Dormant Seeding & Frost Seeding

Dormant seeding *is a temporary or permanent seeding application at a time when soil temperatures are too low for germination to occur (less than 50°F).*

Frost seeding *is a temporary or permanent seeding application in late winter when soils are in the freeze-thaw stage. (This measure can be used to repair or enhance areas having thin or declining vegetative cover or to revegetate an area.)*

Purpose

- To provide early germination and soil stabilization in the spring.
- To reduce sediment-laden storm water runoff from being transported to downstream areas.
- To improve the visual aesthetics of the construction area.
- To repair or enhance previous seeding.

Specifications

Seedbed Preparation

Grade and apply soil amendments as recommended by a soil test (incorporate soil amendments into soil prior to soil freezing).

Density of Vegetative Cover

Eighty percent or greater over the soil surface.

Materials

- Soil Amendments – Select materials and rates as determined by a soil test (contact your county soil and water conservation district or cooperative extension office for assistance and soil information, including available soil testing services) or 200 to 300 pounds of 12-12-12 analysis fertilizer, or equivalent. Consider the use of reduced phosphorus application where soil tests indicate adequate phosphorous levels in the soil profile.

- Seed – Select an appropriate plant species seed or seed mixture on the basis of soil type, soil pH, region of the state, time of year, and intended land use of the area to be seeded (see Table 1 or Table 2).
- Mulch –
  - Straw, hay, wood fiber, compost, etc. (to protect seedbed, retain moisture, and encourage plant growth).
  - Anchored to prevent removal by wind or water or covered with premanufactured erosion control blankets.

Application

(see Tables 1 and 2)

Site Preparation

1. Grade the site to achieve positive drainage.
2. Add topsoil (see **Topsoil Salvage and Utilization** on page 25) to achieve needed depth for establishment of vegetation.

Dormant Seeding

Site preparation, seedbed preparation and mulching can be done months ahead of actual seeding or if the existing ground cover is adequate, seeding can be done directly into it.

1. Test soil to determine pH and nutrient levels.
2. Broadcast soil amendments as recommended by a soil test and work into the upper two to four inches of soil. If testing was not done, apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Apply and anchor mulch (see **Mulching** on page 55 and **Compost Mulching** on page 59) immediately after completion of grading and addition of soil amendments.
4. Select an appropriate seed species or mixture from Table 1 for temporary seeding or Table 2 for permanent seeding. Broadcast the seed on top of the mulch and/or into existing ground cover at the rate shown. (Seed areas when soil temperatures are below 50^{o} F but the soil is not frozen.)

Frost Seeding

Seed is broadcast over the prepared seedbed and incorporated into the soil by natural freeze-thaw action.

1. Test soil to determine pH and nutrient levels.

2. Broadcast soil amendments as recommended by a soil test and work into the upper two to four inches of soil before it freezes. If testing was not done, apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Select an appropriate seed species or mixture from Table 1 for temporary seeding or Table 2 for permanent seeding. Broadcast the seed on the seedbed or into the existing ground cover at the rate shown. (Seed areas when the soil is frozen. Do not work the seed into the soil.)

Maintenance

- Inspect at least once every seven calendar days.
- Check for erosion or movement of mulch.
- Check for inadequate cover (less than 80 percent density over the soil surface); reseed and mulch in mid to late April if necessary. For best results, reseed within the recommended dates shown in Temporary Seeding on page 31 and Permanent Seeding on page 35.
- Apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent, between April 15 and May 10 or during periods of vigorous growth.
- Fertilize turf areas annually. Apply fertilizer in a split application. For cool-season grasses, apply one-half of the fertilizer in late spring and one-half in early fall. For warm-season grasses, apply one-third in early spring, one-third in late spring, and the remaining one-third in middle summer.

Table 1. Temporary Dormant or Frost Seeding Recommendations

Seed Species	Rate per Acre
Wheat or rye	150 lbs.
Spring oats	150 lbs.
Annual ryegrass	60 lbs.

Table 2 provides several seeding options. Additional seed mixtures are available commercially. When selecting a mixture, consider site conditions, including soil properties (e.g., soil pH and drainage), slope aspect, and the tolerance of each species to shade and drought.

Table 2. Permanent Dormant or Frost Seeding Recommendations

Open Low-Maintenance Areas (remaining idle more than six months)

Seed Mixtures	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Perennial ryegrass - white clover[1]	75 lbs. 3 lbs.	5.6 to 7.0
2. Kentucky bluegrass - smooth bromegrass - switchgrass - timothy - perennial ryegrass - white clover[1]	30 lbs. 15 lbs. 5 lbs. 6 lbs. 15 lbs. 3 lbs.	5.6 to 7.5
3. Perennial ryegrass - tall fescue[2]	45 lbs. 45 lbs.	5.6 to 7.0
4. Tall fescue[2] - white clover[1]	75 lbs. 3 lbs.	5.5 to 7.5

Steep Banks and Cuts, Low-Maintenance Areas (not mowed)

Seed Mixtures	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Smooth bromegrass - red clover[1]	50 lbs. 30 lbs.	5.5 to 7.5
2. Tall fescue[2] - white clover[1]	75 lbs. 3 lbs.	5.5 to 7.5
3. Tall fescue[2] - red clover	75 lbs. 30 lbs.	5.5 to 7.5
4. Orchardgrass - red clover[1] - white clover[1]	45 lbs. 30 lbs. 3 lbs.	5.6 to 7.0
5. Crownvetch[1] - tall fescue	18 lbs. 45 lbs.	5.6 to 7.0

Lawns and High-Maintenance Areas

Seed Mixtures	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Bluegrass	210 lbs.	5.5 to 7.0
2. Perennial ryegrass (turf type) - bluegrass	90 lbs. 135 lbs.	5.6 to 7.0
3. Tall fescue (turf type)[2] - bluegrass	250 lbs. 45 lbs.	5.6 to 7.5

Channels and Areas of Concentrated Flow

Seed Mixtures	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Perennial ryegrass - white clover[1]	225 lbs. 3 lbs.	5.6 to 7.0
2. Kentucky bluegrass - smooth bromegrass - switchgrass - timothy - perennial ryegrass - white clover[1]	30 lbs. 15 lbs. 5 lbs. 6 lbs. 15 lbs. 3 lbs.	5.5 to 7.5
3. Tall fescue[2] - white clover[1]	225 lbs. 3 lbs.	5.5 to 7.5
4. Tall fescue[2] - perennial ryegrass - Kentucky bluegrass	225 lbs. 30 lbs. 30 lbs.	5.5 to 7.5

[1] For best results: (a) legume seed should be inoculated; (b) seeding mixtures containing legumes should preferably be spring-seeded, although the grass may be fall-seeded and the legume frost-seeded; and (c) if legumes are fall-seeded, do so in early fall.

[2] Tall fescue provides little cover for, and may be toxic to some species of wildlife. The Indiana Department of Natural Resources recognizes the need for additional research on alternatives such as buffalograss, orchardgrass, smooth bromegrass, and switchgrass. This research, in conjunction with demonstration areas, should focus on erosion control characteristics, wildlife toxicity, turf durability, and drought resistance.

Notes:

1. If using mixtures other than those listed in this table, increase seeding rates by 50 percent over the conventional seeding rates.
2. A high potential for fertilizer, seed, and mulch to wash exists on steep banks, cuts, and in channels and areas of concentrated flow.