Notes on Plant Parasitic Nematodes in Canada

A.D. Baker,
Division of Entomology, Ottawa.

During the past year the general situation in regard to some of our more important nematode pests has received attention; the following brief notes make reference to these and also a few additional species that have only recently been located in this country.

The sugar-beet nematode, Heterodera schachtii (Schmidt, 1871), should continue to be classified in this country as an important plant pest. However, we have no record that would indicate any sign of spread from the area in the Sarnia (Blackwell) region covered by previous reports. Although injury from this source has decreased at least slightly, this decrease is undoubtedly due to more attention being paid to suitable crop rotations that permit the growing of sugar beets from time to time without marked injury. At the same time the nematode populations in the area are such that any change or any relaxation of the crop-rotation practice would rapidly lead to increased crop loss.

The oat nematode, Heterodera avenae Lind, Rostrup & Ravn, 1913, is another important plant pest and while recent surveys have not been made it is very likely that some spread of this pest is occurring. In the past this parasite has been responsible for considerable crop loss, particularly in oats and barley, but as the cause of this injury has become better known, crop rotations have tended to decrease the hazard.

What was previously known as the root knot nematode, Heterodera marioni, is now being separated into a number of distinct species, for which Chitwood (1949) has resurrected the genus Meloidogyne. There is now great need of information that will indicate more clearly what species of this group are actually present in Canada and what host plants are attacked by each species.

The potato rot nematode, Ditylenchus destructor, has shown no further sign of spread in Prince Edward Island, although some infestations are being progressively revealed in land previously affected. From the standpoint of crop loss, this parasite has not shown itself of major importance, and repeated cropping with potatoes tends to decrease rather than increase field infestations.

The presence of Ditylenchus radicicola (Greeff, 1872) Filipjev 1936, has previously been reported in Canada by Prof. T.C. Vanterpool; and more recently a leaf gall nematode, which has been tentatively identified as Ditylenchus graminophilus (Goodey, 1933) Filipjev, 1936, has been identified from Calamagrostis canadensis from a number of regions in Quebec. Information is being accummulated at the present time on the distribution of the latter species.

Of other pests already recorded from Canada, a number of identifications have been made, but the data, except for indicating the continued presence of these forms, have not revealed any new information on distribution. These forms include such pests as Pratylenchus pratensis, Anguina agrostis, Aphelenchoides fragariae, Aphelenchoides parientinus, Ditylenchus dipsaci and Aphelenchus avenae.

Plant Diseases in Newfoundland

J.F. Hockey

The following observations were made during a four-week field trip beginning in late July, 1949. No attempt has been made to summarize other reports and references to plant diseases in Newfoundland. The following remarks are confined to such diseases as were observed during the short period of the summer survey. They will be reported by crops.

POTATO

Potato Wart - Potato wart or canker is common in gardens and small plots in many parts of the Avalon Peninsula and in areas along the East Coast. It is not present in the West Coast districts as far as could be ascertained. Farmers in the West Coast districts stated they had not seen it nor heard of its occurrence there.

Potato wart has been present for over twenty years. (See note below).

Note: Potato wart has in reality been present in Newfoundland for over 40 years as it was found there in 1909. According to Dr. Gussow, former Dominion Botanist, the editor of a Montreal farm paper sent him for examination specimens of tubers affected by wart, which the editor had received from a farmer on Red Island in Placentia Bay, Newfoundland (Evidence of Mr. H.T. Gussow before the Select Standing Committee on Agriculture & Colonization 1909-10. Ottawa 1910, p. 74). The discovery was published promptly and Canadian farmers were warned against the danger, along with a graphic description of the disease. (Gussow, H.T. A serious potato disease occurring in Newfoundland: Dept. Agr. Central Exp. Farm Bull. 63. October 1909). Dr. Gussow "was sent by the Department of Agriculture to investigate the origin of the disease and advise the Newfoundland government in dealing with it". When in December 1909 he visited the general locality, from which the first samples came, he found that the disease was "far more prevalent than was supposed". From enquiries made on the spot he concluded that "the disease was known to some growers for several years" (Evidence p. 64) and that it probably had been"introduced by means of diseased tubers from Scotland".