

Mycelial Growth of *Pleurotus ostreatus* (Jacq.: Fr.) Kumm. and *Lentinus edodes* (Berk.) Sing. on Selenium-Enriched Media

M. Stajić, I. Milenković, J. Vukojević, and S. Duletić-Laušević

Institute of Botany and Botanical Garden "Jevremovac," Faculty of Biology, University of Belgrade, Belgrade, Yugoslavia

Pleurotus ostreatus (Jacq.: Fr.) Kumm. and *Lentinus edodes* (Berk.) Sing. are highly regarded for their nutritional and pharmacological value. Polysaccharides isolated from these species have shown antitumor, immunomodulating, antiviral, antibacterial, and hypocholesterolemic activities.

Selenium is an antioxidant, which protects against mercury and methyl mercury toxicity by preventing damage from free radicals or by forming inactive selenium mercury complexes. It is used as a food and water supplement, in controlled dosage.

The aim of our research was to investigate the effect of selenium added in media on the growth rate of mycelia, and the ability of mycelia to accumulate this microelement.

The used media was potato–dextrose agar (PDA). The concentrations of selenium, used in a

form of sodium selenite, were the following: 0.3 mg/liter, 0.7 mg/liter, 1 mg/liter, 1.3 mg/liter, 2 mg/liter, 4 mg/liter, and 6 mg/liter. PDA was used for analyzing the growth rate of the mycelia, and the same medium without agar (liquid) was used for measuring the accumulated selenium. The accumulation of selenium in mycelia was measured using an atomic absorber.

The analyzed concentrations of selenium did not show a significant effect on mycelial growth in comparison to the control. Three investigated strains of *Pleurotus ostreatus* have grown insignificantly faster on the media with selenium but strains of *Lentinus edodes* have grown slightly slower than on the control. The results of selenium accumulation in mycelia have shown a higher concentration in hyphae grown on enriched media.