TOBACCO DISEASES IN ONTARIO IN 1961

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The most common seedbed clisorder in 1961 was damping-off or bed rot caused by species of Rhizoctonia and Pythium. The disease is characterized by a wet, slimy rot of seedlings at the ground level. Fortunately, however, it occurred only in small patches in greenhouses in areas where plants were crowded or the soil remained wet due to poor drainage. The overall losses were estimated to be less than five per cent.

The second most common disorder in seedbeds was yellow patch, caused by an accumulation of inorganic salts and the addition of too much fertilizer. It was most noticeable in the early part of the season, just after the seed had germinated. The yellow, stunted seedlings, which characterize the disorder, often recover after the excess salts are leached out.

A few cases of black root rot (Thielaviopsis basicola) occurred in seedbeds. Its occurrence was found to be mainly due to improper steaming of the soil and to the use of soil fumigants rather than steam. Again, the overall losses were small.

Blue mold or downy mildew (Peronospora tabacina) has, in the past, inflicted heavy damage to tobacco in seedbeds. However, in the past seven seasons losses from this disease have been negligible, mainly because of the preventative spray programs practiced by growers in the United States and Canada. Because blue mold can attain epidemic proportions almost overnight it remains a constant and serious threat to seedling production and is still considered to be the most destructive of all tobacco diseases. Although the disease was not observed in Canada in 1961, a regular spray program is still recommended and followed by most growers.

The most outstanding feature of the tobacco disease picture in the field in the early part of the 1961 season was the occurrence of a disorder known as sore shin. This disorder is characterized by brown to black lesions on the stem, usually on one side and at the ground line, Affected plants remain stunted and usually topple over in a strong wind. The organisms most commonly isolated from the lesions are species of Pythium and, sometimes, Rhizoctonia. Sore shin is most serious during cold, wet springs and in 1961 at least ten per cent of the tobacco fields had to be replanted.

Because of the cold, wet spring, black root rot (Thielaviopsis basicola) caused considerable stunting of plants early in the season. It was more common than in 1960 and even tobacco varieties which have been considered to be highly tolerant were affected. Some recovery occurred later in the season with the advent of warm weather and actual losses were small. The new flue-cured variety "Yellow Gold" was observed to be highly resistant and exhibited very few root lesions, Brown root rot, associated with injury by Pratylenchus species, caused a moderate amount of damage in 1961, The use of soil fumigants, which are being increasingly used, will control this disease,

Weather fleck, characterized by brown, necrotic spots on the leaves, continues to be one of the most serious disorders of flue-cured tobacco in the

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field. Although air pollution is suspected to be the most important causal factor, the precise causes of the disorder are still unknown, The development of tolerant varieties appears to be the only economical means of controlling weather fleck and new varieties are tested as soon as they are developed. In 1961, the variety Delhi 61 was planted on a limited scale on farms that are usually severely affected. It was found to be moderately tolerant and showed considerably less flecking than the more susceptible varieties.

Brown leaf spot, caused by Alternaria species, is also rapidly becoming a serious field disease in Ontario, In the past it was usually confined to maturing leaves, but more recently it has been found on plants at all stages of growth, As some doubt exists as to the actual species of Alternaria that cause the disease in Canada, a study is in progress at Harrow that will attempt to clarify this question. Over ninety isolates of Alternaria have been obtained from diseased tobacco leaves and these are being tested for their ability to produce necrotic spots on tobacco, No control measures have been recommended to date.

Tobacco is susceptible to a very large number of virus diseases. Fortunately, under the conditions that prevail in Ontario, only a few scattered plants are affected and losses from virus diseases are negligible. Viruses observed in 1961 were: Tobacco mosaic, etch (on burley only), cucumber mosaic, streak, ring-spot, alfalfa mosaic, curly-top, potato Y and mottle.

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