# Sustainable Village

## *Mushroom Mini-Farm Instructions Guide*

Thanks for ordering our mushroom bucket kit! This will help you grow oodles of delicious, nutritious mushrooms right in your own home!

**Quick Instructions**
Step 1: Pasteurize Your Substrate
Step 2: Fill Your Bucket With Substrate and Spawn. (Inoculation)
Step 3: Colonize in a warm dark place. (Incubation)
Step 4: Place The Bucket in Fruiting Conditions. (Fruiting)

**Your kit includes:**
Oyster mushroom grain spawn
Fresh wheat straw
Hydrated lime aka Calcium Hydroxide Ca(OH)2
Extra micropore tape
Mesh bag for soaking straw substrate
5 gallon bucket/fruiting container

**Not included in Kit:**
Extra 5 Gallon bucket/tub
Rubber Gloves
Surface Disinfectant
Mister

*Scan for video instructions*

## Step 1: Pasteurize Your Substrate

*Pasteurization gets your substrate relatively contaminate-free and gives the oyster mushroom mycelium a head start at colonization. Wipe down any surface that you plan on using with disinfectant spray or wipes such as 70% isopropyl alcohol, diluted bleach, lysol etc. Also, ensure your hands are clean and disinfected throughout the pasteurization process and wear gloves whenever possible.*
For the soaking/sterilization process, allow around 1 hour of preparation and work time and around 24 hours soak time.

**a**. Fill your 5 gallon container with clean water to about 60% capacity (~3 gallons depending on container) to allow space for the straw substrate. If you make it too full, it will overflow when you submerge the substrate in the water.
**b**. Sprinkle the lime into the water and then stir well. It's a good idea to wear gloves and a respirator or thick bandana and do this outside or a well-ventilated area while doing this so you don't inhale any of the lime dust.

**c.** Now you can submerge your bag of straw in the lime bath. Make sure it is completely covered.
**d.**You'll find that the bag of straw tends to float, so weigh it down with a heavy object (like a brick, etc) to keep it completely submerged.


c.


d.


e.

Leave the straw in the lime bath for 16 to 20 hours to pasteurize and hydrate.
**e.** Remove the bag from the water and hang it from a rail or place it on a disinfected surface. Leave it for at least an hour to drain. The straw needs to be at "field capacity" before use.

## Step 2: Fill Your Bucket With Substrate and Spawn. (Inoculation)

Once your pasteurized straw has drained, it's time to inoculate it. You'll want to complete this step as soon as possible after pasteurization to prevent any contamination. First, wipe the inside of your bucket with alcohol spray or other disinfectant wipes. Now fill the bucket with layers of straw and grain spawn like a lasagna or layer cake. Start with the straw (substrate) at the bottom of the bucket, add a layer of spawn and then more straw until the bucket is full; make sure your last layer is a layer of straw. You need to fill the bucket to the top and pack it firmly but do not pack it so tightly that it pushes the tape off the holes. Place the lid on the bucket and label it. Include the date, mushroom variety and substrate you have used. Doing this will allow you to experiment and improve over time.

## Step 3: Colonize in a warm dark place. (Incubation)

The mycelium needs to completely colonize the substrate before you can get a crop of mushrooms. Put your bucket in a warm dark place, preferably one that is constantly warm both day and night. The ideal incubation temperature is around 64 -75 F. After around 5 days, you can open the lid and check for any patches of white, cottony growth on the straw. This is the mycelium beginning to colonize the substrate, it should have a pleasant, earthy smell. It should take 10-21 days for complete colonization; the patches will join up, and the substrate will turn completely white with mycelium. The mycelium may even push off the tape and start to fruit on its own.

## Step 4: Place The Bucket in Fruiting Conditions. (Fruiting)

At the end of colonization, when the mycelium is about to run out of food (substrate), it will be eager to produce mushrooms in a bid for survival.
To replicate this, all you need to do is provide the right conditions for mushroom development. Here are some of the things you need to consider:

***Light***

Mushrooms need some light for the mushrooms to grow, but not direct or too much. A shady spot with indirect light will work well. Ensure the bucket isn't in direct sunlight or too close to a light source or other heat source like a radiator.

***Temperature***

The ideal temperature for fruiting varies and is specific to each oyster strain. But, generally, most

oyster mushroom strains are not too fussy. They'll grow best in their ideal temperature range. But, as long as the temperature is between 50 to 86F  the mushrooms should still produce fruit.

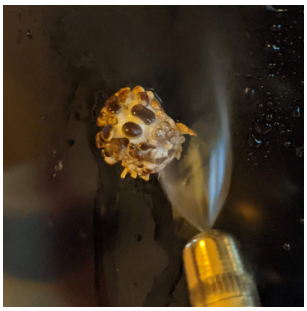
***Fresh Air***

Exposing the mycelium to fresh air stimulates them into producing mushrooms. In the wild, mushrooms grow out of stumps or logs in fresh oxygen-rich air.

To achieve this, remove the micropore tape from the holes on the bucket and ensure the spot you choose for fruiting has good airflow when beginning the fruiting stage. If you are growing them outdoors, you'll want a spot out of the wind, as the mushrooms must not dry out while pinning.

***Humidity***

The challenge during fruiting is to maintain the humidity levels while the baby mushrooms are developing. The included mister will be helpful in keeping the relative humidity high. The mushrooms will grow from the holes in the bucket, so it's important to mist the holes a couple of times a day to prevent the mycelium from drying out. We have also had great success with setting the bucket in a shallow tray filled with gravel and water for passive humidity. Within seven days, you should start seeing tiny mushroom pins forming out of the holes. Baby mushrooms enjoy high humidity, and if the pins dry out, they may stop growing. So mist as often as you can, or put a bag over the bucket to maintain the humidity. Once past the pinning stage, the humidity levels are not as crucial. But, you should continue to spray the mushrooms twice a day to encourage growth and stop them from drying out. Once they start pinning, mushrooms grow fast. In the five to seven days following pinning, the mushrooms will double in size every day. They will go from pins to full-sized mushrooms in less than ten days.



## Step 5: Harvest Your Mushrooms

The best time to harvest your oyster mushrooms is when the caps of the oyster mushrooms start to flatten out and begin to curl upward, before they drop spores en masse. If your oyster mushrooms stop growing, start drying out or start dropping lots of spores (white dust), it's time to harvest. The easiest way to harvest your oyster mushrooms is to cut the whole cluster off at the back against the hole in the bucket with a sharp knife. You can get a second and even a smaller third crop of mushrooms from your colonized substrate over the course of a month. To help the process, make sure you remove any bits of stem left behind with a pointed knife leaving only substrate visible in the hole. Continue to spray the holes twice a day with water. After a few days, the mycelium will recolonize the holes, and in one to two weeks, more mushrooms will emerge, and you'll get another flush. We also recommend submerging your bucket in pure water overnight to stimulate subsequent flushes, particularly in dry areas.

## Step 6: Wash and Reuse!

Your bucket, mister, mesh bag and instructions can be reused to grow more Oyster mushrooms! We also sell "refill packs" that will allow you to try another species of oyster mushrooms (the pink ones are our favorite!) and supply everything needed to "recharge" your kit. And spent spawn makes great compost!