

# Temporary Erosion Control Seeding



Source: Mississippi State University

<u>BENEFITS</u>				
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Flow Control	<table border="1" style="display: inline-table;"> <tr> <td style="width: 20px; height: 15px; background-color: black;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> </tr> </table>			
Erosion Control	<table border="1" style="display: inline-table;"> <tr> <td style="width: 20px; height: 15px; background-color: black;"></td> <td style="width: 20px; height: 15px; background-color: black;"></td> </tr> </table>			
Sediment Control	<table border="1" style="display: inline-table;"> <tr> <td style="width: 20px; height: 15px; background-color: black;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> </tr> </table>			
Runoff Reduction	<table border="1" style="display: inline-table;"> <tr> <td style="width: 20px; height: 15px; background-color: black;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> </tr> </table>			
Flow Diversion	<table border="1" style="display: inline-table;"> <tr> <td style="width: 20px; height: 15px; background-color: white;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> <td style="width: 20px; height: 15px; background-color: white;"></td> </tr> </table>			

**Description:** Temporary seeding is a means of growing a short-term (less than one-year) vegetative cover on disturbed areas that may be in danger of erosion. The purpose is to stabilize disturbed areas with existing or expected high rates of soil erosion by water or wind, reduce damage from sediment and runoff to downstream areas, and improve water quality.

**Typical Uses:** Temporary seeding may be used to stabilize rough-graded disturbed areas that will not have permanent stabilization or further work performed on them for a period of 21 days or more, and which require temporary stabilization for a period of less than one year.

**Advantages:**

- Relatively low cost.
- Competes with undesirable vegetation such as noxious weeds.
- Reduces flow velocity, thus reducing erosion potential.
- Traps suspended sediment.
- Improves construction site appearance.
- Reduces maintenance and clean out requirements associated with other erosion control structures (i.e. sediment basin cleanout frequency will be reduced if site is stable).
- Effective measure for dust control.

**Limitations:**

- Requires sufficient time and moisture to establish.
- Planted areas are susceptible to wind and water erosion until vegetation is established.
- Seasonal limitations on planting may not coincide with construction schedule.
- Method is only effective for one growing season.

**Longevity:** One growing season

**SUDAS Specifications:** Refer to [Section 9010 \(Seeding\)](#)

## A. Description/Uses

Temporary seeding for construction site erosion control consists of planting appropriate rapidly growing vegetation on disturbed/denuded soil areas to reduce soil loss (erosion and sedimentation), decrease stormwater runoff volume, and lessen problems associated with mud and dust production from bare, unprotected soil surfaces. Through seeding, a fibrous root system is established. This holds the soil in place and provides a canopy over the soil, protecting it from raindrop impact. Typical applications for temporary seeding include stabilizing the denuded surface of excavations, slopes, diversions, dams, sediment basins, road embankments, and stockpiles.

The NPDES General Permit No. 2 requires that all disturbed areas where no construction activities are scheduled for a period of 21 calendar days or more, be stabilized within 14 days of the final construction activity. Temporary seeding is one way to meet this requirement.

## B. Design Considerations

The following should be considered for all sites that are to be stabilized with either temporary or permanent seeding.

1. **Site Stabilization:** Minimize steep slopes, which increase the erosion hazard, and make seedbed preparation difficult. Concentrated flows should be diverted away from the seeding area.
2. **Sediment and Water Control Devices:** Prior to seeding, necessary control practices such as dikes, swales/waterways, or sediment basins or diversions should be installed.
3. **Seeding Methods:** There are four seeding methods to consider:
  - a. Broadcast seed spreader/cyclone seeder
  - b. Mechanical drill or cultipacker
  - c. Hydroseeder in which the seed is intermixed with mulch and water to creates a slurry.
  - d. Pneumatic seeder in which the seed is intermixed with compost or a compost/soil blend

When hydroseeding and pneumatic seeding are utilized, the surface may be left with a more irregular surface, since these practices will fill small depressions and cover small bumps. These two types of seeding methods can be used in situations where slope and accessibility is a limiting factor and seedbed preparation is not possible, or where the application of seed, mulch and fertilizer (if necessary) in one operation is desirable.

