Microbes are everywhere in the food system

Microbial communities are essential for food chain health, for food security and climate change mitigation.

Small numbers of potentially harmful microbes are a natural part of these communities.



Aquatic animals

Fish have microbial communities that support their health.



Soil

Soil microbial communities differ: fungi form spider webs in the soil to connect plants, bacteria are near plant roots.



Microbes are on and in plants, supporting plant health.



Animals and disease

Potentially harmful microbes are often part of the natural host microbial community and attack when immunity is weak. The animal food chain may also spread anti-microbial resistances.

Microbes on food

Foods like yoghurt and sauerkraut are rich in beneficial bacteria that outnumber those microbes which cause food go rotten. In food production, yeasts are often used for bread and beer.





Water bodies

Microbes in phytoplankton communities are food for fish.



Shellfish and disease

Some microbial compounds accumulate in shellfish and cause food poisoning.



Single celled algae

Single-celled algae are a food source for us.



Agriculture

Some bacteria help crop growth and defend plants against diseases.



Plants and disease

Some microbes can cause plant disease and food losses, in the right environment.



Animals

Animals have microbial communities that are supportive of the animal's health.



Humans

Humans have many beneficial microbial communities: our gut bacteria is influenced by the food we eat.



Humans and disease

Microbial infections are common when immune systems are weak.



Microbes in foods

Wrong food storage causes food to go rotten as moulds take over the microbial community. These microbes often cause food poisoning.



Rotting of food means microbes recylce food leftovers so that nutrients can be released back into the environment.

