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Canada

DOMINION OF CANADA DEPARTMENT OF AGRICULTURE

DIVISION OF BOTANY, H. T. Gussow, DOMINION BOTANIST. DOMINION EXPERIMENTAL FARMS, E. S Archibald,

DIRECTOR.

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SIXTH ANNUAL

REPORT

ONTHE

PREVALANCE OF PLANT DISEASES

IN THE

DOMINION OF CANADA

1926

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of Ar

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<u>Nova Scotia</u>

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Atwell, E.A. Harrison, A.L. McLeod, D.J. Richardson, J.K.

Quebec

Baribeau, B. Pomerleau, R. Racicot, H.N.

<u>Ontario</u>

Berkeley, G.N.

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DISEASES OF CEREAL CROPS.

WHEAT.

STEM RUST -- Puccinia graminis Pers.

PRINCE EDWARD ISLAND

Severe infections occurred on wheat in Prince, Queen's and King's counties, heaviest infections appearing on hard wheats. Soft wheats were not seriously damaged.

NEW BRUNSWICK

Infection in the plots on the Experimental Station, Fredericton, was more prevalent than for some years past.

ONTARIO

In Essex, Kent, Elgin, Lambton, Middlesex, and Norfolk counties moderately severe infection appeared.

SASKATCHEWAN

Slight traces of infection were found from the Alberta border at Chawin eastward to Askwith. In the Saskatoon - Prince Albert area only one field in Rosthern had stem rust, infection in this case being only local.

ALBERTA

Very little stem rust was reported from this province. Traces were reported from Wainwright and from various points east to the boundary of the province.

LEAF RUST -- Puccinia triticina Eriks.

PRINCE EDWARD ISLAND

Damage was severe and general. All varieties grown in the province showed infection varying from a trace to 90%, Little Club receiving the most severe attack. Soft wheats showed moderate infection.

NOVA SCOTIA

Only slight infection reported from Kentville.

NEW BRUNSWICK

At Fredericton infection was severe, on some varieties killing the leaves prematurely.

QUEBEC

Very severe infection reported from Mississquoi and Rouville counties.

SASKATCHEWAN

Infection was general in the area between Prince Albert and North Battleford, traces of leaf rust also appearing between North Battleford and Lloydminster.

ALBERTA

Prevalent but not severe in the vicinity of Edmonton and Westlock.

BUNT OR STINKING SMUT -- <u>Tilletia laevis</u> Kühn and <u>Tilletia Tritici</u> (Bjerk.) Wint.

PRINCE EDWARD ISLAND

Of rare occurrence, Found on Marquis in rust nursery.

NOVA SCOTIA

Some loss caused at Truro.

NEW BRUNSWICK

Practically free from infection.

ONTARIO

One case reported from Essex county of approximately a loss of 30% of the crop owing to infestation by this disease.

 ${\rm Prop}_{{\rm Prop}}$

SASKATCHEWAN and ALBERTA Infections were widespread. A cooperative experiment conducted at the Lacombe Experimental Station with the Rust Research Laboratory at Winnipeg proved the ineffectiveness of the gas grain pickler method for the control of this disease. Both the formalin dip and the copper carbonate dust proved effective. LOOSE SMUT -- Ustilago Tritici (Pers.) Jens. PRINCE EDWARD ISLAND In Prince, Queen's, and King's counties infection was general but not serious, except in the case of a few fields, where 15 to 25% loss was reported. NEW BRUNSWICK Slight distribution only. QUEBEC Traces reported as occurring in Kamouraska county. SASKATCHEWAN and ALBERTA General and although not anywhere severe the aggregate loss must be extensive. ERGOT -- Claviceps purpurea (Fr.) Tul. PRINCE EDWARD ISLAND Scattered occurrence, doing no serious injury. SASKATCHEWAN In the Annaheim and Indian Head districts some slight occurrence of this disease was evident. SCAB -- Gibberella Saubinetii (Mont.) Sacc. PRINCE EDWARD ISLAND Of general occurrence and causing considerable loss. Is looked upon as the most serious disease of wheat in P.E.I. All standard varieties, including all varieties in uniform rust nurseries. NEW BRUNSWICK Merely a few isolated cases were seen at Fredericton. SASKATCHEWAN A trace only reported. ROOT ROT and HEAD BLIGHT -- Helminthosporium sativum P. K. et B. PRINCE EDWARD ISLAND Head blight was fairly common but not severe in Queen's county. NEW BRUNSWICK The disease was present in this province as a head blight. Only isolated cases were observed. SASKATCHEWAN and ALBERTA Root rot is distinctly worse in some districts than in others. From observation, the seasonal distribution of climatic factors, the system of cropping (especially on old land), and the type of soil are factors in the regional severity of root rot in a season. In southern Saskatchewan the disease was present as a root rot infection being moderate in nature. In the area between Prince Albert and North Battleford however, infection was severe. Between North Battleford and Lloydminster crops were free from

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TAKE ALL -- Ophiobolus cariceti (Berk. et Br.) Sacc.

SASKATCHEWAN and ALBERTA

damage by root rot.

Of common occurrence in Alberta. In Saskatchewan found to be more prevalent in the north, especially in the country south east of Prince Albert. Damage light.

POWDERY MILDEW -- Erysiphe graminis DC.

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PRINCE EDWARD ISLAND General but not serious.

NEW BRUNSWICK

Reports from the Experimental Station, Fredericton, indicate that only isolated cases of infection were observed.

STRIPE RUST -- Puccinia glumarum (Schmidt) E. et H.

ALBERTA

Discovered on a number of varieties of wheat on the plots at Olds School of Agriculture, this being the first report of the appearance of this rust on wheat in Western Canada.

GLUME SPOT -- Septoria nodorum Berk.

PRINCE EDWARD ISLAND

In Prince, Queen's and King's counties infection was general and serious. All varieties grown in the province were subject to this disease.

NEW BRUNSWICK

Sufficiently severe to be of considerable economic importance.

QUEBEC

Reported as being prevalent in all wheat fields in the county of Farnham West.

SASKATCHEWAN

Infection was rare this year in North eastern Saskatchewan. Infection was light.

FOOT ROT -- Wojnowicia graminis (McAlp.) Sacc. et D. Sacc.

SASKATCHEWAN

Reported found at Endworth.

MOULD INJURY (Cause undetermined)

ALBERTA

A field 6 miles west of camrose showed 2% of its area blackened by a mould. The mould appeared in circular spots on the spike when green, later covering and killing the plant and becoming evident on the stubble.

BACTERIAL DISEASES.

BASAL GLUME ROT -- Bacterium atrofaciens McCulloch.

SASKATCHEWAN and ALBERTA

This disease was not found this year in Alberta. In Saskatchewan but slight infections were noted.

BLACK CHAFF -- Bacterium translucens undulosum S.J. et R.

NEW BRUNSWICK

Slight infections only on isolated varieties.

NON-PARASITIC DISEASES.

WHITE TIP

SASKATCHEWAN

Found to slight extent in southern Saskatchewan.

KRINKLE JOINT

PRINCE EDWARD ISLAND

Of slight occurrence in Queen's county.

OATS.

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LOOSE AMUT -- Ustilago Avenae (Pers.) Jens.

PRINCE EDWARD ISLAND Reported present in Prince and Queen's counties.

NOVA SCOTIA

Generally distributed throughout the province. Infection moderate.

NEW BRUNSWICK

Moderate to slight but generally distributed.

QUEBEC

Untreated oats showed fairly heavy infection in Kamouraska county. In Montmagny county the disease was widespread but not severe.

SASKATCHEWAN

A slight attack occurred in Saskatchewan.

COVERED SMUT -- Ustilago levis (K. et S.) Magn.

PRINCE EDWARD ISLAND

Occurred generally in 1926. Losses sustained were of a serious nature, infection running 35% in many fields.

NOVA SCOTIA

Both loose and covered smut were prevalent throughout the province, infection running as high as 30% in some cases.

NEW BRUNSWICK

Only moderate infection occurred in untreated fields.

QUEBEC

The occurrence of covered smut was reported from L'Annonciation and New Carlisle West.

ONTARIO

Slight infections general in Kent county.

SASKATCHEWAN

Infection widespread, especially in the southern parts of the province.

STEM RUST -- Puccinia graminis Pers.

PRINCE EDWARD

Moderate infections occurred generally, in late season. Serious damage was not apparent.

NEW BRUNSWICK

This disease was more severe in 1926 than for some years past.

QUEBEC

Light infection occurred in Mississquoi county.

CROWN RUST -- Puccinia coronata Cda.

PRINCE EDWARD ISLAND

General, and in many instances severe, doing greater injury than stem rust.

NOVA SCOTIA

Slight infestation occurred at Kentville and in Antigonish county.

NEW BRUNSWICK

Some loss was sustained at the Experimental Station, Fredericton, due to the attacks of this rust.

SCAB -- Gibberella Saubinetii (Mont.) Sacc.

PRINCE EDWARD ISLAND

Of slight occurrence. Noticeable in late season.

Slight infection only. ANTHRACNOSE -- Colletotrichum cereale Manns. PRINCE EDWARD ISLAND Unly one report was recorded in 1926, showing 5% infection in one rod row of Burt. STRIPE -- Helminthosporium sp. PRINCE EDWARD ISLAND Of slight occurrence only. NEW BRUNSWICK Infection but light. GLUME BLOTCH -- Septoria nodorum Berk. PRINCE EDWARD ISLAND But rarely seen in the province. HALO BLIGHT -- Bacterium coronafaciens Elliott. PRINCE EDWARD ISLAND The disease was found occurring on isolated spots. Was not common. NEW BRUNSWICK Moderate infection but not widely distributed. BLASTING OF HEADS. PRINCE EDWARD ISLAND Although not serious occurred generally throughout King's and Queen's counties. SASKATCHEWAN Some evidence of this disease was found in southern Saskatchewan. BARLEY LOOSE SMUT -- Ustilago nuda (Jens.) K. et S. PRINCE EDWARD ISLAND

In Queen's, Prince, and King's counties, infection was common in all barley fields observed, and serious in most cases.

NOVA SCOTIA

NEW BRUNSWICK

Smut only showed up in a few places.

NEW BRUNSWICK

Slight infection only.

SASKATCHEWAN and ALBERTA General and although not anywhere severe causes a considerable aggregate loss.

COVERED SMUT -- Ustilago Hordei (Pers.) K. et S.

PRINCE EDWARD ISLAND

In Queen's county traces were found in all fields examined, the maximum amount of infection being about five percent.

NEW BRUNSWICK

Not of economic importance.

SASKATCHEWAN

Infection was general, being however very slight.

ALBERTA

Around Lacombe and Grande Prairie some slight infection was found. Infection ran from 1% to 25%.

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BLACK STEM RUST -- Puccinia graminis Pers.

PRINCE EDWARD ISLAND Fairly general but not serious.

NEW BRUNSWICK

At the Experimental Farm, York county, this rust was found to be prevalent on all varieties, though varying in amounts up to 75%.

QUEBEC

Light infection.

ONTARIO

Moderate infection seen in a few fields. Not as severe as on wheat.

LEAF RUST -- Puccinia simplex (Koern.) Eriks. et Henn.

PRINCE EDWARD ISLAND

A trace was found on O.A.C. 21 in Queen's county.

STRIPE -- Helminthosporium gramineum Rab.

PRINCE EDWARD ISLAND

Infection was not as severe as in 1925. Occurrence of the disease was common, a few cases of serious injury being reported.

