

ABSTRACT

Aims: Larval stages of *Frankliniella occidentalis* are known to be refractory to fungal infection compared with the adult stage. The objective of this study was to identify promising fungal isolate(s) for the control of larval stages of *F. occidentalis*.

Methods and results: Ten isolates of *Metarhizium anisopliae* and eight of *Beauveria bassiana* were screened for virulence against second-instar larvae of *F. occidentalis*. Conidial production and genetic polymorphism were also investigated. *Metarhizium anisopliae* isolates ICIPE 7, ICIPE 20, ICIPE 69 and ICIPE 665 had the shortest LT(50) values of 8.0-8.9 days. ICIPE 69, ICIPE 7 and ICIPE 20 had the lowest LC(50) values of $1.1 \times 10(7)$, $2.0 \times 10(7)$ and $3.0 \times 10(7)$ conidia ml⁽⁻¹⁾, respectively. *Metarhizium anisopliae* isolate ICIPE 69 produced significantly more conidia than *M. anisopliae* isolates ICIPE 7 and ICIPE 20. Internally transcribed spacers sequences alignment showed differences in nucleotides composition, which can partly explain differences in virulence.

Conclusion: These results coupled with the previous ones on virulence and field efficacy against other species of thrips make *M. anisopliae* isolate ICIPE 69 a good candidate.

Significance and impact of the study: *Metarhizium anisopliae* isolate ICIPE 69 can be suggested for development as fungus-based biopesticide for thrips management.