

TITLE: EVALUATION OF THE COMPATIBILITY FIESC GROUP ENTOMOPATHOGENIC FUNGI WITH NIM EXTRACT FOR THE BIOLOGICAL CONTROL OF PESTS

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ABSTRACT:

The association of entomopathogenic fungi with plant extracts has been shown to be efficient in pest control. The need to study these associations to increase the insecticidal potential for use in Integrated Pest Management is notorious. The aim of this work was to evaluate the compatibility of different aqueous concentrations of *Azadirachta indica* leaf (nim) with *Fusarium incarnatum-equiseti* species (FIESC group) in vitro in different concentrations (2, 4, 8 and 16%). The species (URM6792 and URM6798) were provided by MICOTECA-CCM / CCF / UFPE culture collection. Vegetative growth, conidia production and germination were evaluated after six days of fungal growth in contact with the different concentrations of the extract in BDA medium. Microstructures analysis was also performed to observe the vegetative and reproductive structures of fungi. Finally, the biological inoculation (IB) was calculated for classification of the extract (toxic, moderately toxic or compatible). The data were submitted to statistical analysis with the help of Statistica software. The results demonstrated that the extract was compatible with URM6792 at concentrations of 2% and 8%, stimulating the growth, sporulation and germination of fungi and toxic at other concentrations, inhibiting its development. With URM6798, the extract was moderately toxic at 2% and toxic at the other concentrations. This indicates the sensitivity of the evaluated species to neem leaf extract at high concentrations. All concentrations changed the appearance of the leathery colony (in the control) to cottonous. Other tests may be performed evaluating the compatibility with seeds and neem oil. This study is extremely relevant to the area of Microbiology, selecting the most effective associations, aiming to reduce the impacts caused by chemical insecticides to the environment.

Keywords: Entomopathogenic fungi; Biological control; Vegetable extract.