DISEASES OF VEGETABLE AND FIELD CROPS

ASPARAGUS

RUST - Puccinia Asparagi DC.

Sask.-
A heavy infection occurred on rows in a sheltered spot in the University garden, Saskatoon, while the main asparagus bed appeared to be free from rust.

Man.-
Some heavily infected plants were collected at Newdale.

Ont.-
A medium infection of rust was reported from Lincoln county.

N.B.-
Only one plant was found infected at the Experimental Station, Fredericton.

BEAN

MOSAIC - Virus

B.C.-
Ten to twenty-five per cent of the plants were affected in the Okanagan valley and the lower mainland.

Alta.-
Mosaic was found in 5 fields out of 20 examined. The heaviest infection observed was at the Experimental Station, Lethbridge. Mosaic in a severe form is fairly common.

Sask.-
Five to ten per cent of the plants were affected in a garden at Saskatoon; the damage was slight. The plants were stunted, late and podless.

N.B.-
Ten per cent of the plants were affected with mosaic in a plot of several varieties, Experimental Station, Fredericton.

ANTHRACNOSE - Colletotrichum Lindemuthianum (Sacc. & Magn.) Bri. & Cav.

Alta.-
Anthracnose caused only slight damage at Edmonton.

Bean

Que.-

The disease was first observed on June 20; ordinarily it does not appear till later. Only a trace was present at that time in Jacques Cartier and Rouville counties. The estimated average infection was 10 to 25 per cent in 3 fields examined in the Quebec district at a later date.

N.B.-

Anthracnose was widespread but of slight importance in 1930. A moderate infection was reported from the Experimental Station at Fredericton.

N.S.-

Anthracnose caused an average damage of 5 per cent in Kings county. The disease spread slowly this year.

P.E.I.-

All varieties are attacked by this disease, some more severely than others. It is usually severe in small gardens.

BACTERIAL BLIGHT - Pseudomonas Phasecli E.F.Sm.

Alta.-

This is a very common disease in Alberta, being observed in 26 out of 30 fields examined in 1930. The estimated average damage was 6.6 per cent, although at Olds the crop was a total loss.

Sask.-

Bacterial blight was present in field beans to a very slight extent in the Indian Head district in 1930, but many varieties of garden beans at the Experimental Farm were severely infected and in some cases completely defoliated.

Man.-

In one field near Charleswood, 100 per cent of the plants were infected. No other cases were reported.

N.B.-

A slight infection was reported from the Experimental Farm at Fredericton.

N.S.-

A large number of varieties of beans were infected in Kings county; the estimated damage was 15 per cent.

P.E.I.-

Only one slight infection was observed in Queens county.

MISCELLANEOUS DISEASES

STEM ROT - Rhizoctonia spp.
Stem rot was common and frequently severe in Alberta.

WILT - Sclerotinia Sclerotiorum (Lib.) de Bary
This disease was widespread and caused considerable damage throughout N.B. A severe infection was observed at the Experimental Station and in two gardens in Fredericton.

WILT - Botrytis cinerea Pers.
Although this wilt was destructive in the St. John valley, N.B. in 1928 and 1929, when the loss was estimated to be 15 per cent of the crop, it was of slight importance this year.

RUST - Uromyces appendiculatus (Pers.) Lév.
Sixty per cent of the foliage was rusted in White Pole beans, in Kings county, N.S. The rust was late in appearing and little developed on other varieties. This disease was not as severe in P.E.I. as it has been in wetter seasons.

ROOT ROT - Pythium spp.
A trace of root rot was found in a low lying spot in a plot of peas, Saskatoon, Sask. The species of Pythium responsible has not yet been determined (T. C. Vanterpool).

BROAD BEAN

STEM ROT - Cause unknown
About one half of one row of broad beans in the University garden, Saskatoon, was killed by an unknown disease. The stems turned black at the base and rotted off.

BEET

ROOT ROT - Rhizoctonia Solani Kühn.
One specimen was sent to the Laboratory at Fredericton N.B. for identification.

LEAF SPOT - Phoma Betae (Oud.) Frank
This disease was general on Vancouver island and the lower Fraser valley, B.C. The damage from seedling wilt was considerable.

