



Effect of *Amblyseius mckenziei*  
(Acarina: Phytoseiidae) on *Thrips tabaci*  
(Thysanoptera: Thripidae) on onion crop in  
Uzbekistan

<sup>1</sup>Tashpulatova B.A., <sup>2</sup>Zalom F. and <sup>3</sup>Tumanov J.T.

<sup>1</sup>International Center for Agricultural Research in Dry Areas (ICARDA-PFU); Uzbekistan, Tashkent 100000, Murtazaev str.6, App.106; <sup>2</sup> University of Davis, California, USA; <sup>3</sup> Biological Center of bio control means production, Kyrgyzstan, Bishkek

Corresponding author email: [b.tashpulatova@cgiar.org](mailto:b.tashpulatova@cgiar.org)

### Abstract

Biological control of *Thrips tabaci* using the predator *Amblyseius mckenziei* was studied during Spring time on onion in field plots, which consisted of 3 roads and 30 plants for each predator release. *A.mckenziei* was successfully colonized on grain mites *Acarus siro* and plant pollens in 3l glass jars that were maintained in growth chambers at a temperature of  $25\pm 1^{\circ}$  C and relative humidity  $60\pm 10\%$ . At densities of *Thrips tabaci* ranging from 5 to 50 per square meter we introduced *A.mckenziei* 2-3 times in different rates. The results showed that the predator was effective at different pest densities, even at a very high density of 50 thrips per square meter. The high predator efficiency  $90.2 \pm 3 \%$  at the early stages of pest attack (mean pest density of 0.3 Individuals per leaf) can

<http://www.e-conference.elewa.org/agriculture>.



suppress or prevent increases of pest populations. Applying *A.mckenziei* before tobacco thrips populations establish (pre-flowering time) can completely eliminate the pest.

The results showed that if the predator is released at plant flowering time, when pest density is usually very low, the appropriate ratio of predator: thrips would be 1:3. In thrips population is very high the predator would be most effective if applied at a ratio of predator: thrips of a very high 1:1. For maximum effect the predator should be introduced three times every 12 days.

*Key words:* Biological control, *A.mckenziei*, *Thrips tabaci*, onion, pest attack, density, ratio.