QUEBEC

A trace was found on material grown from imported seed.

SASKATCHEWAN

Just a trace reported from Indian Head.

ALBERTA

Severe on a number of varieties but apparently not causing serious reduction in yield.

NET BLOTCH -- Helminthosporium teres Sacc.

PRINCE EDWARD ISLAND

Of slight occurrence, not serious.

SASKATCHEWAN

At Melfort, Kamsack, and Fairlight slight infection occurred.

ALBERTA

Severe on a number of varieties in area between Lacombe and Olds, but apparently not causing serious reduction in yield.

SPOT BLOTCH -- Helminthosporium sativum P.K. et B.

ALBERTA

Fairly severe infection occurred on many varieties but no marked reduction in yield was noted.

POWDERY MILDER -- Erysiphe graminis DC.

PRINCE EDWARD ISLAND

Not common. Of scattered occurrence in head rows at the Experimental Farm.

ERGOT -- Claviceps purpurea (Fr.) Tul.

PRINCE EDWARE ISLAND

This disease was not common in the province during 1926.

SASKATCHEWAN

Just a trace reported.

LEAF BLOTCH -- Septoria Passerinii Sacc.

SASKATCHEWAN

Reports from Indian Head and Redvers indicate that infection was common but slight.

ROOT ROT -- Caused by a Pythium-like fungus.

SASKATCHEWAN (South)

This disease took the form of a root rot similar to that of wheat and caused by a very similar fungus. One collection was made at Maryfield.

RYE.

ERGOT -- Claviceps purpurea (Fr.) Tul.

QUEBEC

A few diseased heads were found at Deschambault, Portneuf county.

SASKATCHEWAN

Only a trace was found.

LEAF RUST -- Puccinia dispersa Eriks.

SASKATCHEWAN

Slight infection was reported from Grenfell.

SMUT -- Urocystis occulta (Wallr.) Rab.

SASKATCHEWAN

Occurs only to a slight extent in this province.

FORAGE AND FIBRE CROPS.

ALFALFA.

LEAF SPOT -- Pseudopeziza Medicaginis (Lib.) Sacc.

PRINCE EDWARD ISLAND

Common in all stands of alfalfa but not causing serious injury.

NEW BRUNSWICK

At the Experimental Station Fredericton all leaves were heavily covered with sori, the disease assuming serious proportions.

SASKATCHEWAN

Heavy infestation of leaves was reported from the Experimental Station at Rosthern.

IEAF SPOT -- Ascochyta Medicaginis Bres.

NEW BRUNSWICK

Although well distributed, the infection was not serious.

ALBERTA

Infection general, causing some damage.

ROOT ROT -- Sclerotinia Trifoliorum Eriks.

ALBERTA

Reported present at the Experimental Station, Lacombe.

DOWNY MILDEW -- Peronospora Trifoliorum de Bary.

NEW BRUNSWICK

Slight isolated cases only, of no economic importance.

RUST -- Uromyces Medicaginis Pass.

PRINCE EDWARD ISLAND

Slight infection observed at Experimental Farm.

CLOVERS.

POWDERY MILDEW -- Erysiphe Polygoni DC.

In 1926 reports indicating the presence of this disease were received from Alberta, Nova Scotia and New Brunswick, all indicating moderate infection, with little resulting loss.

ROOT ROT -- Sclerotinia Trifoliorum Eriks.

ALBERTA

Not accountable for all winter killing noticed but clearly associated with many cases, as indicated by lesions and "pseudo sclerotia."

LEAF SPOT -- Pseudopeziza Trifolii Fckl.

PRINCE EDWARD ISLAND

Common but giving no evidence of serious injury.

NOVA SCOTIA

Infection slight.

NEW BRUNSWICK

Fairly general, though not serious.

RUST -- Nigredo Trifolii (Hedw.f.) Arth.

SASKATCHEWAN

Light infection was observed at Watson.

RUST -- Uromyces fallens Desm. and Uromyces Trifolii (Hedw.f.) Lev.

PRINCE EDWARD ISLAND

Of common occurrence in King's, Queen's, and Prince counties, but not doing serious injury.

NOVA SCOTIA

Reported present in Antigonish and King's counties.

NEW BRUNSWICK

Severe where present, though not generally distributed.

SOOTY SPOT -- Phyllachora Trifolii (Pers.) Fckl.

PRINCE EDWARD ISLAND Noted in isolated patches, but not of importance.

NOVA SCOTIA

Severe on many fields causing loss of foliage and reducing the quality.

NEW BRUNSWICK

Moderately severe and fairly general infection.

QUEBEC

Quite well distributed in Kamouraska county.

MOSAIC

NEW BRUNSWICK

Only a few diseased plants were observed at the Experimental Station, Fredericton.

A SWEET CLOVER.

ROOT ROT -- Sclerotinia Trifoliorum Eriks.

SASKATCHEWAN

Losses from attacks of this parasite were extremely severe especially in northern Saskatchewan, around North Battleford. Many hundreds of acres were involved, the loss being as high as 95% in many cases.

ALBERTA

This disease appeared on sweet clover at Edmonton, Lloydminster, and Lacombe, doing fairly serious damage where severe infection occurred.

STEM CANKER -- Ascochyta caulicola Laubert.

SASKATCHEWAN

Heavy infection occurred on sweet clover at Saskatoon

ALBERTA

Severe attacks were reported from the area around Lacombe and Olds.

MOSAIC

NEW BRUNSWICK

Reported present in Fredericton.

ONTARIO

Found to be rather common on volunteer plants in the vicinity of Ridgetown, Kent county.

CORN.

SMUT -- Ustilago Zeae (Beck.) Ung.

PRINCE EDWARD ISLAND

Only one report received. This disease is not of common occurrence in this province.

NEW BRUNSWICK

Slight, but general infection on leaves, ears, stalks and tassels appeared at the Experimental Station, Fredericton.

SASKATCHEWAN

Was not of common occurrence in this province.

RUST -- Puccinia Sorghi Schw.

PRINCE EDWARD ISLAND

Occurring commonly at the Experimental Farm but not causing serious injury. This is the first record of this disease in the province.

NEW BRUNSWICK

Of fare occurrence and of comparatively no economic importance.

QUEBEC

Observations at Ste.Anne de la Pocatière show the following amounts of infection on corn.

Variety	Amount of rust
Gehn	Severe
Quebec 28. Maci. C.	Moderate "
Northwestern Dent.Brandon Twitchells Pride. Fredericton	tt
Northwestern Dent. MacD.C.	Trace
Compton Early Duke	Slight
Longfellow. Johnston	11
Minnesota 13. Dakota I.S.	Trace
Baily, Bondy	Slight
Wisconsin #7. Duke	Moderate
Red Cobb. Stell-Briggs	Moderate.

The scale used to denote degrees of infection was as follows. Very severe, severe, moderate, slight, trace, and none.

BLIGHT -- Fusarium sp.

PRINCE EDWARD ISLAND In Queen's county caused serious injury to leaves and stalks, resulting in poor development of ears. In the more severe cases large plots of corn took on a wilted appearance.

FLAX.

RUST -- Melampsora Lini (Schum.) Desm.

ONTARIO

Present to some extent in the vicinity of Toronto.

SASKATCHEWAN

Mere traces of rust on flax were reported from Carnduff and Watsor

STEM BREAK -- Polyspora Lini Lafferty

SASKATCHEWAN

Found occurring at Watrous and Watson.

ALBERTA

A loss of 1% reported from Olds School of Agriculture.

HEAT CANKER

NOVA SCOTIA

Caused considerable injury and the death of many plants. Examination of fibre from these plants showed collapse of tissue and little or no lignification.

GRASSES (Cultivated)

AWNLESS BROME (Bromus inermis Leyss.)

ERGOT -- Claviceps purpurea (Fr.) Tul.

PRINCE EDWARD ISLAND Of rare occurrence.

LEAF SPOT -- Septoria bromigena Sacc.

PRINCE EDWARD ISLAND Found commonly in 1926.

SASKATCHEWAN

Moderate infection.

KENTUCKY BLUE GRASS (Poa pratensis L.)

ERGOT -- Claviceps purpurea (Fr.) Tul.

Found in Prince Edward Island.

SMUT -- Entyloma irregulare Johans.

Reported fairly common in Prince Edward Island.

RUST -- Puccinia Poarum Niels.

Found in Saskatchewan.

MILDEW -- Erysiphe graminis DC.

Found to a small extent in Queen's county, Prince Edward Island.

ORCHARD GRASS

ERGOT -- Claviceps purpurea (Fr.) Tul.

Found in Queen's county, Prince Edward Island.

TIMOTHY

ERGOT -- Claviceps purpurea (Fr.) Tul.

Found commonly growing along the roadside in Prince Edward Island in 1926.

RUST -- Puccinia graminis Phlei-pratensis Eriks. et Henn.

PRINCE EDWARD ISLAND

Occurring commonly in the province. Serious in certain localities. There appears to be definite degrees of immunity in Charlottetown Station strains.

NOVA SCOTIA

Heavy infestation by August 15th.

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HEMP

ROT -- Sclerotinia Sclerotiorum (Lib.) Mass.

NOVA SCOTIA

At Kentville about 40% of the plants were affected, rotting of the stem taking place about six inches above the ground level. Fibre of plants attacked by this fungus was rendered useless.

ONTARIO

Reported as causing serious injury in plots on the Central Experimental Farm.

MILLET

SMUT -- Sorosporium Syntherismae (Peck.) Farl.

SASKATCHEWAN

5% infection reported from Indian Head.

MILDEW -- Sclerospora graminicola (Sacc.) Schr.

Slight infection occurred on a plot of Siberian Millet at the Experimental Farm.

LEAF SPOT -- Bacterial?

ALBERTA

Very severe on "Early Fortune," Japanese, and Hog Millet at Olds School of Agriculture.

SUNFLOWER

RUST -- Puccinia Helianthi Schw.

NEW BRUNSWICK

Slight, isolated infections only, occurred at the Experimental Station, Fredericton.

ONTARIO

At the Central Experimental Farm plants grown by the Horticulture Division were badly diseased.

SASKATCHEWAN

Slight infestations occurred in the vicinity of Indian Head and Bruno, Saskatchewan.

WILT -- Sclerotinia sclerotiorum (Lib.) Mass.

NOVA SCOTIA

Less than 1% infection reported from Kentville.

NEW BRUNSWICK

Isolated cases only observed. Not serious.

QUEBEC

This year only a few plants were affected with this disease, in all the fields at the Experimental Station at Ste.Anne de la Pocatière.

ONTARIO

Very prevalent in Horticulture division plots at the Central Experimental Farm.

VETCH

BACTERIAL SPOT -- Cause undertermined.

ALBERTA

The bacteria attacked plants grown from seed imported from Spokane, Washington, Abundant reddish purples spots appeared on the stalks of diseased plants. Some other varieties of vetch nearby were not affected. DISEASES OF FRUIT CROPS.

APPLE

SCAB -- Venturia inaequelis (Cke.) Wint.

PRINCE EDWARD ISLAND

General this year but not as serious as in 1925. Twig infection caused serious injury, especially on MacIntosh Reds. Spraying operations gave good control at the Experimental Farm.

NOVA SCOTIA

First conidia on leaf observed on unsprayed trees locally, June 4th, 1926. First ascospore discharge May 17-18. Heavy discharge during and following full bloom. Final spore discharge recorded July 15th. Late infections began to show in the orchard by September 22nd, being initiated from September 7th to September 9th. Throughout the province there was less than half the normal yield due to apple scab. The loss due to this disease was estimated at \$400,000.