Several varieties were severely infected at the Experimental Station, Fredericton, N.B.

SCAB - Actinomyces scabies (Thaxt.) Güssow
Scab was observed in Alberta. A slight infection was also observed in a small garden in P.E.I.

CABBAGE

CLUB ROOT - Plasmodiophora Brassicae Woron.

B.C.-

In over half the fields in the Armstrong district, 50 to 80 per cent of the plants were affected with club root. The disease was also severe in one garden in Victoria.

N.B.-

Three per cent of the plants were severely infected in the Experimental plots, Fredericton.

P.E.I.-

One per cent of the plants were destroyed in a small garden in Queens district. The disease was not important this year.

BLACK ROT - Pseudomonas campestris (Pamm.) E.F.Sm.

Fifteen per cent of the plants in a field containing 500 plants were destroyed in Nicolet county, Que.

CANTALOUPE

BREAKDOWN - Non-parasitic

This disease causes some trouble in the Oliver district, B.C.

SCLEROTINIA ROT - Sclerotinia Sclerotiorum (Lib.) de Bary

Seventy-five per cent of the fruit kept in a storage house at the Experimental Station, Fredericton, N.B. were infected on Sept. 25.

CARROT

SCLEROTINIA ROT - Sclerotinia Sclerotiorum (Lib.) de Bary

Fifty per cent of the locally grown carrots in storage were destroyed by this rot in the Edmonton district.

A few specimens were found in a storage house in York county, N.B.

CAULIFLOWER

CLUB ROOT - Plasmodiophora Brassicae Woron.

Fifteen to 20 per cent of the plants of Stoke's Erfaurt were severely diseased in Lincoln county, Ontario. A second variety growing along side was not attacked. The soil was gravelly and light. Two per cent of the plants were slightly affected in the Experimental plots, Fredericton, N.B.

BLACK ROT - Pseudomonas campestris (Pamm.) E.F.Sm.

A heavy infection, causing a loss of 75 per cent, was observed in Nicolet county, Que.

CELERY

LATE BLIGHT - Septoria Apii Chester

Man.-
All the plants in a field just north of Winnipeg were severely infected.

Ont.-
A light infection was observed in Lincoln county; the damage was negligible.

Que.-
A moderate to severe infection in Nicolet county caused a loss of 25 per cent of the crop.

N.B.-
A moderate infection was reported from the Experimental Station, Fredericton. This disease is quite general in the St. John valley.

P.E.I.-
Losses were very heavy on all varieties. The plants were sprayed but infrequently with Bordeaux, which may account for the lack of control.

YELLOWS - Fusarium spp.

Celery was slightly damaged by yellows at Armstrong, B.C.

HEART ROT - Non-parasitic

Seventy-five per cent of the celery was affected with heart rot and rendered unfit for market in Wentworth county, Ontario.

SOFT ROT - Bacillus carotovorus L.R. Jones

Several gardens were badly infected in the vicinity of Victoria, B.C.

CUCUMBER

FRUIT SPOT (SCAB) - Cladosporium cucumerinum Ell.& Arth.

Que.-
A loss of 10 per cent of the crop was reported at Nicolet

Cucumber

county. About 50 per cent of the leaves were infected.

N.B.-

Heavy infections were reported from York, Sunbury, and Kings counties. This disease was widespread and is probably the limiting factor in the growing of cucumbers.

BACTERIAL WILT - Bacillus tracheiphilus E.F.Sm.

A scattered infection was reported in 2 greenhouses in southern Ontario. In the one at Kingsville, the disease probably became severe.

MOSAIC - Virus

Only two specimens were found at the Experimental Station, Fredericton, N.B.

Although this disease occurs regularly every year on all varieties in P.E.I. only rarely has any severe injury been observed.

EGG PLANT

PHOMOPSIS BLIGHT - Phomopsis vexans (Sacc. & Syd.) Harter

This disease took the form of a wilt of 1 to 2 per cent of the plants in the Okanagan district, B.C.

WILT - Verticillium sp.

Fifty per cent of the plants were affected with wilt in a field in Lincoln county, Ontario. The disease caused a reduction in the size and number of fruits.

