# TOBACCO

## Tobacco Diseases - 1959

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### Seedbed Diseases

Blue Mold or Downy Mildew (Peronospora tabacina). The occurrence of this disease in the tobacco belts of Ontario is becoming less frequent and only 2 cases of blue mold were recorded in 1959. They were noted in the Chatham area around the end of May. Although losses due to this disease have been negligible in the past 5 years, nevertheless, because the disease can assume epidemic proportions almost overnight, most of the growers follow a regular spray program as a preventative measure. To date this disease has not appeared in Quebec.

Damping-off or Bed Rot (Pythium spp, and Rhizoctonia spp.). This disease as in the past, continues to be the most common trouble in tobacco seedbeds. In most instances, however, the disease occurs only in small patches where drainage is poor or where the plants are too crowded. The overall losses are consequently very light.

Yellow Patch (excessive nutrients), This disorder* which is not caused by any parasitic organism, is still one of the most common seedbed disorders of tobacco. This is especially true in burley tobacco where the groundbed type of seedbed is commonly used for growing seedlings. The disorder appears to be mainly due to over-fertilization and the accumulation of salts in the beds, With this disorder, characterized by irregular patches of yellow .stunted seedlings, recovery often occurs when the excess fertilizer is leached out,

Black Root Rot (Thielaviopsis basicola). A few cases of black root rot occurred in tobacco seedbeds. This was found to be due to improper steaming of the soil and the use of the highly susceptible burley variety, Green Briar,

### Field Diseases

The outstanding feature in the tobacco disease picture during 1959 was the continued and increasing importance of leaf spot diseases. Two general types of leaf spots were encountered, namely: parasitic leaf spots caused by known pathogenic organisms, and the non-parasitic types, the precise causes of which are still unknown. Total damage to tobacco due to leaf spots is difficult to estimate since in most instances the quality and grade as well as the yield are affected. It is suspected, however, that damage due to leaf spot diseases is becoming serious, Of the non-parasitic type, the disease which is called "weather fleck" continues to cause extensive losses to growers, especially along the shore of Lake Erie, The precise 'cause of this disease is still unknown but it appears to be due to the interaction of genetic, nutritional and environmental factors. The only known remedial measure is the use of the tolerant variety, Delcsest, Varieties such as White Gold and Hicks appear to be especially susceptible to this disorder.

Brown Spot (Alternaria longipes). This disease, along with "weather fleck" and "frogeye" caused considerable damage to flue cured tobacco, Brown spot is usually confined to maturing leaves but, because of the warm weather during the early part of the growing season, it occurred early and persisted, with increasing severity, throughout the whole growing season. In many areas the leaves were completely covered with the large, circular, brown spots characteristic of this disease,

Frogeye (Cercospora nicotianae] was widespread in 1959, and was more common on maturing leaves,

Soft Rot (Pythium spp.) and Sore Shin (Rhizocton'ia spp.) were confined to the new transplants in the early part of the season, They were moderately serious in 1959 because of the widespread occurrence of the seed corn maggot which provided numerous infection courts for the two pathogens.

Brown Root Rot (Pratylenchus spp,), Damage due to brown root rot was lighter than usual during 1959. This may have been because of weather conditions which were unfavourable for the root-ledion nematodes, This disease has been increasing in severity over the years and a number of growers have begun fumigating their soil.

Black Root Rot (Thielaviopsis basicola). Because most of the tobacco varieties used in Canada are moderately resistant, this disease was confined to low-lying parts of the field where growing conditions were unfavorable for tobacco. Light losses only were encountered.

Frenching (? soil toxins) was confined to fields where the soil types are marginal and unfavourable for growing tobacco. Losses from this disease were negligible.

Angular Leaf-Spot and Wildfire (Pseudomonas angulata and P. tabaci). A few fields were noted in which the, tobacco leaves were damaged by these two diseases. Only a few plants were affected in each instance,

Mosaic (virus), Injury from TMV was widespread throughout the tobacco-growing areas of Ontario and Quebec but losses were heavy only in fields where the growers failed to take proper sanitary precautions in their transplanting operations. In most instances, however, only a few plants in each field were affected and most of the damage was confined to a few top leaves.

Etch (virus), Damage from the etch viruses were not as severe as in 1958. Moderate to severe damage was noted in a few fields in the Leamington - Harrow areas where this disease has been serious since 1955. To date etch has been severe only on burley tobaccos, whereas symptoms on flue tobaccos have always been mild.

Other Virus Diseases. Tobacco is a host for a relatively large number of viruses, several of which were observed occurring in the field. In most instances, however, only a few scattered plants were affected and losses were negligible. Among the viruses noted, the most common were those of the cucumber mosaic group and certain of the potato viruses. Others encountered were the streak, ring spot, vein banding, curly top and mottle viruses.

Hail Injury. A number of hail storms which occurred in the Delhi area caused considerable damage to a few isolated tobacco fields.

Frost Damage. Due to early frosts at harvest time up to 20 million pounds of tobacco were lost in the tobacco growing areas of Ontario and Quebec.

House Burn, As a consequence of prolonged wet weather during harvesting and curing, considerable losses resulted from rotting of tobacco in the curing barns, This disorder is most serious in burley tobacco where the air curing method is followed, It results in rotting of the stalks, midribs, veins and leaves while the tobacco is hanging in the barns. The rotting is caused by saprophytic organisms among which are species of Penicillium, Aspergillus, Fusarium, Cladosporium, Rhizopus and Botrytis, as well as the bacterial soft rot producing Erwinia spp. which attack the tobacco when the humidity is above 85%. This trouble is not serious on flue-cured tobacco where heat is used for curing and the tobacco is not kept at high humidity,

## E. CULTIVATED AND OTHER GRASSES

AGROPPRON

Stem Smut (Ustilago spegazzinii) is becoming increasingly prevalent on A. repens in the Trout Creek Point section of the Summerland, B.C. district (G.E. Woolliams). It affected over 50% of the plants in patches at Selkirk, Man. This is apparently the first report of stem smut on Agropyron from Man. (W, J. Cherewick).

This smut has been reported under the binomial U. hypodytis from the Okanagan district of B.C. and from St. Catharines, Ont. (D. W. Creelman).

Brittle Dwarf (virus) was sl. on A. cristatum var, 'Fairway' and sev. on var. 'Summit) in plots at Saskatoon, Sask. It was also sev, on A. intermedium (H. W. Mead),

AGROSTIS

Winter Crown Rot (low-temperature basidiomycete). Damage ranging from sl.-sev. was observed at Calgary, Red Deer and Lethbridge, Alta. (J.B. Lebeau).

BROMUS

Ergot (Claviceps purpurea) was sl, in 2/15 fields examined in Sask. (H.W.M.).

Leaf Spot (Selenophoma bromigena) caused sl.-mod. damage to leaves in one stand at Lethbridge, Alta. (E.J. Hawn). A mod.-sev. infectian occurred