III. DISEASES OF VEGETABLE AND FIELD CROPS

ASPARAGUS

RUST (Puccinia Asparagi) caused slight damage at Saskatoon, Sask.; it was severe on an unknown variety causing premature discoloration and defoliation at Indian Head, while it was slight to moderate on Martha Washington and Mary Washington.

BEAN

MOSAIC (virus). 25% of the Wax Bean plants were affected in one patch, while all were healthy in another at the Summerland Station, B.C.; 75% were infected in a plot in zone 10, Alta.; Princess of Artois was moderately affected at Brandon, Man.; a trace was present in a small garden at L'Assomption, Que.

ANTHRACNOSE (Colletotrichum Lindemutheanum) caused 25% damage to Interloper Challenge Black Wax at the Experimental Farm, Agassiz, B.C.; Stringless Green Pod and Round Pod Kidney Wax were also affected, while Pale No. 1 was clean. Anthracnose was found in a garden at the Experimental Station, Summerland, on plants of Stringless Green Pod grown from seed received from Ottawa. This is the first record of its occurrence in the Okanagan valley. (G.E. Woolliams).

Anthracnose affected 18% of the plants in an acre field of White Pea beans in Portneuf county, Que. and caused a loss of about 10% of the crop. It occurs generally throughout N.B., causing slight to severe damage. The disease was found in a few fields in the vicinity of Kentville, N.S.; the damage was slight to severe.

BACTERIAL BLIGHT (Phytomonas Phaseoli) affected all of the plants of Red Kidney bean in a garden in zone 9, Alta. The disease was heavy on Davis White Wax, Wardells White Wax and Interloper Challenge Black Wax at Lacombe, Alta.; other varieties were moderately to lightly infected except Dwarf Golden Podded Wax, which showed only a trace. It slightly affected the crop at the Station, Swift Current, Sask.

Bacterial blight caused a loss of 25% of the crop in a field near Strathroy, Ont. according to H.F. Hudson, Entomological Branch. Diseased specimens were brought to the Laboratory from Billings' Bridge, near Ottawa. Blight infection was slight in a garden at Farnham, and slight to moderate at Ste Anne de la Pocatiere, Que. It caused severe damage in some commercial plantings in Westmoreland county,

N.B. Slight amounts were also present in York, Sunbury, and Queens counties. It caused moderate damage to beans at Charlottetown, P.E.I.

RUST (Uromyces appendiculatus) caused a trace to 10% infection on pole beans in York county, N.B.

SCLEROTIAL ROT (Sclerotinia sclerotiorum) affected at least 5% of the plants in a quarter-acre field of White Pea beans in Champlain county, Que. Some plants were dead and entirely covered with sclerotia (B.Baribeau). A few plants were injured at Kentville, N.S.

DRY ROOT ROT (?Fusarium Solani var. Martii f.3.) destroyed about 5% of the plants in a garden at Kentville, N.S.

BEET

SCAB (Actinomyces scabies) caused a 20% infection on beets in a field in Champlain county, Que. The beets were grown on sandy soil to which lime had been applied in 1929 at the rate of 1,500 lb. per acre, and on which a potato crop affected by scab was produced in 1935 (B. Baribeau). About 30% and 80% of the beets respectively, were severely infected in 2 gardens at Ste. Anne de la Pocatiere, Que. Scab infected 7.5% of the beets in a local garden at Charlottetown, P.E.I. and traces were reported in several localities in Queens and Kings counties.

CERCOSPORA LEAF SPOT (Cercospora beticola) was of general occurrence about Sidney, B.C. and in the Fraser valley. It was commonly found in gardens in Lincoln county, Ont., but the damage was negligible. A trace was found at Farnham, Que.; a trace to moderate infections occurred on beets being grown on muck soils at Ste. Clothilde de Chateauguay; it was most prevalent in a plot, where no potash was added. A trace to slight infections were noted in gardens in York county, N.B.

RUST (Uromyces Betae) heavily infected the leaves at Sidney, B.C., but it appeared too late to affect the yield materially.

DAMPING OFF (Fusarium and Rhizoctonia spp.) was prevalent throughout N.B. on beet seedlings and occasionally caused severe losses. (J.L. Howatt)

ROOT CANKER (cause unknown). A hard dry rot of roots often accompanied by cracking or cankers, which are generally found slightly below soil level, was reduced from

18% to 5% by the application of borax at 18 lb. per acre, in an experimental plot at Sidney, B.C. (W. Jones)

CABBAGE

SOFT ROT (Erwinia carotovora) destroyed 1% of the heads at Agassiz, B.C.

CLUB ROOT (Plasmodiophora Brassicae) injured a few plants at the Experimental Station, Kentville, N.S. It infected a few Copenhagen Market in a garden in Queens county, P.E.I.; it was reported to occur in many gardens throughout the province.

SCLEROTIAL ROT (Sclerotinia sclerotiorum). Out of 60 cabbages at harvest time, 6 were affected and 2 were unfit for use in a garden at Ste. Anne de la Pocatiere, Que. The soil was heavy and damp. (B. Baribeau)

OEDEMA (Non-parasitic) slightly affected seedling cabbage plants being grown in a greenhouse at Cap Rouge, Que.

WIRE STEM (Rhizoctonia Solani). Some thousands of seedlings or about 60% of the sowing were lost because fresh manure was incorporated in the propagating flats by a grower in York county, N.B.

AMMONIA BURN. A small area in one frame of cabbage seedlings were injured by the ammonia gas arising from manure in the frame in Lincoln county, Ont. The plants recovered upon the development of new leaves.

CARROT

YELLOWS (virus) is becoming increasingly common on carrot in York and Sunbury counties, N.B.; a trace to 50% of the plants were affected this year.

LEAF BLIGHT (Macrosporium Carotae) moderately to heavily infected carrots at Agassiz and Mission, B.C. The damage was a trace to slight. (W. Jones)

SCLEROTIAL ROT (Sclerotinia sclerotiorum). Several growers lost from 5 to 50% of their carrots in storage during the winter of 1935-36 at Kentville, N.S.

CAULIFLOWER

SOFT ROT (Erwinia carotovora) destroyed 1% of the plants at Agassiz, B.C.

BLACK ROT (Phytomonas campestris) caused a 3% loss in a market garden of about an acre in Sunbury county, N.B.

CLUB ROOT (Plasmodiophora Brassicae) affected 2 plants of Early Snowball in a garden in Queens county, P.E.I.

