

Ability of Selenium Absorption by Mycelia of *Pleurotus eryngii* (DC.:Fr.) Quél., Depending on Selenium Source in Medium

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Pleurotus eryngii is an important edible and medicinal species. Selenium (Se) is a trace element, which at nutritional levels has numerous anticarcinogenic or preventive effects against carcinogen-induced breast, colon, liver, and skin cancer in animals, but at higher levels is known to be toxic.

The aim of this investigation was to study how three different Se sources added to the synthetic medium in specific concentrations influenced the ability of the mycelia to absorb this microelement.

Eight investigated strains of *P. eryngii* var. *eryngii* (code numbers 193; 201; 356; 507; 616; 711; 716; 728) and one *P. eryngii* var. *tingitanus* (code number 555) were taken from the Culture Collection of the Institute of Evolution, University of Haifa, Israel (HAI). Se was used in forms of sodium selenite (Na_2SeO_3), sodium selenate (Na_2SeO_4), and selenium dioxide (SeO_2) in the following concentrations: 0.3 mg/L, 0.7 mg/L, 1 mg/L, and 1.3 mg/L. Se concentration in mycelia was measured by graphite furnace Atomic Absorption Spectrometer (VARIAN, Australia).

Na_2SeO_3 was a good Se source for the absorption by mycelia and for the incorporation in Se compounds in the cell in all investigated strains. The increase of Se concentration in the medium led to increase of its content in mycelia also, except in strain HAI 201.

In investigated strains of *P. eryngii* var. *eryngii*, Se concentration in mycelia increased with its addition to the medium, when Se was added in the form of Na_2SeO_4 , except in HAI 201 and 507, where Se content in mycelia decreased compared to the control in Se concentration of 0.3 mg/L, whereas in the presence of higher Se concentrations it increased. Strain HAI 711 proved to be the best Se absorber (725 $\mu\text{g/g}$ of dry weight at 1 mg/L, and 575 $\mu\text{g/g}$ of dry weight at 1.3 mg/L of Se concentration in the medium). In *P. eryngii* var. *tingitanus*, not only was decrease of Se concentration in mycelia noted compared to the control, but also its total absence, when Se was present in medium in concentration of 0.7 mg/L.

SeO_2 as well as Na_2SeO_3 were shown as good Se sources for its absorption and retention by mycelia of investigated strains. They easily absorbed Se from medium where it was presented in concentration of 1.3 mg/L, except strain HAI 201 where the highest concentration of absorbed Se was in concentration of 0.7 mg/L in the medium.

Among investigated Se sources, Na_2SeO_3 appeared to be the most favorable, while Na_2SeO_4 was the least favorable source for Se absorption by mycelium in majority of studied strains.