

GROWING MUSHROOMS IN COFFEE GROUNDS

Growing Mushrooms....The Easy Way





Growing Mushrooms in Coffee Grounds

Are you thinking about growing mushrooms but aren't really sure where to start?

Mushroom growing is often seen as a complex process.


But in our experience, anyone can learn to do it pretty easily if they choose the right methods.

We've spent the last 10 years focussed on finding the easiest 'Low-Tech' ways to cultivate mushrooms.

Using coffee waste to grow mushrooms is one of those Low Tech ways.

Let's dive right in!

Growing Mushrooms In Coffee Grounds

 grocycle.com/growing-mushrooms-in-coffee-grounds/

When we first started growing mushrooms in coffee grounds back in 2011 we could see instantly why it made so much sense.

When a cup of coffee is made, **less than 1% of the coffee biomass actually ends up in the cup.**

Think about that for a second...

There are more than 9 billion kilos of coffee beans produced each year.



After all the huge amount of energy in producing & shipping coffee beans around the world, all the value is placed on the liquid extract of their flavour.

And a cup of coffee is a truly wonderful thing.

But the problem is that the other 99% of the biomass of the coffee bean is wasted.

However, this huge amount of waste coffee is still packed full of nutrients which Oyster mushrooms love to grow on.



Oyster mushroom mycelium growing on coffee grounds

This article is an in-depth guide to growing mushrooms on coffee grounds.

We'll look at the benefits of growing mushrooms from coffee, and provide a step by step guide to the process so you can get stuck in and get growing too.

Who Are GroCycle?

We are a social enterprise based in the UK and we've been growing mushrooms in coffee grounds since 2011.

We were already growing gourmet mushrooms in our local area back then, and came across the idea of growing on coffee waste on the internet and in mushroom growing textbooks.

At the time [Back To The Roots](#) had just starting making mushroom growing kits from coffee waste in the US (they since dropped using coffee after admitting they were no good at mushroom growing and outsourced their production to another company!).

Gunter Pauli from the [Blue Economy](#) had been promoting the idea too as a great example of a circular economy business model.

We were really inspired by the prospect of growing our mushrooms on this widespread waste material so we switched our whole production to growing on coffee grounds.

A year later we set up one of the [world's first urban mushroom farms](#) in Exeter, UK.

Check out this video from when we featured on the BBC's 'The One Show' a while back:

Since 2011 we've recycled more than 75,000 kg. of coffee grounds and turned them into more than 20 tonnes of mushrooms.

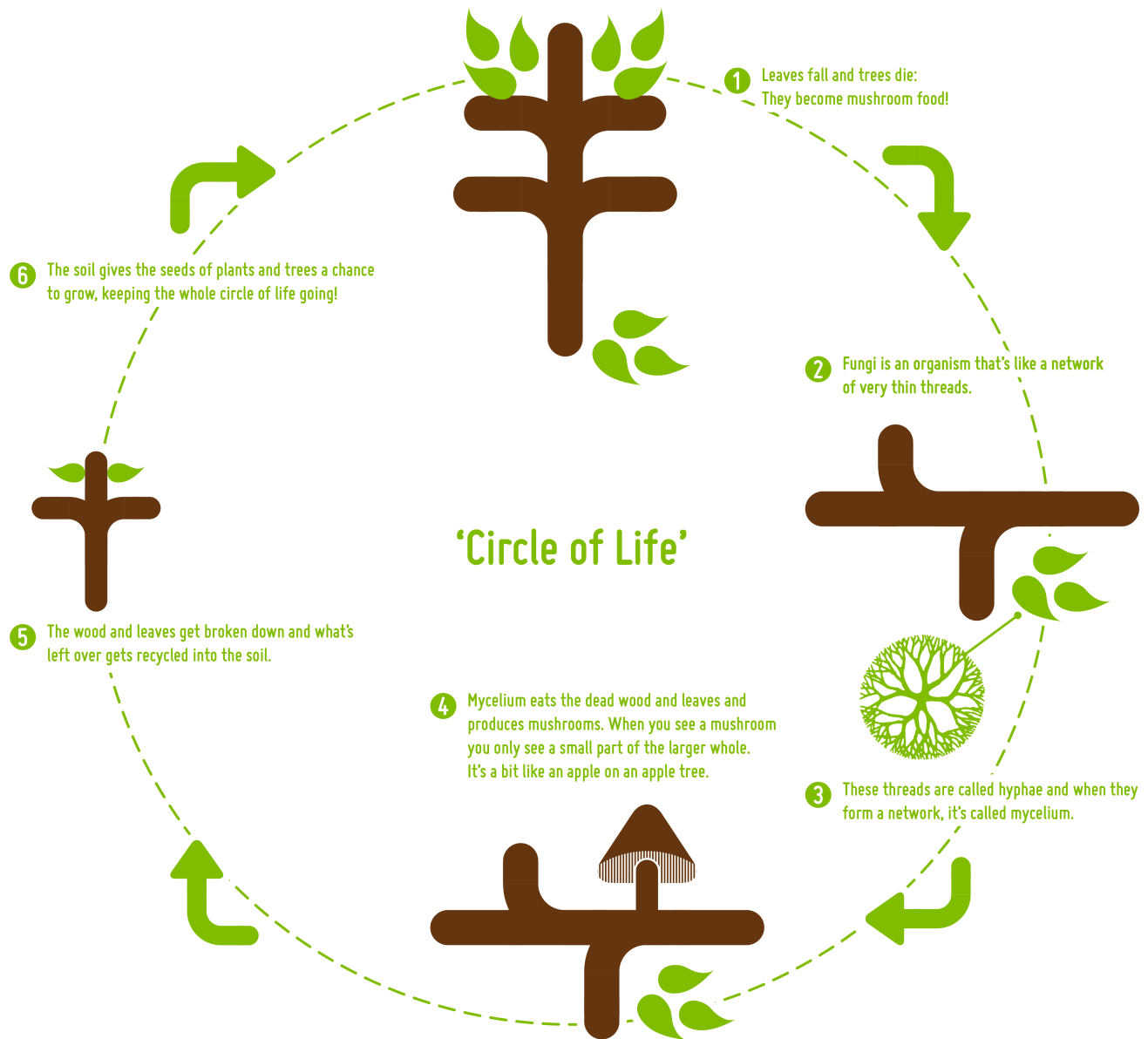
Along the way we've become experts in the technique and have taught more than 1000 people in over 50 countries around the world through our [mushroom growing online courses](#).

