

**BACKGROUND**

One of the most popular mushrooms in the world is the Black Forest Mushroom (*Lentinus edodes*) commonly called **Shiitake**. Shiitake is a Japanese word which means ‘mushroom of the oak tree.’

Shiitake production is fairly new in the US and production technology is evolving rapidly. Considering this, it is a wise move to grow these mushrooms on a small scale before committing substantial financial resources.



shiitake mushrooms

PREPARATION

The mushroom is a fungus. Fungi cannot use the energy of sunlight to produce ‘food’ as green plants do and so they survive by absorbing required nutrients from decomposing organic matter such as fallen tree trunks.

Laurel and Live oak logs are suitable for mushroom production. Trees should be cut while they are in their most dormant season (early spring) because the mycelium (the threadlike structures from which the mushroom grows) requires carbohydrate for growth and this nutrient is at its highest levels in dormant trees. The bark of the tree should also be intact so that moisture levels remain high in the wood. Logs must, therefore, be sourced from live, healthy trees that are free from decay.

INNOCULATION

The **Shiitake** fungus is introduced into the logs by inserting or injecting the mycelium. This is in the form of spawn. This process is called inoculation. Spawns are available in two main forms: dowels or sawdust. Sawdust or dowels are placed in holes drilled into the logs at row spacing of 6 to 8 inches apart and 2 to 4 inches between rows. Spawns are placed into the holes immediately after drilling and the holes are sealed with hot wax or foam plugs to prevent dehydration.

PROPAGATION

After inoculation is complete logs are stacked so the fungus is given time to incubate. This takes anywhere from 6-18 months. Ideally, logs should be placed in a shaded area (80% canopy) with good air movement. The area should be warm and protected from strong winds. Some spawn suppliers may be able to supply special humidity blankets which can be used to cover the logs.

Warm temperatures and high moisture promotes rapid growth of the **Shiitake** mycelium. A sudden change in temperature or moisture (e.g. rainy season) triggers ‘fruiting’ response, which results in mushroom production.

The most obvious sign of mushroom production is the appearance of **primordia** – the beginning of mushrooms, on the ends of the logs.

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