

Soil Food Web Functions - metabolic and behavioral activities of organisms that impact the biotic or abiotic components of the ecosystem

Feeding: Ingestion, assimilation, defecation and excretion

Behavior: Movement, activity, migration

Functions may be classified, subjectively, as *Services*, *Disservices*

Disservices: (or *Neutral*)

Damage plants of agricultural or ornamental significance

Injure humans and vertebrate animals

Services:

Sequester and redistribute minerals

Mineralize organic molecules

Accelerate turnover

Regulate and suppress pests

Alter substrate to provide access to other organisms

Redistribute organisms in space

Biodegrade toxins

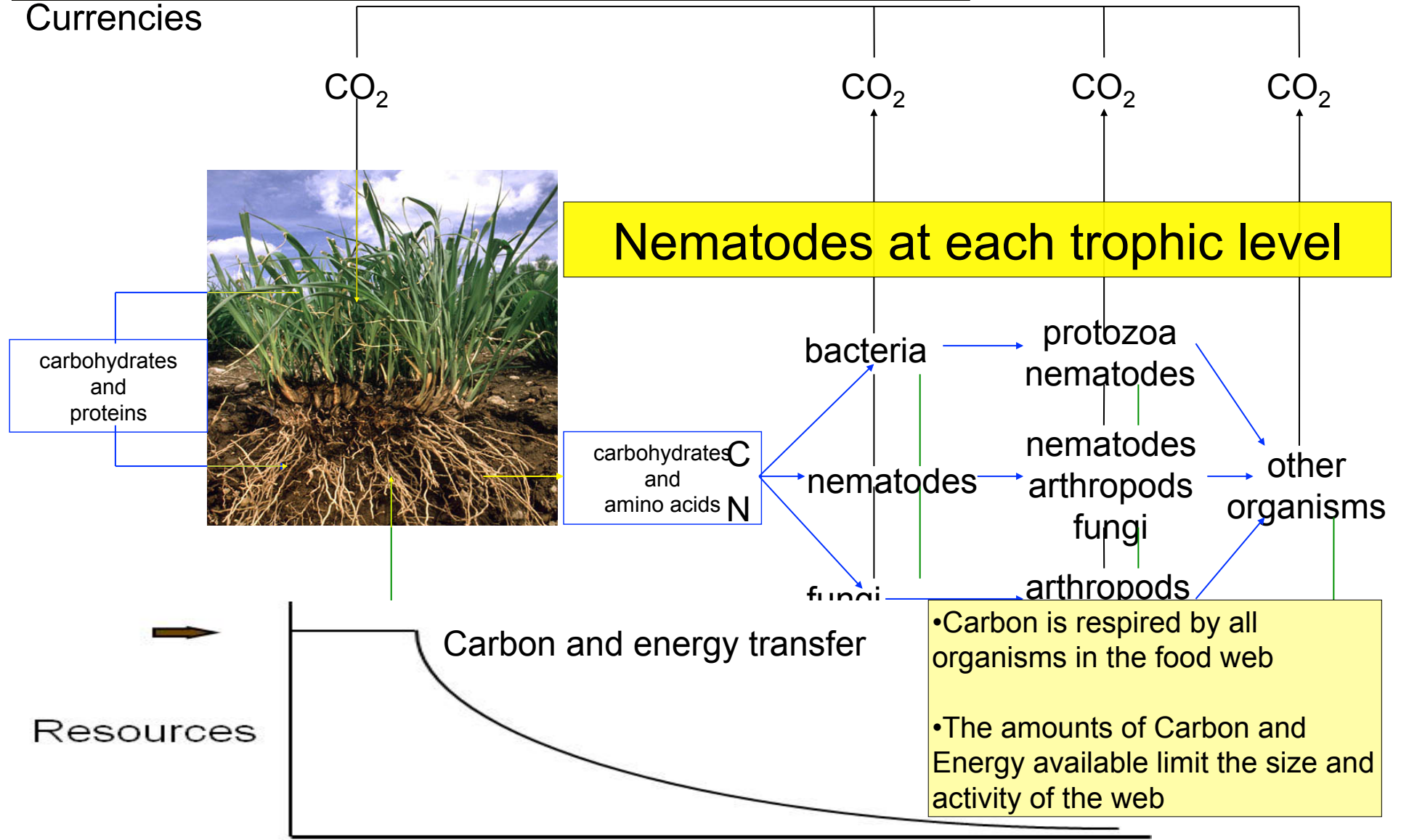
Reduce soil erosion

Increase agricultural production

Individual species
services

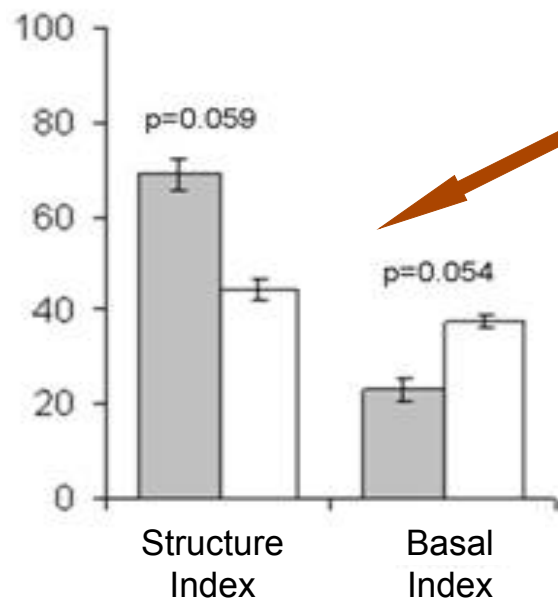
Aggregate
food web services

Ecosystem Economics: Carbon and Energy are the Currencies

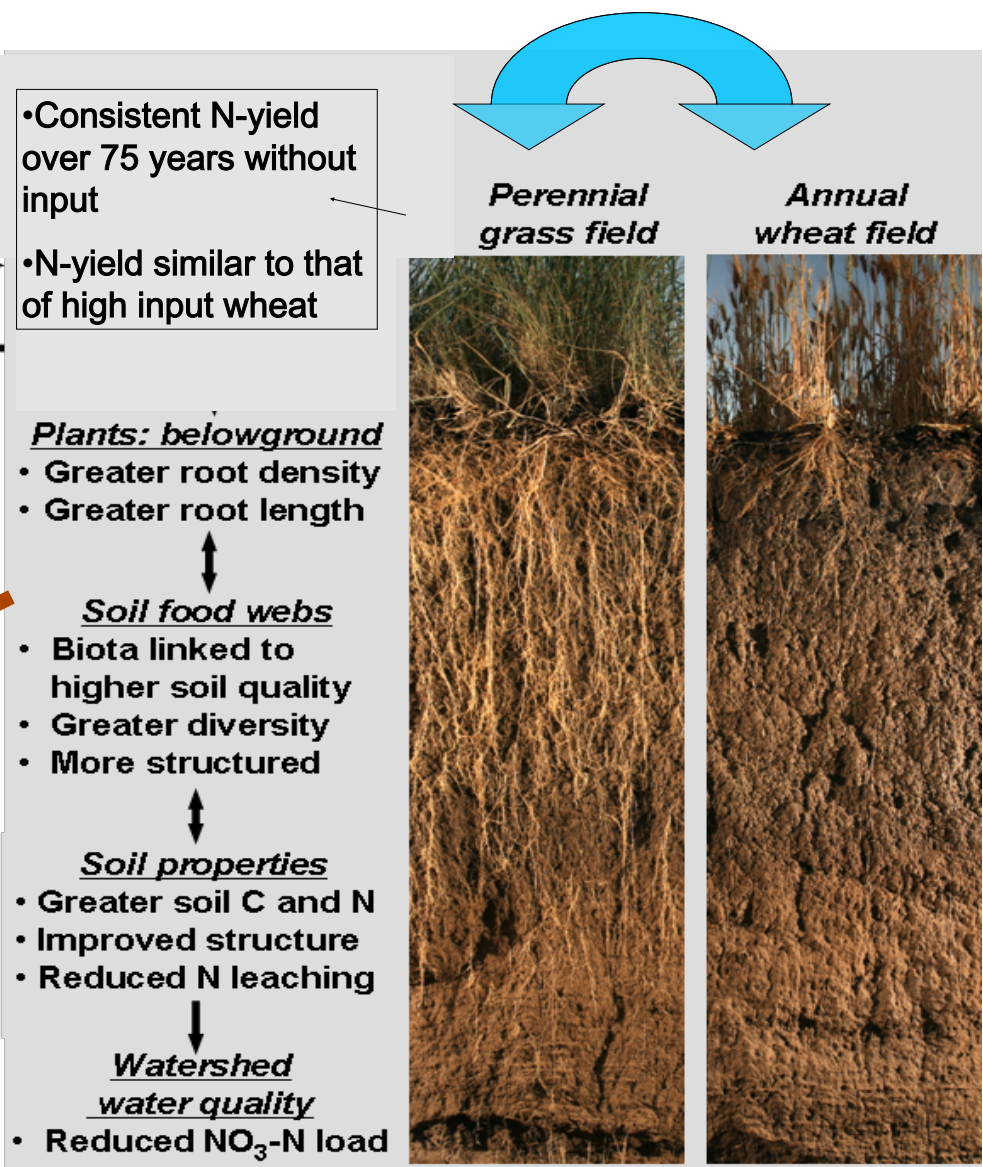


