

## I. Temporary/Nurse Crop Seeding Specification Guide

When temporary vegetation is desirable to minimize erosion and pollution and permanent vegetation cannot be established due to seasons of the year, and where a temporary seeding is needed to control erosion and water pollution prior to the establishment of finished grade or perennial vegetation. The temporary measures should be coordinated with the permanent erosion control measures planned, to assure economical and effective control. A nurse crop is an annual that is planted with a perennial to provide quick stabilization while the perennial is developing into a mature plant.

### I. Site Preparation

- A. Excessive water run-off must be controlled by planned and installed needed erosion control practices, such as closed drains, ditches, dikes, diversions, contour ripping, sediment basins or other erosion control methods.
- B. Grade where practical and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring.

### II. Materials

- A. Lime and fertilizer treatment specified will be affected by site conditions, length of time short-term seedlings are expected to be on the site, and the planned treatment to follow.
- B. If soils are reasonably uniform, lime and fertilize according to soil test recommendations. Otherwise, apply 100 pounds of ground agricultural limestone or equivalent per 1,000 sq. ft. or 2 tons per acre and apply 12 to 16 pounds of 10-10-10 or similar fertilizer per 1,000 sq. ft., or 500-700 pounds per acre. On some sites, seeding may be done without liming or fertilizing. Nitrogen top dressing may be applied after grass is up if needed for vigorous growth. Lime and fertilizer shall be spread uniformly over the area to be planted.
- C. Where a permanent seeding is to follow the temporary cover, optimum land preparation should be done. When further grading is to be done before the permanent seeding or where site conditions are favorable, mineral preparation may be satisfactory for establishing temporary cover. For optimum results, work lime and fertilizer into the soil to a depth of 3-4 inches using disks, chisels, rotary tillage equipment or other suitable equipment. On sloping land, the final tillage operation should be on the general contour. The adequacy of minimum preparation is dependent upon site conditions. In general, if the soil surface is such that the seeds of plants with high seedling vigor can be placed so as to remain in contact with moist soil, no preparation is required.

### III. Seeding

Select from the following Table 2 a quick growing grass with high seedling vigor that is suited to the area, to the time of planting, and that will provide a temporary cover which will not interfere with the plants to be sown later for permanent cover. Planting December-February will not provide effective short-term cover. Mulch without seeding should be considered for this period.

- A. Apply seed uniformly by hand, cyclone seeder, drill, cultipacker seeder, or hydroseed (slurry may include fertilizer, seed and cellulose fiber mulch). For quickest and best results, seed should be covered from ½ to ¾ inch deep, except when hydroseeder is used.
- B. When a hydroseeder or cultipacker type seeder is not used, the seedbed should be firmed following seeding using such equipment as a cultipacker, roller, or light drag; or following dry mulch application, with the mulch anchoring tool, disk harrow set straight, or stalk cutter. On sloping land, seeding operation should be performed across the slope.
- C. In **Table 1** below two rates are listed below for each annual species. One is higher for a pure stand. This is used for temporary cover in situations where a perennial is not ready to plant or the site will be disturbed again and a permanent grass is not needed. The Nurse crop rate is designed to be used with a perennial grasses in **Table 2**. The annuals listed below can be considered a “nurse crop” to the perennial since it stabilizes the soil while the perennial has time to establish. The nurse crop can be problematic if the seeding rates are too high or if the annual is not controlled in the spring. Annuals can become too tall and shade the perennial along with competing for water and nutrients.

