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BIOLOGICAL CONTROL OF PHYTOPHAGOUS MITES IN TROPICAL FRUIT CROPS

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Tropical fruit production in Florida is concentrated in the southern tip of the peninsula. Phytophagous mites are a group of pests that is always evolving, with new mite species establishing, and in some instances, becoming serious pests. The tropical fruit crop with more mite problems is papaya, *Carica papaya* (Caricaceae), which is persistently infested by the two-spotted spider mite *Tetranychus urticae* Koch (Tetranychidae). Predators and entomopathogenic fungi are the two main alternatives for biocontrol of spider mites in papaya. A series of greenhouse and lab experiments showed the potential of *Neoseiulus longispinosus* (Evans) (Acari: Phytoseiidae) for controlling spider mites on papaya. However, intraguild predators can affect its performance. An evaluation of commercially available entomopathogens revealed that a strain of *Beauveria bassiana* provided superior control. Lychee is another tropical fruit crop threatened by the recent incursion of *Aceria litchi* (Keifer) (Acari: Eriophyidae). This mite induces the formation of erinia, an excessive enlargement and branching of trichomes, that provide mites with protection from natural enemies. Native predators have been observed in association with *A. litchii*. However, a comprehensive approach is needed to identify suitable natural enemies for this mite. Opportunities and challenges for the establishment of biological control programs in tropical fruit crops are discussed.

Keywords: tropical fruit crops, pest mites, predatory mites, entomopathogens.