Oak Hardwood Pellets 1kg to 25kg, 100% Oak Mushroom Substrate, Food Grade

From sporesyringes.co.uk/substrates/oak-hardwood-pellets-1kg-25kg, where the drawings move and the page is kept current.

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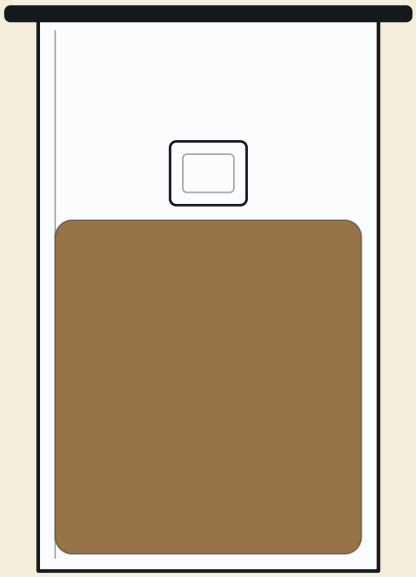
THE METHOD, STEP BY STEP





Hour 24

1 Put 1 kg of oak hardwood pellets in an XLS grow bag

2 Add 200 g of wheat bran

3 Boil the kettle: you need 1.92 litres

4 Pour in 1.92 litres of boiling water; a friend holds the bag up, it collapses with hot water; mind the steam

5 Seal the top with a sealer stick

6 Into an insulated bucket for 24 hours: this pasteurises it

7 Use when cool, straight away: mix it inside the sealed bag; it does not keep

About Oak Hardwood Pellets 1kg to 25kg, 100% Oak Mushroom Substrate, Food Grade

Pellets made entirely from oak heartwood, with no bark or other woods, in five pack sizes from 1 kg to 25 kg. They are sold as a substrate for mushroom cultivation and are also suitable as a heat source in barbecues and pizza ovens.

What it is

Hardwood pellets made only from oak heartwood lump, with no bark or other woods mixed in, sourced from ecologically and sustainably managed forests. They are classified as food grade, which puts them above boiler heating pellets, which often contain lower-grade material such as bark and rotten wood.

What it is used for

As a substrate for mushroom cultivation, and as a heat source in barbecues and pizza ovens. The pellets come in five pack sizes from 1 kg to 25 kg.

How to use it

Prepared in the bag by the method in our bulk substrate in the bag guide, per kilogram of pellets, with wheat bran as the supplement. The animation on this page shows the steps.

1. Put 1 kg of oak hardwood pellets in the bottom of an XLS grow bag
2. Add 200 g of wheat bran on top
3. Boil the kettle: you need 1.92 litres of boiling water
4. Have a friend hold the bag up by its top edge, because grow bags collapse when boiling water goes in, wear oven gloves, and pour the 1.92 litres steadily into the middle; mind the steam
5. Seal the top with a sealer stick
6. Stand the sealed bag in an insulated bucket, lid on, for 24 hours: the held heat pasteurises it
7. Use it straight away when cool: mix it well inside the sealed bag, then add the colonised spawn; it does not keep

How the pellets are made

The pellets are produced from oak heartwood alone, in the following steps.

1. Only oak heartwood lump is selected, with no bark or other woods
2. The wood is pulverised and pelleted under high pressure, which creates significant heat
3. The pressure and heat cause the wood to release lignin, which binds the fibres and gives the pellets a slight shine
4. The process sanitises the oak material
5. The result is 100% oak pellets

Material	100% oak heartwood; no bark or other woods
Grade	Food grade
Origin	Ecologically and sustainably managed forests
Binder	Lignin released from the wood during pelleting
Pack	Five sizes from 1 kg to 25 kg
Use	Mushroom substrate; heat source for barbecues and pizza ovens
Recipe	1 kg of pellets, 200 g of wheat bran and 1.92 litres of boiling water in an XLS grow bag
Pasteurisation	24 hours in an insulated bucket, sealed
Ready	When cool, mixed inside the sealed bag; use straight away, it does not keep

Bulk substrate in the bag

Pasteurising bulk substrate at home usually means a bucket, a sieve, a drip tray and a lot of mess, and the substrate is open to the air at the worst moment, while it cools. Done in the bag, it is hydrated, pasteurised, cooled and mixed inside one sealed grow bag and never opened until the spawn goes in. It is the method our ready-made pasteurised substrate is made by, and it works for four of the substrates on this site. One method, four recipes.

