



CONSERVATION ENHANCEMENT ACTIVITY
E484106Z

CONSERVATION
STEWARDSHIP
PROGRAM

Mulching to improve soil health

Conservation Practice 484: MULCHING

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN ADDRESSED: Soil Quality Degradation

PRACTICE LIFE SPAN: 1 year

Enhancement Description

Implement a crop rotation which utilizes mulch and addresses all four principle components of soil health: increases diversity of the cropping system; maintains residue throughout the year; keeps a living root; and minimizes soil chemical, physical and biological disturbance. Plant-based mulching materials will be applied at least once during the rotation. The rotation will include at least 4 different crop and/or cover crop types (crop types include cool season grass, warm season grass, cool season broadleaf, warm season broadleaf) grown in a sequence that will produce a positive trend in the Organic Matter (OM) subfactor value over the life of the rotation, as determined by the Soil Conditioning Index (SCI). The current NRCS wind and water erosion prediction technologies must be used to document the rotation and SCI calculations.

Criteria

- Use plant-based mulching materials of suitable quantity and quality to add organic matter, provide food and shelter for soil biota, and protect the soil surface from raindrop impact and crusting, while allowing for adequate soil aeration.
- Apply plant-based mulching materials with a carbon to nitrogen ratio (C:N) less than 30 to 1 to reduce soil nitrogen immobilization by soil biota. (typical ratio examples: hairy vetch cover crop 11:1, fresh grass clippings 17:1, mature alfalfa hay 25:1, corn stalks 60:1, wheat straw 80:1, and pine needles 80-110:1)



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- Do not apply mulch with C:N less than 20:1 to an area of designed flow in watercourses.
- The crop rotation includes at least 4 crops and/or cover crops grown in a sequence.
- An evaluation of the system using the current approved soil conditioning index (SCI) procedure results in zero or higher.
- Use mulch of sufficient ground cover, and suitable thickness and texture to provide habitat for ground beetles, spiders, and other predators of weed seeds and crop pests.
- Select crops to be mulched, mulching materials, and rates of application that do not contribute to pest problems.
- For all organic or transitioning to organic operations, follow all National Organic Program (NOP) rules.

Documentation Requirements

- Mulching, 484, Implementation Requirements document must be completed per the Plans and Specifications for the planned purpose. Current NRCS wind and water erosion prediction technologies must be used to document SCI calculations.