

## Calcium Uptake and Yield of *Pleurotus ostreatus* Cultivated in Rice Straw-Based Substrate Enriched with Natural Sources

**Authors :** Arianne V. Julian, Michael R. Umagat, Renato G. Reyes

**Abstract :** *Pleurotus ostreatus*, which is one of the most widely cultivated mushrooms, is an excellent source of protein and other minerals but inherently contains low calcium level. Calcium plays several vital functions in human health; therefore, adequate daily intake is necessary. Supplementation of growth substrate is a significant approach in mushroom production to improve nutritional content and yield. This study focused on the influence of varying concentrations of Ca supplementation derived from natural sources including agricultural lime, eggshell and oyster shell in rice straw-based formulation for the production of *P. ostreatus*. The effect of Ca supplementation on the total yield and Ca content were obtained. Results revealed that these natural sources increased both the yield and Ca of *P. ostreatus*. Mushroom grown in substrate with 8-10% agricultural lime and 6% eggshell powder produced the highest yields while using oyster shell powder did not vary with the control. Meanwhile, substrate supplementation using agricultural lime and eggshell powder in all concentrations have increased Ca in fruiting bodies. However, Ca was not absorbed in the oyster shell powder-supplemented substrate. These findings imply the potential of agricultural lime and eggshell powder in the production of Ca-enriched mushrooms resulting in higher yield.

**Keywords :** calcium fortification, mushroom production, natural sources, *Pleurotus ostreatus*

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