Using cover crops for biological strip till

Conservation Practice 340: Cover Crop

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN: Soil

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Establish alternating strips of cover crops in which one strip acts as a biological strip-tiller and the adjacent strip promotes soil health with high residue cover crops. This will facilitate planting of the subsequent cash crop into the biologically strip-tilled row without the need for mechanical disturbance.

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. Terminate the cover crop as late as practical to maximize plant biomass production and nutrient uptake.
- Select species that are compatible with other components of the cropping system.
- Use a precision guidance system to ensure seeding is placed in the existing cover crop rows.
- Do not burn cover crop residue.
- Do not harvest or graze cover crop.
**Documentation and Implementation Requirements**

Participant will:

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

**Planned Management Rotation Including Cover Crop**

<table>
<thead>
<tr>
<th>Field</th>
<th>Planned Crops/Cover Crop (in sequence)</th>
<th>Planting Date</th>
<th>Harvest/Termination Date</th>
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</thead>
<tbody>
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**Cover Crop Mix and Seeding Rate**

<table>
<thead>
<tr>
<th>Species</th>
<th>Variety</th>
<th>Seed Size</th>
<th>Typical Seeding Depth</th>
<th>Seeding Rate (PLS lbs/acre)</th>
<th>Percent of Mix (%)</th>
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**Establishment and Management Considerations:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Provide information and details</th>
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<tbody>
<tr>
<td>Seedbed Preparation</td>
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<tr>
<td>Seeding Date</td>
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<tr>
<td>Seeding Depth</td>
<td></td>
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<tr>
<td>Seeding Method</td>
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<tr>
<td>Fertilizer, as needed</td>
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<tr>
<td>Weed Management, as needed</td>
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<tr>
<td>Termination Date (window)</td>
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<td>Termination Method</td>
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</table>
Prior to implementation, read and follow current NRCS Cover Crop Termination Guidelines.

During implementation, cover crops must not be grazed, burned, harvested or biomass removed.

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.

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.

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 Amount Applied ___________________________  Fiscal Year Completed _____________

________________________________________________________________________________________

NRCS Technical Adequacy Signature ___________________________  Date ________________

E340I – Using cover crops for biological strip till  July 2019
INDIANA SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

E340I

Additional Criteria for INDIANA

Videos of research professionals talking about bio strip-till

Cover Crop Selection for Bio Strip Till NDSU Soil Health

Educational Articles about bio (or Precision) strip-till:

SARE-Illinios Farmer Builds Precision Seeder to Maximize Cover Crop Advantage

Choose plant species (Cover Crops) from the following:

1. Plan to use a winter kill cover crop to be planted in the area that will be the row for next year’s crop and plan to use an over-wintering species to be between the rows of next years crop.
   - Choose winter kill species like oats and radish and over-wintering species like cereal rye and crimson clover.

2. Using the Indiana Cover Crop Seeding Calculator, create a mix for both other in-row mix and the between-the-row mix.

3. The most recent version of the Indiana Cover Crop Seeding Calculator can be found on the eFOTG, Section IV/Old Section IV/Tools/Indiana Seeding Tools

4. Refer to the Indiana Seeding Tool Guidlines for state specific cover crop seeding information. It is found in the eFOTG, Section IV/Old Section IV/Tools/Indiana Seeding Tools

Contact State Soil Health Specialist if assistance is needed with this enhancement