



The Mavis Institute

SHIITAKE MUSHROOM CULTIVATION

ABOUT SHIITAKE (LENTINULA EDODES)

Shiitake Form: fleshy convex cap, slightly tough stalk,

Color: light to dark brown cap, creamy white gills, brown stem

Best grown on: hardwoods like oak, maple, ironwood

Spawn form available: plug, grain, sawdust

Average size at harvest: 3-6 inch diameter cap, 2-4 inch stalk

Odor/flavor: robust, earthy

Does it grow wild in the United States: No

BACKGROUND:

The shiitake mushroom originated in Eastern Asia. Countries like Japan, China and Korea were the first to discover, cultivate and use mushrooms for their medicinal benefits.



Materials Checklist: Indoor Shiitake Cultivation

Inoculated shiitake mushroom plug.

Thick barked hardwood, cut in 3-8 inch diameter section roughly 12 inches tall.

Drill with multi-purpose 5/16" drill bit

Rubber Mallet or hammer

Food grade wax, or beeswax

Crock pot for wax

Small paint brush for wax



Stage 1: Preparing the logs

Step 1: Selecting the log

Select suitable living hardwood tree sections or tree branches that are 3-9 inches in diameter and 1-2 feet long (25 mushroom plugs will adequately inoculate two logs with these dimensions). As mentioned above oaks and other thick barked hardwoods are best. Don't use softwood.

You'll want to let your log "cure" for 2-4 weeks in a shaded, dry environment off of the dirt or forest floor (a garage or shed floor is ideal). Healthy, living trees have anti-fungal agents in their sap, so 2 weeks allows time for these to dissipate. The reason you want them out of the elements, is to reduce/eliminate other mushrooms from colonizing your logs.

Step 2: Drill

Once your logs have cured and your shiitake mushroom plugs have arrived, use a power drill with a 5/16" drill bit attachment to drill offsetting, parallel rows of holes in each log. Each hole should be about 1 1/4" deep and 3-4 inches apart. Your rows of holes should form a diamond pattern all across the surface of your logs. Ideally on a 2ft log, you should have 25 holes per log.

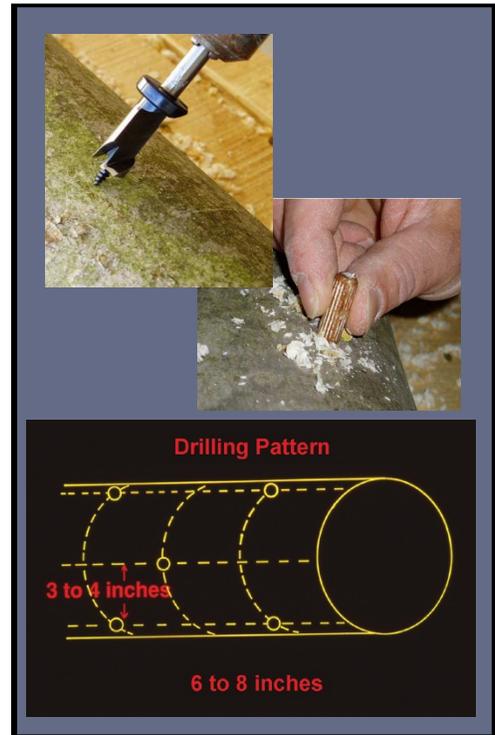
Step 3: Install and Wax

Insert your shiitake plugs into each hole, and tap them in with your rubber mallet or hammer. Make sure each plug is well set into the hole so that the surface of the plug is at or below the surface level of the log. Next seal each hole thoroughly with wax so that each shiitake plug has its own tight little "house," safe from other competing fungi that might come knocking.

Step 4: Rest

Once you have your logs stored, you'll need to plan to water them regularly. If you live in a moist climate like we do, you can water your shiitake logs once per week for about 10 minutes during a dry week in which it doesn't rain (if you get a good soaking rain, don't worry about watering them). Simply soak your log in the sink or bathtub.

It will take 3-6 months to incubate the log the first time.



Stage 2: Fruiting

Step 1: Start Fruiting

Once you've determined that your shiitake logs are ready to be initiated, you'll need to submerge them in water for 24 hours. You can use a bathtub, a pail, a natural (clean) body of water. Ideally, you can use non-chlorinated water (rain, spring, creek, etc).

Thump the log a few times to simulate falling to the forest floor, this has been known to produce better quality mushrooms.

After 24 hours of soaking, place your logs back in a shady area and in an upright, vertical position. You'll see "primordia" (baby mushrooms) form sometime between 2-14 days. Make sure the logs stay moist during this waiting period by watering them 1-2 times per day. Soon, your whole log will be covered with beautiful shiitake mushrooms!

Step 2: Harvesting

There's not a "right" size to eat them—you can pick them when they're small or let them get huge (we like the big ones and find them to be tender and flavorful).

Once you've harvested your shiitake mushrooms, put them in a sunny location gill side up for 24-48 hours. This has been proven to drastically boost the shiitake's natural Vitamin D2 levels from around 100 IU/100 grams to nearly 46,000 IU/100 grams! Isn't nature amazing?

Step 3: Rest and Repeat

When your ready to grow some more, you have 2 options.

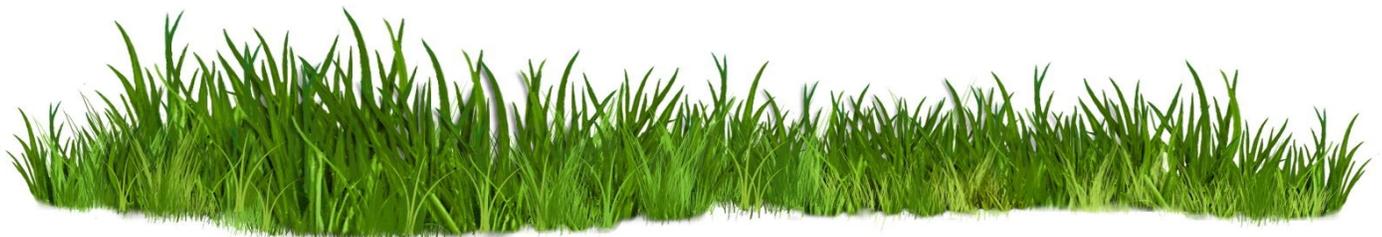
Option 1: Store in Refrig for 2-4 weeks, then start on Stage 2, Step 1.

Option 2: Let sit for 2-4 weeks, then place the log in a ice bath for 24 hours. Next, start on Stage 2: Step 1.

If you want more mushroom, you need to trick your log into thinking it went through winter, and it's now spring. Once you have a happy log, you can do this up 5 times a year.

HOW MUCH TO EXPECT

Mushroom production for a typical log will peak the second and third years. At this time it is reasonable to expect 0.25-0.5 lb per log or higher per flush, with the goal of doing four harvesting per season.



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