



**CONSERVATION ENHANCEMENT ACTIVITY**

**E328106Z1-Colorado**

**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 must be grown in a planned sequence as outlined in plan. The crop rotation must 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)



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- 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 four 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. To calculate growing degree days (GDD) and observe periods of no growth, visit Colorado Climate Centers GDD tool: <http://climate.colostate.edu/gdd.html>. Refer to CPS Cover Crop (340) Implementation Requirements for information on suggested seeding periods by median freeze free period and MLRA within Colorado. 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-year 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).







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and water erosion prediction technologies. Crop rotation must produce a positive trend in the Organic Matter (OM) subfactor value.

Management SCI Value = \_\_\_\_\_

OM subfactor value = \_\_\_\_\_

STIR Calculations (by crop and rotation)= \_\_\_\_\_

- Prior to implementation, use NRCS wind and water erosion prediction technologies to document benchmark and planned crop rotation to show increase in living root periods.
- During implementation, evaluate planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- After implementation, if the applied crop rotation is different than the planned crop rotation, use information provided from the participant to calculate SCI value to document that the applied rotation met the enhancement criteria. **Management SCI Value = \_\_\_\_\_ OM subfactor value = \_\_\_\_\_ STIR Calculations (by crop and rotation)= \_\_\_\_\_**
  - After implementation, review pictures showing residue or growing green crops throughout the year to verify the applied system meets the enhancement criteria.

### NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name \_\_\_\_\_ Contract Number \_\_\_\_\_

Total Amount Applied \_\_\_\_\_ Fiscal Year Completed \_\_\_\_\_

\_\_\_\_\_  
NRCS Technical Adequacy Signature

\_\_\_\_\_  
Date

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