region, seedlings in greenhouses and cold frames are particularly subject to damping-off each year. Little trouble is encountered where growers disinfect the seed beds with thiram and spray with captan 1-100 at transplanting (E.L.).

SCLEROTINIA WILT (S. sclerotiorum) was tr. in a greenhouse at Falmouth, N.S. (K.A.H.).

ROOT ROT (cause undetermined) caused sev. damage in some greenhouses in Essex Co., Ont. The disease occurs to some extent each year, being most serious in the early part of the growing season. Extremely low temperatures and resulting cold soils appeared to contribute to its severity in 1963 (J.R.).

MOSAIC (cucumber mosaic virus) was tr. on Burpee Hybrid at Kentville, N.S. (K.A.H.).

CHEMICAL INJURY. Planting of cucumbers before all traces of the soil fumigant Vorlex had escaped resulted in the complete loss of plants in 2 greenhouses in Essex Co., Ont. The houses were replanted but 3 weeks of production were lost (J.R.),

FROST INJURY. A June frost caused 40% damage to seedlings at Woodstock, N.B. (S.R.C.).

WALNUT WILT. Pickling cucumbers planted in a field in Essex Co., Ont. where walnut trees had been removed the previous year were severely injured. Some injury was also noted near standing trees (J.R.).

EGGPLANT

WILT (Verticillium spp.). V. ~~dahliae~~ affected 100% of the plants in a commercial planting at Kelowna, B.C. Infection in other plantings in the Kelowna-Vernon district ranged from sl.-sev. (G.E. Woolliams). Two small plantings at Ste. Dorothée, Que. were severely infected with V. albo-atrum (E. Lavallke).

LETTUCE

GRAY MOLD (Botrytis cinerea). Severe infections were seen at La Pocatiere, Caplan and Quebec City, Que. Damage was heavy (H. Gènèreux). Light infections occurred in late plantings at Grand Pre, N.S. (K.A. Harrison).

DOWNY MILDEW (Bremia lactucae) was seen on the basal leaves of plants in most of the 10-15 fields visited north of Montreal (E. Lavallée) and infection was tr.-sl. in 5 fields surveyed in the Ste. Clothilde - Sherrington region, Que. (R. Crête, J. Simard, T. Simard). It was tr. at Port Morien, N. S. (C.O. Gourley).

SOFT ROT (Erwinia carotovora, Rhizoctonia solani) caused serious losses in head lettuce at Maugerville. N.B. after a period of damp weather when the fields were partially flooded. Internal leaves broke down with a slimy, soft rot and the outer leaves were wilted. The vascular tissues of the stem were discolored and invaded by bacteria. Cankers were produced at the leaf bases (K.M. Graham).

ROOT-KNOT NEMATODE (Meloidogyne hapla). Trace infestations were found in 1/5 fields examined in the Ste. Clothilde - Sherrington district, Que. (R.C., J.S., T.S.).

BIG VIEW (Olpidium sp. and tobacco necrosis virus associated) occurred in a number of fields in Essex Co., Ont. The degree of infection and amount of damage seemed about the same as in the past few years (J. Rainforth). In C. P.D.S. 43:3. pp. 62 and 89 the virus associated with this disease was erroneously listed as tobacco mosaic virus. This should be amended to read tobacco necrosis virus (D. W. Creelman).

RUST (Puccinia extensicola). Large aecia were found on a plant of the variety Premier at Kentville, N.S. (K.A.H.).

BOTTOM ROT (Rhizoctonia solani) destroyed about 3% of the plants in 1 field of early head lettuce at Learnington, Ont. (C.D. McKeen). It was widespread in N.B. A I-acre field, continuously cropped to lettuce for several years at Oromocto was 60% affected (S. R. Colpitts).

DROP (Sclerotina sclerotiorum) caused varying amounts of damage to lettuce in cold frames at Ile Jesus, Que. (E. Lavallée). Traces were observed at Grand Pre and losses were about 10% at Abercrombie, N.S. (K. A. H. , C. O. Gourley).

ASTER YELLOWS (aster yellows virus) was more prevalent in Man. than in any year since 1957. Losses of 100% were sustained in untreated lettuce crops (P.H. Westdal, H. P. Richardson). Trace infections were seen in 5 fields in the Ste. Clothilde - Sherrington district of Que. (R.C., J. S., T. S.). Infections of 30-70% caused mod. -sev. damage in Queens Co., P.E.I. The disease was common in all plantings in the province (L. Thompson).

MOLYBDENUM DEFICIENCY. A 3-acre field at St. Andrews, N.B. failed to develop heads and excessive vegetative growth occurred. The few heads that formed were loose and of no value (S. R. C.).

TIP BURN (physiological) was seen at Grand Pre, N.S. but losses were insignificant (K.A.H.).

MUSKMELON

WILT (Fusarium oxysporum f. melonis) a few fields cropped to susceptible varieties in s. -w. Ont. showed varying amounts of wilt. In one severely infected field 30% of the plants were dead or wilting at the time of first harvest (C.D. McKeen).

FRUIT ROT (Fusarium sp.). At Kentville, N.S. 50% of the fruits of Harper Hybrid developed infections of the blossom ends (K.A. Harrison).

