Callosobruchus maculatus F (Col.: Bruchidae)

Study on efficiency of Iranian formulation of diatomaceous earth on bruchid beetle, Callosobruchus maculatus F (Col.: Bruchidae)

Hosseinalireza Rezaei Torshizi1, Hossein Farazmand2, Shila Goldasteh3, Aref Marouf4
1- MSc graduate of Arak Azad University, Arak, Iran, Email: reza.torshizi@yahoo.com. 2- Assistant professor, Iranian Research Institute of Plant Protection, Tehran, Iran. 3- Assistant professor, Arak Azad University, Department of Entomology, Arak, Iran.

Laboratory studies were performed to evaluate the insecticidal effects of Iranian formulation of diatomaceous earth DE (Sayan®) on adults of bruchid beetle, Callosobruchus maculatus F (Coleoptera: Bruchidae), at 30±1°C and 60±5% RH in dark. Experiments for bioassay & adult emergence evaluation, were carried out with 6 concentrations (0, 30, 72, 173, 416 and 1000 ppm) with 6 replications. The results showed that the concentration 416 ppm of DE had acceptable effects on C. maculatus mortality after 3 days. After 3 days, the LC50 of DE for C. maculatus adults was estimated to be 58.85 ppm. DE were killed the newly emerged beetles and the concentration 1000 ppm of DE had acceptable effects on Fi emergence reduction (81%). As time goes by, DE stability and efficiency were constant. As a result, Iranian formulation of diatomaceous earth (Sayan®) can be used to protect grains against C. maculatus adults.

Key words: bruchid beetle, callosobruchus maculatus, diatomaceous earth, Iran, pest control.