

PERMAFUNGI FROM BELGIUM

INNOVATIVE TECHNIQUE THAT CONVERTS USED COFFEE GROUNDS IN MUSHROOMS AND FERTILIZER

By Lydia Peroni

One of the innovations promoted in the Belgium Pavilion at EXPO Milano 2015 is the [Permafungi project](#).

Permafungi is based on a highly innovative technique that converts used coffee grounds, an overly abundant organic source of waste, into mushrooms and fertilizer.

Indeed, used coffee grounds are an ideal substratum for the culture of oyster mushrooms (*Pleurotus*) and this technique allows to fully eliminate a waste to create two useful products like mushrooms and fertilizers.



Permafungi is a micro company born in 2013 and in 2014 they installed an urban mushroom plant in Brussels. Since then, they have been producing fresh oyster mushrooms and home-growing kits from recycled coffee grounds collected by bike in Brussels.

Belgians consume on average 7.2 kg of coffee per year. If we could use all the ground coffee from a city like Brussels, which would produce 3,000 tons of oyster mushrooms a year. Every morning *Permafungi* rides a bicycle to collect coffee grounds from local Brussels restaurants. Every month *Permafungi* collects approximately 1 ton of coffee grounds, or the equivalent of 70,000 cups of coffee. Per day, they can pick up 10kg of coffee grounds in only one restaurant.



Process to produce mushrooms from coffee grounds is the following:

- **Inoculation.** The coffee ground is mixed with straw and mycelium in a sterile room
- **Incubation.** During twenty days, the mycelium will colonize (eat) and breaks down the coffee grounds. This stage takes place in the dark and under a rough temperature of 20. The bags become white during this process.
- **Fructification.** When the mycelium has eaten all the coffee grounds it is ready to fruit. The room must be enlightened and very wet. In a few days, the mycelium grows into beautiful oyster mushrooms ready to be harvested. Each bag produces generally 2 or 3 harvests.



With this new technique, *Permafungi* seeks to create in Brussels a socially responsible company which produces mushrooms and fertilizer from used coffee grounds; sells fresh mushrooms, kits and fertilizer and develops a network of decentralized production.

The company respects the environment and reuses organic products (coffee). Material for packaging is made of recycled and recyclable cardboard selectively coated with a thin layer of varnish that keeps it impermeable in use.

Their mission is to promote the sustainable development of Brussels by bringing social, economic and environmental aspects together. The company will value an organic source of waste; create sustainable jobs; develop the local economy and train under-qualified staff. In the medium term, the company wishes to develop a network of decentralized production. This way, various neighborhoods/districts will have the possibility to value the used coffee grounds produced locally.

Permafungi is associated with the [Transition Towns movement and Network](#), created by Rob Hopkins and that nowadays carries out more than 1000 initiatives in 43 countries.

To know more

[Permafungi webmail](#)

[Permafungi in Facebook](#)

[Presentation of Permafungi](#)

[Transition Network website](#)

