DISEASES OF VEGETABLE AND FIELD CROPS

ARTICHOKE

WILT -- Sclerotinia

NEW BRUNSWICK
1927 - Severe in one patch in York county.

ASPARAGUS

RUST -- Puccinia Asparagi DC.

ONTARIO
1927 - Quite prevalent in the Ottawa district both years.
1928 Light injection occurred in the Niagara district.

BEAN

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

NEW BRUNSWICK
1927 - A moderate infection occurred in York county.

1928 - This disease was worse than the preceding year being quite general and severe in different parts.

QUEBEC
1927 - At St. Nicolet (Nicolet county) 5 per cent of a field was badly affected with the diseases, while about 2 per cent of the plants showed a slight infection only. At Macdonald College it was more severe than during the previous year.

1928 - Anthracnose was quite severe in Portneuf, Quebec, and Champlain counties. The canning factories suffered much loss, and yields were greatly reduced. One variety, Petite Parisienne appeared to be resistant.

ONTARIO
1927 - This disease was very prevalent in the Ottawa
1928 district both years, especially in 1928. There were several severe cases reported from the Niagara district in 1928. In one field of the Refugee variety practically 100 per cent loss resulted.

BACTERIAL BLIGHT -- Pseudomonas Phaseoli E.F.Sm.

NEW BRUNSWICK
1927 - A slight infection occurred at the Dominion Experimental Station, Fredericton.

1928 - Only one case was observed in York county.

QUEBEC
1928 - In one field at Ste. Anne de la Pocatiere about 7 per cent of the plants were severely infected.

ONTARIO
1928 - Severe occurrence reported from Durham county. Also occurred at Ottawa.

SASKATCHEWAN
1928 - Common at Indian Head. Infection varied from a trace in Robust and Darling varieties, 5 per cent in Beauty and Norwegian to 20 per cent in Navy Pilot and 50 per cent in Navy.

ALBERTA
1928 - Moderate infections were found in gardens in Edmonton.

MOSAIC -- Virus

NEW BRUNSWICK
1927 - A slight infection was reported from York county.

1928 - General occurrence but not important.

RUST -- Uromyces appendiculatus (Pers.) Lev.

NEW BRUNSWICK
1927 - Isolated cases only observed.

WILT -- Sclerotinia Sclerotiorum (Lib.) Mass.

NEW BRUNSWICK
1927 - A slight infection occurred at the Dominion Experimental Station, Fredericton.

1928 - This disease was very severe in garden patches in York county. Injury to the extent of 60 per cent in one field of three acres.

BEET

(Including Sugar Beet & Mangel)

CERCOSPORA LEAF SPOT -- Cercospora beticola Sacc.

NEW BRUNSWICK
1927 - A moderate amount of spotting was found on the older leaves in York county.

1928 - Infection general but slight.

ALBERTA
1928 - Light infection found at Raymond.

SCAB -- Actinomyces scabies (Thax.) Güssow

NEW BRUNSWICK
1928 - One case reported from a city garden in Fredericton.

QUEBEC
1928 - Quite common in some localities in Rimouski where beets and potatoes had been planted on the same land year after year.

ONTARIO
1927 - Moderate infection occurred in a field in Middlesex county in which scabby potatoes had formerly been produced.

1928 - One case observed at Ottawa.

ROOT ROT -- Phoma sp.

ALBERTA
1928 - Quite severe causing 20 per cent damage in some field. The base of the root is affected with black or dark brown rot. Leaves flagging and petioles often blackened. Found in sugar beets and mangels in irrigated field, especially those in poor physical condition.

ROOT ROT -- Rhizoctonia sp.

ALBERTA
1928 - This disease was destructive in irrigated fields at Raymond. Young beets were affected, the upper part of the root being girdled and the plants stunted.

SOFT ROT -- Bacillus carotovorus Jones

NEW BRUNSWICK
1927 - A slight outbreak was observed both 1927 and 1928
1928 at the Dominion Experimental Station at Fredericton.

CABBAGE

CLUB ROOT -- Plasmodiophora Brassicae Wor.

NEW BRUNSWICK
1927 - A moderate infection was found on young plants in York county.

1928 - One light case was reported from Sunbury.

QUEBEC
1927 - In a field in Temiscouata county about 5 per cent of the plants were severely attacked.

1928 - Very severe in gardens on the Magdalen Islands, being found in about 70 per cent of them.

BRITISH COLUMBIA
1928 - A severe outbreak occurred in the Armstrong district, the disease being new to this section. A survey showed that over 50 per cent of the acreage was affected and in over 70 per cent of this area, from 90 to 100 per cent of all plants were affected.

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

ONTARIO
1928 - A very severe case was reported from Humberside in York county. About 80 per cent of the crop was destroyed.

SOFT ROT -- Bacillus carotovorus

NEW BRUNSWICK
1927 - Slight infection occurred in York county.

1928 - Infection general but usually slight. Only one serious case was reported.