NEW BRUNSWICK

Extremely severe on MacIntosh and Fameuse. Practically no #1 MacIntosh grown this year.

ONTARIO

Some infection occurred in Colchester south, Essex county.

SASKATCHEWAN

Rosthern and Indian Head Experimental stations report this disease to be present to a slight extent.

BLACK ROT -- Physalospora Cydoniae Arn.

NOVA SCOTIA

Several specimens in the advanced stages of decay were found in storage at Kentville.

NEW BRUNSWICK

Of rare occurrence in this province.

ONTARIO

Very light infection in Essex county.

CEDAR RUST

NEW BRUNSWICK

One isolated specimen only was observed.

EUROPEAN CANKER -- Nectria galligena Bres.

PRINCE EDWARD ISLAND

Common in uncared-for orchards. Probably following winter injury.

NOVA SCOTIA

At Kentville mummified fruits found in an orchard were covered with the perithecial stage of the fungus.

NEW BRUNSWICK

A few small cankers were observed in the vicinity of the Experimental Station, Fredericton.

SILVER LEAF -- Stereum purpureum Pers.

PRINCE EDWARD ISLAND

One record of this disease at the Experimental Farm. Not important.

NEW BRUNSWICK

Isolated cases only observed. Golden Russet was one of the varieties attacked.

TWIG BLIGHT and FRUIT SPOT -- Phoma Pomi Pass.

NEW BRUNSWICK

35% infection was observed on one tree of unknown variety.

SOOTY BLOTCH -- Phyllachora pomigena (Schw.) Sacc.

NOVA SCOTIA

A very severe development of sooty blotch on Baldwins occurred The last application of spray or dust took place on in storage. July 30th.

ROT -- Pholiota adiposa Fr.

NOVA SCOTIA

At Kentville one tree was severely rotted and covered with profuse clusters of fungous sporophores.

BROWN ROI -- <u>Sclerotinia cinerea</u> (Bon.) Schr. <u>Sclerotinia fructicola</u> (Wint.) Rehm. (= Sclerotinia americana (Wormald) Norton et Ezekiel.)

NEW BRUNSWICK

Found to a considerable extent in storage experiments, but of no economic importance.

> STORAGE ROTS -- Pennicillium spp., Mucor spp., Alternaria spp.

NOVA SCOTIA

Predominant isolations from rotting fruit included the three genera. Other genera isolated were Gloeosporium and Cladosporium. A considerable amount of rot was found following sooty blotch.

NEW BRUNSWICK

Rather prevalent, but only on the poorer keeping varieties.

PINK ROT -- Cephalothecium roseum Cda.

PRINCE EDWARD ISLAND

Commonly associated with apple scab this year.

NEW BRUNSWICK

Only one specimen was collected, this being found in a storage cellar at the Experimental Station Fredericton.

FIRE BLIGHT -- Bacillus amylovorus (Burr.) Trev.

PRINCE EDWARD ISLAND

One serious outbreak occurred at Charlottetown, causing the death of several trees.

ONTARIO

Moderate infection, no defoliation.

NON-PARASITIC DISEASES.

WINTER INJURY

PRINCE EDWARD ISLAND

In this province there were many cases of winter injury doing serious damage, particularly in uncared-for orchards.

NEW BRUNSWICK

One orchard at Douglas having a southern exposure sustained material loss from sun scald during the winter of 1925-26.

BLACKBERRY.

ORANGE RUST -- Gymnoconia interstitialis (Schl.) Lag.

NEW BRUNSWICK

Moderate infection on all specimens of the wild species observed.

CHARRY.

SHOT HOLE -- Coccomyces hiemalis Higgins.

PRINCE EDWARD ISLAND

Defoliation due to attacks of this fungus was common, in some instances 60% of the foliage being lost.

ONTARIO

Present to a limited extent in Essex county.

BROWN ROT -- <u>Sclerotinia cinerea</u> (Bon.) Schr. <u>Sclerotinia fructicola</u> (Wint.) Rehm.

(- <u>Sclerotinia americana</u> (Wormald.) Norton et Ezekiel.)

PRINCE EDWARD ISLAND

Not common this year. One report at the Experimental Farm.

BLACK KNOT -- Plowrightia morbosa (Schw.) Sacc.

PRINCE EDWARD ISLAND

In Prince, Queen's, and King's counties infection was general and serious on cultivated cherries, especially where pruning is not practised. Wild species very badly diseased, many trees being killed yearly by Black Knot.

QUEBEC

One report from St. Jean, Port-Joli stating that one or two trees in a small orchard there were badly affected with Black Knot.

CURRANT.

BLISTER RUST -- Cronartium ribicola F. de Wald.

PRINCE EDWARD ISLAND

Attacks were severe this year on red varieties. Also found causing serious injury to Pines, death having resulted from attacks of long standing.

NOVA SCOTIA

First uredinia found on both reds and blacks in cultivation. Good control was obtained by sulphur dusting - vide- report of Kentville Laboratory of Plant Pathology for 1926.

NEW BRUNSWICK

Severe infection occurred in York county, resulting in the curling of leaves and premature defoliation.

ONTARIO

Observed at Richmond Hill and Hilton.

LEAF SPOTS -- <u>Septoria Ribis</u> Desm. <u>Pseudopeziza Ribis</u> Kleb. <u>Nycosphaerella Grossulariae</u> (Fr.) Lind.

PRINCE EDWARD ISLAND

Occur commonly in Prince Edward Island, but have no apparent effect upon the crop.

NOVA SCOTIA

This disease was found to occur to a moderate extent in Annapolis, Colchester, and Pictou counties.

NEW BRUNSWICK

A slight but general infection was found in Fredericton and Sackville.

SASKATCHEWAN

Slightly in evidence at Indian Head.

MILDEW -- Sphaerotheca Mors-Uvae (Schw.) B. et C.

NEW BRUNSWICK

Not present in serious proportions.

SASKATCHEWAN

Serious in the vicinity of Carmel attacking both fruit and leaves, the former in many cases being ruined.

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ALBERTA

Reported from Edmonton.

RUST -- Puccinia Pringsheimiana Kleb.

NEW BRUNSWICK

Slight but general infection occurred in York and Westmorland counties.

SASKATCHEWAN

A light infection of Ribis sp. at Sutherland.

GOOSEBERRY.

LEAF SPOTS -- <u>Pseudopeziza Ribis</u> Kleb. Mycosphaerella Grossulariae (Fr.) Lind.

PRINCE EDWARD ISLAND

Both diseases were recorded, but damage negligible.

NEW BRUNSWICK

A few scattered spots only observed.

RUST -- Puccinia Pringsheimiana Kleb.

NOVA SCOTIA

The aecial stage was frequently observed on cultivated plants. Not serious.

SASKATCHEWAN

Merely a trace observed.

POWDERY MILDEW -- Sphaerotheca Mors-Uvae (Schw.) B. et C.

PRINCE EDWARD ISLAND

One collection at the Experimental Farm, Queen's county.

NOVA SCOTIA

Infestations of gooseberry plantations were reported from Kentville and Granville Centre.

NEW BRUNSWICK

Attack only slight and of no economic importance.

SASKATCHEWAN

At Carmel much of the fruit dropped from the bushes due to the mildew attack.

PEACH.

LEAF CURL -- Taphrina deformans (Berk.) Tul.

NOVA SCOTIA

General infestation of about 25% of foliage on young trees in Kentville district.

PEAR.

SCAB -- Venturia pyrina Aderh.

PRINCE EDWARD ISLAND

Common on Bartletts and general on all other varieties grown in the province.

NOVA SCOTIA

At Wolfville this disease was rather severe on several varieties. In some cases the pear crop was a total loss owing to scab.

NEW BRUNSWICK On the few trees grown at Fredericton the infection was sufficient to deform the fruit.

IEAF SPOT -- Mycosphaerella sentina (Fr.) Schroet.

PRINCE EDWARD ISLAND Observed at the Experimental Farm. FIRE BLIGHT -- Bacillus anylovorus (Burr.) Trev.

PRINCE EDWARD ISLAND

Not of importance in this province.

NEW BRUNSWICK Not generally common. Only one specimen sent in for identificcation.

PLUM.

BROWN ROT -- <u>Sclerotinia cinerea</u> (Bon.) Schr. <u>Sclerotinia fructicola</u> (Wint.) Rehm.

(- <u>Sclerotinia americana</u> (Wormald.) Norton et Ezekiel.)

PRINCE EDWARD ISLAND

One slight outbreak was reported, damage being slight.

NEW BRUNSWICK

This rot was found to a slight extent on all varieties grown, being particularly noticeable on green gages.

PLUM POCKET -- Taphrina Pruni (Fckl.) Tul.

PRINCE EDWARD ISLAND

Of slight occurrence in 1926.

NOVA SCOTIA

Slight infection in the vicinity of Bridgetown.

NEW BRUNSWICK

One specimen only sent in for identification.

QUEBEC

Infections were observed at Loretteville. Not serious.

ONTARIO

Reported from Mattawa and Toronto.

SASKATCHEWAN

Present at Indian Head.

BLACK KNOT -- Plowrightia morbosa (Schw.) Sacc.

PRINCE EDWARD ISLAND

A very serious disease of plums in the province, especially where orchards have been neglected. German Prune variety not susceptible, Damson most susceptible.

NEW BRUNSWICK

Moderately severe and generally distributed.

RASPBERRY.

CANE BLIGHT -- Leptosphaeria Coniothyrium (Fckl.) Sacc.

NEW BRUNSWICK

Noticeable but not of economic importance at the Experimental Station, Fredericton.

BLUE STEM -- Verticillium ovatum Berk. et Jack.

QUEBEC

A few diseased plants were found in a plantation at Beauxjour, Rimouski county.

ANTHRACNOSE -- <u>Plectodiscella veneta</u> (Speg.) Burk. (Gloeosporium venetum Speg.)

PRINCE EDWARD ISLAND

Found to be common on Herberts, causing a considerable loss.

NEW BRUNSWICK

Most canes affected to a slight extent only.

QUEBEC

Distributed generally over Temiscouta and Montmagny counties. Of no great importance.

SPUR BLIGHT -- Mycosphaerella rubina (Pk.) Jacz.

PRINCE EDWARD ISLAND

90% heavy infection on all red varieties, causing serious injury in all raspberry plantations near Charlottetown. Spraying with Bordeaux mixture gave good results. Both spore stages were collected.

NEW BRUNSWICK

Isolated cases only observed in both York and Westmorland counties.

QUEBEC

The following is a list showing varietal susceptibility of raspberries to spur blight at the Ste. Anne de la Pocatière.

Variety	Spur Blight.	1996 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1990
Cuthbert Brighton Herbert Newman Loubon Count Superlative Newman 24 Sir John Shim Latham Golden Queen	Trace Severe None " Moderate Trace Slight Trace Slight None	<u>SCALE</u> . None Trace Slight Moderate Severe Very severe
LEAF SPOT <u>Mycosphaerella</u> (<u>Septoria Rubi</u>	Rubi (West.) Roark. West.)	

PRINCE EDWARD ISLAND

A slight outbreak occurred at the Experimental Farm, but it was of no importance.

ORANGE RUST -- Gymnoconia interstitialis (Schl.) Lag.

NOVA SCOTIA

Found in the neighborhood of Kinsac.

NEW BRUNSWICK

Was extremely severe on wild species. Leaves were entirely killed by the end of August.

QUEBEC

This rust was frequently found on red raspberries throughout the province.