**Table 1. Temporary/Nurse Crop Seeding Rates**

<u>Late Winter-Spring</u>	<u>Per 1,000 Sq. Ft.</u>		<u>Per Acre</u>	
	<u>Solid Stand</u>	<u>Nurse crop</u>	<u>Solid Stand</u>	<u>Nurse crop</u>
Buckwheat	2 lbs.	1 lb.	80 lbs.	40 lbs.
Oats	2 lbs.	1 lb.	96 lbs.	45 lbs.
Cereal Rye	2 lbs.	1.5 lb.	100 lbs.	50 lbs.
Ryegrass	1 lb.	Not Recommended	30-40 lbs.	Not Recommended
Triticale	2 lbs.	1 lb.	100 lbs.	50 lbs.
Oats and Ryegrass	1 lb.		48 lbs.	
Oats and Ryegrass	1/2 lb.	Not Recommended	10-15 lbs.	Not Recommended
Oats and Korean Lespedeza	1 lb.		48 lbs.	
	1/2 lb.	Not Recommended	20 lbs.	Not Recommended

<u>Summer</u>	<u>Per 1,000 Sq. Ft.</u>		<u>Per Acre</u>	
	<u>Solid Stand</u>	<u>Nurse crop</u>	<u>Solid Stand</u>	<u>Nurse crop</u>
Buckwheat	2 lbs.	1 lb.	80 lbs.	40 lbs.
Sudangrass (½ to 1" deep)	1 lb.	.5 lb.	25 lbs.	12 lbs.
Browntop Millet	1 lb.	.5 lb.	20 lbs.	10 lbs.
German Foxtail Millet	1 lb.	.5 lb.	20 lbs.	10 lbs.
Pearl Millet	.5 lb.	.25 lb.	15 lbs.	8-10 lbs.

<u>Late Summer/Early Winter</u>	<u>Per 1,000 Sq. Ft.</u>		<u>Per Acre</u>	
	<u>Solid Stand</u>	<u>Nurse crop</u>	<u>Solid Stand</u>	<u>Nurse crop</u>
Rye	3 lbs.	1.5 lbs.	2-3 bu.	40lbs.
Ryegrass	1 lb.	Not recommended	30-40 lbs.	Not recommended
Oats (Before Oct. 1)	2 lbs.	1lb.	3 bu.	1bu.
Barley (Before Oct. 15)	3 lbs.	1.5 lbs.	2-3 bu.	1.5 bu.
Wheat (After Nov. 1 in coastal plain)	3 lbs.	1.5 lbs.	2-3 bu.	1.5 bu.
Rye and Ryegrass mixture	1 ½ lbs. Rye + 1/2 lb. Ryegrass	Not recommended	1 bu. Rye + 20 lbs. Ryegrass	Not recommended
Crimson Clover (mix with grass)	Not Recommended	.5 lb.	Not Recommended	8-10 lbs.
Vetch (mix with grass)	Not Recommended	1 lb.	Not Recommended	10-12 lbs.

**NOTE:**

- 1) All seed used should have a current germ test (listed on seed tag).
- 2) Legumes (clover and vetch) assist with establishment and should have a species-specific inoculant applied to the seed. This will be listed on the seed tag or check with supplier. Inoculant has an expiration date since it is considered alive, and should be verified prior to seeding. Legumes will not perform if not properly inoculated.
- 3) For native grasses, use a nurse crop to temporarily stabilize the site. For seeding rates and species suitable for SC, see in Section 1 of the EFOTG, Technical References, NRCS Technical Guide 327A Conservation Cover: Native Species for Wildlife

