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Insect Science and its Application, Vol. 21, No. 1, 2001, 61-66

Bioline code: *ti01007*

Price of single document: US\$ 13.00

INSECTICIDAL AND OVICIDAL ACTIVITY OF THE ESSENTIAL OIL OF *ANETHUM SOWA* KURZ AGAINST *CALLOSOBRUCHUS MACULATUS* F. (COLEOPTERA: BRUCHIDAE)

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ABSTRACT

The fumigant toxicity, ovicidal and oviposition-deterrent potential of the essential oil of Indian dill, *Anethum sowa* [SP](#) and its three major fractions against the grain beetle *Callosobruchus maculatus* [SP](#) (Coleoptera: Bruchidae) on chickpea were investigated. Two fractions produced 100% mortality of adult beetles at 3.0 μ l/ml dosage, whereas the essential oil was the least effective. Fraction III was 100% ovicidal at a 70 μ l/ml concentration. The essential oil and fraction III both completely deterred oviposition at the lowest concentration tested, 10 μ l/ml. Neither the essential oil nor its fractions had any significant effect on chickpea seed germination.

Keywords: *Callosobruchus maculatus*, *Anethum sowa*, essential oil, fumigation, ovicidal effects, oviposition deterrence

RÉSUMÉ

La toxicité fumigène, la potentialité ovicide et antiovipositionnelle de l'huile essentielle de l'aneth Indien, *Anethum sowa* et de ses trois principales fractions, contre la bruche *Callosobruchus maculatus* (Coleoptera: Bruchidae) ont été étudiées sur pois chiche. Deux fractions produisent 100% de mortalité des bruches adultes à la dose de 3.0 μ l/ml, tandis que l'huile essentielle est la moins efficace. La fraction III provoque 100% de mortalité des oeufs à la concentration de 70 μ l/ml. L'huile essentielle et la fraction III inhibent complètement l'oviposition à la plus faible concentration testée, 10 μ l/ml. Ni l'huile essentielle, ni ses fractions n'ont d'effet significatif sur la germination des graines de pois chiches.

Mots Clés Callosobruchus maculatus, Anethum sowa, huile essentielle, effets ovicides, antiovipositionnelle

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