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Full Length Research Paper

Chronic toxicity of essential oils of 3 local aromatic plants towards *Sitophilus zeamais* Motsch. (Coleoptera : Curculionidae)

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Abstract

The maize weevil, *Sitophilus zeamais* is a major stored grain pest currently controlled by chemical pesticides. This commonly used control method to prevent post-harvest losses leads to pollution of the environment and intoxication of consumers. Essential oils of aromatic plants are more considered as good control alternative tools. The amount of active volatile of essential oils present in granaries is almost as infra lethal doses. The present work aimed to analyse the chronic toxicity of low doses of essential oils of *Annona senegalensis* Pers. (Annonaceae), *Hyptis spicigera* L. (Lamiaceae) and *Lippia rugosa* L. (Verbenaceae). These plants are toxic to the pest at high doses. At the dose 2.5 x 10-2 ml/ml, they all reduced the oviposition of *S. zeamais*. Moreover *L. rugosa* and *H. spicigera* were the most active of the biological potential of *S. zeamais* reducing significantly its amount of grains attacked (F = 8.63**) and that of the rejected flour (F = 41.04***). This chronic toxicity therefore prevents grains from destruction.

Key words: Aromatic plants, chemical control, essential oils, feeding deterrence, *Sitophilus zeamais*, oviposition