

SHIITAKE MUSHROOM CULTIVATION

Lentinus edodes is known as oak mushroom in English and Sokey Shamu in Dzongkha. In Bhutan, the tree species used for its cultivation are *Quercus griffithii*, (*Sisi* in Dzongkhag, *Benangshing* in Sharchopkha) which is followed by *Q.semicarpifolia* (*Bjishi*), *Q.lanata* (*Ghum* in Dzongkha and *Betsenang shing* in Sharchopkha). *Q.glauca*, (*Thom* in Dzongkha and *Thongpa shing* in sharchopkha) and lastly on *Castanopsis* species (*Sokeshing*).

Normally 7 to 25 years old trees are preferable for the cultivation but it depends on the thickness of the bark and the health condition of the tree. If the bark is too thick the spawn may not reach the woody part of the log and if it is too thin it can scale off. All ideal branches, regardless of age limitation are used if they satisfy the above conditions.

SEASON

Mushroom can be grown through out the year but the best season for cutting logs for shiitake cultivation is during autumn and winter. The wood is dormant and the barks are firm compared to the season when the sap is active in the plant. During this period the logs have food stored in it which is used for production of new shoots once the plant becomes active. Emphasis is also made to inoculate the logs with mushroom spawn before it dries up too much.

CUTTING LOGS

In Bhutan, only the branches and tops and logs of the tree are used. The new shoots that sprout can be used for cultivation within five to six years. This is the sustainable way of harvesting oak logs for mushroom cultivation. The ideal length preferred is 90 cm to 120 cm with a diameter of 6 cm to 20 cm. If longer and larger logs are used, it becomes difficult to manage as they can become too heavy upon soaking in water. In case of smaller logs it can break off or be drilled through. There is no restriction otherwise.



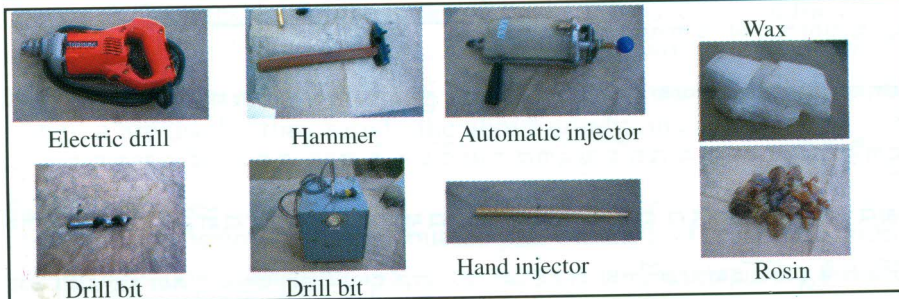
Freshly cut logs

After cutting logs, measures are taken to protect moisture inside by keeping it under a roof or shade. Drying of logs at this time, reduce the growth rate of mycelium, and thereby delay the logs from maturing.

EQUIPMENTS AND MATERIALS

A mushroom grower would require the following equipments:

- a. Electric drill b. Drill bits c. Spawn injector d. Paraffin wax and rosin
e. Plastic sheet f. Tripod stand



Where electric facilities are not available, power generators would be required for drilling holes into the logs.

DRILLING HOLES

To inoculate spawn it is required to drill holes into logs. On a normal length of log, 7 and 8 holes in each row would be required to be alternately drilled and number of holes will vary according to size and length of log. The holes are drilled with the help of electric drill provided with a drill bit, which has a diameter of 12 mm and a length of 20 mm.