LEAF SPOT (Septoria cucurbitacearum) affected 25% of the foliage in a garden at Kentville, N.S. (C. L. Lockhart).

ONION

PURPLE BLOTCH (Alternaria porri) was prevalent in stored onions from the 1963 crop in Man. Severe culling was necessary to remove affected bulbs. Infections were evident on the neck tissues and also as discrete lesions near the base of the bulb. The pathogen produced typical. spores when incubated at 60°F. (W.C. McDonald).

NECK ROT (Botrytis allii) occurs each year in stored onions in the B.C. Interior. The amount of rot varies from 10-30% (G.E. Woolliams). Only one case of neck rot was seen in Sask. in 1963. A warm, dry Sept. was probably responsible for the unusually low incidence (R. J. Ledingham). It was common' on stored onions from the 1963 crop in Man. The crop matured slowly because of the extended warm fall (W.C. McD.).

LEAF FLECK (Botrytis cinerea) was rated 6-tr. 3-mod./18 fields in the Sherrington - Napierville - Farnham district of Que. (R. Crête, J. Simard, T. Simard). Autumn Spice was 100% infected at Kentville, **N.S.** Tops died down prematurely in Aug. (**K.A.** Harrison).

BULB ROT (Fusarium oxysporum f. cepae) has become quite prevalent on hybrid varieties of onions in the Okanagan Valley, B. C. Significantly less loss is encountered in the older standard varieties which. seem to possess considerable resistance (G.E. W.). It was rated 4-tr. /12 fields in the Sherrington, Que. region (R.C., J.S., T.S.). Loss was about 3% in set onions at Kentville, N. S. Locally-produced transplants were not affected (K. A. H.).

PINK ROOT (Fusarium solani) was general throughout the Okanagan Valley, B.C. and affected a high percentage of the bulbs (G.E.W.).

DOWNY MILDEW (Peronospora destructor). Damage ranged from sl. -sev. at different localities in the Okanagan Valley, B. C. (G. E. W.). Infection was rated 3-tr./12 fields at Sherrington, Que. (R. C., J. S., T. S.).

PINK ROOT (Pyrenochaeta terrestris) occurred in patches in a number of fields of set onions in Essex Co., Ont. (J. Rainforth).

SMUT (Urocystis cepulae) was very destructive at Kelowna, B. C. , affecting up to 20% of the plants in fields where adequate control measures had not been applied (G.E. W.).

ASTER YELLOWS (a'steryellows virus). Lossea averaged about 5% in onion crops in Man. (**P.H.** Westdal, H. P. Richardson).

MANGANESE DEFICIENCY was **quite** general in onion crops at Ste. Clothilde, Que. Losses, however, were generally light (R. C.).

PARSNIP

LEAF SPOT (Cercospora pastinaceae). Heavy infection occurred at Somerset, N.S. on one side of a field next to an area where parsnips were produced in 1962. Only trace amounts were seen on the side farthest from the source of infection (K.A. Harrison).

ROOT-KNOT NEMATODE (Meloidogyne hapla). An infected specimen was received from North Gower, Ont. (B.E. Hopper).

SCAB (Streptomycea scabies). Infected specimens were received Aylesford, N.S. (K.A.H.).

PEA

FOOT ROT (Ascochyta pinodella). Infection was tr. in a I-acre planting at the Central Exp. Farm, Ottawa, Ont. (V.R. Wallen).

LEAF AND POD SPOT (Ascochyta pisi) caused slight damage in Sask. (R. J. Ledingham), was seen as trace infections in Man. (W.A. F. Hagborg) and was tr. at Florenceville, N.B. (S.R. Colpitts).

GRAY MOLD (Botrytis cinera) caused some damage in Kings Co., N.S. but not nearly so much as in 1962 (K.A.H.),

POWDERY MILDEW (Erysiphe polygoni). Moderate but general infections were noted on late-maturing varieties at Taber and Vauxhall, Alta. (F.R. Harper), It was also mod. in Sask. where it is a major disease of peas. The period of production was markedly shortened in affected fields (R. J. L.). The variety Arthur was 5% infected at the Central Exp. Farm, Ottawa, Ont. (V.R. W.). It was widespread in N.B. where damage averaged 25% (S.R.C.) and tr. in Kings Co., N.S. on late-season varieties (K.A.H.). A 100% infection at Stanley Bridge, P.E.I. caused moderate damage (C. B. Willis).

MYCOSPHAERELLA BLIGHT (M. pinodes) was tr. in plantings of Chancellor and Creamette at Ottawa, Ont. (V.R. W.). Several varieties showed tr. infection at Kentville, N.S. (K.A.H.).

DOWNY MILDEW (Peronospora pisi) was sl. on garden peas at Kensington, P.E.I. (C.B.W.).

BACTERIAL BLIGHT (Pseudomonas pisi). An infected sample was received from Atikokan, Ont. and the pathogen isolated (W.A.F.H.).

LEAF SPOT (Septoria pisi). A severely infected specimen was received from Kerrobert, Sask. (T.C. Vanterpool). Infection was tr. on the variety Arthur at Ottawa, Ont. (V.R.W.).