CELERY

LATE BLIGHT (Septoria Apii) was general in Saanich county and about Victoria, B.C.; the damage was slight. Late blight (Septoria Apii-graveolentis) did not appear until late in the summer in Lincoln county, Ont., and caused much less damage than it usually does. (J.K. Richardson)

It slightly to moderately affected celery in Queens county, P.E.I.

EARLY BLIGHT (Cercospora Apii) slightly infected celery at Morden, Man.

DAMPING OFF (Rhizoctonia Solani) affected 50% of the transplanted seedlings in a planting of Paris Golden in Lincoln county, Ont. Plants appeared to be recovering by forming new roots. The weather was cool and moist during most of April, which may have favoured disease development. (G.C. Chamberlain)

BLACK HEART (Non-parasitic). Although the disease was observed in some of the earlier plantings in Lincoln county, it was not of economic importance in 1936 in Ont. (J. K. Richardson).

CUCUMBER

BACTERIAL WILT (Erwinia tracheiphila) moderately affected cucumbers in 2 small garden patches, one at Farnham and another at L'Assomption, Que.

WILT (Fusarium sp.). After a lapse of several years there was a recurrence of this destructive disease in 1936 in Queens county, P.E.I. Entire plantings were destroyed at the Experimental Farm, Charlottetown, and neighbouring gardens shortly after the first crop was removed. A Root Rot (Fusarium sp.) caused slight damage in a field in zone 10, Alta.

SCAB (Cladosporium cucumerinum) was general in York and Sunbury counties, N.B.; it affected 5 to 50% of the fruit. It injured about 15% of the fruit in a garden in Queens county, P.E.I.

SCLEROTIAL ROT (Sclerotinia sclerotiorum) affected 3 to 5% of plants, which eventually were killed, in a greenhouse at Summerland, B.C.

FRUIT ROT (Botrytis sp.). A few fruits were rotted by the fungus in greenhouse plants in the Summerland district, B.C.

BUD and FRUIT ROT (Fusarium sp.). A few buds and young fruits were destroyed and the Fusarium was found fruiting upon them at Falmouth, N.S.

ANGULAR LEAF SPOT (Phytomonas lachrymans) caused moderate spotting of the leaves and fruits in a seven acre field of cucumbers in zone 10, Alta.

LEAF SPOT (Alternaria sp.) moderately infected cucumbers in a planting at Charlottetown, P.E.I. A leaf spot that may be identical with this one has previously been reported from Man. and Ont. on cucumber.

EGG PLANT

WILT (Verticillium Dahliae) affected 25 to 100% of plants in plantings of Black Beauty and New York Purple in Lincoln county, Ont.; it causes stunting and death of the plants.

HOPS

DOWNY MILDEW (Pseudoperonospora Humuli). The Clusters variety was seriously affected in hop yards in B.C., where no copper lime dust was applied. Rainy weather in the spring aided the early spread of the disease, but dry weather checked it during the summer, not however before considerable damage had been done. (W. Jones). Downy mildew was found in a few hop yards at Fournier, Ont., where hop growing was recently undertaken. Of the 150 acres in hops, 25 were set out in 1936. (G.H. Berkeley)

POWDERY MILDEW (Species undetermined) was found on a few leaves in one plantation at Fournier, Ont.

MOSAIC (virus). A few infected plants were seen in the hop yards at Fournier, Ont.

CHLOROSIS (virus). About 1 to 2% of the Golding variety were showing symptoms of chlorosis at Sardis and Agassiz, B.C. The damage was very slight.

LETTUCE

DROP (Sclerotinia sclerotiorum). About 1% of the plants were destroyed in 1½ acres of Imperial D. lettuce at Surrey, B.C.; the disease occurred in patches, where probably 50% of the plants had dropped. A light infection was present in all varieties grown at Lacombe, Alta. It slightly infected lettuce at Ste. Anne de la Pocatiere, Que.

DOWNY MILDEW (Bremia Lactucae) was severe in a 1½ acre field of Imperial D. at Surrey, B.C. and caused the loss of 50% of the crop. The mildew only destroys the outer leaves, but it makes the heads soft, small, and commercially unmarketable (J.W. Eastham). It also caused considerable damage to plants grown for seed at Shawnigan as the seed from the affected crop was light and difficult to thresh (W. Jones). Downy mildew was heavy on unharvested plants at Abord à Plouffe, Que. Diseased seedling Iceberg plants were received from Dartmouth, N.S. with the statement that the disease had been serious for the past 2 to 3 years.

TIP BURN (Non-parasitic) affected 50% of the plants at the Summerland Station, B.C.; it was moderate on lettuce at Ste. Anne de la Pocatiere, Que.

SLIME (Bacterial rot, following tip burn). In two plots of an acre each Imperial D. and #12 were sown on the same date at Surrey, B.C. After a period of hot weather and rain in early August, the loss was 95% in Imperial D. and 5% in #12. (J.W. Eastham)

YELLOWS (virus) was common in gardens at Fredericton, N.B.

MELON

BACTERIAL WILT (Erwinia tracheiphila). A trace was found in a garden at Farnham, and in another at Lennoxville, Que.

LEAF SPOT (Macrosporium cucumerinum) was found on material received from Chateauguay, Que.

SCAB (Cladosporium cucumerinum) caused 5% damage at Maugerville, N.B.

SCLEROTIAL ROT (Sclerotinia sclerotiorum) affected 5% of the fruit in a patch containing about 300 melons at Maugerville, N.B.

ONION

DOWNY MILDEW (Peronospora Schleideniana) was severe on onions grown for seed at Elk Lake, B.C.; it caused 50% damage. The disease was general on Vancouver Island and on the lower mainland, and was more abundant than in 1935. However, the damage was slight, except where the onions were grown for seed. Diseased specimens were received from Oakville, Ont., at the Ottawa laboratory. It was heavy on a crop at Abbotsford, Que., but it caused no significant damage as it was checked by dry weather.

GREY MOULD (Botrytis sp.) was severe on the leaves sent from Cumberland, Ont.; to the Ottawa laboratory. The fungus apparently entered at places injured by thrips. (F.S. Thatcher)

NECK ROT (Botrytis Allii) affected 8% of Improved Ailsa Craig in Queens county, P.E.I.

YELLOWS (virus). A condition resembling yellows was found in several varieties of onions at the Experimental Station, Fredericton, N.B. Affected plants were chlorotic and unproductive.