DROP -- Sclerotinia Sclerotiorum (Lib.) Mass.

QUEBEC
1927 - Three heads of cabbage very severely affected were found at Ste. Anne de la Pocatiere.

1928 - A few badly affected specimens were again found at Ste. Anne de la Pocatiere, but the disease was not common this year.

BLACK-LEG -- Phoma lingam (Tode) Desmazieres

One case reported from New Brunswick in 1927.

WIRE STEM -- Corticium vagum B.&C.

One case reported from a garden in Edmonton, Alberta, in 1928.

DAMPING OFF -- (Caused by various fungi).

One case reported from the province of Quebec in 1927.

CARROT

WILT -- Sclerotium Sclerotiorum (Lib.) Mass.

A slight infection was observed in York county, New Brunswick in 1927.

CAULIFLOWER

CLUB ROOT -- Plasmodiophora Brassicae Wor.

NOVA SCOTIA
1927 - One slight case reported near Halifax.

NEW BRUNSWICK
1927 - Slight infections in young plants were observed In York county.

1928 - Infections were general but slight in the same county.

BRITISH COLUMBIA
1928 - Severe infections reported from the Armstrong district.

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

ONTARIO
1928 - A very severe case was reported from Humberside in York county. About 80 per cent of the crop was destroyed.

SOFT ROT -- Bacillus carotovorus Jones

NEW BRUNSWICK
1927 - Isolated cases reported from York county.

1928 - Only one slight case observed.

CHINESE CABBAGE (Brassica pekinensis)

CLUB ROOT -- Plasmodiophora Brassicae Wor.

BRITISH COLUMBIA
1928 - This plant was severely attacked in the Armstrong district. It is believed that this is the first record of this host being attacked either in Canada or in the United States.

CELERY

LATE BLIGHT -- Septoria Apii Chester

NEW BRUNSWICK
1927 - Severe cases occurred in York county causing partial defoliation.

1928 - Infections general but slight in York county.

QUEBEC
1928 - All celery near Montreal was badly infected with late blight. One field showed 70 to 80 per cent loss.

ONTARIO

1927 - Reported from different parts of the province
1928 both years. Heavy infestations in the Ottawa district in 1928.

EARLY BLIGHT -- Cercospora Apii Fr.

QUEBEC

1928 - Several cases were reported from the Agricultural School and the Experimental Farm at Ste. Anne de la Pocatiere. Infections, however, were not severe.

SLIME MOULD -- Physarum cinereum (Batsch.) F.

ONTARIO

1927 - A very interesting case of a slime mould over-running celery was observed this past season. About two dozen celery plants out of several hundred, growing under unusually moist conditions in a cold frame, were over-run by a slime mould which was later identified as Physarum cinereum (Batsch.) P. in two or three cases the celery plants were almost completely suffocated by the slime mound, and the plants eventually died. On the whole, however, little damage was done.

BACTERIAL SOFT ROT -- Bacillus carotovorus Jones

ONTARIO

1927 - Several cases of loss in storage were reported from western Ontario.

1928 - A heavy infestation was reported from Middlesex county.

YELLOWS?-- Fusarium sp.

ONTARIO

1928 - One small area in a patch of celery in Grantham township, Lincoln county was suspected of being affected by Fusarium "Yellows".

CRESS

DOWNY MILDEW -- Peronospora parasitica (Pers.) De Bary

SASKATCHEWAN

1927 - A fairly heavy infection was observed in a small garden in Saskatoon.

CUCUMBER

SCAB -- Cladosporium cucumerinum Ell. & Arth.

QUEBEC

1927 - This disease was found in the vicinity of Beauport about 3 per cent of the cucumbers being infected.

1928 - In a field comprising one quarter acre, about 12 to 15 per cent loss was caused by this disease, being much worse than during the previous year.

BACTERIAL WILT -- Bacillus tracheiphilus E.F.Sm.

NEW BRUNSWICK

1927 - Slight infection was reported from York county.

1928 - This disease was quite severe in the garden section on the east side of the St. John River.

RUST -- Fusarium sp.

One case was reported from York county New Brunswick in 1928.

ANGULAR LEAF SPOT -- Pseudomonas lachrymans (Sm.& Bryan) Carsn.

NEW BRUNSWICK

1928 - A few isolated cases were reported from Sunbury, St. John valley.

QUEBEC

1928 - Only one case recorded for this province, being submitted by a correspondent.

MOSAIC -- Virus

A few cases were observed in York county, New Brunswick in 1927.

HORSE RADISH

LEAF SPOT -- Ramularia Armoraciae Fckl.

A slight infection occurred in York county, New Brunswick in 1927.

LETTUCE

DROP -- Sclerotium Sclerotiorum (Lib.) De Bary.

NEW BRUNSWICK
1927 - Moderate infections observed in older plants in York county.

1928 - Quite prevalent in the St. John valley.

GREY MOULD -- Botrytis cinerea Pers.

NEW BRUNSWICK
1927 - Severe cases were observed in damp locations in York county.

