DOMINION OF CANADA,

DEPARTMENT OF AGRICULTURE,

DIVISION OF BOTANY,
H. T. Gussow,
DOMINION BOTANIST.

DOMINION EXPERIMENTAL FARMS,
E. S. Archibald,
DIRECTOR.

FIFTH ANNUAL REPORT ON THE PREVALENCE OF PLANT DISEASES IN THE DOMINION OF CANADA.

1925

. . . . . oOo . . . . . .

COMPILED BY

J. B. McCURRY,
PLANT PATHOLOGIST.

A. J. Hicks,
ASSISTANT PLANT PATHOLOGIST.

LIST OF COLLABORATORS

Prince Edward Island

Creed, R.
Foster, E. W. C.
Howatt, J. L.
Hurst, R. R.
Mustard, J.
Peppin, S. G.

Dominion Laboratory of Plant Pathology, Charlottetown.

Nova Scotia

Baird, W. W.	Dominion Experimental Farm, Nappan.
Blair, W. S.	" " " "
Hilton, S. A.	" " Station, Kentville.
Hockey, J. F.	Dominion Laboratory of Plant Pathology, Kentville.
Kelsall, A.	Dominion Entomological Laboratory, Annapolis Royal.
Robertson, R. J.	" Experimental Farm, Nappan.
Taylor, C. F.	Dominion Laboratory of Plant Pathology, Kentville.

New Brunswick

Atwell, E. A.
Brown, A. A. M.
Godwin, C. H.
MacLeod, D. J.
Richardson, J. K.

Dominion Laboratory of Plant Pathology, Fredericton.

Quebec

Baribeau, B.	Dominion Laboratory of Plant Pathology, Ste. Anne de la Pocatière.
Browne, F. S.	Dominion Experimental Station, Lennoxville.
Campagna, E.	Ste. Anne de la Pocatière.
Cooper, R. V. F.	MacDonald College.
Godbout, F.	Ste. Anne de la Pocatière.
Gordon, W. L.	MacDonald College.
Harrison, K. A.	MacDonald College.
McCharles M. D.	Dominion Experimental Station, Lennoxville.
McTaggart, A.	MacDonald College.
Racicot, H. N.	Dominion Laboratory of Plant Pathology, Ste. Anne de la Pocatière.
Vanterpool, T. C.	MacDonald College.

Ontario

Berkley, G. H.
Chamberlain, G. C.
Crossgrove, R. F.

Dominion Laboratory of Plant Pathology, St. Catharines.

Dearness, J.	London.
Digges, D. D.	Dominion Experimental Station, Harrow.
Drayton, F. L.	Division of Botany, Ottawa,
Faull, J. H.	University of Toronto, Toronto.
Forward, Bower	Ontario Agricultural College, Guelph.
Fraser, J. G. Carl	Central Experimental Farm, Ottawa.
Groh, Herbert	Division of Botany, Ottawa,.
Gussow, H. T.	Dominion Botanist, Division of Botany, Ottawa.
Howitt, J. E.	Ontario Agricultural College, Guelph.
Jackson, A. B.	Dominion Laboratory, St. Catharines.
Kerr, L. W.	Ontario Agricultural College, Guelph.
Knowles, George	Central Experimental Farm, Ottawa,.
MacClement, W. T.	Queens University, Kingston.
MacCurry, J. B.	Division of Botany, Ottawa.
McCallum, A. W.	" " " "
Major, T. G.	Tobacco Division, Ottawa.

Ontario (Continued)

Mounce, Miss Irene	Division of Botany, Ottawa.
Partridge, G.	" " " "
Sands, D. R.	Ontario Agricultural College, Guelph.
Slagg, C. M.	Tobacco Division, Ottawa.
Stone, R. F.	Ontario Agricultural College, Guelph.
Tucker, J.	Division of Botany, Ottawa.
Whiteside, A. G. O.	Cereal Division, Ottawa.

Manitoba

Bailey, D. L.	Dominion Rust Research Laboratory, Winnipeg.
Bisby, G. R.	Manitoba Agricultural College, Winnipeg.
Conners, I. L.	Dominion Rust Research Laboratory, Winnipeg.
Craigie, J. H.	" " " " "
Greaney, F. J.	" " " " "
Jackson, V. W.	Manitoba Agricultural College.
Leslie, W. R.	Dominion Experimental Station, Morden.

Saskatchewan

Fraser, W. P.	University of Saskatchewan.
Holmes, C. H.)	
MacLeod, H. S.)	Dominion Laboratory
Maguire, C. E.)	of
Russell, R. C.)	Plant Pathology,
Sanford, G. B.)	Saskatoon.
Scott, G. A.)	

Alberta

Albright, W. D.	Dominion Experimental Station, Beaverlodge.
Brinkman, A. H.	Craigmygle.
Cutler, G. H.	University of Alberta, Edmonton.
DeLong, G. E.	Dominion Experimental Station, Lacombe.
Fairfield, W. H.	" " " Lethbridge.
Newton, R.	University of Alberta, Edmonton.

British Columbia

Bostock, Miss J.	Monte Creek.
Boving, P. A.	University of British Columbia, Vancouver.
Davidson, A. T.	Court House, Vancouver.
Eastham, J. W.	Department of Agriculture, Vancouver.
Glendenning, R.	Entomological Laboratory, Agassiz.
McLarty, H. R.	Dominion Laboratory of Plant Pathology, Summerland.
Moe, G. G.	University of British Columbia, Vancouver.
Tice, Cecil	Department of Agriculture, Victoria.

DISEASES OF CEREAL CROPS.

WHEAT.

STEM RUST -- *Puccinia graminis* Pers.

PRINCE EDWARD ISLAND

No viable uredospores were found in the Spring. Discharged aecia were found on two Barberry bushes (*B. vulgaris*) at Charlottetown July 10th. Uredospores were first observed on *Agropyron repens* August 25th. First observed on wheat July 28th. A few small pustules were found on *Hordeum jubatum* August 15th, moderate infection on Timothy and Early Red Fife, August 20th. Little Club and Marquis showed heavy infection by August 25th. On the Uniform Rust Nurseries the degree of infection ran as follows:

DEGREE OF INFECTION.

Heavy	Moderate	Slight	Free
Haynes Bluestem	Arnautka	Kota x Ma.	Kubanka
Marquis	Akrona	Ma. x Kota	Nodak
Power	Ma. x Kanred		Mindum
Ruby	Parker's Ma.		Acme
Ma. x Ium.	Quality		Monad
Preston	Aurore		Pentad
Kota			Khapli
Progress			
Dic. x Sev.			
Little Club			
Crown			
Garnet			
Huron			
Red Quality A			
Reward			

NOVA SCOTIA

Severe infestations in Nappan Township and slight injury in Kentville Township.

NEW BRUNSWICK

Found only in isolated places, and in no case was severe infestation observed.

QUEBEC

Reports from all parts of the province indicated that, in the main, infection from wheat stem rust was slight. Severe attacks of this rust, however, were reported from Kamouraska County.

ONTARIO

On the whole there was little loss from stem rust in this province. The worst attacks were in the northern districts, being quite severe in Algoma and Thunder Bay, and slight to moderate in Temiskaming and Manitoulin Island.

MANITOBA

Pycnia on barberry were first observed on June 4, (R.M. Scott) and aecia on June 15 (G.R. Bisby). The weather in the interval and for some time following was very unfavourable for rust development.

The first collection of the uredinial stage was on June 23 at Morden, where Mr. Greaney collected a single pustule on Masters Wheat in the varietal test plots at the Experimental Station. At this time rust was extremely scarce in Manitoba, none had been found at Winnipeg, and a survey from Winnipeg to Portage, and from Portage to Carman failed to reveal a single pustule. Until the middle of July, rust developed very slowly, although by July 15, scattered primary infections were generally present throughout the south and central parts of the province. In the latter part of July rust developed rather rapidly for a time, but conditions early in August checked the development again and it looked for a time as though little if any rust damage would occur. During the next two weeks, however, the crop seemed to stand still, and during this period the rust developed rapidly. The final result of this belated epidemic was an extremely patchy development of rust in which local environmental conditions played an extremely significant part. Late crops throughout the province suffered considerably, while earlier ones escaped completely in many sections. Under such conditions it becomes an extremely difficult matter to estimate the loss which occurred from stem rust.

To get some idea of the loss which occurred in different sections, enquiries were made (September 8 to 19) at a large number of country elevators regarding the grade of wheat coming in, the average yield for the district, and the reduction in yield and grade attributed to rust. A summary of the results is appended. It will be noted that the yield of Marquis was reduced from 6 to 5 bushels per acre and the grade reduced one or two grades. This would bring the reduction in yield to about 17%. It seems certain, however, that if these results were computed on an acreage basis for the province as a whole, the percentage reduction in yield would be materially reduced. 12% would seem to be a fair estimate.

ESTIMATE OF RUST LOSSES IN 1925 FROM VARIOUS LOCALITIES IN MANITOBA.

Town	Estimated Average yield, Bush. per acre.	Estimated Reduction in yield; bush. per acre.	Estimated Reduction in grade.
Portage	16	4	1-2
Macdonald	20	0	1
Gladstone	20	0	2
Neepawa	18	3-4	1-2
Minnedosa	25	10	1
Shoal Lake	20	10	-
Binscarth	20	5	1
Inglis	25	5-10	0
Morden	10	10	1-2
Oak Lake	20	0	0
Boissevain	14	4-6	3
Killarney	12-14	5	1
Crystal City	12-14	6	1-2
La Riviere	18	10	1
Darlingford	22	10	1
Morden	20	0	0
Altona	20	0	0

Estimates were obtained from men in charge of elevators in the towns mentioned and refer to Marquis wheat in the surrounding district.

Spore trapping work from aeroplanes, when taken in conjunction with the field evidence collected, adds further support to the idea that the initial rust infections in Manitoba each year are caused by wind borne spores from the south.

The Durums as a group were quite resistant during the year, the varieties Nodak, Iumillo Selection, Mindum, Acme, Monad, and Pentad were highly resistant. Marquis x Iumillo, Minn. II - 15-44 was once again the most promising for resistance. (D.L. Bailey)

The encouraging results obtained in the preliminary experiments on the control of leaf and stem rusts of wheat by the use of sulphur dust, conducted by Messrs. Bailey and Greaney, were reported in Scientific Agriculture, Vol. VI, No. 4, p. 113, 1925.

SASKATCHEWAN

Pycnia were found on barberries at Saskatoon on June 17, at Strasbourg on June 22, and Regina on June 23. A trace of stem rust was found at Estevan on July 2, at Kisbey on July 6, and at Grenfell, Broadview, and Red Jacket on July 11. Hordeum jubatum growing nearby was heavily infected, and Agropyron repens slightly so. At this time there was probably a trace of stem rust all over the south-eastern portion of the province and not elsewhere.

By July 17 slight infections were present in every wheat field examined from Moosomin to Regina and one pustule was observed on wheat two miles north-east of Saskatoon and traces 20 miles north-west of this point. Up to this date, weather conditions were not favourable for the rust and consequently its development and spread was slow. It appeared as though the early grain might escape severe infection.

During the first two weeks of August, the development and spread of the rust in Eastern Saskatchewan was amazing.

The final situation was that in the south-eastern and eastern sections heavy losses were incurred on late grain, an epidemic appearing in many sections in this area. This area of severe loss extended as far west as Saskatoon. In the northern parts, (Melford, Prince Albert, Shellbrook, etc.) injury to any marked extent occurred only on the latest wheat. In the western sections there were only traces of the disease, with no appreciable loss. For example, at Swift Current none was observed, the rainfall being only 37 inches for the months of May, June, and July, as compared with twice this amount in 1924.

ALBERTA

Little or no loss sustained. The Uniform Rust Nurseries at Lacombe, Vermilion, and Edmonton, examined on August 14, and September 2, showed practically no stem rust. A trace was found in the plots at the Experiment Station at Lethbridge but none in those at Lacombe.

BRITISH COLUMBIA

The only report from this province is from Vancouver Island, where a trace was found on almost all the varieties grown.

LEAF RUST -- Puccinia triticina Eriks.

PRINCE EDWARD ISLAND

Generally prevalent. First collections made July 20th. Later development rapid causing serious injury. Marquis, Early red Fife, Kota, Little Club, showed heaviest infection.

NOVA SCOTIA

Reports indicate that infection was severe in rust nurseries and experimental plots. On Charlottetown No. 123, Master, and Ruby Ottawa 625 severe infection occurred, with traces on Marquis, Red Fife, Reward, and Early Triumph.

NEW BRUNSWICK

Prevalent on leaves of most varieties. White Russian being severely attacked. } oats!

QUEBEC

Infection not as severe as usual, generally distributed, with moderate infection late in the season. Injury small if any.

MANITOBA

A heavy epidemic was general. As a class the Durums were found to be quite resistant to leaf rust.

See control of leaf rust by sulphur dusting, D.L. Bailey and F. J. Greaney, Sci. Agr. 6, No. 3, 1925.

SASKATCHEWAN

Traces in all parts of the province, but nowhere prevalent or severe.

ALBERTA

Little to no infection reported.

BUNT OR STINKING SMUT -- Tilletia laevis Kühn. and

Tilletia Tritici (Bjerk.) Wint.

PRINCE EDWARD ISLAND

Reported only at the Experimental Farm, Charlottetown, as appearing on Marquis. Less than 1% infection.

QUEBEC

In Experimental Station plots at Ste. Anne a trace of infection was found, no infection appearing however in laboratory plots. In the neighbourhood, bunt varied from a trace to about 7% infection, with average about 1.5%.

MANITOBA

D.L. Bailey and F.J. Greaney report 8% infection in one field at Ashville. Infection also reported from Corrall Township.

SASKATCHEWAN

Slight infection at Saskatoon, with from ½ to 1% injury on some of the Marquis plots at Swift Current. The disease seems to be increasing during the last 2 or 3 years.

ALBERTA

Just a trace observed.

LOOSE SMUT -- Ustilago Tritici (Pers.) Jens.

PRINCE EDWARD ISLAND

General over the whole Province, averaging less than 2%. Most common Early Red Fife.

NOVA SCOTIA

Traces present in Nappan and Kentville townships.

NEW BRUNSWICK

Little infection reported.

QUEBEC

A small amount widespread throughout the province. In certain fields of the Agricultural School, Ste. Anne, infection ran as high as 4%.

ONTARIO

Slight infection in Thunder Bay region.

MANITOBA

Infection widespread, being especially evident on Ruby, Kota, and several other wheat varieties. On Experimental plots Kota wheat showed 20% loose smut.

SASKATCHEWAN and ALBERTA

Infection general but slight.

BRITISH COLUMBIA

Prevalent on untreated seed, 5 to 10 per cent injury.

ERGOT -- Claviceps purpurea (Fr.) Tul.

PRINCE EDWARD ISLAND

Occurred in moderate amounts at the Experimental Farm.

MANITOBA

This disease was this year, for the first time, fairly prevalent in many varieties of wheat. Especially was this so in the case of the Durums, though Marquis, Garnet, Ruby, and other common wheats grown in bulk, were not noticeably affected.

SASKATCHEWAN

Very slight infection.

ALBERTA

A trace reported.

SCAB-- Gibberella Saubinettii (Mont.) Sacc.

PRINCE EDWARD ISLAND

Observed first on Early Red Fife causing serious loss in most fields of this variety. Heavy infection of Little Club, moderate infection on Marquis, Reward, White Fife, White Russian, with slight infection of Huron and the Durums.

A SCOTIA

Not prevalent. Early Red Fife, Early Triumph, and Ruby, affected to minor degree. Loss practically nil.

BRUNSWICK

Numerous specimens of scab found but infection not serious.

ITOBA

Infection hardly noticeable, just an occasional spike of Marquis, Red Fife, Kubanka, and Kitchener, carrying the typical pinkish fruiting bodies on the glumes.

SKATCHEWAN

General but of small account.

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

NITOBA

A survey indicated that this disease was widespread in the park country of Northern Manitoba. In some cases little injury had occurred while in others damage was estimated at from 20 to 30%.

SKATCHEWAN

Take All in a serious form seems to be confined to the park country of North Eastern Saskatchewan, chiefly between latitudes 52° to 53°. In the southern part of Saskatchewan in the prairie districts, Take All seems to be practically absent, or only slightly in evidence. Susceptible varieties were:- Einkorn, Emmer, Spelt, Polish, Alaska, Acme, Kubanka, Little Club, Marquis, Kitchener, and Ruby. Infection and loss ran as high as from 15 to 20%.

Mature perithecia of what is apparently Ophiobolus cariceti have been found on Torresia odorata. The mycelium of the same fungus was found on Bromus spp. growing in wheat fields. From observational evidence it is believed that the Take All is indigenous to this area and parasitizes a number of grasses, particularly those with rhizomes.

BERTA

Traces found in North Central Alberta and in Clover Bar district.

GLUME BLOTCH -- Septoria nodorum Berk.

INCE EDWARD ISLAND

General throughout the province, causing serious injury to the popular varieties, appearing on heads and nodes. Fifes suffered most. First observed on July 25th, becoming epidemic by August 10th. All varieties in Uniform Rust Nurseries developed the disease, it being most apparent on Little Club, Haynes Bluestem and Marquis. On Huron wheat the nodes were severely attacked. Infection was moderate on Oat plants which had received severe mechanical injury.

VA SCOTIA

Glume spotting was general throughout the province. White Fife, Early Red Fife, White Russian, Marquis, and Huron were varieties of wheat affected.

NEW BRUNSWICK

Infection fairly general. Some fields in vicinity of Carleton township with about 90% infection. Infection in Awnless Huron and White Russian severe, on Early Red Fife, Marquis, and White Fife, moderate, and Huron slight.

SASKATCHEWAN

General in north-eastern Saskatchewan. Slight to moderate infection.

ALBERTA

Traces of infection reported in Lacombe township.

HEAD BLIGHT AND FOOT ROT -- Helminthosporium sativum P.K. et B.