PARNSIP

YELLOWS (virus) affected 50% of the plants in a garden at Fredericton, N.B.; the damage was slight.

PEA

POWDERY MILDEW (Erysiphe Polygoni) was reported to have been destructive for the past three years by a grower in zone 6, Alta. Infection was abundant on field peas at Farnham, and on Prince of Wales variety at Lennoxville, Que. It was general throughout N.B., but did little damage.

LEAF and POD SPOT (Ascochyta Pisi) was prevalent on Telephone and Lincoln peas at Salmon Arm, B.C. It slightly, but widely infected peas in a plot in zone 10, Alta. It was common at Indian Head, Sask., but was only slightly injurious. It was present on material from Oakville, Ont. A trace to slight infections occurred at Ste. Clothilde de Chateauguay, and at Ste. Anne de la Pocatiere, Que. The disease was severe in a few gardens at Kentville, N.S., but the damage elsewhere was slight. It slightly infected peas at Charlottetown, P.E.I.

LEAF BLOTCH(Septoria Pisi) was reported as follows: slight infection in one field in zone 10, Alta.; moderate infection in a garden at Kelliher, Sask., and at the Station,

Swift Current; heavy at the Station, Kapuskasing, Ont.(4031) in 1935; light in a garden in Quebec county, Que.; very heavy in a garden in Queens county, P.E.I.

CLADOSPORIUM SPOT (C. pisicola Snyder). Diseased material collected at Salmon Arm and sent to Dr. Snyder, University of California, Berkeley, California, was found by him to be affected with two types of spotting. One was an Ascochyta spot and the other caused by Cladosporium pisicola, which was described by him (see Phytopath. 24:890-905. 1934). In his opinion this is the first record for Canada. (R. E. Fitzpatrick).

RUST (Uromyces Fabae) was moderate on field peas and heavy on garden peas at Farnham, Que.; it was common but not heavy on wines and pods at Ste. Clothilde de Chateauguay and a trace was also found at Lennoxville. It was general on peas in York and Sunbury counties, N.B.; a slight infection was reported from Charlottetown, P.E.I.

ROOT ROT (Fusarium spp.) affected 25 to 50% of the plants depending on the variety at Cap Rouge, Que. Root Rot (Fusarium, Rhizoctonia and other fungi) is apparently present in most gardens and commercial plantings in N. B. Generally, only one picking of peas is possible on account of the death of the roots. (J. L. Howatt)

OEDEMA (Non-parasitic) was quite severe on some plants of field peas of imported varieties in the Cereal greenhouse, Ottawa, Ont., on March 18.

DOWNY MILDEW (Peronospora Pisi) is present on peas every year at the Station, Windermere, B.C.

PEPPER

MOTTLE LEAF (virus) affected 3 plants out of 12 at the Experimental Station, Summerland, B.C. (H.R. McLarty)

BLOSSOM-END ROT (Cause unknown). Fifteen to 20% of the ripening fruit were rotted at the blossom end at Indian Head, Sask. Alternaria sp. was found constantly fruiting on various sized spots or near the margins of rotted areas. Frequently, half the fruit was necrotic.

LEAF SPOT (Alternaria sp.) caused severe defoliation in a planting in Lincoln county, Ont.

POTATO

Mr. John Tucker, Chief Potato Inspector, has again provided tabulations on the extent of the seed potato industry, the reasons why fields failed to pass inspection and the average percentage of the three major diseases, black leg, leaf roll, and mosaic, as they occur by provinces. It must be noted that all fields entered for certification are planted with certified seed.

Table 2 - Seed Potato Certification: Number of Fields and Acres Inspected, 1936.

Province	Number of Fields		Fields Passed %	Number of Acres		Acres Passed %
	Entered	Passed		Entered	Passed	
P.E.I.	3,203	2,664	83.2	11,518	9,843	85.5
N.S.	536	460	85.8	875	778	88.9
N.B.	794	671	84.5	3,380	3,015	89.2
Que.	1,592	898	56.4	1,481	738	49.8
Ont.	756	618	81.7	1,584	1,276	80.6
Man.	105	96	91.4	327	316	96.6
Sask.	131	121	92.4	344	335	97.4
Alta.	201	182	90.5	220	203	92.3
B.C.	268	178	66.4	354	235	63.6
TOTAL	7,586	5,888	77.6	20,083	16,739	83.3

Table 3 - Seed Potato Certification: Acreages by Varieties, 1936

	Irish Cobbler	Green Mountain	Bliss Triumph	Dooley	Katahdin	Early Ohio	Netted Gem	Other Varieties
Acreage Inspected:								
P.E.I.	7,743	3,585	176					14
N.S.	369	39	307		126			34
N.B.	342	1,852	1,112	7	26			41
Que.	185	1,261		5				30
Ont.	375	147		912	113	5		32
Man.	128	1	1			60	1	136
Sask.	70		2			180	55	37
Alta.	17		12		3	17	108	63
B.C.	11	37				5	208	93
Total Acreage:								
Passed	8,260	4,929	1,570	772	247	252	312	397
Rejected	980	1,993	40	152	21	15	60	83
Inspected	9,240	6,922	1,610	924	268	267	372	480

Table 4 - Seed Potato Certification: Fields Rejected, 1936.

Province	Mosaic	Leaf Roll	Black Leg	Foreign Varieties	Adjacent to Diseased Fields	Misc.	Total
P.E.I.	224	3	35	73	88	116	539
N.S.	29	3	5	7	20	12	76
N.B.	72	0	15	21	7	8	123
Que.	351	27	24	17	73	202	694
Ont.	8	7	17	28	9	69	138
Man.	0	0	0	4	0	5	9
Sask.	0	0	1	0	0	9	10
Alta.	0	4	12	0	3	0	19
B.C.	20	28	6	4	14	18	90
	704	72	115	154	214	439	1,698
Rejections as a percentage of fields:							
Entered	9.3	1.0	1.5	2.0	2.8	5.8	22.4%
Rejected	41.5	4.2	6.8	9.1	12.6	25.8	100.0%

Table 5 - Seed Potato Certification: Average Percentage of Disease Found in the Fields in 1936.