BACTERIAL ROT -- Bacillus carotovorus Jones

ONTARIO
1927 - Reported from Todmorden, York county.

ONION

DOWNY MILDEW -- Peronospora Schleideni Unger

NEW BRUNSWICK
1927 - This disease was generally present in Sunbury county and proved a considerable factor in onion production in this area.

1928 - This disease was quite serious this year on the east side of the St. John river.

QUEBEC
1927 - There was a very high infection at Macdonald College. In two fields practically every plant was attacked, the yield being reduced considerably. Both the red and the white varieties were attacked equally severely. The white ones succumbed first however.

ONTARIO
1928 - This disease was fairly prevalent in a plantation in Lincoln county near St. Catharines. The disease attacked the white varieties more severely than the red ones.

SASKATCHEWAN
1927 - A moderate infection was observed in the garden at the Experimental Farm at Indian Head.

NECK ROT -- Botrytis Alii Mann.

NEW BRUNSWICK
1927 - Only one specimen observed in York county.

ONTARIO
1928 - One plantation badly diseased in the vicinity of Prescott.

BRITISH COLUMBIA
1927 - The early and excessive fall rains contributed greatly in causing the large amount of neck-rot which occurred this year. Practically the whole crop grown on the upper bench lands in the Kelowna district was a total loss. It is estimated that approximately 2,000 tons of onions were not even removed from the fields.

1928 - Neck-rot is the most serious disease confronting the onion growers of the Okanagan valley. Its severity is dependent largely on climatic conditions prevailing during the late growing season and during the harvesting and field during period. An exceptionally favourable autumn this year enabled the growers to harvest their crop with practically no loss. It is worthy of note, however, that, in a few sections on the upper bench lands, even under such favourable climatic conditions, heavy losses again occurred. In these areas the disease becomes so thoroughly established in the crop before it is pulled, that favourable harvesting weather is of no avail in preventing the loss. It would seem, therefore, that such areas are not suitable for the growing of this commodity.

BULB ROT -- Fusarium sp.

BRITISH COLUMBIA

1927 - A survey has shown that this disease occurred in approximately one-half of the onion acreages in the Kelowna district. Throughout the affected area, losses varied greatly, running from 1 to 60 per cent. An estimate over the whole area indicated that possibly 5 per cent of all the bulbs in this area were affected.

1928 - The survey carried out this year shows that this disease is now widespread throughout the main onion growing sections. It is more severe on the lower lying lands, but was found this year on the higher levels. Where it has been longest established, it is now so severe that it is discouraging the growing of the crop.

SMUT -- Urocystis Cepulae Frost

ONTARIO

1928 - Observed in Lincoln county infecting young seedlings.

PARSNIP

LEAF SPOT -- Ramularia pastinacea Bubak

NEW BRUNSWICK

1927 - A moderate infection was reported from York county.

1928 - Only one case was observed in the same locality as in the preceding year.

PEA

POWDERY MILDEW -- Erysiphe Polygoni DC.

NEW BRUNSWICK

1927 - A slight infection was reported from York county.

QUEBEC
1928 - At Ste. Anne de la Pocatiere a very severe case was reported, the peas in the garden being covered with the fungus.

BRITISH COLUMBIA
1928 - Reported from Victoria.

LEAF AND POD SPOT -- Ascochyta Pisi Lib.

SASKATCHEWAN
1927 - This disease was quite severe. Considerable injury was caused to stems and pods. Infection occurred on land which was flooded during part of the early growing season.

1928 - Infections were very light at Rosthern but heavy at Saskatoon.

BRITISH COLUMBIA
1928 - Reported from Sidney.

MOSAIC -- Virus

NEW BRUNSWICK
1928 - Light infections in isolated cases observed in York county.

POTATO INSPECTION AND CERTIFICATION

Acreage Entered for Inspection

A total of 31,601 acres of potatoes was entered for field inspection with a view to certification, in 1927. This is an increase of approximately 18,000 acres, or 130 per cent over the acreage inspected in 1926.

In 1928 a total acreage of 40,497 was entered for field inspection. This represents an increase of 8,896 acres, approximately 28 per cent more than was entered for inspection in 1927, the previous record year. In spite of the large increase in acreage entered for inspection in 1928, the percentage which passed to our standard was also higher, 77.8 compared with 75.6 in 1927.

Year	Number of fields inspected	Number of acres inspected	Number of fields passed	Number of acres passed	Percentage of fields passed	Percentage of acres passed
1921	2,646	7,900.0	1,634	4,290.0	61.7	54.3
1922	3,283	11,250.0	2,139	6,991.0	65.3	62.1
1923	2,914	9,681.0	2,061	7,099.7	70.7	73.3
1924	5,586	19,238.87	3,868	13,916.64	69.25	72.3
1925	4,542	14,451.51	3,307	10,856.88	72.8	75.1
1926	4,212	13,714.57	3,094	10,392.61	73.5	75.8
1927	8,388	31,601	6,125	23,875	73.0	75.6
1928	9,610	40,497	7,156	31,509	74.5	77.8

Summary of the Field Inspection Work by Provinces 1927.

