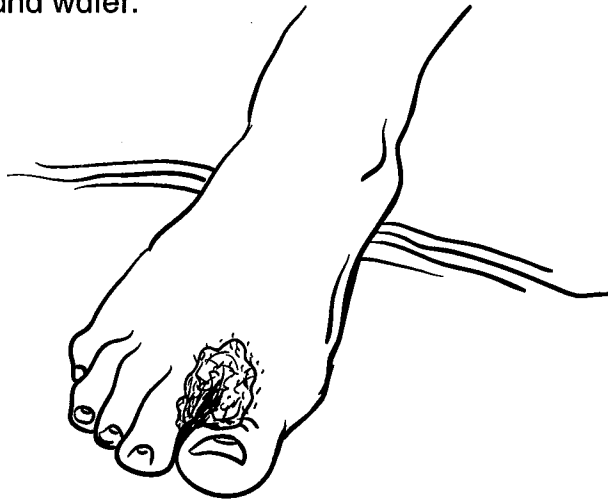


What are fungi and what do they do? – I

Fungi are strange organisms. They are neither plant nor animal but are similar to both. They can be so tiny that a microscope is needed to see them or so large that they can be seen from a distance. Mushrooms are fungi. You can eat some, like *button* and *oyster*, but others, like *death cap* and *destroying angel*, can kill you. Some fungi can cure infections (from *penicillium* comes the penicillin antibiotic) and others can cause them (yeast infections such as tinea and ringworm). Fungi exist in all varieties of environment: in air, soil and water.

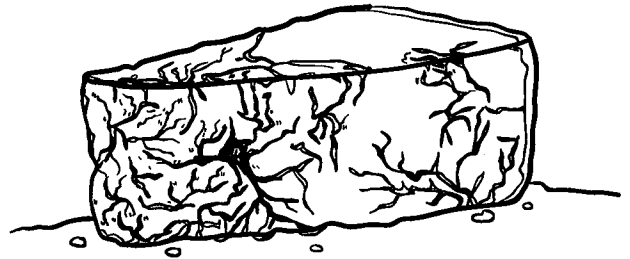


Unlike green plants, fungi do not need sunlight to grow. They obtain their food from dead organic matter or they live as parasites on living flesh. Fungi are important in all food webs. As they feed, they produce substances called *enzymes* which break down the organic matter, releasing energy back into the soil in the form of nutrients. Fungi grow best in damp, warm conditions.



Moulds and yeasts are types of fungi. They can destroy food. Mould will grow on any moist food item that is left long enough in warm conditions. But some yeasts and moulds are vital in the production of many foods and beverages; for example, yeasts can act on the sugar in canned soft drinks and form carbon dioxide.

Some cheeses are mould ripened. The mould produces a substance that works on the cheese to produce a flavour and smell. The longer the cheese is left, the stronger the flavour becomes. Brie and camembert are coated with a fine layer of white mould and the flavour develops from the outside in. This is called surface ripening. Stilton and Danish blue are injected with blue mould and the flavour develops from the inside.



Without yeast, bread could not rise and fruit and cereal grain could not ferment to produce wine and beer.

Yeast works in two ways. With air, the yeast converts sugar to carbon dioxide. This process is called *respiration*. With little or no air, sugar is converted to alcohol and carbon dioxide. This process is called *fermentation*.

In bread making, both processes occur. Carbon dioxide from respiration causes the dough to rise and fermentation produces the delicious smell. The alcohol that is produced in dough is destroyed during baking.

In the production of soy sauce, first a mould is added to break down the soy beans into a paste. A yeast then feeds on the paste and in doing so produces a liquid with desirable flavours. After about a month, the liquid is ready to be separated, sterilised to kill the yeasts and moulds, and bottled ready for sale as soy sauce.