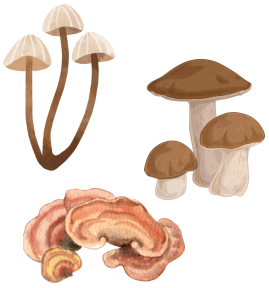
Dyeing Wool with Fungi

John Innes Centre
Unlocking Nature's Diversity

Fungi!



When you think of fungi you might think of mushrooms, but fungi can also be single celled organisms. Fungal cells have a nucleus and are eukaryotes. Some fungi can cause diseases in both animals and plants. Here at the John Innes Centre (JIC) we have scientists working on fungi.

Ash dieback is a serious disease affecting ash trees. It is caused by the fungus *Hymenoscyphus fraxineus*. Ashe dieback was found in the UK in 2012 by one of JIC's scientists, Dr Anne Edwards! Since it's discovery Professor James Brown and his lab have been studying the disease and trying to find ash trees that are resistant to the disease.

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Aim: To use the natural compounds found in mushrooms as dyes.

This experiment shows you how fungi can be used to dye wool a variety of beautiful colours. The dyes come from chemicals that occur naturally in fungi. Different fungi contain different chemicals and so can give different colours. If there is no colour you have probably just been unlucky - not all fungi produce dyes so try again with a different species. Different fungi give different colours, so experiment! The foil acts as mordant and brings out the colour. Try replacing with copper coins and see what effect it has.

Equipment

~100g clean mushrooms, coarsely chopped

~100g of light coloured natural wool

Spoon
Large Saucepan
3 litres water

5cm2 aluminium foil
Straining Spoon/Sieve

Method

- Boil the water in the pot, add the foil and mushrooms and simmer for 30 minutes.
- Carefully remove the mushrooms using a straining spoon or sieve.
- Add the wool to the water and simmer for 30-60 minutes (add more water if the volume is getting low).
- Allow the wool to cool in the pot.
- Wash in warm water to remove excess dye and dry (e.g. outside on a sunny day or in an airing cupboard).