Province	Number of applications	Number of fields inspected	Number of fields passed	Percentage	Number of acres inspected	Number of acres passed	Percentage.
Prince Edward Island ...	4,385	5,642	4,471	79,2	24,845	19,915	80.1
Nova Scotia	248	336	185	55.0	620	377	60.8
New Brunswick.....	338	654	418	63.9	2,777	1,732	62.4
Quebec	319	398	261	65.6	590	385	65.3
Ontario	354	467	359	76.9	1,205	950	78.8
Manitoba	24	53	32	60.4	145	57	39.3
Saskatchewan	50	113	50	44.2	407	131	32.2
Alberta	72	115	63	54.8	250	50	20.0
British Columbia	320	610	286	46.9	762	278	36.6
Total (Canada)	6,110	8,388	6,125	73,0	31,601	23,875	75.6

Summary of the Field Inspection Work by Provinces 1928

Province	Number of applications	Number of fields inspected	Number of fields passed	Percentage	Number of acres inspected	Number of acres passed	Percentage
Prince Edward Island ..	4,629	6,254	4,875	77.9	32,079	25,883	80.6
Nova Scotia	214	382	251	65.7	645	425	65.8
New Brunswick	470	853	536	62.8	3,540	2,276	64.3
Quebec	746	807	548	68	1,107	724	65.4
Ontario	420	597	453	75.8	2,043	1,480	72.4
Manitoba	33	80	46	57.5	246	124	50.4
Saskatchewan	60	118	84	71.2	301	199	66.2
Alberta	44	82	67	81.7	100	80	80
British Columbia	197	437	296	67.7	436	318	72.9
Total (Canada)	6,813	9,610	7,156	74.5	40,497	31,509	77.8

Fields Rejected for Certification, 1927 - Reasons for Rejection

Province	Black leg	Leaf roll	Mosaic	Foreign varieties	Lack of vigour	Adjacent to disease	Lack of cultivation and insect injury	Miscellaneous #	Total Rejections	
									Fields	Acres
P.E.I.	294	6	401	154	66	78	.....	172	1,171	4,930
N.S.	11	9	26	42	.....	24	4	35	151	243
N.B.	49	7	155	8	.....	17	.....	.....	236	1,045
Que.	17	3	50	7	.....	40	8	12	137	205
Ont.	23	16	25	8	.....	27	6	3	108	255
Man.	9	1	2	3	5	1	.....	.....	21	88
Sask.	30	2	11	8	.....	9	.....	3	63	276
Alta.	22	6	11	6	2	4	1	.....	52	200
B.C.	6	....	132	22	22	89	.....	53	324	484
Totals	461	50	813	258	95	289	19	278	2,263	7,726

Includes rejections for all other reasons than those specified, viz.: Wilts, streaks, frozen down, drowned out, etc.

Field Rejected for Certification, 1928 - Reasons for Rejection

Province	Black leg	Leaf roll	Mosaic	Foreign varieties	Lack of vigour	Adjacent to disease	Poor cultivation and insect injury	Miscellaneous #	Total Rejections	
									Fields	Acres
P.E.I.	245	9	608	196	160	97	.....	64	1,379	6,196
N.S.	5	22	49	18	.....	13	10	14	131	220
N.B.	35	12	226	14	3	18	3	6	317	1,264
Que.	29	23	105	4	.....	84	6	8	259	383
Ont.	32	45	16	1	.....	20	16	14	144	563
Man.	8	1	13	4	.....	6	.....	2	34	122
Sask.	10	4	15	1	.....	4	.....	.....	34	102
Alta.	3	3	5	2	2	.....	.....	.....	15	20
B.C.	2	1	83	4	3	14	.....	34	141	118
Totals	369	120	1,120	244	168	256	35	142	2,454	8,988

Includes rejections for all other reasons than those specified, viz.: Wilts, streaks, frozen down, drowned out, etc.

Percentage of Disease Found - By Provinces 1927.

	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	%	%	%	%	%	%	%	%	%
Average percentage of disease in total fields inspected -									
Black leg	.26	.26	.6	.37	.51	1.5	1.54	1.72	.18
Leaf roll	.01	.3	.2	.13	.35	.04	.07	.52	.09
Mosaic	.43	1.5	2.5	1.23	.43	.46	.42	.93	1.94
Wilts	.01	.1	0	.12	0	0	0	0	.16
Average percentage of disease in fields passed -									
Black leg	.12	.15	.4	.11	.27	.77	.11	.21	.08
Leaf roll	Tr.	.2	.1	.07	.16	.04	.06	.06	.07
Mosaic	.05	.2	.4	.35	.16	.32	.13	.1	.43
Wilts	Tr.	.12	0	.09	0	0	0	0	.1
Average percentage of disease in fields rejected -									
Black leg	.74	.48	1.8	.88	1.3	3.22	3.53	3.55	.27
Leaf roll	.05	.4	.4	.23	.96	.07	.08	.55	.11
Mosaic	1.83	3.8	5.8	2.9	1.3	.62	2.15	1.8	3.27
Wilts	.11	.11	0	.26	0	0	0	0	.22

Percentage of Disease Found - By Provinces 1928.