Average percentage of disease found in -	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Fields entered (first inspection)	%	%	%	%	%	%	%	%	%
Black Leg	.15	.06	.20	.10	.13	.08	.03	.35	.14
Leaf Roll	.02	.17	.06	.35	.08	.06	.03	.58	.16
Mosaic	.69	.65	.70	1.35	.08	.02	.01	-	.74
Fields passed (final inspection)									
Black Leg	.06	.01	.07	.05	.06	.09	.02	.02	.06
Leaf Roll	.02	.09	.02	.18	.05	.05	.01	.02	.06
Mosaic	.10	.09	.19	.44	.05	.01	-	-	.15

There was practically no change in the total production of Certified Seed Potatoes in 1936. The number of fields entered for inspection rose from 7,549 fields in 1935 to 7,586 in 1936, while the acreage declined from 20,374 acres in 1935 to 20,083 in 1936. As the percentage that passed inspection was greater than in the previous year, the number of acres passing inspection was practically the same: 16,751 acres in 1935 and 16,739 in 1936. On the other hand, of the fields inspected, 1,698 or 22.4% failed to pass inspection on account of diseases or other causes, a figure slightly higher than that of 1935. The presence of mosaic in excess of the amount permitted continues to be the major cause of rejection, being 41.5% of the fields rejected.

LATE BLIGHT (Phytophthora infestans) was more prevalent than usual in B.C. It appeared very early in the season, some being found on July 7 in the Fraser River valley. It was general before the end of the growing season and affected about 80% of the plants on the lower mainland including Lulu Island, Langley, Chilliwack, and Agassiz. The loss from reduced yield and from tuber rot was estimated to be 20% in the affected localities. It was found in the Pemberton district on Aug. 4, where it was previously unknown. Late blight was also general in the Courtenay, Nanaimo and Ladysmith districts on Vancouver Island.

As the potato growers in B.C. have never considered late blight of sufficient importance to warrant the outlay in time and materials to spray against it, they were unprepared for a serious outbreak. However, a few growers on Lulu Island did spray their crops and it is anticipated that more will do so in the future. Spraying experiments conducted in 1935 and 1936 have shown that it is profitable to spray in certain localities against late blight. Loss of yield is especially noticeable in late planted crops. (H.S. MacLeod)

Late blight was present in fields throughout Que., and it attacked all varieties, but more particularly those with white tubers. The disease was most severe in the Three Rivers district. The average damage to the tubers was about 5%. (B. Baribeau).

Late blight appeared in the latter part of July in N.B. It was already prevalent in the early part of August, but it was checked by weather unfavourable for its development during late August and early September. However, later in September conditions again favoured its spread. As a result, it was severe in the southern and central potato-growing areas. Spraying, which was especially well done by

the seed growers, checked the disease. In unsprayed fields it was reported that as high as 75% of the tubers showed rot. No blight was reported in the North Shore area. A combination of late blight infection, frost injury, and bacterial decay was quite common and might have easily been mistaken for the bacterial wilt and rot present in Quebec (J.L. Howatt).

Late blight was severe in N.S., especially where the soil was heavy or the subsoil was of an impervious nature. One field was seen where digging had been abandoned on account of rot. Fields showing 10% of rot were not uncommon in Colchester, Cumberland, Pictou and Halifax counties and it was present in other counties including Antigonish and Inverness. Efficient spraying, however, gave good control. In Colchester county, well-sprayed crops even when adjacent to diseased crops gave healthy tubers. (W.K. McCulloch)

Late blight was more or less severe in all parts of P.E.I., being the worst year in the past six. Tuber infection ranged from 1 to 50%, the average loss being about 5% (S.G. Peppin). Blight was first observed on July 28 and by Aug. 15 the disease had reached epidemic proportions. Weather continued favourable for blight development and by the middle of September, many unsprayed potato fields were completely destroyed. (R.R. Hurst)

RHIZOCTONIA (Corticium Solani). Although Rhizoctonia was quite general in B.C. this year, it was not as severe as usual. Although planting was at least 10 days late, good growth was made by the crop in the early season. More attention is being paid to crop rotation and seed treatment. (H. S. MacLeod)

Rhizoctonia injured only a small percentage of plants in Alta. Sclerotial development on the tubers was not extensive, as the plants in most fields continued active growth until digging time (J. W. Marritt). Traces of Rhizoctonia were reported from Winnipeg and Morden, Man.

Rhizoctonia was fairly general in all potato districts of N.B.; infection varied from a trace to 100% of the tubers (J.L. Howatt). Only small amounts of Rhizoctonia were observed in the field in N.S., but tuber infection ranged from 5 to 100%. Bliss Triumph, dug early, was practically clean, but late-dug Irish Cobbler, Green Mountain, and Katahdin were severely infected. Many lots of tubers in Kings and Colchester counties could not be graded for seed on that account (W.K. McCulloch). Rhizoctonia was more than usually prevalent on the tubers in P.E.I. on account of late harvesting. (S.G. Peppin).

COMMON SCAB (Actinomyces scabies). The greater part of the potato stocks that passed field inspection in Alta. and northern Sask. cannot be certified on account of scab, except those of the Netted Gem variety. Some growers who have had little trouble in the past will find it difficult to grade their stock to meet certified seed standards (J. W. Marritt).

On land at St. François, Montmagny county, Que., finely ground limestone was applied in 1929, at the rate of one ton per acre. Since then, potatoes grown thereon have been scabby. This year mercuric chloride, borax or both combined were applied to the soil in plot trials, but no control was obtained. (B. Baribeau)

Scab was widespread in N.B., tuber infection ranging from a trace to 100%. The average percentage of tubers affected was less than in 1935 (J.L. Howatt). Common scab infection ranged from 1 to 20% in N.S., and was observed in all counties where crops were inspected. Many clean crops were observed, chiefly where the soil was in a good state of cultivation (W.K. McCulloch). Scab was found on all varieties in P.E.I. The loss in grading probably did not exceed 5%. (S.G. Peppin)

BLACK LEG (Erwinia phytophthora) was found in 54 out of 268 fields examined in B.C. and resulted in the rejection of 6 (H.S. MacLeod). It was less prevalent in Alta. and northwestern Sask. than in 1935; few fields were infected, and the percentage of diseased plants was small. It caused some damage in isolated points in the B.C. Peace River area. (J.W. Marritt)

