

TITLE: EFFECT OF THE EXTRACT OF *MYRCIARIA CAULIFLORA* ON *DIATRAEA SACCHARALIS* AND *METARHIZIUM ANISOPLIAE*

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ABSTRACT:

Myrciaria cauliflora Berg, popularly known as jabuticabeira is a tree native to Brazil, belonging to the Myrtaceae family. This family has known action on various pests. The objective of this work was to evaluate the compatibility of the aqueous extract of *Myrciaria cauliflora* fruits with the entomopathogenic fungus *Metarhizium anisopliae*, *in vitro*. The effect of the plant extract and its association with the fungus was verified on *Diatraea saccharalis*. A stock solution (30%) of the aqueous extract of the fruit peels of *M. cauliflora* was prepared and from this the extract was incorporated into the Potato-Dextrose-Agar (BDA) in different amounts, in order to obtain concentrations of 1 %, 2%, 4%, 8% and 16%. Fungal fragments were inoculated in the center of the Petri dish and after six days of incubation ($T = 27 \pm 1^{\circ}\text{C}$) the vegetative growth, the production and the germination of conidia were evaluated. The value of the Biological Index (IB) of the extracts was calculated. Dehydrated conidia (5%) were formulated in emulsifiable adjuvant oil to evaluate the effect of the formulation on the drills. In the pathogenicity bioassay, the larvae were immersed for 30 seconds in different suspensions of conidia, conidia + vegetal extract, formulation + vegetal extract. For each treatment there was a respective control group treated with water or oil (2%). Five replicates containing 10 caterpillars each were used, totaling 50 insects per treatment. Observations were performed daily for 10 days. Vegetative growth ($cv\% = 4.49$) and conidia production ($cv\% = 23.50$) were not significantly affected in the presence of the extract. The extract discretely reduced the germination of conidia ($cv\% = 0.02$). According to the IB, all the extracts were considered compatible with the analyzed fungi. The plant extract, when associated to the fungus *M. anisopliae*, caused mortality of 84% and 76% of the insects ($cv\% = 35.99$), *M. anisopliae* PL43 and *M. anisopliae* IBCB425, respectively. The vegetal extract associated to the formulations in oil of *M. anisopliae* (PL43 and IBCB425) caused the death of more than 70% of the insects. The results indicate the insecticidal property of the extract of fruits of *M. cauliflora*, in association with *M. anisopliae*, and its possibility of use for the control of *D. saccharalis*.

KEYWORDS: Jabuticabeira, Entomopatogenic fungi, cane drill.