

#### **CONSERVATION ENHANCEMENT ACTIVITY**

# CONSERVATION STEWARDSHIP PROGRAM

#### E484A

## Mulching to improve soil health

**Conservation Practice 484: Mulching** 

**APPLICABLE LAND USE: Crop (Annual & Mixed)** 

**RESOURCE CONCERN: Soil** 

**ENHANCEMENT 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 four different crops and/or cover crops 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).
- MT: Other examples of mulching materials (typical ratio examples- pea straw 29:1, rye cover crop vegetative 26:1, rotted barnyard manure 20:1, legume hay 17:1, beef manure 17:1, and young alfalfa hay 13:1)

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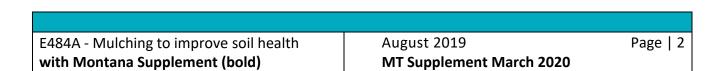


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• The crop rotation includes at least four crops and/or cover crops grown in a sequence.



- An evaluation of the system using the current approved SCI procedure results in zero or higher.
- Do not apply mulch with C:N less than 20:1 to an area of designed flow in watercourses.
- 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 and Implementation Requirements**

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Prior to implementation, provide NRCS with the planned crop rotation and tillage operation(s) used for each crop. The crop rotation must include at least four crops and/or cover crops grown in a sequence.

Field	Acres	Planned Crops (in sequence)	Length of Crop Rotation (years)

Field	Crop	Field Operation	Timing of Field Operation (month/year)

Prior to implementation, provide NRCS with the planned mulching information. Select crops to be mulched, mulching materials, and rates of application that do not contribute to pest problems.

Field	Crop	Mulching Material	Planned Rat <mark>e of applicatio</mark> n (poun <mark>ds/acre)</mark>	Planned Application Date
	_			

During implementation, notify NR	CS of any planne	ed changes in the	cropping syste	em, crop
management, or mulching to verif	fy the planned sy	stem meets the	enhancement	criteria.

During implementation, 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.

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After implementation, provide NRCS with the applied
mulching information.



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Fie	eld	Crop	Mulching Material	Actual Rate of application (pounds/acre)	Actual Application Date
		_	de to crop rotation of above to documen	or tillage operation(s) after impler the changes.	mentation,
NR	CS۱	will:			
	As	needed, provide	technical assistance	to meet the criteria of the enhar	cemen <mark>t.</mark>
	CO	ver crops grown	in a sequence.	e crop rotation includes at least foon	
		_	alue using current NI agement SCI Value =	RCS wind and water erosion predi :	ction
	ma	• .		lanned chang <mark>es in the cr</mark> oppin <mark>g sy</mark> planned syst <mark>em meets t</mark> he enh <mark>an</mark>	•
	pro	ovided from the p	participant to calcula	d system after <mark>implementa</mark> tion, us ate Managemen <mark>t SCI value t</mark> o doc criteria. <b>Management SCI Value</b> =	ument that the

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### **NRCS Documentation Review:**

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I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name	Contract N	Contract Number		
Total Amount Applied	Fiscal Year	Completed		
NRCS Technical Adequacy Signature	Date	-		

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