JERUSALEM ARTICHOKE

WILT - Sclerotinia Sclerotiorum (Lib.) de Bary

A trace of wilt was observed in the Experimental Station garden, Fredericton, N.B.

LETTUCE

DROP - Sclerotinia Sclerotiorum (Lib.) de Bary

In one field near Winnipeg, Man. about 5 per cent of the heads were damaged. A slight infection was also reported from N.B., where the disease is widespread but caused only slight damage.

GRAY MOULD - Botrytis cinerea Pers.

Gray mould was general on Vancouver island, B.C.

TIPBURN - Non-parasitic

Slight damage from tipburn was reported from the Okanagan district, B.C.

ONION

NECK ROT - Botrytis Allii Munn

Five per cent of the crop of Yellow Globe and Danvers was destroyed in the Okanagan valley, B.C. This represents a loss of 500 tons of onions valued at $10,000.

Neck rot is an important disease in P.E.I. Heavy losses occur in Yellow Globe, Danvers, Large Red Weathersfield and Red Globe.

BULB ROT - Fusarium sp.

About 5 per cent of the crop was lost in the Kelowna district, B.C.

PEA

POWDERY MILDEW - Erysiphe Polygoni DC.

Alta.-

This disease is common late in the season.

N.B.-

A slight infection was reported from the Experimental Station, Fredericton. The disease was general but of no importance.

P.E.I.-

Heavy infection and severe injury was observed in the following varieties; American Wonder, Thomas Laxton and Sutton Excelsior.

ROOT ROT - Fusarium spp.

Root rot is a common and important disease of peas in Alberta.

Scattered infections were observed in many of the canning areas of Ontario. Harsford Laxtonian, Thomas Laxton, Alaska and Rogers Winner are susceptible while Green Admiral, Yellow Admiral and Haral are resistant (R. E. Stone).

LEAF and POD SPOT - Ascochyta Pisi Lib.

Alta.-

The losses in Alberta due to this disease are not serious.

Pea

Sask.-
A trace was found on the pods this year at Saskatoon. Two years ago the disease was heavy in the same place, but the last two seasons have been dry.

N.B.-
A moderate infection was reported from the Experimental Station at Fredericton. This disease is an important limiting factor in the production of this crop.

LEAF BLOTCH - Septoria Pisi West.

Leaf blotch was common in Alberta although no damage was evident.

Slight damage was observed on both field and garden peas at Indian Head, Saskatchewan.

MISCELLANEOUS DISEASES

BLOSSOM BLIGHT - Alternaria spp.
Fifteen per cent of the blossoms were blighted in a field in Lincoln county, Ontario.

ROOT ROT - Pythium sp.
A trace of root rot was observed at Saskatoon, Sask. The disease was confined to a low spot in the field. The species of Pythium responsible has not yet been determined.

RUST - Uromyces Fabae (Pers.) de Bary
A moderate infection was reported in the Experimental Station garden, Fredericton, N.B.

MOSAIC - Virus
One per cent of the plants were affected in a field in Kings county, N.S.

DOWNY MILDEW - Peronospora Viciae (Berk.) de Bary
Five per cent of the plants were affected in several varieties of canning peas growing in the Fraser valley, B. C. The damage was negligible.

PEPPER

BLOSSOM END ROT - Non-parasitic
Fifteen per cent of the crop was affected at Morden Man. Alternaria was found on many of the diseased spots.

Pepper

Ten to 15 per cent of the fruit were affected by blossom end rot in a field in Lincoln county. Diseased fruit were useless.

POTATO

Before considering the different diseases by provinces, a few facts are presented on certain diseases as they affect Canada as a whole. These data were obtained from summaries prepared from observations made by the Potato Inspectors during their examination of fields of potatoes grown from certified seed. Out of 9707 fields, which were planted with certified seed and inspected, 2411 fields or 24.8 per cent were rejected on account of disease or other causes. On an acreage basis 19 per cent failed to pass inspection. Of the fields rejected on account of disease mosaic was responsible for 53 per cent of the rejections. Black leg was second with 9.4 per cent and leaf roll third with 5.6 per cent. In addition 11.6 per cent were rejected on account of being adjacent to diseased fields.