CROWN GALL -- Bacillus tumefaciens E.F.S. et Town.

PRINCE EDWARD ISLAND

There seems to be a slight reoccurrence of this disease yearly. Of no econòmic importance.

MOSAIC

PRINCE EDWARD ISLAND Serious again in 1926. Plantations showing disease in 1923 are now either dead or in a useless condition. Meanwhile the yearly spread of this disease continues. Black varieties seem to be the only ones showing resistance.

NOVA SCOTIA

Severe on Cuthberts. Slight on Herberts and St. Regis.

NEW BRUNSWICK

All varieties grown experimentally show moderate infection.

QUEBEC

Varieties grown at Ste. Anne de la Pocatière and percentage infection are shown as follows.

<u>Variety</u>	Per cent Mosaic
Latham	64
Brighton	40
Count	32 ·
Cuthbert	84
Herbert	12
King	52
Newman 20	64
St. Regis	16

Two other patches of raspberries, one about one acre in extent, consisting of Herbert, Eaton, and Newman 23, on the farm of Jack Bros. Chateauguay, and the other, a patch of twelve acres of King, Newman 23 and Newman 20, owned by Mr. C. P. Newman himself, at Ville Lasalle, P.Q. were both badly infected with mosaic in 1925. In each case infection ran as high as from 90% to 100%, and the bushes presented a most hopeless looking appearance. In 1926 the bushes made a remarkable recovery in vigour, and, although mosaic is still in evidence, both patches produced very profitable crops of fruit.

LEAF CURL

PRINCE EDWARD ISLAND

Curl was again serious throughout the province. The only varieties showing resistance were the black ones. There was an average infection of about 60%.

NOVA SCOTIA

Found in patches at Annapolis and Wolfville infesting the Guthbert variety.

NEW BRUNSWICK

Observed to a considerable extent on both wild and cultivated species.

STRAWBERRY.

LEAF SPOT -- Mycosphaerella Fragariae (Schw.) Lin.

PRINCE EDWARD ISLAND

Infection general but not serious. Observed on S.L. Champion, Glen Mary, Valeria, Hermia, and Senator Dunlop. Plants of the S.L. Champion variety which were sprayed with Bordeaux Leaf Scorch control were not affected.

NOVA SCOTIA

General but not apparently severe.

NEW BRUNSWICK

Moderately severe in all varieties grown at the Experimental Station, Fredericton.

QUEBEC

Over 50% of the plants in a field at Grand Remon, Matane county showed leaf spot.

LEAF SCORCH -- Mollisia Earliana (E. et E.) Sacc.

PRINCE EDWARD ISLAND

Injury was observed in July on S.L. Champion, Glen Mary, Charles 1st, Superb, Americus, Valeria, Portia, Parsons, and Senator Dunlop. Early spraying with Bordeaux mixture gave encouraging results.

NEW BRUNSWICK

Infection was extremely slight in this province.

POWDERY MILDEW -- Sphaerotheca Humuli (DC.) Burr.

PRINCE EDWARD ISLAND

"Sample" variety showed slight infection again in 1926. Disease not important.

NEW BRUNSWICK

Varies from slight to severe, depending upon the variety. In some cases leaves were very severely curled.

BOTRYTIS ROT -- Botrytis sp.

PRINCE EDWARD ISLAND

Observed on Senator Dunlop, causing serious loss in plantations. Commonly found in strawberries on the market.

NEW BRUNSWICK

This rot was noticeable only where the foliage was extremely dense. Found on both green and ripe fruit.

ROOT ROT

NEW BRUNSWICK

Caused perceptible damage in scattered localities.

QUINCE.

RUST -- Gymnosporangium germinale (Schw.) Kern.

NOVA SCOTIA

Of common occurrence in the district surrounding Kentville.

DISEASES OF VEGETABLE AND FIELD CROPS.

ARTICHOKE.

WILT -- Sclerotinia sp.

NEW BRUNSWICK

Found to occur in bed at the Experimental Station, Fredericton.

ASPARAGUS.

RUST -- Puccinia Asparagi DC.

PRINCE EDWARD ISLAND

A slight outbreak was reported from the Experimental Farm but no serious injury was caused.

ONTARIO

Common in Ottawa district; also reported from southerwestern Ontario.

BEAN.

ANTHRACNOSE -- Colletotrichum Lindemuthianum (Sacc. et Magn.) Br. et Cav.

PRINCE EDWARD ISLAND

90% leaf and stem infection in July caused the death of many plants. Pod infection was heavy being as high as 98% in most varieties. Resistance is claimed for Hudson Long Pod, but it has little to recommend it here in that capacity. (R.R. Hurst.)

NEW BRUNSWICK

Infection general but slight in York county. The disease proved to be a menace to the productive bean crop in the lower St. John valley.

QUEBEC

A 7% infection was reported observed in one small garden in Montmagny.

SASKATCHEWAN

Infection in this province was slight.

RUST -- Uromyces appendiculatus (Pers.) Lév.

PRINCE EDWARD ISLAND

Found affecting bush beans only. Infection was slight and scattered.

NEW BRUNSWICK

Very little infection was noted here.

WILT -- <u>Sclerotinia Sclerotiorum</u> (Lib.) Mass. (= <u>Sclerotinia Libertiana</u> Fckl.)

NOVA SCOTIA

A small amount of infection appeared in Pictou and King's counties.

NEW BRUNSWICK

From slight to severe infestations were noted in different parts of the province, infection on the average being slight.

QUEBEC

Observed in a garden at Montmagny.

ONTARIO

Fairly prevalent throughout Ontario.

WILT -- (Cause undetermined)

SASKATCHEWAN

The diseased plants were grown from seed imported from Norway. On some plants a pseudo mosaic pattern appeared on the leaves. No bacteria were isolated, and the roots appeared healthy.

BACTERIAL BLIGHT -- Bacterium Phaseoli E.F.S.

PRINCE EDWARD ISLAND Frequently observed on beans, but not a serious factor.

NEW BRUNSWICK

Prevalent but not severe.

QUEBEC

A trace was reported from Quebec county.

ALBERTA

In Lethbridge and Beaver Hall counties blight was of common occurrence.

MOSAIC

PRINCE EDWARD ISLAND

There was more infection this year than in previous years, the general average being 5% at the Experimental Farm. Varietal resistance was not observed.

NEW BRUNSWICK

Only occasional plants observed.

QUEBEC

Appeared on white pea bean in L'Islet county.

ONTARIO

Reported from Kent county. Not common on beans, the maximum number of diseased plants being about 2%.

BEET.

LEAF SPOT -- Cercospora beticola Sacc.

PRINCE EDWARD ISLAND Common but not serious.

NOVA SCOTIA

General but slight.

NEW BRUNSWICK

Infection was extremely slight, only one report, from York county, being received.

ROT AND LEAF SPOT -- Phoma Betae Frank.

NOVA SCOTIA

Observed at Truro.

SCAB -- Actinomyces scabies (Thax.) Gussow.

PRINCE EDWARD ISLAND

Diseased beets were observed in market produce in Queen's county.

QUEBEC

Some traces of scab infection were observed at Mont Carmel, Kamouraska county.

CABBAGE.

CLUB ROOT -- Plasmodiophora Brassicae Wor.

PRINCE EDWARD ISLAND

Reports indicate that this disease had decreased in extent and importance in the province.

NOVA SCOTIA

A 3% infection appeared in one field near New Glasgow, where, it appeared, cabbages had been grown on the same soil for three years.

QUEBEC In Temiscouta and Bonaventure counties a small percentage of plants were attacked by this disease. ROT -- <u>Sclerotinia Sclerotiorum</u> (Lib.) Mass. (= <u>Sclerotinia Libertiana</u> Fckl.) PRINCE EDWARD ISLAND This rot appeared both in the field and in storage, infection in the latter case being severe. LEAF SPOT -- Alternaria Brassicae (Berk.) Sacc. PRINCE EDWARD ISLAND General but not serious around Charlottetown. BLACK ROT -- Bacterium campestre (Pammel) E.F.S. PRINCE EDWARD ISLAND One report, from Charlottetown, not serious. SOFT ROT -- Bacillus carotovorus Jones. PRINCE EDWARD ISLAND Occurred at the Experimental Farm where cabbages were in storage, causing a 15% loss. NEW BRUNSWICK Only a few specimens were observed. CARROT. ROT -- <u>Sclerotinia Sclerotiorum</u> (Lib.) Mass. (= <u>Sclerotinia Libertiana</u> Fckl.) PRINCE EDWARD ISLAND This organism was constantly associated with a serious storage rot of carrots. CAULIFLOWER. CLUB ROOT -- Plasmodiophora Brassicae Wor. NEW BRUNSWICK Slight infections only in a farm garden at Fredericton. CELERY. LATE BLIGHT -- Septoria Petroselini Desm. var. Apii Br. et Cav. PRINCE EDWARD ISLAND Common around Charlottetown and occasioned considerable loss this year. The disease does not become common during the summer, but reaches its greatest development in the fall. A considerable amount of injury is also caused in storage. NEW BRUNSWICK Varied from severe to slight with different varieties. EARLY BLIGHT -- Cercospora Apii Fr. PRINCE EDWARD ISLAND One observation on unknown variety at Charlottetown. ROT -- Botrytis sp.

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PRINCE EDWARD ISLAND

One hundred per cent rot occurred in one storage bin inspected, the entire plant being rotted in all cases.

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FOOT ROT -- Sclerotinia Sclerotiorum (Lib.) Mass.

PRINCE EDWARD ISLAND

This organism was constantly associated with a serious foot rot which developed rapidly in cold storage and destroyed 100% of the celery heads by January 1927. (R.R. Hurst.)

SOFT ROT -- Bacillus carotovorus Jones.

PRINCE EDWARD ISLAND

A serious soft rot causing considerable storage loss.

DROUGHT INJURY

ONTARIO

Plants in Essex county were stunted and burned following over six weeks, of dry, hot, weather.

CHARD.

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

SASKATCHEWAN

Abundant in the vicinity of Saskatcon.

CUCUMBER.

ANTHRACNOSE -- Colletotrichum lagenarium (Pass.) E. et H.

PRINCE EDWARD ISLAND

Just one report received of a severe attack in a garden in Queen's county.

SCAB -- Cladosporium cucumerinum Ell. et Arth.

NOVA SCOTIA

One case of severe infestation reported.

ROOT ROT -- Corticium sp.

PRINCE EDWARD ISLAND

Caused considerable loss at the Experimental Farm. The point of attack was apparently at the surface of the ground, extending upwards for about two inches, and downwards to the roots.

SASKATCHEWAN

In plots at Saskatoon this fungus causes the plants to wilt from the roots when about three inches high.

BACTERIAL WILT -- Bacterium tracheiphilus E.F.S.

NEW BRUNSWICK

Approximately 10% of the vines at the Experimental Station, Fredericton, were killed, the resulting loss being considerable.

MOSAIC

PRINCE EDWARD ISLAND

All varieties suffered from this disease, which is the worst enemy of cucumbers in the province. Around Charlottetown infection averaged 60%, running as high as 100% in many instances.

NEW BRUNSWICK

One case of severe mottling on fruit appeared at Fredericton.

HORSE RADISH.

LEAF SPOT -- Cercospora Armoraciae Sacc.

PRINCE EDWARD ISLAND

Common on the few plants grown around Charlottetown.

LEAF SPOT -- Ramularia Armoraciae Fckl.

PRINCE EDWARD ISLAND

Only one collection was made in Charlottetown.

