

Title: MEASUREMENT AND IDENTIFICATION OF FILAMENTOUS FUNGI AND YEAST PRESENT IN BIOFERTILIZER HORTBIO®.

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Abstract: Biofertilizers are substances derived from the fermentation of organic compounds containing living or dormant micro-organisms and products of their metabolism. In its composition, materials of easy access to producers are used, reducing production costs. The microorganisms present in biofertilizers act as producers of additional sources of nutrients as well protecting plants from plant pathogens attack. The Hortbio® is a biofertilizer produced by Embrapa Vegetables (DF), it has shown positive effects on vegetables growth and has a high content of nitrogen, phosphorus and potassium. For this study we evaluated different production times of the two preparations of Hortbio® (0, 5, 10, 15, 20, 25 and 30 days after preparation) and the inoculum which was used in its preparation (EM - Efficient Microorganisms). The two Hortbio® (Hortbio®_{EM-0} and Hortbio®_{EM-40}) differed only by the EM used, the first with it freshly prepared and the second with it used after storage in a refrigerator for 40 days. We carried out a serial dilution method and plating on selective media, those being: Martin medium (total fungi), MYGP medium (yeast) and the THSM medium (Trichoderma). Dilution was made up to 10⁻⁶ and the plates were incubated for five days under growth chamber at 25 ° C. Colony count and subsequent isolation of fungi was made. The colony counts showed that the growth of microorganisms of Hortbio®_{EM-0} started in larger quantity, but in time 10 there was an increase of microorganisms of Hortbio®_{EM-40}, surpassing or equaling the amount of CFU/ml of microorganisms of Hortbio®_{EM-0}. It was isolate a total of 69 yeast, 34 total fungi and 26 Trichodermas. Among the fungal isolates analyzed by microscopy, it highlights different species of fungi of the genus *Aspergillus* spp., as well as fungi of the genus *Penicillium*, *Rhizopus*, *Fusarium* and *Trichoderma*. *Trichoderma* has shown to be present in other formulations of biofertilizer and acts as a pathogens competitor, with interest, since it acts as a biocontrol agent.

Key-words: yeast, fungi, organic fertilization.

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