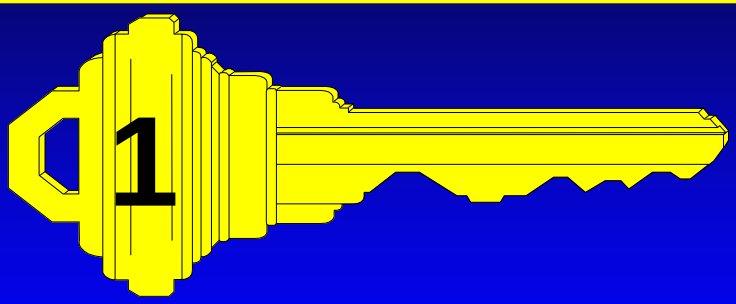
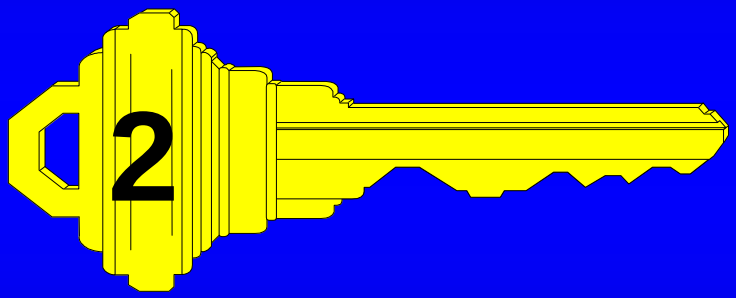
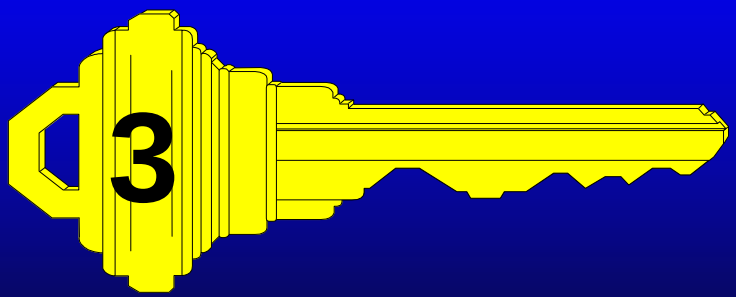
3 Keys to Conservation Agriculture!



