

## Mushroom Cultivation Scope in Jharkhand State

**Anmol Kumar Mishra**

Senior Research Fellow- AINP on HPVA of NRGs  
 ICAR-Indian Institute of Natural Resin and Gum, Ranchi, Jharkhand

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### Introduction

Today, rural entrepreneurship is very essential for the economic and social up-liftment of the villagers. Mushroom farming is an enterprise of high profit at low cost and farmers of Jharkhand region can successfully obtain the yield of a) paddy-straw mushroom and b) Oyster cultivation throughout the year. Cultivation of paddy straw mushroom from March to September and oyster mushroom from October to February is favourable for our state. Control over partial temperature and humidity depends on the location.

### Favourable conditions in the production of different species

Particulars	Oyster mushroom	Paddy straw mushroom
Temperature	20° -30° C	25°-39° C
Humidity	60 - 45%	75 - 95%
Light	200 Lux	1000 Lux
Digested	5-6	5-7
Moisture in base bed	75%	75%
Oxygen	Mycelium growth time less, umbrella time more	Mycelium growth time less, umbrella time more

### Oyster Mushroom Production Technology

- **Necessary places for cultivation:** Arched room, shady place, rack made of wood, bamboo and bricks.
- **Crop cycle period:** 20 to 25 days
- **Essential Materials:** Paddy or Wheat Straw, Mushroom Spawn, Sprayer, Fuel, Polyethylene Bag (14 " 22 " ), Scissors, Mildew and Insecticide
- **Production method of Oyster Mushroom**

**Preparation of straw:**

In a drum or tub, take 100 liters of water, mix Bavistine and 100 ml formaldehyde medicine in it. In this, keep 20 kg straw small pieces of 2 " - 3 " size for 12 hours. On the second day, wash it 2-3 times with water and leave it on a sloping or shady surface to drain. For the treatment, the straw should have moisture up to 75-80%.

### Preparation of polythene bag:

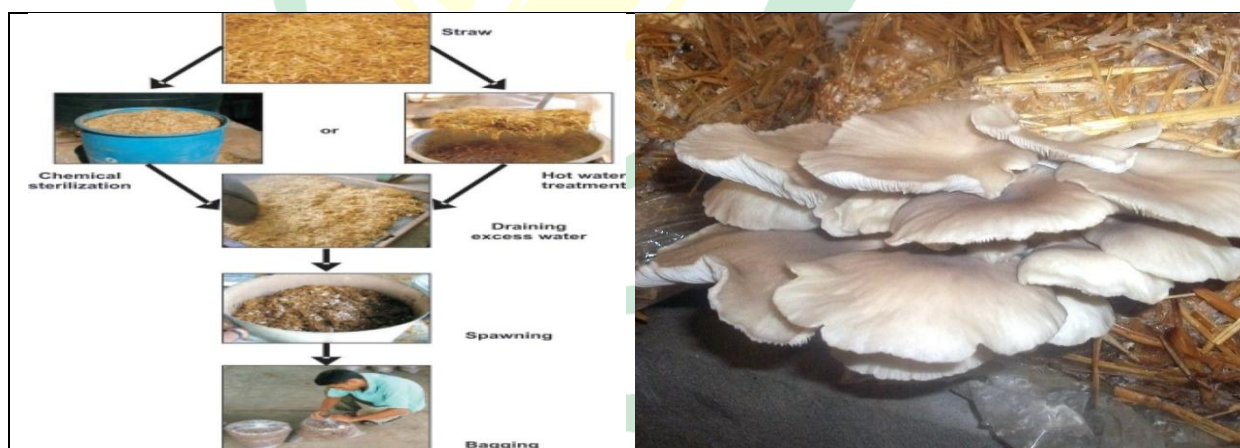
Also wash polythene bags with mildew and insecticides per gram solution and wash them with clean water and dry them. Make small holes in the bag for air circulation.

### Spawn Preparation:

Take out the spawn in a clean, clean vessel and break it into small pieces. Divide it into three equal parts.

### Sowing or spawning method:

Spread a 4 " high fold in a polythene bag and sprinkle a handful of spawn on it. Now make a straw fold and spawning on it again. In this way, spawning can be done 2-3 times. After this, tie the mouth of the polythene bag to the rope. Place this prepared bundle at a distance of 12 " from each other on the pre-prepared room rack so that air circulation is maintained in the polythene as well. On proper temperature and humidity, in 10-12 days, the fungus trap spreads into the entire polyethylene straw and binds the straw properly.



**Fig. :1 Pictorial flow chart of oyster mushroom cultivation**

**Fig. :2 Oyster mushroom**

The entire straw starts to look white. At this time, polythene is cut and removed and irrigated 1-3 times a day to control temperature and humidity with the help of a sprayer. White grains pinheads will be seen on the straw on 20-22 days, then stop irrigation.

Umbrellas with small stalks of almond color will emerge in bunches. Its stalks rotate between two fingers near the straw and irrigate again after plucking, and then stop irrigation when pinheads are seen. Umbrellas with small stalks of almond color will emerge in bunches. Its stalks rotate between two fingers near the straw and irrigate again after plucking, and then stop irrigation when pinheads are seen. Like this up to 2- 5 kg of mushroom can be done from an each straw bundle.