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NEW BRUNSVICK

Slight occurrence only observed at Fredericton.

LETTUCE.

DROP -- <u>Sclerotinia Sclerotiorum</u> (Lib.) Mass. (= <u>Sclerotinia Libertiana</u> Fckl.)

PRINCE EDWARD ISLAND

Slight infection was general at the Experimental Farm. Is not considered as serious however, owing to the fact that development of the disease is chiefly after the period of usefulness of the plant.

NOVA SCOTIA

Symptoms of this disease were observed on the stems of a few plants which were seeding.

NEW BRUNSWICK

Slight prevalence on all varieties.

SASKATCHEWAN

At Indian Head only one or two plants were affected by this disease.

GRAY MOULD -- Botrytis cinerea Pers.

PRINCE EDWARD ISLAND

Caused the destruction of one lettuce bed at Charlottetown and also occurred to a slight extent at the Experimental Farm.

NEW BRUNSWICK

This disease was observed on practically all older leaves to some extent.

MANGEL.

LEAF SPOT -- Cercospora beticola Sacc.

PRINCE EDWARD ISLAND

Of general occurrence but never assuming serious proportions.

ONION.

DOWNY MILDEW -- Peronospora Schleideni Ung.

PRINCE EDWARD ISLAND

Slightly less disease than in 1925 but still doing serious injury to the onion crop. All varieties were susceptible.

NEW BRUNSWICK

Of such economic importance in this locality that onions cannot be grown commercially.

NECK ROT -- Botrytis Alii Munn.

PRINCE EDWARD ISLAND

Caused heavy losses in early storage. Appears continually on marketed onions.

MANITOBA

The market gardeners in the Winnipeg district lost a large percentage of their onions in storage. The fall this year was wet and cold.

PARSNIP.

LEAF SPOT -- Ramularia Pastinacae (Karst.) Lindr. et Westr.

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NEW BRUNSWICK

A small amount of infection appeared on every plant observed at the Experimental Station, York county.

PEA.

LEAF AND POD SPOTS -- Mycosphaerella pinodes (Berk. et Blox.) Stone, (Ascochyta Pisi Lib.)

PRINCE EDWARD ISLAND

Moderate infection, not causing serious loss.

MANITOBA

Slight infection reported from Winnipeg.

ALBERTA

Rather severe infection of vines and pods on plots of field peas, especially marrow pot, was observed in the territory between Lacombe and Olds.

LEAF SPOT -- Septoria Pisi West.

PRINCE EDWARD ISLAND

50% infection in Queen's and King's counties. Responsible for the early death of the plants and poor pod development.

ALBERTA

Severe infection on plots at Olds School of Agriculture.

MILDEW -- Erysiphe Polygoni DC.

PRINCE EDWARD ISLAND

Quite common on all varieties and no doubt responsible for much of the lack of vigour common to peas this season.

NEW BRUNSWICK

One specimen sent in for identification; prevalence not known.

ROT -- Rhizoctonia sp.

ALBERTA

Considerable injury caused by Rhizoctonia to the roots and vines of field peas was noted in the area between Lacombe and Olds.

MOSAIC

PRINCE EDWARD ISLAND

Susceptible varieties noted were as follows: - Little Marvel, American Wonder, and Thomas Laxton. Infection was highest at 5% on Little Marvel.

POTATO.

LATE BLIGHT -- Phytophthora infestans (Mont.) de B.

NOVA SCOTIA

In Antigonish county there was a slight amount of infection on fresh and vigorous plants.

NEW BRUNSWICK

This blight effects a considerable reduction in yield annually in this province. Moderate infections prevailed this season, being less severe on the average than was the case in 1925.

EARLY BLIGHT -- Alternaria Solani (E. et M.) J. et G.

NOVA SCOTIA

Infections scattered and in some cases severe. Occurring generally on Garnet Chile variety.

NEW BRUNSWICK

Infection was severe on the vines, occasional tuber rots being also in evidence.

RHIZOCTONIA -- Corticium vagum B. et C.

NEW BRUNSWICK

Found on all varieties.

SILVER SCURF -- Spondylocladium atrovirens Harz.

NEW BRUNSWICK

Slight occurrence generally distributed.

ORY ROT -- Fusarium oxysporum Schl.

NEW BRUNSWICK

Not severe but nevertheless a factor in potato storage.

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

NEW BRUNSWICK

Of rare occurrence in the province.

STORAGE ROT -- Phoma tuberosa Melhus, Rosenbaum, et Schultz.

PRINCE EDWARD ISLAND

Appeared in Queen's county, but was not common.

SCAB -- Actinomyces scables (Thax.) Güssow.

NEW BRUNSWICK

Infection slight.

BLACK LEG -- Bacillus phytophthorus (Frank) Appel

NEW BRUNSWICK

Although still in evidence there was a marked decrease in the amount and extent of infection as compared with that of last year.

QUEBEC

Reported from Rimouski county, where infection in some few cases ran as high as 18%.

MOSAIC

NEW BRUNSWICK

All types present to varying degrees.

QUEBEC

The following is a list submitted by Mr. H.N. Racicot showing percentage infection of mosaic and leaf roll upon several varieties of potatoes at Cap Rouge, Quebec county.

Variety	Per cent Mosaic	Per cent Leaf Roll
Green Mountain	100	0
Irish Cobbler	70	· 10
Dooley	29	0
Chili	90	0
Table Talk	0	100
Morgan Seedling	0	0

Morgan seedling was apparently free from mosaic or leaf roll, although I am not familiar with its normal appearance and could not be positive.

LEAF ROLL

NEW BRUNSWICK

Observed in all varieties.

STREAK

NEW BRUNSWICK

Isolated plants only affected.

SPINDLE TUBER

NEW BRUNSWICK

More generally present than in previous seasons.

WITCHES' BROOM

NOVA SCOTIA

Found to some extent in the district surrounding Truro.

HOLLOW HEART

NEW BRUNSWICK

At Sackville, Westmorland county, was found to be prevalent in the Cobbler variety.

RHUBARB.

LEAF SPOT -- Ascochyta Rhei E. et E.

PRINCE EDWARD ISLAND

In Queen's county a 20% infection appeared, but since infection took place late in the summer the injury was slight.

NEW BRUNSWICK

Only a few specimens were observed.

LEAF SPOT -- Phyllosticta straminella Bres.

PRINCE EDWARD ISLAND

Common, causing severe leaf injury.

ROT -- Botrytis sp.

PRINCE EDWARD ISLAND

This development occurred commonly on all varieties of rhubarb at the Experimental Farm, Queen's county in 1926. In culture a sclerotial form developed.

SPINACH.

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

PRINCE EDWARD ISLAND

50% infection on variety "Longstanding." Serious injury resulted.

SASKA TCHEWAN

On the following varieties, King of Denmark, Bloomsdale, Victoria, and Longstanding there was 10 to 15% infection. No infection on Broad Leaf variety.

SQUASH.

STORAGE ROT -- Sclerotinia Sclerotiorum (Lib.) Mass.

NEW BRUNSWICK

Slight infection in Lunbury county.

TOBACCO.

As in previous seasons a disease survey was conducted throughout the various tobacco growing districts in the provinces of Quebec, and Ontario, and British Columbia. In the last mentioned province it was not found possible to make a survey of the seedbeds.

ROOT ROT -- Thielavia basicola Zopf.

QUEBEC

This was one of the chief seedbed troubles in the Quebec districts. Due probably to the rather cool weather which obtained in the early part of the growing season, the disease developed to quite serious proportions, especially in the Northern district. Its presence was observed in nearly every field inspected, in some cases the plants having made scarcely any growth since being set out. It is reasonable to believe that the root rot disease was a factor of some importance in the reduction of the per acre yield in Quebec in 1926.

ONTARIO

Thielavia root rot caused considerable loss to Burley and Green River growers along the lake front between Wheatley and Cedar Springs in Kent county. In many instances, however, the loss was not as great as the midseason survey indicated, owing to the continued warm weather in late July and August. The flue cured crops were comparatively free from disease.

DAMPING OFF -- Rhizoctonia spp. and Fusarium spp.

QUEBEC

This was one of the chief seedbed troubles in the province, owing to the fact that the majority of the growers sow the seed too quickly and do not give the beds sufficient ventilation.

ONTARIO

This disease was observed, but rarely assumed serious proportions.

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ANGULAR LEAF SPOT -- Bacterium angulatum Froome et Murray.
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QUEBEC

Found occasionally but did little damage.

WILD FIRE -- Bacterium Tabacum W. et F.

QUEBEC

This disease again occurred in the Yamaska Valley, in the same locality where it was first observed in 1925. Although in some cases the loss was severe, the disease does not appear to have spread to any appreciable extent.

MOSAIC

QUEBEC

Only a few cases of mosaic were observed, mostly in the Yamaska Valley.

ONTARIO

The percentage of mosaic infected plants was small and not nearly as prevalent as in 1924 and 1925.

BRITISH COLUMBIA

This disease was present in the Okanagan valley, but did not cause much loss.

CURLY DWARF

BRITISH COLUMBIA

This disease made its initial appearance in the province this year, being observed on a few plants at the Summerland Station.

FRENCHING

BRITISH COLUMBIA

Quite common, in some instances appearing to be associated with an excess of irrigation water. Loss from this disease was severe.

SUNBURN AND FERTILIZER INJURY

QUEBEC

Present to a slight extent.

LEAF SPOTS -- Non-parasitic.

ONTARIO

Rather common on Green River varieties in the latter part of the season.

BRITISH COLUMBIA

Observed frequently in some localities where frenching was most severe.

TOMATO.

LEAF SPOT -- Septoria Lycopersici Speg.

PRINCE EDWARD ISLAND Infection averaged 10%. Variety "Bonny Best" received serious Injury.

NEW BRUNSWICK

Slight but infection not general.

ONTARIO

Reported from Stirling county.

TARGET SPOT OR BLACK ROT -- Alternaria Solani Kuhn

PRINCE EDWARD ISLAND

In Queen's county there was one heavy infection on "Spark's

Earliana." Slight infection was general on all other varieties.

NEW BRUNSWICK

Attacks were very severe at the Experimental Station, Fredericton, generally resulting in premature death of the vines.

MOSAIC

PRINCE EDWARD ISLAND General again in 1926, but not more than 5% infection noted except in one plot of early Detroit, where heavy infection had apparently reduced the vigour of all plants.

NEW BRUNSWICK

Very slight.

ONTARIO

At Colchester south, Gosfield south, and Mersea, Essex county infections up to 6% of plants observed on canning factory tomatoes.

BLOSSOM END ROT

NEW BRUNSWICK

Slight infection of plants at Fredericton.

QUEBEC

Prevalent in Bonaventure county.

ONTARIO

One report from Colchester South that infection severe and losses heavy.

SASKATCHEWAN

Observed at Indian Head.

TURNIP.

CLUB ROOT -- Plasmodiophora Brassicae Wor.

PRINCE EDWARD ISLAND

Reported frequently but not serious this year.

NOVA SCOTIA

Occurs generally throughout the province. Losses, on the average, slight.

NEW BRUNSWICK

The prevalence of this disease has discouraged the growing of turnips in certain sections of the province, particularly Westmorland county, where infections have been sufficiently severe in the last few years to curtail the production sufficiently to ruin the fatted cattle industry.

QUEBEC

Infections general and occasionally severe.

POWDERY MILDEW -- Erysiphe Polygoni DC.

PRINCE EDWARD ISLAND Slight and scattered occurrence.

