

## Soil Erosion Enhancement Activity – SOE03 - Continuous No Till (Organic System)



### Enhancement Description

This enhancement is for using a continuous no-till, strip till or direct seeding method of planting throughout the planned rotation on an organic farm. High residue levels are maintained by including high residue-producing crops, or by low residue crops followed by a cover crop in the rotation. Termination of all cover crops is accomplished using non-chemical methods, such as flail mowing, roller crimper and frost kill. No herbicides are used for weed control.

### Land Use Applicability

This enhancement is applicable on cropland that is certified as organic or on conventional acreage that is being transitioned for organic certification.

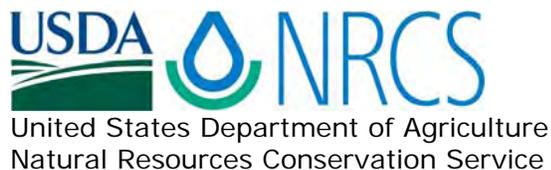
### Benefits

Use of continuous no-till, strip till or direct seeding leaves high levels of crop residue that can reduce erosion by wind and water up to 90%, increase soil organic matter, and control weeds. Mechanically terminating cover crops using a flail mower or roller crimper can eliminate the use of herbicides, thereby reducing potential offsite water quality problems while leaving the soil undisturbed.

### Criteria

Implementation of this enhancement requires the use of continuous no-till, strip till or direct seeding on all crops during the planned rotation that is part of an organic system plan. The no-till, strip till or direct seeding system must incorporate the following activities:

1. Rotations that include only high residue producing crops
  - a. No cover crop required
  - b. Use only crops that produce high residue levels throughout the rotation, e.g. corn, wheat
  - c. Maintain a minimum of 90% residue cover on the soil surface after no-till, strip till or direct seed planting all crops
2. Rotations that include low residue crops
  - a. Use a cover crop after ALL low residue crops, e.g. vegetables, cotton, soybeans
  - b. Plant cover crops using a no till system
  - c. Maintain a minimum of 90% residue cover on the soil after no-till planting all crops



- d. Use warm-season cover crops between spring and late summer crops or prior to late summer vegetable production
3. Additional Criteria
    - a. All residues must be uniformly distributed over the entire field
    - b. No full-width tillage is permitted regardless of the depth of the tillage operation
    - c. Field(s) must have a soil loss at or below the tolerance (T) level for wind and/or water erosion for the crop rotation and a Soil Tillage Intensity Rating (STIR) of 30 or less for each planted crop or cover crop in the rotation
  4. No Herbicides are used for weed control
  5. Termination of all cover crops is accomplished using non-chemical methods, such as flail mowing, roller crimper and frost kill

### **Documentation Requirements**

- Planned crop rotation showing cover crops that will be used after low residue crops
- Planting method used for each crop in the rotation (no-till, strip till, direct seeding)
- List of all other potential ground disturbing farming operations
- Method of cover crop termination, e.g. flail mowing, roller crimper
- Dates for farming operations
- Map showing fields, acreage
- Photographs of planted crops

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**Additional Criteria for Nebraska**

- Seedbed preparation, planting method and fertilizer placement will not disturb more than one-third of the row width
- No row cultivation
- Fertilizer and manure placement shall be limited to low disturbance methods such as surface application or injection with narrow knives on 30 inch spacing or wider.

**High Residue Producing Annual Crops**

Corn (Grain or Seed corn)	Grain Sorghum (Milo)	Millet (all types for grain)
Small Grains (Winter or Spring Wheat, Oats, Rye, Barley, Triticale)	Forage Sorghums, Cane, Sudangrass or similar forage crops with 18 inches or more of re-growth after forage harvest (prior to a killing frost)	Canola (rapeseed)

- Removal of stover by baling or other methods is not allowed.
- Removal of straw following small grains is allowed when at least 10 inches of stubble height is maintained after removal.
- Incidental grazing is allowed when managed to maintain 50% or more crop residue ground cover after grazing.

**Low Residue Crops (must be followed by a cover crop)**

Sunflowers	Soybeans	Edible beans (all types)
Popcorn	Sweet corn	Corn or Sorghum silage/green chop
Chickpea/Garbanzo	Flax	Mustard
Safflower	Millet, hay	Buckwheat
all high residue crops that have excessive residue removed by grazing or baling that does not maintain at least 50% ground cover or required stubble height.		

- All low residue crops must be direct harvested (e.g. edible beans)
- Cover crop must be planted without tillage prior to planting

**Cover Crop Requirements**

- Cover crops can not be harvested or grazed
  - Cover crops must follow planting dates, seeding rates, method of planting and other requirements in 340 Cover Crop Standard. Specifications will be provided on the Cover Crop Worksheet (NE-CPA-7).
  - Cover crops which winter kill must planted at least 8 weeks prior to the average date of the first killing frost.
  - Cover crops which over winter must have at least 4 weeks of spring growth before termination.
  - Winter annual cover crops planted following a low residue crop must have a minimum of 6-8” of growth before they are terminated.
  - Cover crop must contain a least one different crop type than the previous crop
  - Additional cover crop requirements following fall harvested crops:
    - Cover crop must be winter annual small grain or/ winter annual small grain with legume.
    - Winter annual cover crops include cereal rye, triticale or winter wheat.



United States Department of Agriculture  
 Natural Resources Conservation Service

NE-SOE03

**Documentation**

**Table 1: Documentation of the activities planned and applied.**

Tract	Field(s)	Existing Rotation	Planned Rotation	Acres Planned	Applied Rotation	Planting Method	Other Field Operations	Acres Applied
1	1	C- popcorn- B-W	C- popcorn- cc-B-W	100	C-popcorn-cc- B-W	No-till		100

C=Corn; B=soybeans/edible beans; W=Wheat; M=Milo; A=Alfalfa; O=Oats; cc=cover crop;  
 Others=\_\_\_\_\_

**Table 2: Cover crop documentation.**

Tract	Field(s)	Previous Crop	Cover Crop	Date Planted	Planned Date of Termination	Method of Termination
1	1	popcorn	Cereal rye	Oct. 1	April 15	Roller crimper

**I certify that the following information meets specifications and has been provided to NRCS:**

1. Planned and applied rotation, planting method, other field operations and applied acres (Complete Table 1 above).
2. A map with delineation of the area where the enhancement was applied.
3. If cover crops are included in the rotation, documentation of the type of cover crop used, previous crop, seeding date and the planned date and method of termination (Complete Table 2 above) as well as a completed Cover Crop Worksheet (NE-CPA-7).

I understand that it is my responsibility to obtain all necessary permits and to comply with all laws, regulations and ordinances pertaining to the application of these activities.

**Certified by:** \_\_\_\_\_ **Date:** \_\_\_\_\_