



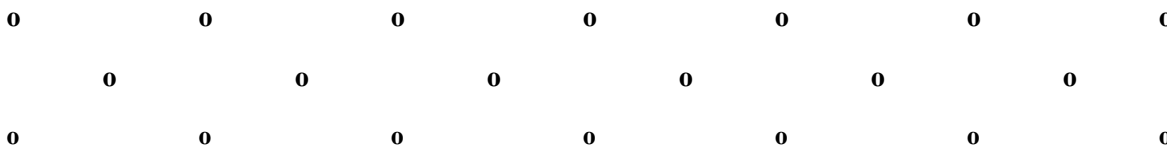
SPAWN USE INSTRUCTIONS

You have just received your order of sawdust spawn. Please examine it carefully. The bag should be completely sealed. The spawn itself should be a relatively uniform mixture of brownish sawdust with whitish mycelium growing through it. There should be no green, grey, black or other unusual areas on the spawn. The spawn you have received is at its peak for use as an inoculant. If you do not intend to use it within the next 10 days refrigerate it at 2-5°C. The spawn will keep for a few months, however **immediate use is recommended** because as the spawn matures/ages it becomes more and 'bound' by the mycelial hyphae. It will become very difficult to handle and use. Cold temperature will inhibit the development of the mycelial hyphae. When the hyphal development progresses too far it can be difficult to break the spawn apart so that it is loose and friable and with a small enough particle size to work your inoculation tool and to insert the spawn into the holes in your logs. You can pulse bound up spawn in a food processor. We recommend that the spawn be used as soon as possible - within 5 days of receipt is best. If the spawn has been stored refrigerated, bring it to room temperature for a few days before using it.

Handle the spawn in order to minimize exposure to ubiquitous contaminants such as bacteria and especially mould spores and to prevent dehydration. Use the following rules to protect the spawn:

- before opening, rinse bag in a dilute bleach solution and carry the bag to your inoculation site in a clean bucket;
- wash your hands and periodically rinse tools coming in contact with the spawn in the bleach solution;
- before opening and immediately before inoculation gently break the spawn up through the bag by manipulating the bag with your fingers; you can also shake/agitate the bag so spawn is loose and friable; the 'grain' size of the spawn should be quite small and it should break up fairly easily and not form clumps that are difficult to break apart; it should be moist but not wet
- while inoculating remove spawn from the bag in small batches as you use it, perhaps in a clean plastic container, and keep the bag closed after each removal to limit the amount of time the bag is open;
- keep the bag of spawn in a cool, shaded location;
- schedule inoculation sessions in order to allow enough time to completely use the spawn in a particular bag or part of a bag in a single session;
- never put any spawn back in the bag for use later but you can remove spawn from the bag (pour it out into a clean tray) and then close the bag by folding it over and keep in the fridge; use within a day or two

This spawn is used to inoculate hardwood logs that were cut in the winter or early spring before leaf bud and that have rested for at least 1 month. It can also be used on freshly cut / recently cut hardwood stumps. You need a drill with a 12.5 or a 13.5 mm (or ½ inch) bit and an inoculation tool. A depth stop on the drill bit is helpful in order to drill holes to a depth of 1 and 1/8th inches or 28.5 mm. The holes **MUST** be sealed with cheese or bees wax or with a Styrofoam tab because the small amount of spawn in each hole can dry out in a matter of hours. Drill holes 10-15 cm (4-6 inches) apart, in 'offset' rows that are 5 - 7.5 cm (2 - 3 inches) apart. The holes should form a diamond pattern as in the diagram below. Extra holes can be drilled around knots or similar irregularities in the log. Rule of thumb is to drill 45 to 50 holes in a 4' log that is 6" in diameter. Thinner logs – fewer holes. Note - double up inoculation rate for Lion's Mane (*Hericum erinaceous*).



Fill holes with loose sawdust spawn using an inoculation tool. For tool descriptions and pricing see:

<https://www.mycosource.org/equipment>

You can also use a small funnel and tamping rod to insert the spawn into the holes but an inoculation tool will speed up your work. You will have to seal the holes with wax – cheese wax or bees wax - or with a Styrofoam cap. If you are using wax you will need to melt the wax; to do this 'in the field'; you can use a Coleman camping stove or a burner with a butane cylinder; use a tin can or other metal vessel in which to heat the wax. Apply with wax doobers or with very small sponge paint brushes or with a turkey baster. Use normal safety precautions when using gas/butane burners. Styrofoam caps come in rolls and fit 12.5mm and 13.5mm diameter holes; order caps to match the size of your drill bit. See the equipment and supplies section (as above) for pricing of wax and caps.

