

Soil: Importance & History

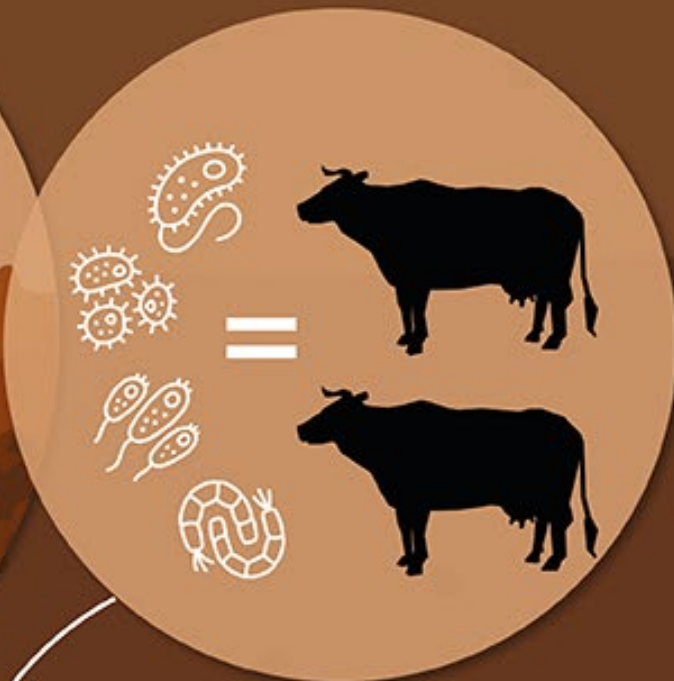


Soils Sustain Life

Soil is a living resource, home to more than 25% of our planet's biodiversity.



95% of our food comes from soils.



One hectare of soil contains the weight equivalent of two cows of bacteria.

Agriculture



Food





1st Generation (Edible biomass)

- Starch crop (Wheat, corn)
- Sugar crops (Sugarcane, sugar beet)
- Oil seed crop (Oil palm, rapeseed)



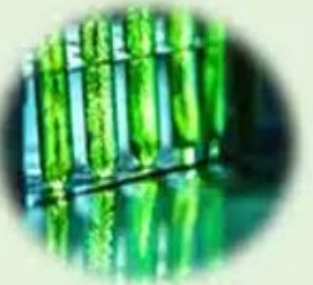
2nd Generation (Non-edible biomass)

- Perennial energy crop (e.g., Willow, Poplar)
- Short rotation forestry crops (Eucalyptus)
- Agricultural residues (wheat straw, rice husk)
- Forestry residues (Forest thinning, saw dust)



3rd Generation (Algae biomass)

- Microalgae
- Microalgae



4th Generation

- Genetically engineered algae

Energy



Biomass processing

Liquid fuels (methanol & ethanol)
Gaseous fuels (biogas & producer gas)
Electricity & heat

