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Yield Performance Of *Pleurotus Dijamour* On Few Selected Substrates In Vindhya Region Of U.P.

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Abstract

The districts of Mirzapur and Sonbhadra are part of Uttar Pradesh's Vindhya area, which is distinguished by a discordant range of old hills and mountains that naturally divide India. There are many different tribal communities living in this region, which has tropical dry deciduous forests. *Pleurotus djamour* is also known as the Pink Oyester Mushroom due to the pink color of its fruiting bodies. Among all the *Pleurotus* mushroom species, this one is distinct. Their high-quality protein, high-fiber, low-fat, vitamin, and critical minerals make them incredibly nutritious. Using the Polypropylene bag method, the yield performance of *Pleurotus djamour* was evaluated on four readily available substrates: sugarcane bagasse, banana stem, wheat straw, and Eichhornia. During the 57-day crop period in August and September, wheat straw produced the highest yield (725.7 g/kg dry substrate). In October-November (the 65-day crop), the banana stem yielded the lowest amount (200.5 g/kg); but, because of the longer culture time, a higher yield was achieved. The primary objective of the study is to cultivate *P. djamour* using a cost-effective approach and to assess its yield performance on various substrates.

Keywords- *Pleurotus djamour*, Vindhya region, substrate, yield performance.

Introduction

Pleurotus djamour is commonly known as Pink Oyester mushroom. It is a member of the Order Agaricales, Class Basidiomycetes, Phylum Basidiomycota, Kingdom Fungi, and Family Pleurotaceae. Pink oyster mushrooms are referred to as "functional mushrooms" due to their nutritional advantages. Protein makes up 11–45% of *P. djamor*, while carbohydrate make up 32-48% (Vega and Franco, 2013, Carrasco-Gonzalez et al., 2017). In addition, it has a few vitamins (Vitamins B1 and B2, Vitamin D), minerals (K, P, Mg, Ca, Na, Zn, and Fe), and a notably low fat content. According to numerous research, this mushroom has a variety of medicinal qualities, including antimicrobial, antiviral, anticarcinogenic, antibacterial, antidiabetic, antiparasitic, antifungal, antioxidant, and anti-inflammatory (Hemmes et al., 2022). With an efficacy of 55%, *P. djamor* could stop the growth of several bacterial and fungal pathogen infections during the cultivation process. This fungus grows naturally on the leaves of hardwood trees, palm trees, rubber trees, and bamboo trees.

The Vindhya range is a fragmented hill range that forms the central upland of India's southern escarpment. Uttar Pradesh's Vindhya region is situated between 820 Longitudes E & 830 23' and 220 45' N & 240 Latitude: 34' N. The Vindhya region's forests are tropical dry deciduous. Rainfall ranges from 1200–3720 mm during the summer months.

Sugarcane bagasse, which makes up around 60% of the total amount of sugarcane used, is the leftover waste material after the sugars are extracted from harvested sugarcane. Sugarcane bagasse is mainly made up of cellulose, hemicellulose, and lignin. Banana stem waste is a biodegradable, cellulose-rich agro-residue from banana plantations that is used to make compost. One of the agricultural byproducts that is most readily available is wheat straw. According to Khan and Mubeen (2012), the organic carbon in wheat straw was composed of 34–40% cellulose, 21–26% hemicelluloses, and 11–23% lignin. The aquatic plant *Eichhornia crassipes*, also known as water hyacinth, is regarded as a noxious weed because of its detrimental effects on waterways and fast growth. The term "Eichhornia waste" describes the substantial amounts of biomass from this plant.

Pleurotus djamour

Pleurotus djamour

Result-

The yield performance of *Pleurotus djamour* is highest on wheat straw i.e.,725.7 in August-September and 850.2 in October-November. Followed by substrate sugarcane baggase(480.2 in August-September and 652.7 in October-November) and *Eichhornia*(325.5 in August-September and 527.8 in October-November). The lowest yield performance is recorded by the substrate banana stem i.e.200.5 in August-September and 326.3 in October- November.

Yield performance of *Pleurotus djamour* on different substrates

Substrate	August-September	BE%	October-November	BE%
Sugarcane baggase	480.2	48	652.7	65
Wheat straw	725.7	72	850.2	85
Banana stem	200.5	20	326.3	32
Eichhornia	325.5	32	527.8	54

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