LEAF SPOT -- Alternaria sp.

PRINCE EDWARD ISLAND 5% infection on "New Century." WHITE SPOT -- Cercosporella albo-maculans (E. et E.) Sacc.

NOVA SCOTIA

Observed in the vicinity of Truro.

SOFT ROT -- Bacillus carotovorus Jones.

PRINCE EDWARD ISLAND

Slight occurrence in late season. Of no importance.

NEW BRUNSWICK

Occasional diseased plant observed at the Experimental Station Fredericton.

FOREST AND SHADE TREE DISEASES.

ALDER (Alnus spp.)

Deldinia Vernicosa (Schw.) Ces. et De Not.

Reported fairly prevalent in Stanstead and Kamouraska counties.

BALSAM FIR (Abies balsamea (L.) Miller)

RUST AND WITCHES' BROOM -- Melampsorella Caryophyllacearum Schroet.

Found in Quebec, New Brunswick, Nova Scotia, and Prince Edward Island. Heavy infection was reported from the latter province, serious injury being caused to young trees.

NEEDLE BLIGHT -- Phyllosticta sp.

NOVA SCOTIA

Reported from Hulls Harbor, King's county, as infecting a few needles only.

NEEDLE BLIGHT -- Toxosporium abietinum Vuill.

NOVA SCOTIA

First report of this disease locally, Causing a killing of needles on a clump of trees. Apparently not spreading to any extent.

BEECH.

SEEDLING BLIGHT -- Botrytis sp.

Present in Queen's county, Prince Edward Island.

BIRCH.

HEART ROT -- Fomes fomentarius Fr.

Serious every year in Prince Edward Island causing the death of many trees, including saplings. (NOTE). I have observed sections in Nova Scotia (1926) in Pictou, Antigonish, and Cape Breton, where hundreds of young trees were destroyed by this fungus, creating a serious fire menace.

(R.R. Hurst.)

Venturia sp. Common in Prince Edward Island.

<u>CHERRY</u> (<u>Prunus virginiana</u>, and P. <u>demissa</u>) POWDERY MILDEW -- <u>Podosphaera Oxycanthae</u> (DC.) de B. Found at Ste. Anne de la Pocatière, Quebec.

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CRATAEGUS OXYCANTHE L.

RUST -- Gymnosporangium sp.

Occurs commonly on pink <u>Crataegus</u> at the Experimental Farm, Prince Edward Island.

ELM (<u>Ulmus americana</u> L.)

LEAF SPOT -- Gnomonia ulmea (Sacc.) Thum.

Found occasionally in Quebec and New Brunswick.

Dothidella Ulmi (Duval) Wint.

Generally well distributed in Quebec.

WHITE HEART ROT -- Fomes igniarius Fr.

Found in New Brunswick. Specimens observed rotted to the extent of about 50%.

HAZLENUT (Corylus spp.)

Gnomoniella Coryli Sacc.

Reported from Stanstead county, Quebec.

HORSE CHESTNUT (Aesculus Hippocastanum L.)

LEAF SPOT -- Phyllosticta sphaeropsidea E. et E.

In Prince Edward Island causes serious defoliation each year. Was particularly severe in 1926.

JUNIPER (Juniperus communis L.)

RUST -- Gymnosporangium clavariaeforme (Jacq.) DC.

Found on J. communis var. canadensis in Nova Scotia.

RUST -- Gymnosporangium germinale (Schw.) Kern.

Found on both common juniper and on <u>J. communis</u> var. <u>hibernica</u>, the Irish juniper, which latter is apparently as much a carrier of apple rust as the <u>J. communis</u> var. <u>canadensis</u>.

MAPLES (Ascer Negundo L.)

TWIG BLIGHT -- Coryneum Negundinis B. et C.

Caused serious injury to several small trees at Charlottetown, Prince Edward Island. This is the first report of Coryneum twig blight on the island.

PHOMA BLIGHT -- Phoma Aceris Negundinis Arcangeli.

Slight occurrence in Prince Edward Island.

TAR SPOT -- Rhytisma acerinum F.

Reported slight infection only observed in New Brunswick.

TWIG BLIGHT -- Sphaeropsis sp. possibly albescens E. et E.

Commonly found in Prince Edward Island this year, causing considerable injury.

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SILVER MAPLE (Acer saccharinum L.)

TAR SPOT -- Rhytisma acerinum F.

Observed in Prince Edward Island.

Acer saccharum Marsh.

TAR SPOT -- Rhytisma sp.

Reported from Prince Edward Island as being common on sugar maples.

PINES.

Pinus strobus L.

BLISTER RUST -- Cronartium ribicola F. de Wald.

A fairly heavy infection occurred in Nova Scotia, and Prince Edward Island, the young trees showing the heaviest infection and injury.

Pinus contorta Dougl. var. Murrayana Engelm.

RUST -- sp. unknown.

Reported as severe on Lodge Pole Pine in Bassaro county, Alberta.

POPLAR.

Populus tremuloides Michx.

RUST -- Melampsora Medusae Thüm.

Reported from Prince Edward Island:

Populus balsamifera L.

LIMB GALLS -- Cucurbitaria staphula Dearn.

Found at Buchanan, Saskatchewan.

Populus nigra italica Du Roi.

TWIG BLIGHT -- <u>Napicladium Tremulae</u> (Frank.) Sacc.

Present in Quebec.

Populus sp.

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POWDERY MILDEN -- Uncinula Salicis (DC.) Wint.
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Occurs widely in Quebec.

SPRUCE (Picea spp.)

RUST -- Chrysomyxa Rhododendri (DeC.) De Bary.

Heavy infection found in Restigauche county, New Brunswick.

WILLOW (Salix spp.)

RUST -- Melampsora Bigelowii Thüm.

Common on swamp willows in Saskatchewan and Prince Edward Island.

MILDEW -- Uncinula Salicis (DC.) Wint.

Reported present in Quebec and Prince Edward Island.

TAR SPOT -- Rhytisma salicinum Fr.

Common in New Brunswick and Prince Edward Island.

TWIG AND LEAF FLIGHT -- Marssonia Populi (Lib.) Sacc.

Infection widespread and serious in both Nova Scotia and Prince Edward Island. Damage severe.

DIEBACK -- Valsa sp. (Cytospora stage)

Heavy infection around Saskatoon, Saskatchewan.

HEART ROT -- Fomes igniarius Fr.

Reported found in New Brunswick.

DISEASES OF ORNAMENTAL PLANTS.

AMPELOPSIS (Ampelopsis quinquefolia Michx.)

POWDERY MILDEW -- Uncinula necator (Schw.) E. et E.

Occurs to limited extent in Quebec and Prince Edward Island.

ASTER (Callistephus chinensis Nees.)

WILT -- Fusarium conglutinans Callistephi Beach.

Reported from Ontario, Quebec, New Brunswick, and Prince Edward Island. Infection was severe and heavy losses resulted.

YELLOWS

Present in Alberta, Ontario, Quebec, New Brunswick and Nova Scotia. Infections were moderate, no great damage being done.

AZALEA.

LEAF SPOT -- Septoria Azaliae Vogl.

Found in Quebec.

BARBERRY.

RUST -- Puccinia graminis Pers.

Common in Quebec and Prince Edward Island.

BUCKTHORN (Rhamnus cathartica L.)

RUST -- Puccinia coronata Cda.

Reported from Saskatchewan, Quebec, Nova Scotia, and Prince Edward Island.

CARNATION.

RUST -- Uromyces caryophyllinus (Sch.) Wint.

Plants suffered from this disease in New Brunswick, and Prince Edward Island, especially those grown under glass.

CHRYSANTHENUM.

POWDERY MILDEW -- Erysiphe Cichoracearum DC.

Reported from Alberta and Quebec.

CLARKIA.

BUD ROT -- Botrytis sp.

Observed in New Brunswick.

ANTHRACNOSE -- Colletotrichum sp.

Reported from New Brunswick.

COLUMPINE.

LEAF SPOTS -- Alternaria sp. and Ascochyta Aquilegiae Roum.

Reported from New Brunswick where scattered infection occasionally met with.

POWDERY MILDEW -- Erysiphe Polygoni DC.

Generally distributed in New Brunswick.

DELPHINIUM.

POWDERY MILDEW -- Erysiphe Polygoni DC.

Reported from Ontario, Quebec, New Brunswick, and Prince Edward Island, being quite common in the two latter provinces.

BLACK SPOT -- Bacterium Delphinii (E.F.S.) Bryan.

Prevalent causing serious injury in Prince Edward Island.

GERANIUM (Pelargonium sp.)

GRAY MOULD -- Botrytis sp.

Reported from Fredericton, New Brunswick. Only one specimen observed.

LEAF SPOT -- Bacterium Erodii Lewis.

Found at Gananoque, Ontario.

OEDEMA OR DROPSY.

Reported from Appleton, Ontario.

GLADIOLUS.

HARD ROT -- Septoria Gladioli Pass.

Present in Alberta, Manitoba, and Ontario.

DRY ROT -- A sclerotium-bearing fungus, undetermined.

Reported from Alberta, Saskatchewan, New Brunswick, and Nova Scotia.

SCAB -- Bacterium marginatum McC.

Reported from British Columbia and Saskatchewan. Very prevalent in Ontario and slightly so in Nova Scotia.

HOLLYHOCK. (Althaea rosea Cav.)

RUST -- <u>Puccinia Malvacearum</u> Bertero

Reported from New Brunswick, Nova Scotia, and Prince Edward Island.

LEAF SPOT -- Phyllosticta althaeina Sacc.

Found in New Brunswick.

DRY ROT -- Sclerotinia sp.

Reported severe at Fredericton, New Brunswick.

HONEYSUCKLE (Lonicera sp.)

POWDERY MILDEW -- Microsphaera Alni (Wall.) Salm.

Slight infection at Charlottetown, Prince Edward Island.

LEAF SPOT -- Leptothyrium Periclymeni (Deam.) Sacc.

Reported from Stanstead county, Quebec.

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IRIS.

LEAF SPOT -- Heterosporium gracile (Wal.) Sacc.

Present in Ontario, New Brunswick, Nova Scotia, and Prince Edward Island. In New Brunswick and Prince Edward Island the disease was especially severe.

RHIZOME ROT -- Bacillus carotovorus Jones.

Slight in Manitoba, Widespread in Ontario, especially in the regions bordering on the Great Lakes.

RUST -- Puccinia Iridis (DC.) Duby.

Reported from New Brunswick as being of infrequent occurrence.

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

Quite severe at the Experimental Farm, Charlottetown, Prince Edward Island.

JUNEBERRY (Amelanchier amifolia Nutt.)

WITCHES BROOM -- Dimerosporium Collinsii (Schw.) Thum.

Common in Saskatchewan.

LILAC (Syringa vulgaris L.)

POWDERY MILDEW -- Microsphaera Alni (Wall.) Salm.

Moderate and widespread infection in Ontario, Quebec, and New Brunswick, and Prince Edward Island.

LUPINE.

LEAF SPOT -- Cercospora sp.

A trace only present in New Brunswick.

PANSY.

LEAF SPOT -- Alternaria sp.

Reported from New Brunswick.

LEAF SPOT -- Colletotrichum violae tricoloris R.E. Smith.

Only a few leaves observed at Fredericton, New Brunswick.

PEONY (Paeonia spp.)

BLIGHT -- Botrytis Paeoniae Oud.

Found in Ontario, Quebec, New Brunswick, and Prince Edward Island. Is quite a serious factor in peony growing on the Island.

