

ABSTRACT

Investigations on the biology and economic importance of the coconut mite, *Eriophyes guerreronis*, in Jamaica

One of the most important pests of coconuts is the coconut mite, *Eriophyes guerreronis*. This study was undertaken to 1) determine the population dynamics of the coconut mite, 2) evaluate its economic importance, 3) compare the resistance of three commercially grown coconut varieties and a hybrid to the coconut mite, and 4) identify natural enemies for incorporation in an integrated management system for this pest.

Coconut mite infestation varied significantly between and within localities ($p < 0.001$). There was no significant ($p > 0.1$) difference between the levels of damage on 'Red' and 'Yellow Malayan Dwarf' coconuts. However the 'Green Malayan Dwarf' had significantly ($p < 0.001$) less damage than the former. The coconut mite populations on fruits of the three 'Malayan Dwarf' varieties were similar ($p > 0.1$). Coconut mite damage was more severe ($p < 0.001$) on 'Red Malayan Dwarf' than on 'Maypan' coconuts although there was no significant ($p > 0.1$) difference in the coconut mite population on each.

Copra yield declined significantly ($p < 0.001$) with increased severity of coconut mite damage. Severely damaged coconuts could have over 70% loss in yield. However, the overall yield loss ranged from 1-9% as the majority of the coconuts were within the least damaged category.

At least 10 species of mite, 17 species of insects, among other arthropods, were found on the coconut fruit surface. Of these, at least two species of mite, *Proctolaelaps* sp. (Mesostigmata: Ascidae) and *Hemicheyletia* sp. (Prostigmata: Cheyletidae) were observed preying on *E. guerreronis*.