RUST (Uromyces fabae), Trace infections occurred on the varieties Arthur and Valley at Ottawa, Ont. (V.R. W.) and on Fenland Wonder at Kentville, N.S. (K.A.H.). Peas were 100% infected in a garden planting nr, Charlottetown, P.E. I. (C.B. W.).

ROOT ROT (various organisms) was rated 2-tr. 1-sl. 1-mod. /4 fields examined nr. Taber, Alta. (F.R.H.).

MOSAIC (virus). Trace amounts appeared in a crop of Valley that was nearing maturity at Ottawa, Ont. (V. R. W.). Outbreaks occurred in garden plantfngs in Kings Co., N.S. but it was rare in commercial plantings where good aphid control was obtained (K.A.H.).

STREAK (virus) was tr, in the variety Arthur in plots at the Central Exp. Farm, Ottawa, Ont. (V.R.W.).

MARSH SPOT (manganese deficiency) affected one-third of the crop of a 6-acre field of canning peas nr. Vancouver, B.C. Affected peas were first noted as "floaters" in canning vats. Peas had been grown in the same field many times in the past 20 years (H.N.W. Toms),

PEPPER

GRAY MOLD (Botrytis cinerea) affected a few seedlings where slugs had been active at Kentville, N.S. (K.A. Harrison).

WILT (Verticillium dahliae) occurred in most pepper fields in the Okanagan Valley, B.C. but did not become sev. in any (G.E. Woolliams). Infection was as high as 90% in some fields in Essex Co., Ont. Amount of infection was variable in others but on the whole it was more serious than normal (J, Rainforth).

BACTERIAL SPOT (Xanthsmonas vesicatoria). Trace infections were found in 1 seedbed in Essex Co., Ont. (C.D. McKeen).

BLOSSOM-END ROT (physiological) was sev. in some fields in Essex Co., Ont. early in the harvest season especially on the yellow, sweet varieties. It became less of a problem as the season progressed (J.R.).

POTATO

EARLY BLIGHT (Alternaria solani) was not serious in B.C. although it occurred in all areas, mainly on early varieties (N. Mayers). It was rated 12-sl, 4-mod. in n. Alta. (R.P. Brandrith) and 88-tr. -sev./124 fields in s. Alta. where it was more prevalent than for many years, It caused mod. defoliation at Taber, Vauxhall and Brooks and was widespread on Netted Gem throughout the area (R. P. Stogryn, F.R. Harper), Early varieties were almost completely defoliated by the end of Aug, at Nipawin, Katepwa

and Lumsden, Sask. (A. Charlebois). Slight-mod. infections were general on early varieties in Man. and n.-w. Ont. (D.J. Petty) and it was prevalent in the Algoma and Sudbury districts of Ont. (H. W. Whiteside). Ratings in e, Ont, were 9-sl. 3-mod./45 fields (G.E.B. Fuller) and in Que. were 82-sl. 24-mod. /830 fields, being most prevalent in the Chicoutimi and Lake St. John districts (C, Ethier). Fundy, Irish Cobbler and even Green Mountain were severely affected in Sept. at La Pocatiere, Que. (H. Genereux). Trace - sl. infections only were seen in N.B., N, S. and P.E.I. (C. E. Robinson, R. C, Layton, G.C, Ramsay). Slight - sev. infections developed on named varieties'and seedlings under test at Bay Roberts, Nfld, (O.A. Olsen),

GRAY MOLD (Botrytis cinerea). Extreme wet weather in Aug. led to some infection of lower leaves in N.B. (S.R. Colpitts).

BLACK DOT (Colletotrichum coccodes). Green Mountain tubers in a field in Kamquraska Co., Que. showed 61% infection at harvest (J. Santerre).

BACTERIAL RING ROT (Corynebacterium sepedonicum) was found in 1 field of Red Pontiac in the B.C. Interior (N. M.) and in table stock potatoes on 4 farms in s. Alta. (R.P.S.). It was widespread in table stock in Sask. (R.J. Ledingham). Two fields in Man. and 2 in n.-w. Ont. .were rejected (D. J. Petty) as well as 2 in the Barrie, Ont. district (H. W. Whiteside). In s.-w. Ont. ring rot was found in 1 seed field on the Thedford Marsh and in 1 table stock field nr. Strathroy (G.T.A. Fenney) while in e. Ont., one 8-acre field was rejected (G.E.B.F.). It caused the rejection of 89/830 fields in Que. and 9 other lots were found infected at bin inspection (G. Ethier). Ring rot incidence increased sharply in N.B. where 22 fields involving 315 acres were rejected as compared to 3 fields and 68 acres in I962 (C.E.R.). No infected seed fields were found in N.S. but all table stock fields planted by 2 custom planters were infected (R. C.L.).

