

DISEASES OF FOREST AND SHADE TREES

ASH (Fraxinus)

LEAF SPOT - Gloeosporium irregulare Peck

One tree was severely affected in Yarmouth county, N.S.

BALSAM FIR (Abies balsamea)

WITCHES' BROOM - Melampsorella elatina (Alb. & Schw.) Arth.

This disease was widespread in York county, N.B., although the rate of infection in about 1000 trees only averaged about one per cent.

BEECH (Fagus)

SEEDLING BLIGHT - Botrytis sp.

Very young beech seedlings are destroyed each year by Botrytis in P.E.I.

CANKER - Nectria sp.

This disease is abundant in some blocks of trees at the Experimental Station, Kentville, N.S. (K. A. Harrison)

ROT - Panus stypticus Fr.

This rot is very common in N.S. on beech trees dying from coccus attack.

BIRCH (Betula)

ARMILLARIA ROT - Armillaria mellea Fr.

Two trees attacked by Armillaria were observed in Kings county, N.S.

HEART ROT - Fomes fomentarius Fr.

This disease is very common in P.E.I., killing many trees both young and old.

BUTTERNUT (Juglans)

LEAF SPOT - Marssonina Juglandis (Lib.) Sacc.

Slight to severe infections causing premature defoliation were observed in Hull, l'Assomption and Argenteuil counties, Que. The disease was also observed along the St. Lawrence between Montreal and Quebec, between St. Francois du Lac and Sherbrooke and also between Sherbrooke and Abbotsford.

Butternut

A moderate infection was reported on seven trees along the roadside in the St. John valley, N.B.

ELM (Ulmus)

BLACK SPOT - Gnomonia ulmea (Schw.) Thüm.

A trace was observed in York county, N.B.

ENGLISH WALNUT (Juglans regia)

BACTERIAL BLIGHT - Pseudomonas Juglandis Pierce

This disease is general on Vancouver island, B.C., and causes severe damage on the Experimental Farm, Saanichton.

HAWTHORN (Crataegus)

RUSTS - Gymnosporangium spp.

G. Betheli Kern is quite common on Vancouver island, B.C., on native hawthorns.

Moderate injury to the leaves and flower clusters due to G. clavariaeforme (Jacq.) DC. was observed at the Experimental Farm, Charlottetown, P.E.I. This rust only attacked the grafted variety, C. Oxyacantha var rosea, the stock being immune.

FIRE BLIGHT - Bacillus amylovorus (Burr.) Trev.

C. Oxyacantha var rosea grafted on a hardy stock contracted fire blight from an affected apple tree nearby in P.E.I. (H. T. Güssow)

HEMLOCK (Tsuga)

ARMILLARIA ROT - Armillaria mellea Fr.

Sporophores of this fungus may frequently be found on stumps or partly dead trees in Kings county, N.S.

HORSECHESTNUT (Aesculus)

LEAF SPOT - Phyllosticta sphaeropsoides Ell. & Ev.

This disease was very prevalent in the western part of N.S., and was especially severe along the coast in Shelbourne and Queens counties.

Moderate to heavy infection was reported from Queens county, P.E.I., causing heavy defoliation although the trees do not seem to suffer in consequence.

JUNIPER (Juniperus)

RUST - Gymnosporangium sp.

This disease is common and readily found in Lincoln county, Ont.

MAPLE (Acer)

TAR SPOT - Rhytisma acerinum Fr.

A trace of tar spot was observed in York county, N.B. Infections were heavy and the damage general on all species of maples except Acer plantinoides in P.E.I.

WILT - Verticillium sp.

Wilt affected 5 per cent of the trees causing defoliation of those diseased in a nursery plantation of young Norway maples in Lincoln county, Ontario.

This disease appears to be on the decrease in N.B. In 1928 and 1929, wilt was widespread and quite serious, but in 1930 only a slight infection was observed on 4 trees out of 40 inspected in the city of Fredericton.

LEAF SPOT - Phyllosticta acericola Cke. & Ell.

This disease is not serious in N.S. but causes unsightly spots on the foliage of Acer spicatum.

A heavy infection was observed on one sugar maple (A. sacccharum) in P.E.I. The yellowing of the leaves on this tree was apparently due to the severe attack.

FROST INJURY - Non-parasitic

All the trees were injured by frost on the Experimental Farm and in the village of Ste. Anne de la Pocatière, Que.

HEART ROT - Fomes fomentarius (L.) Fr.

Specimens were easily found in Kings county, N.S., although the disease was not common.

MOUNTAIN ASH (Sorbus)

RUST - Gymnosporangium cornutum (Pers.) Arth.

Only one specimen was collected in York county, N.B.

OAK (Quercus)

LEAF BLIGHT - Gloeosporium nervisequum (Fuck.) Sacc.

A severe infection of Gloeosporium was observed on some native oaks (Q. macrocarpa) near Kingston, Ont. Of the different species of Gloeosporium on oak the fungus seem to answer best the

description of G. nervisequum.

HEART ROT - Polyporus sulphureus (Bul.) Fr.

This disease was reported on red oak (Q. rubra) in Kings county, N.S., but as oaks are not common, the disease is rare.

PINE (Pinus)

WHITE PINE BLISTER RUST - Cronartium ribicola Fisch.

