

Viral diseases

Little information is available on viral diseases of oyster mushroom in our country. Suspected fruit bodies should be collected and disposed off safely.

General guidelines for the management of diseases in mushroom crops

- Floor of the mushroom house should be kept free of organic debris. Cleaning of surroundings and inside of the mushroom house along with disposal of spent substrate is a must. Such debris should be put in the manure pit and covered with at least 10 cm thick layer of manure. It helps in checking fly breeding in surrounding areas of the mushroom house that spread many diseases.
- Mushroom flies are attracted to spawn and mushroom odours. During cropping period, the flies enter the mushroom house and breed in the substrate. Hence to obstruct the entry of flies inside the mushroom house, nylon screene of 14-16 mesh/cm should be used in the doors and windows of the mushroom house.
- Maintenance of farm and surroundings in a hygienic way is very important.

- All equipments used for spawning and the floor and walls of spawning area must be washed and disinfected.
- The substrate (paddy straw) should be fresh and protected from rain.
- Pasteurization should be for optimum duration at right temperature and over/under pasteurization may invite many pathogens.
- Spawn should be fresh and free from all the contaminants.
- Remove the heavily infected bags from the cropping room and dispose it off.
- The pickers should use clean overalls and gloves.

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Management of diseases in oyster mushrooms



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Oyster mushrooms (*Pleurotus* spp) are fast growing cultivated mushrooms and are generally free from diseases. However, due to bad quality of spawn, substrates, unhygienic conditions and insect pest infestation the mushroom crop is affected by various diseases. The yield losses up to 70 % have been reported in different *Pleurotus* spp. Some times crop fails due diseases. Some commonly encountered diseases in mid altitude conditions of Meghalaya and their management practices are described here:

Fungal diseases

Moulds: Deferent mould fungi attack on paddy straw and other substrates used for growing oyster mushrooms due to improper pasteurization and contaminated spawn. Some commonly found moulds are green mould (*Trichoderma* spp), blue mould (*Penicillium* spp), *Cladosporium* spp etc.

Green mould (*Trichoderma* spp)

The fungus forms green patches on mushroom blocks/bags and spawn bags.

In infected bags spawn run is affected and proper growth does not take place ultimately resulting in poor yield or crop failure.



Management

Sprinkle agricultural lime powder over infected area to check its spread. Localized application of 4% formalin with cotton swab or 0.05% carbendazim spray also checks the disease.

Ink caps (*Coprinus* spp)[see cover]

These look like small mushrooms. The fungus fruit body has thin slender white stalk and thin cap. The cap is bell shaped when mature with white scale on surface. The cap dissolves into a black liquid when fully mature. It appears some times before opening the bags and some times after opening the bags during spawn run or fruiting period.

Management

Remove *Coprinus* fruit bodies as soon as possible with hands. These can be easily identified even at immature stage by the presence of scaly caps. Chemical control is not recommended . Avoid over watering

Peziza spp

These weed fungi some times attack on oyster mushroom block/bags. The fruit body is devoid of stalk, cup shaped and yellow. In the beginning fruit body appears as globose fungal mass that latter develops in to cup shaped structure.

Management

Remove fruit bodies by hands and avoid over watering.

Sclerotium rolfsii

The fungus comes from soil in the form of sclerotia and improperly pasteurized straw contain the propagules that develop during spawn run stage and spoil the mushroom crop.

The fungus forms white fan shaped mycelia on substrate latter forms sclerotia . The sclerotia are smooth, brown, shiny and like mustard seeds.



Management:

Discard infected bag and dispose off in pit to avoid the spread of disease in other field crops. Use properly pasteurized substrate.

Bacterial diseases

Many bacterial diseases on deferent oyster mushroom species have been reported. The symptoms include rot, spot and yellow blotch. Little work has been done on bacterial diseases of oyster mushroom in our country. Some disease reported from India are described here.

Brown spot

It is caused by *Pseudomonas strutzeri*. In *Pleurotus sajor –caju* yield loss of 27-37% was reported from Karnataka on paddy straw substrate.

Yellow blotch

The disease is caused by *Pseudomonas agarici*. The disease appears as yellow ,depressed spots on caps that are some time hazel brown or orange. When disease appears on pinheads entire flush is affected. The disease affected fruits give off foul smell under high humid and high temperature conditions. The fruit body becomes slimy.

Bacterial rot

The disease is caused by *Pseudomonas alcaligenes*. In this case rotting starts from the center of the fruit body and spreads towards periphery. The gills turn yellow and cap turns upwards.

Management

Bacterial diseases can be managed by oxytetracycline or streptomycin when used at @ 400ppm.