

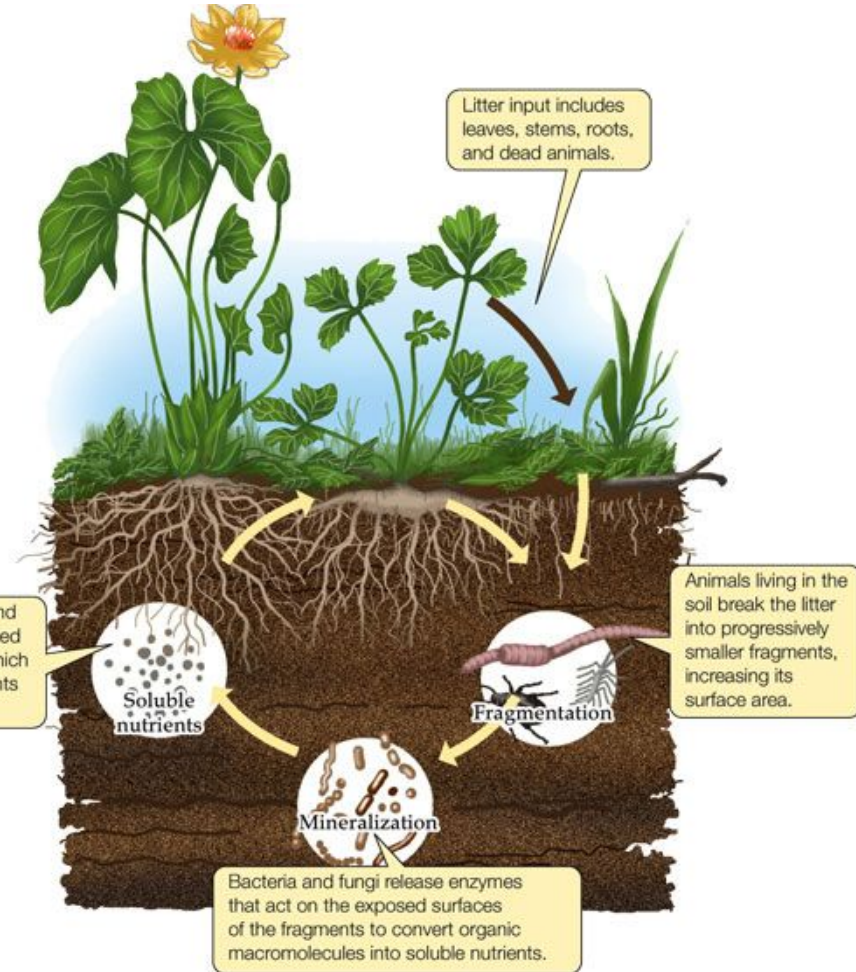
The background is a vibrant, microscopic scene. It features several large, translucent blue cells with internal structures. Interspersed among these are numerous smaller, colorful, spiky structures resembling viruses or bacteria, in shades of yellow, orange, red, and pink. The overall lighting is bright and colorful, creating a dynamic and scientific atmosphere.

BACTERIA & VIRUSES

How do microorganisms influence our lives?

