

ABSTRACT

A review of the literature was made of work carried out on avocado root rot, both generally and in Trinidad and Tobago. In addition, a review was made of research on plant parasitic nematodes associated with avocado roots.

Several types of disease symptom present in an avocado plantation at the University of the West Indies Field Station were described. Preliminary observations showed that two distinct diseases were present. One of these was a slow decline typified by gradual death of branches and twigs and apparent loss in vigour of the trees, and the other an acute root rot (i.e. rapid decline) with a comparatively rapid process of defoliation and death of trees.

Isolation and pathogenicity tests showed that no single pathogenic organism was associated with the slow decline condition. However, high counts of plant parasitic nematodes e.g. Pratylenchus spp., Meloidogyne spp. and Rotylenchus^{ul} spp. were found in diseased roots and associated soil. In addition, root decay of injured roots was found to be increased in the presence of Phytophthora palmivora (Butler) Butler and Pythium ultimum Trow. under wet soil conditions. It was concluded that the slow decline described probably resulted from a combination of activities of both nematodes and fungi. Further work is required to establish if this is so.

Phytophthora cinnamomi Rands and P. ultimum were isolated from roots of trees with symptoms of root rot. From pathogenicity tests it

was concluded that these isolates were not pathogenic on avocado roots but their presence did increase the amount of root decay. Sites were visited in North Trinidad where avocado trees were dying of root rot. P. cinnamomi was not isolated from diseased roots or soil and it was concluded that root rot in Trinidad is mainly the result of acute water damage.

Soil tests were carried out to determine the organism^C colloid, silt/clay and micro-organism content of soils in an attempt to correlate incidence of root rot with soil type. There was no significant difference between soil fractions and micro-organism content of various soils in North Trinidad which differ in their suitability for avocado culture.

Fusarium oxysporum Schl. was found to be associated with both healthy and diseased avocado roots, but appeared to have no effect on root decay in either form of decline described.