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RESEARCH ARTICLE

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Comparative study on yield and nutritional aspect of *Pleurotus eous* mushroom cultivated on different substrate

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ABSTRACT

Pleurotus eous **was grown on different agro wastes *viz.,* soybean, paddy, wheat, Jowar, Bajra, tur and sunflower straw to study the effect of these agro waste on yield, bio-efficiency and proximate composition of mushroom, *P. eous* on paddy straw showed significantly maximum stipe weight (1.10 g), Ca (360 mg / 100 g) content where as Bajra straw showed maximum pileus weight (5.98 g). Significantly maximum yield (820.33g/kg dry straw) with 82.03 % B.E. , protein (30.50 %)crude fiber (9.00 %) , ash (6.50%), P(965mg) , Fe (15.60 mg) content of mushroom were observed with soybean straw. Jowar straw favoured to show highest moisture (91.21 %) content, wheat straw showed maximum fat (2.62 %) content and sunflower straw showed maximum carbohydrate content (52.00%) in mushroom fruiting bodies.**

Key words : *Pleurotus eous,* Tur and Sunflower straw, Mushroom fruiting bodies

INTRODUCTION

Mushrooms are rich in protein, Minerals, vitamins and they contain an abundance of essential amino acids (Sadler, 2003). Therefore, mushroom can be a good supplement to cereals (Chang and Buswell, 1996). Mushroom normally ranges between 20 and 40 % protein which is better than many legume sources like soybeans, pea nuts and protein yielding vegetables foods (Chang and Buswell, 1996; Chang and Mshigeni, 2001). Edible mushroom species are highly nutritious, their nutritional value comparing favorably with that of meat, eggs and milk (Zakhary *et al.,* 1983.). Additionally, several edible mushroom species act as sources of physiological agents for medicinal application, possessing anti-tumor, cardiovascular, antiviral, antibacterial and other activities. *Pleurotus* species commonly known as oyster fungus is a common primary decomposer of wood .This fungus has high quantities of protein, total carbohydrates, minerals like Ca, P, Fe and vitamins like folic acid , thiamin , riboflavin, niacin (Patil *et al.,* 2008, Syed Abrar *et al.*, 2009 Necla 2007) for many reasons the fungi of the *Pleurotus* genus have been intensively studied in many different parts in the world. They require shorter growth time as compare to other edible mushroom, they demand few environmental controls, and their fruiting bodies are not very often attacked by cultivated in a simple and cheap way (Patrabansh and Madan, 1997). This experiment was undertaken to study the yield performance and nutritional content on different agro wastes.

MATERIALS AND METHODS

The study was undertaken in department of Botany, Yeshwant College, Nanded. The Culture of *Pleurotus eous* was obtained from N.C.I.M. National Chemical Laboratory (NCL), Pune. The substrates *viz.,* soybean straw, paddy straw, wheat straw, jowar straw, bajra straw, tur straw and sunflower stalk were used for filling the bags. It was chopped to pieces of 2-3 cm. and soaked in water over night to moisten it. After soaking, the substrate was steam sterilized at 121^0C for 30 minutes in an autoclave. The polythene bags of size 35-45 cm were used and filled with sterilized substrate (1kg dry substrate sample

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