BLACKLEG (Erwinia atroseptica). Incidence increased in the lower Fraser Valley and on Vancouver Island. B.C. It was also widespread in the Pemberton district and the B. C. Interior (N. M.). It was rated 11-sl. 7-mod. 3-sev./62 fields in n. Alta. (R.P.B.) and was general. but not serious in s. Aita. (R.P.S.). Two fields were rejected in Sask. where infection was found in 23/91 fields (A.C.) and trace infections were seen in 20% of the fields inspected' in Man. (D. J. P.). Considerably less was found in the Barrie, Ont. district than in 1962 (H. W, W.) and it was found in most fields, occasionally as sev. infections, in s.-w. Ont, (G.T.A.F.); eighteen/45 fields in e. Ont. showed infection including 4 which were rejected. It caused tuber rot in 4/12 bin lots inspected (G.E.B. F.). Blackleg incidence decreased considerably in Que. where 295/830 fields were infected (G.E.), in N.B., where 140 fields were rejected compared to 491 in 1962 (C.E.R.), in N.S. (R.C.L.) and in P.E.I. (G.C.R.). It was sl.-sev. in e. Nfld. where Sebago appeared to be the most susceptible variety (O.A.O.).

SOFT ROT (Erwinia carotovora) caused sl. losses in the Cagetown, N.B. district (S,R. Colpitts) and was sev. on Sebago at Lethbridge, Nfld. (G.A. Nelson).

DRY ROT (Fusarium spp.) was tr. in 2/21 bins examined in e. Ont. (G.E.B.F.) and was sl. in a few bin lots of Kennebec and Keswick in Que. (G.E.). F. caeruleum caused 68 and 20% rot respectively on Hunter potatoes from Digby and Kings counties, N.S. It apparently develops very rapidly on this variety when storage temperatures rise in the spring (K.A. Harrison). E. sambucinum f. 6 caused slight losses to Sebago in Queens Co., P.E.I. (G. W. Ayers).

SILVER SCURE (Helminthosporium atrovirens). Some infection was noted at harvest in the Barrie, Ont. area (H. W. W.). It was sl. in a few bin lots of Green Mountain in Que. (G.E.). Tuber infection at La Pocatiere, Que. in Oct. was rated as follows: Irish Cobbler, 95%; Green Mountain and Hunter, 75%; Keswick, 65%; Kennebec, 55%; Sebago and Cherokee, 50%; Katahdin, 40% and Saranac, 30% (J. Santerre). Heavily infected tubers were received from Hetherton, Nfld. (O.A. O.).

GOLDEN NEMATODE (Heterodera rostochiensis). Damage in known infected fields in Nfld, varied from no visible injury in a field at Bay Roberts to total destruction in one at Foxtrap (O.A.O.).

RHIZOCTONIA (Pellicularia filamentosa) occurred in most B. C. fields and in some cases caused serious losses (N.M.). It was rated 26-sl. 9-mod./62 fields in n. Alta. where it caused some economic losses (R.P.B.), was tr. in most fields in s. Alta. (R.P.S.), and was rated 14-mod. 2-sev. in Sask. (A. C.). Rhizoctonia was a problem in n. Ont. (H. W. W.) and was sl. in bins inspected in s.-w. Ont, (G.T.A.F.). Forty-two/830 Que. fields were infected and it was rated 159-sl. 20-mod. 1-sev./180 bin lots (G.E.). Fredericton seedling F-5758 was badly infected at all testing stations in Que. (H. Gènèreux). It caused slight losses through poor germination in N.S. (R. C, L.). No rhizoctonia was reported from N.B. or P.E.I. (D.W. Creelman). Infection was sev. on Hunter at Winterbrook and Bonavista Bay, Nfld. (O.A.O.).

POCKET ROT (Phoma sp.). Severe rot developed on Kennebec potatoes in storage at Montreal after shipment from Florenceville, N.B. (K. M. Graham, J. Neilson).

LATE BLIGHT (Phytophthora infestans) developed in late crops in the Fraser Valley and Pemberton areas, B.C. (N.M.). It was sl. at Geraldton (D. J. P.), appeared late in the Barrie district (H. W. W.) and caused sl. tuber rot in 1/21 bin lots in e, Ont. (G.E.B.F.). Late blight was first observed in Labelle Co., Que. on 24 July, 1 week later than in 1962. By 8 Aug., slight - mod, infections were reported from Beauce, Champlain, Napierville, Nicolet, Levis, Labelle and Lake St. John counties. It was general by 15 Aug. in the lower St. Lawrence area. Its spread in other parts of the province was checked by dry weather. Losses in unsprayed fields was 10-20%. Tuber rot in bins was rated 164-sl. 17-mod. 8-sev./376 inspected (G.E.). Late blight was prevalent in unsprayed fields in N.B. Defoliation in late Aug. resulted in 20% reduction in yield. Tuber rot averaged about 2% (S.R. C.). Infection was first noted in N.S. on 19 July, Many scattered infections were found

by 1 Aug. and by mid-Aug. the disease was mod. in Kings and Digby counties and sev, in Cumberland Co. Effective spraying and low temperatures prevented much further spread. Losses from tuber rot were low in seed stocks but in a few cases were as high as 25% in table stock (R. C. L.). Little late blight developed in Nfld. (O.A.O.).

LEAK (Pythium ultimum). There was an unusually high incidence of leak in the B.C. Interior at harvest (N.M.). It caused sev. losses in s. Alta. in crops harvested and stored during abnormally hot weather in Sept. (F.R. Harper). Infection was sl.-mod. in 3 bin lots of Kennebec in Que. (G.E.). Seedlings and varieties in the regional trials in Lake St. John Co., Que. showed from 1.6-40.3% infection. Typical ratings were: F-5766, 40%; F-5650, 31%; F-5760, 24%; Kennebec, 22%; Green Mountain, 12.6% (H.G.). A trace infection was seen at Kentville, N.S. (K.A.H.).