Soil Health Microbiomes





Soil functions

Soils deliver ecosystem services that enable life on Earth

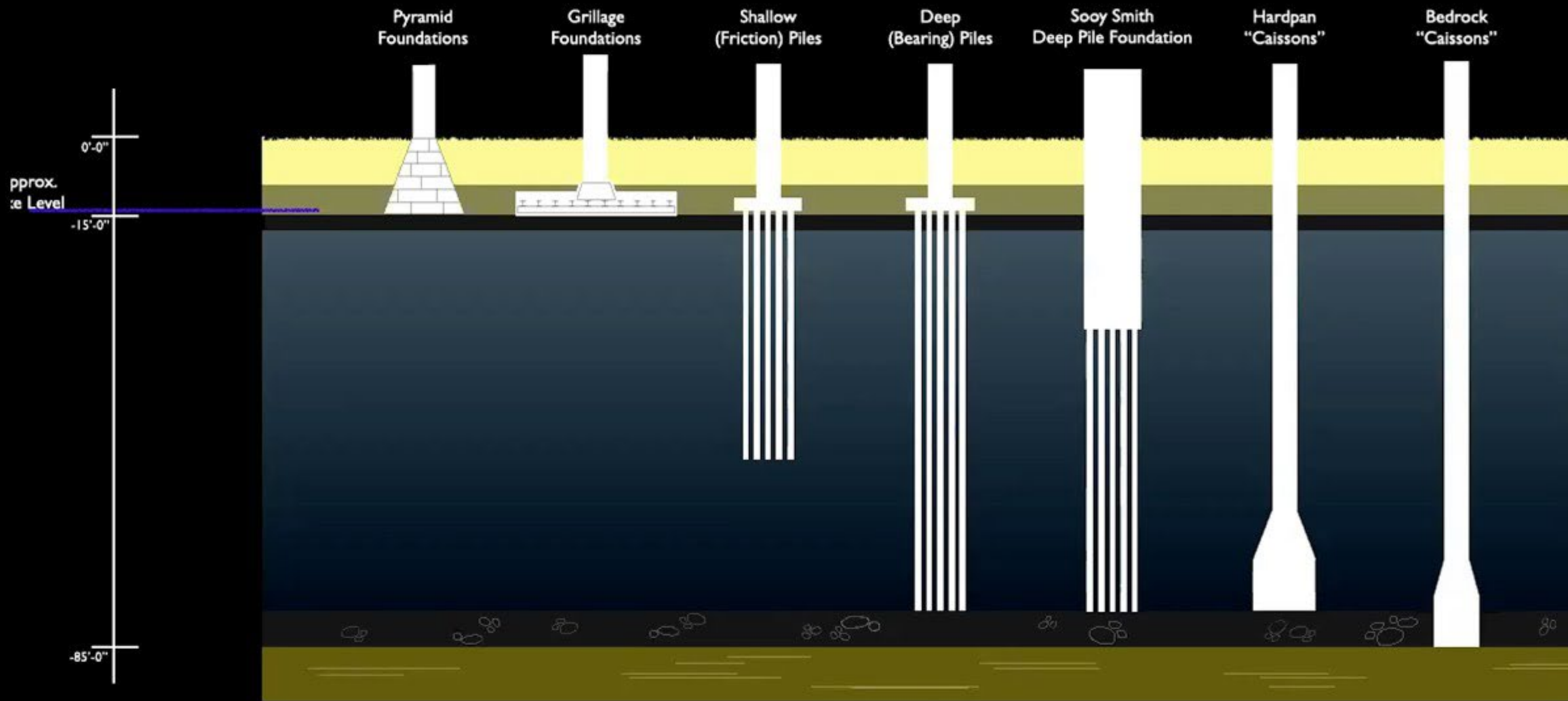




**WHY SOIL TESTING IS IMPORTANT
BEFORE CONSTRUCTION?**