Province	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C
Average percentage of disease in total fields inspected -	%	%	%	%	%	%	%	%	%
Blackleg	.25	.08	.2	.36	.37	.73	.68	.27	.11
Leaf roll	.02	.32	.1	.33	.64	.39	.29	.32	.01
Mosaic	.60	.51	1.8	1.25	.34	.44	.65	.65	1.4
Wilts	.015	.32	0	.006	.002	0	0	0	.06
Average percentage of disease in fields passed -									
Blackleg	.13	.03	.1	.16	.24	.32	.3	.09	.07
Leaf roll	.01	.22	.06	.07	.3	.14	.14	.05	.003
Mosaic	.06	.11	.4	.31	.13	.1	.21	.14	.19
Wilts	.008	.15	0	.007	.002	(	0	0	.05
Average percentage of disease in fields rejected -									
Blackleg	.65	.11	.3	.78	.79	1.23	1.6	1.08	.23
Leaf roll	.04	.51	.3	.88	1.73	.72	.68	.01	.03
Mosaic	2.4	1.25	3.1	3.19	.98	.91	1.78	2.94	4.7
Wilts	.037	.64	0	.003	0	0	0	0	.1

Development of the Potato Certification Work.
Three-Year Period Ending 1928.

Province		Fields entered	Fields passed	Percentage	Acreage entered	Acreage passed	Percentage	Increase or decrease in acreage passed
P. E. Island ..	1926	2,300	1,801	78.3	9,275	7,597	82	%
	1927	5,642	4,471	79.2	24,845	19,915	80.1	
	1928	6,254	4,875	77.9	32,079	25,883	80.6	+240.7
Nova Scotia	1926	137	106	77.4	219	172	78.5	
	1927	336	185	55.	620	377	60.8	
	1928	382	251	65.7	645	425	65.9	+147.1
New Brunswick ..	1926	506	278	55.	2,031	1,195	58.8	
	1927	654	418	63.9	2,777	1,732	62.4	
	1928	853	536	62.8	3,540	2,276	64.3	+ 90.5
Quebec	1926	184	107	58.2	340	182	53.6	
	1927	398	261	65.6	590	385	65.3	
	1928	807	548	68.	1,107	724	65.4	+ 297.8
Ontario	1926	440	319	72.5	826	579	70.1	
	1927	467	359	76.9	1,205	950	78.8	
	1928	597	453	75.8	2,043	1,480	72.4	+155.6

Development of the Potato Certification Work.
Three-Year Period Ending 1928. (Cont'd)

Province		Fields entered	Fields passed	Percentage	Acreage entered	Acreage passed	Percentage	Increase or decrease in acreage passed
Manitoba	1926	60	41	68.3	146	100	68.6	
	1927	53	32	60.4	145	57	39.3	
	1928	80	46	57.5	246	124	50.4	+24
Saskatchewan	1926	80	71	88.7	214	103	48.1	
	1927	113	50	44.2	407	131	32.2	
	1928	118	84	71.2	301	199	66.2	+93.2
Alberta	1926	75	53	70.7	152	56	36.8	
	1927	115	63	54.8	250	50	20.	
	1928	82	67	81.7	100	80	80.	+42.9
British Columbia..	1926	430	318	74.	512	408	79.7	
	1927	610	286	46.9	762	278	36.5	
	1928	437	296	67.7	436	318	72.9	-22.1
Total for Canada..	1926	4,212	3,094	73.5	13,715	10,392	75.8	
	1927	8,388	6,125	73.	31,601	23,875	75.6	
	1928	9,610	7,156	74.5	40,497	31,509	77.8	+203.2

Standard 1926 - Total of 4 per cent diseased plants allowed.
1928 - Total of 3 per cent diseased plants allowed.

POTATO

LATE BLIGHT -- *Phytopathora infestans* (Mont.) de Bary

PRINCE EDWARD ISLAND

1927 - The earliest recorded appearance of late blight of potatoes (July 26) and its subsequent alarming development justified much concern among potato growers. Rainy weather in August favoured the development of the disease to a serious extent. Crops that did not receive the regular spray applications were destroyed and conditions threatened to cause a shortage of seed potatoes despite the enormous acreage under cultivation in the province. However, while the premature death of the plants materially reduced the yield, actual loss through blight rot was surprisingly slight as revealed by final reports. Carefully sprayed fields produced a minimum of rotted tubers, and most of these came from the end rows where the required pressure was not maintained in turning the sprayer.