POWDERY SCAB (Spongospora subterranea) was observed in a 10-acre field of Green Mountain at La Pocatiere (H.G.) and was 2-sl./376 bin lots examined in Que. (G.E.). Slight infections were seen on several varieties at St. John's West and Bay Roberts, Nfld. (O.A.O.).

COMMON SCAB (Streptomyces scabies) was found in a few crops in the Cariboo and c. B.C. (N.M.). It was less prevalent than in 1962 in n. Alta. (R. P. B.) and was sev. on Pontiac and Early Ohio on 1 farm nr. Saskatoon, Sask. (A.C.). In Ont. its incidence was slightly higher than in 1962 in the Barrie district (H. W.W.); it was sl. in some bins in s.-w. Ont. (G.T.A.F.), and 3-tr./21 bins inspected in e. Ont. (G.E.B.F.). Infections in Que. were rated 188-sl. 12-mod. 4-sev./830 fields (G.E.). It averaged 2% in 5/22 bin lots in N.S. (R. C. L.) and was a problem in very few crops in P.E.I. (G.C.R.). Occasional fields in the St. John's and Conception Bay areas of Nfld. had considerable scab (O.A.O.).

WART (Synchytrium endobioticum). A generally wet summer with record rainfall in Aug. made conditions highly favorable for wart development in e. Nfld., especially in the Bonavista Bay, Avalon Peninsula and Burin Peninsula areas. Some fields became a total loss. (O.A.O.).

PINK-EYE ROT (Verticilliurn albo-atrum). Many fields of Kennebec in the Lakeville, N.S. district were infected. Infections of up to 35% caused up to 15% losses. The most serious outbreaks occurred in fields where potatoes had been grown continuously for several years. Where severe, the tubers showed necrotic streaks in the vascular bundles and areas of water core (K.A.H.).

WILTS (Verticillium albo-atrum, Fusarium spp.) occurred in a number of fields in B.C. (N.M.); was 4-tr./62 fields in n. Alta. and 26-tr./124 s. Alta. fields (R.P.B., R.P.S.). Nine % of the fields in Sask. were affected and 1 seed field rejected (A.C.). In Ont., wilts were a problem in the Barrie district, especially in Kennebec, Sebago and Snowflake (H. W. W.);

they were found in Irish Cobbler in s.w. Ont. (G.T.A.F.) and caused rejection of 3 fields in e. Ont. (G.E.B.F.). Twenty-five/830 Que. fields showed infection (G.E.) and ratings in N.B. were 402-sl. 130-mod. in fields passed (C.E.R.). In N.S. wilts were sl. in 31/212 fields (R.C.L.).

LEAF ROLL (virus) in B.C. was serious only in the Interior where 20 fields were rejected (N.M.). Ratings were 41-tr. 5-sl./62 n. Alta, fields and 22-tr./124 fields in s. Alta. (R.P.B., R.P.S.). Infections in Sask. were 52-tr./91 fields (A.C.) and in Man. 7% of the fields passed showed trace infections (D.J.P.). More infections was seen in the Barrie, Ont. district than in 1962 and 100 acres were rejected (H. W, W.) while in e. Ont. 13/45 fields showed infection (G.E.B.F.). Leaf roll was found in 179/830 Que. fields (G.E.) and at Ste. Clothilde, Que. 25% of the plants were infected (R. Crête). Infections in N.B. were rated 465-sl. 186-mod. 75-sev. with 18 fields rejected (C.E.R.). It was found in 146/212 fields in N.S. and caused rejection of 16. There was a marked increase over 1962 levels (R. C. L.). Three % infection was seen in Hunter at Winterbrook and Lethbridge, Nfld. Both affected fields were grown from the same lot of Foundation seed (O.A.O.).

MOSAIC (virus) was important in B.C. only on Vancouver Island where 4 crops were rejected (N.M.). It was 3-tr. 1-sev./62 fields in n. Alta. and 32 tr./91 Sask, fields (R.P.B., A.C.). Two fields were rejected in the Barrie district and 5 in e. Ont. (H. W. W., G.E.B.F.). In Que. mosaic was found in 394/830 fields and caused the rejection of 78 (G.E.). Ratings in N.B. were 258-sl. 121-mod. 79-sev. and 35 fields were rejected compared to 86 in 1962 (C.E.R.). Seventy-six/212 fields in N.S. were infected (R.C. L.). In Nfld. mosaic was mostly found in fields of farmers who grow their own seed every year and do not practice selection (O.A.O.).

PURPLE TOP (aster yellows virus) was tr. in 1 field of Red Pontiac in n. Alta. (R.P.S.). More purple top was seen in Man. than in 1962 (D. J. P.) and it was less prevalent in n. Ont. than in 1962 (H. W. W.). Its incidence in N.B. was lower than in 1962. It was mostly found in Sebago, some crops of which had up to 8% (C.E.R.). It was reported as trace infections in many fields in N.S. (R.C.L.) and was tr. ~8% in Sebago in P.E.I. Little was seen in other varieties (G. C.R.).

