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Insecticidal and repellant activity of volatile leaf constituents of - *Azadirachta indica* (A-juss) [Neem] against *Callosobruchus maculatus* (L) inhabiting stored cowpea

Bioassays were carried out to assess the efficacy of neem leaf volatiles compounds using fumigant toxicity, contact toxicity and Choice Tests to mange *C. maculates* in cowpea. The results of fumigant toxicity and the contact toxicity of neem leaf volatiles showed that 100% mortality could be achieved at contact higher than 0.52 g/L and 1.98 g/m^{-2} respectively on 3rd after treatment. The LC_{50} value of neem leaf volatile due to fumigant toxicity and contact toxicity were 0.35 g/L and 1.07 g/m^{-2} respectively.

The repellent activity of neem leaf volatiles was investigated using Choice testes. The results obtained from the Olfactometer test revealed percentage of bruchid responded was significantly low (less than 27%) at doses higher than 80 mg when compared to control (73 %). During the Choice Chamber test insects in all treated samples showed repellent activity against neem leaf volatiles. In cowpea seeds treated with neem leaf volatile at dose of 160-40 mg, the mean number of bruchid moved was 0-3 ($p<0.001$) where as control and ethanol treated samples showed the movement of 36 and 29 mean numbers of bruchids respectively. At the higher doses (160 - 80 mg) the number of eggs laid was zero. Significantly higher number eggs (<80) was laid in control and ethanol treated samples.