1928 - As stated above, late blight rot was abundant in 1927. As a consequence it commonly occurred that tubers, developed an incipient growth of blight rot which remained inactive throughout the winter. When cut into sets for the 1928 planting this rot, which escaped notice developed in the seed piece in the ground. Cases were noticed where sprouts were produced, but the set decayed before the plant became established.

NOVA SCOTIA

1927 - In Cumberland county several fields were too badly blighted to allow for the determination of other diseases. Considerable injury was observed in King's county where the progress of the disease was hastened by wet weather.

1928 - General in Cumberland and Colchester counties.

NEW BRUNSWICK

1927 - Late blight was very severe especially on late varieties, causing considerable loss.

1928 - This disease although quite common was less severe than during the previous season. Initial conditions in certain sections were conducive to the development of late blight in epiphytotic form, but, later in the season, changes in the weather suppressed it.

QUEBEC

1927 - Weather conditions this year were favourable for the development of late blight, a serious outbreak of which occurred causing considerable loss throughout the province except in the eastern part along the St. Lawrence.

1928 - In St. Maurice county a few vines were killed by blight in unsprayed fields, with a few tubers rotting. At Ste. Anne de la Pocatiere there was not enough rain to favour the development of late blight, and none occurred either on vines or tubers this year.

ONTARIO

1927 - There were a few local outbreaks of late blight in 1927. Some correspondents reported loss due to rot.

1928 - Late blight was severe in different parts of the province this year, especially on fields that were not sprayed or in cases where proper attention had not been given to the late season applications. In the vicinity of Ottawa a high percentage of rot was observed in Irish Cobblers while in one instance Green Mountains were 100 per cent diseased.

BRITISH COLUMBIA

1928 - Reported from Sumas Prairie.

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

PRINCE EDWARD ISLAND

1927 - Very severe on late-harvested potatoes grown in infected land. Irish Cobblers 98 per cent and Green Mountains 84 per cent of tubers affected.

1928 - Tuber infection by Rhizoctonia in 1928 was never severe.

NEW BRUNSWICK

1927 - This disease varied considerably in the degree of infection, but was always a factor in production.

1928 - General and sometimes severe in York county. Slight increase over the previous year.

ONTARIO

1927 - Reported at Ottawa both years and from Durham
1928 county in 1928.

ALBERTA

1928 - This disease was very common, causing the usual amount of damage.

POTATO

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

NEW BRUNSWICK
1927 - This disease varied from slight to severe in different localities.

1928 - Quite prevalent over the entire province.

ALBERTA
1928 - Collected at Brooks.

BLACK LEG -- Bacillus phytophthorus (Frank) Appel.

PRINCE EDWARD ISLAND
1927 - Black leg of potatoes was scarce even in the presence of ideal conditions for its development

NOVA SCOTIA
1927 - Black leg was present throughout the province, some fields showing as high as 11 per cent.

NEW BRUNSWICK
1927 - The loss sustained by the growers this year was slightly below the average.

1928 - Black leg was general throughout the province this year but was not of serious consequence. There was a marked decrease in the amount of disease as compared with the previous year.

ONTARIO
1927 - Several cases were reported from western Ontario, only one of which was severe.

1928 - Common in Carleton county.

SASKATCHEWAN
1928 - About 5 per cent of a garden patch was destroyed at Quill Lake.

ALBERTA
1928 - This disease was prevalent in the Edmonton district.

COMMON SCAB -- Actinomyces scabies (Thax.) Güssow.

NOVA SCOTIA
1927 - Scab was fairly common, sometimes quite heavy infestations being found on Irish Cobblers.

NEW BRUNSWICK
1927 - Scab was present in most stock to varying degrees.

1928 - General and often more severe than usual.

ONTARIO
1927 - This disease could generally be found in stock from
1928 infected land both years. One severe case was reported from Leeds county, the crop having been grown on clay loam fertilized with barnyard manure.

MANITOBA
1928 - One case reported by a correspondent.

ALBERTA
1928 - Common at Edmonton.

SILVER SCURF -- Spondylocladium atrovirens Harz.

NEW BRUNSWICK
1927 - Only a slight infection reported.

1928 - General and severe in North Shore counties.

POWDERY SCAB -- Spongospora subterranea (Wallr.) Lagerh.

NEW BRUNSWICK
1927 - Only isolated cases observed.

1928 - This disease was not important, only a few cases having been reported.

DRY ROT -- Fusarium spp.

NEW BRUNSWICK
1927 - Severe under poor storage conditions.

1928 - Dry rot, though general this year, was not of serious consequence.

ALBERTA
1928 - Specimens received from Millet.

PHOMA ROT -- Phoma sp.

PRINCE EDWARD ISLAND
1928 - This rot was found in association with powdery scab of potatoes.

MOSAIC -- Virus

NEW BRUNSWICK
1927 - Severe in all localities, especially in table stock.

1928 - General throughout the province, while sometimes severe there was a lower percentage observed than in 1927.

