



## CONSERVATION ENHANCEMENT ACTIVITY

### E340A

# CONSERVATION STEWARDSHIP PROGRAM

## Cover crop to reduce soil erosion

### Conservation Practice 340: Cover Crop

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

**RESOURCE CONCERN: Soil**

**ENHANCEMENT LIFE SPAN: 1 Year**

### Enhancement Description

Cover crop added to current crop rotation to reduce soil erosion from water and wind to below soil tolerance (T) level. Cover crops grown during critical erosion period(s). Species are selected that will have physical characteristics to provide adequate erosion protection.

### 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 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, or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with production crop yield or harvest.
- Do not burn cover crop residue.
- Do not harvest or graze cover crop.



## CONSERVATION STEWARDSHIP PROGRAM

- If specific rhizobium bacteria for selected legumes are not present in the soil, treat seed with appropriate inoculum at time of planting.
- Time cover crop establishment in conjunction with other practices to adequately protect soil during critical erosion period(s).
- Select cover crops that will have the physical characteristics necessary to provide adequate erosion protection.
- Use NRCS erosion prediction technology to determine amount of surface and/or canopy cover needed from cover crop to achieve the erosion objective (average annual soil loss below T).
- Crops planted following the cover crop must be no-tilled.



# CONSERVATION STEWARDSHIP PROGRAM

### Documentation and Implementation Requirements

#### Participant will:

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

#### Current Management Rotation Including Cover Crop

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

#### Current Field Operations for each crop

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

#### Planned Management Rotation Including Cover Crop

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



# CONSERVATION STEWARDSHIP PROGRAM

### Planned Field Operations for each crop

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

### Cover Crop Mix and Seeding Rate

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (PLS lbs/acre)	Percent of Mix (%)

### 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, the crop following the cover crop must be no till seeded.



# CONSERVATION STEWARDSHIP PROGRAM

- 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, use information provided from the participant to calculate the management sheet and rill erosion from water and wind erosion value for each field using current NRCS water erosion prediction technologies.

**Benchmark Management Soil Loss = \_\_\_\_\_ tons/acre/year**

**Planned Management Soil Loss = \_\_\_\_\_ tons/acre/year**

- During implementation, evaluate any planned changes to cover crop mix, timing in crop rotation, management, or field operations to verify the new system meets the enhancement criteria.
- After implementation, evaluate the applied cover crop in the crop rotation or management using information provided from the participant, if any variation to planned evaluation, then calculate erosion values to document that the applied rotation met the enhancement criteria.

**Applied Management Soil Loss = \_\_\_\_\_ tons/acre/year**



**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.

**CONSERVATION  
STEWARDSHIP  
PROGRAM**

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

Total Amount Applied \_\_\_\_\_ Fiscal Year Completed \_\_\_\_\_

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

\_\_\_\_\_  
Date



## ALABAMA – E340A Supplement- Cover crop to reduce soil erosion

### Requirements:

- Applicable where cover crops have not been planted in the past. Cover crops must be grown during all non-crop periods and shall not be harvested or grazed.
- Crops planted following the cover crop must be no-tilled or strip-tilled.
- Calculate before and after soil loss for the field. There must be a reduction in soil loss and must not exceed the soil loss tolerance level (T).
- increase seeding rates by 30% if aurally applied.
- Cover crops should be planted as early as possible and terminated as late as practical for maximum biomass production. Do not terminate greater than 30 days prior to crop planting. Refer to Alabama Guide Sheet AL340A, Cover Crop Termination Timing.
- Minimum requirement is one small grain but mixes that include a small grain may be used. Radish provides excellent early fall growth if planted timely. Ryegrass may not be used.
- Complete the tables on the national jobsheet for documentation. In addition, receipts, copy of seed tags, weight tickets, etc. are needed. Photographs should be taken immediately prior to termination.
- Follow planting guidelines according to NRCS Conservation Practice Standard 340-Cover Crop or plant according to the table below. Other mixes may be approved by the state agronomist.

	Minimum lbs./ac
1 species-Small grain*	65 lbs.
2 species-small grain and clover	50 lbs. + 10 lbs.
2 species-small grain and brassica	50 lbs. + 3 lbs.
3 species-small grain, clover, brassica	40 lbs. + 10 lbs. + 3 lbs.

