

Cultivation of Milky Mushroom (*Calocybe indica*)

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Introduction

Milky mushroom is an edible mushroom which is simple to produce for both commercial and for home consumption. It is the first indigenous mushroom type to enter the market. It is the first tropical mushroom that can be grown in the 30–40°C range of the tropics. It is a fantastic source of vitamins (especially Vitamin B) and high-quality protein. Due to its high fibre content, it is fantastic for stomach-related conditions. Biological efficiency ranges from 60 to 90% on average. Comparatively speaking to oyster or button mushrooms, it has a great shelf life. Its very low spore concentration means that it won't trigger respiratory allergies like the oyster variety that is being cultivated. The first time this mushroom was harvested and grown in our nation. It may be grown at 30-35°C temperatures. With the exception that bags are cased and mushrooms only appear on the top side, it is grown similarly to oyster mushrooms. The main reasons for its appeal are its high biological efficiency, higher maintaining quality, straightforward production method, and white beautiful colour. It is more well-liked in Tamil Nadu, Karnataka, and Andhra Pradesh in South India.

Materials Required:

- Seed (Spawn) – 2 kg
- Paddy Straw as required
- 50 micron transparent polythene bags
- Casing soil (Sterilized Soil as required)
- Water Sprayer

Procedure for Cultivation of Milky Mushroom

Substrate (Paddy straw) is chopped in 2-4 cm small pieces



Substrate should be soaked in fresh water for 4-6 hours



Drain out the excess water and again substrate should be immersed in hot water for 40 mins to achieve pasteurization (80-90°C)



Substrate should be drying at 70-80% moist level



Preparation of beds for cultivation of mushroom



50 micron polythene bags should be taken and filled with substrate (paddy straw) and seed (spawn) alternatively layer by layer. (After a layer of substrate, spawn is added in a circular motion. Likewise polythene bag is filled with both substrate and spawn. At the end of the bag it should be tied properly.



Small holes are made around the polythene bag (at least 10-20 holes) which is necessary for the aeration



Spawned bags are shifted to dark room kept under the temperature (25°C) and relative humidity (80-85%) maintained.



It takes 26 incubation days for spawn to fully colonize the bags.



Fully colonized bags are cut horizontally into two equal halves.



Press and compact the bags firmly with hand.



Casing soil should be applied to a height of 1cm and press it gently.



Sufficient amount of water should be sprayed with the help of water sprayer.



Beds should be incubated at a room where the temperature (35⁰C) and Humidity (90%) should be maintained.



At least 10 hours long time light should be provided and Keep the beds wet by keeping observation on them every day and spraying water if required.



Pinheads appeared 13 days after casing soil is applied.



Fruiting bodies are initiated within 5-7 days.



Harvest the mushroom after 8-10 days when mushroom attains 7-8cm diameter.



After the first harvest, stir the soil on top of the bed and mist it often with water. A second harvest is done in after ten days.



After the second harvest, disturb the topsoil and continue to irrigate as usual. (After 10 days, a third harvest carried out).



Mushroom yield of 250-300g is obtained from 200g dry weight of straw.

Steps for Cultivation of Milky Mushroom



Plate 1:- Spawn Plate 2:- Substrate (unchopped paddy straw)



Plate 3:- Substrate (chopped paddy straw) Plate 4:- Spawned bags



Plate 5:- Colonizing of Spawn Plate 6:- Fully colonized beds are horizontally cut in bed into 2 equal halves



Plate 7 and 8:- Initiation of Pinheads



Plate 9, 10:- Initiation of fruiting body



Plate 11:- Harvesting Stage

Plate 12:- Yield

Precautions to be taken

- Before putting the beds in the rooms, we must fumigate the rooms.
- We need to wash our hands and legs with Dettol or soap water before entering the dark or crop room.
- Strict hygiene standards must be upheld both within and outside the farm.
- Always keep an eye on the room's temperature and humidity levels.
- Check often to see if there are any contaminated beds.

Summery and Conclusion:

This mushroom might potentially replace button mushrooms without incurring large infrastructure expenses because to its less complex technology. Milky mushrooms will be more widely accepted on the global market because of their morphological characteristics, longer shelf life, increased productivity, white colour, and inexpensive production costs.

Using pasteurised casing material to cover the top surface of the bags after a spawn run gives them structural strength, moisture, and let gases escape from the substrate. It takes around 13 days for mycelium to reach the top of the casing layer when fresh air is supplied at a temperature of 30-35°C and an R.H. of 80-90%. Long-lasting lighting should be given. As a result of these environmental changes, fruiting bodies begin to grow within 5-7 days in the shape of needles and mature within a week.