MANITOBA

Infection widespread and in many localities quite severe, as high as 20% loss being reported. This disease, most prevalent in the Durum strains, was noticed first on Kubanka and Iumillo, a little being noticeable on Acme. Several fields of Kubanka in southern Manitoba were very noticeably injured owing to its prevalence.

SASKATCHEWAN

Generally slight, but severe in Indian Head district. The disease is reported as being widespread in the scrub country.

ALBERTA

A moderate amount of infection is reported.

POWDERY MILDEW -- Erysiphe graminis DC.

SASKATCHEWAN and ALBERTA

Infection found to be general in these two provinces, being moderate to severe in Alberta and slight in northern Saskatchewan

SEPTORIA LEAF SPOT -- Septoria Tritici Desm.

MANITOBA

Fairly common in the region surrounding Winnipeg. No losses reported.

BASAL GLUME ROT -- Bacterium atrofaciens McC.

SASKATCHEWAN

Severe in Duck Lake district, traces throughout northern Saskatchewan.

ALBERTA

Slight infection in Lacombe township.

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

NEW BRUNSWICK

Isolated cases only noticed.

MANITOBA

Very rare in this province.

SASKATCHEWAN

Only a trace reported from Saskatoon.

PHYSIOLOGICAL DISEASES.

WHITE TIP.

PRINCE EDWARD ISLAND

Present generally in fields of Red Fife about the middle of July. Heads attacked most severely were those appearing later in the season.

SASKATCHEWAN

The disease was general but slight in the northern part of the province.

PHYSIOLOGICAL BLACKENING OF EARS.

BRITISH COLUMBIA

This disease appeared on the Reward variety of wheat growing on Experimental plots at Summerland.

OATS.

STEM RUST -- Puccinia graminis Pers.

PRINCE EDWARD ISLAND

Was common infection, being heaviest on Daubeney. In the Uniform Rust Nurseries, degrees of infection were as follows:

Heavy	Moderate	Slight	Free
Swedish Select	Joanette	Iowar	Heigira
Red Rust proof	Green Mountain		Rust proof
Iogren.	White Tartar		Richland
Silvermine	Ruakura		
Rustless			
Burt			
Fulghum			

NOVA SCOTIA

Fairly general and moderately severe.

QUEBEC

In Kaveour and Rouville counties severe infestations took place, while in Huntingdon and Chateauguay, and Kamouraska counties, the infection was but slight.

ONTARIO

Reports from the province show general prevalence of stem rust. The approximate distribution is as follows:- Slight - Kenora, Harrow, Temiskaming, Algoma, Manitoulin Island, Sudbury, and Hammer Township.
Severe - Thunder Bay district.

MANITOBA

Late in appearing and relatively insignificant. This is extremely interesting in as much as it seems to indicate a lack of inoculum, which is difficult to explain. In general the infection ranged from 10 to 15% with only occasional fields in the south running higher. (D.L. Bailey)

CROWN OR LEAF RUST -- Puccinia coronata Cda.

PRINCE EDWARD ISLAND

Aecia were common on the buckthorn early in July. Oat infections were general and severe, doing serious injury to the leaves. All varieties in the Uniform Rust Nurseries developed heavy infection by late August. The following is a summary of infections in these Nurseries:

Heavy	Moderate	Slight	Free
Silvermine	Fulghum	Iowar	White Tartar
Iogren	Heigira Rust proof	Richland	
Ruakura	Red Rust proof	Burt	
Joanette	Swedish Select	Green Mountain	

NOVA SCOTIA

In Digby, Cape Breton, Antigonish, Colchester, Yarmouth, Kings, and Cumberland counties the infection was general in all the fields examined, but loss was not severe.

QUEBEC

At Macdonald College, the varieties Black Mesdag, Marly Mountain, and June were observed to be infected, the uredinia being erumpent on June 17.

MANITOBA

A very light scattered infection (trace to 5%) was present in the south and central parts of the province. Rare in the north and not serious in any section. This is undoubtedly to be correlated with the very light aecial infection on the Rhamnus cathartica which occurred this spring. Near Portage a very restricted local epidemic occurred where oats had been planted adjoining a buckthorn hedge.

At the Morden Experimental Station it was slight. Many varieties were slightly affected - Banner, Gold Rain, Prolific, and Swedish Select. Alaska was one of the few which apparently escaped entirely.

SASKATCHEWAN

On account of weather conditions unfavourable for the development of this fungus, buckthorns were only slightly rusted.

SMUTS -- Ustilago Avenae (Pers.) Jens. and Ustilago levis (K. et S.) Magn.

PRINCE EDWARD ISLAND

General throught the province, infection ranging between 1% and 20%. Found in all fields examined, the covered type being most common. At Charlottetown, Liberty showed heaviest infection, running up to 20%. Diseased plants were much stunted.

OVA SCOTIA

General but almost entirely of the loose type. The following table gives an indication of the distribution of the smuts in the province.

Slight	Moderate
Pictou county	Colchester county
Cumberland county	King's county
Yarmouth county	Digby county
Nappan Township	Lunenburg county

Treated seed showed a trace only, while untreated seed in some cases suffered from 10 to 15% infection.

EW BRUNSWICK

Slight infection in York county, with from 5 to 15% in Carleton county.

UEBEC

Reports received indicate the following approximate distribution.

Slight	Moderate
Huntingdon & Chateauguay	Kamouraska
Montcalm	
Jacques Cartier	

In rod rows of Uniform Oat Rust Nurseries at Ste. Anne, Richland, Fulghum, Heighira Rustproof, Red Rustproof, and Burt were free from infection while Green Mountain, Joanette, and Iowar were heavily infected.

ONTARIO

Reports indicate these smuts are generally distributed throughout the province. Losses in the case of untreated seed ranged from 1 to 5%, while treated seed was practically free from infection.

MANITOBA

Covered smut common, percentage infection in some instances being as high as from 15% in Gilbert Plains to 70% on naturally infected hull-less oats (Liberty) in the check plots in control experiments, Loose smut of little importance.

SASKATCHEWAN

With the exception of Swift Current, where severe infection of Liberty occurred, infection was slight, ranging from 1 to 3%.

ALBERTA

Only slight amount of infection reported.

BRITISH COLUMBIA

General but not serious. Damage to the extent of from 10 to 15% was observed on untreated seed due to loose smut.

SCAB -- Gibberella Saubinetii (Mont.) Sacc.

PRINCE EDWARD ISLAND

Disease was found present on Macdonald 4407.

NOVA SCOTIA

Slight infection in Digby and King's Counties. At the Experimental Station a trace was found on Banner Ottawa 49, while O.A.C. No. 72 was badly infected.

NEW BRUNSWICK

Found to veryslight extent in York County.

ROOT ROT -- Fusarium culmorum (W.C. Smith) Sacc.

ALBERTA

Slight infection of grain reported from Lacombe township.

GLUME BLOTCH -- Septoria nodorum Berk.

PRINCE EDWARD ISLAND

One report indicates heavy infection on the nodes.

ANTHRACNOSE -- Colletotrichum cereale Manns.

PRINCE EDWARD ISLAND

One collection was received. Infection was moderate on the leaves.

LEAF DISCOLOURATION -- Helminthosporium sp.

PRINCE EDWARD ISLAND

Reported as being common in head rows at Experimental Farm.

NOVA SCOTIA

Moderate infection but not causing serious loss.

ERGOT -- Claviceps purpurea (Fr.) Tul.

SASKATCHEWAN

Reported from Saskatoon. Only a trace discovered.

HALO BLIGHT -- Bacterium coronafaciens Elliott

NEW BRUNSWICK

Many fields in vicinity of Carleton County showing 90% infection, presence of the disease giving rise to a rusty appearance of the stand.

BACTERIAL LEAF SPOT.

MANITOBA

Messrs. G.R. Bisby and D.L. Bailey report the prevalence of an apparently undescribed spot on oats.

PHYSIOLOGICAL DISEASES

BLASTING OF HEADS.

OVA SCOTIA

At Kentville, local fields and plots show small percentage of affected heads. Similar reports have been received from all parts of the province.

ASKATCHEWAN

In Saskatchewan it is reported as common at Saskatoon and Indian Head, with but slight infection.

BARLEY.

LOOSE SMUT -- Ustilago nuda (Jens.) K. et S.

RINCE EDWARD ISLAND

Slight infection reported.

OVA SCOTIA

Reports indicate that there is a trace of this smut in the province, infection ranging from 0 to 5%.

EW BRUNSWICK

Fairly common. 5 to 10% infection at Wakefield.

UEBEC

Infection slight, less than 2%.

ANITOBA

This disease was at its general height in 1925.
O.A.C. 21 and Junior Hull-less barley seemed to suffer most. Manchurian 2nd generation registered seed was but slightly affected. Other varieties almost free.

ASKATCHEWAN

Very slight infection noted.

LBERTA

Traces found near Edmonton and Stettler.

RITISH COLUMBIA

A report from Sidney, Vancouver Island states that this smut has been prevalent on all varieties, damage running as high as 30%.

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

RINCE EDWARD ISLAND

Not common. 1% infection reported in one field at Charlottetown.

OVA SCOTIA

In one instance a field located in Cambridge township had approximately 15% infection. The seed sown was untreated. The smut is not reported as occurring in other parts of the province.

QUEBEC

Observed and collected in certain sections.

MANITOBA

Not as prevalent as loose smut, but nevertheless quite serious in Stanley County.

SASKATCHEWAN

Widespread, infections from trace to 25%.

ALBERTA

Generally present with but mild infection.

STEM RUST -- Puccinia graminis Pers.

PRINCE EDWARD ISLAND

Rust not common. Slight infection was observed at Charlottetown on Charlottetown No. 80.

NOVA SCOTIA

Very common on small experimental plots of barley at Kentville.

QUEBEC

One report from Kamouraska County in which some fields suffered severely.

ONTARIO

Slight infections in Harrow, Sudbury, Algoma, and Thunder Bay Counties.

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

PRINCE EDWARD ISLAND

Merely slight infection was reported at Charlottetown.

NOVA SCOTIA

Slight infestations were reported from Antigonish County.

ONTARIO

Moderate infection due to this rust was observed in the Thunder Bay district, together with some damage due to premature ripening.

MANITOBA

Little damage was done to barley varieties by rust in 1925. The later maturing two rowed varieties such as Gold, Hannchen, Duckbill, Chevalier, and Swan Neck which retain very green foliage until grain is mature showed most sheath and leaf rust.

NET BLOTCH -- Helminthosporium teres Sacc.

PRINCE EDWARD ISLAND

Moderate infection in head rows. Symptoms developed the last week of July, fruiting observed second week in August.

SASKATCHEWAN

Several stations reported the presence of this disease, infections in each case being slight.

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

MANITOBA

General but in most cases light. In the neighbourhood of Ashville considerable damage was caused.

SASKATCHEWAN

Observed but not prevalent.

STRIPE DISEASE -- Helminthosporium gramineum, Rab.

PRINCE EDWARD ISLAND

General over the province, doing serious damage. At the Experimental Farms, roots, stems and leaves were affected, no grain was formed, and all plants were practically dead by August 10th.

NOVA SCOTIA

Infestation general with slight damage evident. In King's County, Duckbill was heavily infested with stripe.

NEW BRUNSWICK

No severe infections noted.

MANITOBA

Only occasionally reported, not severe.

SASKATCHEWAN

Merely slight infection reported.

ALBERTA

General but mild.

ERGOT -- Claviceps purpurea (Fr.) Tul.

PRINCE EDWARD ISLAND

Several collections were made from Queen's County, but on the whole the disease was not common.

MANITOBA

Quite prevalent in 1925. Many varieties affected, as O.A.C. 21, Chinese, Bearer, Duckbill, Manchurian and Keystone.

Himalayan Junior and other hull-less barleys seemed less susceptible than hulled varieties.

ALBERTA

Slight infection noted.

BRITISH COLUMBIA

On plots at the Experimental Farm, Summerland, only one ergot was found.

POWDERY MILDEW -- Erysiphe graminis DC.

PRINCE EDWARD ISLAND

Infection was general this year, averaging 2%.

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

SASKATCHEWAN

Slight evident.

BACTERIAL BLIGHT -- Bacterium translucens, J.J. et R.

MANITOBA

Traces were found in one plot on the Experimental Farm.

RYE.

STEM RUST -- Puccinia graminis Pers.

LEAF RUST -- Puccinia dispersa Eriks.

SASKATCHEWAN and ALBERTA

Considerable infection was observed in both these provinces.

ERGOT -- Claviceps purpurea (Fr.) Tul.

NEW BRUNSWICK

A few samples only seen.

QUEBEC

Reported from Kamouraska and Huntingdon counties.

MANITOBA

A very prevalent and injurious disease in this crop in 1925. Dakold and commercial varieties were severely infested.

SASKATCHEWAN

General but slight.

ALBERTA

Disease present but loss not great.

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

SASKATCHEWAN

Slightly susceptible in this province.

FORAGE AND FIBRE CROPS.

ALFALFA.

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

PRINCE EDWARD ISLAND

Present to a small extent.

NOVA SCOTIA

This disease was quite prevalent on alfalfa grown in the province.

NEW BRUNSWICK

Moderate infection on all plots at York county.

QUEBEC

Prevalent but not much damage sustained.

ONTARIO

Reported as being widespread throughout the province.

SASKATCHEWAN and ALBERTA

General but doing little damage.

BRITISH COLUMBIA

Prevalent in the province and causing wilting of alfalfa in an orchard at Kelowna.

ROOT ROT-- Sclerotinia Trifoliorum Eriks.

QUEBEC

Many isolated cases in the spring at Macdonald Agricultural College.

ALBERTA

Occurrence noted at University of Alberta, Edmonton.

CLOVERS.

POWDERY MILDEW -- Erysiphe Polygoni DC.

PRINCE EDWARD ISLAND

Very common on both first and second crops. At Charlottetown the white varieties were not affected.

NOVA SCOTIA

Reports indicate its general occurrence, especially on second growth.

NEW BRUNSWICK

Common throughout the province.

QUEBEC

General infestation reported.

ONTARIO

This disease was prevalent throughout the province, new seeding being severely attacked in Sudbury and Temiskaming Counties.

MANITOBA

Again prevalent, but not especially serious.

SASKATCHEWAN

Only slightly in evidence.

BRITISH COLUMBIA

Common throughout the province but causing little or no loss. The perithecial stage was noted at Summerland on only one plant.

RUST -- Uromyces Medicaginis Pass.

PRINCE EDWARD ISLAND

General in the province. Severe in variety tests at the Experimental Farm.

NOVA SCOTIA

Rather severe, up to 100% infestation of foliage observed in Hants, King's, and Digby counties. Slight to moderate in other parts of the province. (J. F. Hockey.)

NEW BRUNSWICK

Occurs generally in most fields.

QUEBEC

Only a trace, no injury to the crop.

ROOT ROT-- Sclerotinia Trifoliorum Eriks.

ALBERTA

This disease was prevalent at the University of Alberta, Edmonton.

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

NOVA SCOTIA

Although infection was general no material reduction in yield was observed.

QUEBEC

Always prevalent but of no economic importance.

LEAF SPOT -- Pseudopeziza Trifolii (Biv.) Fckl.

PRINCE EDWARD ISLAND

Common but not serious.

NOVA SCOTIA.

Infection was found to be general on clover in fields of mixed hay. No apparent damage was observed.

NEW BRUNSWICK

Slight infection only.

UEBEC

Found in Kamouraska County.

ANTHRACNOSE -- Gloeosporium caulivorum Kirch.

UEBEC

This disease was present in Huntingdon and Kamouraska Counties.

DOWNY MILDEW -- Peronospora Trifoliorum deBary

RINCE EDWARD ISLAND

Of common occurrence.

STEM INJURY -- Vermicularia spp.

RINCE EDWARD ISLAND

Common; caused stems to break at point of injury.

Macrosporium spp.

OVA SCOTIA

Fairly general infection but little injury.

MOSAIC

EW BRUNSWICK

Isolated specimens only found in fields in cicinity of Fredericton.

UEBEC

Traces found in the province.

NTARIO

This disease was commonly found on sweet and red clover, being more common on the former than on the latter.

BUCKWHEAT.

LEAF SPOT -- Ramularia rufomaculans Pk.

UEBEC

Generally distributed in Chateauguay county.

CORN.

SMUT -- Ustilago Zeae (Beck.) Ung.

RINCE EDWARD ISLAND

The corn at the Experimental Farm was heavily infested with smut, most of the heads and stalks attacked being seriously rotted.

EW BRUNSWICK

Isolated specimens only were found, no severe infestations being observed.

UEBEC

Slight infections reported throughout the province.

ONTARIO

Less prevalent than usual on sweet corn. In the case of field corn the usual percentage of plants were infected.

MANITOBA

Severe, especially on dwarf sweet corn varieties at Morden. Noticeable on such field varieties as Gehn, North Western Dent, North Dakota White Flint, and Manitoba Flint. Later varieties little affected.

SASKATCHEWAN

A trade found.

RUST -- Puccinia Sorghi Schw.

QUEBEC

Fairly plentiful at Macdonald College and in the district south of Ormstown.

ONTARIO

On forage crops division plots at Harrow Farm, numerous small pustules were found on the tips of lower leaves, larger scattered pustules appearing on the upper leaves. About 50% of the plants were affected.

FLAX.

RUST -- Melampsora Lini (Pers.) Desm.

ONTARIO

Serious infection occurred in this province.

SASKATCHEWAN

Infection reported as being slight.

WILT -- Fusarium Lini Bolley.

ONTARIO

In 1925 seventy-eight named and numbered varieties were treated with formalin, planted at the Central Experimental Farm, in what was believed to be flax wilt free soil. All but four varieties, namely Linota C.I. 244, N.D.R. 52, Slope C.I. 274, Winona from Washington C.I. 179 proved to be susceptible. Average damage would amount to seventeen percent. In 1924 similar results were obtained with seventy-seven named and numbered varieties, the same four varieties proved totally resistant. Loss caused by flax wilt in this case amounted to seventy-six percent.

