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**Bioactivity of the essential oil of *Cymbopogen citratus* (Lemongrass) on *Sitophilus oryzae* (L.) (Coleoptera: Curcuolionidae) [Rice Weevil]**

*Sitophilus oryzae* is the most destructive and common insect pest in rice and paddy. At present, Phosphine and pirimiphos methyl, are used to control this pest. Synthetic pesticides cause various problems and to overcome them, it is necessary to look into alternative methods.

The objective of the present study was to evaluate the insecticidal and / or repellent action of essential oil of *C. citrates* against *S. oryzae*. The essential oil of *C. citrates* was used for the choice testes and toxicity bioassays.

The repellent activity of the essential oil of lemongrass was studied using the olfactometer and ChoiceChamber bioassays. The olfactometer bioassay showed a significantly higher repellent activity of test insect at doses higher than 75 mg of essential oil, whereas the results obtained from the Choice Chamber bioassay showed no significant repellence when compared to the control. The fumigant toxicity test showed about 90% mortality at 2.5 g/L concentration of essential oil and in the contact toxicity bioassay more than 80% morality was observed at the concentration of 26 g/m$^2$. The $LC_{50}$ values of the essential oil due to the fumigant and the contact effects were 1.14 g/L and 7.8 g/m2 respectively. These two studies showed that the contact toxicity is more effective than fumigant toxicity.

All four bioassays revealed the repellent and fumigant potential of *C. citraus*. The test oil cold be developed as a biopesticide to control *S. oryzae* in stored rice and paddy.