



Evaluation of resistance of the groundnut seed beetle, *Caryedon serratus* Ol. (Coleoptera, Bruchidae) to different formulations of insecticides.

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ABSTRACT

Objectives: This study aimed to determine the level of resistance of different strains of the groundnut seed beetle, *Caryedon serratus* against some synthetic insecticides formulas and to compare their biodemographic parameters.

Methodology and results: The insecticides tests were done in three localities of Senegal (Mpal, St-Louis and Sedhiou) using two formulations: powder (Propoxur®) and liquid (Deltamethrin®). The results indicated that the mortality varied according to the locality, the applied doses or concentrations and to the exposure time. Mortality rate rose to 100% within the 48 hours after the application of high doses, which followed the Propoxur treatment, while the low rates are observed after the application of the smallest doses (D1 and D2). Mortality with Deltamethrin treatment was usually low, as high rates were obtained with the highest concentration. A progeny of tested adults (survivors) is only obtained with small doses of Propoxur and Deltamethrin.

Conclusions and application findings: This study has enabled us to see that products used had effects together on the adults tested and on their progeny. The Individuals from Sedhiou seemed to show more resistance to both products. Therefore, to better assess the resistance of groundnut bruchid, *C. serratus* to insecticides, the implication of genetic characterization is needed. Because of the resistance genes of this pest could be constitute an important tool for an integrated pest management.

Keywords: Groundnut, *Caryedon serratus*, Deltamethrin, Propoxur, Resistance, Bio-demographic.