SPINDLE TUBER (virus) was tr. at 4 locations in s. Alta. (R.P.S.) and was found in 8% of fields inspected in Sask. (A. C.). It caused the rejection of 4 fields of Irish Cobbler in Man. (D.J.P.) and was observed in Huron, Sebago and Kennebec in the Barrie district of Ont. (H. W. W.). In Que. it was tr, in 8/830 fields (G.E.). Ratings in N.B. were 156-sl./59 mod. 70-sev. (C.E.R.) and in N.S. it was rated 6-sl./212 fields (R.C.L.),

WITCHES' BROOM (virus) occurred in trace amounts in a number of B.C. fields (N.M.). In n. Alta. it was 20-tr./62 fields and in s. Alta, was trace in I field (R.P.B., R.P.S.), It was noted in a few fields in n. Sask. (A.C.).

GIANT HILL was recorded as trace in 21/124 fields in s. Alta. (R.P.S.) and was reported from N.S. in many fields and in a wide range of varieties (R. C. L.).

FROST INJURY caused minor damage in 1/21 bins inspected in e. Ont. (G.E.B.F.) and averaged 5-10% in 174/376 bins inspected in Que. (G.E.).

HOLLOW HEART (physiological) occurred on Lulu Island, B. C. where 1000 tons of Netted Gem table stock was reduced in grade from No. 1 to No. 2 (N. M.). Twenty-six Fredericton seedlings grown at Deschambault, Que. had from 1-25% hollow heart. A few of the same seedlings showed this trouble at Ste. Foy (H.G.),

INTERNAL RUST SPOT (cause unknown). Eighty % of a lot of Early Rose were affected in early May in L'Islet Co., Que. (J. Santerre).

JELLY END ROT (physiological) was seen in variety plots at Kentville, N. S. (K.A.H.).

MAGNESIUM DEFICIENCY affected 5% of the crop of Irish Cobbler at Deschambault, Que, Many Fredericton seedlings were also affected, some of them exhibiting striking symptoms. There seemed to be differences in the tolerance of seedlings to this deficiency (H. G.). Kennebec potatoes growing under dry conditions on light, sandy soil at Waterville, N.S. suffered 50% damage (K.A.H.).

SUNBURN was responsible for slight damage in 2/21 bins inspected in e. Ont. (G.E.B.F.).

PUMPKIN

POWDERY MILDEW (Erysiphe communis) was general, late in the season, in the Okanagan Valley, B. C. (G. E. Woolliams).

RHUBARB

LEAF SPOT (Ascochyta rhei). Foliage was 100% infected and dead in mid-Sept. at Kentville, N. S. (C. O. Gourley).

POWDERY MILDEW (Erysiphe polygoni). A trace infection was found on the University campus at Saskatoon, Sask. (T.C. Vanterpool). The only other report, to the Survey, of this disease in Canada, is from B.C. (D, W. Creelman).

RED LEAF (cause unknown). Many plantings in nurseries in s. Alta. were affected (R. P. Stogryn).

SQUASH

GRAY MOLD (Botrytis cinerea) caused about 2% loss in stored squash at Berwick, N.S. in Nov, Humidity in the storage was high (K.A. Harrison).

POWDERY MILDEW (Erysipke communis) became general on squash late in the season, in the Okanagan Valley, B.C. (G.E. Woolliams).

STORAGE ROT (Mycosphaerella melonis). A light, general infection apparently occurred in the field at Berwfck, N.S. Fruits in storage in Nov. showed lesions 2-4 inches in dfam, In another outbreak at Kentville, 25% of stored squash were badly affected (K.A.H.).

LEAF SPOT (Septoria cucurbitacearum). Cotyledons in a field at Berwick, N.S. were 20% infected in July. Some defoliation from leaf spot was reported from other districts of the Annapolis Valley by fall (K.A.H.).

SWEDE TURNIP

DOWNY MILDEW (Peronospora parasitica). Infection was 25% at Port Morien, N.S. (C.O. Gourley).

CLUB ROOT (Plasmodiophora brassicae). A field of Laurentian was 100% infected and a complete loss at Montmagny, Que. and a sample was received from Kamouraska Co. showing 50% infection (J. Santerre). A f-acre field at Moncton, N.B. was a total loss (S.R. Colpitts). A light, general infection occurred on 2 farms at Grand Pre, N.S. (K.A. Harrison). A survey of northern N.S. was conducted in Oct. and mod. -sev. clubroot infections were found in the Port Howe and Pugwash areas. Infection was generally mod. in P.E.I. though a sev. infection was seen at Summerside (G.W. Ayers). It was generally sl.-mod. in the St. John's area, Nfld. An experimental plot on peat soil at Colinet was 100% infected (O.A. Olsen).

SKIN SPOT (Rhizoctonia solani). Some infection was noted at harvest at Grand Pre, N.S. Infection is usually not seen until later in storage (K.A.H.).

SCORCH (? turnip mosaic virus complex) occurred in several localities in Ont, in the fall but was sev. only on late-planted crops, Affected plants are severely stunted and do not produce marketable roots. Leaves may show a mottling or a ringspot pattern, puckering, and eventual death of localized areas, There may be an abnormal stimulation of crown buds and roots may not develop. The name "scorch" is used by growers and is descriptive of the overall appearance of affected fields. There appear to be several, as yet not separated, viruses involved (B.H. MacNeill, C.B. Kelly).

