HEAVY METALS ANALYSIS OF MUSHROOM *PLUEROTUS FLORIDA* ON TWO DIFFERENT SUBSTRATES *SESAMUM INDICUM* AND *ORYZA SATIVA*

Abstract

The present work carried out on cultivation of mushroom *pluerotus florida*on *sessam indicm*and *oryza sativa* and estimation of heavy metals.The comparative study of yield and pinhead formation was observed.The time duration required for Pinhead formation (26) days recorded in straw of *Oryza sativa* and (14) days observed in straw of *Sesamum indicum.* The spawn running days (20) in noticed straw of *Oryza sativa* and (17) days' straw of *Sesamum indicum.*The total yield of *Pleurotus florida* in the substrate of *Sesamum indicum* 810g and 790g observed in substrates straw of *Oryza sativa.*

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I. INTRODUCTION

The mushroom has anti-sarcoma activities **(wang and gao,2000).** Mushroom was reported to have the medicinal value for Diabetics & cancer therapy (**Sivrikaya etal.,2002).**the quality of waste product is increased by degradation of cellulose & hemicellulose due to mushroom enzymes and it is digestible. Mushroom yields an extra income with limited acreage **(Muller and cantner,1990).** Rice straw produced about 10% more mushroom than wheat straw under the similar cultivation condition **(zhang et al., 2002**
MATERIALS AND METHODS

Pleurotus florida spawn collected from Tamil Nadu Rice Research Institute Manganallur**,** Aduthurai, Thanjavur district.

II. SUBSTRATE PREPARATION

All the three substrate of *oryza sativa* straw, *Sesamum indicum* straw. They were pasteurized by hot water treatment. Boiling water was added to the substrate and substrates were allowed to remain in this water for 12 hours. After 12 hours of soaking period excess of water was drained off. The wet substrate had a moisture content of 75-78%. The substrate were spread a pre –sterilized polythene sheet and thoroughly spawned at 2% of the wet substrate.

III. HARVESTING

The mature fruit bodies of *pleurotus florida.* Were picked when the edges of pelei started curl up. Fresh weight of mushrooms was recorded immediately after harvesting .Biological efficiency was calculated using the following relationship.

IV. RESULT

Table 1: shows the days for completion of spawn running, pinhead formation and fruiting body formation of *Pleurotus florida* grown on substrate *Sesamum indicum*.

Sl.NO	**Growth**	**No.of Days**	**No.of Days**
		Sesamum Indicum	**PADDY STRAW (*Oryza Sativa*)**
1	S.PAWN RUNNIG DAYS	16	19
2	PINHEAD FORMATION DAYS	13	25
3	FRUITING BODY FORMULA	17	29
4	WEIGHT	810.00 gm.	790.00 gm.

Table 1 showing days for completion of spawn running, pinhead formation, and fruiting body production of *Pleurotus florida* on the different substrate paddy straw and straw of *Sesamum indicum*. The maximum of spawn running days (20) observed in substratum of

paddy straw substrate and minimum (17) days observed in *Sesamum indicum.* The maximum days for pinhead formation (26)days observed in *Oryza sativa* and minimum (14) days observed in *Sesamum indicum.*

The fruit body formation appears on 30th day in paddy straw and 18th day in *Sesamum indicum*. The weight gain of substrate used obtain in *Sesamum indicum* straw 810 gm and 790 gm. obtain in substrate of paddy straw.

Table 2: Estimation of heavy metals (zinc, mercury) of *Pleurotus florida*on two different substrates.

Sl.NO	Substrate	Description	Level
1	Paddy straw	Zinc	1.25 ppm
		Mercury	8.10 ppm
2	*Sesamum indicum* straw	Zinc	2.67 ppm
		Mercury	12.5 ppm

Table-2 shows the heavy metal analysis of *Pleurotus florida* which grown in two different substrate *Sesamum indicum* and paddy straws (*Oryza sativa)*. The heavy metals are zinc and mercury analysed for the present investigation.

