

TITLE: ENRICHMENT OF *PLEUROTUS OSTREATUS* WITH DIFFERENT SOURCES OF SELENIUM.

AUTHORS: CARVALHO, D.R.; KAYASHIMA M.; SILVA. M.C.S.; KASUYA, M.C.M.

INSTITUTION: UNIVERSIDADE FEDERAL DE VIÇOSA, DEPARTAMENTO DE MICROBIOLOGIA, VIÇOSA, MINAS GERAIS. (AVENIDA PH ROLFS S/N VIÇOSA, MINAS GERAIS-MG 36570-000).

ABSTRACT

Pleurotus ostreatus is an edible mushroom widely cultivated and is able to grow in agroindustrial residues enriched with minerals. Selenium (Se) is one of these minerals and is considered an essential nutrient for human. However, the concentration generally found in food is low due to the low content of this element in the soil. Recent studies have shown that Se-enriched mushrooms are an excellent source of this element due to the high capacity of fungi to absorb and transform the inorganic Se into organic forms, increasing its bioavailability. Thus, the objective of this work was to evaluate the biological efficiency (EB) of *P. ostreatus* mushrooms produced in a substrate based on coffee husks enriched with sodium selenate or sodium selenite in (0; 12.5; or 50 mg of Se kg⁻¹). The addition of sodium selenite at 25 mg kg⁻¹ of Se and sodium selenate at concentrations 12.5 and 25 mg kg⁻¹ of Se showed no difference in EB compared to the control, without addition of Se. In contrast, when 50 mg kg⁻¹ of Se was added as sodium selenate, there was a decrease in EB. High concentrations of Se caused morphological changes and delayed the period to begin the production of mushrooms. Determination of the concentration of Se which allows good EB, and which does not impair mycelial growth, is important, for determining the appropriate concentration of the compound to be used in the production of enriched *P. ostreatus* mushrooms, which depend on the source of the Se that will be added to the substrate.

KEYWORDS: sodium selenate, sodium selenite, biological efficiency

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