### **Paddy straw (Wolveriella) mushroom cultivation**

#### **Necessary places for cultivation:**

The cultivation of this species requires more light, so the location should be shady but the windows should be in both the east and west direction. In the lower verandah of the dense tree, a square with a high fit is made of a frame of 1.25 m x 0.45 m in a bamboo bed.

#### **Crop cycle period:** 10-15 days

Essential Materials: Paddy straw, mushroom spawn, sprayer fuel polyethylene sheet, scissors, mildew, insecticide, pigeonpea or gram gram flour.

### **Production method of Paddy straw mushroom**

#### **Preparation of straw:**

First choose a new and healthy straw. A bundle dam of two feet long 1 kg. Tie 35 such knots. Soak it in a large drum of water for 12 hours. After this, boil it or treat it with mildew and insecticide. In the bale of straw, 60-75% moisture should be maintained.

#### **Spawn Preparation:**

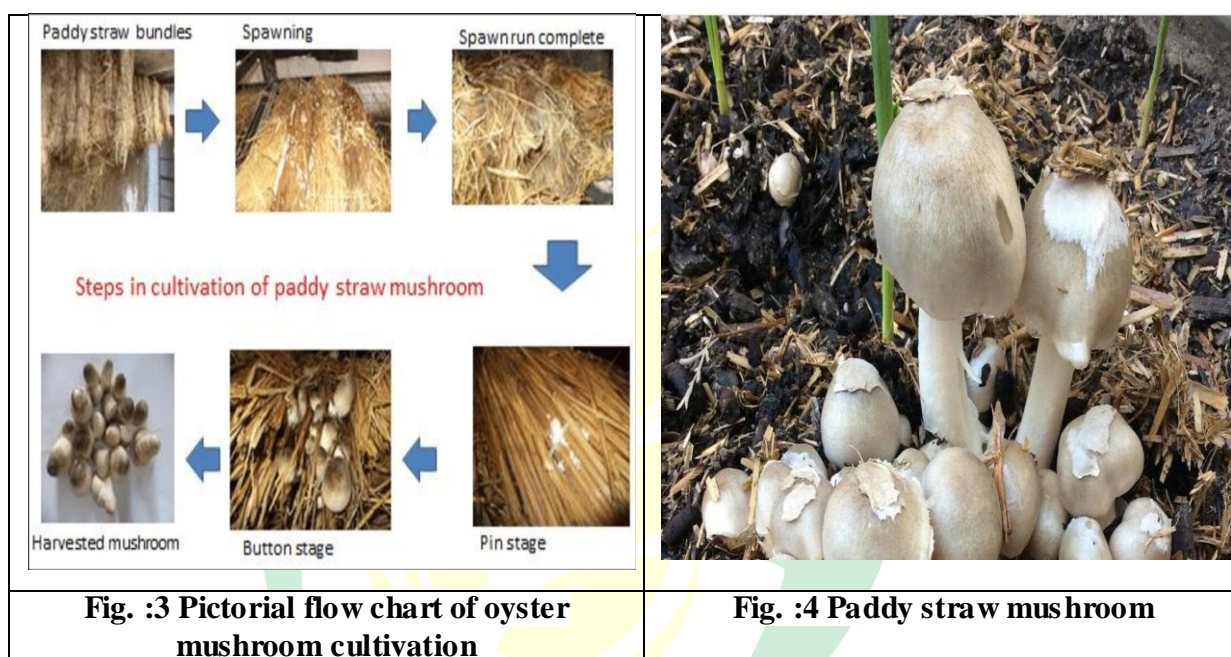
For a seed, spawn is broken in a clean and clean vessel. Divide it into four equal parts.

#### **Sowing or spawning method:**

Decorate the treated straw bundles on the frame in such a way that the tied ends are adjoined on both the sides and the open ends between the beds. This is the first fold of the bed, put small pieces of spawn on it, leaving it 10 cm all the way to the inside. After spawning, sprinkle a little flour of gram flour on it.

After this, put the second fold of the bundles, but keep in mind that if the second direction of the first fold i.e. the first fold is in the north-south, then the second fold should be placed east-west. Repeat this process to the third layer. Sprinkle the spawn completely on the fourth layer and cover the rest of the straw by opening the straw. The entire finished straw bed is covered tightly with polythene sheet on all four sides, Due to which the moisture and

temperature inside the bed is kept constant, after three to four days, for half an hour for air circulation, the polythene sheets are let loose. Repeat this process again for four to six days. On the tenth day, the polythene sheet is opened around the bed. Small mushroom heads will start appearing in it, which will start appearing round on the second day, and on the third day, the mushroom heads will open in the shape of umbrellas. The mushroom head of the second day is too tasty to say. Up to 4.5 kg yield can be obtained per bed.



### Conclusion

Mushrooms are a rich, low calorie source of protein, fiber and antioxidants. The main reason for the prevalence of these two species in our state is simple technique of production, working capital, quick production, tasteful, full of costume elements. It is characterized by aromatic and temperamental properties, as well as being similar to a naturally grown mushroom. They may also mitigate the risk of developing serious health conditions, such as diabetes, cancer, heart disease, and Alzheimer's. They're also great sources of: Selenium, Copper, Thiamin, Magnesium and Phosphorous. Some Value added products are prepared from mushroom such as Mushroom pickle, Mushroom nuggets, Mushroom cookies, Mushroom soup powder, Mushroom ketchup, Mushroom candy, Mushroom papad, Mushroom powder etc.