U.S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service

Technical Guide
Section IV
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MULCHING
(To Help Establish Plant Cover)

Specifications Guide

A. Mulching Materials

1. 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 mechanically. Apply mulch uniformly so that about 25% of the ground surface is visible, so as not to prevent emergence of seedlings.

   NOTE: Wheat straw is preferred because oat straw frequently contains more viable seed. There is a greater chance of noxious weeds in hay than with straw, except where the source of hay is known to be free of weeds.

2. Sericea Lespedeza seed bearing stems at a rate of three tons per acre - This mulch may be applied green or dry, but must contain mature seed. Liming, fertilizing, and land preparation should precede application of the sericea mulch.

3. Broomsedge grass mulch - Spread seed bearing material where it is desirable to establish this native plant.

4. Shredded or hammermilled hardwood bark - Spread at a rate of 35 cubic yards per acre. On slopes of 2:1 or steeper, increase rate to 40 cubic yards per acre. Do not apply asphalt material to tack the hardwood bark.

5. Local materials such as burlap, tobacco plant bed netting, and pine boughs - Cover entire area; secure in place if flowing water is involved. Do not use green pine branches where pine trees are to be planted because of possible insect or disease injury to plantings.

6. Barnyard manure and bedding - Apply uniformly so that about 25% of the ground surface is visible (8 to 10 tons per acre). Excellent around shrubs. May create problems with weeds.

7. Jute matting is a coarse, open mesh material woven of heavy jute twine. It 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 and the remaining half after the matting is laid. See the manufacturer's specifications for installing.

8. Wood fiber (excelsior) is 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.

9. Gravel or crushed stone - Apply 3 inches deep as a mulch around woody plants. Apply 4.5 to 9 tons per 1,000 square feet on seeded areas subject to foot and light vehicle traffic.

10. 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 pounds per acre where straw or hay is to be applied. Use at the rate of 1,000 to 1,500 pounds per acre without other mulching materials. Applied in a slurry, wood cellulose fiber mulch is self-anchoring.

11. Other commercial products, as fiberglass and various kinds of nettings, are available. Manufacturer's directions should be followed for applying and securing in place.

B. **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:

1. 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 substitute, but will not do a job comparable to the mulch anchoring tool. The disk should not be sharp enough to cut up the mulch.

2. For effective operation of this equipment, the soil should be moist, free of stones or roots, and loose enough to permit penetration to a depth of 3 inches. Operate as near as practical to the contour.

3. 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.

4. Slit - With a square pointed spade, cut mulch into the surface soil in contour rows 18 inches apart.

5. 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 (RS-1, CRS-1, RS-2, or CRS-2); medium 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.

6. Mulch can be anchored with rye for fall plantings or millet for summer planting. Use 1/2 bushel of rye or 15 pounds of millet per acre broadcast ahead of mulch application.