



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.





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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



IOWA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

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Additional Criteria for Iowa

- State list of approved Cover Crop species, seeding rate, seeding dates, seeding depths and planting methods for reducing soil compaction can be found in the current 340 Implementation Requirements for Cover Crops.
 - Mixes may be developed using the Midwest Cover Crops Council Cover Crop Decision Tool for Iowa <http://mccc.msu.edu/selector-tool/>. Filter the list of potential cover crops for your county by selecting the first goal as soil builder.
 - At least 50% of the seeding mix must be winter hardy cover crop species.
 - Deep Rooted and Fibrous species are listed below (Clover, Berseem; Clover, White; and Peas, Winter/Field do not qualify for either):
 - Barley, Spring **F**
 - Barley, Winter **F**
 - Beans, Mung **DR**
 - Buckwheat **DR**
 - Camelina, Winter **DR**
 - Clover, Crimson **DR/F**
 - Clover, Red **DR**
 - Cowpea **DR**
 - Flax **DR**
 - Kale **DR**
 - Millet **F**
 - Mustard **DR**
 - Oats **F**
 - Radish **DR**
 - Rapeseed **DR**
 - Rye, Winter Cereal **DR**
 - Ryegrass, Annual **F**
 - Sorghum-Sudangrass **DR**
 - Sorghum, Forage **DR/F**
 - Sudangrass **F**
 - Sunflower **F**
 - Sunn Hemp **DR**
 - Teff **F**
 - Triticale, Winter **F**
 - Turnip **DR**
 - Vetch, Common **F**
 - Vetch, Hairy **DR**
 - Wheat, Spring **F**
 - Wheat, Winter **F**
- (F - fibrous roots, DR - deep rooted)