

OYSTER MUSHROOM

Scientific name: *Pleurotus ostreatus*

The *Pleurotus* mushroom is generally referred to as 'Oyster Mushroom' or 'Dhingri' in India. The fruit bodies of this mushroom are distinctly shell, fan or spatula shaped with different shades of white, cream, grey, yellow, pink or light brown depending upon the species. They are found on hardwoods



CULTIVATION OF OYSTER MUSHROOMS

- i. Preparation or procurement of spawn
- ii. Substrate preparation
- iii. Spawning of substrate
- iv. Crop management

Spawn Preparation

A pure culture of *Pleurotus* sp. is needed for inoculation on sterilized substrate. It takes 10-15 days for mycelial growth on cereal grains. It has been reported that jowar and bajra grains are superior over wheat grains.

SUBSTRATE PREPARATION

The popular methods of substrate preparation are:

- ❖ Steam Pasteurization;
- ❖ Hot Water Treatment;
- ❖ Sterile Technique (Till method);
- ❖ Fermentation or Composting; and
- ❖ Chemical Sterilization.

Oyster mushroom can be cultivated on a large number of **agro-wastes having cellulose and lignin which helps in more enzyme production of cellulose that is correlated with more yield**. These include straw of paddy, wheat and ragi, stalk and leaves of maize, millets and cotton, used citronella leaf, sugarcane bagasse, saw dust, jute and cotton waste, dehulled corncobs, pea nut shells, dried grasses, sunflower stalks, used tea leaf waste, discarded waste paper and synthetic compost of button mushrooms etc. It can also be cultivated by using industrial wastes like paper mill sludges, coffee by products, tobacco waste, apple pomace etc.

SPAWNING OF SUBSTRATE

- Freshly prepared (20-30 days old) grain spawn is best for spawning.
- Old spawn (3-6 months) stored at room temperature (at 20-30⁰ C) forms a very thick mat like structure due to mycelium aggregation and sometimes young pinheads and fruit bodies start developing in the spawn bottle itself.
- The spawning should be done in a pre-fumigated room (48 hrs. with 2% formaldehyde)

Crop Management

A. Incubation

Spawned bags, trays or boxes are arranged in a dark cropping room on raised platforms or shelves for mycelium colonization of the substrate. Although mycelium can grow from 10 to 33⁰ C, but the optimum temperature for spawn running lies between 22 to 26⁰ C.

B. Fruiting

When the mycelium has fully colonized the substrate, the fungus is ready for fruiting. Contaminated bags with moulds may be discarded while bags with patchy mycelial growth may be left for few more days to complete mycelial growth. While various species require different temperature regimes all require high humidity (70-85%) during fruiting. Frequent spraying of water is required in the cropping room depending upon the atmospheric humidity. Fruit body produced under humid conditions (85-90%) is bigger with less dry matter while those developed at 65-70% relative humidity are small with high dry matter. CO₂ concentration during cropping should be less than 600 ppm. or 0.6%. Sufficient ventilation has to be provided during fruiting.