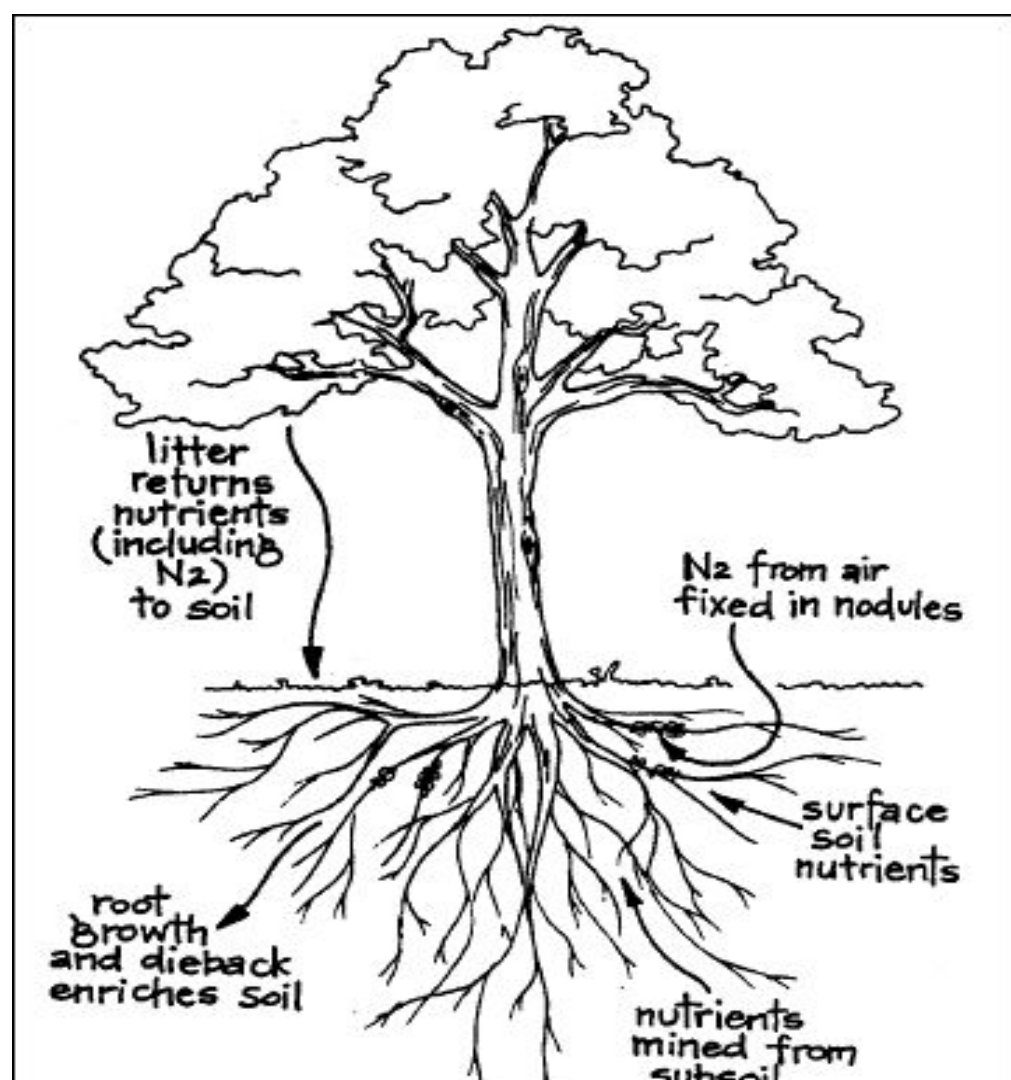
THE IMPORTANCE OF BACTERIA

1. **Decomposers**: help ecosystems recycle nutrients & maintain equilibrium in the environment.



2. Nitrogen fixation:

chemically alter Nitrogen (N_2) into ammonia (NH_3) and other nitrogen compounds for plants & animals to use.



3. Food Production

Used to make food and beverages



lactobacillus and bifidobacterium

4. Industry uses

Sewage treatment and oil spill clean up



Good and Bad Bacterial Flora



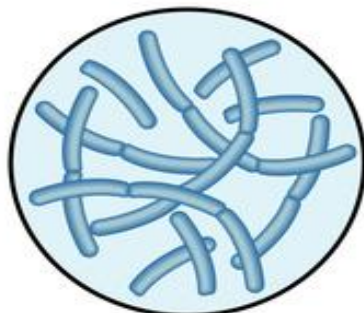
BIFIDOBACTERIA

The various strains help to regulate levels of other bacteria in the gut, modulate immune responses to invading pathogens, prevent tumour formation and produce vitamins.



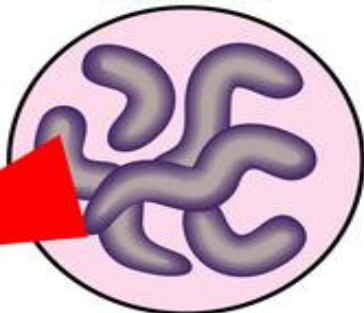
ESCHERICHIA COLI

Several types inhabit the human gut. They are involved in the production of vitamin K2 (essential for blood clotting) and help to keep bad bacteria in check. But some strains can lead to illness.



LACTOBACILLI

Beneficial varieties produce vitamins and nutrients, boost immunity and protect against carcinogens.



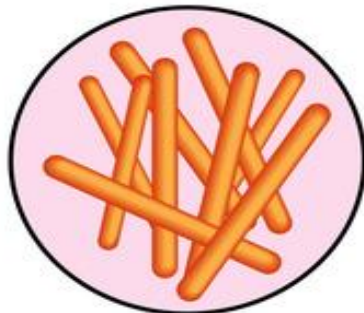
CAMPYLOBACTER

C Jejuni and C coli are the strains most commonly associated with human disease. Infection usually occurs through the ingestion of contaminated food.



