Fusarium species: acaropathogenic fungi as potential control agents against coconut mite, *Aceria guerreronis*

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Abstract

Aceria guerreronis (Acari: Eriophyoidea) inflicts severe damage on the nuts of commercial coconut palms. Investigations were carried out in India and Sri Lanka to investigate the association of mycopathogens with *A. guerreronis.* Mite-infested nuts were collected, brought to the laboratory, and examined for the presence of fungi associated with *A. guerreronis.* Cadavers showing mycelial growth were surface sterilized and inoculated into potato dextrose media. *Fusarium* sp. was isolated from the cadavers. Biorationals such as Azadirachtin, *Fusarium semitectum*, *Fusarium* sp. isolate GM15, *Lecanicillium lecanii*, *Beauveria bassiana*, *Metarhizium anisopliae*, and *Trichoderma viride*, plus the regularly used pesticide Abamectin, were evaluated for their impact on *A. guerreronis*. The benign control experiment involved spraying equal amounts of distilled water. All treatments were applied to the crown area of the palms in the field and mites were counted by detaching nuts from the inflorescence prior to spraying as well as 7, 15, and 23 days after spraying. On day 23 after spraying, *Fusarium* sp. isolate GM 15 and *F. semitectum* were the most effective, with 94 and 79% mite population reduction relative to the water control, respectively. Azadirachtin (66%) was the next most effective, but Abamectin and *L. lecanii* were less effective. To establish an eco-friendly management of *A. guerreronis*, the two isolates of *Fusarium* sp. seem the best biorationals.