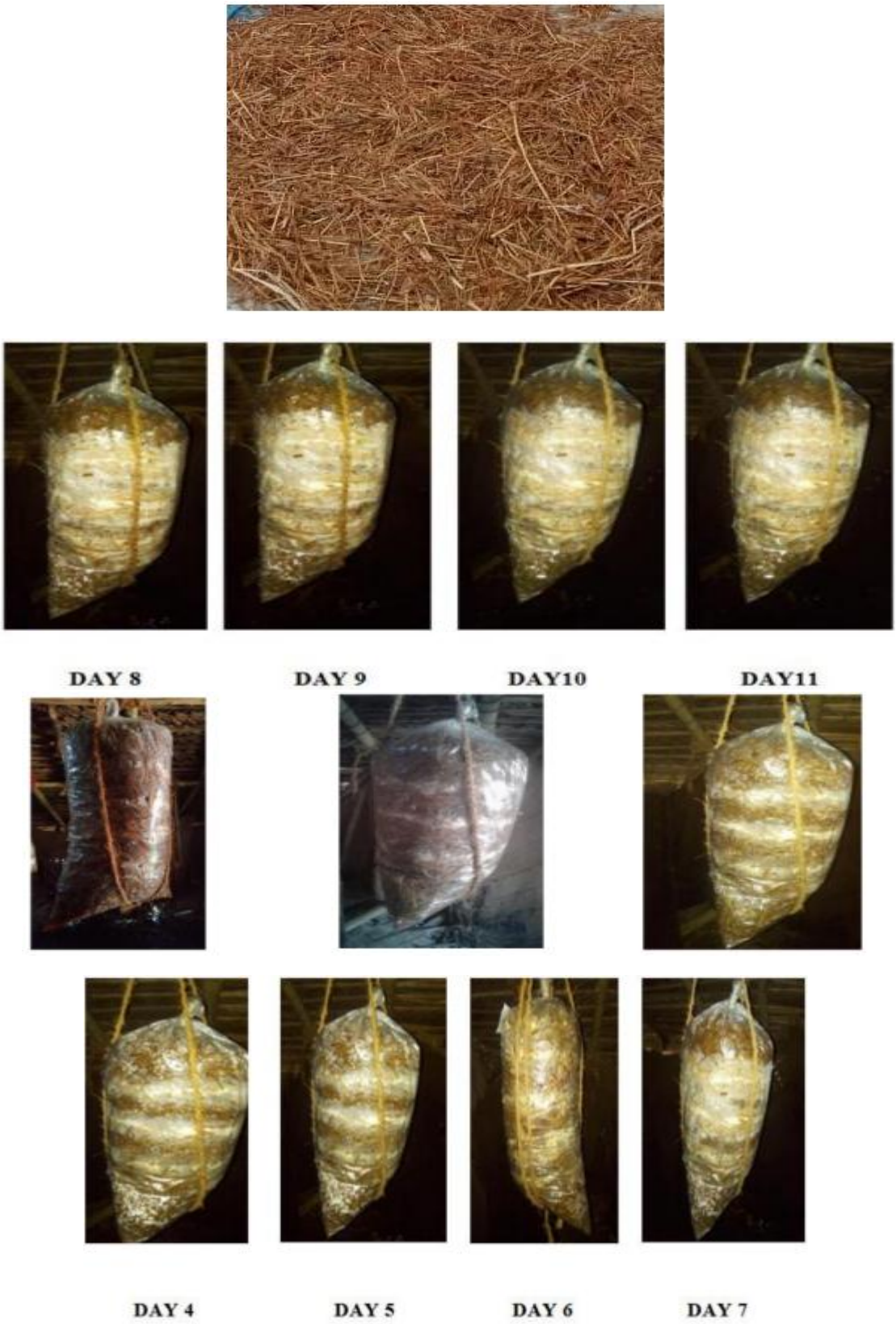
The maximum level of zinc 2.67 ppm estimated on *Pleurotus florida* grown on substrate used by *Sesamum indicum* straw as 1.25 ppm zinc level observed in *Pleurotus florida* grown in substrate by using paddy straw. For, analysis of heavy metal the maximum level of mercury 12.5ppm estimated in *Sesamum indicum* substrate as 8.10 ppm mercury analysed in paddy straw substrate.

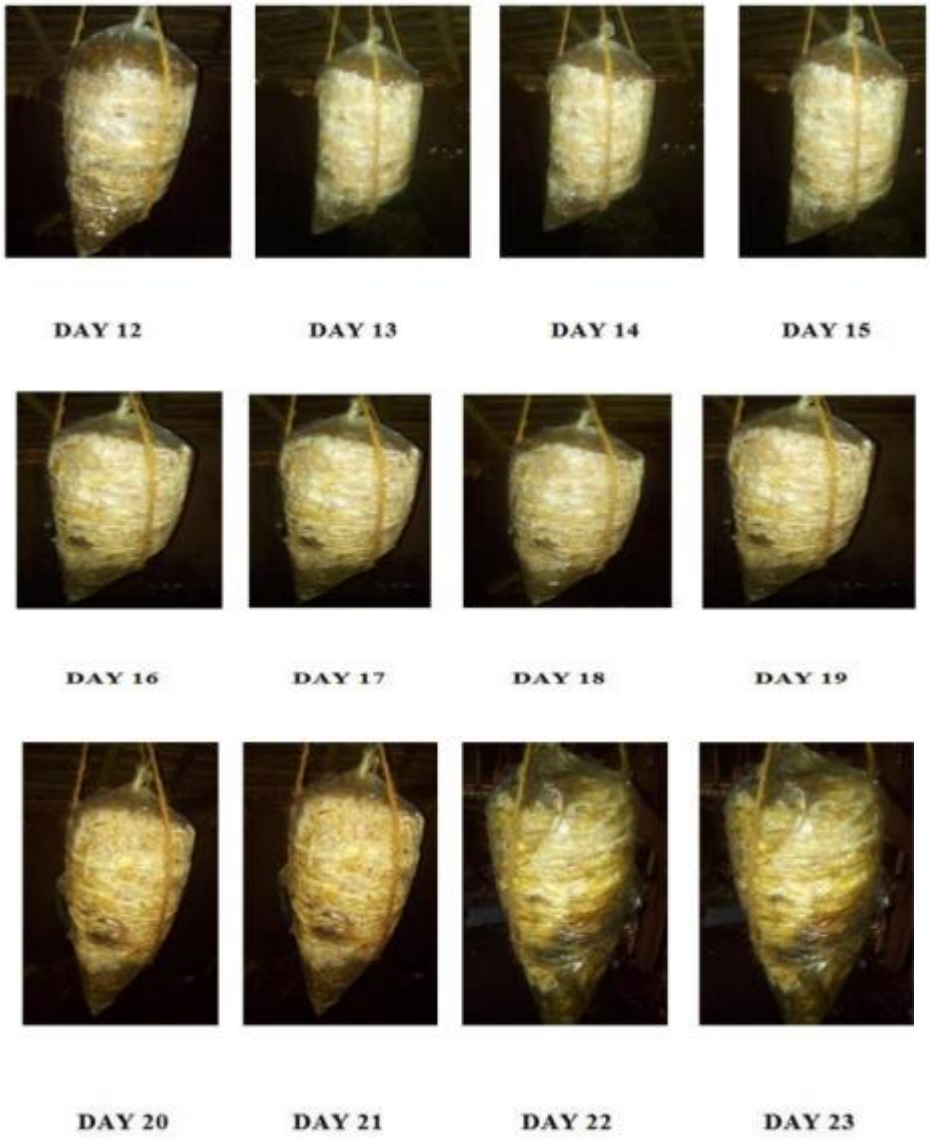
Figure: 1 Growth, Pinhead formation and fruiting body formation of *Sesamum Indicum* dried stalk and leave

