

# Diseases and Pests

A number of diseases and pests may attack the mushroom crop if left uncared.

## a) Disease

1. **Green mould** (*Trichoderma viride*): It is the most common disease in oyster mushroom where green coloured patches are observed on cubes.



**Control:** Dip a cotton swab in formalin solution (4%) and scrapped off the affected area. If the fungus attacks more than half of the cube then the entire cube should be discarded. Care should be taken that the contaminated cube is burnt or buried in a place far from the cropping room to avoid re-infection.

## b) Insects

1. **Flies:** Sciarid flies, Phorid flies, Cecid flies are found to be attracted to mushroom and odour of spawn. They lay eggs on the straw or mushroom, and the larva emerging from them damage the crop. Larva feed on the mycelium, mushroom and penetrate inside the fruiting bodies making it unfit for consumption.

## Sciarid flies



## Phorid flies



**Control:** To check entry of adult flies during the cropping period, screen the doors, windows or ventilators, if any with 30 mesh nylon or wire net. Use fly- trap or repellent in mushroom house.

- Mites:** These are very thin, small crawling arthropods that appear on the mushroom body. They are not damaging, but annoy the grower when present in large numbers.

**Control:** Maintain a hygienic condition of the house as well as its surroundings.

- Slugs, Snails:** These pests chew up portion of the mushroom which may later get infected with bacteria and affect the quality of the crop.

**Control:** Remove the pests from the cubes and kill them. Maintain hygienic conditions.

## Other Pests

1. **Rodents:** The attack by rodents is found mostly in low cost mushroom house (mud house). They eat the grain spawn and make holes inside the cubes.

**Control:** Use rat poison bait in the mushroom house. Burrow of rats should be close down with glass pieces and plaster.

2. **Ink caps (*Coprinus spp.*):** It is a weed of mushroom that develop on the cubes before cropping begins. They subsequently disintegrate into a black sliming mass at maturity.

**Control:** Physical removal of *Coprinus* from the cube is the only control measure recommended

## Precautions

“Prevention is better than cure” is the fundamental motto of mushroom growing since it is a very delicate crop and curative measures are often difficult.

It is difficult to control the fungal diseases of mushroom with chemicals, as mushroom itself is a fungus and the chemicals used against the disease may affect the mushroom itself. Thus, infinite care has to be exercised from the very start to discourage the entry of any foreign “germs” or contamination.

The very first requirement in mushroom growing is *sanitation and hygienic conditions*. Most of the problems in mushroom growing arise due to improper hygiene. Following care need to be taken for profitable Mushroom Production:

1. The room where mushrooms are to be grown should be thoroughly washed and then whitewashed with lime. The floor should also be limed.
2. The surrounding of the house should be devoid of stagnant drains, shrubs and other weeds as these harbour harmful diseases and insect pests.

3. At the entry of every room, there should be a trough filled with 2% formalin solution, wherein the shoes or feet must be dipped before entering the room.
4. The workers should be clean and preferably wear clean overalls.
5. No trash or surplus straw etc., should be left around the house.
6. In case of contamination, the contaminated block should be removed to a spot well away from the house and buried in a pit or burnt.
7. At the end of every cropping process, the room should be washed again white-washed and fumigated with formalin.
8. The plastic sheets should be washed thoroughly and then soaked in 2% formalin as a final wash and then dried out, after every lot is removed.
9. Any fallen bits of straw or mushroom should not be left on the floor of the room. Cleaning and cutting off of the base of the mushroom stalk should be done outside the growing room and properly disposed off.
10. Broken pieces of the mushroom stalk, during harvesting, should not be left on the blocks. If the stalk breaks, it should be removed entirely from the bed.
11. Clean straw is important for mushroom growing. While preparing the block, care should be taken that it is properly compressed. The more the compression, the better will be the spawn running.
12. Excessive moisture at any stage of growth is harmful. The environment should be damp but not wet. For this, a sprayer with a very fine nozzle is advisable to avoid large droplets. Excessive moisture will invite unwanted contaminants, which will be a hindrance, and in many cases will be serious competitors to the mushroom spawn.
13. While raising the temperature of the room, on requirement, care should be taken that there is no sudden rise in temperature. The temperature should be raised gradually till it attains the required level.

- 14.** At the time of placing the block for spawn running do not place them on top of each other, otherwise this will generate excess heat. Place the blocks side by side in single layers only.
- 15.** The block should not be left unopened in the plastic for more than 24 hours after the spawn has completely impregnated the straw.
- 16.** There should be gentle exchange of air in the room with fresh air. Wind current cause drying and formation of malformed mushroom