Starting Outdoor Mushroom Patches

A Very Brief Guide to Using Mushroom Spawn

www.fungaia.life | 509.557.0008

Congratulations! You are a symbiont with the mycosphere.

This pamphlet offers some tips for using mature mushroom spawn to start patches outdoors. Hopefully this helps to get you started, but if you are new to mushroom cultivation and wish to pursue it further, I highly recommend that you invest in some well-rounded literature on the topic.

Two great books filled with indispensable information for do-it-yourself mushroom growers are Organic Mushroom Farming and Mycoremediation by Tradd Cotter and Radical Mycology by Peter McCoy. You can also download more of Fungaia's free literature online at www.fungaia.life/guides

The simplest way to get an outdoor patch going is with mushroom spawn. Once the mushroom mycelium is fully incubated in a sterile environment, it has a sufficient biomass and an impressive array of biochemical tools to defend itself from pathogens and integrate with all the other organisms that live in soil.

There are many factors at play when attempting to establish an outdoor mushroom patch. Climate, soil type and local flora should be taken into account when choosing a mushroom species to work with.

Start by collecting plenty of cardboard. Peel off any plastic tape, and avoid glossy, color-printed product boxes. Cardboard is ideal because it offers very little food for bacteria, and it creates a barrier to protect the growing mycelium. Mushroom mycelium loves cardboard and will quickly grow horizontally along the corrugations. Soak it for an hour or two first, let the water drain off, and peel the layers apart to expose the corrugation.

You'll also want to round up some wood chips, straw, sawdust, charcoal and any other fresh woody material. Avoid materials treated with chemicals, and be aware that different species have different preferences. Some fungi will be able to eat wood chips from conifer trees, but many will find it too resinous.

If you can't find what you're looking for free, hardwood fuel pellets sold for use in smokers and pellet stoves are an effective growing medium.

These materials are usually applied as-is, but you can pasteurize them to increase the chances of success. Steam pasteurization is effective but inefficient on a large scale. Another great option is "cold pasteurization" with an alkaline soak.

To do this you'll need potash or lime, and a big, watertight container with a drain, such as a barrel, horse trough, kiddie pool or series of plastic buckets. Potash collected from a wood stove is environmentally friendly and usually free. Hydrated lime for masonry is sold on the cheap at most hardware stores. The stuff you want is calcium hydroxide, not the calcium carbonate sometimes sold as lime for gardening. (Lime is caustic and can burn your skin. Gloves, goggles and dust mask are strongly encouraged.)

Use about 9 pounds (4 kg) potash or 3/4 pound (300g) of lime per 50 gallons (190L) total water.

Fill a soaking container with your wood chips, straw or whatever you were able to find, then add the potash or lime. Submerge the whole thing in cold water, soak for 12-24 hours, and let it drain completely. It is ready to apply immediately.

Pick out the site of your future mushroom utopia. You'll want to find a shady spot or put up some shade cloth, as direct sun will cook the bed dry. First, scrape the topsoil aside with a rake or hoe to expose the raw dirt. Keep this topsoil close, because you'll use it at the end to cover the patch.

Some folks like to light a bonfire on the ground first to sterilize and alkalinize the soil, especially when attempting to establish burn-loving morels, though this is not necessary for most species. Either way, once you have your site prepared, thoroughly hose it down with water and lay down one or two layers of wet cardboard.

Next cut open your bag of sawdust spawn and break it up into chunks with clean hands. Scatter a light layer over the cardboard, cover it with your woody matter, and scatter another layer of spawn on top. Cover with another layer of cardboard and repeat this process as many times as your spawn and material allow to make a thick lasagna. Once you have used all your spawn, place another layer of wet cardboard over the top and cover the whole thing with the topsoil you scraped aside.

Use a stake, long knife or other pointy implement to poke a series of holes to allow water to travel down through the layers.

Keep watering your patch as you would a vegetable garden. Assuming all goes well, and depending on the species selected, you should get your first flush of mushrooms in a few months. If you prepare the bed in the fall, it will hopefully produce the following spring, and then again every spring and fall, ideally for years.

Some more tips:

- You can keep feeding the patch by adding more layers of straw, wood chips, cardboard and/or sawdust once a year. For best results, make more sawdust spawn from the same original fungal culture and continue spawning the bed. Persistence pays off: a patch which is nurtured continuously for several successive seasons will produce larger harvests more consistently than with the “set it and forget it” approach.

- Another great technique for starting outdoor mushroom patches is the “raft-style” log bed. A mature log raft achieves an impressive biomass, and will produce for a long time.

To do this, start by inoculating logs (see the resources listed above for more information about this process.) Then prepare your bed according to the instructions above, but dig a little deeper into the ground. Lay down your first layers of cardboard and spawn, then nestle the inoculated logs side-by-side like a raft. Cover them completely with spawn and wood chips, and continue as usual to make your thick, woody lasagna.

- To further increase the biomass of your spawn, and therefore the chances of successfully establishing a long-lasting patch, you can add an intermediate step and grow more spawn in buckets or nursery pots.

5-gallon buckets are usually the vessel of choice, but just about any clean container will do. The mycelium needs to breathe, so if it’s a watertight container, you’ll have to add some holes. Using the same ingredients and techniques outlined above, build the mushroom lasagna in this container and incubate it for another 3-4 weeks. Keep it loosely covered and mist it lightly as needed to keep it from drying out. Depending on how densely you integrate the spawn, you can get another 5-10 times as much starting mass for your outdoor patch, increasing both its size and your chances of success.

Fungaia is a homegrown, donation-based business. Your support is deeply appreciated, and helps to sustain a vision for creative education. If you have any thoughts, questions or issues, please get in touch. I’m here to help, and I’d love to hear from you.

Mush love!

Fungaia
PO Box 2534, Walla Walla, Washington 99362
AlembicEnterprises@gmail.com | 509.557.0008