

prevent substrate from drying up. If the conditions are conducive, mushroom pinheads should start appearing 3 to 5 days after bag opening. Mushrooms may be ready for picking 2 to 3 days later.

Mushrooms have a very short lifespan and should be harvested before the caps crack and curl upwards. Gentle twist mushrooms from the base of substrate making sure that no fragments remain attached to the substrate as this may attract mushroom flies and act as entry points for contaminants.

Managing the Growing Room

The growing room is the most critical area after a successful spawn run. Its management plays a highly significant role in the productivity of the substrate. A potentially high yielding substrate/species combination may give poor yields if the cropping house is not properly managed.

Any structure may be used on condition that modifications are made to meet the specific requirements.

MUSHROOM DEVELOPMENT UNIT
Ministry of Agriculture

Malkerns Research Station
P. O Box 4
Malkerns
SWAZILAND



Ministry of Agriculture

OYSTER MUSHROOM



PRODUCTION GUIDE

A GUIDE TO GROWING THE OYSTER MUSHROOM

Oyster mushrooms can be produced from a wide array of agricultural waste material, which makes them the easiest mushrooms to grow.

In addition, simple and basic equipment can be used allowing the technology of mushroom farming to be suitable for both rural and semi-urban conditions.

Prevailing structures can be modified to suit required conditions.

Not only are oyster mushrooms easier to cultivate, they also take a relatively short period to mature; some species are known to be ready for harvesting 3 to 4 weeks after spawning.



Mushroom growing house with clear plastic covering and 80% net shade

What you will need

- Growing substrate
- Bleach
- Clean water
- 400 /drum
- Hard surface for mixing
- Chopping instrument (e.g. hatchet)
- Pasteurising equipment
- Wicker lamp or candle
- Firewood (optional)
- Wire rod
- Matches
- String or rubber band
- Spawn (seed)
- Fork
- Rake
- Watering can with perforated nozzle
- Incubation room
- Growing room
- Containers for harvesting
- Weighing scale

Preparing the Growing Substrate

Recommended substrate combinations include:

- 90% sugarcane bagasse + 10% wheat bran, i.e. 45 kg bagasse mixed with 5 kg wheat bran.
- 90% grass straw + 10% wheat bran, i.e. 45 kg grass mixed with 5 kg wheat bran.
- 45% grass straw + 45% maize + 10% wheat bran, i.e. 22.5 kg grass mixed with 22.5 kg maize cobs and 5 kg wheat bran.



Grass substrate ready for mixing

Preparation

Clean surfaces and tools with 0.5% bleach (10 capfuls of bleach in 10 / water). Chop dry substrate and mix thoroughly. Sterilize substrate by immersing in 0.5% bleach for a minimum period of 4 hrs. Drain to about 60% moisture (no water should drip if substrate is squeezed by hand) and pack into plastic bags. Alternatively substrate could be pasteurized by immersing in a drum of hot water for 1 to 2 hrs with the temperature maintained at 70°C. Cool and drain to required moisture.

Spawning

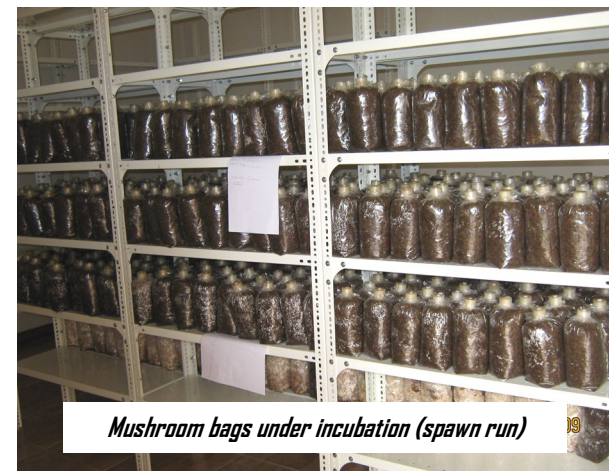


Spawn stored in 375 ml bottles

Shake spawn (seed) bottle to loosen. If spawn is glued together, flame wire rod and cool it before loosening spawn. Mouth of spawn bottle must also be flamed after opening. Pour a reasonable

amount of spawn into substrate bag, compress and quickly tie with string or rubber band. One bottle can be used to spawn up to 20 two litre substrate bags.

Incubation



Mushroom bags under incubation (spawn run)

The spawned bags should be placed in a dark warm place for spawn run. White threadlike mycelium will grow from the spawn and cover (colonize) the substrate. The whole substrate in the bag should be completely covered by the mycelium. This process may take up to 4 weeks.

The Growing Room

Fruiting

The growing room is where fruiting takes place. The bags that had been closed and kept in a dark warm place must now be introduced into an environment that would trigger fruiting. The environment in the growing room should be humid, cool, and have minimum light. A layer of sand, which should be watered regularly, can be applied on a rough slab to provide humidity. The bags must be kept in this room for at least 2 days before being opened. Bags may be opened on both ends if they are to be stacked on shelves. Holes are punctured around bags if they are to be left standing on the shelves or suspended from the roof. The entire plastic bag should not be removed to