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## Laboratory Evaluation of *Metarhizium anisopliae* and *Beauveria bassiana* Isolates for the Management of Cowpea Aphid

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### Abstract

Cowpea, *Vigna unguiculata* (L.) Walp, is a popular African indigenous vegetable in the tropics that is grown and consumed widely as a source of proteins, minerals, vitamins, carbohydrates, dietary fibre and as a source of income. It is also used as fodder and in management of soil fertility. Production of cowpea in Africa is low compared to other parts of the world. The cowpea aphid (*Aphis craccivora* Koch) is one of the most damaging pests contributing to a yield loss of up to 100% if not controlled. The use of synthetic chemicals to manage the pest is a widespread approach among smallholder farmers but this is associated with harmful effects on human, the environment, and non-target organisms. Entomopathogenic fungi are known to attack cowpea aphid in nature but no fungal-based biopesticide have been commercialised in Africa yet, specifically for the management of cowpea aphid. However several commercial products are available in other parts of the world. In the present study 10 isolates of *Metarhizium anisopliae* and *Beauveria bassiana* were evaluated for their pathogenicity against apterous cowpea aphid in an effort to identify and select candidate isolates that could be further developed for the management of *A. craccivora*. Among the isolates tested cumulative mortality varied from 34–88% at 7 days after treatment with ICIPE 62 incurring the highest mortality of 88%. The promising isolates will be evaluated under screen house and field conditions to determine their optimal performance. This study demonstrates the potential of this isolate for development as biopesticide for the management of *A. craccivora* on cowpea.

**Keywords:** *Aphis craccivora*, biopesticide, cowpea, entomopathogenic fungi, pathogenicity