

Fertile grounds

How to reuse coffee waste

Britain's coffee habit

Britons have a coffee habit that's strong and growing. Coffee shops are a £15 billion market, and their biggest customers are millennials¹. The hospitality sector, offices with canteens and staff kitchens, and households are also major consumers. All told, the UK consumes 98 million cups of coffee every day, or 35 billion cups a year.²

The plastic packaging associated with takeaway coffees and consumer coffee machines is a massive waste problem. We throw away more than 2.5 billion disposable coffee cups annually.³ Reusable, recyclable and compostable cups and pods help reduce the volume of material going to landfill. But what about coffee grounds?

What to do with coffee grounds?

Hundreds of thousands of tonnes of coffee grounds – maybe as much as half a million – end up in landfill each year. Not only does this waste emit carbon and methane, spent coffee grounds are a resource that is being needlessly discarded.

Diverting coffee grounds for composting via food waste collection is the most obvious alternative to landfill. When the waste eventually breaks down, it releases nitrogen to enrich the compost.

However, there are other, more direct ways of reusing spent coffee residues, lifting this resource higher up the waste hierarchy.

A match for mushrooms

Brewing coffee only uses up a small fraction of the bean's nutrients and biomass – as little as 1%.⁴ The best way of capturing more of that residual value is to reuse coffee grounds as a growth medium for mushrooms.

Notoriously difficult to cultivate, mushrooms require a substrate, so won't grow in common garden soil.

Coffee grounds are excellent in this underling layer as they are high in the nutrients mushrooms need. Also, they have been sterilised through brewing, so allow mycelium to flourish – avoiding the need for another step in the growing process.

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¹ <https://coffeeaffection.com/uk-coffee-statistics/>

² <https://www.bio-bean.com>

³ <https://www.bbc.co.uk/news/business-56582456>

⁴ <https://www.ikea.com/gb/en/ideas/grow-your-own-table-top-mushrooms-in-coffee-grounds-pub4136ed81>

Close the loop

The re-use of coffee grounds may seem like a modest gain, given our society's colossal food waste problem. But growing food from this food waste closes the loop, and epitomises the circular economy. Alongside regenerative agriculture, such solutions will be essential for a sustainable food system amid the climate crisis, and soil erosion and degradation.

Growing mushrooms using coffee waste is a small but worthwhile contribution that the hospitality trade, universities and their caterers, building facility managers, community groups and households can make.

You can take that step alone – see our simple guide below – or with support from your waste management provider. Either way, SUEZ recycling and recovery UK is ready to help our customers and stakeholders achieve their sustainability goals and contribute to the new circular economy.

7 steps to grow mushrooms



Moist coffee grounds provide an ideal growing environment for mushrooms. You can use this method to grow just about any kind of mushroom, but shiitake and oyster varieties seem to be the easiest.

1. Collect about 2.5 kg (5.5 pounds) of grounds and moisten them using a spray bottle.
2. Add a little over 500 grams (1 pound) of mushroom spore and sawdust mixture and mix well. (Also known as spawn or mycelium, spore can be sourced from gardening stores, mushroom farms or online vendors.)
3. Fill a filter patch grow bag, large freezer bag or bucket with the mixture to between one-half and two-thirds full.
4. Cut four air holes (about 5 mm in diameter) into the sides of the container above the grounds. If the container is open, cover it with cellophane and make a few more, small airholes.
5. Store in a warm, dark area, and lightly spray with water once daily, or as needed to keep the mixture moist.
6. In about 2-4 weeks, when dense white areas with little budding mushrooms appear, move the container to an area with more light and fresher air.
7. The mushrooms are ready to be harvested when they become plump and their caps turn upward.

Other re-uses

Repel insects

Caffeine, diterpenes, and other compounds found in coffee can act as a natural insecticide. Simply set out bowls of grounds or sprinkle them around outdoor seating areas. Coffee grounds can be an effective repellent against mosquitos, fruit flies, beetles and other pests too.

Protect plants

Scattering coffee grounds around plants and shrubs help create a barrier to ants, slugs and snails. Over time, nutrients seep into the soil. Contrary to some advice, grounds have a neutral pH after brewing, so offer no additional benefit to acid-loving plants like azaleas and hydrangeas.

De-ice paths

The run-off from salt and chemical de-icers pollutes groundwater and is toxic to plants and aquatic species. Like sand, coffee grounds have a gritty texture that improves traction underfoot. They also contain nitrogen, which helps melt ice. But, compared with rock, a much bigger quantity will be needed.