QUEBEC
1928 - At Cap Rouge a field of Irish Cobblers showed a trace of Mosaic while a neighbouring field of Green Mountains had 7 to 10 per cent. At St. Jean (Montmorency county) a two-acre field had 35 per cent mosaic, while in a five-acre field on the same farm 75 per cent of the plants were affected.

LEAF ROLL -- Virus

NEW BRUNSWICK
1927 - Leaf roll was found to be present in most fields but was not the limiting factor in production as was mosaic.

1928 - Leaf roll was general, but conditions showed a decided improvement over the previous year.

QUEBEC
1928 - A field of Irish Cobblers at Cap Rouge showed 2 per cent leaf roll.

CURLY DWARF -- Virus

NEW BRUNSWICK
1927 - Curly Dwarf was present to a slight degree in most localities.

1928 - A few cases were reported from commercial fields.

SPINDLE TUBER -- Virus

NEW BRUNSWICK
1927 - There appeared to be a slight increase in the amount of this condition over 1926.

1928 - Conditions showed a decided improvement over the previous year which seems to indicate that this, as well as other diseases are yielding well to certification methods.

BRITISH COLUMBIA
1928 - Spindle tuber was observed in one lot of potatoes of the Burbank variety which had been sent to the Dominion Laboratory of Plant Pathology, Fredericton.

NET NECROSIS

NEW BRUNSWICK
1927 - Only a few cases of this trouble were observed each year; of very little importance.

HOLLOW HEART -- Non-parasitic

NEW BRUNSWICK
1927 - Less than the average amount of this condition was observed.

1928 - Only a few cases in Irish Cobblers were reported.

STREAK

NEW BRUNSWICK
1927 - This disease was quite rare in both seasons. A few
1928 isolated cases, however, were reported.

RHUBARB

LEAF SPOT -- Ascochyta Rhei E. & E.

In New Brunswick a slight infection was observed in 1927 and 1928 at the Dominion Experimental Station, Fredericton.

SPINACH

DOWNY MILDEW -- Peronospora effusa (Grev.) Rabh.

This disease was very severe in New Brunswick in 1927. One shipment was a total loss.

In Middlesex county, Ontario the disease was worse than usual in 1927. In 1928 there was a general infection in Lincoln county.

TOBACCO

BLACK ROOT ROT -- Thielavia basicola Zopf.

ONTARIO

1927 - This disease, while present in Southwestern Ontario, caused less than the usual amount of damage.

1928 - Some loss resulted in the Burley and dark-fired sections.

QUEBEC

1928 - Root rot was quite general in the cigar binder districts of Quebec owing to the cool weather conditions. The disease is so generally distributed that the almost exclusive use of Resistant Havana (No. 142) will be necessary in the future.

WILDFIRE -- Pseudomonas tabacum (W. & F.) Stev.

QUEBEC

1927 - No cases were reported outside of Yamaska valley where it was first found in 1925. Owing to the dry weather in August the damage was comparatively light. It was observed on only two farms in addition to the six on which it had first been found.

1928 - The disease was found on over thirty farms in Rouville county as compared with eight the previous year. Most of the infections were traced to one large producer of plants. One case of the disease was reported in Montcalm county north of Montreal.

LEAF SPOT -- Cercospora Nicotianae Ell. & Ev.

NEW BRUNSWICK
1928 - There was a quite serious outbreak at the Dominion Experimental Station, Fredericton.

ANGULAR LEAF SPOT -- Pseudomonas angulata (Froome & Murray) Stev.

QUEBEC
1927 - Considerable damage was caused in certain localities in this province.

1928 - Leaf spot was more prevalent than usual in 1928, and caused much damage.

ONTARIO
1928 - As in the province of Quebec this disease was more severe than usual in the tobacco growing districts where it caused considerable damage.

MOSAIC -- Virus

QUEBEC
1927 - This trouble was present in the Yamaska Valley in widely varying percentages on different farms. Only a few instances were noted in the L'Assomption - Montcalm district.

1928 - Loss from mosaic was less than usual.

ONTARIO
1927 - About the usual amount of mosaic was observed.

1928 - This trouble was much less prevalent than during the preceding years.

BRITISH COLUMBIA
1927 - Mosaic was very common and caused considerable damage.

DAMPING-OFF -- Pythium de Baryanum Hesse

There was considerable loss in the province of Quebec owing to faulty methods of seed-bed management.

FRENCHING -- Non-parasitic

In 1927 this trouble was more prevalent than usual in Quebec and Ontario. It was quite general in British Columbia, some fields being very seriously damaged.

About the usual amount of damage was caused in Quebec and Ontario in 1928.

SORE-SKIN -- Non-parasitic

In 1928 a single case was reported in Kent county, Ontario.

HOLLOW STALK -- Non-parasitic

A few isolated cases were observed in 1928.

LEAF DROP -- Cause unknown

This trouble, characterized by the dropping of the leaves before maturity is reached, was widespread and severe in the tobacco fields in British Columbia in both 1927 and 1928. Quite heavy losses were caused on the bottom lands in the Okanagan valley in 1928.

