Soil Health Assessments

- Use a “Soil Health Score Card” to record results
  - Dig small pit: Observe Roots, Soil Structure, Texture, Compaction, Other (e.g., Soil Stratification, shallow water table, etc.)
  - Infiltration & Aggregate Stability tests; Estimating Soil Moisture (Feel & Appearance)
  - Lab Soil Analysis: OM, pH, N, P, K, ECE, SAR, CEC, other (e.g. nitrates, % lime)
  - Lab Soil Food Web analysis (Bacteria:Fungal ratio; beneficial protozoa & nematodes, etc.; Solvita Respiration (indicator of soil biological activity)
  - Soil Temperature (Surface & in Soil), ambient air temp.; Earthworms #; Brix meter, Haney Soil Test; and other tests that meet your unique cropping system
  - Irrigation Water Mgt./Field Evaluations; tensiometer measurements, Other (e.g., Electrical Resistant Blocks, etc.); Lab Water Quality Analysis; Tissue Analysis
  - Rain Simulator demonstrations
  - Resources: Soil Health Bucket (field assessments); NRCS Soil Quality Indicators; NRCS Soil Quality Test Kit

Soil Health Management System:
1. Determine Available Water Quantity, Quality & Consumptive Use
2. Assess Soil Health & Fertility Baseline Conditions
3. Plant Cover Crop Mix (are Biological Primers that regenerate Soil Health)
4. Plant Diverse Crop Rotations (to reduce incidence of Pests/Diseases/Weeds)
5. Use No-Till/Minimum-Till (to reduce Physical Soil Disturbance)
6. Select Appropriate Irrigation System
7. Use an Irrigation Water Management Plan
8. Use an Integrated Pest Mgt. Plan (emphasis on Prevention, Avoidance, Monitoring & Suppression)
9. Assess/Monitor your SHMS & Adjust as Needed

Healthy/PRODUCTIVE Soil = Economic Sense

Results

Healthy Plants

Healthy Food

Healthy Soil

Restores:
1. Rhizosphere (roots)
2. Water-Stable Macro Aggregates
3. Soil Porosity
4. Earthworms
5. Detritusphere (surface residues)

Soil Health: The continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals & humans. Healthy soil enhances nutrient cycling, water infiltration/availability, filtering/buffering, physical stability/support & habitat for biodiversity.

IMPORTANT: Select appropriate Soil Health Assessment(s), based on your climate, soils, cropping systems and other considerations (e.g. drought, water availability, water quality, etc.). This is needed to evaluate the performance of your SHMS & to adjust it as needed to sustain/increase Soil Health & Productivity.

Use Soil Health Planning Principles to develop a SHMS: plant diversity, living roots (year-round), surface covered with residues & living plants, & minimal soil disturbance. (Consider grazing where applicable)