(A. G. O. Whiteside)

SASKATCHEWAN

Light infection.

STEM BREAK -- Polyspora Lini Lafferty

PRINCE EDWARD ISLAND

Only a small amount found, with little injury. The marked absence of this organism during the past season under favourable conditions indicates that until flax is more widely grown, disease will not be a serious factor.

(R.R. Hurst)

TIMOTHY (Phleum pratense L.)

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

PRINCE EDWARD ISLAND

The degree of infection varied from flecking to well developed pustules. No severe damage was caused.

NOVA SCOTIA

Fairly severe infections general.

QUEBEC

Present in Kamouraska county.

ONTARIO

In Manitoulin Island county, timothy that was growing next to a field of spring wheat showed heavy infection of rust.

MANITOBA

Common and serious in the vicinity of Eden county, 60% of the stems being covered. The disease was found to be prevalent on old timothy grass land.

SASKATCHEWAN

A slight amount of rust was present.

LEAF SPOT -- Helminthosporium spp.

NOVA SCOTIA

From moderate to severe infection was noted in Halifax and Annapolis counties.

BLACK SPOT -- Phyllachora graminis (P.) Tul.

PRINCE EDWARD ISLAND

Observed on leaves that had over-wintered in the field.

ERGOT -- Claviceps purpurea (Fr.) Tul.

QUEBEC

Found present on timothy in Kamouraska county.

STRIPE SMUT -- Ustilago striaeformis (West.) Niessl.

QUEBEC

Slight infection in Kamouraska county.

MISCELLANEOUS GRASSES.

Puccinia Clematidis (DC.) Lag.

Agropyron tenerum Vasey in Saskatchewan.

Puccinia graminis Pers.

Reported from Quebec on
Agropyron repens (L.) Beauv.
Agropyron tenerum Vasey.
Dactylis glomerata L.
Lolium perenne L.

In Prince Edward Island occurred on
Avena fatua L.
Agropyron repens (L.) Beauv.
Hordeum jubatum L.
Dactylis glomerata L.

Puccinia agropyrina Eriks.
In Prince Edward Island found on
Agropyron repens (L.) Beauv.

Puccinia epiphylla (L.) Wettst.
Reported from Alberta on
Poa pratensis L.

Puccinia peorum Niels.
In Saskatchewan present on
Poa spp.

Puccinia stipae Arth.
In Alberta reported present on
Agropyron tenerum Vasey.

Claviceps purpurea (Fr.) Tul.
Reported from Manitoba as found on
Bromus spp.

In Quebec found on
Agropyron repens (L.) Beauv.
Agropyron tenerum Vasey.
Dactylis glomerata L.
Lolium perenne L.

Ustilago bromivora Fischer de Waldh.
In Saskatchewan common on
Agropyron dasystachyum Scribn.
Agropyron tenerum Vasey.

Erysiphe polygoni DC.
Reported from Prince Edward Island occurring on
Poa pratensis L.

Phykachora graminis (P.) Tck.
In Quebec present on
Agropyron repens (L.) Beauv.

Reported from Prince Edward Island on
Agropyron repens (L.) Beauv.

Septoria bromigena Sacc.
In Saskatchewan parasitic on
Bromus inermis Leyss.

Helminthosporium bromi Diedecke.
Reported from Saskatchewan on
Bromus inermis Diedecke.

Erysiphe graminis DC.
In Saskatchewan present on
Bromus inermis Diedecke.

Reported from Quebec as occurring on
Agropyron repens (L.) Beauv.

Reported from Prince Edward Island on
Poa pratensis L.

HEMP.

Sclerotinia Libertiana Fckl.

NOVA SCOTIA
At Kentville about 10% of the plants in some plots were killed by this fungus. Sclerotia up to 2 cm. long were found in the stems, and round sclerotia about 0.5 cm. in diameter were found on the surface. (J. F. Hockey)

Septoria cannabina Pk.

PRINCE EDWARD ISLAND
This disease was observed in moderate quantities at the Experimental Farm. In some cases the infected leaves dropped off.

Stemphyllium spp.

NOVA SCOTIA
A considerable amount of leaf spotting was observed on plots at Kentville.

MILLET.

SMUT -- Sorosporium Syntherismae (Peck.) Farl.

SASKATCHEWAN
A trace of infection was reported.

ALBERTA
Common in Early Fortune variety.

SOY BEAN.

ANTHRACNOSE -- Glomerella cingulata (Ston.) Spauld. et Schrenk.

ONTARIO
Reported from Harrow.

MOSAIC.

ONTARIO
A little found in the vicinity of Harrow.

BACTERIAL BLIGHT -- Bacterium glycineum Coerper.

ONTARIO
Reported from Harrow as present there to a slight degree.

SUNFLOWER.

RUST -- Puccinia Helianthi Schw.

NEW BRUNSWICK
A trace reported.

QUEBEC
An infection of 70 to 80% was reported at the Experimental Farm, Ste. Anne de la Pocatière.

SASKATCHEWAN
General but very slight infection.

WILT OR DROP -- Sclerotinia sp. probably libertiana Lindan.

W BRUNSWICK
At York only one specimen was found during the year.

EBEC
Specimens were found at Kamouraska.

TARIO
Reported present in this province.

STEM ROT -- Sclerotinia sclerotiorum (Lib.) Mass.

EBEC
Losses of from 6% to 8% are reported from Kamouraska County showing considerable decrease over 1924.

ANITOBA
Widespread and often injurious.

DOWNY MILDEW -- Plasmopara Halstedii (Farl.) Berl. et de Toni.

ANITOBA
This disease was injurious in the vicinity of Winnipeg and was also found on wild sunflower at Dauphin.

LEAF SPOT -- Septoria Helianthi Ell. et Kell.

TARIO
Appeared at Sudbury.

BUD ROT -- Botrytis vulgaris Fr.

ITOBA
Caused the stunting of some plants at Winnipeg. This is the first record of the appearance here of this disease.

SWEET CLOVER.

STEM CANKER -- Ascochyta caulicola Laubert.

RTA
Slight infection reported.

Ascochyta Melilotia (Trel.) Davis.

ITOBA
Exceptionally injurious. Marked resistance shown by some plants.

WILT -- Fusarium spp.

ITOBA
Appeared occasionally around Winnipeg.

VETCH.

LEAF SPOT -- Ascochyta Pisi Lib.

INCE EDWARD ISLAND
Severe infection in one field.

C RUST -- Uromyces Fabae (P.) de Bary.
Widespread in the fields of the School of Agriculture, Ste.Anne de la Pocatière.

FRUIT CROP DISEASES.

The following is a concise account of the prevalence of fruit diseases at the Central Experimental Farm.

During the season of 1925 the only disease in apples which was of the ordinary was the rather serious outbreak of fire blight. It appeared to be much worse on the apples than on the pears, in fact the majority of our hybrid pears showed no signs whatever of fire blight, although one or two trees were quite badly affected. On the other hand the great majority of our young seedling apple trees were quite seriously troubled. Many of the young cross-bred trees had to have as much as fifty to sixty percent of the top removed, and some less than ten percent. Among the standard varieties, however, there was a considerable amount of resistance exhibited. For instance, McIntosh and Wealthy were practically free, only one or two twigs being affected. Fameuse, Duchess, Yellow Transparent, and Lowland Raspberry from one to five percent infection. Bethel was entirely free. Stone had about two percent infection, McMahon White about ten percent, Baker Beauty crab about ten percent, while Transcendent, Hyslop and Virgess crabs averaged about twenty percent.

Apple scab was practically non-existent in this orchard.

Plums were much freer from Shot Hole fungus than in former years. In the vineyard there was a small amount of brown rot, and very little mildew. Gooseberries were about as badly affected with Septoria as I have ever seen them, but mildew was very scarce, except among the English varieties where it is always very prevalent.

In strawberries there was a rather serious outbreak of what looked suspiciously like mosaic.

(M. B. Davis)

APPLE.

APPLE SCAB -- Venturia inaequalis (Cke.) Wint.

PRINCE EDWARD ISLAND

Infections this year were abundant and serious. Practically all apples grown in the province were unmarketable, except Russets and Greenings. The former had heavy leaf infection. Spraying is not practised. In the orchards near Charlottetown the perfect stage was abundant on dead leaves in the spring.

NOVA SCOTIA

1925 was exceptionally favourable for the spread of many fungous diseases in the apple orchards of Nova Scotia. Spraying operations were hindered by wet weather and a considerable area suffered a total loss of fruit on account of the heavy infestation of scab. It is conservatively estimated that this disease alone cost the apple growers of the province a direct loss of $750,000 without considering the time spent and materials used in the efforts to control the disease after it had become epidemic. Unsprayed orchards in Cape Breton averaged 60% scabby fruit. Antigonish and Colchester counties averaged 75%. Hants, King's and Annapolis averaged 100%; Digby and Yarmouth, 75%, and Lunenburg 75 to 80%.

In parts of the Annapolis valley where spraying operations began before ascospore discharge, and where fungicides were regularly applied every two weeks until five applications had been made, scab was kept under good economic control.

(J. F. Hockey)

NEW BRUNSWICK

Extremely severe in all cases where spraying was not carried out.

UEBEC
The disease was general but slight being well controlled by spraying.

NTARIO
Not as prevalent as usual with little damage caused. The greatest ascospore discharge took place on May 16, when blossoms were in the pre-pink stage, first on May 1st, and last on June 28th.

ANITOBA
Only slight infection reported.

ASKATCHEWAN
At Indian Head a moderate infection on Prince x McIntosh was noticed.

RITISH COLUMBIA
The dry atmospheric conditions prevailing in British Columbia during 1925 were unfavourable to the development of the disease. This was shown in some apple scab control experiments in the Kootenay Lake district. In the unsprayed check of McIntosh 65% were infected.

BLACK ROT -- Physalospora Cydoniae Arn.

OVA SCOTIA
As usual infection was severe in neglected orchards. Elsewhere infection on fruit and foliage was slight.

W BRUNSWICK
No cankers were noticed in the field. Some leaf spot and also several cases of rot in storage were observed.

UEBEC
Although abundant in neglected orchards, this disease was absent in sprayed and pruned orchards.

NTARIO
Very light infection.

JUNIPER RUST -- Gymnosporangium Juniperi-virginianae Schw.

OVA SCOTIA
Present in Annapolis and Gaspereau Valleys. By July 15th slight infection of Crimson Beauty, Yellow Transparent, Gravenstein, McIntosh, Fameuse and Ribston Pippin, began to appear. No rust was found on red cedar or Juniperus communis.

EW BRUNSWICK
A few specimens only were located.

TARIO
Present to some extent in the province.

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

OVA SCOTIA
One report from Falmouth. Infection slight.

EBEC
Fairly severe infection was general.

NTARIO
Infection was general and severe. Tolman Sweet suffered considerably in Lincoln and Wentworth counties.
At the Central Experimental Farm there was a rather serious outbreak on the apples. The great majority of the young seedlings were quite seriously affected, many of the young cross-bred trees

had to have as much as 50 to 60% of the top removed. A considerable amount of resistance was exhibited amongst the standard varieties. For instance McIntosh and Wealthy were practically free, only one or two twigs being affected. Fameuse, Duchess, Yellow Transparent, and Lowland Raspberry had 1 to 5% infection. Bethel free. Store 2%, McMahon White 10%, Quaker Beauty crab 10%.

(M. B. Davis)

ITOBA
Reached epidemic proportions in many areas. Especially bad on Transcendant crab, Gipsy Girl apple, Blushed Colville, and many other Russian varieties suffered considerably.

ITISH COLUMBIA
Less destructive than usual.

EUROPEAN CANKER -- Nectria galligena Bres.

W BRUNSWICK
Some specimens found at the Experimental Station, York county.

POWDERY MILDEW -- Podosphaera leucotricha (E. et E.) Salm.

VA SCOTIA
The only report received was from Kentville where severe infection appeared on one small tree.

ITISH COLUMBIA
Only bad on seedling stock.

CANKER -- Nectria sp.

INCE EDWARD ISLAND
Cankers occurred on trees suffering from winter injury.

VA SCOTIA
Ben Davis and Rome Beauty moderately infected.

EBEC
Sporadic infection.

SILVER LEAF -- Stereum purpureum Pers.

W BRUNSWICK and NOVA SCOTIA
In New Brunswick symptoms of the disease appeared on the leaves, and fruiting structures were seen on the branches. In Nova Scotia infected trees appeared throughout. The disease also appeared on new grafts in the variety orchard.

PINK ROT -- Cephalothecium roseum Cda.

VA SCOTIA
A considerable amount of damage was caused by rotting in storage, following initial scab lesions and insect injuries.

LEAF SPOT -- Phyllosticta sp.

VA SCOTIA
Appeared at Kentville causing scurf on twigs and small branches.

SURFACE BARK CANKER -- Myxosporium corticolum Edg.

EBEC
Very common at Macdonald College.

PERENNIAL CANKER -- Gloeosporium perennans Zeller. et Childs.

BRITISH COLUMBIA
Severe infection was reported from many places in the province. Evidence from the cankers formed shows the disease to have been present in the province for seven years. Wealthy and McIntosh have shown marked resistance while the most susceptible varieties are, in order, Rome Beauty, Yellow Newton, Spitzenburg, Delicious, and Jonathan. To date the fungus has caused no serious rotting of the fruit.

LEAF BLIGHT -- Alternaria Mali J.W. Roberts.

NEW BRUNSWICK
Found to a certain extent on the majority of the more common varieties.

BROWN ROT -- Sclerotinia cinerea (Bon.) Schr.

NEW BRUNSWICK
Some rot in storage was observed.

WHITE HEART ROT -- Fomes igniarius (L.) Fr.

QUEBEC
Sporadic but rather common.

NON PARASITIC DISEASES.

STIPPIN OR BITTER PIT.

NOVA SCOTIA
Some evidence of this disease was found on Blenheim variety growing on a gravelly bank in an orchard in King's county.

ONTARIO
In the Niagara district Stippin was severe this year in some orchards. Spie, Blenheim, and Greening were the varieties which suffered most damage, in some cases infection running as high as 30%.

WINTER INJURY.

NOVA SCOTIA
In parts of the province severe losses were sustained owing to dying of limbs which had been frost injured. Starks and Baldwins were the most susceptible varieties.

QUEBEC
Apples picked after the cold storm of October 7th were found to suffer from browning of tissues followed by softening. This was absent on apples picked prior to this date. Average loss was 25%. The varieties affected are listed in the order of susceptibility. Fameuse, Scarlet Pippin, McIntosh, McIntosh seedlings, and Milwaukee.

BRITISH COLUMBIA
In the Salmon Arm, Vernon, Cawston, and Keremeos districts serious injury was caused by killing of embrionic flowers. In the later varieties not only the floral parts of the bud were killed but also the leaf parts. Considerable destruction of twigs and main limbs and crotch injury also occurred.

BRITISH COLUMBIA
Much more widespread than usual and caused considerable loss.
(H. R. McLarty.)

DROUGHT SPOT.

BRITISH COLUMBIA
Severe in many orchards.

BREAK DOWN.

QUEBEC
A peculiar breaking down in storage was reported. First noticeable by darkening of the skin in spots, these spots later becoming sunken, with softening of the underlying tissues and light brown discolouration. All attempts to isolate a causal organism failed. It was further determined that all apples picked prior to the snow storm of October 7th were free, the disease being confined to apples picked after this time. The loss was estimated at upwards of 25%.
(H. N. Racicot.)

SPRAY INJURY.

NOVA SCOTIA
The loss from apple scab was enhanced by foliage spray injury, particularly in the west parts of the Annapolis Valley. This first became evident in early summer orchards treated with Bordeaux Mixture and copper dust preparations, where lime solutions were used, the resulting injury being in proportion to the excess of hydrated lime used.

Types of injury were as follows:-
1. Leaf spotting:- Caused by an excess of soluble arsenic.
2. Brown spotting and burning of the leaf:- Around scab areas or insect injuries.
3. Leaf spotting and marginal burning.

In the use of Bordeaux mixture if the spray was able to dry quickly and remain so for several hours, little or no injury resulted. In cases where an excess of lime remained moist for several hours, injury usually resulted.
(J. F. Hockey)

APRICOT.

CROWN ROT.

ONTARIO
Reported present in Lincoln county.

WINTER KILLING.

BRITISH COLUMBIA
A sudden drop in temperature toward the end of December resulted in a complete loss of the apricot crop.

BLACKBERRY.

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

NOVA SCOTIA
A great deal of infection on wild varieties was noted.

ONTARIO
This disease is prevalent in Ontario, particularly in the Niagara district. Wild canes were severely attacked.

ONTARIO MOSAIC
One report from Lincoln county, where infection was less than 1%.

CHERRY.

SHOT HOLE -- Coccomyces hiemalis Higgins.

PRINCE EDWARD ISLAND
Abundant and caused serious injury.

NOVA SCOTIA
Some trees were partially defoliated in the western part of the province. Unsprayed trees were moderately infected while the disease was common on sour cherry trees in small farm orchards.

QUEBEC
Infection general but losses not serious.

ONTARIO
In Wentworth and Lincoln counties, an average infection of 10 to 15% was observed.

BROWN ROT -- Sclerotinia cinerea (Bon.) Schr.
Sclerotinia fructicola (Wint.) Rehm.
(= Sclerotinia americana (Wormald) Norton et ezekiel)

NOVA SCOTIA
Brown rot developing to slight extent only on sour cherries. (J. F. Hockey.)

ONTARIO
From 5 to 10% infection reported from Lincoln county.

POWDERY MILDEW -- Podosphaera Oxyacanthae (Fr.) de B.

QUEBEC
Found occasionally in Chateauguay county.

BRITISH COLUMBIA
In the Salmon Arm district slight damage was caused to sweet cherries.

