

EVALUATION OF DIFFERENT LOCAL AVAILABLE SUBSTRATE FOR THE CULTIVATION OF PLEUROTUS FLORIDA

BY

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ABSTRACT

An experiment was carried out during crop season 2016-2017. It has been observed that Oak leaves + wheat straw is highly suitable substrate for the cultivation of *P. florida*. I tested different local available substrate like Oak leaves, Mandwa straw, Jhangora straw, Rice straw, Grasses, Saw dust, Oak leaves +Wheat straw, wheat straw and found that Oak leaves +Wheat straw is most suitable substrate for the cultivation of *P. florida* which yielded 25.89 kg followed by wheat straw 25.55 kg and rice straw 22.22 kg/100 kg wet substrate while grasses yielded minimum 7.4 kg/100 kg wet substrate. Wheat straw+ Oak leaves is highly suitable substrate for the cultivation of *Pleurotus florida*.

Key word-*Pleurotus florida*, Substrate, Oak leaves



INTRODUCTION

Wheat straw is suitable substrate for the cultivation of *Pleurotus florida* but sometimes it is not easily available in hills area if available then costly, So I want to try find out best substrate for the cultivation of *Pleurotus florida* for this purpose I am using different local available substrate like Oak leaves, Mandwa straw, Jhangora straw, Rice straw, Grasses, Saw dust, Oak leaves +Wheat straw, wheat straw. Minetol *et.al* (2014) who reported that moisture content of 80-92.5% was reported for *Pleurotus* .species grown on different agro wastage Kurtzman *et al.* (2005) reported that moisture content influenced by Mushroom age, growing environments, mushroom strains and post harvest environments. Quimio (1978) indicated that cellulose rich in organic substance was one of the best substrates for the cultivation of oyster mushrooms. Sivaprakasmic (1980) substrates with high lignin and phenolic content decreased the activity of cellulose, but less lignin would enhance enzyme activity and thus ensure higher mushroom yield and BE. Ragunathan and Swaminathan (2003) reported that the protein contents of mushroom depended on biological, chemical differences and the C/N ratio of substrates. Wang *et al.* (2001) reported that not only protein content in fruiting body but also nature of protein was affected by substrate used. Kalak *et al.* (2000) Minerals in diet are essential for metabolic reactions regulation of water, and salt balance. Considering the importance of different local available substrate I have planned work evaluation of different substrate for the cultivation of *Pleurotus floria* and objectives are trying to find out best substrate for the cultivation of *Pleurotus florida*.

MATERIALS AND METHODS

Substrate-

Eight different substrate like Oak leaves, Mandwa straw, Jhangora straw, Rice straw, Grasses, Saw dust, Oak leaves +Wheat straw, wheat straw collected from nearest villages, forest and local markets of Bharsar and treated substrate with Bavistin 7.5 gram and formalin 125 ml/100 litre water then drain out excess water .

Spawn:

Spawn of *Pleurotus florida* prepared by using proper methodology in department of Plant Pathology, College of Horticulture (VCSGUUHF), Bharsar.

Spawning-

Spawning should be done @ 2.5% on wet weight basis and filled the polythene bag with 3.0 kg substrate and kept in crop room at 20-30°C

Crop management-

After 20 days when mycelial run has completed then remove the polythene sheet from the surrounding of bag and watering was done in morning and evening and recorded yield in each substrate .

Result and discussion:

Among the substrate wheat straw and oak leaves is highly suitable substrate for the cultivation of *Pleurotus florida* which yielded 25.89 kg followed by wheat straw 25.55 kg and rice straw 22.22 kg/100 kg wet substrate while grasses yielded minimum 7.4 kg/100 kg wet substrate. Wheat straw+ Oak leaves is highly suitable substrate for the cultivation of *Pleurotus florida*

Table 1: Evaluation of local available substrate for the cultivation of *Pleurotus* sp.

S. No.	Name of substrate	Weight of each substrate	Time taken to the first harvesting (days)	Yield / 100 kg dry substrate
1.	Oak leaves	3.00	30	17.86
2.	Mandwa straw	3.00	32	13.34
3.	Jhangora straw	3.00	35	13.66
4.	Rice straw	3.00	30	22.22
5.	Grasses	3.00	40	7.40
6.	Saw dust	3.00	30	11.25
7.	Oak leaves +Wheat straw	3.00	30	25.89
8.	Wheat straw	3.00	30	25.55
	Mean			55.36
	S.E.M±			2.17
	C.D. (0.05)			6.51

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