

Integrated control of aphid by predator bug *Orius albidipeenis* and confidor pesticide and effects of pesticide on predator in green house

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INTRODUCTION: Black bean aphid (*Aphis fabae*) is one of the most important pests of farms and gardens which is usually controlled by using chemical pesticides or biological factors. In this study, effects of using Confidor pesticide, predator bug (*Orius albidipeenis*), and their interaction were studied on different nymphal instars of pest in cucumber plant.

MATERIALS AND METHODS: In this study, seven experimental treatments including control, predator, pesticide, spraying plant and aphid plus releasing predator after one hour, spraying plant plus simultaneous releasing of aphid and predator after 24 hours, spraying plant and aphid plus releasing predator after 24 hours, spraying plant plus simultaneous releasing of aphid and predator after 48 hours were used. Each treatment had five replications. Also, effect of pesticide on predator was studied in four treatments including control and one, 24, and 48 hours after spraying. Both experiments were done in green house with 23 ± 2 °c temperature, 60-70 % humidity, and a photoperiod of 16:8 hours (L: D). The mortality of aphids in first experiment and also mortality of predator in second experiment were measured in first, third, fifth, seventh and tenth days. Obtained data were analyzed using SAS program.

RESULTS AND DISCUSSION: According to results, spraying pesticides and releasing predator after 48 hours had the highest aphid control. Also, by increasing the time of releasing predator, mortality was decreased until seventh day, and when pesticide became systemic predator was eliminated completely after ten days. On the whole, using this predator is recommended in integrated pest management plans by considering appropriate releasing time and using non systemic pesticides.

Keywords: *Orius albidipennis*, *Orius niger*, *Aphis fabae*, Biological control, Confidor pesticide

REFERENCES:

- Angeli G, Baldessari M, Maines R, Duso C. 2005. Side-effects of pesticides on the predatory bug *Orius laevigatus* (Heteroptera: Anthocoridae) in the laboratory, Department of Environmental Agronomy and Crop Science Agripolis, Legnaro, Padova, Italy, November 15(7): 745.
- Glenn E, Kring J. 2003. Effects of Insecticides on *Orius insidiosus* (Hem: anthocoridae) measured by Field Greenhouse and Petridish Bioassays. Department of Entomology, University of Arkansas, Fayetteville, 8p.
- Van de Meiracker RA. 1994. Induction and termination of diapauses in *Orius* predatory bug. Entomology, 73(2): 127-137.