

**THE GROWTH AND YIELD PERFORMANCE OF OYSTER
MUSHROOM (*Pleurotus ostreatus* Fries) USING FISH
WASTEWATER AS FERTILIZER**

An Undergraduate Thesis

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Abstract of thesis entitled

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submitted by

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University of the Philippines in the Visayas

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Oyster mushroom, *Pleurotus ostreatus*, is an edible wood-inhabiting fungi that continues to gain popularity in the Philippines, as well as in other tropical countries. With the use of modern technology, this mushroom can be grown in the Philippines provided sufficient moisture is present. Its present cultivation is limited perhaps due to insufficiency of planting materials and the limited knowledge about its culture.

The main objective of the study was to establish the possibility of the replacement of urea, the commonly used fertilizer for mushroom cultivation, by fish wastewater. The study also aimed to compare the effects of different concentrations of fish wastewater on the growth of mushrooms and determine which treatment produced the best results.

A total of five groups were used: two control groups (positive and negative – using urea and water, respectively) and three experimental groups, the latter with different concentrations of fish wastewater serving as alternative fertilizer (A: 10%, B: 20%, C: 30%). Fruiting bags were inoculated with oyster mushroom spawn, and after a month of incubation, the growing mushrooms were assessed using the parameters of number, weight, length, and diameter.

Results showed that weight of oyster mushrooms was heaviest when substrate was sprayed with plain water. However, the number of mushrooms harvested, their length, and the width of the pilei were not affected by spraying the substrate with urea or moistening these with up to 30% fish wastewater.

The conclusions reached were: 1) when using sawdust as substrate for oyster mushroom cultivation, it is best to simply use water to maintain the moisture of the material; 2) sawdust used in combination with low concentration of fish wastewater (10%) can result in good production; 3) neither nitrogen nor urea may be a critical factor for the growth of oyster mushroom on sawdust; and 4) high amount of phosphorus and low potassium content of fish wastewater are favorable for oyster mushroom growth.