The above diseases were not equally prevalent in every province. Mosaic was most prevalent in N.B., N.S., Alta,, P.E.I., and B.C., infection in the rejected fields varying from 5.8 per cent to 2.9 per cent respectively. Leaf roll was most destructive in N.S. and Alta., while black leg was most prevalent in Sask. and Man.

LATE BLIGHT - Phytophthora infestans (Mont.) de Bary

Que.-

In a half acre field of Green Mountains, one per cent of the tubers were left in the field on account of tuber rot.

N.B.-

Late blight was most prevalent in Victoria and Sunbury counties although, some injury occurred in almost every county. In general the infection was slight to moderate.

N.S.-

Only a small amount of tuber rot was observed in Colchester county. One lot of Garnet Chili, where the crop had not been sprayed showed 2 per cent, and 2 lots of Irish Cobblers, 1 and 3.5 per cent respectively. Twenty other lots of each variety were practically free.

RHIZOCTONIA - Corticium Solani (Prill. & Del.) Bourd.& Galz.

Man.-

Rhizoctonia was quite common in Manitoba. However, only a trace was present in most fields examined. In a field at Virden,

Potato

25 per cent of the plants were affected.

N.B.-

Rhizoctonia was present on all varieties. In general the infections were slight, except in Madawaska and Victoria counties, where 25 per cent of the fields were moderately infected. Tuber infection was correspondingly higher in these counties than the rest of the province.

N.S.-

Rhizoctonia was reported on Irish Cobbler tubers from Pictou, Colchester and Halifax counties. Usually the percentage of tubers infected averaged from 6 to 8 per cent. In four lots, however, infection varied from 10 to 30 per cent.

COMMON SCAB - Actinomyces scabies (Thaxt.) Güssow

Sask.-

Scab was prevalent this year on account of the drought.

N.B.-

Moderate infections were reported on all varieties from every county.

N.S.-

It was estimated that 4.3 per cent of the tubers were affected with scab in 30 lots of potatoes examined in Colchester and Pictou counties. The highest infection recorded was 15 per cent.

BLACK LEG - Bacillus phytophthorus Appel

Sask.-

In the field inspection of certified seed potatoes, 3 fields were rejected in eastern Sask. on account of black leg. The average infection in these fields was 9.2 per cent. Only a trace was present in the fields that passed.

Man.-

Thirty per cent of the plants were infected in a field at Virden, Man. Six fields were rejected on account of black leg in the field inspection of certified seed potatoes. The average infection in these fields was 8.9 per cent, while it was 0.3 per cent in the fields that passed.

N.B.-

Black leg was most prevalent in Carleton, Restigouche and Westmoreland counties, where 2 per cent or more of the plants were diseased in some of the fields.

EARLY BLIGHT - Alternaria Solani (Ell. & Mart.) Jones & Grout

Alta.-
Early blight caused slight damage in a garden at Edmonton.

N.B.-
The disease was most prevalent on the foliage in Sunbury county, where it was also severe in 5 per cent of the fields. Over 50 per cent of the fields were slightly to moderately infected, in Restigouche and York counties.

P.E.I.-
Thirty-five per cent of the tubers were seriously affected with rot due to Alternaria Solani in a bin of Irish Cobblers in Queens county.

LEAF ROLL - Virus

Alta.-
Leaf roll caused slight damage at Brant.

N.B.-
Traces of leaf roll were reported from every county. Two per cent or more of the plants were infected in several fields in Northumberland, Carleton, Gloucester and Westmoreland counties.

MOSAIC - Virus

Sask.-
Only a trace of mosaic was observed in the 55 fields of certified seed potatoes examined.

Man.-
Out of 95 fields inspected, one was rejected for mosaic in the field inspection of certified seed potatoes.

N.B.-
Mosaic was prevalent in every county. It was most severe in Charlotte, York and Sunbury counties where of the fields inspected, 87.5, 26.0 and 36.8 per cent respectively contained 2 or more per cent of mosaic.

DRY ROT - Fusarium spp.

N.B.-
Dry rot is widespread in storage houses. Inspection of the tubers in April showed that 20 per cent were moderately affected.

