



EVALUATION OF *Mucuna pruriens* (DC) SEED AS A POTENTIAL BIOPESTICIDE AGAINST *Callosobruchus maculatus* (Fab.) IN STORED *Vigna unguiculata* (Walp.) SEEDS

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ABSTRACT

The pesticidal effect of *Mucuna pruriens* (L.) DC. (Fabaceae) was evaluated against *Callosobruchus maculatus* F. (Bruchidae). Plant secondary metabolites such as alkaloids, oils and phenolics are known for their pesticidal properties. This work was carried out to investigate the possible pesticidal effect of *Mucuna pruriens* seed powder when incubated with *Vigna unguiculata* (L.)Walp (Fabaceae) seeds and possible interaction of *Mucuna pruriens* seed powder in combination with *Azadirachta indica* A.Juss (Meliaceae) leaf powder, a known biopesticide, against *Callosobruchus maculatus* (cowpea weevil). The mean pest mortality of *Mucuna pruriens* compared to that of *Azadirachta indica*, had no significant difference ($p>0.05$) in the evolution of pest mortality. The antifeedant activity of *Mucuna pruriens* seed powder was determined as 88.35%, *Azadirachta indica* leaf powder gave 90.10%, Pirimiphos-methyl gave 99.99% and the powder combination of *Mucuna pruriens* seed and *Azadirachta indica* leaf produced a significantly lower ($P<0.05$) result of 49.83%. *Mucuna pruriens* powder might have caused damages to body systems of the insect by various mechanisms. The seed powder of *Mucuna pruriens* has been found to be effective in causing death of the weevils. The result of this work gave strong evidence that the seed powder of *Mucuna pruriens* has pesticidal properties against *Callosobruchus maculatus*. It may be useful in the conservation/storage of grains and seeds, especially under the subsistent farming system.

Keywords: Antifeedant, biopesticide, *Callosobruchus maculatus*, cowpea, *Mucuna pruriens*, *Vigna unguiculata*, weevil.

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