As a tuber rot the disease was more prevalent than usual in N.B. in this year's crop, but the average damage was slight (J.L. Howatt). Black leg was found in Kings, Colchester, Pictou, Cumberland, Antigonish, Halifax, and Inverness counties, N.S. It was present in 8% of the fields under observation. Infection was usually slight, except in 5 fields, where infection ranged from 3 to 5%. Practically all fields where the seed was treated were free from the disease (W. K. McCulloch). Thirty-five fields were rejected on account of black leg out of 3,203 inspected in P.E.I. It was more prevalent than usual at the time of the first inspection (July 26 to Aug. 15); infection ranged from a trace to 7%. (S. G. Peppin)

EARLY BLIGHT (Alternaria Solani) moderately infected the crop throughout B.C.; it caused some reduction in yields on Vancouver Island where it appeared early in the season (H. S. MacLeod). It was moderate on potatoes at the Station,

Farnham, Que. Early blight was widespread in N.S., but owing to the cool season it did not cut down the plants early; 3% of Alternaria rot was found in one lot of Irish Cobbler in Colchester county (W.K. McCulloch). Early blight was less prevalent in P.E.I. than in 1935 and it did not become general until Sept. 1. A severe outbreak was observed on a crop of Warbas at the Charlottetown Laboratory. Incidently, it might be mentioned that flea beetles were also less prevalent than usual. (S.G. Peppin & E.H. Saunders)

SILVER SCURF (Spondylocladium atrovirens). Very few tubers of Irish Cobbler in N.S. can be said to be free of silver scurf, but 3% of the tubers were noticeably affected in a lot in Kings county this fall. A severe infection was present on Katahdin in the early spring (W.K. McCulloch). Very little silver scurf has been found up to Dec. 1 on Irish Cobbler in P.E.I. (S.G. Peppin)

POWDERY SCAB (Spongospora subteranea) was reported from all counties of N.B. The disease is most common and destructive in the North Shore area; infection ranges from a trace to 75% (J.L. Howatt). Powdery scab was rather common this year in N.S. Usually the infection is a trace to 0.5% of the tubers, but in one lot of Bliss Triumphs, 4% of the tubers were affected. The latter variety appears to be more susceptible than Irish Cobbler (W.K. McCulloch). The disease was found in only a few bins of Bliss Triumph in Kings county, P.E.I. (S.G. Peppin)

BACTERIAL WILT and ROT (Cause undetermined) was found in 29 counties in Que. in 1936. Infection ranged from 1 to 66% and the yield was reduced from 1 to 40% with an average reduction of 15% in the infected fields. Bacterial wilt was first observed in 1931 on the Green Mountain variety and two years later on Dooley. In 1934 it was found on Carmen No.3, Early Rose, Carmen No. 1, Irish Cobbler, Spaulding Rose, Rural Blush and Dakota Red, and finally in 1936 on Katahdin, Chippewa and Warba. The Green Mountain, Dooley, Chippewa, Carmen No. 3, and Spaulding Rose varieties seem to be more susceptible to the disease than the others.

In table 6 information on the distribution of bacterial wilt of potato in Quebec has been summarized from the field inspection reports from 1931 to 1936 inclusive. The disease was most severe in 1934, but it was almost as prevalent in 1936.

Table 6 - Six year summary of field inspection reports on the distribution of bacterial wilt of potato in the Province of Quebec.-

	Year					
	1931	1932	1933	1934	1935	1936
Counties:						
Visited	49	44	49	51	52	44
Wilt present	18	8	22	34	20	29
Parishes:						
Visited	298	207	228	254	209	195
Wilt present	50	21	70	159	46	94
Fields:						
Visited	2,069	1,394	1,616	1,989	1,719	1,592
Rejected for wilt (1)	37	9	34	168	58	160
Accepted but wilt present (2)	152	52	254	359	77	184

(1) These fields were rejected because they contained more than 1% of wilt upon field inspection.

(2) These fields contained 1% or less of wilt and the crop from them was eligible for certification except in 1936, when it was decided to issue no certification tags to growers whose fields were showing even a trace of this wilt upon inspection, in order to eliminate the disease if possible.

From 1931 to 1936, 62 counties of Quebec, comprising 476 parishes, have been visited. The bacterial wilt disease has been found in 45 counties and in 224 parishes during the 6 years. Of the 224 parishes in which wilt has been found, 1% or less of bacterial wilt was found in 142 parishes, 10% or more in 72, and 25% or more in 10. During the 6 years an average of over 1,700 fields representing 2,000 acres have been visited annually. (Summarized from a report by B. Baribeau)

WILT (Fusarium spp.) was found in 26 out of 268 fields grown from certified seed in B.C. and 2 were rejected. Very little wilt was found in Alta. and North-western Sask., but in one field at Saskatoon practically 100% of the plants were affected. Out of 3,203 fields 12 were rejected for wilt in Queens and Prince counties, P.E.I.; the highest infection was 25%.

MOSAIC (virus) occurred in 155 fields out of 240 inspected and 20 were rejected for mosaic in B.C. Mosaic has a similar distribution to leaf roll in Alta., but it is not as prevalent. The disease was severe in N.S., especially on Green Mountain. Over 43% of the fields inspected were infected, the worst infections ranging from 3 to 22% were chiefly in Kings and Inverness counties. In one field of Green Mountain of commercial stock in Colchester county, 30% of plants were affected (W.K. McCulloch). Out of 3,203 fields 224 were rejected on account of mosaic in P.E.I. Some success has been obtained in controlling the disease by tuber-unit seed plots. (S. G. Peppin)

LEAF ROLL (virus). There was a marked increase in leaf roll in B.C. over 1935; it was found in 134 fields out of 268 inspected and 25 were rejected on account of leaf roll (H.S. MacLeod). As in 1935, potatoes grown on vacant lots and gardens in the city limits and in fields about Edmonton, Calgary, and Medicine Hat, Alta., contained leaf roll, and in many nearly 100% of the plants were affected. In other parts of Alta. and in north-western Sask. the disease was negligible. (J.W. Marritt)

Over 30% of the fields under observation in N. S. contained leaf roll, varying from a trace to 3%. In about 3 or 4 fields infection ranged from 2 to 3%. In one commercial field 15% of the plants were affected (W.K. McCulloch). Out of 3,203 fields in P.E.I., 3 were rejected on account of leaf roll. More fields than usual showed traces, probably on account of the symptoms being obscured in the hot dry season of 1935. (S. G. Peppin)

PSYLLID YELLOWS was severe at Medicine Hat, Alta. and at Calgary; a slight infection was present at the Station, Lethbridge, and on 2 city plots at Edmonton, where psyllid nymphs and adults were also observed. This is the first time it has appeared in Edmonton or has been epidemic at Calgary. (J. W. Marritt)

STEM ROT (Sclerotinia sclerotiorum) infection increased from 1 to 20% in the month ending September 24 in a field at Ste. Anne des Monts, Gaspé county, Que.; it caused some reduction in yield. In another field in the district 1% of the plants were affected (B. Baribeau). Affected plants were found in York and Carleton counties, N.B.