DORON DEFICIENCY. Affected roots were received from L'Islet Co., Que. (J.S.) and from Birchy Bay and Dunville, Nfld. (O.A.O.).

SWEET CORN

NORTHERN LEAF BLIGHT (Bipolaris turcicum). Late plantings of sweet corn in **Essex** Co., Ont., were severely infected (J, Rainforth).

SMUT (Ustilago maydis) affected 5% of the plants in a garden at Fort William, **Ont.** (A.E. Straby). As many as 50% of the plants of the variety Spancross were infected in a few fields in Essex **Co.,** Ont. It did not occur extensively in the county (J.R.). More specimens than usual were received from Annapolis, Kings and Hants counties, N.S. (K.A. Harrison, C.L. Lockhart).

BACTERIAL BLIGHT (pathogen unidentified) was general in the Vernon, B.C. district with few plantings free of the disease, Rates of infection varied from tr. -20%. Ears and sheaths were affected but not culms (G.E. Woolliams).

MINERAL DEFICIENCIES. Corn on light, sandy soil at Waterville, N.S. showed symptoms of deficiencies of magnesium, phosphorous, nitrogen and potassium In different areas of the field (K.A.H.).

TOMATO

EARLY BLIGHT (Alternaria solani) was prevalent and caused considerable damage in the Vernon and Kamloops districts of B.C. Fruit losses were reduced significantly where adequate spraying was carried out (G.E. Woolliams). It was mod, on a few plants in a garden at Ottawa, **Ont.** (D. W. Creelman). Early blight was mod. -sev. in most tomato fields in the Montreal, Que. region. There was considerable cracking of fruits and a high degree of Alternaria rot developed (E. Lavallée). The disease was quite general in the St. Jean Baptiste area, Que. but losses were light (R. Crête). It was general. in N.B. with infections ranging from tr. -100% and losses in fields as high as 50% (S.R. Colpitts). Infections in Annapolis and Kings counties were noted early an the variety Scotia and caused some losses in early crops. It was not generally sev. until late Aug. and early Sept. when heavy losses occurred in unsprayed crops (K.A. Harrison).

GRAY MOLD **AND** STEM ROT (Botrytis cinerea). Stem rot was not a serious problem in the spring crop but was prevalent in the fall in glass and plastic houses in Essex Co., Ont. (J. Rainforth). Gray mold was commonly seen on young fruit in Aug, in the Oromocto area, N.B. (S.R.C.). One - 5% damage occurred in spring greenhouse crops in N.S. The fruit rot stage was sev. in field crops in many areas, Unsprayed plots at Kentville had 8% infected fruit and sprayed plots were 4-5% infected, About 20% loss was incurred in one fall greenhause crop (K.A.H.), Severe gray mold rot developed in Sept, in market gardens nr, Charlottetown, P.E.I. and in plots at the Exp. Farm (G. W, Ayers). Slight infections appeared in the fall greenhouse crop at St. John's West, Nfld. (O.A.O.).

LEAF MOLD (Cladosporium fulvum). Several greenhouse crops in Hants and Kings counties, N.S. were affected, The heaviest infection occurred at Coldbrook (K.A.H.).

ANTHRACNOSE (Colletotrichum coccodes). Disease incidence in s.-w. Ont. in 1963 was much lower than usual in the early basket and canning crops (C.D. McKeen). Some anthracnose was observed on most lots of tomatoes that had been held several days at a canning factory at Rouville, Que. (E.L.). Infection on late-harvested fruit in Kings Co., N.S. reached 75% (K.A.H.).

BACTERIAL CANKER (Corynebacterium michiganense) was seen in most commercial fields in the Kamloops and Vernon districts, B. C. (G.E. W.). It was tr. in a plot at Lethbridge, Alta. (F.R. Harper). The variety Ohio-WR-7 was severely infected in the spring crop in a 2-acre greenhouse in Essex Co., Ont. Infection was noticed in mid-Feb. and it continued to spread until the plants were removed in early July by which time 75% of the plants were infected and 50% were dead. Six other greenhouse crops in the county were infected but not so early in the season and damage was much less sev. Numerous houses had some infected plants in the fall crop (J.R.).

DAMPING-OFF (Fusarium spp.) killed 5% of 20,000 plants at Oromocto, N.B. (S.R.C.).

PHOMA ROT (P. destructiva) was found on a few plants of Stokesdale in the late harvest at Kentville, N.S. (K.A.H.).

LATE BLIGHT (Phytophthora infestans) was first observed at L'Assomption, Que. on 3 Sept. where 2% of the fruit was infected. Infection was 26% by 11 Sept. and reached 50-60% by 18 Sept. This was typical of late blight development in the region north of Montreal. Five sprays of captan 3 lb., maneb, 2 lb. and Polyram 2 lb. per acre were applied beginning at the end of July, Fruit rot at the picking on 18 Sept. was 4.5, 2.5 and 5.0% respectively as compared with 59% in the untreated plots. There was no significant difference between fungicides (E.L.). Infections as high as 25% were observed in many gardens at La Pocatlere, Que. (H. Gènêreux). Trace infections only were seen in N.B. (S.R.C.) and damage was very light in Kings Co., N.S. Fruit infection in unsprayed plots at Kentville ranged from 2-50% but occurred after commercial harvesting was completed (K.A.H.).