Hand broadcasting seed may be utilized for small or inaccessible areas; however, it is not recommended for larger areas because of the difficulty in achieving a uniform distribution.

4. **Seedbed Preparation:** Seedbed preparation is essential for the vegetation's ability to germinate and grow. Seedbed preparations considerations include:
  - a. Topsoiling is not necessary for temporary seeding, though it may improve the chances of vegetation establishment. When the area is crusted or hardened, the soil surface should be loosened by disking, raking, harrowing, or other acceptable means to a depth of approximately 2 inches. If the area has been recently loosened, no further roughening is required.

- b. Soil compaction severely hinders seeding success rate and increases runoff rates. If the area has been compacted by heavy equipment, the surface to be seeded should be chisel plowed to a depth of 6 to 12 inches once heavy equipment has been removed from the area.
  - c. The soil pH should have a range of 5.5 to 7.5. Where soils are known to be highly acidic (pH 6.0 and lower), lime should be applied at the rate recommended by the soil-testing laboratory.
  - d. Fertilizer application is required for temporary seeding.
5. **Seed Mixture:** Unless a specific seed mixture is required, the seed mixtures described in [SUDAS Specifications Section 9010](#) may be utilized. These are annual seed mixtures and are only intended to provide protection for one growing season (6 to 8 months). For applications requiring protection longer than one growing season, reseeding in the spring or dormant seeding in the fall may be required. Alternatively, areas which will not be disturbed for a period greater than can be protected by a temporary seed mixture, should have permanent seeding applied (refer to [Section 7E-24](#))

**Table 7E-22.01:** Temporary Erosion Control Mixes

Seed Mixture	Allowable Seeding Dates
Spring Mix	March 1 - May 20
Summer Mix	May 21 - August 14
Fall Mix	August 15 - September 30

Source: [SUDAS Specifications Section 9010](#)

- 6. **Weather:** When seeding, be aware of the weather. Do not seed when heavy rainfall is predicted, during windy weather or on wet/frozen ground (hydroseeding and pneumatic seeding may be an exception to seeding on wet/frozen ground).
- 7. **Matting:** A rolled erosion control product is recommended for slopes steeper than 3:1. RECPs may also be required for flatter slopes greater than 100 feet in length, to hold the seed in place and protect new vegetation from runoff until it becomes established. Refer to [Section 7E-5 - Temporary Rolled Erosion Control Products](#).
- 8. **Mulching:** For temporary seeding, mulching is advised when seeding in the summer or during excessively hot or dry weather to maintain moisture levels; in the fall for winter cover; on slopes steeper than 3:1; and on adverse soils (shallow, rocky, or high in clay or sand). Mulching is not advised in concentrated flow situations. Refer to [Section 7E-17 - Erosion Control Mulching](#).
- 9. **Moisture:** If normal rainfall is insufficient to ensure vegetation establishment, mulching, matting, or controlled watering should be completed to keep seeded areas adequately moist.

## C. Application

In order to achieve the appropriate vegetation density, temporary seed mixtures and fertilizer should be applied at the rates specified in the SUDAS Specifications.

## **D. Maintenance**

Once the area is seeded, it should not be disturbed and should be protected from traffic. Newly seeded areas should be inspected weekly as part of the overall erosion control inspection, to ensure that grass is growing satisfactorily. Areas that have bare spots or where erosion has occurred, should be re-seeded. Temporary seeding should be maintained until the area is again disturbed by construction, or permanent stabilization is achieved.

## **E. Time of Year**

The temporary seeding mixture used should be based upon the time of year as indicated in Table 7E-22.01. The dates given are approximate and may be adjusted to account for annual weather patterns.