BLACK DOT (Colletotrichum atramentarium). Affected plants were received from a grower in zone 10, Alta., in 1933 who stated that the tops of the plants had died early. The isolated fungus was identified by Dr. G.R. Bisby. In laboratory tests in 1934, 1935, and 1936 the fungus had killed 100% of the stalks inoculated (G.B. Sanford). The disease was prevalent in York and Sunbury counties, on mature or dead potato stems. (J.L. Howatt)

FLEA BEETLE INJURY was of minor importance this season in the potato growing areas of N.B. However, in a 2-acre field of Irish Cobbler in York county; almost all the tubers were injured. (J.L. Howatt)

Botryosporium longibrachiatum (Oud.) Maire was collected on dying and dead potato tops in the greenhouses at the Experimental Station, Fredericton, N.B. (J.L. Howatt and I.L. Conners)

TIP BURN (probably caused by leaf hoppers) was severe in a small garden at Farnham, Que.

FROST INJURY. Heavy frosts on Oct. 1, 4, 14, and 15 caused much injury in many localities of N.B. Nearly all the late potatoes were affected, the injury ranging from a trace to 10%. (J.L. Howatt)

MAGNESIUM DEFICIENCY caused slight injury to a field of Irish Cobbler in Kings county, P.E.I.

ARMILLARIA ROT (A. mellea) moderately affected the tubers of Green Mountain from a 1½ acre field on newly cleared land at Milner, B.C. (W. Jones)

Physarum cinereum was found fruiting on the tubers in a field in zone 10, Alta.; it caused no damage. (G.B. Sanford)

LIGHTNING affected a large area in the centre of a field in Queens county, P.E.I. The tops were destroyed and after a week the tubers were rotting. (R.R. Hurst)

FERTILIZER INJURY. Tubers which had come in contact with potash sacks were received on two occasions at the

laboratory, Charlottetown, P.E.I. In one field in Queens county, 4.5% of the plants were injured where the tubers had come into contact with the fertilizer. Borax also caused slight to extreme injury to potato sets in one field. It was mixed by hand with the fertilizer, and applied broadcast by machine at the rate of 60 lb. per acre. The potato sets were then planted at once. Recovery from injury was remarkable; even some of the severely injured plants reached maturity to give fair yields. (H.L. MacLaren & R.R. Hurst)

WITCHES' BROOM (virus) was recorded in 47 out of 240 fields inspected and caused the rejection of 3 in B.C. Small amounts were seen in several fields in Alta. and northern Sask.

GIANT HILL (virus) was found in 126 fields out of 240 inspected in B.C. and caused the rejection of 3.

SPINDLE TUBER (virus) caused the rejection of one field in P.E.I.; it was present in very few fields, and usually only as a trace. (S.G. Peppin)

RHUBARB

CROWN ROT (Cause unknown). Ruby was the most severely affected by crown rot while Macdonald was the least diseased at the Experimental Station, Lacombe, Alta. Scattered dead or dying plants occurred in the other varieties.

LEAF SPOT (*Ascochyta Rhei*) occurred on the lower leaves of a few plants at Swift Current, Sask.; infection was moderate at Brandon, Man. Leaf spot (*Phyllosticta straminella*) moderately infected a small garden at Carrol's Crossing, N.B.

LEAF SPOT (*Ramularia Rhei* Allescher) was observed at High Prairie, Peace River district, Alta. by Dr. K. W. Neatby (4330) (A.W. Henry). This appears to be the first record of this leaf spot in Canada and the United States.

GREY MOULD ROT (*Botrytis* sp.). A specimen showing rot of leaves and petioles was received from Lond Island, N.S. at the Kentville Laboratory.

MOSAIC (virus). A few plants showing mosaic-like spotting were found at the Experimental Station, Fredericton, N.B.

ANTHRACNOSE (Colletotrichum erumpens) moderately infected some of the leaves at Brandon, Man.

FROST, on May 16, caused slight to severe damage to young leaves of rhubarb in York county, N.B.

SALSIFY

WHITE RUST (Cystopus cubicus) was common but caused slight damage at the Station, Summerland, B.C. It was severe and general in a field near Montreal, Que.

SPINACH

DOWNY MILDEW (Peronospora Spinaciae) was found on a few plants in a garden at Kentville, N.S.

WILT (?Fusarium sp.) was severe in a quarter acre field of Long Standing Bloomsdale, being grown for seed at Grand Forks, B.C.; 75% of the plants were affected on July 29 and probably all will succumb before the end of the season. Affected plants wilt and then die. (G.E. Woolliams)

DAMPING OFF (Pythium sp.) caused considerable damage to spinach in the seedling stage when they were about 2 to 3 ins. high at Comox, B.C.

SQUASH

BACTERIAL WILT (Erwinia tracheiphila) had destroyed 10% of the plants in a planting in Lincoln county, Ont. by July 16, where the vines had been badly attacked by beetles early in the season. In another, 5% were diseased on July 23. It is a common disease. (G.C. Chamberlain)

MOSAIC (virus). Fifty per cent of plants were affected in a field in Lincoln county, Ont.

LEAF SPOT (Alternaria sp.) was reported on squash from one field in zone 10, Alta.

SWEET CORN

SMUT (Ustilago Zeae) affected 8% of the plants in a garden at Ste. Anne de la Pocatiere, Que.; a diseased specimen was received from Longueuil.

RUST (Puccinia Sorghi) was heavy in one corner of a large field at Farnham, Que., while traces only were present in the rest of the field and in one near by. Traces to heavy infections were reported at Charlottetown, P.E.I.

SWISS CHARD

CERCOSPORA LEAF SPOT (C. beticola) slightly infected swiss chard in a garden at Westboro, Ont. in 1934.

TOBACCO

In the preparation of the account below, the report of the Tobacco Disease Survey made by Dr. L.W. Koch has been freely drawn upon. My thanks are also due to Mr. Geo. E. Turcotte, Tobacco Inspector, for his report on tobacco diseases in Quebec.

