PRODUCTION OF BLASTOSPORES OF NATIVE STRAINS OF *Isaria fumosorosea* Wize IN TWO LIQUID CULTURE MEDIA

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Introduction. The entomopathogenic *Isaria fumosorosea* is a pathogen of over 40 insect species, representing 10 orders (1). Because of its wide arthropod host range, *Isaria fumosorosea* has received significant attention as a possible biological control agent for several economically important insect pests of agricultural crops (2). For commercial application, an economical, large-scale mass production method must be developed. Submerged culture processes offer many advantages over conidial production in solid-state fermentation (3). In liquid culture, *I. fumosorosea* produces hyphae and blastospores (4). Some studies suggest that liquid culture produced blastospores of *I. fumosorosea* are more effective than conidia in infecting and killing silverleaf whiteflies (5).
The aim of this work was to produce blastospores of *I. fumosorosea* in two liquid culture media for to know the native strains ability to use different nitrogen sources.

Methods. All fungi were grown on potato dextrose agar for 14 days at 25 ± 2 º C. After were prepared suspensions of 5 x10^5 conidia ml-^{1} for inoculated the production media. Medium A: glucose (80 g L-^{1}) and casamino acids (25 gL-^{1}) and Medium B: glucose (80 gL-^{1}), collagenase peptone (25 gL-^{1}) and yeast extract (5 gL-^{1}). Were utilized flasks 250 ml for inoculate 100 ml of both mediums and were incubated at 28 °C and 300 rpm in a shaker. At 72 h was determined the concentration of blastospores. The results were subjected to ANOVA using the program SPSS Inc. ® v.19, for comparing the production of blastospores between the fungi evaluated. The experiments were performed in triplicate and repeated at least twice.

Results. The production of blastospores among the strains tested showed no significant differences ($p > 0.05$) at 72 h of incubation (Table 1).#The liquid fermentations are described as fast and without problems of pollution; one of its advantages is the fact that you can control the parameters in the process (6). On the other hand, the formulation of culture media with complex nitrogen sources favored the production of mycelium, whereas the use of monosaccharides favors the formation of blastospores, and organic nitrogen sources at unlike favor carbon sources hyphal growth (7).

Table 1. Production of blastospores of *Isaria fumosorosea* in two liquid culture medium at 72 h of incubation

Strain	Medium A	Medium B
Pfr-612	1.60 x 10^8	1.05x 10^7
HIB-19	2.50 x 10^8	1.45x10^7
HIB-20	2.00 x 10^8	2.30x10^7
HIB-23	2.25 x 10^8	2.15x10^7

Conclusions. The strains tested showed capacity for use both mediums and produce blastospores in the order of 10^7-10^8 blastospores mL^{-1}, however no significant differences in the production of blastospores between strains and liquid culture media tested. This indicate that the strains had the same hability for using the casamino acids, collagenase peptone and yeast extract as nitrogen source

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