Potato

P.E.I.-

Dry rot was fairly prevalent this autumn in P.E.I. Inspections made in November showed 1 per cent of the tubers affected.

MISCELLANEOUS DISEASES

SKIN SPOT - Oospora pustulans Owen & Wakefield

A trace of skin spot was found at the Experimental Station, Fredericton, N.B.

POTASH HUNGER - Non-parasitic

Potash hunger was observed in a small field of Green Mountains in York county, N.B.

TIPBURN - Non-parasitic

This disease was not severe in N.B. in 1930. Three per cent of the plants were moderately affected.

VERTICILLIUM WILT - Verticillium albo-atrum Reinke & Berth.

A single specimen was collected in York county, N.B.

CURLY DWARF - Virus

A trace was observed at the Experimental Station, Fredericton, N.B.

STREAK - Virus

One plant of Spaulding Rose was found infected at the Experimental Station, Fredericton, N.B.

SILVER SCURF - Spondylocladium atrovirens Harz.

An examination of the potatoes in storage at the Experimental Station, Fredericton, N.B. on April 3, showed that 65 per cent were affected. The disease is widespread and quite important in N.B. as it disfigures the tubers sufficiently to lower their market value.

In P.E.I. two per cent of the Irish Cobblers examined in November were affected. However, this disease develops mostly in the early spring after potatoes have been in storage for some time and usually causes considerable damage.

POWDERY SCAB - Spongospora subterranea (Wallr.) Lagerh.

From observations made on 90 farms in York county, N.B. it was estimated that the average infection was only a trace.

NET NECROSIS - Cause undetermined

A trace of net necrosis was found in Green Mountains at the Experimental Station, Fredericton, in April.

SPINDLING TUBER - Virus

Slight amounts of spindling tuber were found in several counties in N.B.

PHOMA ROT - Phoma tuberosa Melhus, Rosebaum & Schultz

Two per cent of the Irish Cobblers examined in November in P.E.I. were affected with dry rot following powdery scab. An appreciable loss occurs each year in storage from Phoma rot.

RHUBARB

CROWN ROT - Cause undetermined

Crown rot is common and severe in Alberta. In Sask., where this disease is widespread and very destructive, up to 50 per cent damage was reported.

LEAF SPOT - Ascochyta Rhei Ell. & Ev.

In Saskatoon, Sask., the spotting was more severe on the petioles, where they had been injured by hail. Nature pycnidia were collected.

Slight damage from leaf spot was reported from Queens county, P.E.I.

STEM ROT - Botrytis spp.

Stem rot was severe in two places in Alberta.

ANTHRACNOSE - Colletotrichum erumpens Sacc.

Anthracnose was found at the Experimental Station, Morden, Man. Hills here and there in the field were completely destroyed.

LEAF SPOT - Phyllosticta straminella Bres.

A moderate infection was reported from the Experimental Station, Fredericton, N.B. This disease is general but not serious.

RUTABAGA

CLUB ROOT - Plasmodiophora Brassicae Woron.

Twenty-five per cent of the plants were moderately affected with club root in York county. The disease is widespread and serious in many sections

WATER CORE OR BROWN HEART - Non-parasitic

B.C.-

This disease occurred in a small patch of about one and one half acres, containing 3 varieties at Kelowna. Ten to 75 per cent of the crop was injured depending on the variety.

N.B.-

What appears to be the same disease was very destructive in both 1929 and 1930 in York county. All varieties are affected.

SPINACH

DOWNY MILDEW - Peronospora effusa (Grev.) Rabh.

This disease was observed in two gardens in Saskatoon, Sask., where it caused slight damage.

Spinach was moderately infected in a patch that had been watered frequently at Kentville, N.S. Generally the disease was absent in Kings county.

BACTERIAL SOFT ROT - Bacillus ?carotovorus L.R. Jones

Two per cent of the plants were destroyed in a garden at Edmonton, Alberta.

TOBACCO

BLACK ROOT ROT - Thielavia basicola Zopp

Ont.-

Due to the hot, dry, season, losses from black root rot in Ont., were very small.

