

## Oyster Mushroom: A Good Alternative of Income

**Saransh Saxena<sup>1</sup>, Yogendra Singh<sup>2</sup> and Shanu Pandey<sup>3</sup>**

<sup>1</sup>Ph.D. Research Scholar, Department of Horticulture, College of Agriculture, JNKVV Jabalpur, MP.

<sup>2</sup>Assistant Professor (Biotechnology), Department of Plant Breeding and Genetics, College of Agriculture, JNKVV Jabalpur, MP.

<sup>3</sup>M.Sc. Research Scholar, Department of Agronomy, College of Agriculture, JNKVV Jabalpur, MP.

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### Summary

All the value added products prepared from oyster mushroom are found to be organoleptically acceptable for their color, appearance, flavor, taste and texture. Value addition of oyster mushroom either in fresh or dry state could be used to improve nutritional status along with increased income of farm families. With mushroom production there is enhanced food and nutritional security of the farm families.

### Introduction

Oyster mushroom is lingo-cellulolytic fungus. Its cultivation can play an important role in managing organic wastes whose disposal has become a problem. Oyster mushroom can be cultivated in any type of lingo-cellulose material. It is popularly grown in the states of Odisha, Karnataka, Maharashtra, Andhra Pradesh, Madhya Pradesh and West Bengal. Mushroom production could give employment opportunities for farm women, rural youths and farmers in rural as well as in urban areas.

A large number of agricultural by products are useful for growing oyster mushroom. These by products or wastes are rich in cellulose, lignin and hemicelluloses. However, yield of oyster mushroom largely depends on the nutrition and nature of the substrate. The substrate should be fresh, free from mould infestation and properly stored. The substrates are exposed to rain and harvested immature with green chlorophyll patches inhibit the growth of *Pleurotus* mycelium due to presence of competitor moulds. Oyster mushroom can utilize a number of agro wastes including straws of wheat, paddy and ragi, stalks and leaves of maize, jowar, bajra, etc. the substrate can be prepared by adopting different methods like hot water treatment, chemical sterilization technique, etc. methods are explained below:

### Hot water treatment

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The substrate after chopping is soaked in cold water overnight. The substrate is taken out and excess water is drained thereafter, the straw is soaked in hot water for one hour where the temperature may be in the range of 65 to 70°C. this method is not suitable for large scale commercial cultivation.

### **Chemical sterilization technique**

It is standardized at DMR, Solan, 90 liters of water is taken in a rust proof drum. 10-12 kg of wheat straw is slowly steeped in water. In another plastic bucket, Bavistin 7.5g and HCHO 125ml is dissolved and slowly poured on the already soaked wheat straw. Straw is pressed and covered with a polythene sheet. After 15-18 hours the straw is taken out and excess water drained. One can use a larger container or cemented tank of 1000-2000 liters for soaking more straw. The chemicals to be added can be calculated accordingly.

To maintain relative humidity, water spraying is to be done in the cropping rooms. During hot and dry weather conditions, daily 2-3 spray are recommended while in hot and humid conditions one light spray is sufficient. Proper ventilation should be given. Light as well as fresh air is necessary for formation normal fruit body. It may be a good idea to give the fresh air just after water spray as it helps in removal of excess water from the surface of fruiting bodies.

### **Harvesting**

Mushroom should always be harvested before water spray. The right stage for picking can be judged by the shape and size of fruit body. In young mushroom the edge of the cap is thick and cap margin is enrolled while the cap of mature mushroom is flat and inward curling starts. It is advisable to harvest all the mushroom at one time from a bag so that next crop of mushroom start early.

### **Packing**

Fresh mushroom should be packed in perforated polythene bags for marketing. Poly pouches containing crushed ice and overwrapped in paper are put in trays or buckets which are then covered with thin polythene sheet with sufficient perforation for proper aeration.

### **PHM**

Oyster mushroom starts deteriorating immediately within one day after harvest due to its high moisture content and delicate nature. After harvest changes like browning, loss of moisture and texture occur. Therefore, it is necessary that they are either marketed soon after



harvesting or preserved with special care using processes such as drying and storing in cold or controlled environmental conditions.

Drying is an effective method of preserving edible mushroom because it preserves the mushroom by removing enough water to inactivate the enzymes and microbes. Moisture content of fresh mushroom is 70-90% while that of dried mushroom is close to 10%.

### **Medicinal and nutritional value**

Many drugs and dietary supplements contain at least some component produced from fungi because of their immune system enhancing qualities. The oyster mushroom is one of the most suitable fungal organism for producing protein rich food from various agro wastes without composting. The folic acid present in oyster mushroom helps to cure anemia. It is suitable for people with hyper tension, obesity and diabetes due to its low sodium: potassium ratio, starch, fat and calorific value. Mushroom with their flavor, texture, nutritional value and high productivity per unit area have been identified as an excellent food source to alleviate malnutrition. They are 100% vegetarian and rich in vitamin B complex. Niacin content is about ten times higher than any other vegetables. Protein content varies between 1.6-2.5% on the basis of fresh weight.

### **Conclusion**

Strengthening mushroom production sector could be essential in order to enable the rural economy to keep the development, increasing and diversifying business and employment opportunities in the rural areas. It is very helpful in providing income opportunities as well for rural and urban family farms.