ENTEROCOCCUS FAECALIS

A common cause of post-surgical infections.

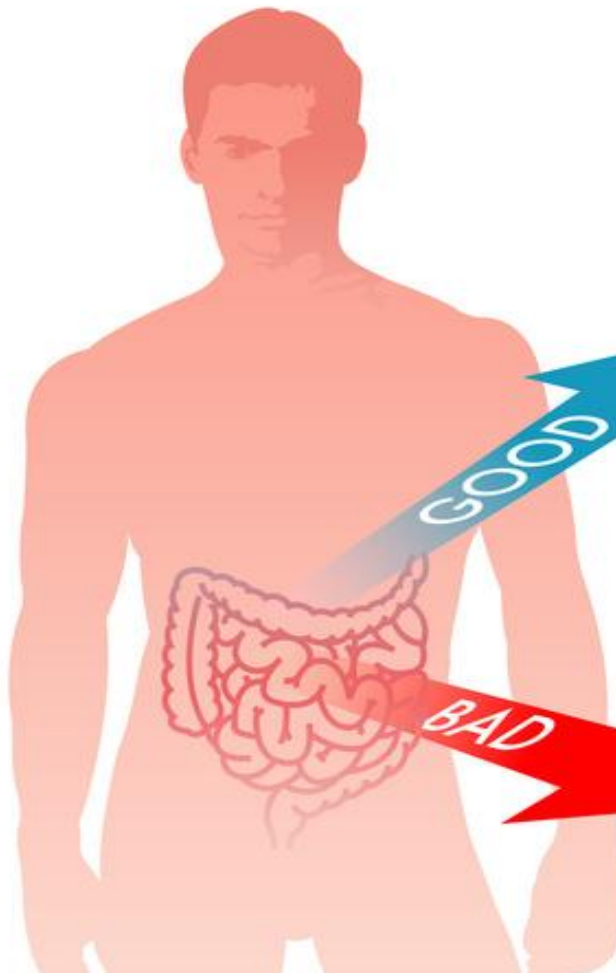


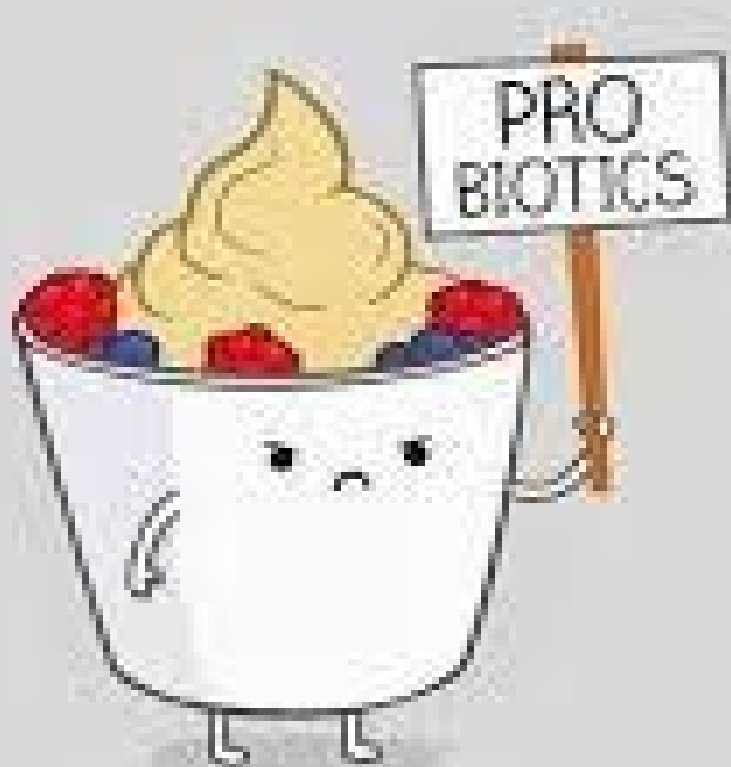
CLOSTRIDIUM DIFFICILE

Most harmful following a course of antibiotics when it is able to proliferate.

GOOD

BAD





Promotes good bacteria



Kills good and bad bacteria