

Cover Crop

Definition/Purpose

A crop of grasses, legumes, or small grain grown primarily for seasonal protection, erosion control and soil improvement. It usually is grown for one year or less. The major purpose is water and wind erosion control, to cycle plant nutrients, add organic matter to the soil, improve infiltration, aeration and tilth, improve soil quality, reduce soil crusting, and sequester carbon. Benefits may include reduction of soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

Policies

1. For a cover crop to improve water quality, it must become quickly established, grow vigorously, and accumulate significant biomass. The following crops are eligible for this incentive. They must be planted by the planting deadline and sown at the seeding rates given below for each region (see Table 1.).

Table 1. Required Planting Rates and Deadline Planting Dates.

Cover Crop Species	Planting Rates (Lower amount: minimum rate)	Required Minimum Planting Dates by Physiographic Region	Deadline Planting Dates by Physiographic Region
		Coastal Plain Piedmont Mountains	1.Coastal Plain 2.Piedmont 3.Mountains
Annual Lespedeza ^{s 1}	20-40 lbs.	1. February 1 2. February 1 3. March 15	1. March 15 2. April 1 3. April 15
Austrian Winter Pea ⁴	30-40 lbs.	1. August 25 2. August 25 3. N/A	1. October 25 2. October 15 3. N/A
Barley	2-3 bu.	1. September 1 3. August 20 4. August 1	1. October 15 2. October 10 3. October 10
Crimson Clover ⁴	15-30 lbs.	1. Sept. 15 2. Sept. 5 3. Sept. 1	1. November 15 2. November 5 3. November 1
Cow Pea (Southern Pea)	30-90 lbs drilled or 70-120 lbs broadcast		Late summer
Hairy Vetch ⁵	30-40 lbs.	1. August 25 2. October 15 3 July 15	1. Oct. 25 2. October 15 3. August 30

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Cover Crop Species	Planting Rates (Lower amount: minimum rate)	Required Minimum Planting Dates by Physiographic Region	Deadline Planting Dates by Physiographic Region
Oats	3 bu.	1. September 1 2. August 20 3. August 1	1. October 15 2. October 10 3. November 1
Pearl Millet ³	6-10 lbs. in row; 20-25 lbs. drilled or broadcast	1. May 5 2. April 25 3. April 15	1. July 5 2. June 30 3. June 30
Rye	2 bu.	1. Sept. 15 2. Sept. 5 3. August 15	1. November 1 2. November 1 3. November 1
Ryegrass ⁵	30-40 lbs.	1. Sept. 15 2. Sept. 15 3. Sept. 1	1. November 15 2. November 1 3. November 1
Sorghum-Sudan Hybrids ^{1, 2}	15-20 lbs in row 35-40 lbs drilled or broadcast	1. May 5 2. April 15 3. April 15	1. July 5 2. June 30 3. June 20
Sweet Clover, Red Clover	6-10 lb/ac drilled 10-20 lb/ac broadcast	Dec to Jan 15 or after wheat	Dec to Jan 15 or after wheat
Sun Hemp (Inoculated)	40-50 lb/ac	9 weeks before average fall freeze date	9 weeks before average fall freeze date
Triticale	1 ½ bu.	1. Sept. 15 2. Sept. 1 3. Aug. 20	1. Nov. 30 2. Nov. 20 3. Oct. 20
Wheat	2-3 bu.	1. Oct. 25 2. October 10 3. October 1	1. November 15 2. November 1 3. November 1

¹ Tolerates fairly acid soil but performs best when a soil pH of 6.0 to 6.5 is maintained.

² Potential danger from prussic acid poison if plants are frosted, stunted or young growth is grazed. Do not allow horses to graze the green plants; apparently the hay may be used if properly cured.

³ No problem with prussic acid.

⁴ Inoculate seed. ⁵ May at times become a pest since it volunteers readily. Herbicides can now be used effectively to reduce this problem. ⁶ Mid range of production. Amounts will vary ± 50% depending on numerous factors. Top growth only

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2. Establishment of cover crops must be planned well in advance to achieve a good stand. Seedbed preparation may be done by any suitable implement or method. Seedbed preparation may be eliminated when cover crops are seeded by broadcasting into a standing crop, into residues of a previous crop by conservation tillage methods or when the harvesting procedure or residue shredding will cover seeds. No-till methods are preferred.
3. Drill or broadcast methods of seeding may be used. Broadcast methods of seeding should be completed prior to harvest for cotton, soybeans and peanuts. For cotton or soybeans, it is highly recommended that cover be broadcast during the defoliation pass or before leaf drop. Subsequent leaf drop and harvest operations will cover seeds and help ensure good germination.
4. No payment for this cost-shared practice shall be made until the cover crop is established.
5. Field offices unwilling to assist operators in achieving success and monitor cover crop establishment and stand quality should not offer this incentive to cooperators in their district.
6. Allow the cover crop to grow until 30 days before planting the succeeding crop. Terminate cover crop as late as possible to maximize plant biomass production considering the time needed to prepare the field for the next crop. Disking or plowing destroys the majority of the soil quality gains associated with cover crop management. Therefore, while disking or plowing may be allowed by this practice, conservation tillage is encouraged. Small grains should grow until at least early boot stage. Legumes should grow until at least early flower.
7. Either certified seed or bin seed may be used for this cost share practice in order to receive payment. **Cooperators using bin seed must be careful to adhere to the restrictions imposed by the federal Plant Variety Protection Act, the NC seed rules and statutes, and laws governing the use of seed from patented plants.**
8. Practice has a \$15,000 lifetime limit per applicant and is limited to 3 annual contracts per applicant.
9. BMP soil and phosphorus impacts are required on the contract. Include the planted acreage as well. Refer to the Minimum NCACSP Effects Requirements table later in this section for the correct methods of calculation.
10. Cover crop is an annual practice. Request for payment must be annually.
11. Animal waste or fertilizer may be applied to these cover crops when needed to improve the vigor of the crop. The fields must not be grazed or the crop removed. No burning of crop residue will be permitted. This practice precludes the planting of small grain for harvest.
12. An applicant may not simultaneously receive the cover crop incentive and either the 3-year conservation tillage incentive, the long-term no-till incentive, or the nutrient scavenger cover crop incentive.

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13. On occasion it may be unavoidable for the cooperators to need to access the field when the traffic will result in ruts in the field (e.g., harvest operations). With documented approval from field staff, the cooperators can spot disk/level ruts to smooth out the surface. The field staff will work with the cooperators to stay in compliance with his/her conservation tillage contract. If field staff determines adequate cover can be established prior to next crop being planted, a cover crop should be planted immediately. The field staff can provide a recommendation on what might be best to plant as a quick cover. Cooperators must contact their district office for assistance.
 - a. Field staff needs to determine the level of need for isolated disking. If smoothing the ruts will allow for the cooperators to stay in compliance, no contract extension will be required.
 - b. If extensive disking and leveling occurs, contract must be extended by one year or cooperators must refund entire amount of incentive payment.

Standards

NC NRCS Technical Guide, Section IV, Standard #340 (Cover Crop), # 328 (Conservation Cropping Rotation), #329A (Residue and Tillage Management, No-Till and Strip Till), and #778 (Long Term No Till).

(Revised July 2009; Policy #13 added March 2010)