United States Department of Agriculture
Natural Resources Conservation Service 2012 Ranking Period 1

Water Quality Enhancement Activity – WQL17 – Use of non-chemical methods to kill cover crops

Enhancement Description
This enhancement is for the use of non-chemical methods to kill cover crops prior to planting. These methods include mowing, rolling, undercutting and weather kill.

Land Use Applicability
Cropland

Benefits
The use of non-chemical methods to kill cover crops provides a dense bio-mass that controls erosion, increases soil organic matter, reduces soil water evaporation, suppresses weeds along with other improvements in soil and water quality while eliminating potential water quality problems or other concerns from the use of herbicides.

Conditions Where Enhancement Applies
This enhancement applies to all crop land use acres, not including hayland.

Criteria

General

1. Use different methods within the cropping rotation.
2. Cash crops must be no-tilled or strip-tilled after cover crop is terminated.
3. Use of herbicides is prohibited to terminate cover crop.
4. All crops shall be killed using one of the methods described below:
   a. **Mowing**
      - Mowing must be done using a “Flail” or “Sickle Bar” mower
      - Time mowing to ensure plant re-growth is minimized, e.g. after flowering in rye or midbloom or later in hairy vetch
   b. **Roller Crimping**
      - Delay crimping until after early milk stage in cereal grain cover crops to ensure successful termination
      - Manage cover crops for high bio-mass production through proper selection of seed, fertilizer application and timing of planting in the fall
      - Cover crop must be crimped not cut
   c. **Undercutting**
      - Use “V” blade cultivators that are run just under the surface of the soil (<2’)
      - Most suitable for bed production
   d. **Weather Kill**
      - Select cover crop based on those that are most reliably killed by temperature shifts

- Use both summer or winter kill cover crops based on crop rotation

Adoption Requirements
This enhancement is considered adopted when one of the cover crop termination methods described above has been implemented on the land use acre.

Documentation Requirements
1. Written documentation for each year of this enhancement describing the following items:
   a. Cover crop used and date planted,
   b. Date and amount of fertilizer applied (if used),
   c. Date on which cover crop was terminated, and
   d. Cash crop planted and method used,
2. A map showing fields where the enhancement is applied.
3. Photographs of a representative number of fields showing roller crimping of cover crop.

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This enhancement applies to crop land acres except hayland.

This activity may NOT be used with the following enhancements:
ANM21, ANM31, SOE03, SQL03, SQL09

Potential Duplicate Practices:
None