Que.-

This disease still causes considerable loss in Quebec as many farmers fail to treat their seed-bed soil. The disease may be found to some extent in at least 25 per cent of the tobacco fields.

DAMPING OFF - Pythium de Baryanum Hesse

Ont.-

In Essex and Kent counties, damping off was quite prevalent, A few cases of "sore-shin" were traced to damping off in the seed-bed.

Que.-

The usual amount of infection was reported from Quebec.

SEED-BED MOULD - Pyronema confluens (Pers.) Tul.

This saprophytic mould necessitated the reseeding of a number of seed-beds, which are semi-hot beds covered with glass, at the Experimental Station, Harrow, Ont. The disease was first noted in 1928.

HOLLOW STALK - Bacillus carotovorus L.R. Jones

A few plants affected by this disease were observed in Quebec.

WILDFIRE - Pseudomonas Tabacum (Wolfe & Foster) Stev.

This disease has not spread beyond the Yamaska valley, Que. Through the co-operation of the growers, the disease was present in only one field this year and the grower in this instance had not carried out the sanitation programme recommended.

ANGULAR LEAF SPOT - Pseudomonas angulatum (Fromme & Murray) Stev.

The disease was observed only a few times; the localities were not stated.

MOSAIC - Virus

B.C.-

A marked increase was observed in the Sumas area. The damage was significant, but the disease was not general in the lower Fraser valley.

Ont.-

In Ontario mosaic was not as prevalent as it has been in the past.

Que.-

In the northern district of Que., this trouble is rather more prevalent this year, while in the Yamaska valley it is rather less abundant.

MISCELLANEOUS DISEASES

FRENCHING (non-parasitic) was reported from eastern Ontario and in the Okanagan valley, B.C.

CURLY DWARF (non-parasitic) was observed in the Okanagan valley, B.C.

LEAF DROP (non-parasitic). Seventy-five per cent of the leaves were affected in two fields near Kelowna, B.C.

SAND DROWN (magneium deficiency) occurred to some extent on the lighter soils in Quebec.

BROWN ROOT ROT (Cause unknown) was found to a slight extent in Essex county, Ontario.

DROUGHT INJURY - The extended drought in south western Ontario resulted in an abnormal yellowing of the Burley, and a burning of the flue-cured tobacco. Rain early in September stimulated

the tobacco to grow a second time. In consequence, maturity was delayed and curing was difficult, resulting in a high percentage of dark leaf and considerable rim-burn.

SHED BURN - The wet weather that occurred about the middle of September caused some damage in eastern Ontario and Quebec.

TOMATO

BLOSSOM-END ROT - Non-parasitic

B.C.-

Blossom-end rot was general all over the province and was reported as severe at the Experimental Farm, Saanichton.

Sask.-

This disease was common around Wolseley. One garden had from 60 to 75 per cent of the fruit affected.

Man.-

In the plots at the Experimental Station, Morden, 5 to 10 per cent of the plants were affected.

Ont.-

Severe damage was reported from Lincoln, Leeds, Ontario, and Halton counties. The disease was very general and severe this year due to the prolonged drought.

N.B.-

This disease was widespread in greenhouses causing considerable damage. A moderate infection was reported from the Experimental Station greenhouse at Fredericton.

N.S.-

Two to five per cent of the crop was affected in Kings county. The disease was found generally on light soil and was probably more prevalent on account of the dry weather.

P.E.I.-

A complete loss of a crop of tomatoes was observed in a commercial garden at Charlottetown. The soil was exceedingly rich and the weather was alternately wet and dry.

MOSAIC - Virus

B.C.-

Slight damage occurred in both fields and greenhouses in the Okanagan valley, B.C.

Ont.-

Infections of 25 to 35 per cent on Ignotum and 50 per cent on Early Evans were observed in Lincoln county. John Bean and Chalks Jewel growing alongside infected Early Evans, were resistant. In general, tomato mosaic was very prevalent in Lincoln county, this year.

Que.-

Seventy-five to 80 per cent of the plants were affected with with mosaic in 3 large greenhouses at Côte des Neiges, Montreal. The owners claim to have lost 50 per cent of their previous crops due to mosaic and streak.