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

PRINCE EDWARD ISLAND
Caused serious injury to cherry trees on Experimental Farm.

QUEBEC
Widespread on wild cherries, but seldom observed in well cared for orchards.

ONTARIO
Three or four knots per tree on wild cherries along the roadside at Glendale, Algoma county.

BLIGHT -- Coryneum Beijerinckii Oud.

SASKATCHEWAN
Slight infection.

WINTER INJURY

BRITISH COLUMBIA
A sudden drop in temperature during the middle of December caused considerable injury to the flower buds, from Summerland northwards.

CURRANT.

RUST -- Cronartium ribicola F. de Wald.

INCE EDWARD ISLAND
There was heavy infection on red currants this year. No infection was observed on White Pine in the province.

W BRUNSWICK and NOVA SCOTIA
In these two provinces infection was severe, especially on black currants.

EBEC
Prevalent again this year, being found on red and black currants. Although looked for carefully the stage on pines was not observed. In Kamouraska county damage done to the currant crop was estimated at from 50 to 60%.

NTARIO
Reported as being common on currants and causing some damage.

LEAF SPOT -- Pseudopeziza Ribis Rehm.

RINCE EDWARD ISLAND
Found on red currants in Charlottetown district. Fairly heavy loss resulted.

OVA SCOTIA
Very severe infection causing heavy defoliation and 25% loss of fruit from spotting and drop. (J. F. Hockey.)

W BRUNSWICK
Slight infection only.

UEBEC
Late in the season a moderate amount of infection made its appearance on red and white currants at Ste. Anne de la Pocatiere. Little damage was done, losses being about 3%.

NTARIO
Moderate infection.

ANITOBA
Somewhat less severe than usual. However defoliation occurred in some cases to a considerable extent.

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

W BRUNSWICK
Not of common occurrence.

ANITOBA
Prevalent and sometimes injurious. Also found on wild Ribis. Perithecia common this year. (G. R. Bisby.)

RITISH COLUMBIA
Considerable damage was done to the young shoots and growing tips. The yield was not materially reduced.

LEAF SPOT -- Septoria Ribis Desm.

In Manitoba, New Brunswick, and Prince Edward Island leaf spot was general, and in many cases caused a considerable amount of injury.

ANGULAR LEAF SPOT -- Cercospora angulata Winter.

VA SCOTIA
Severe infection on bushes in farm gardens.

MOSAIC

ERTA
Slight to moderate infection on black currants.

GOOSEBERRY.

LEAF SPOTS -- Mycosphaerella Grossulariae Lag. and Pseudopeziza Ribis Kleb.

INCE EDWARD ISLAND
Not doing serious injury.

OVA SCOTIA
Severe infection in farm gardens.

W BRUNSWICK
Found to considerable extent at Sheffield, and also in King's county.

EBEC
Present.

NTARIO
Quite severe at Experimental Farm.

ANITOBA
Somewhat less severe than usual. Defoliation occurred however to some extent in the province.

RUST -- Puccinia Pringsheimiana Kleb.

OVA SCOTIA
Some specimens were found at Kentville and Truro.

EBEC
Reported from Kamouraska county.

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

OVA SCOTIA
Although not as bad as usual the disease was nevertheless in evidence.

EBEC
One case was found at Ste. Anne de la Pocatiere in which considerable damage was sustained.

TARIO
Scarce except in the English varieties where it is always very prevalent.

RUST (blister) -- Cronartium ribicola F. de Wald.

General and causing a moderate amount of injury in both New Brunswick and Nova Scotia.

GRAPE.

BLACK ROT -- Guignardia Bidwellii (Ell.) V. et R.

TARIO
One report from the Experimental Farm states that but a small amount of the disease was present.

DOWNY MILDEW -- Plasmopara viticola (B. et C.) Berl. et de Toni.

ONTARIO
Infection general but not serious. In the Niagara district, of 32 varieties under test, Grape Brighton was the only one susceptible.

DEAD ARM -- Cryptosporella viticola (Red.) Shear.

ONTARIO
Present to a minor extent in the province.

CHLOROSIS.

ONTARIO
In July 1924 several of the vines in a grapery in the Niagara district, had become chloratic, the leaves being stunted and growth poor. Some of the vines appeared to be affected with the early stages of dead arm, while others less stunted were put down as cases of chlorosis.

When left untreated certain of these plants were defoliated by September 22nd, and no fruit was formed.

Vines treated with Iron sulphate and Magnesium sulphate however showed distinct improvement, and many gave a satisfactory crop. (G. H. Berkeley.)

PEACH.

LEAF CURL -- Exoascus deformans (Berk.) Fckl.

NOVA SCOTIA
A general infestation of leaf curl, some trees showing up to 40% curled foliage. (J. F. Hockey.)

ONTARIO
In the Niagara district infection, although common, was not severe.

BRITISH COLUMBIA
Not very prevalent. Present to some extent at Trout Creek Point, Yale county.

POWDERY MILDEW -- Sphaerotheca pannosa (Wal.) Lév.

ONTARIO
A few young trees were attacked in Lincoln county. Injury was not of importance.

BROWN ROT -- Sclerotinia cinerea (Bon.) Schr.
Sclerotinia fructicola (Wint.) Rehm.
(= Sclerotinia americana (Wormald) Norton et Ezekiel).

ONTARIO
In the Niagara district severe infection occurred on white-flesh peaches. In some cases a loss of 20% on Greensboro occurred.

SCAB --Cladosporium carpophilum Thüm

ONTARIO
In St. Johns county there was 25% infection on St. Johns variety.

LEAF SPOT -- Phyllosticta circumscissa Cke.

ONTARIO
Found on leaves of one tree in Wentworth county.

LITTLE PEACH

ONTARIO
In Lincoln county 15% of trees were marked by the inspector.

PEACH YELLOWS

ONTARIO
Many cases of so called yellows throughout the province.

WINTER KILLING

ONTARIO
2% winter killing was reported from Lincoln county.

BRITISH COLUMBIA
A sudden drop in temperature during the middle of December resulted in a complete loss of the peach crop. (H. R. McLarty.)

PEAR.

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

QUEBEC
Blight was discovered in one small orchard of about 20 trees, in Kamouraska county.

ONTARIO
In general infection was severe, particularly in Lincoln and Algoma counties.

MANITOBA
In this province the pear crop was severely attacked, the disease reaching epidemic proportions.

BRITISH COLUMBIA
Generally the infections were less destructive than usual.

SCAB -- Venturia pyrina Aderh.

PRINCE EDWARD ISLAND
Bartlets showed severe infection at the Experimental Farm where the only spray used was that for insect control.

NOVA SCOTIA
Severe on unsprayed trees with some infection appearing where spray had been used.

QUEBEC
In spite of numerous sprays infection was common at Havelock Corner, Chateauguay county.

ONTARIO
In the Niagara district twig canker was reported as plentiful and causing primary infection.

This disease appeared mostly on Flemish Beauty variety, but was not severe.

LEAF SPOT -- Phyllosticta Pyrorum Cke.

NOVA SCOTIA
Slight infection of leaf spot from this organism on a few trees locally.

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

ONTARIO
100% infection on one farm at Port Dalhousie, Lincoln county.

WINTER INJURY

BRITISH COLUMBIA
A sudden drop in temperature during the middle of December was responsible for a great deal of injury, particularly in the floral parts. As a result the crop was only 14% of last year's. A few trees of the Bosc variety were killed outright in the Creston district.

PLUM.

BROWN ROT -- Sclerotinia cinerea (Bon.) Schw.
Sclerotinia fructicola (Wint.) Rehm.
(= Sclerotinia americana (Wormald) Norton et Ezekiel.)

NOVA SCOTIA
Severe on some varieties at harvest time.

NEW BRUNSWICK
Numerous fruits with small lesions, and some practically rotted.

MANITOBA
Fairly common but not serious.

SHOT HOLE -- Coccomyces prunophorae Higgins.

PRINCE EDWARD ISLAND
In this province infection was very common and serious on the early maturing varieties. In the more severe cases leaves dropped early in August.

QUEBEC
Present to a slight extent throughout the province.

ONTARIO
Infection was general, there being a bad attack in Lincoln county, 90% infection occurring in some places.

SASKATCHEWAN
Severe in some trees at the Forestry Farm, Sutherland, and also at Indian Head.

PLUM POCKET -- Exoascus Pruni Fckl.

NOVA SCOTIA
Severe infestation general.

QUEBEC
Fairly common, most of infection appearing on wild varieties.

ONTARIO
Common but not serious.

MANITOBA
Injurious in many areas.

SASKATCHEWAN
Reported a trace found at Indian Head.

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

PRINCE EDWARD ISLAND
This disease was very serious throughout the province, wherever plums were grown. At the Experimental Farm all varieties were seriously injured. The practice of removing knots early in the spring seems to have had very little beneficial effect.

NOVA SCOTIA
Infection general, and in neglected orchards, severe.

NEW BRUNSWICK
Found in York county.

QUEBEC
Black knot was very prevalent in Kamouraska county, both on unkept cultivated trees, and on wild plums which grow abundantly in the neighborhood. Although much damage was done there was but little economic loss. (H. N. Racicot)

The disease was also reported present in Chateauguay and Huntingdon counties.

ONTARIO
Little observed except in neglected orchards.

SASKATCHEWAN
Some infection observed at Prince Albert.

BACTERIAL LEAF SPOT -- Bacterium Pruni E.F.S.

QUEBEC
One case found in Ste. Anne de la Pocatiere.

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

MANITOBA
Some few infected trees were observed at Morden.

WINTER INJURY

BRITISH COLUMBIA
A sudden drop in temperature during the middle of December resulted in sufficient injury to the flower buds to reduce the crop to 35% of that of 1924.

QUINCE.

LEAF BLIGHT -- Fabraea maculata (Lev.) Atk.

ONTARIO
This disease is common in the Niagara district, the amount of infection this year amounting to 8%.

RUST -- Gymnosporangium germinale (Schw.) Kern.

NOVA SCOTIA
Prevalent on leaves, petioles, and calyxes, on June 18th showing roestelia stage. Later found on Crataegus and Amelanchier in different parts of the Annapolis valley. (J. F. Hockey.)

BLACK ROT -- Physalospora Cydoniae Arnaud.

NOVA SCOTIA
Rot similar to Black Rot of apples found on several trees at Kentville. Pycnidia very profuse.

RASPBERRY.

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

PRINCE EDWARD ISLAND
Very common and doing serious injury. At the Experimental Farm, Herberts were defoliated, causing death of canes.

NOVA SCOTIA
General in the province, but not serious.

NEW BRUNSWICK
Occasional specimens only seen.

ONTARIO
Common but not destructive.

MANITOBA
One report from Beulah indicates slight infection present.

ANTHRACNOSE -- Gloeosporium venetum Speg.

PRINCE EDWARD ISLAND
Some infection noted. Not serious.

NOVA SCOTIA
Slightly in evidence.

NEW BRUNSWICK
Numerous specimens were found in the Experimental Farm plantation.

QUEBEC
Slight infection general throughout the province.

ONTARIO
Severe attack of anthracnose on Herbert raspberries at Burwash Indian Farm. Also reported as serious in Lincoln county.

CANE BLIGHT -- Leptosphaeria Coniothyrium Sacc.

NOVA SCOTIA
Slight infection in one plantation at Kentville.

NEW BRUNSWICK
Somewhat prevalent on all varieties.

ONTARIO
Reported present.

BLUE STEM -- Acrostolagmus caulophagus Law.

ONTARIO
Infections occurred throughout the province, being severe on Herberts at the Burwash Indian Farm and in Algoma county. From Brockville and Niagara came the first reports of the appearance in Canada of Eastern Blue Stem or Rosette. Several cases were found upon Black Raspberries.

LEAF SPOT -- Septoria Rubi West, and Mycosphaerella Rubi (West.) Roark.

QUEBEC
Moderate infection on wild varieties of red raspberries.

ONTARIO
In Lincoln county heavy infection took place on the lower laterals. 30 to 40% of the plants were affected.

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

NEW BRUNSWICK
Severe infection on wild species.

ONTARIO
Fairly prevalent. Aecia seen on fruit of red caps at Experimental Farm, Ottawa.

RUST -- Kuehneola Uredinis (Lk.) Arth.

NOVA SCOTIA
Slight infection. Severe on wild canes.

ONTARIO
Reported seen in Lincoln county.

RUST -- Pucciniastrum arcticum (Lagerh.) Franz.

PRINCE EDWARD ISLAND
Only one collection made in Prince Edward Island. Infection slight.

RUST -- Phragmidium sp.

BRITISH COLUMBIA
Present in Salmon Arm District.

MILDEW -- Sphaerotheca Humili (DC.) Burr var.
fulginea (Schlecht.) Sal.

MANITOBA
Common in the province.

BRITISH COLUMBIA
At Kelowna slight infection occurred in one patch. Crop not materially affected.

WILT -- Verticillium ovatum Berk. et Jack.

ONTARIO
Has been found throughout during the past three summers on the following varieties:-

Red	Black
Cuthbert	Cumberland
St. Regis	Gregg
Marlboro	Plum Farmer
Viking	
Herbert	

MOSAIC

PRINCE EDWARD ISLAND
Very serious, destroying plantations and reducing yields. Shows marked increase.

NOVA SCOTIA
Present to a slight extent throughout the province. At the Experimental Farm the following results were obtained.

Newman #22. 30% of plants affected.
Newman #20. 10% of plants affected.
Herbert. Some found.

Counts in the nursery row showed practically all plants diseased.

NEW BRUNSWICK
Extremely severe on many varieties now being grown at the Experimental Station.

QUEBEC
Infection general, in some cases in the counties of Terrebonne, Laval, Rouville, and Yamaska, running as high as 60%.

ONTARIO
Infections in the province were general, and often severe. The disease was widespread in the Niagara district, infections ranging from 1% to 95%, with the average about 35%.

MANITOBA
Rather serious outbreak in 1925.

SASKATCHEWAN
Moderate infection.

BRITISH COLUMBIA
Severe infection in spots.

LEAF CURL

PRINCE EDWARD ISLAND
This disease is common on the island and is rapidly becoming serious.

NEW BRUNSWICK
Occasional specimens only observed.

ONTARIO
Although of common occurrence in the province infection was slight. In Lincoln county average infection was 1%, while in Carleton county 3% of Cuthberts were diseased, and no Herberts.

MANITOBA
Often found on the more susceptible varieties.

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

PRINCE EDWARD ISLAND
One serious outbreak occurred at the Experimental Farm. Also observed on wild raspberries.

NOVA SCOTIA
Seen on wild canes.

QUEBEC
Found in Kamouraska county.

ONTARIO
10% of infection in Lincoln county.

STRAWBERRY.

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

PRINCE EDWARD ISLAND
Serious this year on Sample and Bederwood, both showing 100% infection. These two varieties gave low yields.

The following varieties showed slight infection:-

Dr. Burrell	Warfield	Portia	Cassandra
Premier	Frances	McAlpine	

NOVA SCOTIA
Reported infection general but not severe.

NEW BRUNSWICK
Moderate infections on all varieties.

QUEBEC
Reports show the disease to be widespread but not serious.

ONTARIO
The disease was prevalent throughout the province, although there was little apparent damage. In the Niagara district leaf spots appeared on about fifty varieties, the least susceptible being Jucunda, Dr. Burrell, Bisel, Glen Mary, and Desdemona.

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

PRINCE EDWARD ISLAND
One hundred percent infection on "Stearns Late Champion" in July but not fruiting. Plants showed marked injury by August first. Crop was poor from all diseased varieties. Fruiting was abundant, by August 8th. Spring planting also gave 100% infection with serious injury. Fruiting bodies found on both sides of leaf blade and on petioles. Sample grown immediately alongside of Stearns Late Champion showed no leaf scorch. Varietal susceptibility was as follows:-

DEGREE OF INFECTION.

Severe	Moderate	Slight	Free
S.L. Champion	Superb	Valeria	Kellogg's Prize
Glen Mary	Americus	Portia	Early Jersey
Charles First		Parsons	Burback Giant
(Badly stunted)		Dr. Burrell	Pokomoke
			Nettie
			Hermia
			Senator Dunlop

This disease is of economic importance and seems to be favoured by conditions found on Prince Edward Island.

NEW BRUNSWICK
Slight scattered infection only.

QUEBEC
Not general. Of no economic importance.

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

PRINCE EDWARD ISLAND
Very little observed this year. It is noteworthy, however, that in the Sample variety which showed highest infection in 1924 the plants were sickly and gave a very poor yield in 1925.

NEW BRUNSWICK
Some varieties with 100% infection.

STRAWBERRY ROT -- Botrytis sp.

PRINCE EDWARD ISLAND
Observed on Senator Dunlop where plants were very thick. Not on early crop. The disease is not of great economical importance.

NEW BRUNSWICK
Present to some extent.

QUEBEC
Slight infection and loss in Montmagny county.

MOSAIC

ONTARIO
Observed in the Central Experimental Farm Plots, and also in the Niagara district.

LOGAN BERRY.

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

BRITISH COLUMBIA
Found to a slight extent in the province.

V E G E T A B L E A N D F I E L D C R O P D I S E A S E S.

ASPARAGUS.

RUST -- Puccinia Asparagi DC.

The disease was prevalent in Manitoba and was also observed in Ontario, New Brunswick, and Prince Edward Island.

ROT -- Fusarium sp.

One report was received from the Niagara district.

BEAN.

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

PRINCE EDWARD ISLAND
At the Experimental Farm, Charlottetown, there was 100% infection of all varieties excepting Hudson's Long Pod which showed no signs of the disease. Except for this variety the entire crop was a complete loss. Serious injury has been reported from many parts of the province. During the earliest period of infection a high percentage of the plants were killed outright.

NOVA SCOTIA
Quite prevalent and very serious on some varieties.