What you need

An XLS grow bag and a sealer stick or bag clip, a measuring jug, a kettle, an insulated bucket with a lid, oven gloves, and a friend to hold the bag while the water goes in. Then one of these:

- **Coco coir:** one 10 litre coco coir brick, 120 ml of vermiculite, 120 ml of gypsum, and 2.8 litres of boiling water (boil 3 litres so there is enough after the kettle)
- **Horse manure:** one 450 g bag of Black Gold horse manure pellets, 120 ml of vermiculite, 120 ml of gypsum, and 1 litre of boiling water

- **Master's Mix:** 1 kg of Master's Mix pellets and 1.6 litres of boiling water, nothing else
- **Oak hardwood:** 1 kg of oak hardwood pellets, 200 g of wheat bran, and 1.92 litres of boiling water

The steps below are the ones the animation on each product page shows.

Step 1: into the bag

Stand the XLS bag open on a worktop. Put the brick or the pellets in the bottom. For the coir and the horse manure, measure 120 ml of vermiculite and tip it on top, then 120 ml of gypsum. For the oak hardwood pellets, tip in 200 g of wheat bran. Master's Mix has nothing added.

Step 2: the water

Boil the water and measure off the amount for your recipe. Grow bags collapse when boiling water goes in, so have a friend hold the bag up by its top edge, and wear oven gloves. Pour steadily into the middle of the bag and keep your face out of the steam. The brick or the pellets swell as they take the water: the bag fills to about two-thirds, with the substrate reaching to just below the filter patch.

Step 3: seal it

Fold the top of the bag over once and slide a sealer stick or clip across it. Every bag is sealed before it goes into the bucket, and from here it stays sealed until you add the spawn.

Step 4: 24 hours in the insulated bucket

Put the sealed bag in the insulated bucket and put the lid on. The heat held in the bucket is what pasteurises the substrate: hot enough for long enough to kill the moulds and bacteria that compete with mycelium, not so hot that it is sterile and defenceless. Leave it the full 24 hours.

Step 5: use when cool

Take the bag out and let it cool to room temperature if it has not already. Mix it well inside the sealed bag, through the plastic, so everything is spread through the whole substrate. It is now at field capacity: nothing to drain, nothing to add. Open it only when the colonised grain is ready to go in, and mix the two in a monotub or a grow bag. Master's Mix and oak hardwood pellets are used straight away, as soon as they are cool: they do not keep.

The ready-made version

If you would rather skip the kettle, the pasteurised bulk substrate is the coco coir recipe made this way in our own bags, in 3.5 kg and 7 kg sizes. It has a ten-day shelf life, so order it only when your grain bag is fully colonised and the substrate is needed.

Psilocybe cubensis spores sold on this site are supplied for microscopy and taxonomy only; germinating them is illegal in the UK and they are not for use with any growing product. This guide is written for gourmet mushroom growing.

Injection rules

Almost every contaminated bag we have ever replaced went wrong in the thirty seconds between opening the syringe and finishing the injection. The syringe, the needle and the bag all arrive sterile; the job is to keep them that way for those thirty seconds. These are the rules our sterile guarantee asks you to follow, and they apply to gourmet liquid cultures and spawn bags alike.

Rule 1: never heat, flame or wipe the needle

Every needle arrives gamma-irradiated sterile in its own wrapper, and the syringe casing and end cap keep the contents sterile. Flaming a needle leaves soot and a hot tip that kills what it touches; wiping it with alcohol drags whatever was on the wipe onto the one part that goes inside the bag. Use the needle straight from the

wrapper. There is a sticker on every bag saying the same thing.

Rule 2: seat the needle properly

A loose needle is the other big cause of contamination. Push the needle hub onto the Luer lock and give it a quarter turn until it stops. It should not wobble. If it does, take it off and seat it again before you go anywhere near the bag.

Rule 3: work still, not clean

You do not need to sterilise the room. You need still air. Close the windows and doors, turn off fans and heating, and wait a minute for the air to settle. Wash and dry your hands, then keep them away from the needle. A still air box helps but is not required for a bag with a self-healing port.

Rule 4: go through the port, once

Every bag has a self-healing injection port. Push the needle through the centre of the port at a slight angle, inject, and withdraw in one movement. Do not inject through the plastic beside the port, do not make a second hole, and do not open the bag to "check" the grain.

