Growth and Protein Content Establishment of Pleurotus ostreatus on Liquid and Solid Medium

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Abstract	Pleurotus ostreatus cultivation is performed using solid medium to harvest fruit body and using liquid medium to harvest mycelia in submerged culture. Modifying nutrients in the medium to increase protein content of the fruitbody and mycelia can be done through addition of nitrogen-containing materials. This study aims to determine: the appropriate composition of the liquid medium for high mycelial growth and protein content; and the exact composition of the solid medium to obtain high fruitbody product and protein content. The method was experimental with completely randomized design (CRD). The treatments were incubation of P. ostreatus on three types of liquid medium and four types of solid medium. The results showed that the optimal liquid medium composition for mycelialÃ‚Â growth was Liquid Fermentation Medium 1 (FC1) with 10% corn fluor, and the highest protein content was in Liquid Fermentation Medium 2 (FC2 = 29.76%). While the optimal solid medium composition for fruitbody production was the medium with 3% corn starch supplement (TJ3), and the highest protein content was obtained from the medium without corn starch supplement (TJ0=24.69%). The increase of mycelial and fruitbody weight from the medium with the addition of corn material indicated a prospective in cultivation process, however effort to increase protein content of the fruit body needs further research. Cultivating P. ostreatus in mycelial phase may take shorter incubation time, may be produced in mass production with less space consuming, and higher protein content than that by producing fruitbody.
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