Sesamum indicum straw;

Figure 2: Growth, pinhead formation and fruiting body formation of *Oryza sativa* straw

Paddy straw:





Pinhead Formation

Day 28 Initial Fruiting Formation **Day 29 Initial Fruiting** **Day30 Fruiting Body**

V. DISCUSSION

The present work carried out cultivation of *Pleurotus florida* mushroom in Idhaya College For Women Kumbakonam, Thanjavur. Oyster mushroom *Pleurotusflorida*cultivated in two different substrates *Sesamum indicum* straw and *Oryza sativa* straw. The present investigation growth of two different substrates the spawn running days, pinhead formation, Fruiting body, weight was compared. The longest time required for Pinhead formation (26) days recorded in straw of *Oryza sativa* and minimum pinhead formation (14) days observed in straw of *Sesamum indicum* The maximum our findings the present experiment almost similar to the findings of Oyster mushroom 16 to 25 days The maximum spawn running days (20) in noticed straw of *Oryza sativa* and minimum spawn running (17) days' straw of *Sesamum indicum.* Our findings related to findings **Zhang et al., 2000.** Oyster mushroom cultivation of rice, wheat. The total yield of *Pleurotus florida*on maximum of 810gm observed in substrates straw of*Sesamum indicum* straw. The minimum 790gm observed in substrates straw of *Oryza sativa.* Heavy metals for essential nutrient difficulty Iron, cobalt, zinc, copper Lead is an essential trace mineral necessary for survival. It is found in all body tissue and plays a role in making red blood cells and maintaining nerves cells and immune system. **Stihi et al., (2009**), determined the heavy metal content of the fruiting bodies of substrate collected at variousmushrooms.

VI. SUMMARY AND CONCLUSION

Cultivation of mushroom in two different substrates paddy straw (*oryza sativa)* and substrate of *Sesamum indicum.* Growth and yield performance of *Pleurotus florida* on two substrates *Oryza sativa, Sesamum indicum*. Analyzing of heavy metals Lead, Copper present in *Pleurotus florida* on two different substrates.

The present work carried out cultivation of *Pleurotus florida* mushroom in Idhaya College For Women Kumbakonam, Thanjavur. Oyster mushroom *Pleurotus florida* cultivated in two different substrates *Sesamum indicum* straw and *Oryza sativa* straw.

The present investigation growth of two different substrates the spawn running days, pinhead formation, Fruiting body, weight was compared.

The longest time required for Pinhead formation (26) days recorded in straw of *Oryza sativa* and minimum pinhead formation (14) days observed in straw of *Sesamum indicum.* The maximum our findings the present experiment almost similar to the findings of Oyster mushroom 16 to 25 days**.** On different agro waste. The maximum spawn running days (20) in noticed straw of *Oryza sativa* and minimum spawn running (17) days' straw of *Sesamum indicum.*

The total yield of *Pleurotus florida* on maximum of 810gm observed in substrates straw of *Sesamum indicum* straw. The minimum 790gm observed in substrates straw of *Oryza sativa.* Heavy metals for essential nutrient difficulty Iron, cobalt, zinc, copper Lead is an essential trace mineral necessary for survival. It is found in all body tissue and plays a role in making red blood cells and maintaining nerves cells and immune system. The maximum of spawn running days (20) observed in substratum of paddy straw substrate and minimum

(17) days observed in *Sesamum indicum.* The maximum days for pinhead formation (26) days observed in *Oryza sativa* and minimum (14) days observed in *Sesamum indicum.*

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