(1) Seed Bed

An extensive survey of seed beds was carried out in the spring of 1936 in Ontario, particularly in the old tobacco belt in the counties of Essex and Kent; 59 seed beds were inspected in Essex and 72 in Kent. The diseases observed with the percentage of beds, in which each disease occurred, in Essex and Kent counties respectively, were as follows: Black Root Rot (Thielaviopsis basicola) 27%, 24%; Brown Root Rot (cause unknown) 27%, 9%; Black Leg (Erwinia aroideae) 70%, 72%; Frenching (cause unknown) 8%, 3%; Damping Off (Pythium spp., Rhizoctonia spp., etc.) 11%, 13%; Chlorosis (cause unknown) 25%, 21%; Fleshy fungi (Coprinus spp. etc.) 3%, 10%; Root Knot (Heterodera marioni) 3%, 0.

Black Leg, Frenching, and Root Knot are seedling diseases not previously reported in Canada and Brown Root appears to be an undescribed tobacco seedling trouble. It was present more commonly in steamed plant beds than those not steamed. The principal symptoms are a stunting of the plant accompanied by a general chlorosis of the foliage. The root system is also stunted and is discoloured in varying degrees. In the most severe cases only, very short brown

rootlets remained intact in the soil, while in mildly affected plants the root systems, though discoloured, appeared to be normal in size and were not decayed. The disease was more prevalent in Essex county, where 90% of the beds were steamed, than in Kent, where very few beds were steamed, but where fresh muck was generally used in the beds.

Black Leg was extraordinarily prevalent during the latter part of the period the plants were in the beds, probably because of the high humidity and lack of sunshine; and it either partially or completely destroyed the plants in numerous seed beds in both Essex and Kent counties.

In Quebec, Black Root Rot caused some damage in at least 50% of the plant beds. However, an improvement was noticed over 1934. Very few farmers use formaldehyde to disinfect their plant beds, but an increasing number change the soil in the beds every year or two. Damping Off was noticed in a few beds.

(2) Field

(a) Ontario

A field survey was conducted in the tobacco districts of Essex and Kent counties and to a limited extent in those of Norfolk and Elgin. Although records were kept of all tobacco diseases encountered, the survey was primarily to obtain a clear picture of the root rot situation. Dr. Koch has summarized his observations and his conclusions are here presented with some modification.

Table 7 - Kind and distribution of the root rots of tobacco in Ontario in 1936.

Kind of root rot	Number of fields in which root root was observed				
	Essex	Kent	Elgin	Norfolk	Total
Brown Root Rot	49	10	4	3	66
Black & Brown Root Rots	3	6	1	1	11
Black Root Rot	9	21	6	1	37
TOTAL	61	37	11	5	114

BROWN and BLACK ROOT ROTS caused considerable loss in the field in Essex and Kent counties in 1936. While these diseases were also present in Norfolk and Elgin counties, the observations were not sufficiently extensive to assess the damage they caused.

Brown Root Rot (cause unknown) occurred consistently more often on the lighter soils than on the heavier ones, while the reverse was true for Black Root Rot (Thielaviopsis basicola). This is probably the reason why Brown Root Rot was more prevalent in Essex than in Kent county, while Black Root Rot appeared to be more severe in Kent than in Essex county, for, in general, the soils of Essex county are lighter than those of Kent.

Brown Root Rot was much more prevalent in fields where the preceding crop was corn or where manure containing corn refuse had been spread on the land than when other crops preceded tobacco in the rotation. Timothy also seemed to favour Brown Root Rot. On the other hand, Black Root Rot was more prevalent in fields where alfalfa or tobacco had been grown the previous year.

Although certain varieties are much more commonly grown than others, all varieties are not equally susceptible to root rot. Black Root Rot was prevalent on Kelley, while it was absent from Harrow Velvet. On the other hand, Brown Root Rot was found frequently on Harrow Velvet, Kelley, and Halleys Special, while only in a few instances was it found on the commonly-grown Judys Pride.

ANGULAR LEAF SPOT (Phytomonas angulata) was observed a few times in Essex county in August. Leaf spots were practically absent in Ont. until late in August, when a Leaf Spot (cause unknown) became prevalent throughout the Old and New Belts.

HOLLOW STALK (Erwinia carotovora) was seen in one field of Burley in Essex county in late August.

FRENCHING (cause unknown) was not as prevalent as in 1935, although it was observed in Essex, Kent, Elgin, and Norfolk counties.

HAIL INJURY. Two hail storms, the first on Aug. 19 and the second on Aug. 28, took a large toll of the Burley crop

in the Blenheim district and in the immediate vicinity of Harrow, including the crop at the Station. It was estimated that over half a million pounds each of flue and Burley tobacco were destroyed.

SUNBURN. All thin-leaved Burley and flue varieties suffered from sunburn in certain districts of Essex, Kent, and Norfolk counties in the latter part of July. The top and bottom leaves were most severely burned.

FROST destroyed practically all unharvested tobacco in the Delhi district on Sept. 24.

Isolated cases of Marbling (cause unknown) were observed on Burley and flue varieties up to Aug. 15, in the Harrow Station plots and in Essex and Kent counties.

(b) Quebec

BLACK ROOT ROT (Thielaviopsis basicola) was slightly more prevalent than in 1935 at Farnham, probably on account of the cool and rather wet weather early in the season. It was also destructive at L'Assomption, where it was estimated the yield was reduced from 10 to 15%.

ANGULAR LEAF SPOT (Phytomonas angulata) developed only slightly late in the season at Farnham, and no WILDFIRE (Phytomonas Tabaci) was seen.

HOLLOW STALK (Erwinia carotovora) affected a few plants in the cigar varieties at L'Assomption.

MOSAIC (virus) affected about 3% of the plants in the L'Assomption district. It was less prevalent than usual.

TOMATO

BLOSSOM-END ROT (Non-parasitic) was common in gardens about Sidney and Victoria, B.C. Often 5 fruits per vine were found affected. The weather was dry and the moisture supply varied greatly. The trouble was more severe than in previous years. It was noted in one field in zone 10, Alta. Small amounts of this rot were common in the gardens

at Saskatoon, Sask. A few affected fruit were observed at Swift Current, Sask., and at Morden, Man. The trouble was very common and widespread in P.E.I. and caused considerable damage.

MOSAIC (virus) was found in 4 out of 13 greenhouses in the Victoria district. It affected 2 to 90% of the plants in these greenhouses; the damage was 1%. A moderate infection of mosaic was recorded in one field in zone 10, Alta.

