



MUSHROOM CULTIVATION

MUSHROOM

The edible fungus is generally known as Mushroom. It is a fleshy, spore bearing fruiting body of a fungus typically produced above ground on soil or on its food source. Like other fungi, it does not contain chlorophyll and has to depend on food prepared by another organism for nutrition. Therefore, it grows on dead organisms or in symbiosis with other organisms.

CLASSIFICATION OF MUSHROOM:-

1. Edible Mushroom:

- A. Oyster mushroom (*Pleurotus ostreatus*)
- B. Paddy straw mushroom (*Volvariella volvacea*)
- C. White button (*Agricus bisporus*)

2. NON- EDIBLE (TOADSTOOL)

The poisonous mushroom is known as Toadstool.

- A. Amnita phalloides
- B. Amnita muscaria
- C. Amnita pantherina
- D. Amnita citrina

CULTIVATION PROCESS -:

There are 6 main steps involves in mushroom cultivation

1. PHASE I COMPOSTING– There are two types of compost –

A. NATURAL COMPOST– It is made of raw materials like Straw, Horse manure, Poultry manure etc.

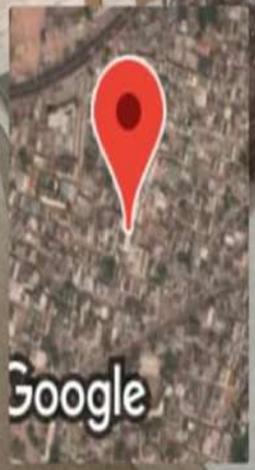


B. SYNTHETIC COMPOST—It is made of raw materials like bran, straw, urea, calcium ammonium nitrate or ammonium sulphate and gypsum etc.

In phase 1 composting we made compost by mixing and wetting the raw material. Once the material is wet, aerobic fermentation starts as a result of the growth and reproduction of microorganism. Phase 1 composting takes at least 5-18 days to be ready depending on the raw material.



GPS Map Camera



Visakhapatnam, Andhra Pradesh, India

M6J2+QR7, Chaitanya Nagar, Gajuwaka, Visakhapatnam,

Andhra Pradesh 530044, India

Lat 17.681893°

Long 83.202009°

17/04/23 03:28 PM GMT +05:30

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2. PHASE II COMPOSTING– The main focus of phase 2 composting is pasteurization and removal of ammonia which is formed during phase 1.

Concentration higher than 0.7 is dangerous to mycelium spawns growth, so this is important to remove ammonia.

125°F to 130°F is the most perfect temperature because de-ammonifying organism grow well in this range. At the end of phase 2 the temperature should be approximately 75°F to 80°F. The nitrogen content should be 2.0 to 2.4 % and moisture content should be 68 to 72%.

3. SPAWNING– The process of sowing Mushroom mycelium into the prepared beds is generally known as spawning. We can do spawning in two ways by dispersing the compost on the trays or mixing the grain spawn with compost before filling the trays. Once the spawning is done we cover the trays with newspaper and then sprinkle some water to maintain moisture content.

4. CASING– When we mix finely crushed rotten cow dung with garden soil that is called casing soil. In this pH should be on the alkaline side. The casing soil has to be well sterilized and capable to kill the harmful insects, nematodes, pest etc. By treating the soil with Formalin solution or by steaming we can sterilize it. The casing soil requires lots of air. After spreading is done the temperature should be maintained at 25°C for 72 hours.

5. PINNING– The pin develops when the CO₂ content of the room is less than 0.08%.

The newly formed mushroom is very small. The timing of introducing fresh air into the room is very important, until the mycelium has begun to show at the surface of the casing. Stop watering the casing when the pin initial starts forming.



6. HARVESTING— We reap the mushroom into” Flushes”

The first flush is reaped in 3 to 5 days and gives the yield of 15 to 20 kg/m². The second flush is reaped in 5 to 7 days and gives the yield of 9 to 11 kg/m², a little less than first flush.

We get about 27 to 35 kg of total yield.



BENEFITS OF MUSHROOMS

<u>S.NO</u>	<u>NUTRIENT</u>	<u>BENEFITS</u>
<u>1</u>	<u>Selenium</u>	Helps your body make antioxidants to prevent cell damage.
<u>2</u>	<u>Vitamin B6</u>	Supports your nervous system and helps to form red blood cells.
<u>3</u>	<u>Riboflavin, niacin, and pantothenic acid</u>	Help carry out several metabolic reactions and are involved in the production of energy.
<u>4</u>	<u>Zinc</u>	Supports your immune system and healthy growth in babies and children.
<u>5</u>	<u>Potassium</u>	Helps in muscle contraction, assists with fluid balance and maintains normal blood