CURLY DWARF -- Non-parasitic

Appreciable damage was caused in British Columbia in 1927.

SUNBURN -- Non-parasitic

Burning of the leaves by the sun was fairly common in British Columbia in 1928.

LEAF SPOT -- Cause undetermined

In Quebec in 1927 various leaf spots of undetermined cause were noted, particularly on the Canelle variety, which appeared to be particularly susceptible.

TOMATO

LEAF SPOT -- Septonia Lycopersici Speg.

NEW BRUNSWICK
1927 - There was a slight scattered infection in all varieties examined.

1928 - General and quite severe.

BLACK ROT -- Alternaria Solani (Ell. & Martin) Jones & Grout.

NEW BRUNSWICK

1927 - Heavy infections were found on the leaves, while the fruits were only slightly affected.

1928 - There was a slight outbreak in the St. John Valley.

QUEBEC

1928 - This disease was very prevalent this year both on the leaves and on the fruit.

DOWNY MILDEW -- Phytophthora infestans (Mont.) de Bary

NEW BRUNSWICK

1927 - A slight infection was observed in York county.

MOSAIC -- Virus

NEW BRUNSWICK

1927 - A few cases were observed both years, but the
1928 trouble was not of any importance.

BLOSSOM END ROT -- Non-parasitic

NOVA SCOTIA

1927 - One specimen submitted by a correspondent.

NEW BRUNSWICK

1927 - Only a few cases observed.

1928 - This condition was quite severe in the greenhouse at the Dominion Experimental Station, Fredericton.

QUEBEC

1928 - This trouble caused a heavy loss in the tomato crop this year, especially in Rimouski and Temiscouata counties.

ONTARIO

1928 - Blossom end rot was very common in the Ottawa district.

YELLOWS -- Virus

BITISH COLUMBIA

1927 - Although this disease is present every year in the
1928 southern tomato growing sections, it rarely produces heavy losses. The degree of prevalence during 1928 was considered normal.

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

BRITISH COLUMBIA

1928 - Losses were very slight this year.

BREAKDOWN -- Cause unknown

BRITISH COLUMBIA

1928 - A breakdown, occurring especially on Earliana, but also present on other varieties, was severe in the Keremeos district. The most readily recognized symptom of the disease was the occurrence in the fruit, just about ripening time, of soft, mushy areas in the tissue lying just underneath the epidermis. These areas, usually occurring towards the calyx end of the fruit had a water soaked appearance and the colour was often slightly redder than that of neighbouring unaffected portions. To the touch, these areas were soft and watery and, when the epidermis was broken through with the finger, the tissue ran out in a water stream. Badly affected fruits were almost useless for canning, since so much of the tissue was lost in peeling. The trouble occurred under practically all conditions of culture, and was generally present throughout the whole district. It is true that, under certain fertilizer treatments, the disease was not as prevalent as in fields or parts of fields where the fertilizer was not applied. Its presence, however, in every field would seem to indicate that some condition, other than lack of food materials in the soil, was actually responsible for the trouble. The fertilizer treatments perhaps only prevented the actual causal factors from producing the losses that occurred on less vigorous plants. A protracted period of hot days and cold nights - 100° F. for five successive days, with sudden drops at night - might have played a very definite role in producing such a trouble.

TURNIP

CLUB ROOT -- Plasmodiophora Brassicae Wor.

NOVA SCOTIA

1928 - Two severe cases were reported from Colchester county.

NEW BRUNSWICK

1927 - Club root varied in intensity in different fields but was seldom severe.

1928 - This disease was generally severe this year.

QUEBEC

1927 - In a two-acre field in Nicolet county 20 per cent of the plants were badly affected. A one-acre field on the Magdalen Islands showed at least 50 per cent infection.

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

NEW BRUNSWICK

1927 - Only one specimen was observed.

1928 - General but slight infection.

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

NEW BRUNSWICK

1927 - This disease was found in St. Mary's, York county. It was sufficiently severe to cause the death of numerous leaves on the plants.

1928 - Leaf spot was more general in distribution than in 1927 and the infections were severe.

DRY ROT -- Phoma Lingam (Tode) Desm.

QUEBEC

1928 - In Bonaventure county two fields had 50 and 65 per cent dry rot respectively. The former was on wet soil and the latter on dry soil. The seed from which these two fields were grown, as well as another affected field in Beauce county, was all from the same source.

POWDERY MILDEW -- Erysiphe Polygoni DC.

NOVA SCOTIA

1928 - This disease was prevalent on the variety plots at the Dominion Experimental Station, Kentville, but was not a serious factor.

DOWNY MILDEW -- Peronospora parasitica (Pers.) de Bary

NEW BRUNSWICK

1927 - Isolated infections were found in York county.

SCAB -- Actinomyces scabies (Thax.) Güssow

QUEBEC

1928 - Scab was quite common on turnips in some localities, because poratoes and beets had been planted on the same land for years.