



Research article

Bioactivities of *Moringa oleifera* leaf powder towards the cowpea beetle *Callosobruchus maculatus* F. under laboratory conditions

Nadia Z. Dimetry, Huda El-Behery*

Department of Pests and Plant Protection, National Research Centre El-Buhouth St., Dokki, Cairo, Egypt, Postal Code 12622.

Key words: *Moringa oleifera*, *Callosobruchus maculatus* adults, insecticidal efficacy, biological efficacy, oviposition deterreny.

***Corresponding Author: Huda El-Behery**, Department of Pests and Plant Protection, National Research Centre El-Buhouth St., Dokki, Cairo, Egypt, Postal Code 12622.

Abstract

Potency of *Moringa oleifera* leaf powder was tested against the cowpea beetle *Callosobruchus maculatus* (F.) in a choice and non-choice tests. The insecticidal and the biological efficacy were tested against the adult bruchid stage. Orientation of the adult beetles towards cowpea seeds treated with moringa leaf powder is tested at different concentrations. The results obtained show that in the choice test, the adult beetles after one day preferred to stay in the control. After 3 and 6 days from treatment, adults could not discriminate between the treated and control seeds for orientation. On counting the number of eggs laid on cowpea seeds, it was found that as the concentration of leaf powder on the seeds increased, the number of eggs laid increased.

In non-choice experiment, mortality of *C. maculatus* increased significantly as the concentration of moringa leaf powder decreased to 0.1 gm. The total number of eggs laid decreased significantly as the concentration of moringa leaf powder decreased. On the contrary, at the highest concentration of moringa leaf powder, the number of eggs increased to 52.25 ± 9.12 compared with 59.0 ± 3.78 for the control. On calculating the percentage of egg oviposition deterreny, 0.1gm resulted in high percentage deterrence 95.76 % compared with 11.44 % on using 1.0 gm. Also, the percentage of adult emergence increased as the concentration of leaf powder increased. The foregoing results laid to the conclusion that Moringa leaf powder at the lowest concentration tested could be successfully used for the control of cowpea beetle under storage conditions.