1. Introduction

A foot-rot and root-rot of the papaw (Carica papaya, Linn.) was recorded for the first time from Trinidad by Stevenson (1) in 1931. Papaw foot-rots and wilts which may or may not be identical with the one under discussion have been described from various other countries. Subramaniam (2) described a foot-rot of the papaw in India, said to be caused by Pythium Butleri; Abbott (3) recorded a wilt constantly associated with a species of Fusarium in Peru; and Wager (4) described a foot-rot in South Africa, which he attributed to Pythium ultimum. Their work has been fully discussed in Stevenson's (1) paper and will not be recapitulated. Stevenson (1) considered that of these three, the South African disease alone was almost certainly identical with the one he found in Trinidad.

Stevenson (1) described the foot-rot, or collar-rot, as a sudden wilting of the tree as though the trunk had been severed, this being occasioned by a rotten area at the base of the trunk. In the case of the root-rot, death was less rapid, being characterised by a slowing down of growth and a decrease in number and size of the leaves, with a final reduction of the crown to a small tuft of yellowish leaves a few inches across. When this stage had been reached, secondary fungi and bacteria rapidly destroyed the whole tree. He found that the taproots of such trees were brown and rotten and that many of their lateral roots showed a similar discolouration.

On making isolations from junctions between diseased and healthy tissue he obtained, amongst other fungi of an obviously secondary nature, a species of Fusarium and a species of Pythium. On making inoculations with these two fungi, in his first series he obtained no results with the Pythium species, but found that it was possible, though difficult to produce typical root-rot and collar-rot symptoms with the Fusarium. A second series of inoculations, however, gave precisely the opposite result, the plants inoculated with the Pythium dying in about one month, while those inoculated with the Fusarium remained healthy. All his successful inoculations were obtained by inserting mycelium from cultures of the fungi into wounds in the stems or roots of papaws growing in tins.