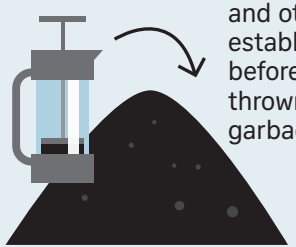
From waste to protein

1



Coffee grounds are collected from restaurants, hotels and other establishments before they are thrown into the garbage.

2

They are mixed with mycelium, the thread-like vegetative part of fungus, in a concrete mixer and then placed in incubation bags.

3

+20°

The bags are hung in a dark container called "Summer" for three to four weeks. The temperature is 20 degrees Celsius. This makes the fungus "think" that it is actually growing inside a piece of wood in the forest.

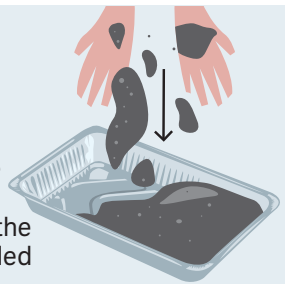
4

+16°

The bags are moved to the container called "Autumn" where the light is on. The temperature is 16 degrees Celsius. This makes the fungus "think" it is autumn and time to produce fruiting bodies and spores. After about 10 days, oyster mushrooms grow out of the sides of the bags.

5

The mushrooms are harvested, while the coffee grounds and mycelium from the bags are crumbled into a large aluminium foil tray.



6

Water is added to the tray, which is then placed in a warming cabinet at 17 degrees Celsius for about a week. A white layer of protein-rich mycelium gradually emerges.

+17°

7

Mycelium is dried and ground into a protein-rich powder.

8

The aim is to utilise this umami-flavoured protein powder as a flavour enhancer and a protein ingredient in food (bread, cereals, porridge, protein bars, vegan "meats" and animal feeds).

Source: POLITIKEN, REUTERS STRAITS TIMES GRAPHICS