

EFFECT OF THREE BOTANICALS AS PROTECTANT OF COWPEA  
AND GREENGRAM AGAINST THE PULSE BEETLE  
Callosobruchus maculatus

BY

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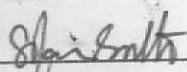
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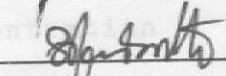


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## ABSTRACT

A laboratory trial was carried out at the Eastern university during the period of April 1992 to July 1992. Powdered leaves of Neem, Gardenia bud and Citrus peel were assayed for their ovicidal and protectant properties against the bruchids C. maculatus on greengram and cowpea.

The effect of Citrus peel, Gardenia bud and Neem leaf on the mortality, oviposition, hatchability and emergence rate of C. maculatus was compared with untreated control.

The botanicals used in this study increased the mortality of C. maculatus on 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> days after treatment was 30%, 74% and 93% respectively.

Citrus peel powder applied at the rate of 0.8 g/100 seeds reduced the oviposition of C. maculatus by 65% and 45% on greengram and cowpea respectively. Cowpea treated with Gardenia bud at the rate of 0.8 g/100 seeds reduced the oviposition by 60% however a higher concentration 1 g/100 seeds was required to reduce the oviposition of C. maculatus by 66% on greengram. Cowpea treated with Neem leaf at the rate of 0.4 g/100 seeds reduced the oviposition of C. maculatus by 42%. Greengram seeds treated with Neem leaf at the rate of 0.2 g/100 seeds caused 50% reduction on the oviposition.

Citrus peel powder applied at the rate of 1 g/100 seeds reduced the hatchability of C. maculatus by 31% and 25% on cowpea and greengram respectively. Cowpea treated with Gardenia bud at the rate of 0.6g/100 seeds showed 13% reduction of hatchability in comparison to the control, 1 g/100 seeds of greengram reduced 22% hatchability. Cowpea treated with Neem leaf at the rate of 1g/100 seeds caused 23% reduction on the hatchability whereas only 5% reduction was observed on the hatchability of C. maculatus reared on greengram seeds treated with Neem leaf at the rate of 0.4 g/100 seeds.

There was no significant effect on the emergence rate of C. maculatus reared on treated greengram and cowpea.

Therefore, based on this result Neem leaf, Citrus peel, and Gardenia bud could be used to control C. maculatus as these botanicals reduce oviposition, hatching and increase the mortality. However the Citrus peel is more efficient protectant than others.

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