LEAF SPOT -- Alternaria sp.

Of occasional importance.

PHLOX.

MILDEW -- Erysiphe Cichoracearum DC.

Prevalent in Ontario.

LEAF SPOT -- Septoria Phlogis Sacc. et Spey.

Common around Charlottetown, Prince Edward Island.

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ROSE.

POWDERY MILDEW -- Sphaerotheca pannosa (Wallr.) Lev.

Common in Ontario and Prince Edward Island. In some cases serious injury resulted from attacks of this fungus.

RUSTS -- Phragmidium spp.

Found on wild and cultivated species in Ontario, New Brunswick, Nova Scotia, and Prince Edward Island. In the latter province the following varieties were free from rust:- Crawford, Star of Persia, Coronation, Crimson Rambler, Openlia, Dorothy Perkins, P. Yellow.

LEAF BLOTCH -- Diplocarpon Rosae (Lib.) Wolf.

Reported from Manitoba, New Brunswick, and Prince Edward Island.

STEM CANKER -- Coniothyrium Fuckelii Sacc.

Observed in the region around Cobourg, Ontario.

CROWN GALL -- Bacillus tumefaciens E.F.S. et Town.

Found near Toronto, Ontario.

SNAPDRAGON.

RUST -- Puccinia Antirrhini D. et H.

Moderately severe on all plants examined in New Brunswick.

SPINDLE TREE (Evonymous sp.)

POWDERY MILDEW -- Microsphaera Alni (Wallr.) Wint.

Moderate infection reported in Prince Edward Island.

STOCKS.

ROT -- Sclerotinia sp.

Reported from New Brunswick.

SWEET. PEA.

MILDEW -- Erysiphe Polygoni DC. and Microsphaeria Alni (Walk.) Salm. Moderately severe in Quebec, New Brunswick and Prince Edward Island.

ROOT ROTS -- Fusarium sp. and Corticium sp.

Reported from Quebec and Prince Edward Island.

MOSAIC

Reported from New Brunswick and Prince Edward Island, but of rare occurrence.

SYMPHORICARPUS.

POWDERY MILDEW -- Microsphaera diffusa Cke. et Peck. Reported as slight in Prince Edward Island.

TULIP.

BLIGHT -- Botrytis Tulipae (Lib.) Hop.

Found to be prevalent in British Columbia and Prince Edward Island.

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VIOLET.

REST -- Puccinia Violae (Schum.) DC.

Severe on wild varieties in New Brunswick. Reported also from Nova Scotia, but in this case little observed.

ZINNIA.

DRY ROT -- Sclerotinia sp.

Widespread and in some cases serious in New Brunswick.

DISEASES OF MISCELIANEOUS PLANTS.

Agropyron repens (L.) Deauv.
ERGOT - <u>Claviceps purpurea</u> (Fr.) TulWakefield, Quebec, Prince, Queen's, and King's counties, Prince Edward Island.
MILDEW - <u>Erysiphe graminis</u> DCQueen's county, P.E.I. TAR SPOT - <u>Phyllachora graminis</u> (Pers.) FcklSte.Anne de la Pocatière, Quebec, and Prince Edward Island.
RUST (leaf) <u>Puccinia Clematidis</u> (DC.) LaghQueen's county, P.E.I. RUST (stem) <u>Puccinia graminis</u> PersPrince, Queen's, and King's counties, P.E.I.
Agropyron Smithii Rydb. RUST - <u>Puccinia montanensis</u> EllSaskatoon, Sask.
Agrostis hyemalis (Wal.) B.S.P. RUST - <u>Puccinia Liatridis</u> BothelRosthern, Saskatchewan
Amaranthus retroflexus L. WHITE RUST - Albugo Bliti (Bir.) KzeSaskatoon, Sask., and Queen's county, P.E.I.
Anemone canadensis L. RUST - Puccinia Anemones-virginianae (Schw.)Beaver Creek, Sask. RUST - Puccinia Clematidis (DC.) LagerhSaskatoon, Sask.
Anemone cylindrica A. Gray. RUST - <u>Puccinia Clematidis</u> (DC.) LagerhSaskatoon, Sask.
Anemone globosa Nutt. RUST - Puccinia Clematidis (DC.) LagerhSaskatoon, Sask.
Arabis sp. RUSTPuccinia monoica (Peck.) ArthSaskatoon, Sask.
Aster sp. RUST - <u>Puccinia Asteris</u> DubyTruro, Nova Scotia.
Bromus Porteri (Covlt.) Mash. RUST - <u>Puccinia Ciematidis</u> (DC.) LagerhSaskatoon, Sask.
Capsella Bursa-pastoris (L.) Midic. WHITE RUST - Albugo candida (Pers.) Roussel.York county, N.B. DOWNY MILDEW - Peronospora parasitica (Pers.) De B. Queen's county, P.E.I.
Carex scoparia Sch. RUST - Uromyces perigynius HalstQueen's county, P.E.I.
<u>Celastrus scandens</u> L. <u>POWDERY MILDEW</u> <u>Phyllactinia corylea</u> (Pers.) Ste.Anne de Bellevue, Quebec.
Chamaedaphne calyculata (L.) Moench. RUST - Melampsora cassandrae ArthQueen's county P.E.I.
Chenopodium sp. WHITE RUST - Albugo candida (Pers.) O. Kuntze.Indian Head, Sask. LEAF SPOT - Cercospora dubia (Raiss.) WintQueen's county, P.E.I.

Cirsium sp. RUST - Puccinia Circii LaschSaskatoon, Sask. RUST - Uromyces Junci (Desm.) TulSaskatoon, Sask.
<u>Cirsium arvense</u> (L.) Scop. RUST - <u>Puccinia suaveolens</u> (Pers.) RostrQueen's county, P.E.I., Fredericton, N.B.
Convolvulus sepium L. RUST - Puccinia Convolvuli (Pers.) CastQueen's county, P.E.I.
Corylus rostrata Ait. LEAF SPOT - Gnomoniella Coryli (Batsch.) SaccValparaiso, Sask.
Crataegus chrysocarpa Ashe. RUST - Gymnosporangium clavariaeforme (Jacq.) DC.Saskatoon, Sask.
Erepsis sp. RUST - Puccinia patruelis ArthAnnaheim, Sask.
Distichlis stricta (Torr.) Rydb. RUST - <u>Puccinia subnitens Diet</u> Saskatchewan.
<u>Eleagnus commutata</u> Bernk. RUST - <u>Puccinia coronata</u> CdaSaskatoon, Sask.
Galiopsis tetrahit L. LEAF SPOT - Septoria sp
Gaura coccinea Pursh. RUST - Uromyces plumbarius PeckSaskatoon, Sask.
<u>Glycyrrhiza lepidota</u> Nutt. RUST - <u>Utomyces Glycyrrhizae</u> (Rabh.) P. MagnBeaver Creek, Sask.
Halerpestes Cymbalaria (Pursh.) Greene. RUST - <u>Puccinia Clematidis</u> (DC) LagerhAnnaheim, Sask.
Hordeum jubatum L. RUST - <u>Puccinia graminis</u> PersQueen's county, P.E.I. SMUT - <u>Ustilago Lorentciana</u> ThumSaskatoon, Sask.
Iva axillaris Pursh. RUST - Puccinia intermixta PeckGrenfell, Sask.
Juncus Calticus Willd. RUST - Uromyces Junci (Desm.) TulQueen's and King's Counties, P.E.I.
Juncus tenuis Willd. RUST - Uromyces Silphii (Syd.) ArthQueen's county, P.E.I.
Lacinaria punctata (Hook.) Kuntz. RUST - <u>Puccinia Liatridis</u> BethelSaskatoon, Sask.
Lactuca pulchella (Pursh.) DC. RUST - <u>Puccinia hemisphaerica</u> (Peck.) Ell. et Ev.Carmel, Sask.
Leontodon autumnalis L. RUST - <u>Puccinia Taraxaci</u> PlowrQueen's county, P.E.I.
Lepargyreae canadensis (L.) Greene. RUST - Puccinia coronata CdaCarmel, Sask.
Lepidium sp. DOWNY MILDEW - Peronospora parasitics (Pers.) de B. Saskatoon, Sask.
Limonium carolinianum (Walt.) Brittan. RUST - <u>Uromyces Limonii</u> (DC.) LevPrince Edward Island.
Linum Lewisii Pursh. RUST - Melampsora Lini (Pers.) DesmSaskatoon, Sask.

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Lycopus uniflorus Michx. RUST - Puccinia angustata Peck	.Queen's county, P.E.I.
Mentha sp. RUST - <u>Puccinia Menthae</u> Pers	
Monardia menthaefolia Benth. RUST - <u>Puccinia Menthae</u> Pers	.Kellihen, and Beaver Creek,Sask.
Oligoneuron canescens Rydb. RUST - Puccinia Stipae (Ophiz.) Arth	······
<u>Persicaria Hartwrightii</u> (A. Gray.) Greene. RUST - <u>Puccinia Polygoni-amphibii</u> Pers	Langham, Sask.
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Plantago major L. POWDERY MILDEW - Erysiphe Cichoriacearum DC	Pocatiere, Quebec.
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Potentilla bipinnatifida Dougl. RUST - Phragmidium Potentillae (Pers.) Karst	Asquith, Sask.
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Rubus melanolasius Focke. RUST - Phragmidium imitans Arth	.Kelliker, Sask.

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Fredericton, N.B. Sanicula marylandica L. RUST - <u>Puccinia marylandica</u> LindrAnnaheim, Sask.
Solidago canadensis L. RUST - Coleosporium solidaginis (Schw.) ThumFredericton, N.B., and Queen's county, P.E.I.
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BEET Actinomyces scabies (Thax.) Güssow Cercospora beticola Sacc. Phoma Betae Frank	21 21 21 21 21
BIRCH	30
Fomes fomentarius Fr.	30
Venturia sp.	30
BLACKBERRY	13
Gymnoconia interstitialis (Schl.) Lag.	13
BUCKTHORN	33
Puccinia coronata Cda.	33
CABBAGE Alternaria Brassicae (Berk.) Sacc. Bacillus carotovorus Jones. Bacterium campestre (Pammel) E.F.S. Plasmodiophora Brassicae Wor. Sclerotinia Libertiana Fckl. Sclerotinia Sclerotiorum (Lib.) Mass.	21 22 22 22 21 22 22 22
CARNATION	33
Uromyces caryophyllinus (Sch.) Wint.	33
CARROT	22
Sclerotinia Libertiana Fckl.	22
Sclerotinia Sclerotiorum (Lib.) Mass.	22
CAULIFLOWER	22
Plasmodiophora Brassicae Wor.	22
CELERY Bacillus carotovorus Jones. Botrytis sp. Cercospora Apii Fr. Drought injury Sclerotinia Sclerotiorum (Lib.) Mass. Septoria Petroselini Desm. var. Apii Br. & Cav.	22 23 22 22 23 23 23 23 22
CHARD	23
Peronospora effusa (Grev.) Rab.	23
CHERRY	13
Coccomyces hiemalis Higgins	13
Plowrightia morbosa (Schw.) Sacc.	14
Sclerotinia americana (Wormald.) Norton & Ezekiel	14
Sclerotinia cinerea (Bon.) Schroet.	14
Sclerotinia fructicola (Wint.) Rehm.	14
CHERRY (Wild)	30
Podosphaera Oxyacanthae (DC.) de Bary	30
CHRYSANTHEMUM	33
Erysiphe Cichoracearum DC.	33
CLARKIA Botrytis sp. Colletotrichum sp.	33
CLOVERS Erysiphe Polygoni DC. Mosaic Nigredo Trifolii (Hedw.f.) Arth. Phyllachora Trifolii (Pers.) Fckl. Pseudopeziza Trifolii Fckl. Sclerotinia Trifoliorum Eriks. Uromyces fallens (Desm.) Kern Uromyces Trifolii (Hedw.f.) Lev.	777777777

