Unlock the Secrets in the Soil

2015 International Year of Soils
SOIL HEALTH:
The continued capacity of the soil to function as a vital living system that sustains plant, animal, and human health.
SOIL IS HABITAT
The Soil Food Web

Plants
- Shoots and roots

Organic Matter
- Waste, residue and metabolites from plants, animals and microbes.

Bacteria

Fungi
- Mycorrhizal fungi
- Saprophytic fungi

Protozoa
- Amoebae, flagellates, and ciliates

Nematodes
- Root-feeders
- Fungal- and bacterial-feeders

Arthropods
- Shredders
- Predators

Animals

Birds

First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, parasites
Root-feeders

Third trophic level:
Shredders
Predators
Grazers

Fourth trophic level:
Higher level predators

Fifth and higher trophic levels:
Higher level predators
Soil is an *irreplaceable* resource

Once it is gone, it is gone for good, or at least a *VERY LONG* time
By protecting our soil... we protect our future
This soil is naked, hungry, thirsty and running a fever!

Ray Archuleta 2007
Very Different Responses to Drought on Neighboring Farms
CARDINGTON CLAY SOIL

2013

1978

10.15.2013
Rain drop impact!!
Why is healthy soil important?

- Improves infiltration, prevents soil erosion
- Increases water & nutrient use efficiencies
- Provides habitat for beneficial soil life
- Ensures soil will be productive for many years

**HEALTHY SOIL = PRODUCTIVE SOIL**
Managing for Soil Health
Disturb the Soil as Little as Possible
Synergize with Diversity: Crop Rotations and Cover Crops
Grow a Living Root 24/7
Cover The Soil at All Times
Build it... they will come!
“As to methods, there maybe a million and then some, but principles are few. The man who grasps principles can successfully select his own method”

Ralph Waldo Emerson