Rule 5: how much, and where

Use the amount the product page for your bag gives, and inject all of it in one place. Do not move the needle tip about inside the bag and do not wind the needle round in the port: that can damage the port. The liquid is spread afterwards, not with the needle. An Inject-and-Forget bag is mixed straight after injection. A grain-based bag is tilted so the solution runs across the whole base of the bag.

Rule 6: wipe the port, and nothing else

Every bag comes with a small alcohol swab. Just before you inject, wipe the injection port with it, once, and give it a few seconds to dry. That is the only thing on the outside of the bag that gets wiped: not the needle, not the rest of the bag, and nothing afterwards. The port reseals itself; do not tape over it and do not wash the bag.

Rule 7: one syringe, one job

A syringe is a single-use item. Draw from a fresh syringe for each strain or culture, cap it if you have to pause, and do not put a used needle back into a sterile bottle.Spare needles can be added at the basket.

What happens next

The bag goes somewhere warm and dark and stays sealed until it is fully colonised. That part is covered by the incubation rules. Follow both sets of rules, buy the syringe and the bag together from us, and if the bag still contaminates before it is opened for the first time, the sterile guarantee replaces it.

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Incubation rules

Once the bag is injected, the work is done and the waiting starts. Our spawn bags and all-in-one grow bags are made to stay sealed from injection to first harvest, so the incubation rules are mostly about resisting the urge to help. These are the rules our sterile guarantee asks you to follow after the injection rules.

Rule 1: keep it sealed

Do not open the bag, cut the bag, or add anything through the port after the injection. The filter patch lets the bag breathe; nothing else needs to. A bag opened "to have a look" is no longer a sealed bag, and it is no longer covered by the guarantee.

Rule 2: warm, dark, still

Put the bag out of direct light, where it will not be moved or knocked, at the temperature for its type: 22 to 23 °C for a grain-based bag (the 50/50 all-in-one bag, the LightBag, the SprinkleBags and every rye grain spawn bag), and 26 to 27 °C for the brown rice flour Inject-and-Forget bags. Grain-based systems are kept cooler so the grain layer at the base does not dry out. An airing cupboard, the top of a wardrobe or a heated incubator all work; the LightBag is made to colonise in dim light, the others prefer dark. Do not put a bag on a radiator, on a heat mat with no thermostat, or in a window: mycelium that goes past 28 °C stalls, and hot bags sweat, which is what contaminants like.

Rule 3: mix on the schedule, not before

An Inject-and-Forget bag is mixed well, through the plastic, on the day it is injected. That same-day mix is the reason Inject-and-Forget bags work so fast. A grain-based bag is the opposite: leave the grain where it landed, and only break it up and shake it after day 10, once the spores have germinated. After any mix, leave at least five days before the next one so the mycelium comes back healthy. Shaking a grain bag before day 10, or mixing more often than every five days, breaks the early growth and spreads whatever else is in there. When you do mix, mix well: knead the bag through the plastic, not a little shake.

Rule 4: wait for full colonisation

White mycelium spreads from the germination points and joins up. In a grain-based bag you see it first on the bottom of the bag, where the solution ran. An Inject-and-Forget bag that was mixed straight after injection shows hundreds of germination points all through the substrate. A bag is ready when the grain is white all the way through with no yellow, brown or grey patches. That takes two to four weeks for most gourmet species at the right temperature, longer if the room is cool. Slow is not the same as failed.

Rule 5: know what contamination looks like

Green, blue-green, black or pink patches, a wet grey slime, or a sour smell through the filter patch are contamination. White fluffy growth, small drops of yellow-brown liquid on the mycelium and a mushroom smell are not. If you are unsure, photograph the bag against a plain background in daylight and send it to us before you do anything else; the contamination guide has pictures.

Rule 6: when the bag is fully white, move on

A grain bag is fully colonised when every grain is covered in mycelium. For a spawn bag, that is the moment to mix it into bulk substrate for a monotub or bag-tek, with the substrate calculator giving the quantities; a grain bag is not fruited without a bulk substrate or a casing layer. A fruit-from-the-bag system is usually ready to fruit by day 20 on our mixing schedule: mix first on day 10, again on day 15 and again on day 20, then place it into fruiting conditions, still sealed until the product page says to open it. Opening the bag for the first time is where the guarantee ends and the growing begins.

If something goes wrong

Contamination before the first opening, on a bag and syringe bought together from us and handled by these rules, is covered by the sterile guarantee. Send the claim form with photographs of the whole bag, the injection port and the filter patch, and your order reference, and we will replace it.

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