NEW BRUNSWICK
Moderate infection on garden beans. Found on:-

Beauty	Norwegian	Navy	White Marrowfat
Large white	Yellow eye	Soldier	

QUEBEC
Infection was general, being as high as from 20 to 40% in parts of Kamouraska county.

ONTARIO
Infection present at Harrow and running up to 15% in Lincoln county.

MANITOBA
A fairly common disease on Field Beans at Morden Experimental Station, occurring with greatest severity in damp years, such as 1924 and 1925. The most susceptible varieties were Snap, Large White, and Yellow Indian. Most resistant, Navy Pilot, and Norwegian.

ALBERTA.
A little on certain varieties.

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

PRINCE EDWARD ISLAND
General but not serious. Appeared on pods of varieties injured by insects.

NEW BRUNSWICK
One report received from York county indicated that infection on leaves was slight, the pods being more severely attacked.

QUEBEC
Not of much importance, except in a few localities, where damage was negligible.

ONTARIO
Present in Harrow district.

MANITOBA
Only occurring spasmodically.

ALBERTA
Prevalent in Lethbridge and Strathcona townships. The Beauty variety was the most severely infected.

RUST -- Uromyces appendiculatus (Pers.) Lev.

PRINCE EDWARD ISLAND
Slight infection observed late in season.

WILT -- Sclerotinia sclerotiorum (Lib.) Mass.

(= Sckerotinia Libertiana Fckl.)

NOVA SCOTIA
Present but not severe.

NEW BRUNSWICK
Only a few specimens observed.

QUEBEC
This disease appears to become more prevalent each year in different parts of the province.

POWDERY MILDEW -- Erysiphe Polygoni DC.

QUEBEC
Found in Kamouraska county, but is not common.

MOSAIC

QUEBEC
Present throughout the province.

ONTARIO
In the Niagara district some plots showed from 50 to 100% infection.

SASKATCHEWAN
Slight infection at Lloydminster.

BEET.

LEAF SPOT -- Cercospora beticola Sacc.

PRINCE EDWARD ISLAND
General throughout the province. No marked injury observed.

NOVA SCOTIA
General in farm gardens, but not causing much damage.

NEW BRUNSWICK
Found in York county.

QUEBEC
Heavy infection occurred in a field at MacDonald College, minor infections being reported from Kamouraska, Missisquoi, Montcalm, and Joliette counties.

ONTARIO
Disease present in all sugar beet fields in Kent county but not sufficient to do any serious damage to the crop.

BRITISH COLUMBIA
Considerable infection in the Kelowna district but no damage to the crop.

SCAB -- Actinomyces scabies (Thax.) Güssow.

PRINCE EDWARD ISLAND
Observed on an exhibit at the fair. Is not general this year.

QUEBEC
Several cases reported in Kamouraska county in the fall.

CABBAGE.

CLUB ROOT -- Plasmodiophora Brassicae Wor.

PRINCE EDWARD ISLAND
One report of slight infection.

NOVA SCOTIA
Present in King's and Pictou counties.

QUEBEC
Reports from Kamouraska, Montmagny, and Temiscouta counties indicate the presence of this disease. In Temiscouta county losses were serious amounting in some cases to 75%.

DROP -- Sclerotinia sclerotiorum (Lib.) Mass.

(= Sclerotinia Libertiana Fckl.)

QUEBEC
Slight infection reported.

LEAF SPOT -- Alternaria Brassicae (Berk.) Sacc.

PRINCE EDWARD ISLAND
One collection made on Experimental Farm. Slight percentage infection, no apparent injury.

QUEBEC
Present in Kamouraska county but not destructive.

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

QUEBEC
Moderate infection from this disease.

BLACK ROT -- Bacterium campestre (Pammel) E.F.S.

QUEBEC
5% infection at the Agricultural College, Ste. Anne de la Pocatiere.

OEDEMA

ONTARIO
Reported from Lincoln county. Characterised by swelling and splitting of midribs and veins.

CAULIFLOWER.

BLACK ROT -- Bacterium campestre (Pammel) E.F.S.

QUEBEC
Moderate infection in Kamouraska and Nicolet counties.

CELERY.

LATE BLIGHT -- Septoria Petroselini Desm. var. Apii Br. et Cav.

NEW BRUNSWICK
Severe infection at the Experimental Station in York county.

QUEBEC
Serious in parts of Laval and Chateauguay counties, lighter infections appearing in Kamouraska county for the first time.

ONTARIO
From reports appears to be general in Thunder Bay, Fort William and Port Arthur districts, with severe infection in Kent county. The disease also made its appearance in Lincoln county, 2% of the plants being affected.

MANITOBA
Injurious in some cases.

ALBERTA
Mild infection at Lacombe.

EARLY BLIGHT -- Cercospora Apii Fr.

QUEBEC
Reported present in Kamouraska county.

ONTARIO
Appeared in Kent county causing 50% infection.

BACTERIUM BLIGHT -- Bacterium Apii Jugger.

QUEBEC
Observed for the first time in 1923. Since then has spread and become quite destructive.

BLACK HEART

ONTARIO
A physiological disease which, in the Niagara district caused much loss. Over 75% of the crop was infected, being followed by soft rot causing further loss. (G. H. Berkeley.)

CHIVES.

SMUDGE -- Colletotrichum circinans (Berk.) Vogl.

QUEBEC
Present in Kamouraska county.

CRESS.

DOWNY MILDEW -- Peronospora parasitica Tul.

MANITOBA
Reported as causing slight injury in the Winnipeg district. This is the first record of the appearance of the disease in this locality.

CUCUMBER.

SCAB -- Cladosporium cucumerinum Ell. et Arth.

NOVA SCOTIA
A severe outbreak was found in greenhouses at Falmouth. The English forcing varieties were found to be very susceptible as compared to the common white spined varieties.

QUEBEC
One report of slight infection at Bramptonville.

ONTARIO
Present in Chatham township.

MANITOBA
Observed at Winnipeg.

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

ONTARIO
From 25 to 50% of plants in greenhouses at Mersea were lost due to attacks of this fungus.

POWDERY MILDEW -- Erysiphe Cichoracearum De C.

PRINCE EDWARD ISLAND
A trace was observed on the variety Early Frome.

ROOT KNOT -- Heterodera radicicola (Greef.) Muell.

ONTARIO
Very troublesome in some greenhouses especially on cucumbers. Tomatoes are also attacked.

DOWNY MILDEW -- Pseudoperonospora cubensis (Berk. et Curt.) Rosten.

QUEBEC
At Abord à Plouffe, near Montreal heavy infection occurred on early cucumbers in hot frames at time of harvesting. Damage comparatively light, being estimated at 4 or 5%.

TIMBER ROT -- Solerotinia sclerotiorum (Lib.) Massee (= Sclerotinia Libertiana Fckl,

ONTARIO
Present in two greenhouses in Essex county causing a loss of about 25%.

MANITOBA
But rarely found.

WILT -- Bacterium tracheiphilus E.F.S.

QUEBEC
A small percentage observed in most garden patches.

ONTARIO
Present to slight extent in Lincoln county with heavier infection present in Essex and Kent counties.

ALBERTA
A trace reported.

MOSAIC

PRINCE EDWARD ISLAND
This disease caused slight losses at the Experimental Farm. Typical disease specimens of the Davis Perfect variety were collected. None of the other varieties developed typical symptoms.

NOVA SCOTIA
A few diseased plants were located in greenhouses in the province. There was no serious spread of the disease.

NEW BRUNSWICK
Found on several plants at the Experimental Station, York county.

ONTARIO
This disease was found in three greenhouses in Essex county, infection being severe in one case. Slight infection is also reported from Chatham.

MANITOBA
Remarkable reduction in damage in Winnipeg Area, probably owing to the fact that most of the aphids and cucumber beetles were killed off by the severity of the previous winter.

EGG PLANT.

BLIGHT -- Phytophthora infestans (Mont.) de Bary.

ONTARIO
In Lincoln county 5% infection was observed on this plant.

HORSE RADISH.

LEAF SPOT -- Cercospora Armoraciae Sacc.

PRINCE EDWARD ISLAND
Present but not doing serious injury.

LEEK.

WILT OR SMUDGE -- Colletotrichum circinans (Berk.) Vogl.

QUEBEC
One report from Kamouraska county where slight infection occurred.

LETTUCE.

DROP -- Sclerotinia sclerotiorum (Lib.) Mass.

(= Sclerotinia Libertiana Fckl.

NEW BRUNSWICK
Only one patch on low lying ground at the Experimental Station York county was found to be diseased.

ONTARIO
Prevalent in a few localities but not causing serious damage.

DOWNY MILDEW -- Bremia Lactucae Regel.

PRINCE EDWARD ISLAND
One collection was made, the diseased plants showing a wilted appearance.

RUST -- Puccinia hieraciata (Schw.) Jack.

SASKATCHEWAN
A trace in evidence.

SOFT ROT -- Pseudomonas sp.

ONTARIO
Some infection in Lincoln county.

TIP BURN

ONTARIO
Extremely severe on certain varieties of head lettuce in the Niagara district.

BRITISH COLUMBIA
This trouble prevents the growing of head lettuce commercially in the dry regions of British Columbia where the production could otherwise be a financial success. The disease is well known throughout the Pacific north-west, but no satisfactory control measures have as yet been found. (H. R. McLarty.)

MANGEL.

LEAF SPOT -- Cercospora beticola Sacc.

PRINCE EDWARD ISLAND
One collection made. Apparently not common this year on Prince Edward Island.

LEAF SPOT -- Phoma Betae Fr.

MANITOBA
Fairly common.

Rhizoctonia spp.

BRITISH COLUMBIA
Prevalent only in a slight degree.

PHYSIOLOGICAL DISEASE OF UNKNOWN ORIGIN.

BRITISH COLUMBIA
A very serious condition developed in the mangels grown about Kelowna. It was present in a varying degree in almost every field examined, the infection running from 10% up to one case of 80%.

The first symptom is a cracking and wilting-down of the outside leaves. Later the young leaves in the centre of the crown turn black and shrivel up, even before they have properly unrolled. When the roots are well grown, large, more or less lateral cracks appear in them. These cracks may be more than half of the diameter of the root in depth, and up to 2" in width at the surface. No rotting is apparent at this stage, but the exposed tissue is black and dry. The latest stage is a crown rot which sets in about harvesting time.

Various fungi have been isolated but Pathogenicity has not been established. It seems probable that the trouble is, to some extent, physiological; brought about by certain conditions of soil moisture.

ONION.

SMUT -- Urocystis Cepulae Fr.

QUEBEC
Slight infection reported.

ONTARIO
Present in the Niagara district.

MANITOBA
A considerable amount was found in one field just north of Winnipeg.

DOWNY MILDEW -- Peronospora Schleideni Ung.

PRINCE EDWARD ISLAND
Epidemic this year. Serious injury to all varieties grown at the Experimental Farm. Tops were killed off by the middle of August.

NOVA SCOTIA
Severe infestation of onion plots, starting on sets and spreading to large onions, causing killing of tops in a few days. Sulphur dust apparently served as a check to further growth of the fungus.

QUEBEC
At St. Anselm, Abord à Plouffe, St. Pascal, and La Trappe serious damage was caused by this disease.

ONTARIO
Reported from the township of Blackburn.

ROT -- Botrytis Allii Munn.

PRINCE EDWARD ISLAND
Small percentage at harvest time on Red variety. Not serious.

BRITISH COLUMBIA
At Kelowna causes much shrinkage is stored onions. Does not affect Silver skins to any great extent.

PINK ROOT -- Fusarium Mallii Taub.

ONTARIO
This disease is prevalent in a few small areas in Pelee onion Marshes, but not causing as much serious loss at first thought. The Red onion was found to be more resistant than the yellow.

SOFT ROT -- Bacillus carotovorus L.R. Jones

BRITISH COLUMBIA
Found on "Silver skins" in storage.

PARSLEY.

LEAF SPOT -- Septoria Petroselini Desm.

NEW BRUNSWICK
Observed in York county.

PARSNIP.

EARLY BLIGHT -- Cercospora Apii Fr.

PRINCE EDWARD ISLAND
Collection made at the Experimental Farm. Very little disease present and damage slight.

PEAS.

SPOTS -- Mycosphaerella pinodes (Berk. et Blox.) Stone, Septoria Pisi West, and Ascochyta Pisi Lib.

PRINCE EDWARD ISLAND
Caused serious injury to plants. General in Charlottetown.

NOVA SCOTIA
Leaf and pod spot common but not of serious consequence.

NEW BRUNSWICK
Slight infection noted in York county.

QUEBEC
Widespread and fairly severe in Kamouraska, Huntingdon, and Chateauguay counties.

MANITOBA
Prevalent and moderately destructive.

SASKATCHEWAN
Much less in evidence this year than previously.

BRITISH COLUMBIA
Prevalent but not serious.

MILDEW -- Erysiphe Polygoni DC.

PRINCE EDWARD ISLAND
General but infection only moderate.

NEW BRUNSWICK
Only a few isolated plants observed.

QUEBEC
Present, to a moderate extent in Kamouraska, Huntingdon, and Chateauguay counties.

ALBERTA
Only a trace found.

BRITISH COLUMBIA
All varieties slightly affected, Solo and Champlain more than the others.

RUST -- Uromyces Pisi (Pers.) Wint.

QUEBEC
Slight infection in Chateauguay county, also prevalent at the Agricultural College, Ste. Anne de la Pocatière.

WILT -- Fusarium spp.

BRITISH COLUMBIA
Reported from Kelowna infection not serious, being less than 1% in about 1 acre of peas.

POTATO INSPECTION AND CERTIFICATION.

A comparison between the work accomplished and the results obtained during 1925 and the four previous years, indicates undiminished interest and success in the production of certified seed potatoes, the figures of the field inspection for the five years being as follows:

Year	Number of fields inspected	Number of acres inspected	Number of fields passed	Number of acres passed	Per cent fields passed	Per cent acres passed
1921	2646	7900.0	1634	4290.0	61.7	54.3
1922	3283	11250.0	2139	6991.0	65.3	62.1
1923	2914	9681.0	2061	7099.7	70.7	73.3
1924	5586	19238.87	3868	13916.64	69.25	72.3
1925	4542	14451.51	3307	10856.88	72.8	75.1

Included in the two following tables is a summary of the distribution and results of the work in the nine provinces of Canada during 1925, and the average percentage of the principal diseases found in the fields inspected, passed, and rejected:-

SUMMARY OF THE INSPECTION WORK BY PROVINCES.

	Number of Applications Received	Number of Fields Inspected	Number of Acres Inspected	Number of Fields Passed	Number of Acres Passed	Per Cent Fields Passed	Per Cent Acreage Passed
Prince Edward Island	1210	1880	7330.5	1628	6515	86.5	88.8
Nova Scotia	118	155	300.2	113	201.2	72.9	67.0
New Brunswick	476	892	3745.0	561	2335	62.9	62.3
Quebec	154	253	560.8	97	191.2	38.5	33.9
Ontario	316	470	1270.0	325	920	69.2	72.5
Manitoba	38	70	130.0	56	104	80	80
Saskatchewan	91	115	322.0	81	149	70.43	46.27
Alberta	121	157	334.0	90	137	41.01	57.32
British Columbia	282	550	459.01	356	304.48	64.7	66.3
Total	2786	4542	14451.51	3307	10856.88	72.8	75.1

PERCENTAGE OF DISEASE FOUND - BY PROVINCES.

	P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.	SASK.	ALTA.	B.C.
Average per cent disease in total fields inspected:									
Blackleg	.381	0.87	1.25	1.2	.69	.20	.62	1.08	.17
Leaf Roll	.030	0.2	.18	.30	.59	.19	.38	0.0	.16
Mosaic	1.165	0.42	2.33	5.7	.57	.14	.15	.50	2.51
Wilts	.068	0.22	.008	.003	.006	0.0	0.0	.33	.11
Average per cent disease in fields passed:									
Blackleg	.326	0.70	.57	.43	.27	.20	.25	.36	.04
Leaf Roll	.004	0.11	.16	.12	.38	.14	.10	0.0	.13
Mosaic	.251	0.6	.69	.41	.31	.08	.20	.17	.52
Wilts	.06	0.22	.009	.001	.001	0.0	0.0	.02	.08
Average per cent disease in fields rejected:									
Blackleg	.06	1.70	2.41	1.7	1.62	.87	1.57	2.37	.29
Leaf Roll	.058	0.5	.22	.40	1.05	.59	.83	0.0	.30
Mosaic	5.24	3.63	5.11	9.2	1.16	.61	.74	1.16	5.54
Wilts	.072	0.0	.005	.007	.017	0.0	0.0	.55	.20

POTATO

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

PRINCE EDWARD ISLAND

The year 1925 saw the occurrence of the worst epidemic that has been experienced for some years. The disease was first recorded on the vines on August 3rd, and by August 15th, it was prevalent in many sections of the province.

Rot developed rapidly in unsprayed or poorly sprayed fields, in one or two instances resulting in a total loss. The majority of the Irish Cobblers and Dakota Reds survived the epidemic, but Green Mountain and McIntyre suffered severely. It was not unusual to find 25 to 50% rot in many lots inspected.

NOVA SCOTIA

The disease made its initial appearance at Kentville on July 7th, the earliest recorded infection in the district. Slight infection was reported, both from here and from Onslow.

NEW BRUNSWICK

Found on Green Mountain, and very severe on Irish Cobbler. Of general occurrence, and where present, usually severe.

QUEBEC

Infection appeared later than usual with an estimated injury of 5% to the growing crop. Reports were sent in from Quebec, Missisquoi, and Kamouraska counties.

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

PRINCE EDWARD ISLAND

Assumed serious proportions, so much so that a number of fields in one section were completely defoliated by the middle of August. A conservative estimate of the loss for the province could not be placed lower than 10%.

NOVA SCOTIA

Severe infection reported from Annapolis county, with moderate infection on Cobblers in King's county.

NEW BRUNSWICK

Occurs generally. Injury varied from slight to severe, in some cases a total loss resulting. Irish Cobblers were least resistant, while on Green Mountains injury was slight and spots few.

