

Eighth Article:Single - Published in Specialized national Journal

Article Title	Study the effect of silica-nano particles on the biology of <i>Callosobruchus maculatus</i> .
Participants	H. M. El-bendary. Faculty of Agriculture, Fayoum University
Article status	Single- Published in Specialized national Journal
The Journal	<i>Journal of plant protection and pathology, Mansoura University In press.</i>

SUMMARY: This study aimed to evaluate the efficiency of hydrophilic silica nano-particles at 500 ppm concentration compared with recommended chemical insecticide Malathion against *Callosobruchus maculatus* Fab. (Coleoptera: Chrysomelidae) under laboratory stored conditions. *C. maculatus* is a major pest of cowpeas in Egypt. Hydrophilic silica-nano-particles showed that the number of *C. maculatus*, mortality were 99 ± 1.2 , 96 ± 3.2 , 100 ± 0.0 and 100 ± 0.0 % six, four, two months and zero time post treatment; respectively, reduced to 5 ± 4.2 , 12 ± 6.2 , 24 ± 3.2 and 63 ± 1.2 in case of using Malathion. Biological parameters revealed decrease of egg number and seed damage % with hydrophilic silica nano-particles. This investigation recommends Silica nano-particles as an effective matter in control *C. maculatus* under laboratory condition with low damage in cowpea seeds. Also, we need more study on the effect of using different degrees of temperature during using silica nanoparticles on pest suppression