Cropping and harvest

After 20-22 days, when bags are fully impregnated with white mycelium, transfer the bags into cropping room and remove polythene/ polypropylene covers. The open blocks should be kept in racks about 20cm apart. Rack should be 60 cm wide with gap of 50-60 cm between two shelves. Mushrooms grow in a temperature range of 20-33 °C.

Relative humidity is maintained by spraying water twice a day on the walls and floor of the room. Spraying on blocks should be avoided for the first 2-3 days. A light mist spray of water is given on blocks as soon as the small pin heads appear. Once pinheads are 2-3 cm big a little heavier watering is to be done on blocks and further watering of blocks is to be

stopped to allow them to grow. Mushrooms should be plucked before they shed spores to maintain quality. After 1st flush of harvest, 0.5 to 01 cm outer layer of the block should be scrapped. This helps to initiate 2nd flush which appears after about 10 days.

After harvest, the lower portion of the stalk must be cleaned with dry cloth. They should be packed in perforated (5-6 small holes) polythene bags to keep them fresh. It looses freshness after about 6 hours, which can be enhanced by keeping them in refrigerator. Dehydration is a classical method of food conservation, based on the principle that the reduction of the water activity must be conducted until defined level that guarantee in microbiological and physico-chemical stability. Oyster mushroom can be sun dried

for 2 days and dried product marketed in polythene bags. Dried mushrooms should be soaked in water for 10 minutes before use.

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150 YEARS OF CELEBRATING THE MAHATMA

Oyster Mushroom Cultivation

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What are Mushrooms?

A mushroom is the fleshy, spore bearing fruiting body of a fungus, typically produced above ground on soil or on its food source. It contain both edible and non edible group. Edible mushrooms have a high nutritional value and are high in protein. They are also a good source of vitamins (B1, B2, B12 and C), essential amino acids and carbohydrates but are low in fat and fibre and contain no starch. When fresh they have a very high water content of around 90%.

What are Oyster Mushrooms?

The Pleurotus mushroom is generally referred as 'Oyster Mushroom' or 'Dhingri' in India. It is a basidiomycete and belong to the genus 'Pleurotus'. The fruit bodies of this mushroom are distinct in shell, fan or spatula shaped with different shades of white, cream, grey, yellow, pink or light brown depending upon the species. The oyster mushroom is one of the most suitable fungal organism for production of protein rich food from various agrowaste without composting.

Substrate Preparation

Oyster mushroom can be grown on various substrates viz., paddy straw, maize stalks/cobs, vegetable plant residues etc. Since paddy straw is easily available and cheap, it is widely used. Paddy straw should be fresh and well dried.

Soaking

Chop paddy straw into 3-5 cm pieces and soak in fresh water for 8-16 hours. If maize stalks/cobs arc used, soaking period should be 24-48 hours. Drain off excess water from straw by spreading on raised wire mesh frame.

Sterilization

Sterilization of substrate results in minimizing contamination problem and gives higher and almost constant yields. It can be done in two ways i.e. by pasteurization and sterilization by chemicals.

- **Pasteurization**
- **Chemical sterilization technique**

Pasteurization

Boil water in a wide mouth container such as tub or drum. Fill the wet substrate in gunny bag or basket and close the opening. Dip the filled bag in hot water of 80-85° C for about 10-15 minutes. To avoid floating, press it with some heavy material or with the help of a wooden piece. After pasteurization, excess hot water should be drained off from container so that it can be reused for other sets. Care should be taken to maintain hot water temperature at 80-85°C for all sets to achieve pasteurization.

Chemical sterilisation technique

Take 90 litres of water in a drum of 200 litre capacity. Slowly steep 10 kg of chopped paddy straw in the water. Mix 125ml of formaldehyde (37-40 percent) and 7 g of Bavistin dissolved in 10 litres of water in another container and pour the solution slowly into the drum. Straw should be pressed and drum should be covered with a polythene sheet. Take out the straw after 12 hrs.

Spread the pasteurized or chemically sterilised straw on neat and clean cement flooring or on raised wire mesh frame, inside the chamber where bag filling and spawning are to be done.

Spawning

When the pasteurized substrate has cooled down to room temperature, it is ready for filling and spawning. At this stage, substrate moisture content should be about 70%. Polythene bags (35 x 50 cm, 150 gauge) or polypropylene bags (35 x 50 cm, 80 gauge) may be used for its cultivation. One 500 ml bottle spawn (200-250 g) can be used for 10-12 kg wet straw (3 bags). Spawning can be done in layer spawning or through spawning.

In case of layer spawning, fill the substrate in bag, press it to a depth of 8-10 cm and broadcast a handful of spawn above it. Similarly, 2nd and 3rd layers of substrate should be put and simultaneously after spawning, the bags should be closed. In through spawning, pasteurized straw is mixed with 2% spawn and filled in bags. After gently pressing, close the bags for spawn running (development).

Spawned bags should be stacked in racks in neat and clean place, in closed position. Temperature at 25±5 °C and humidity at 70-85% should be maintained by spraying water twice a day on walls and floor. It takes 20-22 days when bags will be fully covered with white mycelium.