QUEBEC

At Ste. Anne, Kamouraska county, only a trace of infection appeared on unsprayed plots.

ONTARIO

A trace reported from Amaranth Station.

ALBERTA

Slight infection.

WILT -- Fusarium oxysporum Schl. Verticillium alboatrum Reinke et Berth.

PRINCE EDWARD ISLAND

Occurrence noted but little damage done.

ALBERTA

Traces appeared in Lacombe and Edmonton townships.

BRITISH COLUMBIA
Reported found on all varieties in Sidney, Vancouver Island, with damage estimated at 5%.

RHIZOCTONIA -- Corticium vagum B. et C.

PRINCE EDWARD ISLAND
This disease was found in very slight proportions on the plants, and in varying amounts, from 1 to 50%, of tubers affected with the sclerotia. The degree of infection generally coincides with the date of harvesting after the vines are dead.
(R. R. Hurst.)

NOVA SCOTIA
Slight traces of infection in Nappan county.

NEW BRUNSWICK
Widespread but not serious.

QUEBEC
In Matane, Rimouski, Temiscouta, and Kamouraska counties the disease was abundant. Infection was on the average about 5%.

ONTARIO
In Lincoln and Kent counties slight infection occurred.

MANITOBA
Very prevalent in all varieties grown, such as Cobbler, Ohio, Green Mountain, and American Wonder.

ALBERTA
This disease was found infesting tubers in the Peace River district and also in the vicinity of Edmonton.

BRITISH COLUMBIA
A considerable amount was in evidence this year. At Kelowna a 10% infection occurred in one plot of 1½ acres.

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

PRINCE EDWARD ISLAND
Very few cases reported this year, none serious.

NOVA SCOTIA
In Yarmouth county Irish Cobblers were slightly infected.

QUEBEC
Merely a trace was reported from most parts of the province. This is a great decrease over last year.

SILVER SCURF -- Spondylocladium atrovirens C.O. Harz.

NEW BRUNSWICK
Not very severe, only isolated specimens found when examining tubers.

ALBERTA
Fairly common in Peace River district, apparently more so on Irish Cobblers than on other varieties.

BLACK DOT -- Colletotrichum atramentarium (Berk. et Br.) Taub.

QUEBEC
Quite common at Macdonald College.

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

PRINCE EDWARD ISLAND
Infections scattered and not of common occurrence.

NOVA SCOTIA
Present to a varying degree in all parts of the province.

NEW BRUNSWICK
Found in varying quantities in all potato bins.

QUEBEC
In Laboratory plots at Ste. Anne de la Pocatiere, an infection of 8% occurred. In Experimental Station fields infection was only 2 to 3%. Much less prevalent than in 1924. The general average for the county was 2% loss.

ONTARIO
Slight infection was reported in Kent county.

MANITOBA
In Stanley county only noticeable to a slight degree. Appeared to be fairly well controlled by formalin steeping.

SASKATCHEWAN
Much in evidence.

ALBERTA
Traces found in Peace River district, and considerable amounts around Lacombe and Edmonton.

BRITISH COLUMBIA
Present in most fields.

BLACK LEG -- Bacillus solanisaprus Har.

PRINCE EDWARD ISLAND
The amount of disease in 1925 is slightly higher than in 1924. Infection reported as general ranging from 1 to 10%. Many growers report control or part control by disinfection of seed tubers with corrosive sublimate.

NOVA SCOTIA
Slight traces were observed in Nappan township.

NEW BRUNSWICK
Infection moderate in Cobblers at the Experimental Station, and also prevalent in many districts throughout the province.

QUEBEC
Average infection in Matane county 1.5 to 2%, light infection also being reported in Kamouraska county and at Macdonald College.

ONTARIO
Very little observed this year.

MANITOBA
Only slight infection occurred in 1925. Most common on Green Mountain.

ALBERTA
Serious in Lacombe county and a trace in the vicinity of Edmonton.

BRITISH COLUMBIA
One report from Kelowna, where 5% infection occurred in a field of 1½ acres. Variety unknown.

MOSAIC

PRINCE EDWARD ISLAND
This disease was much more prevalent this year than last. This may be accounted for by the presence of numerous aphids in the dry 1924 season.

NOVA SCOTIA
On plants grown from unselected and uncertified seed the disease was very prevalent.

QUEBEC
This disease appeared in Kamouraska county and at Macdonald College, where mottling, dwarfing, and crinkling were observed.

MANITOBA
Prevalent as usual. The later stages, such as curly dwarf, spindly sprout, etc. were noticed.

ALBERTA
Traces of infection appeared in both Edmonton and Lacombe townships.

BRITISH COLUMBIA
Rather serious. Many fields had to be rogued fully 35%.

LEAF ROLL

PRINCE EDWARD ISLAND
General but not serious.

NOVA SCOTIA
On plants grown from unselected and uncertified seed leaf roll was very prevalent.

ALBERTA
Merely a trace appeared at University of Alberta.

BRITISH COLUMBIA
Did not appear to be abundant at the University of British Columbia, only a few plants being found in our plots.
(G. G. Moe.)

On Vancouver Island all varieties were affected, damage being slight - 2 to 3%.

NET NECROSIS

ALBERTA.
Found present in the Peace River district.

WITCHES' BROOM

BRITISH COLUMBIA
At Kelowna about 10% of the plants were diseased in a plot of 2 acres grown from certified seed. Variety Early St. George.

STEM END BROWNING

Absent in British Columbia and only noticed to a slight degree in Manitoba.

RHUBARB.

LEAF SPOT -- Ascochyta Rhei E. et E.

PRINCE EDWARD ISLAND
Observed only at the Experimental Farm, where it occurred to a considerable extent.

NEW BRUNSWICK
Reported present in the province.

LEAF SPOT -- Phyllosticta straminella Bres.

PRINCE EDWARD ISLAND
General at the Experimental Farm, but doing no apparent injury.

NEW BRUNSWICK
A few lesions only found.

QUEBEC
Reported from Kamouraska, Huntingdon, and Chateauguay counties, where infection was slight.

BRITISH COLUMBIA
Fairly common. Found on the lower inside leaves of the plants. Not of economic importance.

LEAF SPOT -- Ramularia sp.

PRINCE EDWARD ISLAND
Reported present in the province.

STEM ROT -- Botrytis sp.

BRITISH COLUMBIA
Observed at Summerland. Caused soft rot in the petioles. Not serious, as it only affects old leaves.

POWDERY MILDEW -- Erysiphe sp.

BRITISH COLUMBIA
Of rare occurrence.

MOSAIC

QUEBEC
Found in one area near Montreal.

SALSIFY.

WHITE RUST -- Albugo Tragopogonis (D.C.) S.F. Gray.

QUEBEC
A 25 to 30% infection reported in Champlain county. Injury caused, moderate.

SPINACH.

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

PRINCE EDWARD ISLAND
General at Experimental Farm. No other reports.

ONTARIO
One report from Lincoln county, where there was an average infection of 20%.

MANITOBA

Prevalent at Winnipeg, Brandon, and Morden. Previously found on Chenopodium album L.

MOSAIC

NEW BRUNSWICK

Plants grown from seed obtained from Virginia showed 10% infection in Experimental Station plots in York county.

SWEET POTATO.

MANITOBA

No diseases were found on sweet potatoes grown at the Morden Station.

TOBACCO.

BLACK ROOT ROT -- Thielavia Basicola (B. et Br.) Zopf.

Quite common in the seed beds in Quebec, and to a limited extent in Ontario.

Owing to the comparatively dry season there was considerably less injury in the field than in 1924 in Quebec and Ontario. Present to a limited extent in British Columbia.

DAMPING OFF -- Rhizoctonia and Fusarium spp.

Quite common in the Quebec districts and in parts of the Ontario district. As a result of improved methods of seed-bed management in Quebec the disease was not as prevalent as in previous years.

LEAF BLIGHT -- Cercospora Nicotianae Ell. et Ev.

QUEBEC

Infection appeared in Kamouraska, Huntingdon, and Chateauguay counties, in some parts of the latter county being as high as 50%.

WILD FIRE -- Bacterium Tabacum W. et F.

Found on six farms near St. Césaire, Quebec. Owing to the dry weather during the month of August the damage was light. This is the first positive record of the occurrence of this disease in Canada.

ANGULAR LEAF SPOT -- Bacterium angulatum Fromme et Murray.

Present to a limited extent in the Quebec and Ontario districts. The infection was scattered and mostly confined to the lower leaves.

MOSAIC

Fairly common in Quebec and Ontario, and present to a limited extent in British Columbia. Not as prevalent as in 1924.

CURLY DWARF

A few scattered instances were observed in Ontario.

HOLLOW STALK

A few scattered cases of this disease occurred in both Ontario and Quebec. In only one instance was the injury at all severe, in this case about 5% of the plants in one field being affected.

(T. G. Major.)

TOMATO.

LEAF SPOT -- Septoria Lycopersici Speg.

PRINCE EDWARD ISLAND
Severe about August 10th but did not spread after that date.

QUEBEC
Quite severe in Missisquoi, Rouville, Joliette, Montcalm, and L'Assomption counties.

ONTARIO
Severe infestation reported from Lincoln county, with light infection in Harrow county and Brighton.

MANITOBA
Found in several places causing some injury.

BRITISH COLUMBIA
80% infection of "Sunrise" variety reported from Kelowna, occurring in one out of three greenhouses. The yield however was not materially decreased by the disease.

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

PRINCE EDWARD ISLAND
Slight infection observed on leaves in September.

NOVA SCOTIA
Moderate infection was general. Considerable damage was done in some patches in Hants county.

NEW BRUNSWICK
Extremely severe on seedling plants 4" to 6" in height.

QUEBEC
This disease is widespread in Kamouraska county. Considerable damage was incurred at the Agricultural College, Ste. Anne de la Pocatiere. Heavy infestation is also reported from Chateauguay county.

LEAF MOULD -- Cladosporium fulvum Cke.

ONTARIO
Most troublesome on winter crop in greenhouses owing to lack of adequate ventilation. Some loss in Essex county.

MANITOBA
Injurious in certain greenhouses in the vicinity of Winnipeg.

BRITISH COLUMBIA
At Kelowna it was found that the disease was very common in greenhouses, in some cases 90% of the plants in a house being infected. Infected plants were finally killed by the pathogen.

ROOT ROT -- Rhizoctonia Solani (E. et M.) J. et G.

ONTARIO
Present to a considerable extent in Essex county.

MANITOBA
Killed a few transplants at Winnipeg.

BLIGHT -- Sclerotinia sp.

QUEBEC
This disease was found late in the fall along the south shore of the St. Lawrence river. About 9% of the plants were severely attacked and killed by the disease. The occurrence of infection was also noted at Macdonald College.

ONTARIO
Reported infection on greenhouse crop in Lincoln county.

GRAND RAPIDS DISEASE -- Aplanobacter michiganense E.F.S.

BRITISH COLUMBIA
The most serious disease affecting this crop during the past season. It is widespread, with an average infection of from 3 to 5%, the maximum being as high as 50%.

DAMPING OFF -- Pythium Debaryanum Hesse.

ONTARIO
Reported prevalent at Deseronto and in Essex county.

FRUIT ROT -- Phoma destructiva Plowr.

One report from Manitoba in which a trace only was found.

BUCK-EYE ROT -- Phytophthora terrestia Sherb.

BRITISH COLUMBIA
Found on some fallen tomatoes in greenhouses at Kelowna. There was no infection on fruit on the vines.

ROOT KNOT -- Heterodera sp.

ONTARIO
Very troublesome on tomatoes and cucumbers in many greenhouses in Essex county.

BACTERIAL SOFT ROT

BRITISH COLUMBIA
Quite prevalent in Okanagon Valley, but not of commercial importance. The causal organism was apparently different from Bacillus carotovorus L.R. Jones, and Bacillus aroideae, Townsend. Green fruits were more susceptible than ripe ones.
(H. R. McLarty.)

BLOSSOM END ROT

QUEBEC
In Drummond county one case was found where 32% of a field of one acre was infested with the disease.

ONTARIO
Serious in some fields in Essex county.

SASKATCHEWAN
A trace was found at Indian Head.

ALBERTA
Slight infection in Redcliff.

MOSAIC

ONTARIO
Common in varying percentages throughout the province.

BRITISH COLUMBIA
Not serious. Found only on a few plants.

STREAK

QUEBEC
Occurred in field in plants next to potatoes with mosaic.
(B. T. Dickson.)

ONTARIO
Severe in parts of Lincoln county.

BRITISH COLUMBIA
In one greenhouse at Kelowna only three plants out of several hundred were infected. Plants attacked were all "Sunrise" variety. Sutton's "Best of All" in the same house were free from disease.

WESTERN YELLOW BLIGHT.

BRITISH COLUMBIA
Only isolated plants found diseased.

OEDEMA

ONTARIO
In one instance in Lincoln county a grower has 100% diseased plants in his greenhouse due to overwatering and lack of ventilation.

TURNIPS.

CLUB ROOT -- Plasmodiophora Brassicae Wor.

PRINCE EDWARD ISLAND
Occasional reports of light infections.

NOVA SCOTIA
In evidence at the farm at Nappan but not serious. In some sections of the province however the disease is very serious and heavy losses in the crop have been sustained.

NEW BRUNSWICK
Varying stages of severity observed in different fields in York county.

QUEBEC
Very light infection and loss.

MANITOBA
Common on White Swede and Breadstone Green top.

LEAF SPOT -- Alternaria Brassicae (Berk.) Sacc.

QUEBEC
Commonly found on the crop at the Experimental Farm, Ste. Anne de la Pocatiere.

POWDERY MILDEW -- Erysiphe Polygoni De C.

PRINCE EDWARD ISLAND
Slight infection observed in one field at St. Peters.

RHIZOCTONIA

NOVA SCOTIA
Considerable damage from this source following root maggot injury.

SOFT ROT -- Bacillus carotovorus Jones.

NEW BRUNSWICK
Slight infection only.

MANITOBA
In Stanley county the disease was found to be very prevalent on all varieties of fall turnips, almost rendering this class of turnips useless for that territory.

FOREST AND SHADE TREE DISEASES.

Fungous Parasites of the foliage of the Tree.
Flora of the Southern counties of Ontario, chiefly in the vicinity of London.

Perhaps there is no other part of Canada that has a more diversified arboreal flora than the Thames Valley in Southern Ontario; a correspondingly large and diversified fungous flora naturally is to be expected. This list does not include the polypores, hydnums, and agarics, which cause timber decay, nor the species like Armillaria mellea and Pleuroti which invade living trees at uncured wounds and progressively attack the adjoining living tissue, nor those like Hypholoma appendiculatum that get a start in languishing or dying roots, and spreading in the root system, hasten the death of the tree.

It is merely a provisional enumeration of a few of the most injurious or most noticeable leaf-parasites of the trees in towns and on farms in the counties near London. (J. Dearness.)

ALDER (Almus spp.)

CATKIN DEFORMATION -- Exoascus amentorum Sadeb.

Found in Prince Edward Island and Ontario.

SOOTY MOULD -- Meliola Penzigi Sacc.

Common on alders in Prince Edward Island.

POWDERY MILDEW -- Erysiphe aggregata Peck. and
Phyllactinia corylea (Pers.) Karst.

Reported from Nova Scotia and from Ontario.

AMERICAN CRAB APPLE (Pyrus coronaria Cy.)

RUST -- Gymnosporangium spp.

Found near London, Ontario.

SCAB -- Fusicladium dendriticum Fckl.
= Venturia Pomi Fr.

Observed at London, Ontario.

ASH (Fraxinus spp.)

LEAF SPOT -- Piggotia Fraxinia B. et C.

Occurs at London, Ontario.

LEAF SCORCH -- Gloeosporium aridum Ell. et Holn.

Seen on ash at London, Ontario.

RUST -- Puccinia fraxinata (L.K.)Arthur.

Reported from Ontario.

BALM OF GILEAD.

LEAF SPOT -- Melampsora Tremulae Tul.

Found in various parts of Prince Edward Island but not doing serious injury.

BALSAM.

RUST -- Melampsorella elatina (A. et S.) Arth.

Fairly prevalent in both Nova Scotia and New Brunswick.

LEAF SPOT -- Diplodinia parasitica (Hort.) Prill.

Causes injury to basal leaves in Prince Edward Island.

BASSWOOD (Tilia americana L.)

LEAF SPOT -- Cercospora microsora Sacc.

Occurs in southern Ontario. Causes very numerous small spots on the leaves and is also quite injurious on the lower branches in thick stands.

POWDERY MILDEW -- Uncinula Clintonii Pk.

Commonly found on the leaves in Ontario.

BEECH (Fagus grandifolia Ehrh.)

ANTHRACNOSE -- Gloeosporium Fagi Rub. et Desm.

Found in Westminster township, but of rare occurrence.

CARPINUS OR BLUE BEECH (Carpinus spp.)

ANTHRACNOSE -- Gloeosporium carpinicolum Ell. et Dearn. and Gloeosporium Robergei Desm.

More or less injurious in Ontario.

BIRCH (Betula spp.)

ANTHRACNOSE -- Gloeosporium spp.

A common parasite on this host in the province of Ontario.

POWDERY MILDEW -- Phyllactinea corylea (Pers.) Karst.

Reported from Ontario as being found fruiting, usually just after the fall of the leaves.

BUCKTHORN (Rhamnus catharticus L.)

RUST -- Puccinia coronata Cda.

This disease proved to be fairly widespread in Quebec, Nova Scotia, and Prince Edward Island.

BUTTERNUT (Juglans spp.)

LEAF SPOTS -- Marssonia Juglandis Lib. maturing to Gnomonia leptostyla and Microstroma Juglandis (Bereng.) Sacc.

These are two common leaf parasites in Ontario.

BUTTONWOOD (Platanus occidentalis L.)

ANTHRACNOSE -- Gloeosporium nervisequium Sacc.

