Growing Mushrooms on Logs Using Sawdust Spawn

You can produce edible mushrooms on your property easily using hardwood logs and mushroom spawn (the "seeds" for growing mushrooms). If you follow the right process, you can harvest mature mushrooms over several years from one inoculated log. The method described here is best for growing shiitake mushrooms but will work for other mushroom varieties as well.

Gather the needed materials

- **Hardwood log**—3 to 8 inches in diameter and 36 to 40 inches long. Cut and let rest away from the sun and wind for two weeks before inoculating.
- **Mushroom sawdust spawn** (one pound)—find places to buy this online by searching for "mushroom spawn." Not all types of spawn grow well on every tree species, so choose a spawn based on the type of logs you will be using.
- **Electric drill** (or angle grinder) with a 7/16" drill bit or a drill bit designed for drilling holes for sawdust spawn. Mushroom spawn manufacturers often sell these drill bits.
- **Tool for injecting spawn** into drilled holes—mushroom spawn manufacturers often sell these tools.
- **Cheese wax** (or other food-grade wax).
- **Paint brushes**, sponges, or cotton daubers.
- **Metal tags** or plastic container lids.
- **Hammer and nails**.

Left to right: sawdust spawn, tools for injecting spawn, cotton daubers.

Drill holes in the log

1. Drill the first row of holes about 4 to 6 inches apart along the length of the log.
2. Drill the next row of holes 4 to 6 inches below the first row and shifted to the left or right by 2 to 3 inches so that the holes in the second row are not aligned with the holes in the first row. Again, the holes in the row should be spaced 4 to 6 inches apart. This diamond

6"   2"   3-8"   36-40"
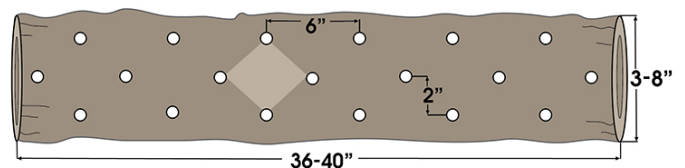
Credit: Field and Forest Products

pattern is the best way to fill the whole log with spawn.

3. Continue drilling rows of holes around the log in this pattern until you reach the first row again.

Note: Using an angle grinder with the spawn drill bit makes drilling the holes easy and quick.

Pack spawn into drilled holes

Transfer the sawdust spawn into a container for ease of use. Break apart any clumps and loosen the spawn to make it easier for packing into the holes.

Add spawn to each hole to just below the surface of the bark (not overflowing). Tools sold by spawn manufacturers work well for this task, or you can develop your own technique for packing the spawn into the holes.

Left: a hole packed with spawn. Right: a hole sealed with wax.

Seal the filled holes with wax

Sealing the filled holes with wax is important to prevent contamination and drying out.

1. Melt the cheese wax. Maintain the melted wax close to where you will be sealing the holes for easy access. An old pot and a hotplate work well for this.
2. Using the paint brushes, sponges, or cotton daubers, completely cover each hole with melted wax.

3. Apply the melted wax to any cuts to the log along the sides, but do not seal the ends.

Mark the log with the date & type of spawn

Write the date you inoculated the log and the type of spawn on the metal tags or plastic container covers. Nail this to the end of the log.

Place the log in the best location

Stack the inoculated logs uncovered and off the ground in a shaded location, protected from the sun and wind. This will keep the logs from drying out.

After about 12 months, the logs will start producing mushrooms. Soaking the logs in water for 24 hours will stimulate the production of mushrooms even more.

Credit: Cornell Small Farms Program

Learn more

You can watch a video tutorial of the process by scanning this QR code or by visiting woodlandinfo.org/learn/grow-and-gather/mushrooms-on-logs-using-sawdust-spawn.

Do you have plug spawn instead of sawdust spawn? Read and watch our plug spawn tutorial by scanning this QR code or by visiting woodlandinfo.org/learn/grow-and-gather/mushrooms-on-logs-using-plug-spawn.

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