Minimal soil disturbance



Continuous residue cover

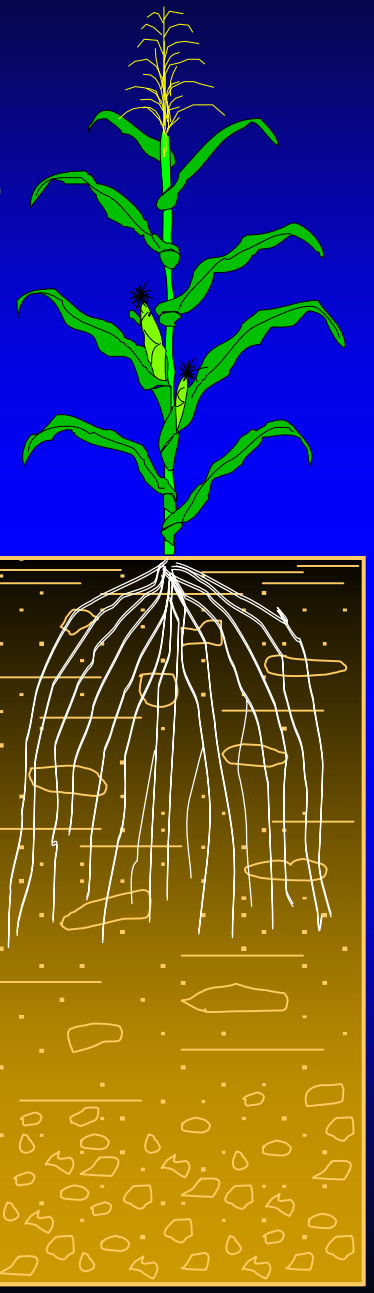


Diverse rotations and/or cover crops

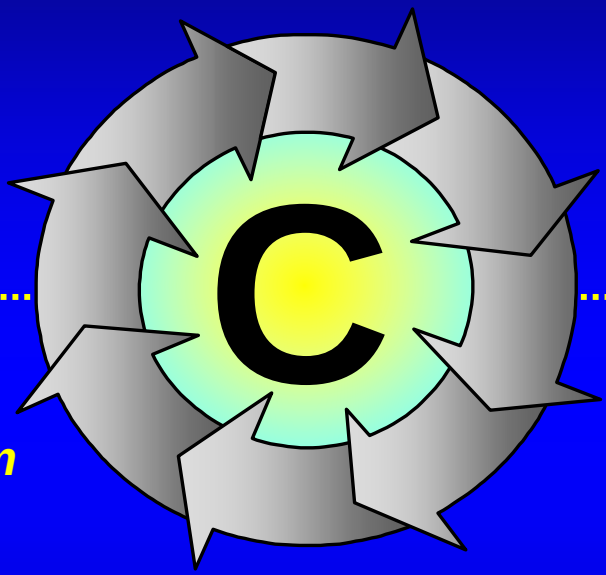
Soil Organic Carbon

Crop biomass is a critical component of the biological carbon cycle!

Carbon comes into crop biomass and system through photosynthesis.



Soil Surface



Carbon goes out of the soil system mainly through respiration.

Soil carbon is an important link between sustainability and productivity within our agricultural ecosystems.

Fossil carbon cycle. Biological carbon cycle.

Atmospheric Carbon as CO_2

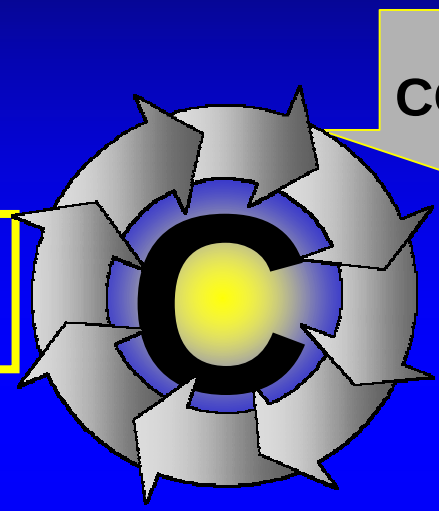
CO_2

Energy from fossil fuels

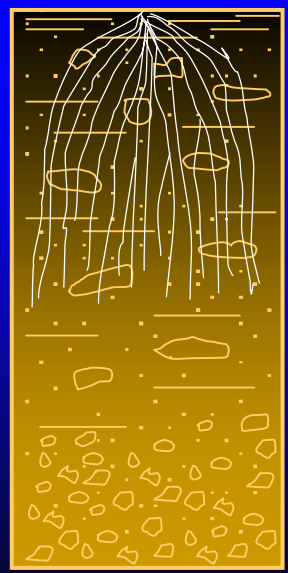
Nonrenewable

CO_2

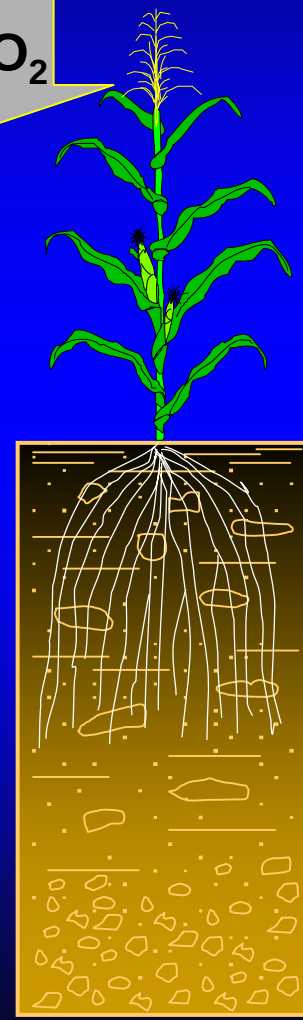
Energy from bio-fuels



CO_2



Plant biomass and roots left on or in the soil contribute to Soil Carbon or Soil Organic Matter and all associated environmental and production benefits.



Renewable

Environmental benefits are spokes that emanate from the Carbon hub of the "Environmental Sustainability wheel."

- increased water holding capacity and use efficiency
- increased cation exchange capacity
- reduced soil erosion
- improved water quality
- improved infiltration, less runoff
- decreased soil compaction
- improved soil tilth and structure
- reduced air pollution

- reduced fertilizer inputs
- increased soil buffer capacity
- increased biological activity
- increased nutrient cycling and storage
- increased diversity of microflora
- increased adsorption of pesticides
- gives soil aesthetic appeal
- increased capacity to handle manure and other wastes
- more wildlife

Carbon

central hub of environmental quality.