Mushrooms: Nature's Recycler

The wonderful thing about mushrooms is that they are born to recycle.

It's what they do in nature all the time.

When a tree falls in a forest, it's mushrooms that often break down the complex molecules in the wood and recycle them back into the food chain for bacteria, insects and other fungi to return to the soil.



Mushrooms play a crucial role in the cycling of nutrients and their ability to do this makes them perfect for recycling a wide range of organic waste streams.

Oyster Mushrooms in particular are extremely versatile and have been shown to grow on more than 200 different agricultural waste materials.

Benefits Of Growing Mushrooms On Coffee Waste

Aside from making use of a huge waste stream there are many other reasons to grow on coffee grounds:

1) No need to sterilise substrate:

Normally when growing mushrooms you need to first pasteurise the straw or sterilise the sawdust.

The most common way to pasteurise is using hot water or steam, which is either messy on a small scale or costly and energy intensive on a larger scale.

The beauty of growing on coffee waste is that the grounds are already pasteurised by the brewing process; meaning you can completely cut out this energy intensive and costly step.

2) Simple to get started:

Not needing to sterilise your growing substrate also means that it can be really simple to get started and you don't need loads of big expensive equipment.

Once you know what you're doing you can just go out to your local cafe, collect some grounds, mix in the spawn, bag it up and watch it grow. It's not massively different to planting tomato or basil seeds.

3) Easy to source substrate:

The waste grounds are very often just thrown in the bin, and you'll find most cafes very happy to give you their grounds if you just provide them with a bucket and arrange a collection time.

This makes it a great free source of substrate, especially if you're in a large town or city where waste coffee is in abundance.

4) Local food:

Most of our food is delivered through an increasingly complex and energy intensive system. By taking local waste to grow mushrooms within a few miles of where they are consumed, we can grow increase local food production and minimise energy inputs.

Although most of the world's food is consumed in cities, virtually none of it is grown there. Mushrooms are one crop ideally suited to urban agriculture, where both the waste and demand are highest. They can be grown in empty spaces and add to urban food security.



Fresh local Oyster mushrooms grown on coffee grounds

5) Sustainable protein:

Meat is the world's main source of protein; however, its production depends on huge amounts of scarce resources such as land, energy and water.

Oyster mushrooms are high in protein and require relatively small amounts of these resources, providing a low-impact alternative protein and nutrient rich alternative.

How To Grow Mushrooms In Coffee Grounds

Here we outline the technique to growing mushrooms with coffee grounds. To help give you success you'll find some tips which are specific to using coffee grounds as your substrate.

