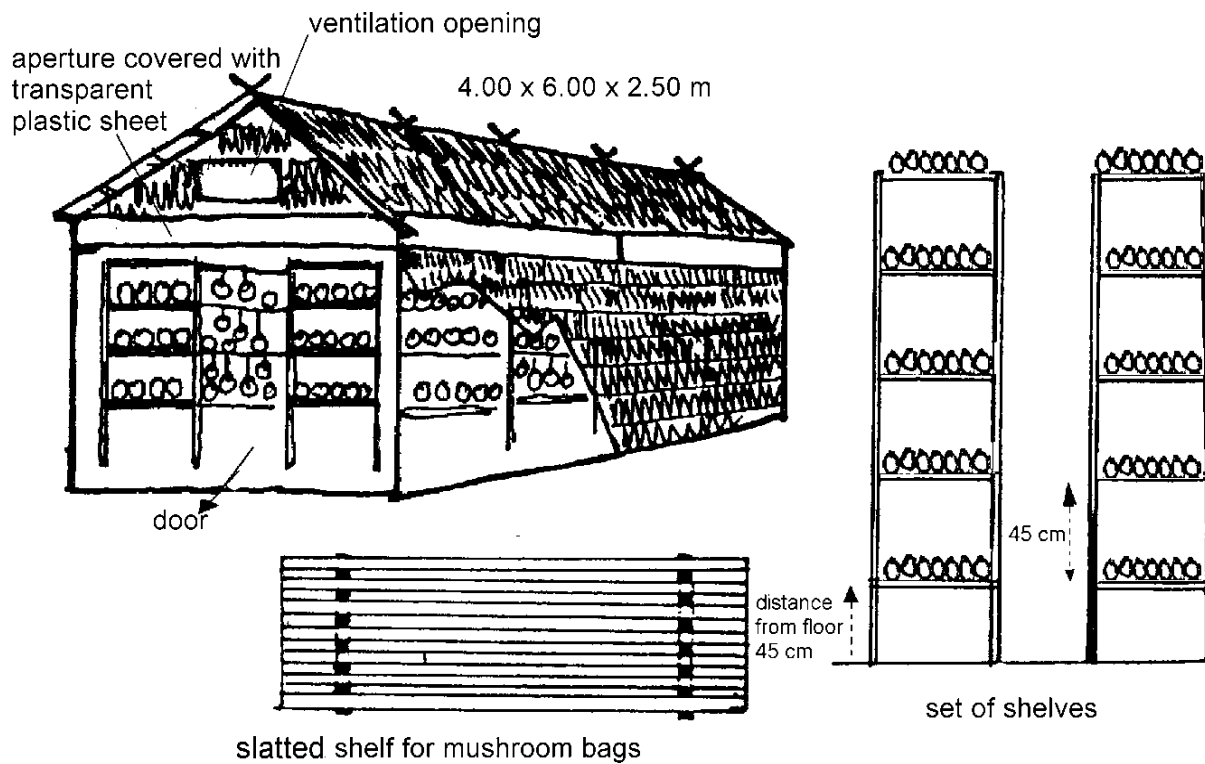


Mushroom farms

Certain factors should be kept in mind when selecting a site for a mushroom farm:

- distance to the market
- availability of good quality substrate material
- transportation of both product and substrate material
- ready availability of clean water



Cropping house

Farm layout

Before one can start to plan the layout, the processes to be performed at the mushroom farm will have to be listed. For example, whether or not an inoculation room is required depends on whether growers prepare their own substrate or buy inoculated substrate.

The farm layout should also include:

- An efficient flow of substrate materials
- Measures to prevent contamination on the farm
- Efficient use of space

The mushroom farm should provide suitable climatic conditions. It is possible to adapt existing structures such as defence tunnels, bunkers, caves, chicken houses, old milk factories and slaughterhouses. Some successful mushroom cultivation operations take place in old defence or railway tunnels.

Floors

On a low investment level, mushroom houses are just built on arable land. On a higher investment level, cemented floors are used. Slightly inclined cemented floors provide a smooth surface that can easily be cleaned and allow excess water to drain.

A screened basket could be used to collect the coarse debris from the drained water. The drainage system of the different rooms should not be connected to prevent a disease in one growing room from easily spreading to other rooms. The floors should also be smooth to facilitate handling and transport of materials.

Doors, windows and other openings

Doors and walls should close properly to prevent insects from entering the growing rooms. A double door, with a wire mesh for the second entrance, can help to keep insects out. The same rules apply for windows. The openings through which air is either blown in or out of the rooms should have at least a simple filter or cloth as barrier.



Double door at the entrance of the incubation unit

Farm hygiene

Hygiene is vital on a mushroom farm. Since chemical control of pests and diseases is not possible in small-scale mushroom cultivation, the only preventive measure is hygiene, and to some extent disinfection. This goes for a spawn production unit, the site for substrate production, the incubation rooms and production units.

Therefore, checking a suitable site for a mushroom farm is very important. The surroundings of a farm should be clean and free from possible contamination from insects, moulds etc. This means that building a new farm close to other mushroom farms should be avoided. Insects and diseases from these farms could easily spread to the new farm.

The spawn laboratory should be separate from the growing site. The growing rooms ought to be separated by (plastic) walls to keep the different stages of cultivation apart. As a matter of fact, no incubation or spawn running should take place in the same room where the mushroom rooms are harvested.

All these measures are necessary to avoid pests such as flies and other insects as well as diseases spreading from these waste dumps. If the spent substrate is to be used for gardening soil, it should be used as soon as possible.

Cropping Room

- An ideal house/room would be an R.C.C. building, installed with proper insulation and provisions for heating and cooling the rooms. However, an indigenous low cost house has been recommended using locally available

Mushroom House being built up



materials like bamboo, thatch and mud plaster. Walls of split bamboo plastered evenly with a mixture of mud and cow dung may be made.

In order to provide a crude insulation system, a second wall is made all around the house keeping about 15cms space between the first wall and the second. Mud plastering should be done on the outside of the outside wall. The air space in between the two walls will act as an insulator, since air is a bad conductor of heat. An even better insulation could be provided if the

space between the walls is filled with well dried thatch. The floor of the house should preferably be of cement but where it is not possible, a well-beaten and plastered mud floor will suffice. However, more care will have to be taken in case of a mud floor. The roof should be made of thick thatch layers or preferably asbestos sheets. A false ceiling is essential to avoid contamination of unwanted materials from the thatch roof. Besides the front door, ventilators should also be provided from both the upper and lower sides of the front and rear side of the room for proper exchange of air inside the room. The house/ room should be installed /framed with horizontal and vertical bamboo poles required for hanging the block after the incubation period. The vertical poles can also be arranged in a 3 (three)-tier system as the incubation shelves. Poles should be preferably 60 cms away from the walls and in between each row of three tiers, a minimum space of 1 m should be maintained. A cropping room of 3.0 x 2.5 x 2.0 m will accommodate about 35 to 40 cubes.



Mushroom Growing Structures



Variety of mushrooms are produced using polybags hung vertically as depicted in pictures

