

Oyster and Shiitake Mushroom. Who Wins?

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Abstract

This work aims to reflect, though in a preliminary way, the results obtained during practical classes of the curricular unit Soil Microbial Ecology, of the Agronomic Engineering course and curricular unit Soil Ecology of the Landscaping Ecology course, of the School of Agriculture, of the Polytechnic Institute of Viseu. Thus, we intended to study the behavior *in vitro* isolation of a *Pleurotus ostreatus* (oyster mushroom) compared to an isolation of *Lentinula edodes* (shiitake), inoculated on two opposite sides of a Petri dish, with culture medium SCA (Sabouraud, Chloramphenicol, Agar), and incubated at 25°C, for 15 days to allow contact of the respective mycelium.

Mycelia showed his characteristic white appearance, denser and bulky in oyster mushroom (*P. ostreatus*) and lacier and less dense in shiitake (*L. edodes*). Interestingly, it was observed along the line of contact of the two spawn a brownish band just the colony shiitake.

The observations of the ultra structure of hyphae using its registration photomicrographs obtained by Leica DM750 Sistem (optical microscopy), in various parts of the mycelium is allowing us to conclude that the oyster mushroom may have an antagonistic action on the shiitake, having based on the appearance and morphology of the hyphae one another, present in the contact zone.

The spawn production of *P. ostreatus* on cereal grains and the spawn production of *L. edodes* on eucalyptus bolts, were also discussed.

The production, on laboratory scale, of *P. ostretus* inoculated ryegrass straw and wood chips and *L. edodes* in oak trunks was also obtained with promising results.