BUCKEYE ROT (Phytophthora parasitica) affected a few fruits on lower trusses in a greenhouse at Victoria, B.C. (R.G. Atkinsun).

BACTERIAL SPECK (Pseudomonas tomato) caused only minor damage in 5 fields surveyed at Harrow, Kingsville and Leamington, Ont. in mid-July (P.K. Basu). More than 50% of the fruits in 2 fields of 2-3 acres each at Oka. Que. were covered with specks even before the first picking. Isolated cases are seen throughout the Montreal region each year (E. L.).

DAMPING-OFF (Rhizoctonia solani) was responsible for a 15% loss in stand in a fall planting in a large greenhouse at Leamington, Ont. (C.D. McK.).

WILT AND STEM ROT (Sclerstinia sclerotiorum) caused mod. damage in a greenhouse at Edmonton, Alta. (W.P. Skoropad) and affected about 25% of a 2-acre field at Hampstead, N.B. (S.R. C.). Trace infections were seen in a previously infected field at Kentville and in a greenhouse at Falmouth, N.S. (K.A.H.).

LEAF SPOT (Septoria lycopersici) was moderately sev. in the Montreal, Que. region (E. L.). Specimens were received from Montmagney, Que. (J.S.).

WILT (Verticillium spp.). V. dahliae commonly infected both greenhouse and field crops in the Kamloops, B.C. area except where resistant varieties were planted (G.E.W.). V. albo-atrum caused slight damage in 2 gardens at Coaldale, Alta. (F.R. Harper). Moderate damage was caused by V. dahliae in Essex Co., Ont. The level of damage was lower than normal although virtually all fields showed some evidence of infection. Fields planted to wilt-susceptible crops 2 years in a row were noticeably more affected than those under a more suitable rotation (J.R.).

BACTERIAL SPOT (Xanthomonas vesicatoria) occurred in a number of fields of staked tomatoes and also in a few fields of canning tomatoes in Essex Co., Ont. The variety Glamour was very susceptible and when it was infected losses were heavy. Most of the infections seen were in the Leamington area (J.R.). Severe infections were seen at Dunville and the disease was general in the Vineland, Ont. district (P.K. B.).

DOUBLE STREAK (TMV + potato X virus) affected a few spring and many fall greenhouse crops in Essex Co., Ont. The Spartan varieties 8 and 10 were especially susceptible although Vfnequeen and Michigan-Ohio Hybrid were also affected. Disease incidence was much higher on farms where staked tomatoes were grown (J.R.).

MOSAIC (tobacco mosaic virus) was commonly found in crops throughout the Okanagan Valley, B. C. Infection varied from sl. -90%. Varietal differences in susceptibility were evident (G.E. W.). At Valleyfield, Que. at 5-acre field was more than 50% infected. Another at Ste. Dorotheé was similarly infected, Mosaic-infected fields are becoming more common in the Montreal region (E.L.). There was an extremely sev. outbreak in the fall greenhouse crop at Falmouth, N.S. (K.A.H.).

SHOESTRING (cucumber mosaic virus) affected 2/400 Stokesdale plants at Kentville, N.S. (K.A.H.).

SPOTTED WILT (virus). Ten plants in a home garden at Ottawa, Ont. were severely affected. Typical lesions formed on both leaves and fruit and the foliage was curled and brittle. Growth ceased and even symptomless fruits failed to size (D. W. Creelman).

BLOSSOM-END ROT (physiological) affected as many as *50%* of the fruits in some gardens at La Pocatiere, Que. (H. G.). It was present in all areas of N. B. (S. R. C.). Slight losses in greenhouse tomatoes and 15% loss in field crops were observed at Kentville, N.S. (K.A.H.). Incidence was high in greenhouse crops at St. John's, Nfld. (O.A.O.).

CHEMICAL INJURY. Early tomatoes in a field adjacent to a fertilizer company's dump in Essex Co., Ont. produced leaves showing brownish, blister-like areas. A drift *of* chemical vapors in smog and smoke was suspected of causing the injury. At Leamington the crop in 1 greenhouse suffered sev. injury as the result of soil fumigation with Vorlex. Liberal applications of peat moss had been made just after fumingation. The peat moss adsorbed the fumigant and released it after the plants had begun to grow (C.D. McK.). About 5% damage resulted when captan was applied to young greenhouse plants (S. R. C.).

GROWTH CRACKS occurred on 50-75% of the tomato fruit grown in the region north of Montreal, Que. The 1963 season was one of the worst on record for tomato production, The season was generally late, yields were reduced and the crop was *of* poor quality because of cracking and irregular ripening (E. L.). Growth cracks were more prominent in N. B. in 1963 than in previous years (S.R.C.).

WATERMELON

ANTHRACNOSE (Colletotrichum lagenarium). A small plot of the variety New Hampshire Midget at Kentville, N.S. was seriously defoliated and soon died completely (K. A. Harrison).