NRCS

Natural Resources Conservation Service

WASHINGTON

WQL17 – Use of non-chemical methods to kill cover crops

CSP Enhancement Washington State Supplement

Land Use Applicability: Cropland (not hayland) January 2014

Client/Operating Unit:		Tract Number:	
Farm/Ranch Location:		Farm Number:	
Specifications Date:		Field Number(s):	
Planned Installation Date:		Proposed Treatment Acres:	

Enhancement Description: Table of Contents

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.

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 for the use of non-chemical methods to kill cover crops

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

Layout Sketch & Drawing (Provide sketch, drawings, maps, and/or aerial photographs.)

- Geo-referenced field map with all delineated treatment areas where CSP Enhancement WQL17 is to be applied.

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.

References*:

Creamer, N.G. and S.M. Dabney. 2002. Killing cover crops mechanically: Review of recent literature and assessment of new research results. Amer. J. Alt. Ag. 17:32-40.

Hulugalle, N.R., L.A. Finlay and T.B. Weaver. 2011. An integrated mechanical and chemical method for managing prostrate cover crops on permanent beds. NSW Department of Primary Industries. Australian Cotton Research Institute. Australia.

Field Office Technical Guide:

eFOTG, http://www.nrcs.usda.gov/technical/efotg/

*** Some online documents may take several minutes to download.**

State Supplemental Information

None.

Documentation Form

Producer:		**Date:**	
Tracts:		**County:**	

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.

Field Number(s):					
Acres:					
Cover Crop Planted:					
Cover Crop Planting Date:					
Fertilizer Application Rates for Cover Crop (if used):					
N:					
P_2O_5:					
K_2O:					
Application Date(s):					
Cover crop Termination Method Used:					
Date Cover Crop Terminated:					
Cash Crop:					
Cash Crop Planting Method:					

Attach map showing where activities are applied

Attach photographs of a representative number of fields showing roller crimping of cover crop.

WSU Analytical Laboratories Database:

http://www.puyallup.wsu.edu/analyticallabs/

Commercial and Agricultural Resources:

http://extension.wsu.edu/wsprs/Pages/AgResources.aspx

Client's Acknowledgement (To be signed before the Enhancement is applied.)

By signing below, I acknowledge that I:

- **have reviewed and understand the site specific design, installation specifications and operation/maintenance requirements in this State Supplemental Sheet and have an understanding of the purpose(s) of this Enhancement;**
- **will install, operate, and maintain this Enhancement in accordance with the National Sheet, the Washington State Supplemental Sheet and the site specific specifications.**
- **will make no changes to the planned design and installation without prior written approval of the Natural Resources Conservation Service.**
- **will obtain all necessary permits and/or rights, and comply with all ordinances and laws pertaining to the installation, operation, and maintenance of this Enhancement, prior to the start of installation; and**
- **will assume responsibility for notifying all Utilities affected by the installation, operation and maintenance of this Enhancement.**

Signature	**Date**

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