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FRUIT AND ROOT CROPS

ELEANOR GUEVARRA ERSANDO

MASTER OF SCIENCE  
(Crop Protection - Plant Pathology)

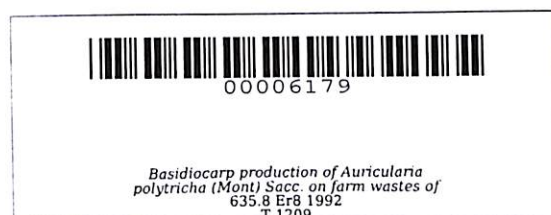
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## ABSTRACT

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BASIDIOCARP PRODUCTION OF Auricularia polytricha (MONT) SACC. ON FARM WASTES OF FIELD, FRUITS AND ROOT CROPS.

Adviser: Prof. Apolonia L. Lalap

A study on the basidiocarp production of Auricularia polytricha (Mont) Sacc. was conducted using farm wastes of field, fruit and root crops. This study aimed to determine the best farm wastes for the basidiocarp production of A. polytricha.

A preliminary experiment was conducted on the mycelial growth of A. polytricha on five culture media for its vegetative growth. Results showed that malt extract agar, rice bran sucrose agar, banana



dextrose agar and potato dextrose agar proved suitable for pure culture cultivation of A. polytricha.

Measurements of the mycelial colony of A. polytricha on eleven plated leaf substrates of field, fruit and root crops were all statistically comparable. However, the total number of days for the bagged substrates to be fully permeated with the vegetative mycelia of A. polytricha showed that leaves of coffee, mango, banana, papaya, jackfruit and coconut had the least number of days of total mycelial proliferation. The most number of days for the mycelial impregnation of bagged substrates were on leaves of peanut and gabi.

Results on basidiocarp production of A. polytricha showed a statistically high difference in all yield parameters among the eleven growth substrates used. On the number of basidiocarps of A. polytricha

produced, banana leaves gave the highest number of basidiocarps, followed by coffee, coconut and the control substrates (cotton wastes + rice straw + rice bran). The biggest size of basidiocarps was produced on cotton waste + rice straw + rice bran (control), followed by banana and mango substrates. Comparable heavy weight of basidiocarps was produced on leaves of banana, coffee, coconut and cotton waste + rice straw + rice bran (control). The highest percent biological efficiency was observed on leaves of banana, coffee, coconut and control substrates (cotton waste + rice straw + rice bran) with 14.93%, 12.78% and 12.11%, respectively.

Among the eleven leaf substrates of field, fruit and root crops, as growth media for A. polytricha investigated, leaves of banana, coffee and coconut produced the most number and the heaviest weight of basidiocarps of A. polytricha and the

highest biological efficiency. The above-mentioned leaf substrates gave comparable performance with the control growth substrates (cotton waste + rice straw + rice bran).

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## INTRODUCTION

Auricularia species or jelly fungi is one of the most common edible mushrooms that grow on decaying wood trunks or logs in forest and backyard. Their fruiting bodies are waxy and cartilagenous and the color ranges from light purplish brown to brown when fresh and from light gray to tan and black especially when dry. The common name "wood ear" or "rats ear" is derived from the "ear-like" shapes and texture of its fruiting bodies. The mature basidiocarps are leathery and gelatinous with a strongly convex dorsal surface.

This mushroom was introduced by China about four hundred years ago. The Chinese people were the first to introduce this mushroom as food constituent in many popular Chinese dishes. Modern studies have shown that aside from food supplement, Auricularia can also be eaten as main dish such as salad or sauteed with onion and garlic.

In the Philippines and in other Southeast Asian countries, Auricularia in the market is usually imported because the cultivation of this mushroom has not yet been popularized. For this reason, Auricularia command a rather high price in the market.