The most common and injurious leaf fungus of buttonwood in Ontario. The infection runs along the veins causing deformity and "scorch" of the leaves.

WHITE CEDAR (Thuja occidentalis L.)

Keithia thujina, Durand, a small peziza; Harknessia foeda Sacc. et Dearn. and Pestalozzia funerea, Desm., two dark, smutty forms are three of the fungus parasites taken on white cedar in Ontario.

RED CEDAR (Juniperus Virginiana L.)

CEDAR RUST -- Gymnosporangium Juniperae-virginianae Schw.

Appears regularly on planted red cedars near London, Ontario.

URLA OR WILD CHERRY.

RUST -- Transchelia punctata (Pers.) Arth.
= Puccinia Pruni-spenosae Pers.

Found in Ontario.

LEAF CURL AND PLUM POCKET -- Exoascus spp.

Reported from London district, Ontario.

SHOT HOLE -- Cercospora circumscissa Sacc.

Prevalent in Ontario.

LEAF SPOT -- Cylindrosporium Padi Karst, maturing to Coccomyces spp.

Fairly common in Ontario.

BLACK KNOT -- Diabotryon morbosum (Schw.) Thies. et Syd.

Observed in Ontario.

CHESTNUT (Castanea dentata (Marsh.) Borkh.)

LEAF SPOT -- Septogloeum ochroleucum (B. et C.) Dearn.

Prevalent in southern Ontario on the foliage of this tree.

LEAF BLIGHT OR CANKER -- Endothia parasitica (Murr.) P.J. et H.W. Anderson.

This disease occurs in both Ontario and Quebec and often causes irreparable damage.

FLOWERING DOGWOOD (Cornus florida L.)

LEAF SPOT -- Septoria cornicola Desm.

The true cornel and all the native shrubby species in southern Ontario are subject to this leaf spot.

ELM (Ulmus americana L.)

LEAF SPOT -- Gnomonia ulmea (Schw.) Thum.
(Dothidella in Ell. et Ev.)

Common in Ontario and widespread in Huntingdon and Chateauguay counties, Quebec.

LEAF SPOT -- Pleospora Ulmi (Fr.) Wallr.

In Ontario is reported as being occasionally injurious.

HAWTHORN.

LEAF BLIGHT -- Entomosporium maculatum (Lev.) Atk.

Present on hawthorn in both Ontario and Prince Edward Island.

RUST -- Gymnosporangium germinale (Schw.) Kun.

Reported from Ontario. Severe infection in Nova Scotia where it also occurred on Amelanchier. In Prince Edward Island it is common on the pink variety.

HICKORIES (Carya spp.)

LEAF SPOT -- Gloeosporium Caryae Ell. et Dearn.
maturing to Gnomonia.

Present in the vicinity of London, Ontario. Is very injurious, sometimes defoliating young hickories.

LEAF SPOT -- Microstroma Juglandis (Bereng.) Sacc.

Causes a white spotting of the leaves, and is less injurious than the gloeosporium leaf spot. Found in Ontario.

HONEY LOCUST (Gleditsia triacanthos Gled.)

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

Found in Ontario. Is occasional in thick hedgerows and quite injurious.

HORSE CHESTNUT (Aesculus hippocastanum L.)

LEAF BLOTCH -- Phyllosticta Paviae Desm. and
Phyllosticta sphaeropsoidea E. et E.

Present to a considerable extent in Ontario and Nova Scotia. In Prince Edward Island this disease caused serious injury to all Horse chestnuts observed, resulting in defoliation of the diseased leaves and yellowing of those remaining on the trees.

IRON WOOD (Ostrya Virginiana (Mill.) Koch.)

ANTHRACNOSE -- Cylindrosporium Dearnessii E. et E.
= Phleospora Dearnessii (E. et E.) v. Höhn.

Is reported from Ontario as being occasionally quite injurious.

LEAF SPOT -- Septoria Ostryae Peck.

Occasionally found in London county, Ontario.

JUNEBERRY (Amelanchier canadensis Medic.)

RUST -- Gymnosporangium Juniperi-virginianae Schw.
Gymnosporangium Botryapites (Schw.) Kern.
Gymnosporangium clavariaeforme (Jacq.) DC.

Reported from Alberta, Ontario, Quebec, and Nova Scotia.

BLACK LEAF CURL -- Dimerosporium Collinsii (Schw.) Thüm.

Occurs in Ontario as a close black mildew which covers and deforms the leaf. Occurs most frequently on shrubby plants in light soil.

JUNIPER (Juniperus communis L.)

RUST-- Gymnosporangium germinale (Schw.) Kern. and
Gymnosporangium clavariaeforme (Jacq.) DC.

Found to be prevalent on Juniper and also occurs on apples each year in Nova Scotia.

MAPLE.

Acer saccharum and Acer Nigrum, white and black hard maples.

TAR SPOT -- Rhytisma acerinum (Pers.) Fr.

This disease was reported to be fairly injurious on Ginnolian maples in Manitoba. In Ontario, Quebec, and Prince Edward Island, the spots were observed on the leaves in most localities. In the latter province infection was not observed on Norway Maples.

LEAF SPOT -- Phyllosticta acericola C. et E.

Reported observed in Prince Edward Island. General on maples doing considerable damage. Not observed on Norway Maple.

LEAF SCORCH -- Gloeosporium saccharinum E. et E.

In southern Ontario occasional shade trees are overrun by this fungus, giving them a fire scorched appearance and causing defoliation.

LEAF SPOT -- Phyllosticta minima (B. et C.) E. et E.

Common and injurious on low trees on the edges of woods in the vicinity of London, Ontario.

ASH LEAF MAPLE (Acer negundo L.)

LEAF SPOTS -- Cylindrosporium Negundinis E. et E. and
Septoria Negundinis E. et E.

Prevalent on shade trees of this species in Ontario.

OAKS (Quercus spp.)

LEAF SPOTS -- Marssonia Martini Sacc. et Ell.
Phyllosticta phomiformis Sacc.
Gloeosporium nervisequium (Fckl.) Sacc.

Reported from Ontario.

RUST -- Cronartium cerebrum(Peck.) Hedg. et Long.

Found in Ontario, with aecial stage on Pine.

LEAF CURL -- Taphrina coerulescens (Mont. et Desm.) Tul.

Present in Ontario, and found chiefly on the red and black oaks.

BROWN HEART ROT -- Polyporus sulphureus (Bul.) Fr.

An excellent specimen was found on a dying shade tree of this species in Kentville, Nova Scotia.

PINES (Pinus spp.)

In the west and north of Canada the pines are attacked by upwards of a dozen more or less injurious rusts, of which the white pine blister rust is the most notorious example. All go to broad leaved plants or ferns to complete their life cycle.

BLISTER RUST -- Cronartium ribicola F. de Wald.

Reported on white pine at the Experimental Farm, York county, New Brunswick. At Kentville, Nova Scotia, aeciospores were liberated about May 14th. Black currants within ¼ mile were in one third leaf at the time, and subsequently showed the first uredinia on June 18th.

RUST -- Coleosporium Solidaginis (Schw.) Thuem.

Found on Jack Pine at Indian Head, Saskatchewan.

RUST -- Cronartium coleosporioides Arth.

In British Columbia aecial stage causes very large galls. Only found on P. ponderosa. Common at Summerland but nowhere else in the Okanagan Valley.

NEEDLE BLIGHT -- Cytospora pinastri Fr.

Reported from Portneuf, county, Quebec.

TAR SPOTS -- Hypoderma brachysporum (Rostr.) Tub. and Lophodermium pinastri (Schrad.) Chev.

On pine needles in London district of Ontario.

POPLAR (Populus spp.)

LEAF SPOT -- Septoria musciva Peck.

Reported from London, Ontario.

ANTHRACNOSE -- Marssonia Castagnei D. et M.
= Marssonia Populi Lib.

Common in southern Ontario.

RUSTS -- Melampsora medusa Thum.
Melampsora Tremulae Tul.

Reported from British Columbia, Saskatchewan, and Ontario.

MILDEW -- Uncinula Salicis (DC.) Wint.

Found in Chateauguay and Kamouraska counties, Quebec.

Taphrina Johansonii Sadeb.

Causes catkin deformity in Ontario.

SPRUCE (black) (Picea mariana (Mill.) B.S.P.)

RUST -- Melampsoropsis ledicola (Beck.) Arth.

Common in the spruce country of Saskatchewan.

RUST -- Peridermium consimile Arth. et Kern.

Found in vicinity of London, Ontario, being the aecial stage which matures on feather leaf, a healthy shrub, as Melampsoropsis Cassandrae (Pk. et Clint.) Arth.

SPRUCE (Colorado Blue) (Picea pungens Engl.)

RUST -- Peridermium decolarans Pk.

Common on all Blue Spruce at the Experimental Farm, Charlottetown, Prince Edward Island.

TULIP TREE (Liriodendron Tulipifera L.)

BLACK SPOT -- Ectostroma Liriodendri Fr.

In Ontario is reported as sometimes marring the foliage of tulip trees planted as ornamentals.

WALNUT.

Vide Butternut.

WILLOW (Salix spp.)

RUST -- Melampsora americana Arth.

Reported from Alberta.

RUST -- Melampsora confluens (Pers.) Jackson.

Reported from Alberta.

RUST -- Melampsora Bigelowii Thüm.

Found in Saskatchewan, Ontario, and Prince Edward Island.

ANTHRACNOSE -- Gloeosporium Salicis West. and Cylindrosporium salicinum (Pk.) Dearn.

Reported from London, Ontario.

TAR SPOT -- Rhytisma salicinum Fr.

Reported from Ontario, Quebec, and New Brunswick.

POWDERY MILDEW -- Uncinula Salicis (DC.) Wint.

Reported from British Columbia, Ontario, Quebec, and Prince Edward Island.

CANKER -- Valsa sp.

Locally severe at St. Gregor, Saskatchewan.

LEAF SPOTS -- Pseudopeziza Salicis A. Potebnia.
Septoria salicina Pk.

Reported from Kamouraska county, Quebec.

DISEASE OF UNKNOWN CAUSE.

PRINCE EDWARD ISLAND
About the first of July reports came in from each of the three counties to the effect that all the willows were dying. Investigation revealed that the younger branches were attacked first, the disease spreading rapidly to the main branches. In all cases small cankers developed, but no organism was observed. The smaller trees in swamps were killed outright, and by late August the larger trees had lost their outer branches.

D I S E A S E S O F O R N A M E N T A L P L A N T S.

AMPELOPSIS sp.

BLACK ROT -- Guignardia Bidwellii (Ellis.) V. et R.

Reported from Essex county, Ontario.

ASPIDISTRA

LEAF SPOT -- Collitotrichum omnivorum Halst.

Found in vicinity of Regina, Saskatchewan.

ASTER

WILT -- Fusarium conglutinans Callistephi Beach.

NEW BRUNSWICK
From York county, New Brunswick, it is reported that approximately 25% of the plants in floral borders were killed at blossoming time.

QUEBEC
Occurred to a slight extent in the Montreal district.

ONTARIO
Widespread throughout the province. Generally infections were moderate to slight, but in the Sault Ste. Marie district asters suffered to a considerable extent from attacks of this fungus.

MANITOBA
Less severe than usual.

RUST -- Puccinia Asteris Duby.

NEW BRUNSWICK
Reported from York county, New Brunswick.

ONTARIO
Rust not severe and loss probably less than 5%.

ROOT ROT -- Sclerotinia sclerotiorum (Lib.) Mass.

Reported considerable amount of infection at Lacombe, Alberta.

YELLOWS (cause unknown)

Reported from Alberta, Manitoba, Ontario, New Brunswick, and Nova Scotia. In Alberta, Ontario, and Nova Scotia attacks were severe, practically the whole crop in Nova Scotia being destroyed during August and September.

AZALEA.

LEAF GALL -- Exobasidium Vaccinii (Fckl.) Wor.

Found at Summerland, British Columbia, but reported to be very rare.

BARBERRY.

RUST -- Puccinia graminis Pers.

NEW BRUNSWICK
One sample from St. John county submitted for identification.

QUEBEC
Moderate infection appeared in Kamouraska, L'Islet and Jacque Cartier counties at the beginning of June.

WILT -- Verticillium candidum Sacc.

ONTARIO
Slight infection general.

CARNATION (Dianthus caryophyllus L.)

RUST -- Uromyces caryophyllinus (Schrank.) Wint.

QUEBEC
Found in Kamouraska county, Quebec.

LEAF SPOT -- Alternaria Dianthi F.L. Stevens et J.G. Hall.

ONTARIO
Reported from Lincoln and Cobourg counties.

COLUMBINE (Aquilegia sp.)

POWDERY MILDEW -- Erysiphe Polygoni DC.

BRITISH COLUMBIA
Serious in some gardens at Kelowna and Summerland. Causes curling and discoloration of the leaves.

DAHLIA (Dahlia sp.)

WILT OR DROP -- Sclerotinia sclerotiorum (Lib.) Mass.

Found at Winnipeg, Manitoba, at Ottawa, Ontario, and at Liverpool, Nova Scotia.

DELPHINIUM (Delphinium spp.)

POWDERY MILDEW -- Erysiphe Polygoni (DC.) Salmon.

NEW BRUNSWICK
Slight infection in evidence.

QUEBEC
Reported from Kilbeg des Eboulements.

BRITISH COLUMBIA
Very common in gardens.

BACTERIAL LEAF SPOT -- Bacterium Delphinii (E.F.S.) Bryan.

PRINCE EDWARD ISLAND
This disease caused serious injury throughout the province.

MANITOBA
Reported from Winnipeg, Manitoba.

BLANKET FLOWER (Gaillardia aristata Pursh.)

SMUT -- Entyloma polysporum (Pk.) Farl.

MANITOBA
In Manitoba is found to be common but not serious.

GLADIOLUS (Gladiolus spp.)

SCAB -- Bacterium marginatum McC.

NOVA SCOTIA
Reported from Bedford county.

ONTARIO
Prevalent throughout the province.

SASKATCHEWAN
Found in the vicinity of Saskatoon.

BRITISH COLUMBIA
Present but not serious.

HARD ROT -- Septoria Gladioli Pass.

ONTARIO
Of fairly common occurrence in this province.

GOLDEN GLOW (Rudbeckia laciniata L.)

DROP OR WILT -- Sclerotinia sclerotiorum (Nil.) Mass.

NOVA SCOTIA
Reported from Truro.

GOURD (ornamental) (Cucurbita sp.)

LEAF SPOT -- Septoria sp.

NOVA SCOTIA
At Kentville there was a severe infestation of leaf spot, causing some defoliation.

HOLLYHOCK (Althaea rosea Cav.)

RUST -- Puccinia Malvacearum C.G. Bertero.

PRINCE EDWARD ISLAND
First infection observed on June 19th. Severe infection followed within three weeks, causing serious injury to all varieties on the Experimental Farm.

NOVA SCOTIA
Specimens were received from Hants, King's, Annapolis, and Lunenburg counties.

NEW BRUNSWICK
Infection widespread.

QUEBEC
Fairly prevalent throughout the province.

ONTARIO
Moderate infection was reported from Lindsay, Faversham, and Lincoln Counties.

BRITISH COLUMBIA
Quite serious, but not so much so as in previous years.

LEAF SPOT -- Cercospora althaeina Sacc.

Heavy infection in Prince Edward Island.

HONEYSUCKLE (Lonicera sp.)

MILDEW -- Microsphaera Lonicerae (DC.) Salm.

PRINCE EDWARD ISLAND
Slight infection reported.

HYACINTHS. (Hyacinthus orientalis L.)

YELLOWS

ONTARIO
This disease, of unknown cause, is assuming serious proportions in southern Ontario. It eventually causes a bulb rot, and to date, all varieties have proved susceptible.

IRIS (Iris spp.)

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

PRINCE EDWARD ISLAND
This disease was common in the province this year.

NEW BRUNSWICK
Found only to a slight extent.

QUEBEC
Reported to be unusually prevalent at Macdonald College.

BRITISH COLUMBIA
Found in Experimental Station gardens at Summerland.

BLIGHT -- Botrytis spp.)

PRINCE EDWARD ISLAND
The disease affects the plants at flowering time and is quite serious throughout the island.

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

QUEBEC
Prevalent but not serious at Macdonald College.

IVY (English) (Hedera helix L.)

LEAF SPOT -- Vermicularia trichella Fr.

NOVA SCOTIA
Is moderately severe, causing defoliation of plants.

LILAC (Syringa sp.)

MILDEW -- Microsphaera Alni (Wal.) Salm.

PRINCE EDWARD ISLAND
Not abundant early in September, developing rapidly first of October. General in the Charlottetown district late in September.

NOVA SCOTIA
Infection found to be severe on all bushes examined.

NEW BRUNSWICK
Extremely severe in York county.

ONTARIO
Severe infection occurred at Harrow.

LEAF SPOT -- Ascochyta Syringae Bres.

PRINCE EDWARD ISLAND
Moderate infection reported.

LEAF SPOT -- Phyllosticta Halstedii Ell. et Ev.

QUEBEC
One case reported from Kamouraska county.

LUPINE (Lupinus sp.)

POWDERY MILDEW -- Erysiphe Polygoni DC.

BRITISH COLUMBIA
Reported from Summerland as being quite common on cultivated farms.

NARCISSUS (Narcissus sp.)

BLIGHT -- Botrytis sp.)

PRINCE EDWARD ISLAND
Of common occurrence, attacking leaves and flowers.

PANSY (Viola sp.)

LEAF SPOT -- Alternaria Violae G. et D.

NEW BRUNSWICK
Found in York and Sunbury counties.

PEONY (Paeonia sp.)

ROT -- Botrytis sp.)

PRINCE EDWARD ISLAND

The organism was observed early in May as sclerotia on the over-wintering crowns and stalks. By May 10th the fruiting bodies were observed.