A few mosaic-infected plants were found in a small area in a large greenhouse planting of Grand Rapids in Lincoln county, Ont. These plants were from seed purchased elsewhere. Plants from their own selected seed were free from mosaic. Half the plants of Pritchard and John Baer in a field in Wentworth county were affected with mosaic. Occasional plants affected with mosaic were observed in gardens in York county, N.B. All the plants in a garden in Queens county, P.E.I., were diseased.

LEAF MOULD (Cladosporium fulvum) was found in 8 out of 13 greenhouses in the Victoria district, B.C., infection ranged from 8 to 100%, and the damage was less than 1%. A very severe outbreak occurred on the fall crop in a commercial greenhouse at London, Ont.; the plants were defoliated and the crop destroyed. It was very severe in greenhouses at Falmouth and Dartmouth, N.S. The crop was reduced 30%.

EARLY BLIGHT (Alternaria Solani) was general in the field at Mission and Agassiz, B.C. and caused 1 to 5% damage. Sometimes the fruits were attacked slightly. It was present at l'Assomption, and was abundant at Farnham, Que. A very severe infection occurred on a piece of land continuously cropped to tomatoes at Burton, N.B. The leaves and stems were severely affected and the fruit crop was greatly reduced and of poor grade. It also caused slight damage at Maugerville. It caused slight to severe damage in Queens county, P.E.I.

LATE BLIGHT (Phytophthora infestans) caused slight damage at Maugerville, N.B. It destroyed entire crops in Queens county, P.E.I., especially where the vines were not staked.

SEPTORIA LEAF SPOT (S. Lycopersici) rather severely infected the lower leaves of plants in cold frames in Lincoln county, Ont. A slight infection was present in a small garden at L'Assomption, Que. It caused slight defoliation in a garden at Kentville, N.S.

WILT (Verticillium sp.) was found in 8 greenhouses out of 13 in the Victoria district, B.C. In one, 80% of the plants were affected with a corresponding loss; in the others about 1% of the plants were showing wilt. Wilt (Fusarium sp.) was affecting specimens received from Renfrew, Ont., at the Ottawa Laboratory.

BACTERIAL CANKER (Phytomonas michiganensis). A single affected plant was seen at Summerland, B.C. The seed had been sent to the Station for trial.

STEM ROT (Sclerotinia sclerotiorum) was noted in one patch of tomatoes in zone 10, Alta.

DAMPING OFF (Rhizoctonia Solani) appeared suddenly on Jan. 9, in a planting of 22,000 plants being grown for a spring greenhouse crop in Lincoln county, Ont. The plants were grown in sterilized soil and the seed was disinfected. The source of the infection was possibly the seedling flats or the water which was drawn from a nearby creek. The weather was overcast. By Jan. 13, 60% of the plants were affected. Cheshnut compound checked the trouble. (G.C. Chamberlain)

GREY MOULD (Botrytis sp.) was present in 2 out of 13 greenhouses in the Victoria district, B.C.; the damage was a trace.

ROOT KNOT (Heterodera marioni) was found in 3 out of 13 greenhouses in the Victoria district, B.C.; in these 3, infection ranged from 60 to 90% and the damage from 1 to 10%. (J. E. Bosher)

GAS INJURY (illuminating gas) appeared in March in flats of seedlings grown in a greenhouse heated by illuminating gas at Leamington, Ont. It caused marked twisting of leaf and petiole, but the damage was slight. (G.C. Chamberlain)

SUN SCALD ruined 50% of the early crop in Lincoln county, especially on early staked tomatoes. The temperature rose to 104°F.

STEM ROT (Pythium sp.) destroyed several thousands of seedlings being grown at Douglas, N.B. Fresh manure was placed in the propagating flats. (J.L. Howatt)

TURNIP

CLUB ROOT (Plasmodiophora Brassicae) affected 6% of the plants in a planting at St. Felix de Kingsey, Que. (B. Baribeau). Club root occurs throughout N.B., wherever soil conditions are satisfactory for its development. So-called resistant varieties show varying degrees of resistance according to location, soil type, etc. There is also some indication of physiological specialization of the causal organism (J.L. Howatt). The disease affected 10% and 25% of the crop respectively in two fields, one in Pictou and the other in Colchester county, N.S. In the latter county many healthy and vigorous crops were observed (W.K. McCulloch). In P.E.I., club root affected all varieties except Wilhelmsburger, which was grown extensively this year on account of its disease resistance. (R.R. Hurst)

BROWN HEART (non-parasitic) was general on turnips throughout N.B., where boron was not applied to the soil. The losses were severe where the intention was to export the crop for human consumption. The feeding value for livestock was, however, little reduced unless secondary rots appeared (J.L. Howatt). It was prevalent at Kentville, N.S. in those fields where fertilizer containing boron was not applied (K.A. Harrison). Brown heart was less prevalent this year in P.E.I., due to the more general use of fertilizer containing boron. Where brown heart was present, the disease was detected in the field and therefore very few turnips were rejected on account of it at the shipping points. Commercially-prepared borated fertilizer applied broadcast or in the drill gave good control. (R. R. Hurst)

BORAX INJURY was slight to severe in a field of turnips in Queens county, P.E.I. The turnip seed was sown immediately after the borax, which had been mixed by hand with the fertilizer, was applied by machine at the rate of 60 lb. per acre. (R.R. Hurst)

STORAGE ROT (Rhizoctonia Solani) was very destructive in Queens and Kings counties, P.E.I., both last year and this. The disease was determined by M. Timonin by isolating the organism from turnips received on Jan. 20, from Papineau county, Que., at the Ottawa Laboratory.

SCLEROTIAL ROT (Sclerotinia sclerotiorum) caused considerable damage in storage on one farm at Pemberton Meadows, B.C.

It, however, was not general in the district, where a fair quantity of turnips is grown for the market. (H.S. MacLeod)

BLACK LEG (Phoma lingam) caused slight to severe damage to all varieties of turnips in storage in P.E.I.

MOSAIC (virus) infected 2 plants on a farm in York county, N.B.

COMMON SCAB (Actinomyces scabies). Traces of scab were present on several varieties in Queens county, P.E.I.

WHITE SPOT (Cercosporella albo-maculans) moderately infected Haszards Improved at the Experimental Station, Charlottetown, P.E.I.