

**Soil Quality Enhancement Activity –SQL18–Soil health crop rotation**



**Enhancement Description**

Implement a crop rotation which addresses the four principle components of a soil health: adds diversity to the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance.

**Land Use Applicability**

Cropland

**Benefits**

Soil health is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. This definition speaks to the importance of managing soils so they are sustainable for future generations. To do this, we need to remember that soil contains living organisms that when provided the basic necessities of life - food, shelter, and water - perform functions required to produce food and fiber.

Only "living" things can have health, so viewing soil as a living ecosystem reflects a fundamental shift in the way we care for our nation's soils. Soil isn't an inert growing medium, but rather is teeming with billions of bacteria, fungi, and other microbes that are the foundation of an elegant symbiotic ecosystem. Soil is an ecosystem that can be managed to provide nutrients for plant growth, absorb and hold rainwater for use during dryer periods, filter and buffer potential pollutants from leaving our fields, serve as a firm foundation for agricultural activities, and provide habitat for soil microbes to flourish and diversify to keep the ecosystem running smoothly.

**Conditions Where Enhancement Applies**

This enhancement applies to all annually planted crop land use acres. The enhancement does not apply to permanent hayland, orchards, or vineyards.

**Criteria**

Implement a soil health crop rotation which includes:

1. A perennial grass, a legume, a legume-grass mixture, a grass-forb, or a grass-legume-forb mixture, grown at least 2 consecutive years.
2. For other crops grown outside of the 2 years defined in criteria #1, each crop must be preceded or followed by a cover crop.
  - a. Cover crop species will be selected from state specific lists. The list of approved cover crops is available at the local NRCS Field Office.
  - b. Nutrient applications for crops following cover crop should consider nitrogen fixation from leguminous cover crops.



3. Select two other compatible enhancements from the options below (consult the enhancement compatibility list before finalizing the selection) :
  - a. ENR10 – Using nitrogen provided by legumes, animal manure and compost to supply 90 to 100 percent of the nitrogen needs
  - b. ENR12 – Use of legume cover crops as a nitrogen source
  - c. PLT20 – High residue cover crop or mixtures for weed suppression and soil health
  - d. SOE05 – Intensive no-till (organic or non-organic systems)
  - e. SQL08 – Intercropping to improve soil quality and increase biodiversity

Note: Care should be taken when selecting this activity as it may impact crop insurance eligibility.

- f. SQL10 – Crop management system where crop land acres were recently converted from CRP grass/legume cover or similar perennial vegetation
- g. SQL12 – Intensive cover cropping for annual crops

### **Adoption Requirements**

This enhancement is considered adopted when the crop rotation begins to repeat on the land use acre.

### **Documentation Requirements**

1. Crop rotation records by field,
2. Cover crops planted,
3. Photographs of representative fields showing different phases of the rotation, and
4. All documentation required for the two selected enhancements.

### **References**

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>.