



## CONSERVATION ENHANCEMENT ACTIVITY

### E340F

# CONSERVATION STEWARDSHIP PROGRAM

## Cover crop to minimize soil compaction

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

### Enhancement Description

Establish a cover crop mix that includes plants with both fibrous root and deep rooted systems. Fibrous to treat and prevent both near surface (0-4") and deep (>4") soil compaction and deep rooted to break up deep compacted soils. Cover crop shall not be harvested, grazed, or burned.

### Criteria

- Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and soil/site conditions (**REFER TO STATE SPECIFIC LISTS**).
- Determine method and timing of cover crop termination to meet grower's objective and current NRCS Cover Crop Termination Guidelines.
- Select species that are compatible with other components of the cropping system.
- Ensure herbicides used with crops are compatible with cover crop selections.
- Cover crops may be established between successive production crops, companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.

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- Do not burn cover crop residue.
- Do not harvest or graze cover crop.
- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Select a mix of cover crop species that includes plants with both fibrous root and deep rooted systems. Fibrous rooted cover crop species are essential to treat and prevent both near surface (0-4") and deep (>4") soil compaction and deep rooted species to break up deep compacted soils.

### North Dakota Sideboards:

Use the procedure provided in the Cropland In-Field Soil Health Assessment Guide for indentifying penetration resistance (compaction) to determine if compaction in a resource concern, prior to application of cover crops. Areas where the evaluations are taken will be documented (GPS or other mapping) so the procedure can be repeated after cover crops have been applied to determine if the resource concern has been addressed/improved.

The cover crop will consist of a mixture of at least 2 species (one fibrous and one deep-rooted), with a majority composed of the needed crop types to address the compaction resource concern and must be a full-season planting; ie. in place of another crop in the rotation to provide sufficient plant / root development to alleviate compaction.

Cover crops must be full season (seeded by July 1 or exclusively winter annuals seeded by September 1 and be allowed to grow until June 15 the following year).

Cover crops cannot be burned, harvested, baled or grazed.

Broadcast application of cover crops, including; aerial, ground spreader (air or mechanical) application without incorporation of the cover crop into the soil is not allowed.

Producer will supply a map of where the cover crop was planted and a picture of growth.

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## Documentation and Implementation Requirements

### Participant will:

- Prior to implementation, provide NRCS with the planned crop rotation and field operation(s) used for each crop.

### Planned Management Rotation Including Cover Crop

Field	Planned Crops/Cover Crop (in sequence)	Planting Date	Harvest/Termination Date

### Planned Field Operations for each crop

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

### Cover Crop Mix (*minimum of 2 species, one each fibrous and deep rooted*) and Seeding Rate

- Deep rooted crop types must have documented ability to alleviate compaction.

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)	Root Type (fibrous or deep)



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## Establishment and Management Considerations:

Task	Provide information and details
Seedbed Preparation	
Seeding Date	
Seeding Depth	
Seeding Method	
Fertilizer, as needed	
Weed Management, as needed	
Termination Date (window)	
Termination Method	

- Prior to implementation, read and follow current [NRCS Cover Crop Termination Guidelines](#).
- During implementation, cover crops must not be burned, grazed, or harvested.
- During implementation, notify NRCS of any planned changes in crops, crop rotation, or unharvested areas to verify the planned system meets the enhancement criteria.
- After implementation, if changes to the cover crop and crop rotation were made, complete the tables above to document the applied Cover Crop for the contract period and provide to NRCS.

### NRCS will:

- As needed, provide technical assistance in selecting cover crop mixes for the crop rotations or substitute species that would meet the criteria of the enhancement.
- As needed, provide additional assistance to the participant as requested.
- Prior to implementation, provide and explain the current [NRCS Cover Crop Termination Guidelines](#).
- Prior to implementation, verify the cover crop mix includes both fibrous root and deep rooted systems.
- During implementation, evaluate planned adjustments in cover crop selected, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.



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- After implementation, evaluate the applied crop rotation or management using information provided from the participant, if any variation to planned evaluation, document that the applied rotation met the enhancement criteria.

**NRCS Documentation Review:**

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

Participant Name: \_\_\_\_\_ Contract Number: \_\_\_\_\_

Total Acres Applied: \_\_\_\_\_ Fiscal Year Completed: \_\_\_\_\_

\_\_\_\_\_  
NRCS Technical Adequacy Signature

\_\_\_\_\_  
Date