

**OPTIMIZATION OF CULTURE CONDITIONS FOR MYCELIAL GROWTH OF  
BLACK OYSTER MUSHROOM (*Pleurotus ostreatus*)**

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## ABSTRACT

**BAGSIC, JOHN TROY A.**, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, OPTIMIZATION OF CULTURE CONDITIONS FOR MYCELIAL GROWTH OF BLACK OYSTER MUSHROOM (*Pleurotus ostreatus*).**

Adviser: SOFRONIO P. KALAW Ph.D.

Black oyster mushroom (*Pleurotus ostreatus*), is an edible mushroom characterized by the production of fruit bodies with an eccentric stalk and a wide cap shaped like an oyster shell, with widest portion of the cap being away from the stalk. In the present study the mycelial growth was evaluated on various indigenous culture media namely: coconut water gulaman, corn grit decoction gulaman, rice bran decoction gulaman, potato sucrose gulaman and potato dextrose agar (control). Moreover the effect of different conditions such as pH, aeration, illumination and temperature was also investigated. The mycelial diameter, mycelial density and incubation period were used in determining the optimum growth conditions.

Among the indigenous culture media evaluated, rice bran decoction gulaman significantly recorded the largest mycelia growth diameter and thickest mycelial density. In terms of the pH of the media, *P. ostreatus* registered maximum mycelial growth in a medium having a pH of 5.5. Moreover, incubation in dark condition favored the growth of the mushroom. *P. ostreatus* incubated at room temperature significantly exhibited wider mycelia diameter and shorter incubation period. The study also revealed that the aeration condition did not significantly affect the rate of colonization of the mushroom.

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