

Part I Shiitake

Chapter 1

What is Shiitake

ILLUSTRATED GUIDE TO SHIITAKE CULTIVATION

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Illustrated by Seung Wan Moon of Heineart Inc., Korea



Mushrooms are cultivated at farms or harvested in nature. They are sold at markets.



"Excuse me. Is this mushroom? I want to know how to grow mushrooms."



"It's shiitake and cultivated at a farm. There are two ways to cultivate shiitake. Are you ready to learn how to grow shiitake?"



Log Cultivation

The log cultivation method is the most well-known and traditional one. High quality shiitake grows on the healthy oak logs. First of all, fell hardwood trees at dormant season.



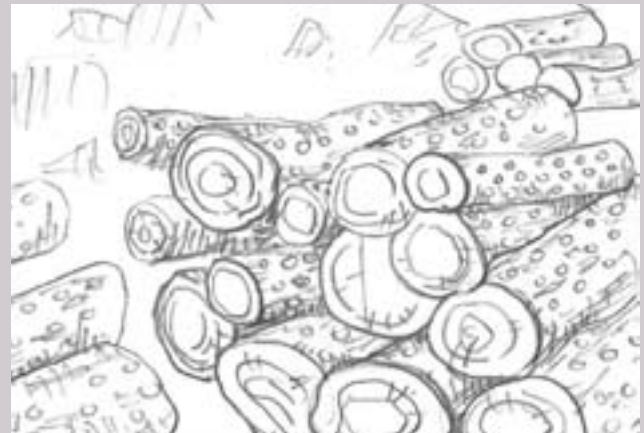
Cut the felled logs about 1-1.2m long.



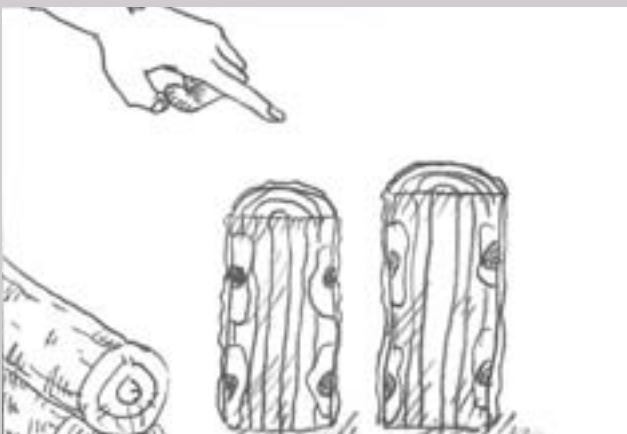
Inoculation holes are drilled in the logs at 15-20cm intervals from 5cm apart from the end of the logs. Holes are 2.5cm deep and 1.2cm wide with row 3-4cm apart.



Put the sawdust plug spawn into holes. Styrofoam seal is attached to the plug spawn to prevent contamination.



Stack the inoculated logs 1m high for 1-2 months as you would do fire-wood.



When mycelia colonize around inoculation holes to a certain degree during spawn run, stack the logs again and let shiitake mycelia spread over the logs.



Standing logs (A-frame stacking) aid the development of fruiting bodies.



Usually watering induces fruiting from the logs. But some growers provide physical shock by beating logs.



Fruitbodies of shiitake grown on the log

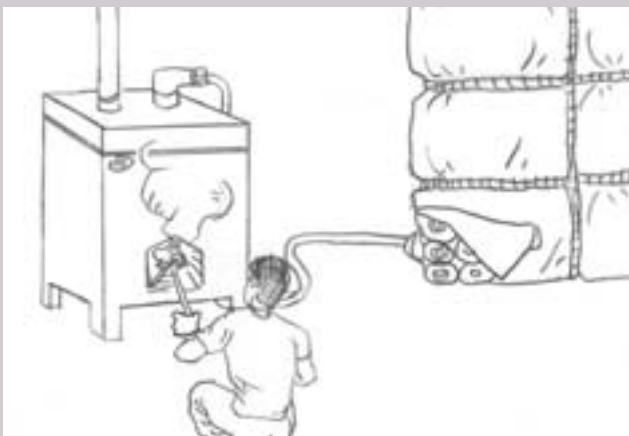
Bag Cultivation



Sawdust is usually selected as main ingredients and supplemented by wheat bran or rice bran, gypsum, calcium and so on.