Following inoculation the mycelium will colonize the sapwood. During this "spawn run" stack your logs off the

ground in a shaded area. Access to water in case of drought is a consideration. There are various stacking patterns – see https://mycosource.org/log_management Look for stacking patterns and alternate stacking patterns.

The ideal location for your logs is under the forest canopy in a well-drained area with good air movement. You will need access to water unless you plan to rely on natural rainfall to provoke ‘fruiting’. For the first 4 weeks of the spawn run you may have to water/soak the logs once a week unless there is sufficient rainfall and/or the logs were quite moist (inside) when inoculated. The objective during the spawn run is to keep the moisture level inside the logs high but allow the outside to dry so as not to rot the bark off. Logs should not be exposed to full sun during the spawn run. During winter months keep logs shaded. Even if logs are under the forest canopy they may need to be covered with shade cloth or with some form of breathable covering so that they are not exposed to full/direct sun for hours at a time, especially during the late afternoon.

The logs will “fruit” 6 months to 1 year following inoculation depending on factors such as when logs were cut, how hard the wood is, how moist the sapwood is, and temperature and rainfall patterns during the spawn run. Fruiting generally starts the spring following inoculation (1 year later) but you may get some mushrooms the first fall following inoculation. Once logs begin ‘fruiting’ they must be stood on end to allow the mushrooms to form and to facilitate harvesting. At the end of the ‘fruiting’ season logs should be re-stacked in a low profile arrangement for the winter months. Please see LOG MANAGEMENT SHEET for long-term log management and see https://www.mycosource.org/log_management

The following books contain vital, detailed information on inoculation and log management. The techniques described are applicable, with modifications, for growing other species of wood mushrooms such as Tree oyster, Maitake, and Reishi.

Growing Shiitake Mushrooms in a Continental Climate by Kozak, M.& J.Krawczyk

Shiitake Grower's Handbook (indoor and outdoor cultivation) by Przybylowicz,P. & J.Donaghue

Growing Gourmet and Medicinal Mushrooms by Paul Stamets

These books may no longer be in print or may be difficult to obtain and are quite expensive. An excellent online source for updated and detailed information about mushroom cultivation outdoors on hardwood logs is the Cornell University website. Here is the link to their interactive website with information about log inoculation and management:

The website has videos and a 56 page manual titled “**Best Management Practices for Log-based Shiitake Cultivation in the Northeastern United States**” that you can browse and download for free.

[977907shiitake-bmp-3-11-final-for-print-hires.pdf](https://www.sare.org/977907shiitake-bmp-3-11-final-for-print-hires.pdf) (sare.org)

For Lion’s Mane (*Hericium erinaceus*) and Tree Oyster mushroom (*Pleurotus ostreatus*) cultivation outdoor on hardwood logs follow the same inoculation procedure as for Shiitake. For Lion’s Mane double up the inoculation rate. According to Stamets Lion’s Mane produces well on maple, oak, beech, elm, and similar hardwoods; paper birch is not recommended for Lion’s Mane. Stamets also points out that Lion’s Mane mushroom has a high water content and bruises easily so it must be harvested promptly and treated carefully. Lion’s Mane does well in cooler temperatures.

For Oyster cultivation you can use softer hardwoods such as poplar, aspen, cottonwoods, alder, willow, and softer maples and elm but it will also do well on sugar maple, oak, beech. Oyster mushrooms emerge as clumps and must be harvested promptly when still firm; they become vulnerable to infestation by flies and worms. Locate logs and totems where you can monitor them daily. Oyster mushroom species prefer warm and humid conditions.

Lion’s Mane and Oyster mushrooms can be cultivated outdoors on hardwood logs and stumps using the ‘totem’ method of cultivation. The Cornell University Cooperative Extension and Department of Horticulture offers a very good description. Search “Totem Method for Cultivation Oyster and Lion’s Mane Mushrooms”

Online searches will take you to information including videos on YouTube. The following links provide more information specific to Lion’s Mane cultivation:

<https://joybileefarm.com/how-to-grow-lions-mane-mushrooms/>

[How to Grow Lion's Mane Mushrooms on Logs and Sawdust](#)

<https://morningchores.com/growing-lions-mane-mushrooms/>

Contact Mycosource online at info@mycosource.org

Contact Mycosource by telephone at 416-963-5520