\*small grains- rye, wheat, oats, barley, and triticale

**TABLE 1. PLANTS COMMONLY USED FOR COVER CROPS IN ALABAMA**

Forage Crop	Seeding Rate (lb/A)	Seeding Depth (in.)	Planting Date			Remarks
			North	Central	South	
<b><u>Warm Season Annual Grasses</u></b>						
<b>Millet, Browntop, Proso, &amp; Foxtail</b>	Drill 20 B-Cast 30	½ - ¾	May 1–Aug 1	Apr 1-Aug 15	Apr 1-Aug 15	Well drained, productive soils.
<b>Millet, Pearl</b>	Drill 15 B-Cast 30	½ - 1½	Apr 20-Jul 1	Apr 15-Jul 1	Apr 1-Jul 15	Adapted to clay and loam soils with good summer moisture. Avoid calcareous Black Belt soils.
<b>Sorghum-Sudan Hybrids</b>	Drill 25 B-Cast 35	½ - 1	May 1–Aug 1	Apr 15-Aug 1	Apr 1–Aug 15	Well drained, productive soils.
<b>Sorghum, Forage</b>	Rows 5 B-Cast 20	1	Apr 20-May 15	Apr 20-May 15	Apr 20-Jul 1	Well drained, productive soils.
<b>Sudangrass</b>	Drill 25 B-Cast 35	½ - 1	May 1-Aug 1	May 1-Aug 1	May 1-Aug 1	Light sandy to heavy clay soils.
<b><u>Cool Season Annual Grasses</u></b>						
<b>Small Grains (Oats, Rye, Wheat, Barley, Triticale)</b>	90-120	1 – 2	Sep 1–Nov 1	Sep 15–Nov 1	Sep 15-Nov 15	Rye is better adapted to well drained, sandy to loam soil and is more tolerant of soil acidity than wheat or oats; Oats are cold sensitive & subject of winter kill, especially in the northern half of Alabama; Wheat more tolerant of heavy wet soils.



**Table 1. (cont.) Plants Commonly Used for Cover Crops in Alabama**

Forage Crop	Seeding Rate (lb/A)	Seeding Depth (in.)	Planting Date			Remarks
			North	Central	South	
<b><u>Warm Season Annual Legumes</u></b>						
<b>Lespedeza, Annual</b>	30	¼ - ½	Feb 15-Apr 1	Feb 15-Apr 1	-	Needs good drainage; tolerant of drought; low fertility and soil acidity. Avoid lime soils of Black Belt.
<b><u>Cool Season Annual Legumes</u></b>						
<b>Austrian Winter Peas</b>	40	1-2	Sept 1-Oct 15	Sept 1-Oct	Sept 1-Oct 15	Best on well drained soils.
<b>Caley Peas</b>	50	½ - 1	Sep 1-Oct 15	Sep 1-Oct 15	Sep 1-Oct 15	Adapted to alkaline and moderately acid Black Belt soil. Seeds are toxic.
<b>Clover, Arrowleaf</b> <i>(see note "F" if seed is coated)</i>	6	0 - ½	Aug 25-Oct 1	Sep 1-Oct 15	Sep 15-Nov 1	Overseed 5 weeks later. Best on well drained soils. Avoid Black Belt soils.
<b>Clover, Ball</b> <i>(see note "F" if seed is coated)</i>	4	0 - ¼	Sep 1-Oct 31	Sep 1-Oct 31	Sep 1-Oct 31	Adapted to most soils. Reseeds well and tolerates wet soils and flooding.
<b>Clover, Crimson</b> <i>(see note "F" if seed is coated)</i>	25	0 - ½	Aug 25-Oct 1	Sep 1-Oct 15	Sep 15-Nov 1	Avoid high pH soils. Best on well drained soils. Overseed 5 weeks later.
<b>Clover, Red</b> <i>(see note "F" if seed is coated)</i>	Drill 8 B-Cast 15	¼ - ½	Sep 15-Nov 15 Or Feb 1-Apr 1	Sep 15-Nov 15 Or Feb 1-Apr 1	Sep 15-Nov 15 -	Fertile, well drained soils.

**Table 1. (cont.) Plants Commonly Used for Cover Crops in Alabama**

Forage Crop	Seeding Rate (lb/A)	Seeding Depth (in.)	Planting Date			Remarks
			North	Central	South	
<b>Clover, Subterranean</b> <i>(see note "F" if seed is coated)</i>	10	¼ - ½	Aug 25-Oct 1	Sep1-Oct 31	Sep1-Oct 31	Best on well drained, productive soils.
<b>Vetch, Common</b> <i>(see note "F" if seed is coated)</i>	35	1-2	--	Sep 1-Oct 15	Sep 15-Nov 1	Best on well drained soils. Certain varieties can freeze if planted late, especially in north Alabama. Nova II is the least cold tolerant.
<b>Vetch, Hairy</b> <i>(see note "F" if seed is coated)</i>	25	1-2	Sep 1 –Oct 15	Sep 1-Oct 15	Sep 15-Nov 1	Best on well drained soils.

**NOTES:**

- A. Drill = Drilled and B-Cast = Broadcast.
- B. Where legumes are seeded with grasses, use the seeding dates for the grasses.
- C. Where two or more grasses are used in a mixture, reduce the seeding rate of each by about one-third. Do not reduce the seeding rates of legumes when used in the mixtures.
- D. Seeding rates should be increased at least 30% when aerially seeded.
- E. Seeding rates for a cost-share program shall be the rate specified by the program.
- F. Consider the weight of the coated seed in your seeding recommendation to adjust for the proper PLS rate.

## GEOGRAPHICAL AREAS FOR SPECIES ADAPTATION AND SEEDING DATES

