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The functional response of the predator *Phytoseiulus persimilis* (Athias-Henriot) on different densities of *Tetranychus urticae* Koch on two cultivars of rose

Mostafa Haghani¹, Faezeh Malek-Hoseini, Amin Sedaratian-Jahromi, Ali Hamid, and Valiollah Baniamiri²

¹Yasouj University, Iran

²Iranian Research Institute of Plant Protection, Tehran Iran

Rose flower *Rosa* spp. due to its beauty, stability, long flowering period and the presence of different cultivars, it has especially importance. That the two-spotted spider mite *Tetranychus urticae* Koch is one of the most important pests of this ornamental plant. Today, the use of predators of the Phytoseiidae family has become widespread as the biological control of this pest and among these predators can be mentioned to the *Phytoseiulus persimilis* (Athias-Henriot). One of the important factors for assessing the biological effects of a natural enemy is its enemy's functional response to its prey different densities. In this study, the functional response of this predator was tested on different densities of two-spotted spider mites. The densities of 2, 4, 8, 16, 32, 64 and 128, of the immature stages of the two-spotted spider mite on two varieties of Angelina and Samurai under laboratory conditions were used. Based on the logistic equation, the type of functional response was determined on two varieties of type II. Functional response parameters, handling time (T_h) and attack rate (a) of this predator in two varieties were not significantly different. The handling time for this predator on the Angelina variety and the Samurai variety were estimated 0.4292 ± 0.0587 and 0.41917 ± 0.0597 h, respectively, and attack rate for this predator on Angelina and Samurai cultivars was 0.0239 ± 0.0068 and 0.0246 ± 0.0028 , h⁻¹ respectively. According to the estimated results of this experiment, it can be concluded that this predator on the Angelina and Samurai varieties could have a good biological efficiency, for control of the two-spotted spider mite. Our finding can be used in providing population prediction models and efficiency assessment of *P. persimilis* for biological control of *T. urticae*.

Biography

I am an applied Entomologist with a strong interest in Population Ecology, Biological Control, Thermal Biology, Tritrophic Interactions, Integrated Pest Management and Cop Loss Assessment of insects and mites pests especially on protected crops (vegetable crops and ornamental flowers). I have enjoyed interactions with other researchers in many areas, especially the Population Ecology and IPM, which have given me opportunities to learn about these fields. I have done research on biological control of vegetable leaf miner using parasitoid wasps *Diglyphus isaea*. and *Hemiptarsenus zilahisebessi* under field and greenhouse condition and efficiency of egg parasitoid *Trichogramma embryophagum* on laboratory hosts.

haghanima@yahoo.com

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