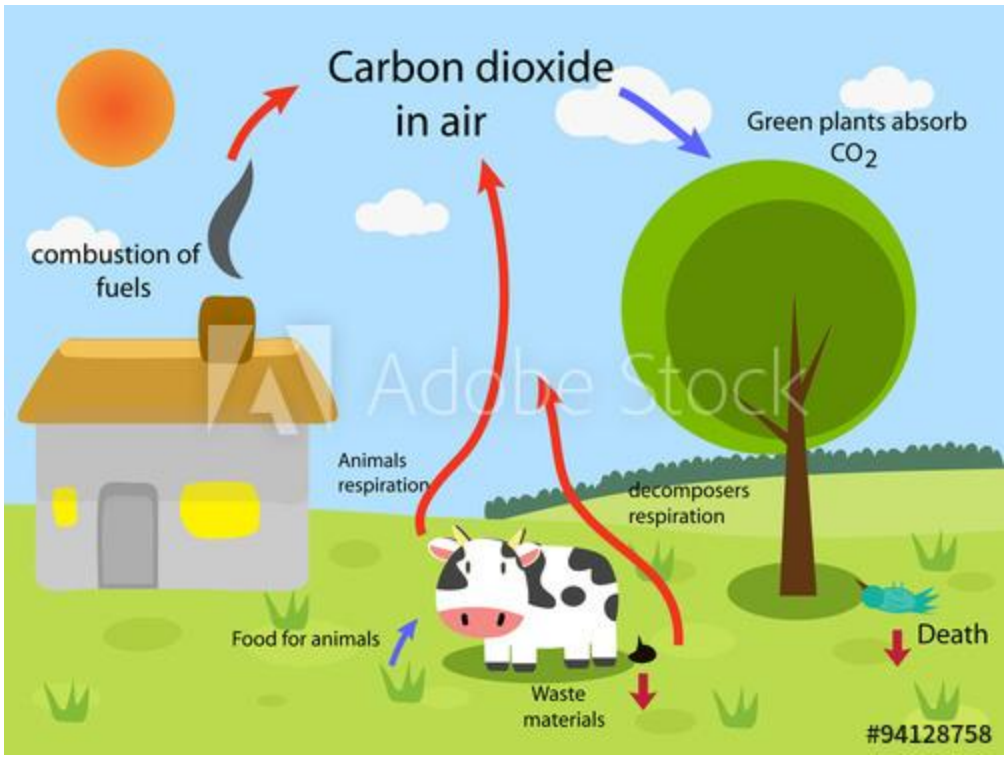
Lec:4 soil microbiology dr.asseel habh

Carbon cycle

There is carbon in the atmosphere in the form of Co2, and in the compounds that are the bodies of wild and marine organisms and their structures, in the soil within organic matter and humus, in the water form in the form of Co3-2, Hco3 dissolved in water, (CaCo3) and dolomite (CaMg (Co3)) 2 and fossil fuels (coal, oil and natural gas) and that carbon is found within organic matter (organic carbon) and inorganic matter (carbon inorganic) begins the carbon cycle By taking green plants (products) carbon dioxide from the atmosphere in the process of photosynthesis The product of organic compounds In the plant also the process of breathing, resulting in Co2 gas, which returns to the atmosphere, and then used in the process of photosynthesis to complete the cycle back to the plant (It is noted that the carbon cycle is largely related to what happens The carbon cycle often follows more complex paths. After the carbon of the plant becomes organic, the animals feed on it, the organic matter is digested, absorbed and represented to contribute to the construction of animal tissue. Consequently, the carbon atoms in the plant become part of the cell structure of the animal that feeds on them. What happens to carbon after that? Carbon can return to the atmosphere through the breathing process and carbon dioxide is produced. The remaining carbon in the cells and tissues of living organisms is lost in part by their excretions and waste. After their death, carbon is converted into organic matter that can be returned to the atmosphere by aerobic decomposition by microorganisms.

There is a fraction of organic carbon that does not pass cycles of this type so quickly, since it can track a longer path; in marine animals, carbon enters the structure of solid parts such as shellfish shells, in the form of calcium carbonate. After long periods of time, carbon in the calcareous rocks is proved by the marine deposits of these shells. A large portion of Co2 dissolves in seawater, ocean and lake water, which can lead to calcification of calcareous rocks, ie carbon stabilization. These rocks are subjected to chemical weathering processes, leading to the return of a portion of carbon stabilized to the atmosphere in the form of Co2.

Carbon can also be trapped in organic compounds in fossil fuels when organic compounds are conserved from aerobic decomposition. When this fuel is burned, the carbon is returned to the atmosphere in the form of carbon dioxide to be recycled again.



Another point to consider when studying carbon by nature is that the conversion rate, such as respiration, photosynthesis, etc., varies and varies from one ecosystem to another. In warm, well-lit regions, tropical plants produce high-yielding photosynthesis, which leads to diversity of consumption for different levels, which increases the amount of biodiversity. If they are close to a cold, dry, dimly lit environment, photosynthesis is slow, so productivity is slow or low, reducing living organisms and this will reduce biodiversity