

INTRODUCTION

The study of the infestation of plants by nematodes was largely neglected until after World War II, and it was not until 1955 that the first journal of nematology - *Nematologica* - was published.

The first report of nematodes in banana roots was in 1883 and refers to root-knot nematodes (Wehunt and Holdeman, 1959). In 1915 the causal organism of "blackhead disease" of bananas in Jamaica (Ashby, 1915 cited by Leach, 1958) was identified by N.A. Cobb as *Tylenchus similis*, which he had found in banana soils in Fiji in 1893 and in sugar cane roots in Hawaii (Cobb, 1915 cited by Wehunt and Holdeman, 1959). This nematode is now known as *Radopholus similis*, the "burrowing nematode". However, it was not until 1957 when an investigation of a root rot disease in Portland, Jamaica, revealed the presence of nematodes, that interest was once more shown in the effects of nematodes on bananas in that island. Mallamaire (1934 and 1939 cited by Luc and Vilardebo, 1961) first reported the presence of parasitic nematodes on bananas in West Africa, but it was not until 1953 that the Institut Francais de Recherches Fruiteres Outre-Mer (IFAC) started research in Guinea. It was soon recognised that nematodes were doing a great deal of damage, and by 1958-59 nematode control had become a standard routine practice on many plantations in Guinea and the Ivory Coast (Vilardebo, 1964). This example was followed by other countries including Jamaica, Central America, particularly territories in which the United Fruit Company had interests, Australia, Western and Southern Cameroons, Canaries and Israel. IFAC extended research work to the Ivory Coast in 1955, to the French West Indies in 1960 and to the Eastern Cameroons in 1961. Research in the Southern Cameroons started in 1958 (Price, 1960). In Australia Magee (1927, cited by Blake, 1961) noted a root rot of bananas in New South Wales, and found root lesions from which he isolated fungi, including *Rhizoctonia solani* and two species of *Fusarium*. The primary cause of these lesions was later found to be *Radopholus similis*. The association of nematodes with fungal

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infection will be discussed later. It was not until the late 1950s that research on banana root nematodes was started (Blake, 1961).

A contributory factor to the recent interest in nematodes in many parts of the world is the widespread changeover from Gros Michel to bananas of the Cavendish group, which are resistant to Panama Disease Fusarium oxysporum f. cubense, but which are more susceptible to nematodes (Luc and Vilardebo, 1961; Leach, 1958). The widespread and uncontrolled distribution of Lacatan in Jamaica after the 1951 hurricane was probably responsible for the rapid spread of nematode problems in the island.

It is very difficult to estimate the extent of damage caused by nematodes. A recent survey of West and Central Ghana (Gorenz, 1963) estimates that losses from nematodes and resulting root rot are in the region of 25% in the plant crop and 50% to 90% in succeeding crops. This sort of pattern is common, although damage is probably not often as severe as this. It now seems likely that nematodes may cause economic damage in all banana producing countries.