You may also want to check out our [ultimate guide on How To Grow Oyster Mushrooms](#). It's where we go into a lot more detail on growing conditions, selecting your strain, choosing/making your growing container, ordering supplies and much more.

Step 1: Collect fresh waste coffee grounds

Step # 1

Collect Fresh Coffee Grounds



- Leave a bucket/bin with your local café and collect the next day
- Use it for growing mushrooms whilst still fresh (within 24 hours of brewing)
- Espresso grounds are best, filter or cafetière coffee is often too wet

Step 2: Inoculate coffee grounds with Oyster mushroom spawn

Step # 2

Inoculate Coffee Grounds



- Weigh your coffee grounds & add:

- 1) Oyster mushroom spawn (10% of coffee weight)
- 2) Pasteurised straw or hydrated sawdust pellets (20% of coffee weight)
- Mix together well and place into growing bags

Check out this video where we show you an examples of the process:

Summary Instructions

1. Clean work surface & mixing container
2. Weigh out all materials before mixing
3. Mix thoroughly, breaking up and pucks of coffee as you go
4. Fill grow bags & seal
5. Incubate in warm (20-24C) dark space for 2-3 weeks
6. Cut holes & place bags in autumn-like conditions (humid, fresh air)
7. Harvest mushrooms 1-2 weeks later.

Example mix shown in this video:

- 3kg fresh coffee grounds
- 600g pasteurised straw
- 300g Oyster mushroom spawn

‖ **Note:** Adding straw is not vital if you grow in small quantities of 1kg substrate bags or less.

For 1kg substrate or more you will often find that the coffee grounds become too compacted.

This happens because the coffee ground particle size is very small. This means the substrate can become too dense and compact, creating poor air exchange for the mushroom spawn.

Adding straw or hydrated sawdust pellets breaks up the density of the coffee grounds and creates better air exchange in the substrate.

Step 3: Incubate growing bags for 2-3 weeks

Step # 3

Incubation



- Leave your grow bags in a warm (20-24C) and dark place
- Check every few days to see the white mycelium starting to grow across the coffee
- After 2-3 weeks your bags should be fully colonised and bright white

Step 4: Place in fruiting conditions

Step # 4

Fruiting



- Cut 2-5cm hole in your grow bag
- Place in a shaded spot with some indirect light (Oyster mushrooms need some light to grow properly)
- Spray with water each day
- Mushrooms will begin to start growing in around 5-10 days
- Keep spraying regularly for another 5-7 days as they double in size each day

Step 5: Harvest!

Step # 5

Harvest!



- When the top of the caps begin to flatten out it's time for harvest
- Twist the cluster off of cut with a knife
- Cook them up and enjoy the satisfaction of eating mushrooms grown from coffee waste (no, they don't taste of coffee!)
- After 2 days, submerge your bag in water overnight to rehydrate the substrate
- Then spray daily to encourage the 2nd crop to grow

The # 1 Mistake to avoid when growing mushrooms on coffee waste

Growing mushrooms is all about providing the mycelium with the best chance to win an extremely competitive race with competing moulds.

If you're not already aware, Mycelium is a white root-like network, and is the main part of

the organism from which mushrooms grow.

This mycelium grows throughout the substrate (the food source) and must completely colonise it before it is able to grow mushrooms.

Traditional mushroom growers sterilise or pasteurise the material they're growing on before they add the mushroom spawn.

This is usually done by steaming the substrate which is both energy intensive and costly.

The beauty of growing on coffee grounds is that the brewing process pasteurises the grounds for us.

The coffee does not stay like this for long though.

The biggest mistake you can make is to use coffee which is too old and already has other organisms like mould starting to grow on it --> **only use fresh coffee grounds less than 24 hours since brewing.**

You can't always see this with the naked eye but if the coffee is more than 24 hours old you're more likely to grow mould instead of mushrooms.

We pick up coffee on a daily round so we know it's clean for our mushrooms.

You could just ask your local cafe if you can pick up their grounds at the end of the day or the following morning to make sure it's fresh.

Conclusion

Growing mushrooms in coffee grounds just makes so much sense.

You make use of a plentiful waste resource which is still packed full of nutrients and turn it into delicious healthy Oyster mushrooms instead.

At the end of the growing cycle you can return the now composted grounds to enrich your soil and complete the circle.

Interested to have a go at this yourself? Check out our [guide to Growing Oyster Mushrooms](#); this goes in to more depth and offers additional growing tips.

And if the idea has really inspired you then you may be interested in our article on [How To Set Up A Low Tech Mushroom Farm](#).