N.B.-

This disease is widespread and is an important limiting factor in tomato production. A moderate infection was observed in the Experimental Station garden at Fredericton.

STREAK - Virus

Ont.-

Fifty per cent of the plants were seriously stunted from streak and mosaic in a greenhouse in Welland county. Isolated cases of streak were also observed in the field on plants heavily infected with mosaic in Lincoln county. Potatoes growing in the immediate vicinity may have been responsible for the streaking of the mosaic infected plants.

Que.-

In a greenhouse at Côte des Neiges, Montreal a trace of streak was observed. The owners claim that the damage is worst at the 5th fruit spur stage and that in previous crops they have lost as high as 50 per cent of their crop. (See report under Mosaic.)

N.B.-

Only one specimen of streak was observed in the Experimental Station garden at Fredericton.

LEAF MOULD - Cladosporium fulvum Cke.

B.C.-

Five per cent of the crop was lost from leaf mould in a greenhouse at Summerland, B. C.

Ont.-

A very severe infection caused defoliation and reduction of vigor in a greenhouse crop in Lincoln county.

Tomato

Que.-
A few spots were reported on the lower leaves of greenhouse tomatoes at Côte des Neiges, Montreal.

EARLY BLIGHT - Alternaria Solani (Ell. & Martin) Jones & Grout.

Que.-
A late infection developed on all the leaves, but caused little damage in a field at Aylmer.

N.B.-
This disease is widespread, and where no spray was applied it was severe.

P.E.I.-
In a small garden, severe damage was reported due to the drying up of the leaves.

LEAF SPOT - Septoria Lycopersici Speg.

This disease was general in the greenhouses on Vancouver island. A light infection was also reported from P.E.I.

VERTICILLIUM WILT - Verticillium ovatum Berkeley & Jackson

One per cent of the plants were affected with wilt in Lincoln county, Ontario.

BREAKDOWN - Non-parasitic

This disease is found occasionally on some of the fruit in the Okanagan valley, B.C.

BACTERIAL CANKER - Bacterium michiganense (E.F.Sm.) Stev.

All varieties were affected, infection varying from 0 to 90 per cent in Kamloops and the Okanagan valley, B.C.

WILT - Fusarium Lycopersici Sacc.

Wilt was general but caused only slight damage in the greenhouses on Vancouver island, B.C.

ROOT KNOT - Heterodera radicicola (Greef) Muell.

Root knot is general in the greenhouses on Vancouver island, B.C.

WESTERN YELLOW BLIGHT

This disease was general in the greenhouses on Vancouver island, B.C.

TURNIP

CLUB ROOT - Plasmodiophora Brassicae Woron.

Que.-
In one field in Isle Verte county, 10 to 15 per cent of the plants were diseased.

N.B.-
Two per cent of the plants were severely affected with club root at the Experimental Station, Fredericton.

N.S.-
Infections were very patchy in Colchester county. Out of 14 fields examined, 11 were found to be free from infection. In the affected fields the infections were 25, 50 and almost 100 per cent respectively.

POWDERY MILDEW - Erysiphe Polygoni DC.

A moderate infection of powdery mildew was reported in Queens county, P.E.I.

DRY ROT - Phoma Lingam (Tode) Desm.

This rot is present in all turnip fields in P.E.I. causing slight to heavy damage. Fields have been observed that were unfit to harvest on account of the rot.

BROWN HEART - Non-parasitic

Brown heart occurs generally throughout P.E.I. The loss due to this disease in 1930 was estimated to be $50,000.

WHITE SPOT - Cercosporella albo-maculans (Ell. & Ev.) Sacc.

Ten per cent of the plants were slightly affected in York county, N.B. The disease was not important this season in comparison with 1929 when 80 per cent of the plants were severely infected.

Turnip

BLACK ROT - Pseudomonas campestris (Pamm.) E.F.Sm.

Sixty per cent of the plants were severely infected in the Experimental Station plots, Fredericton, N.B.

MACROSPORIUM SPOT - Alternaria herculea (Ell. & Mart.) J.A. Elliott

This leaf spot was severe on the Experimental Station plots, Fredericton, N.B.