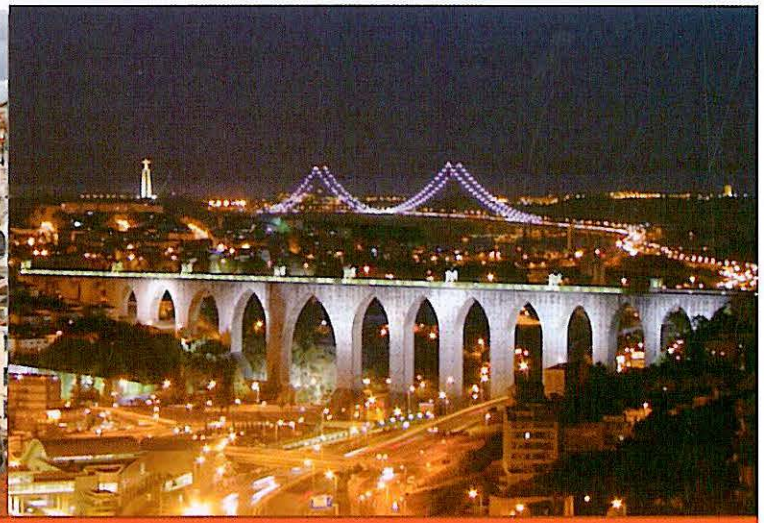
BOOK OF ABSTRACTS





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Influence of the C:N ratio and pH on ectomycorrhizal fungal growth

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Wild edible mushrooms are a natural resource with a high nutritional and economic value. Several studies have demonstrated that the commercially mushroom harvesting could be an important additional source of income in both developing and developed countries. The species most appreciate in the entire world are ectomycorrhizal (EM) and are usually the most valued. This aspect derived essentially from the difficulty to obtaining these symbiotic fungal species by culture. The main objective of the present study is to assess the influence of the C:N ratio and pH on the growth of three EM fungal species, under *in vitro* conditions. The species studied were *Lactarius deliciosus* Fr., *Suillus bovinus* L.:Fr. and *Boletus edulis* Bull.:Fr, all with high economic importance. The fungal were cultivated on solid modified Melin-Norkrans (MMN) medium with different C:N ratio (37.7, 75.5, 113.2) at pH 4, 5, 6 and 7, and fungi growth was determined over 63 days of culture. Morphological characteristics of each fungal culture were also assessed. The results obtained showed that both C:N ratio and pH had influence in fungal growth. The growth of *B. edulis* and *L. deliciosus* were significantly higher in medium with 113.2 C:N ratio when compared to other C:N ratios. By contrast, *S. bovinus* have the highest growth on medium with a C:N equal 75.5. The best pH value for *S. bovinus*, *B. edulis* and *L. deliciosus* growth was, respectively, 5, 6 and 4. No macroscopic nor microscopic alterations in mycelial morphological characteristics between isolates growth at different C:N ratio and pH were detected.

Keywords *Suillus bovinus*, *Boletus edulis*, *Lactarius deliciosus*, ectomycorrhizal, C:N, pH, culture medium.