Soil Quality Enhancement Activity - SQL02 – Continuous cover crops

Enhancement Description
Growing continuous *seasonal* cover crops of grasses, legumes or forbs following all annual crops during all the non-crop production periods of the rotation. Continuous cover cropping is applicable to conventional, specialty and organic crop production systems.

Land Use Applicability
Cropland.

Benefits
Growing seasonal cover crops during all non-crop periods between annual crops reduces wind and water erosion. Cover crops also restore and maintain soil productivity and soil quality over a wide range of climates and crop species. They do so by increasing organic matter, improving soil fertility, breaking pest cycles and providing habitat for soil macro-fauna, such as earthworms.

Criteria
Implementation of this enhancement requires continuous cover crops during the non-crop production period of the rotation. The cover crops must meet 2 or more of the following criteria:

1. High bio-mass cover crops for erosion control and increased soil organic matter improvement.
    a. Plant a cover crop with a growth potential to produce a minimum of 2,000 lbs/acre (dry weight) above ground bio-mass when terminated by harvest, frost, mowing, tillage, crimping, and/or herbicides in preparation for the following crop.
2. Legume cover crops for biological nitrogen fixation.
    a. Plant a leguminous cover crop between two primary crops in the rotation, or plant a leguminous crop that replaces one of the primary crops. This enhancement does not apply to legumes that are normally part of the crop rotation. It shall be seeded at a rate recommended by the NRCS Field Office technical Guide. Estimate nitrogen credits from the leguminous crop and base any additional N applications according to the guidelines of the Land Grant University.
3. Non-leguminous cover crops to capture and recycle residual nitrogen.
    a. Plant a cover crop with a growth rate and rooting depth sufficient to scavenge excess nitrogen from the root zone of the previous crop. Seed the cover crop at the rate recommended by the NRCS Field Office Technical Guide. Reduce the nitrogen recommendation for the following crop by the amount of nitrogen estimated to have been scavenged and recycled by this cover crop.

This enhancement does not apply to the same acres on which a leguminous cover crop is applied.

4. Cover crops for weed suppression.
    a. Plant a cover crop with the chemical and physical characteristics necessary to suppress or compete with the identified target weed species. Leave cover crop residues on the soil surface to maximize the allelopathic (chemical) and mulching (physical) effects. Select cover crops as recommended in the NRCS Field Office Technical Guide or from the Land Grant University as appropriate.
5. Biodiversity improvement with cover crops.
    a. Plant cover crop species with the characteristics to attract beneficial insects such as pollinators and/or predator insects, serve as trap crops for damaging insects, and/or provide natural bio-fumigation for soil dwelling pests. Select cover crops to meet the planned objective as recommended in the NRCS Field Office Technical Guide or from the Land Grant University as appropriate.

Documentation Requirements

1. Crop rotation records, including rotation length in years, crops and cover crops planted.
2. Sequence and description of operations for each crop and cover crop including harvest, tillage, nutrient placement and planting/seeding

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Follow Wisconsin NRCS Conservation Practice Standard 340 (Cover Crop) and Wisconsin Agronomy Technical Note 7:

http://efotg.sc.egov.usda.gov/references/public/WI/340.pdf
ftp://ftp-fc.sc.egov.usda.gov/WI/technotes/agronomy-tn7.pdf

Document cover crop seeding rates, establishment and termination methods.