Ont.-

In a plantation of pines imported from Germany and planted in 1907, white pine blister rust is still present despite the fact that the cutting out of diseased trees every year has been practiced since 1914. In Lincoln county the aecial stage was reported as being very conspicuous in a block of white pine. Some badly affected trees were also reported from two miles east of Oakville.

Que.-

A severe infection killing about one tenth of the branches was reported from Laval county. These trees are very close to a garden where black currants are growing and are very heavily infected. Two trees were found infected just outside Hull in a young hedge recently transplanted from a nearby wood lot. A single specimen was also observed at Kazubazua. In addition, specimens were sent in from Sixteen Island lake and Montebello, although no information was received as to the extent of the infections.

N.B.-

One specimen was forwarded to the Laboratory from Restigouche county. The disease, however, occurs in scattered areas, but causes only slight damage.

N.S.-

Aecia were reported as abundant at Kentville.

P.E.I.-

Heavy damage was reported from Queens and Prince counties. Blister rust is destroying the few remaining white pines in the province.

BLISTER RUST - Cronartium Comptoniae Arth.

Two specimens found within a few days of each other were observed on Pinus Mugo in a nursery at Sussex, N.B. This is the first time that this disease has been found on imported stock in this province.

WOOD GATE RUST - Peridermium sp.

A few scotch pines (P. sylvestris) on the Ontario Agri-

Pine

cultural College farm are infected with what is apparently this rust. Some galls on the limbs are at least 20 years old.

NEEDLE RUST - Coleosporium Solidaginis (Schw.) Thüm.

Specimens of this rust were sent in from Three Hills, Alberta.

POPLAR (Populus)

LEAF SPOT - Septoria spp.

Leaves of suckers of P. balsamifera were moderately affected at Beaver Creek (R. C. Russell). Leaves of Populus sp. sent in from Rosthern were found affected with Septoria musiva Peck (T. C. Vanterpool.)

INK SPOT - Sclerotinia bifrons Seaver (Sclerotium bifrons Ell. & Ev.)

Only a trace was reported from Rouville and Compton counties, Que.

CYTOSPORA CANKER - Cytospora chrysosperma (Pers.) Fr.

Out of 36 plantations of Russian poplars examined in Alta., 20 were severely damaged, while the others showed a trace to medium damage. Severe damage was observed in the areas around North, East and South Calgary. This disease seems to follow weakening due to the rigours of the climate, such as drought.

Numerous young Russian poplars were partially or entirely killed in the University orchard at Saskatoon, Sask., and the dead limbs were covered with pycnidia.

ROSELLINIA CANKER - Rosellinia pulveracea (Ehrek.) Fuck.

The main trunk of a young, seven foot poplar was killed by this disease. The cankers bore some resemblance to those caused by Hypoxyton pruinaum (Klotzsch) Cke. The fungus was identified by Dr. Dearness.

HYPOXYLON CANKER - Hypoxyton pruinaum (Klotzsch) Cke.

One medium-sized tree of P. tremuloides was being killed by the roadside at Buchanan, Sask. The perithecia contained mature asci. This fungus appears to be killing many scattered trees in the groves in Sask.

FROST INJURY - Non-parasitic

A considerable number of the leaves on P. tremuloides were killed and blackened by frosts in the groves on the higher hills near Dana and Carmel, Sask.

DIE BACK - Fusicladium radiosum (Lib.) Lind

This disease was observed at Sutherland, Sask., on P. tremuloides. It is very destructive to the tender branch tips and sometimes whole groves are attacked.

SPRUCE (Picea)

NEEDLE RUST - Melampsoropsis ledicola (Pk.) Arth.

Sask.-

Severe damage was reported from the Prince Albert National Park.

Que.-

Heavy infections were reported from Lac Brule.

N.S.-

Fifty per cent of the needles were infected on blue spruce in Lunenburg county and some trees of white and red spruce were defoliated in Shelburne and Yarmouth counties.

P.E.I.-

A general infection, causing evident injury, was observed on blue spruce at the Experimental Station, Charlottetown.

WILLOW (Salix)

SCAB - Fusicladium saliciperdum (All. & Tub.) Tub.

A heavy infection of scab causing severe damage was reported from Garthy township, Que.

The average infection throughout N.B. amounted to about 65 per cent. Trees attacked three years ago succumbed this season, although a few trees are still alive that were attacked four years ago.

Five to eighty per cent of the twigs were affected in Kings county, N.S.

RUST - Melampsora Bigelowii Thüm.

At St. Gregor, Sask., the infection was fairly heavy, but not widespread.

A trace was observed in York county, N.B. This disease occurs only rarely in P.E.I.

TAR SPOT - Rhytisma Salicinum Fr.

A heavy infection was reported on a few bushes at Birch Hills, Sask.

CYTOSPORA CANCKER - Cytospora chrysosperma (Pers.) Fr.

This disease was plentiful on dead limbs of cultivated trees (S. laurifolia) in windbreaks around the University at Saskatoon, Sask.

A Cytospora sp. causing "twig die-back" occurs occasionally in Kings county, N.S.

Willow

LEAF SPOT - Gloeosporium Salicis West.

Fairly heavy defoliation was reported from Kings county,
N.S.

BLIGHT - Physalospora Miyabeana Fukushi

This blight caused local and slight damage in Kings county,
N.S.