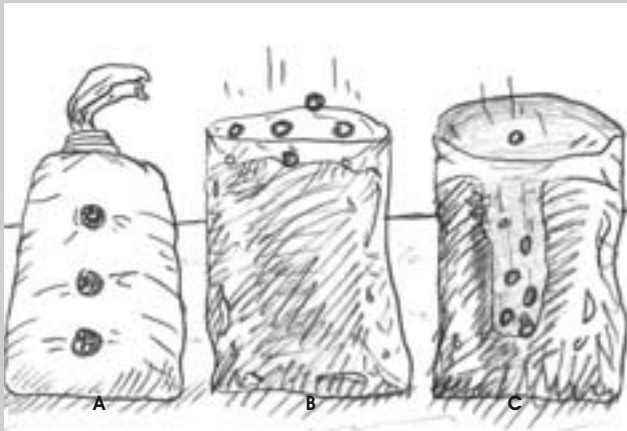
All materials are mixed with water and put it into bags. Polyethylene bags are usually used to contain raw materials.



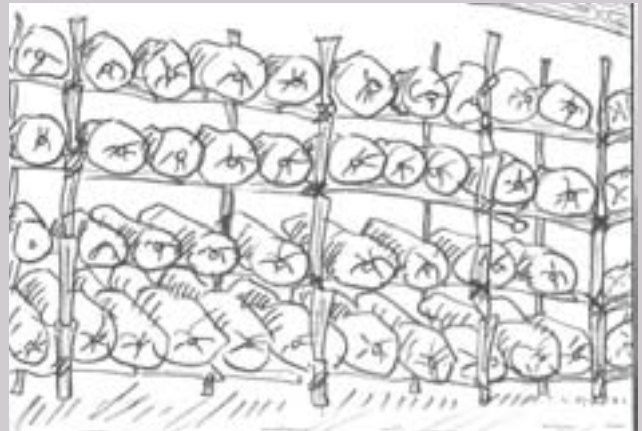
Sterilization depends on the nature of the bags, bag size and amount of the substrate. 2-3kg sawdust substrate is sterilized in an autoclave for one and half hour at 121 °C.



When the bags cool down to room temperature, they are ready to be inoculated in the inoculation room or disinfected room.



A: Make holes with the sterilized stick on the bag, put the spawn into them and seal them with tape.
 B: Scatter spawns on the top of the substrate.
 C: Make a vertical hole in the middle of substrate in the bag and put spawn into it.



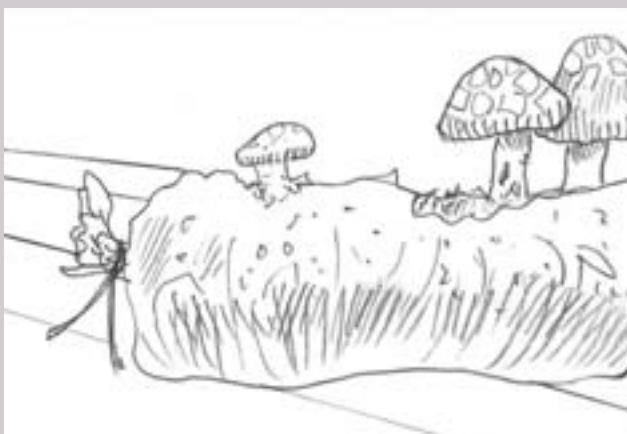
Most shiitake strains show optimal mycelial growth at 25°C, 60-70% R.H.. No light is necessary during spawn run. The duration of spawn run is usually 3 months.



Watering is commonly used for fruiting induction after browning.



Growers make the cuts at the pinning spots on the plastic bag to help the fruiting bodies come out.



Shiitake fruiting bodies on the bag



Harvested shiitake are sold fresh or dried in wholesale and retail markets.



"Sounds interesting! I want to give a try. Where can I learn more of shiitake growing?"



If you want to cultivate shiitake, you might want to learn the technology of mushroom cultivation from a training center or your neighbors who grow shiitake.