

A simple technique for obtaining pure culture of *Pleurotus* spp.

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A new technique to obtain pure culture of mushroom with tea leaves and tissue culture technique from fresh basidioma/fruit body has been suggested. The method greatly facilitate growers to develop/raise their own culture for mushroom spawn.

Key words : *Pleurotus* spp., pure culturing technique

INTRODUCTION

Cultivation of edible mushrooms is a modern agriculture enterprise that challenges the combined skills of industrial and agricultural technology (Chang and Miles, 1993). There are some 10 genera of mushroom commonly cultivated in the world. Of these *Pleurotus* is comparatively a high yielder with simple cultivation technology than other mushrooms and is most suitable for low income group people. The other superiority includes its less space, water requirement for cultivation, recycling of usually available agro-waste, high nutritive value being rich in protein, vitamin, rare amino acids, minerals and having high medicinal value. It can remove unemployment and can raise the income of marginal farmers. The Oyster mushroom can change the face of our country's low income group people.

In the present paper attempts have been made to use a very easily available house waste tea leaves in order to get pure spawn through tissue culture technique.

In this method coarse used tea leaves were taken and washed with water. These leaves were then partially air dried and treated with 1% solution of glucose and peptone and then air dried. After air drying these leaves were filled in 25 × 90 mm culture tubes and sterilized at 121°C for 15 minutes.

Inoculation was done selecting a good freshly plucked fruit body and the inner tissue from the stipe-pileus junction was removed and transferred to tea leaves culture tubes (TLCT). By tilting TLCT, tissues were placed at the bottom with sterilized forceps. In this way tissues from various parts such as stipe and just below gills were also removed and transferred by the above mentioned method. These tubes then placed at 25°C ± 2°C for 5 days.

The mycelium of *Pleurotus* traveled fast from bottom and soon covered upper leaves. A few colonized tea leaves pieces taken from these tubes were transferred to potato dextrose agar slants. Within 8–10 days the culture become ready for subsequent studies/cultivation. The fungal/bacterial (due to presence of excess water in fruit body) contamination remained in the bottom leaves and did not show any progress. A pure culture thus can be obtained. Similarly pure culture can be obtained by adding sterilized tea leaves to contaminated culture. The added tea leaves to culture, readily colonized by the mycelium of *Pleurotus* which could be used later for developing pure culture of spawn.

DISCUSSION

Availability of quality spawn is a major problem in mushroom production for amateur as well as commercial growers (Tiwari and Kapoor, 1988) ... To

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make culture from tissue is a immediate and simple method but to keep culture free from bacteria as well fungal contaminant is not easy. Use of antibiotics and fungicides requires precision knowledge, skill and availability of chemicals. The present method is most easy as it requires used waste tea leaves which is available every where from big city to small village. The differential growth pattern of *Pleurotus* spp. helps in obtaining pure culture of

oyster mushroom.

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Abstract: The present study was aimed at obtaining a pure culture of oyster mushroom (*Pleurotus* spp.) from waste tea leaves. The study was conducted in a laboratory setting. The waste tea leaves were collected from a local tea shop and were washed thoroughly with distilled water. The leaves were then cut into small pieces (approximately 1 cm x 1 cm) and were placed in a clean, sterilized polyethylene bag. The bag was sealed and placed in a clean, dry area for 24 hours. The bag was then opened and the contents were spread on a clean, white surface. The surface was then covered with a clean, white cloth. The surface was then placed in a clean, dry area for 24 hours. The surface was then covered with a clean, white cloth. The surface was then placed in a clean, dry area for 24 hours. The surface was then covered with a clean, white cloth. The surface was then placed in a clean, dry area for 24 hours.

The mycelium of *Pleurotus* spp. was observed from the surface of the waste tea leaves. The mycelium was observed as a white, fuzzy growth on the surface of the leaves. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation. The mycelium was observed on the surface of the leaves after 24 hours of incubation.

INTRODUCTION

Availability of pure culture of oyster mushroom (*Pleurotus* spp.) is a major problem in mushroom production. The mushroom is a well known medicinal fungus (Tiwari and Kapoor, 1998). To

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Cultivation of oyster mushroom has become an important activity that challenges the combined skills of industrial and agricultural technology (Chang and Miles, 1993). There are many different strains of oyster mushroom cultivated in the world. Of these *Pleurotus* is considered a high yielding with simple cultivation technology than other mushrooms and is most suitable for low-income group people. The other superiorly includes its less space, water requirement for cultivation, cycling of usually available agro-waste, high nutrient value being rich in protein, vitamin, zinc, amino acids, minerals and having high medicinal value. It can remove overpopulation and can raise the income of marginal farmers. The *Pleurotus* mushroom can change the face of our country's low-income group people.

In the present paper attempts have been made to use a very easily available waste tea leaves in order to get pure spawn through tissue culture technique.

In this method waste tea leaves were taken and washed with water. These leaves were then put daily in direct and indirect with 1% solution of ginone and papaine and then air dried. After an hour the waste leaves were filled in 23 x 90 mm culture tubes and sterilized at 121°C for 15 minutes.