

## Inoculating logs with grain spawn from Nicola Krämer, [www.shiitake.de](http://www.shiitake.de)

After receiving the grain spawn, you can store it in the refrigerator for up to 4 weeks. The quality may degrade if you store it longer. In case mushrooms are already growing in the package, the grain spawn is still good but you don't inoculate using the mushrooms, only with the grain spawn.

Remove the grain spawn out of the refrigerator about one day before inoculating and store it at room temperature until you are ready to inoculate. Directly before inoculating, break up lumps in the grain spawn by pressing the still closed bag to make it easier to inoculate. After opening the bag, always use up all of the grain spawn within a few days.

### Inoculation of thicker logs

Many mushroom types such as oyster mushrooms grow well on thicker logs (only shiitake needs thinner logs, see below).

One litre of grain spawn is sufficient for approx. 6 –7 thicker logs with a diameter of approx. 20 cm and height of about 35 cm. You only need to make a single saw cut about 15 cm from the end of the log. Cut a slot with a (chain) saw about half to max. 2/3 of the way through the log. Then put the grain spawn into the slot using a spoon or funnel and tamp down with a flat piece of wood such as the end of a ruler.

Then close the slot with wide packaging tape, fixing with drawing pins too if necessary. Use transparent tape if possible - then you can see how fast the mycelia grows from the grain spawn into the log..

To encourage the top half of the wood to populate quickly (and if you have some spare grain spawn), it helps to drill several large holes in the cut end (min. 14 mm diameter) and to fill them with grain spawn. Afterwards, you can seal the holes with candle wax, cork or round wood discs. Don't drill too slowly! If the wood gets overheated during drilling, this can lead to the formation of a varnish-like coating inside the hole which cannot easily be penetrated by the mycelia. Use as much grain spawn as possible.

**Storage after inoculation** in a covered log pile (maturing phase):

See our text **Inoculating logs with mushroom plugs**.

After the maturing phase in the covered log pile, the logs should be buried in the garden to about 1/3 of their length in nutritious earth in a moist, shadowy place. The packaging taker now be removed. Bury the end of the log which is closest to the cut deep enough so that the cut is covered by earth. This prevents slugs or wood lice from entering the cut. You can scatter wood chips or bark around the logs to make sure that mushrooms growing close the ground are not dirtied with earth when it rains. To encourage the top half of the wood to populate quickly, it helps to drill several large holes in the cut end (min. 14 mm diameter) and to fill them with grain spawn.

### Inoculation of thinner shiitake logs

For shii-take mushrooms you need thinner logs with a length of 100 to 120 cm and a diameter of 10 to 15 cm. 1 litre of grain spawn is enough to inoculate approx. 6 to 10 logs of this shape and size.

With these long logs it is better to make two cuts on opposite sides of the log one at the top one at the bottom end of the log (or if you have enough brains Braun a third one individual of the Loch). However, the thin logs can become rotten to quickly and start to break up.

In contrast to mushroom plugs the grain spawn can call fall out of the cuts when the packaging tape starts to disintegrate. Although the grain spawn has no function after the maturing phase these cuts can provide a hiding place for wood lice or slugs to breed, which may then eat the mushrooms. So you need to protect the shiitake logs in the garden against slugs.

You can also inoculate shiitake logs by drilling large holes (min. 14 mm diameter would drill) which is a good alternative to the saw cut method. The holes should be sealed afterwards with round wooden discs.

**Storage after inoculation** in a covered log pile (maturing phase):

See our text **Inoculating logs with mushroom plugs**

The shiitake logs are not partially buried in earth after the maturing phase, which takes approx. 12 months. Instead, they should be stored vertically e.g. against a fence, a tree or a wall. It is important that rainwater gets the logs.

In order to accelerate the growth of shii-take mushrooms after the maturing phase, submerge the mature logs completely in cold water for 24 - 48 hours, See our text **Inoculating logs with mushroom plugs** for more details. Alternatively, you can inoculate logs for all mushroom types using mushroom plugs. mushroom plugs are the

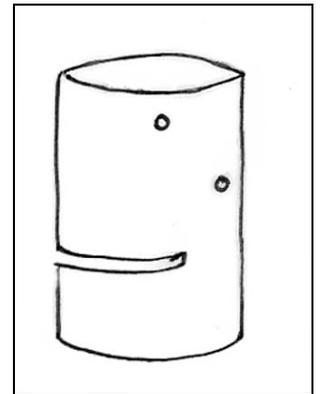


Figure:  
Inoculation with saw cuts  
and extra drilled holes

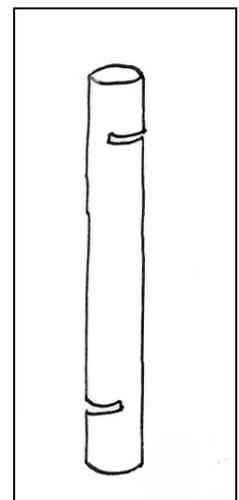


Figure:  
Thinner shiitake logs with  
two saw cuts

recommended option when you only want to inoculate a few logs or if you do not have a chainsaw. In addition there is no risk of mice eating the mushroom plugs.

Advantage of grain spawn: the mycelia grows into the logs faster than mushroom plugs.