United States Department of Agriculture
Natural Resources Conservation Service

2011 Ranking Period 1

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
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

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