

***Oligonychus afrasiaticus* and phytoseiid predators' seasonal occurrence on date palm *Phoenix dactylifera* (Deglet Noor cultivar) in Tunisian oases**

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Abstract

The old world date mite *Oligonychus afrasiaticus* (McGregor) (Prostigmata Tetranychidae) is an important spider mite pest of the date palms *Phoenix dactylifera* L. in most of North Africa and the Middle East. This study was conducted between 2004 and 2006 in an orchard of date palm trees located in southwest Tunisia. The objective of this study was the inventory of mites that revolve around the date palm, to quantify abundance of *O. afrasiaticus* in trees over different types of ground cover and to document its dispersal. The starting of *O. afrasiaticus* infestation on fruits varied between years, ranging from the first to the third week of July. Mite populations on pinnae remained low from May through December, not exceeding two mites per pinnae, whereas on fruit they reached peak populations of approximately 14 motile forms of mite per fruit in 2006. Indigenous phytoseiid were not found on fruits between mid-July till the end of August, when pest populations peaked. Plants such as *Sorghum bicolor* (L.) Moench, *Solanum melongena* L., and *Cucumis melo* L. contained densities of *O. afrasiaticus* during early spring, and may have formed the source for later date palm infestation. Fruit bunch infestation was not prevented or even alleviated by glue barriers so infestation of date palm by *O. afrasiaticus* may occur via aerial dispersal of motile forms. In ground cover phytoseiid and tetranychid mites were scarce, two of tetranychid species are new to science were founded.

Key words: Tunisia, date palm, *Oligonychus afrasiaticus*, sulfur, migratory flux, Phytoseiidae.

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