

NORTH CAROLINA SUPPLEMENT – 342-III-1

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Technical Guide - Section IV
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CRITICAL AREA PLANTING – Short Term Seeding

Conditions Where This Practice Applies

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.

Specification Guide

A. Site Preparation

1. 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.
2. Grade where practical and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring.

B. Materials

1. 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.
2. 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.
3. 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.

C. Seeding

1. Select from the following table 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. Seedlings made in December and January will not provide effective short-term cover. Mulch without seeding should be considered for this period.

<u>Late Winter-Spring</u>	<u>Per 1,000 Sq. Ft.</u>	<u>Per Acre</u>
Oats	2 lbs.	3 bu.
Rye	3 lbs.	2-3 bu.
Ryegrass	1 lb.	30-40 lbs.
Oats and Ryegrass	1 lb. 1/2 lb.	1 ½ bu. 20 lbs.
Oats and Korean Lespedeza	1 lb. 1/2 lb.	1 ½ bu. 20 lbs.

<u>Summer</u>	<u>Per 1,000 Sq. Ft.</u>	<u>Per Acre</u>
Sudangrass	1 lb.	34-45 lbs.
Browntop Millet	1 lb.	30-40 lbs.
Weeping Lovegrass	.2 lbs.	4-6 lbs.

<u>Late Summer/Early Winter</u>	<u>Per 1,000 Sq. Ft.</u>	<u>Per Acre</u>
Rye	3 lbs.	2-3 bu.
Ryegrass	1bu.	30-40 lbs.
Oats (Before Oct. 1)	2 lbs.	3 bu.
Barley (Before Oct. 15)	3 lbs.	2-3 bu.
Wheat (After Oct. 1)	3 lbs.	2-3 bu.
Rye and Ryegrass	1 ½ lbs. 1/2 bu.	1 bu. 20 lbs.

NOTE: All seed used in contracts shall have been tested not more than six (6) months prior to date of seeding. The specifications shall state the acceptable percent purity, germination and number of noxious weed seed per pound.

2. Apply seed uniformly by hand, cyclone seeder, drill, cultipacker seeder or hydraulically (slurry may include fertilizer, seed and cellulose fiber mulch). For quickest and best results, seed should be covered from ½ to 1 inch deep except when hydroseeder is used.
3. 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.

D. Mulching

Mulching should usually be specified to reduce damage from water run-off and improve moisture conditions for seedlings. Temporary vegetation can in some cases be satisfactorily established without the use of mulch. The use of mulch is a judgment decision based on time of seeding and conditions of individual sites.

1. Mulching Materials
 - a. Dry unchopped, unweathered small grain straw or hay free of seeds of competing plants – Spread at the rate of 1 to 2 tons per acre, depending upon the site and season. Evenly spread mulch over the area by hand or blower-type spreading equipment. Apply mulch so that about 25% of the ground surface is visible.
 - b. Local materials such as burlap and pine boughs – Cover entire area; secure in place if flowing water is involved.
 - c. Barnyard manure and bedding – Apply uniformly so that about 25% of the ground surface is visible.
 - d. Jute matting may be used in the place of mulch or sod and has the strength to withstand waterflow. It is an accepted practice to sow half the seed before placing the matting. Sow the remaining half after the matting is laid. See the manufacturer's specifications for installing.
 - e. Wood fiber (excelsior) – Available as mulch material to be blown on after seeding or as a matting to be stapled on steep slopes, waterways, etc. See the manufacturer's specifications for installing.
 - f. Wood cellulose fiber mulch is mixed with seed, fertilizer, and water. The resulting slurry is sprayed on with hydraulic seeding equipment. Use at the rate of 500 lbs. per acre where straw or hay is to be applied. Use at the rate of 1,000 to 1,500 lbs. per acre without other mulching materials. Applied in a slurry, wood cellulose fiber mulch is self-anchoring.
 - g. Other commercial products, as fiberglass shredded or hammer milled hardwood bark and various kinds of nettings, are available. Manufacturer's directions should be followed for applying and securing in place.
2. Mulch Anchoring Methods – Anchor mulch immediately after placement to minimize loss by wind and water. Consider size of area, type of site, and cost and select one of the following:
 - a. Mulch anchoring tool with a series of flat notched disks that punch and anchor mulch material into the soil. A regular farm disk weighted and set nearly straight may be substituted but will not perform as well as a mulch anchoring tool. The disk should not be sharp enough to cut up the mulch.

The soil should be moist, free of stones or roots, and loose enough to permit penetration to a depth of 3 inches. Operate on the contour where practical.
 - b. Mulch nettings – Staple light weight paper, jute, cotton, plastic, or wire nettings to the soil surface according to manufacturer's specifications. These nettings are usually in rolls 3 to 4 feet wide and up to 300 feet long.
 - c. Peg and twine – Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross within a square pattern. Secure twine around each peg with two or more round turns. Poles and stakes may also be used to secure brush in place.
 - d. Slit – With a square pointed spade, cut mulch into the surface soil in contour rows 18 inches apart.
 - e. Asphalt mulch tie-down – Asphalt sprayed uniformly on the mulch as it is ejected from the blower is more effective than applied as a separate operation. Apply so area has uniform appearance. Rates of application will vary with conditions. The higher the grade number assigned each type of asphalt, the higher the percentage of asphalt residue. Asphalt should not be used in freezing weather.

Emulsified asphalt – Apply uniformly 0.04 to 0.08 gallons per square yard or 200 to 400 gallons per acre of rapid setting (MS-1, MS-2, or CMS-2); slow setting (SS-1 or CSS-1).

Rapid setting (RS or CRS) is formulated for curing in less than 24 hours even during periods of high humidity. Best for spring and fall.

Medium setting (MS or CMS) is formulated for curing within 24 to 48 hours.

Slow setting (SS or CSS) is formulated for use during hot, dry weather with 48 hours or more curing time.

Note – In areas of playing children or pedestrian traffic, asphalt application could cause problems of “tracking in” on rugs, damage shoes, clothing, etc. Use types RS or CRS to minimize problem.

3. Irrigation (if needed)

Water should be applied as soon as the mulch is applied at a rate that does not cause runoff and erosion. If sprinkler irrigation equipment cannot be used and water is applied from a tank truck, use a nozzle that will produce a spray that will not dislodge the mulch. A second application should be made in 10 days, if no rainfall has occurred.