**Table 2. Perennial Grass Rates for Critical Areas**

PLANTS AND MIXTURES	MINIMUM PLANTING RATES/ACRE and PLANTING DEPTH inches B = broadcast D = drill PLS = pure live seed	PLANTING DATES 1. Mountains above 2500 feet above sea level 2. Piedmont 3. Coastal Plain, Carolina & Georgia Sand Hills	NOTES: Recommended planting dates and ranges revised Dec 2014. Table 1 is not meant to be a complete list. Please contact NRCS State Agronomist for more information or with questions on other specific plants or mixtures. Native grasses, have been identified as effective for stabilization on critically eroding sites. However, most natives are bunch grasses and establish slowly which makes it challenging to achieve quick site stabilization. See 327 Conservation Cover for native recommendations and specs. Increase Native seeding rates listed by 50% and use a nurse crop to hold the soil until the natives are established.
Bahigrass (scarified seed)	D30-40lbs. B40-50lbs. ¼-½ inch	1. Not recommended. 2. April 15—May 15 best; April 1—June 15 possible 3. Feb 15—March 15 best; Feb 1—March 31 possible	Bahigrass best adapted to coastal plain. Do not use where seed head appearance warrants mowing.
Coastal Panicgrass	D8-10 lbs. B10-12 lbs.	1. Not recommended 2. Not recommended 3. Feb 15-Mar 31 best; Feb 1-April 30 possible	
Hulled Bermudagrass (hull removed or scarified)	D5-8 lbs. B8-10 lbs. No more than ¼ inch	1. Not recommended 2. April 15—May 15 best; April 1—June 15 possible 3. April 1—May 15 best; April 1—June 7 possible	Best under 2,000' elevation and south slopes, well-drained sunny sites, withstands traffic. Use Piedmont establishment dates when planting on any suitable sites above 2000'.
Unhulled Bermuda (hull is still on the seed)	D10-12 B12-15	1. Not recommended 2. Fall/winter for spring germination, for warm season use hulled (above) 3. See #2	Unhulled Bermuda is often used in a 50/50 mix with hulled to ensure a stand. Unhulled is used for planting during the cooler months or winter and should be used in conjunction with a nurse crop (see next section). This seed will not germinate until the hull has been scarified or weathered.
Crown vetch	D10-15 lbs. B15-20 lbs. ¼-½ inch	1. July 25—Aug 10 best; July 15—Aug 30 possible 2. Not recommended 3. Not recommended	Best in mountains, and upper Piedmont on north facing slopes 9% or steeper. Spring transplanting preferred. Requires a pH of 6+ and maintenance of lime, P & K every 3-4 years. Slow to establish with seeds. Good plant on slopes that will not be mown.
Flatpea 'Lathco'	D20-30 lbs. 1 ½ inches	1. July 25—Aug 10 best; July 15—Aug 30 possible 2. Not recommended 3. Not recommended	Same as Crownvetch, except requires pH increase when pH drops below 5; adapted to sandy soils; when established, suppresses woody growth; more shade tolerant than Crownvetch; slow to establish, plant with 10 to 15 lbs/ac of Orchardgrass, or Timothy for non enduring quicker cover. Tall Fescue is long lived but may be substituted.
Prairie Cordgrass	D7-8 lbs. or B8-9 lbs. PLS/ac 1/2-3/4 inch ≈11,000 plants/ac- plants available commercially	1. Dec 1—April 30 2. Nov 15—April 15 3. Nov 1—March 31	Useful in dry detention structures or channels that retain water no more than 30 days during the growing season.
Tall Fescue	30-40 lbs.	1. July 25—Aug 10; March 20—April 20 2. Sept 1 - Oct 15; 3. Not recommended	Not well suited to infertile, droughty, sandy soils. Requires good maintenance. Seeding date in mountains varies with elevation and aspect. KY31 variety is for most areas. Consider a turf type variety for around buildings and areas that will be maintained.

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Sericea Lespedeza (scarified and unscarified)	B: 30-40 lbs. D: 20-30 lbs.	1. March 15-April 15 best; March 1—April 30 possible 2. March 1-March 20 best; Feb 15—April 30 possible 3. March 1-March 20 best; Feb 15—April 30 possible	<b>Sericea is recognized as a potentially invasive species.</b> Its specification should only occur where the plant's potential spread and persistence in the environment is determined to be an acceptable risk
Weeping Lovegrass	4-6 lbs	1. May 1—June 15 best; Apr 15—July 31 possible 2. April 15—June 1 best; April 1—July 15 possible 3. April 1—May 15 best; March 15—June 30 possible	Gives quick summer cover, well adapted to droughty sites. Over time its clumping growth habit promotes erosion from overland flow. Use as a temporary erosion control plant unless planted in mixtures with Sericea Lespedeza.

**References:** Midwest Cover Crop Field Guide Version 1/12, Hancock Seed Company

#### IV. Mulching

See 484 Mulching Standard in Section IV of the EFOTG