OSP-21

Comparative Effect of Potassium Humate on Edible Mushroom Cultivation in Tubular Solid State Fermentation vs. Conventional Method

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This study explores the influence of potassium humate (KHA) on the cultivation of *Pleurotus ostreatus* using two different approaches: Tubular Solid-State Fermentation (TSF) and the Conventional Method (CM). The primary objective was to optimize the concentration of potassium humate and to evaluate its role in enhancing edible mushroom cultivation. The work involved designing a tubular solid-state fermentation system, standardizing cultivation conditions, and assessing key biochemical parameters including moisture, protein, carbohydrate, and fiber content. By comparing TSF and CM, the study aimed to provide insights into the potential of humic substances as organic growth stimulants and their contributions to sustainable agricultural biotechnology. The findings are expected to support the development of efficient cultivation strategies that improve both the quality and productivity of edible mushrooms, offering broader implications for food security and bio-resource utilization.

Keywords: Conventional method, *Pleurotus ostreatus*, Potassium humate, Tubular Solid-state Fermentation

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