Land-use change in Kansas: Effects on Nematode Faunal Structure

Resource Inputs: Bottom up effects on Soil Food Web Structure and Function

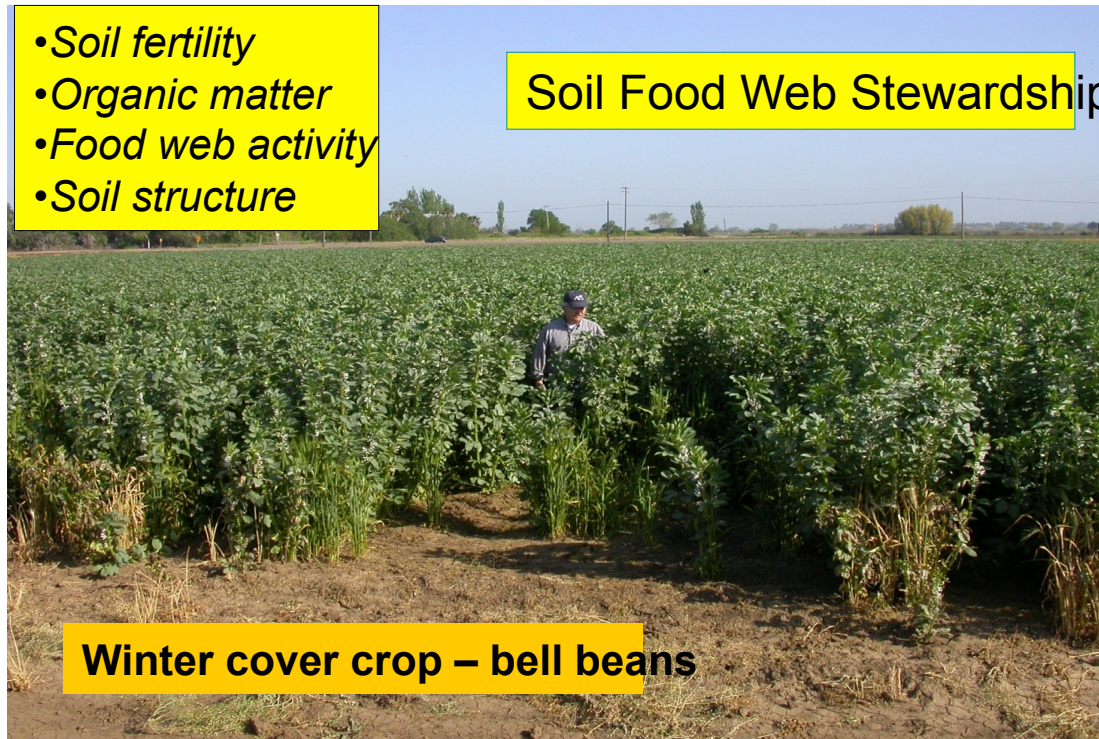


From Glover *et al.*, 2010



- *Soil fertility*
- *Organic matter*
- *Food web activity*
- *Soil structure*

Soil Food Web Stewardship



Winter cover crop – bell beans

35% of the Carbon and Energy translocated to roots is released into the soil.....Why?

Keep roots in the soil!

***Perennial
grass field***



***Annual
wheat field***

