



CONSERVATION ENHANCEMENT ACTIVITY

E328106Z1

CONSERVATION STEWARDSHIP PROGRAM

Soil health crop rotation

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN ADDRESSED: Soil Quality Degradation

PRACTICE LIFE SPAN: 1 Year

Enhancement Description

Implement a crop rotation which addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.

Criteria

- Crops shall be grown in a planned sequence as outlined in Plans and Specifications. The crop rotation shall include a minimum of four different crop types. For purposes of these criteria a cover crop is considered a different crop.
- Where applicable, plan suitable crop substitutions when the planned crop cannot be planted due to weather, soil conditions, or other local situations.
- Grow crops that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). (management SCI value)



CONSERVATION STEWARDSHIP PROGRAM

- The crop rotation includes at least 2 years of high residue crops and/or cover crops per 3 years of the rotation. <See STATE list of high residue crops>
- For crop diversity, the planned crop sequence should contain different crop types; for example a mix of the following: warm season grass; warm season broadleaf; cool season grass; cool season broadleaf.
- Leave crop residue on the soil surface throughout the year.
- Keep a living root system established as much as practical for the given soil, cropping system, and climate area. Maximize root growth periods by planting the next crop or cover crop as soon as practical after the harvest and/or utilize perennial crops in the rotation. Aim to have living roots at least 90% of available growing days. <See STATE provided guidance of options to maximize living root systems in local climate and cropping systems; determine available growing days and period of no growth, such as frozen periods in the north>. Show before and after management files from current NRCS wind and water erosion prediction technologies to document benchmark and planned crop rotation to show increase in living root periods.
- Minimize all types of soil disturbance. No more than one crop in the rotation will have a Soil Tillage Intensity Rating (STIR) value greater than 20 (crop STIR value) and the rotation will have a positive trending SCI (management SCI value).

Documentation Requirements

- Conservation Crop Rotation, 328, Implementation Requirements document must be completed per the Plans and Specifications for the planned purpose.
- The current NRCS wind and water erosion prediction technologies must be used to document:
 - SCI calculations
 - STIR calculations (by crop and rotation and management)
 - Before and after management files to document benchmark and planned crop rotation to show increase in living root periods