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COLUMBINE	34
Alternaria sp.	34
Ascochyta Aquilegiae Roum.	34
Erysiphe Polygoni DC.	34
CORN Fusarium sp. Puccinia Sorghi Schw. Ustilago Zeae (Beck.) Ung.	9 9 9
CRATAEGUS	31
Gymnosporangium sp.	31
CUCUMBER	23
Bacterium tracheiphilus E.F.S.	23
Cladosporium cucumerinum Ell. & Arth.	23
Colletotrichum lagenarium (Pass.) E. & H.	23
Corticium sp.	23
Mosaic	23
CURRANT	14
Cronartium ribicola F. de Wald.	14
Mycosphaerella Grossulariae (Fr.) Lind.	14
Pseudopeziza Ribis Kleb.	14
Puccinia Pringsheimiana Kleb.	14
Septoria Ribis Desm.	14
Sphaerotheca Mors-Uvae (Schw.) B. & C.	14
DELPHINIUM	34
Bacterium Delphinii (E.F.S.) Bryan	34
Erysiphe Polygoni DC.	34
ELM	31
Dothidella Ulmi (Duval) Wint.	31
Fomes igniarius Fr.	31
Gnomonia ulmea (Sacc.) Thüm.	31
FLAX	9
Heat canker	10
Melampsora Lini (Schum.) Desm.	9
Polyspora Lini Lafferty	10
GERANIUM	34
Bacterium Erodii Lewis	34
Botrytis sp.	34
Oedema	34
GLADIOLUS	34
Bacterium marginatum McC.	34
Dry rot (Sclerotium Gladioli Mass.)	34
Septoria Gladioli Pass.	34
GOOSEBERRIES	15
Mycosphaerella Grossulariae (Fr.) Lind.	15
Pseudopeziza Ribis Kleb.	15
Puccinia Pringsheimiana Kleb.	15
Sphaerotheca Mors-Uvae (Schw.) B. & C.	15
GRASSES, CULTIVATED	10
AWNLESS BROME GRASS (Bromus inermis Leyss.)	10
Claviceps purpurea (Fr.) Tul.	10
Septoria bromigena Sacc.	10
KENTUCKY BLUE GRASS (Poa pratensis L.) Claviceps purpurea (Fr.) Tul. Entyloma irregulare Johans. Erysiphe graminis DC. Puccinia Poarum Niels.	10 10 10 10
ORCHARD GRASS (Dactylis glomerata L.)	10
Claviceps purpurea (Fr.) Tul.	10
TIMOTHY (Phleum pratense L.) Claviceps purpurea (Fr.) Tul. Puccinia graminis Phlei-pratensis (Eriks. & Henn.)	10 10

MOTHY (Phleum pratense L.) Claviceps purpurea (Fr.) Tul. Puccinia graminis Phlei-pratensis (Eriks. & Henn.) Stakm. & Piemeisel

10

GRASSES, MISCELLA	TEOUS		37
H A ZELNUT Gnomoniella (Soryli Sacc.		31 31
HEMP Sclerotinia S	Sclerotiorum (Lib.) Ma	.55.	11 11
Ū.	althaeina Sacc. Vacearum Bertero Sp.	·	34 34 34 34
	Periclymeni (Desm.) S Alni (Wall.) Salm.	lacc.	34 34 34
HORSE CHESTNUT Phyllosticta	sphaeropsiodea E. & H		31 31
	rmoraciae Sacc. Moraciae Fckl.		23 23 23
Heterosporium	otovorus Jones n gracile (Wal.) Sacc. lis (DC.) Duby		35 35 35 35
JUNEBERRY Dimerosporiur	n Collinsii (Schw.) Th	ıům.	35 35
	ium cla v ariaeforme (Ja ium germinale (Schw.)		31 31 31
	erea Pers. Libertiana Fckl. Sclerotiorum (Lib.) Ma		2 4 24 24 24
LILAC Microsphaera	Alni (Wall.) Salm.		35 35
LUPINE Cercospora sj) •		35 35
MANGEL Cercospora be	ticola Sacc.		24 24
			31 31 31 31 31
	graminicola (Sacc.) So Panici-miliacei (Pers.		11 11 11 11
Blasting of H Colletotrich Gibberella Sa Helminthospo: Puccinia core Puccinia gran Septoria node Ustilago Aven	um cereale Manns Aubinetii (Mont.) Saco rium sp. cnata Cda. ninis Pers.	>•	4 5 5 5 4 5 4 4 5 4 4

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ONIONS Botrytis Alii Munn, Peronospora Schleideni Ung. FANSY Alternaria sp. Colletotrichum Violae tricoloris R.E. Smith PARSNIP Ramularia Pastinacae (Karst.) Lindr. & Vestr. PEA Ascochyta Pisi Lib. Erysiphe Polygoni DC. Mcsaic Mycosphaerella pinodes (Berk. & Blox.) Stone Rhizoctonia sp. Septoria Pisi West. PEACH Taphrina deformans (Berk.) Tul. PEAR Bacillus amylovorus (Burr.) Trev. Mycosphaerella sentina (Fr.) Schroet. Venturia pyrina Aderh. PEONY Alternaria sp. Botrytis Paeoniae Oud. PHLOX Erysiphe Cichoracearum DC. Septoria Phlogis Sacc. & Speg. PINES Cronartium ribicola F. de Wald. Rust PLANTS MISCELLANEOUS PLUM Taphrina Pruni (Fckl.) Tul. Plowrightia morbosa (Schw.) Sacc. Sclerotinia americana (Wormald.) Norton & Ezekiel Sclerotinia cinerea (Bon.) Schroet. Sclerotinia fructicola (Wint.) Rehm. POPLAR Cucurbitaria staphula Dearn. Melampsora Medusae Thüm. Napicladium Tremulae (Frank.) Sacc. Uncinula Salicis (DC.) Wint. POTATO Actinomyces scabies (Thax.) Güssow Alternaria Solani (E. et M.) J. & G. Bacillus phytophthorus (Frank) Appel Corticium vagum B. et C. Hollow Heart Leaf Roll Mosáic Phoma tuberosa Melhus, Rosenbaum, & Schultz Phytophthora infestans (Mont.) de B. Spindle tuber Spondylocladium atrovirens Harz. Spongospora subterranea (Wallr.) Johns. Streak Witches' Broom

QUINCE

Gymnosporangium germinale (Schw.) Kern

RASPBERRY Bacillus tumefaciens E.F.S. & Town. Gloeosporium venetum Speg. Gymnoconia interstitialis (Schl.) Lag. Leptosphaeria Coniothyrium (Fckl.) Sacc. Leaf curl Mosaic Mycosphaerella Rubi (West,) Roark. Mycosphaerella Rubi (West,) Jacz. Plectodiscella veneta (Speg.) Burk. Septoria Rubi West. Verticillium ovatum Berk. et Jack.	16 17 16 17 16 18 17 17 17 17
ROSE	36
Bacillus tumefaciens E.F.S. & Town.	36
Coniothyrium Fuckelii Sacc.	36
Diplocarpon Rosae (Lib.) Wolf	36
Phragmidium spp.	36
Sphaerotheca pannosa (Wallr.) Lev.	36
RHUBARB	27
Ascochyta Rhei E. & E.	27
Botrytis sp.	27
Phyllosticta staminella Bres.	27
RYE	7
Claviceps purpurea (Fr.) Tul.	7
Puccinia dispersa Eríks.	7
Urocystis occulta (Wallr.) Rab.	7
SILVER MAPLE	32
Rhytisma acerinum F.	32
Rhytisma sp.	32
SNAPDRAGON	36
Puccinia Antirrhini D. & H.	36
SPINACH	27
Peronospora effusa (Grev.) Rab.	27
SPINDLE TREE	36
Microsphaera Alni (Wallr.) Wint.	36
SPRUCE	32
Chrysomyxa Rhododendri (DeC.) de Bary	32
SQUASH	27
Sclerotinia Sclerotiorum (Lib.) Mass.	27
STOCKS	36
Sclerotinia sp.	36
STRAWBERRIES	18
Botrytis sp.	19
Diplocarpon Earliana (E. et E.) Wolf	18
Mycosphaerella Fragariae (Schw.) Lin.	18
Root rot	19
Sphaerotheca Humuli (DC.) Burr.	19
SUNFLOWER	11
Puccinia Helianthi Schw.	11
Sclerotinia Sclerotiorum (Lib.) Mass.	11
SWEET CLOVER	8
Ascochyta caulicola Laubert	8
Mosaic	9
Sclerotinia Trifoliorum Eriks.	8
SWEET PEA	36
Corticium sp.	36
Erysiphe Polygoni DC.	36
Fusarium sp.	36
Microsphaeria Alni (Walk.) Salm.	36
Mosaic	36

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SYMPHORICARPUS Microsphaera diffusa Cke. & Peck.	36 36
TIMOTHY	10
Claviceps purpurea (Fr.) Tul. Puccinia graminis Phlei-pratensis (Eriks. & Henn.)	10
Stakm. & Piemeisel	10
TOBACCO Bacterium angulatum Froome & Murray Bacterium Tabacum W. & F. Curly dwarf Frenching Fusairum spp.	27 28 28 28 28 28 28 28 28 28 28 28 28 28
Leaf spots Mosaic	20 28 28
Rhizoctonia spp. Sunburn and fertilizer injury Thielavia basicola Zopf.	28 28 27
TOMATO	28
Alternaria Solani Khun Blossom end rot Mosaic	29 29
Septoria Lycopersici Speg.	29 28
TULIP Botrytis Tulipae (Lib.) Hop.	36 36
TURNIP	
Alternaria sp. Bacillus carotovorus Jones Cercosporella albo-maculans (E. & E.) Sacc. Erysiphe Polygoni DC. Plasmodiophora Brassicae Wor.	29 29 30 30 2 9 29
VETCH	
Bacterial Spot	11 11
VIOLET Puccinia Violae (Schum.) DC.	37 37
WHEAT	1
Bacterium atrofaciens McCulloch Bacterium translucens undulosum S.J. & R. Claviceps purpurea (Fr.) Tul. Erysiphe graminis DC. Gibberella Saubinetii (Mont.) Sacc.	1 332 322 3331 1 2 31 1 2 33
Helminthosporium sativum P.K. & B. Krinkle joint	2 3
Mould injury Puccinia glumarum (Schmidt) E.&H. Puccinia graminis Pers.	3
Puccinia triticina Eriks. Ophiobolus cariceti (Berk. & Br.) Sacc.	1
Septoria nodorum Berk. Tilletia levis Kühn	3
Tilletia Tritici (Bjerk.) Wint. Ustilago Tritici (Pers.) Jens.	1 2
White tip Wojnowicia graminis (McAlp.) Sacc. & D. Sacc.	3
WILLOW Fomes igniarius Fr.	32
Marssonia Populi (Lib.) Sacc. Melampsora Bigelowii Thum.	32 33 32 32 32 32 32
Rhytisma salicinum Fr. Uncinula Salicis (DC.) Wint.	32
Valsa sp.	32 33
ZINNIA	37
Sclerotinis sp.	37

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