

**NATURAL RESOURCES CONSERVATION SERVICE
SPECIFICATION GUIDE SHEET**

COVER CROP -

(Acre)

CODE 340

SCOPE

Establishing grasses, legumes, and other herbaceous materials for seasonal cover, organic matter additions, weed control, or conservation purposes.

**CONVENTIONAL SEEDING
TECHNIQUES (Drill, Broadcast)**

Seedbed Preparation: A seedbed will be prepared if needed. Seedbed shall be adequate to ensure seed/soil contact.

Legume and grass cover crops can be established by broadcasting seed onto freshly disturbed ground, preferably followed by a light incorporation or rolling/packing. On more compacted cropland, small grain cover crops may be established after harvest by either broadcasting of the seed followed by light disking, or by using a grain drill.

Cover crops in corn can be established by broadcasting seed at last cultivation, seeding after harvest as described above, by interseeding, or by aerial seeding as described in this document.

Seeding depth: Plant seed at the following depths:

Grasses and legumes: ¼ to ½ inch
Small Grains: 1 to 1-1/2 inch

Lime and Fertilizer: Lime and fertilizer will be applied on the basis of needs as determined by a soil test whenever possible. Without a soil test, determinations of the needs will be met as follows:

1. For annual crops, apply lime based upon the need of the next crop to follow.
2. Nitrogen applications should be based on crop needs (see Maine Soil Testing Guide – http://anlab.umesci.maine.edu/soillab_files/fag/handbook.pdf).
3. For permanent crops, soil amendments will be based on soil tests results.

Cover and Green Manure Crops: Crops most commonly used for cover and green manure are included in **Table 1**. They will be seeded not later than the dates and at the rates shown to provide adequate annual cover.

Biennial and perennial grasses and legumes will be considered within the intent of this practice when they are established on croplands and are managed to provide

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current standard, contact the Natural Resources Conservation Service. Contact Alice Begin, Resource Conservationist at 207-990-9568 or email alice.begin@me.usda.gov

protection during a definite hazardous period, are grown for the primary purpose of returning organic matter to the soil, or to provide a method of weed control or suppression in rotational systems.

Cover and green manure crops shall be plowed, disked under, or killed as late as feasible to maximize plant biomass production, allowing time needed to prepare the field for planting of the next crop, unless no tilled. (Caution: Winter cereal grains may produce a large volume of carbonaceous material that may tie up nitrogen for the following crop.

AERIAL SEEDING

Intent of this section is to maximize chances of successful aerial seeding of winter grains such as Rye, Wheat, Triticale, or Spelt into standing corn grown for silage.

Seed Quality and Rate:

1. Use high quality seed free of disease, insects, and weed seed.
2. Minimum germination of 80 percent.
3. Use minimum germination of 2 bu./acre (112 lbs.)

Aircraft:

Aircraft must be calibrated carefully and fly at a uniform height above ground.

Seeding:

Seeding will normally take place the first two weeks in August. Seeding will develop under the corn canopy.

Harvesting Corn to Protect Cover:

1. Minimize number of trips across the field.

- a. Change trucks, chuck-wagons, etc., at edges of field only.
 - b. Use two-row choppers, if available.
2. Do not harvest when fields are too wet to support the harvesting equipment.

Chemical Residue Effects: Aatrex (atrazine) when applied at normal rates (not more than 2 lbs./acre) causes few, if any, problems with cover crop establishment unless seeding is following an unusually dry summer.

INTERSEEDING

Corn

Interseeding a cover crop into an existing corn crop has been successful in Maine. The species most often recommended for this purpose is annual ryegrass.

The key to successful seeding is to get the seed in contact with moisture. Under dry conditions, drilling is essential. If the soil surface is moist, broadcasting without covering is effective. Good seedling growth requires continued moisture. Often seeding can be combined with a final cultivation. Annual ryegrass will mostly overwinter, especially when there is a good snow cover. Winter survival varies considerably among varieties: Southern types will winter kill in Maine and Midwestern ones will survive. The variety is often not specified in the Northeast market, so winter survival may not be consistent.

Other Crops

Annual Ryegrass can be interseeded into crops that will be harvested in late August or September. If conditions are moist, simply broadcasting seed on the surface is enough. Interseeding is best done just before the crop fills the canopy. The cover crop will begin to establish a shallow root system, but will not

be overly competitive due to shading by the major crop. This early sod can reduce damage from harvest traffic, and can help speed the recovery of the soil after harvest. Interseeding into a vegetable crop allows the cover crop to establish better in the fall then

does a grain sown well after vegetable harvest.

Broadcasting Annual Ryegrass requires 15-20 lb/ac. On dry soil, rates may be increased as high as 30 lb/ac.

Table 1. Crops, Seeding Dates, and Rates for Establishing Adequate Annual Cover. Use the appropriate inoculants when seeding legumes.

Crop	Minimum Seeding Rate	Winter Cover	Summer Cover					
	Lbs./acre							
Ryegrass, Annual on Perennial	20	9/15	---					
Spelt, winter annual	140	9/15	---					
Wheat, winter annual	120	9/15	---					
Triticale, winter annual	120	9/15	---					
Barley, winter annual**	96	9/15	---					
Oats*	80	9/1	6/15					
Sudangrass*	25	--	6/15					
Millet*	20	--	6/15					
Buckwheat*	75	--	6/15					
Red Clover *	10	--	6/1					
Hairy Vetch* (with small grain)	30 vetch, 70 small grain	9/15	---					
Forage Brassicas	15-20, or 10-15 w/ 40 lbs. winter grain	9/15	---					
Oilseed Radish	15-20, or 10-15 w/ 40 lbs. winter grain	9/15	---					
“Aroostook” Winter Rye Rates – Bushels/Acre								
Location	September				October			
	15	20	25	30	5	10	15	20
Caribou	2.0	3.5	5.5	---	--	--	--	--
Houlton	2.0	2.5	4.5	5.5	--	--	--	--
Corinna	2.0	2.0	2.0	3.5	5.5	--	--	--
Bridgton (1)	2.0	2.0	2.0	2.0	3.0	--	--	--
Portland (1)	2.0	2.0	2.0	2.0	3.0	4.0	--	--

* Note: This crop will winter kill

** May survive some winters

Source: “Seeding rate recommendations for a winter rye cover crop based on expected leaf area index”. W.J. Grant, C.D. Stanley, G.R. Benoit, and D.B. Torrey. Journal of Soil and Water Conservation, July-August, 1983. Volume 38, Number 4.

- (1) Per discussion with W.J. Grant, A.R.S., Orono, Maine and adjusted based on 3 year study on winter cover crops conducted in Cumberland County 12/90.

<http://www.plant-materials.nrcs.usda.gov/pubs/nypmchr7690.pdf> Cover Crops in Corn