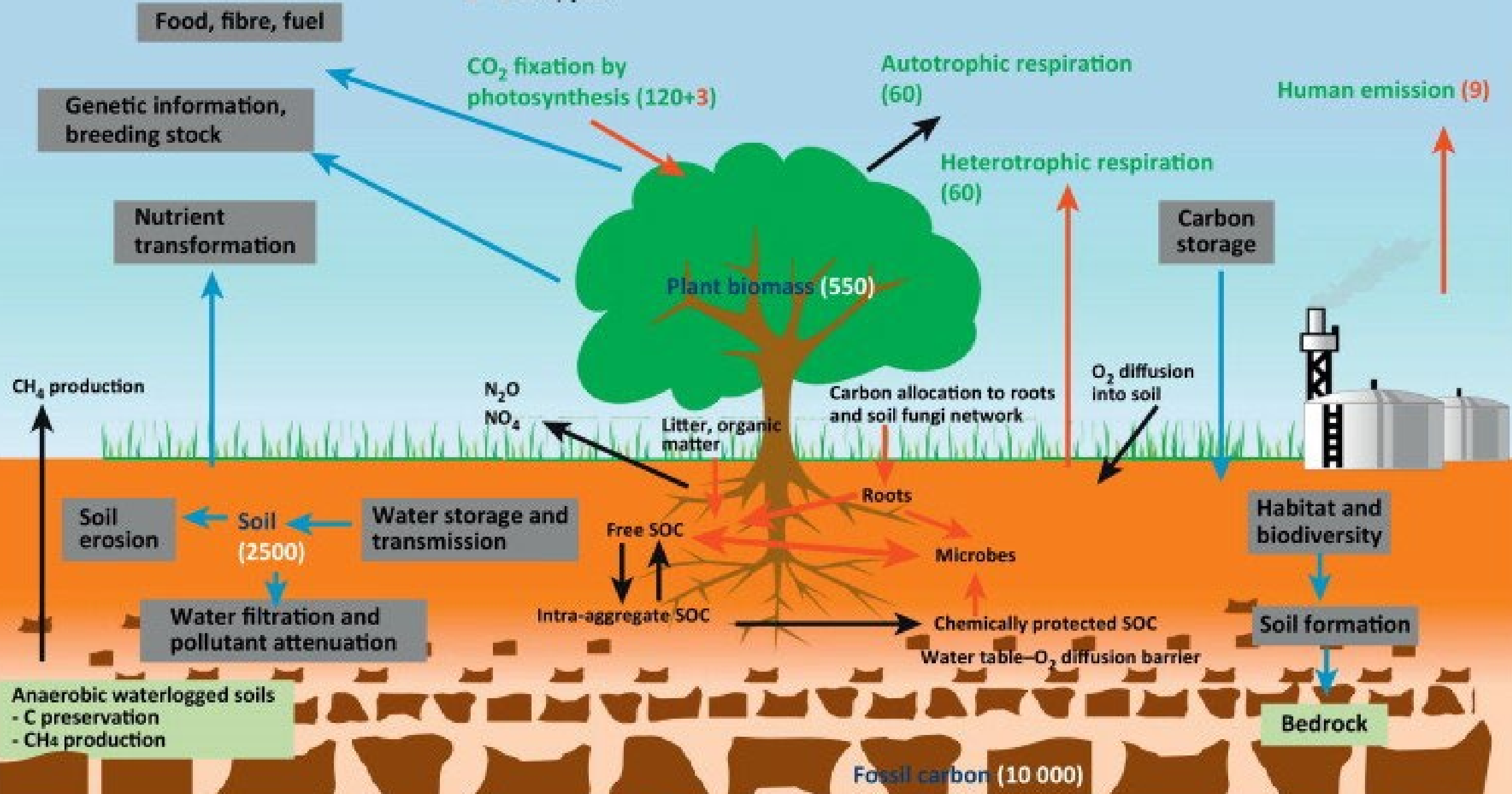




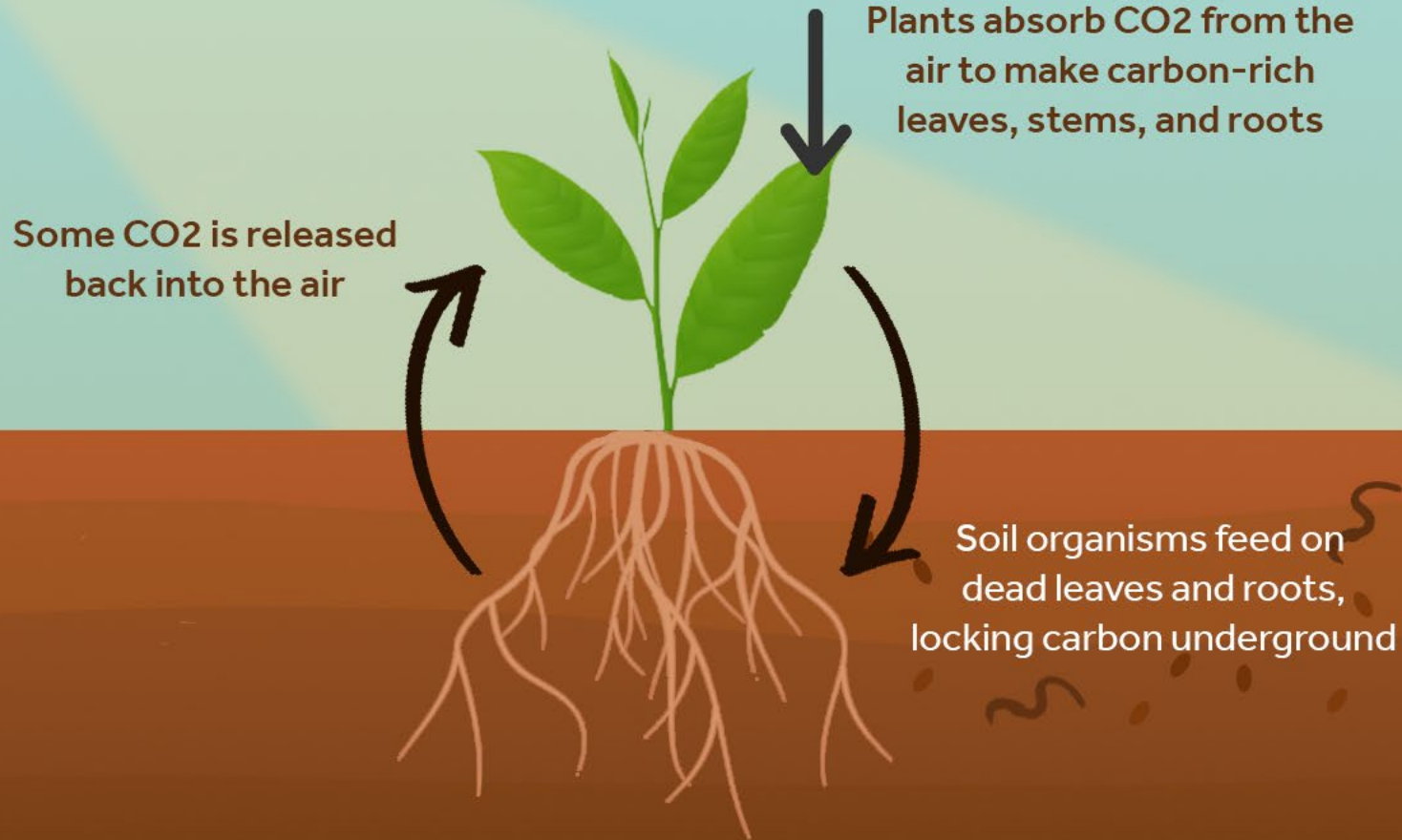
Soil Carbon

Atmospheric C net annual increase = 3–4 Gt C/year

Atmosphere (300)



HOW SOIL STORES CARBON



Soil History



