

TITLE: DETERMINATION OF THE MINIMUM INHIBITORY CONCENTRATION OF *Achyrocline satureioides* ETHANOLIC EXTRACT AGAINST ENTOMOPATHOGENIC FUNGUS *Beauveria bassiana*

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ABSTRACT:

Brazilian agriculture and livestock have a great worldwide prominence, but an obstacle in these activities are the pest insects that are commonly combated by means of synthetic pesticides and acaricides generating undesirable and harmful residues to the environment, thus, the search for more sustainable and efficient alternatives have great importance. The entomopathogenic fungi are known for their high ability to control pests in agriculture causing less environmental impact since they are efficient and safe, although some species are used for this purpose such as *Beauveria bassiana*. The plant extracts are also promising options in the combat of these pests and in association with the entomopathogenic fungi become a potential option with greater effectiveness. For the association be successful it is necessary that the plant extractives do not inhibit the proliferation of the fungus and, in this way, the aim of the present work was to determine the Minimum Inhibitory Concentration (MIC) capable of guarantee the proliferation of the fungus when associated with extractives. The MIC determination was based on the methodology according to the Clinical Laboratory and Standards Institute (CLSI) M38A2, using 96 well microplates and inoculum of 10^8 CFU/mL, of *B. bassiana*. The MIC was determinated as the last well where there is no fungal growth. The extract was prepared by ethanol maceration for five days and was dried after filtration. The concentration range of extractive tested was 40 mg/mL to 0,87 mg/mL. The plates was shaken at 120 RPM at 27°C for 7 days and the reading was performed using 0,01% aqueous resazurin solution. The results demonstrated that the concentrations evaluated did not inhibit the proliferation of the fungus *B. bassiana*, being able to associate them in a safe way for future tests.

Keywords: *Beauveria bassiana*; extractives; MIC

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