The first attack was observed on July first. At this time the buds were dead and covered with conidia. In one week's time the younger stalks were dead, infection originating at the ground, but developing above and below. The leaves also were attacked, infection starting at the margin and working down through the stems. Evidence suggests partial aerial infection.

Plants from which old stalks had been removed showed but little infection, however, ants appeared to be the greatest factor in spreading the organism. Plants on which these were abundant showed heaviest infection. Several plants were kept free from ants during the first two weeks of July and developed but slight symptoms of the disease and produced flowers. In the majority of other cases there was very poor flower development.

NOVA SCOTIA

At Kentville rather severe infestation on two or three varieties was noted. The fungus caused a wilting of the stems and also appeared on the leaves and buds.

NEW BRUNSWICK

Slight infection found in perennial border at Fredericton.

ONTARIO

Fairly general infection reported. The disease commonly occurred as a root rot, several varieties being found to be susceptible.

YELLOWS

ONTARIO

Symptoms were observed on plants growing in plots at St. Catharines.

PHLOX (Phlox spp.)

LEAF SPOT -- Septoria spp.

PRINCE EDWARD ISLAND

Present to a slight extent in the gardens at Charlottetown, causing very little injury.

MANITOBA

This fungus caused injury in the Manitoba Agricultural College gardens.

POWDERY MILDEW -- Erysiphe Cichoracearum DC.

ONTARIO

Prevalent in Queensboro and vicinity.

ROSE (Rosa spp.)

RUST -- Phragmidium spp.

PRINCE EDWARD ISLAND
Rust was common on both wild and cultivated roses, infection being first observed during the last week of July. By September 15th cultivated varieties were seriously injured causing defoliation.

The following list shows varietal susceptibility:-

DEGREE OF INFECTION

Heavy	Moderate	Free
Chas. Lefebvre	Frau K. Druschki	Caroline Testout
Star of Waltham	Margaret Dickson	Crawford
R.G.S. Crawford	Capt. Haywood	Star of Persia
Gen. Jacqueminot	Mabel Morrison	Coronation
Prince C. de Rohan		Crimson Rambler
Baron de Rothchild (defoliated)		Her Majesty
		Louise Cretté
John Hopper		Ophelia
	Slight	Dorothy Perkins
		Fredenfever
	Mme. Ed. Herriot	Katharina Zeimet
	A.K. Williams	Persian Yellow
	D. McDonald	Excelsa

NOVA SCOTIA
Slight infection general.

NEW BRUNSWICK
Common to a varying extent on all rose bushes at the Experimental Farm, York county.

QUEBEC
Reported from Terrebonne, Kamouraska, and Jacques Cartier counties.

MANITOBA
Some losses were occasioned at the Experimental Station Morden, through attacks of this fungus.

SASKATCHEWAN
Infection general.

BRITISH COLUMBIA
This disease was found only on wild roses, the telial stage being the only one located.

LEAF SPOT -- Cercospora rosicola Pass.

NOVA SCOTIA
Common on wild roses.

NEW BRUNSWICK
Spots profuse on many bushes at the Experimental Station, York county.

ONTARIO
Found to some extent in the vicinity of Ottawa and Portsmouth.

BLACK SPOT -- Diplocarpon Rosae Bon.

NOVA SCOTIA
Reported from Shelbourne.

MILDEW -- Sphaerotheca Humuli (DC.) Burr.

QUEBEC
In evidence at Macdonald College.

ONTARIO
Prevalent on the rambler rose.

SNAPDRAGON (Antirrhinum majus L.)

RUST -- Puccinia Antirrhini Diet. et Halw.

NOVA SCOTIA
Moderate infection found at Berwick.

NEW BRUNSWICK
Severe infection on some plants at the Experimental Station York county.

ONTARIO
Moderate infection reported.

LEAF SPOT -- Phyllosticta Antirrhini Syd.

MANITOBA
Slight infection was noticed at Winnipeg, this being the first record of the appearance of this disease in the province.

SWEET PEA (Lathyrus odoratus L.)

WILT AND ROOT ROT -- Fusarium Lathyri Taub.

Reported present in the provinces of Ontario, Quebec, and Nova Scotia.

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

NEW BRUNSWICK
Fairly prevalent in the vicinity of Sheffield.

POWDERY MILDEW -- Erysiphe Polygoni DC.

PRINCE EDWARD ISLAND
Present in abundance at Charlottetown, conidial stage appearing in August. In late September perethecia developed in abundance.

MOSAIC

NEW BRUNSWICK
Infected plants were not of common occurrence.

SNOWBERRY (Symphoricarpos sp.)

MILDEW -- Microsphaera diffusa Cke. et Pk.

Slight infection reported from Prince Edward Island.

LEAF SPOT -- Phyllosticta Symphoricarpi Wasth.

Common around Charlottetown, Prince Edward Island.

TULIP (Tulipa spp.)

BITRYTIS BLIGHT -- Botrytis Tulipae (Lib.) E.F. Hopkins.

PRINCE EDWARD ISLAND

Infection was heavy by June 1st at the Experimental Farm, being 90% in one large bed in which tulips were grown seven successive years. Many bulbs missed, many other plants were killed before buds appeared. Sclerotia were numerous on bulbs, roots, stalks, flowers, and leaves. Typical fructifications of Botrytis developed on all parts above ground. Cottage Bay showed slight infection, all others were killed by June 10th. In culture the Botrytis organism on tulip resembled those on Narcissus and Clintonia. (R.R. Hurst.)

NOVA SCOTIA

Specimens collected at Kentville showed blight of blossoms and stunting of plants.

QUEBEC

Very prevalent at Macdonald College, and slightly so at Doncaster.

ONTARIO

All varieties found more or less susceptible to the disease. Infection scattered.

DISEASES OF MISCELLANEOUS PLANTS.

Agropyron albicans Scribn. and Smith.

RUST - Puccinia montanensis Ellis.... Craigmyle, district, Alberta.

Agropyron caninum (L.) Beauv.

RUST - Puccinia Clematidis (DC.) Lagerh. Craigmyle, district, Alta.

Agropyron dasystachyum (Hook.) Scribn.

RUST - Puccinia Clematidis Lagerh.... Craigmyle district, Alberta.

Agropyron repens (L.) Beauv.

MILDEW - Erysiphe graminis DC..... Chateauguay county, Quebec.

TAR LEAF SPOT - Phyllachora graminis (Pers.) Fckl. Huntingdon, Jacques Cartier, and Chateauguay counties, Quebec, and P.E.I.

RUST - Puccinia Agropyri E. et E..... Annapolis, Colchester, and King's counties, Nova Scotia.

Agropyron Smithii Rydb.

RUST - Puccinia Clematidis (DC.) Lag..Craigmyle, Alberta.

RUST - Puccinia montanensis Ellis.....Craigmyle, Alberta.

Agrimonia eupatoria L.

RUST - Pucciniastrum Agrimoniae (Dit.)Trash..Kamouraska, Quebec.

Allium sp.

RUST - Puccinia Allii Rudolph.....Craigmyle, Alberta.

Amaranthus retroflexus L.

WHITE RUST - Albugo Bliti (Biv.) Kze.....British Columbia, Quebec. and Prince Edward Island.

Anemone sp.

RUST - Puccinia fusca (Pers.) Wint..... Kamouraska county, Quebec.

RUST - Puccinia gigantispora Bubak. " " "

Arnica mallis Hook.

RUST - Uromyces Junci (Desm.) L. Tul.... Craigmyle, Alberta.

Artemesia sp.

MILDEW - Erysiphe sp..... Summerland, British Columbia.

RUST - Puccinia universalis Arth..... Summerland, B.C., and Craigmyle, Alberta.

Aster spp.

RUST - Coleosporium Solidaginis (Schw.) Thum. Craigmyle, Alberta.

RUST - Puccinia Asteris Duby..... Craigmyle, Alberta, Kamouraska county, Quebec.

RUST - Aecidium Asteris Thum..... Kamouraska county, Quebec.

MILDEW - Erysiphe Cichoracearum DC..... " " "

Avena fatua L.

RUST - Puccinia graminis Pers..... Prince Edward Island.

Bromus pumpellianus Scribn.

RUST -- Puccinia Clematidis (DC.) Lagerh. Craigmyle, Alberta.

Calamagrostis inexpansa Gray.

ERGOT - Claviceps purpurea (Fr.) Tul.... Craigmyle, Alberta.

Calamagrostis longifolia (Hook.) Hack.

RUST - Puccinia amphigena Diet..... Craigmyle, Alberta.

Calamovilfa longifolia (Hook.) Hack.

RUST - Puccinia amphigena Diet..... Craigmyle, Alberta.

Capsella Bursa-pastoris (L.) Medic.

MILDEW - Peronospora parasitica (Pers.) de B. Macdonald College, Que. and Prince Edward Island.

WHITE RUST - Cystopus candidus Liv.

= Albugo candida (Pers.) Kuntze. Macdonald College, Quebec.

Carex spp.

RUST - Puccinia Grossulariae (Schum.) Lag. Craigmyle, Alberta.

RUST - Puccinia atrofusca (D. et T.) Holm. Craigmyle, Alberta.

RUST - Uromyces perigynius Halsted..... Prince Edward Island.

LEAF SPOT - Helminthosporium spp..... Hants county, Nova Scotia.

Chenopodium album L.

LEAF BURN - Cercospora dubia (Riess.) Wint. Kamouraska, Quebec, and Prince Edward Island.

Chrysanthemum Leucanthemum L.

LEAF SPOT - Septoria cercosporoides Trail. Kamouraska county, Que.

Cirsium arvense L.

RUST - Puccinia sauveolens (Pers.) Rostr... Kamouraska county, Que.

WHITE RUST - Albugo Tragopogonis (Pers.) Gray Kamouraska county, Que.

RUST - Puccinia obtigens (L.) Tul....Prince Edward Island.

Clintonia borealis (Ait.) Raf.

WILT - Botrytis sp..... Prince Edward Island

Convolvulus arvensis L.

LEAF SPOT - Septoria Convolvuli Desm..... Kamouraska county, Que.

Convolvulus sepium L.

RUST - Puccinia Convolvuli (Pers.) Cast.... Prince Edward Island.

Distichlis spicata (L.) Gr.

RUST - Puccinia sp..... Summerland, British Columbia.

Distichlis spicata var. stricta Scribn.

RUST - Puccinia subnitens Diet..... Craigmyle, Alberta.

Draba lutea Gilib.

RUST - Puccinia subnitens Diet..... Craigmyle, Alberta.

Elymus canadensis L.

RUST - Puccinia montanensis Ellis..... Craigmyle, Alberta.

MILDEW - Epichloe typhina (P) Tul..... Huntingdon county, Que.

Epilobium adenocaulon Haussk.

RUST -- Pucciniastrum pustulatum (Pers.)Diet. Prince Edward Island.

Euonymus sp.

MILDEW - Microsphaera sp..... Prince Edward Island.

Fragaria sp.

LEAF SPOT - Micosphaerella Fragariae (Tul.)Lindau. Kamouraska county Quebec.

LEAF SPOT - Marssonia Potentillae Fisch.... Kamouraska county, Que.

LEAF SPOT - Mollisia earliana (E. et E.) Sacc. " " "

Galium palustre L.

RUST -- Puccinia punctata Link.....Prince Edward Island.

Glycyrrhiza lepidota (Nutt.) Pursh.

RUST - Uromyces Glycyrrhizae (Rab.) Magn.....Craigmyle, Alberta.

Hieracium spp.

RUST - Puccinia Hieracii (Schum.) Mort.....Prince Edward Island.

Hordeum jubatum L.

SMUT - Ustilago Lorentziana Thun.....Craigmyle, Alberta, and Saskatoon, Sask.

RUST -- Puccinia graminis Pers.....Saskatoon, Sask, and P.E.I.

Hordeum trifurcatum Jacq.

SMUT - Ustilago nuda (Jens.) K. et S.....Craigmyle, Alberta.

Iris versicolor L.

RUST - Puccinia Iridis (DC.) Rab.....Kamouraska county, Que.

Juncus tenuis Willd.

RUST - Uromyces Silphii (Syd.) Arth.....Prince Edward Island.

Koeleria gracilis P.

CAT TAIL FUNGUS - Epichloe typhina (Pers.) Tul. Rosthern, Sask.

Lactuca scariola L.

MILDEW - Sphaerotheca Castagnei Lev.....Salmon Arm, B.C.

Lactuca pulchella (Pursh.) DC.

RUST - Puccinia hemisphaerica (Pk.) Ell. et Ev. Craigmyle, Alberta.

Lappa communis L.

RUST - Puccinia sp.....Kamouraska county, Que.

Ledum sp.

RUST - Chrysomyxa ledicola Lagh.....Tisdale, Saskatchewan.

Leontodon autumnalis L.

RUST - Puccinia leontodantis Jacky.....Prince Edward Island.

Limonium caroliniarum (Walt.) Britton.

RUST - Uromyces Limonii (DC.) Lev.....Prince Edward Island.

Lycopus uniflorus Michx.

RUST - Puccinia angustata Peck.....Prince Edward Island.

Malva rotundifolia L.

RUST - Puccinia Malvacearum Mont.....Kamouraska county, Que.

LEAF SPOT - Cercospora althaeina Sacc..... Kamouraska county, Que.

Mentha sp.

RUST - Puccinia Menthae Pers..... York county, New Brunswick.

Oenothera sp.

MILDEW - Erysiphe cichoracearum DC..... Summerland, B.C., and P.E.I.

MILDEW - Peronospora arthuri Farl..... Prince Edward Island.

Polygonum amphibium L.

RUST - Puccinia Polygoni amphibii Pers.... Craigmyle, Alberta.

Plantago major L.

MILDEW - Erysiphe Cichoracearum DC..... Kelowna, B.C., and Kamouraska county, Que.

Poa crocata Michx.

RUST - Puccinia epiphylla (L.) Wettst..... Craigmyle, Alberta.

Polygonum aviculare L.

RUST - Uromyces Polygoni (Pers.) Fckl..... Kamouraska county, Que.

Polygonum Persicaria L.

MILDEW - Erysiphe Polygoni (DC.) Salmon... Summerland, B.C., and P.E.I.

LEAF SPOT - Septoria Polygonum Desm..... Kamouraska county, Que. and King's county, N.S.

SMUT - Ustilago utriculasa (Nees.) Tul.... Prince Edward Island.

Potentilla sp.

RUST - Phragmidium Ivesiae Syd..... Craigmyle, Alberta.

RUST - Phragmidium Fragariastri (Schroet.)Plow. Colchester county, Nova Scotia.

Prenanthis altissima L.

RUST - Puccinia orbicula Peck..... Prince Edward Island.

Prunus demissa Walp.

MILDEW - Podosphaera Oxyacanthae (DC.) De Bary Summerland, B.C.

Ranunculus sp.

MILDEW - Erysiphe Polygoni DC..... Hull, Quebec.

Ribes sp.

RUST - Cronartium ribicola Diet..... Kamouraska county, Que.

Rosa sp.

RUST - Phragmidium Rosae-aciculoris Sire.. Craigmyle, Alberta.

Rubus sp.

ORANGE RUST - Gymnaconia interstitialis Lagerh. Franz, Ontario.

RUST - Pucciniastrum areticum (Lagerh.) Trans. Prince Edward Island.

Scirpus atrovirens Muhl.

RUST - Puccinia Scirpi DC.....Kamouraska county, Quebec.

Sedum purpureum L.

LEAF SPOT - Septoria Sedi West.....Kamouraska county, Quebec.

Sinapis arvensis L.

WHITE RUST - Cystopus candidus (Pers.) De B. Kamouraska county, Que.

Solanum nigrum L.

MILDEW - Erysiphe sp.....Yale county, B.C.

Solidago gilvocanescens Rydb.

RUST - Coleosporium Solidaginis (Schw.) Thüm. Craigmyle, Alberta.

Solidago lanceolata Michx.

TAR SPOT - Rhytisma Solidaginis Schw.....Kamouraska county, Quebec.

BLACK SPOT - Phyllachora Solidaginis Sacc..Prince Edward Island.

Solidago canadensis (Schw.) Thuem.

RUST - Coleosporium Solidaginis (Schw.) Thuem Nova Scotia, and P.E.I

Sonchus arvensis L.

RUST - Puccinia Taraxaci (Rabent.) Plowr...Kamouraska county, Quebec.

LEAF SPOT - Ramularia Taraxaci Karst..... " " "

Spergula arvensis L.

MILDEW - Peronospora Alsinearum Casp.....Prince Edward Island.

RUST - Puccinia Spergulae DC..... " " "

Stellaria media (L.) Cyrill.

RUST - Puccinia Arenariae Wint.....Prince Edward Island.

Stipa viridula Trin.

RUST - Puccinia scaber (Ell.)et Ev.) Barth.. Craigmyle, Alberta.

Stipa Tiucedyi Scribn.

RUST - Puccinia Stipae Arth.....Craigmyle, Alberta.

Taraxicum officinale Weber.

MILDEW - Sphaerotheca Humuli (DC.) Salmon..Kelowna, British Columbia.
var. fuliginea (Schlecht.) Salmon and Quebec.

RUST - Puccinia Taraxaci (Rabent.) Plowr...Kelowna, B.C. Kamouraska. Quebec, York county, N.B. Kentville, N.S., and P.E.I

LEAF SPOT - Ramularia Taraxaci Karst.....Prince Edward Island.

Thalictrum sp.

RUST - Puccinia Clematidis (DC.) Lagerh....Annaherim, Saskatchewan.

RUST - Puccinia triticina Erikss..... Saskatoon, Saskatchewan.

Triglochin maritima L.

RUST - Puccinia subnitens Diet.....Craigmyle, Alberta.

Vicia cracca L.

RUST - Uromyces Pisi (Pers.) De Bary.....Kamouraska county, Quebec.

Viola spp.

RUST - Puccinia Violae (Schum.) DC.....B.C., Craigmyle, Alberta, Kamouraska county, Quebec, and Prince Edward Island.

INDEX.