



Five Keys to Successful Grass Seeding

- ☼ Seeding Date
- ☼ Seedbed
- ☼ Seed Placement
- ☼ Seed Quality
- ☼ Weed Control

Establishing a stand of grass requires proper planning and attention to detail. Perennial grasses differ in establishment requirements compared to annual grain crops. Five keys to successful grass seeding and establishment are presented in the following narrative. Adhering to these guidelines will greatly improve your chances of a successful grass stand.

KEY #1 – SEEDING DATE

Grasses should be seeded when soil moisture and temperature are optimum for germination. Grasses are designated either “cool” or “warm” season based on their growth cycle. Dryland grasses are to be planted between November 15th and April 15th on unfrozen ground. Irrigated sites can be planted anytime between November 15th and June 30th and again the soil should be unfrozen.

Dryland	Irrigated
November 15 to April 15	November 15 to June 30

KEY #2 – SEEDBED

A proper seedbed is firm and free of competing vegetation. Correct firmness is when an adult footprint is only slightly visible on the prepared bed prior to seeding operation. The seedbed can be firmed, if needed, by pulling a commercial or homemade packer or roller.



A firm seedbed is essential for proper seeding depth. A loose, fluffy bed will place seeds too deep for proper germination. Seed requiring light for germination will be

hindered by a deep planting depth. Seed that germinates, but does not have enough nutrient reserve for the shoot to reach the surface is also hindered by a deep planting depth. Most species should be planted at a shallow depth of ¼ to ¾ inch. Larger seeds can be planted up to 1 inch deep. Most seedings are too deep if you cannot see a few seeds on the soil surface.

Average Percent Emergence from Same Number of Viable Seed on Loam Soil							
Species	Depth of Planting (Inches)						Optimum Depth
	½	1	1 ½	2	2 ½	3	
Bromegrass	94	94	83	62	40	8	½ - 1
Intermediate wheatgrass	92	98	90	77	38	6	½ - 1
Western wheatgrass	71	72	54	0	0	0	½ - 1
Switchgrass	75	65	45	0	0	0	½ - 1
Big bluestem	65	59	38	0	0	0	½ - 1
Sideoats grama	62	39	0	0	0	0	½
Blue grama	61	33	0	0	0	0	½

NOTE: Data on introduced grasses from Canada, Scientific Ag, 26:9 September 1946. Data on native grasses from SCS Nursery, Mandan, ND, June 1949.

Grasses can be successfully seeded into a tilled or no-tilled seedbed, provided weeds are controlled and residue is managed prior to planting. Weeds compete with seedlings for moisture and light. Optimum control comes with several years of weed management prior to seeding. At seeding time, there should be no actively growing weeds. Weeds can be controlled with tillage and/or herbicides applied before or just after seeding. Like a weed, companion crops are generally not recommended in grass seedings.

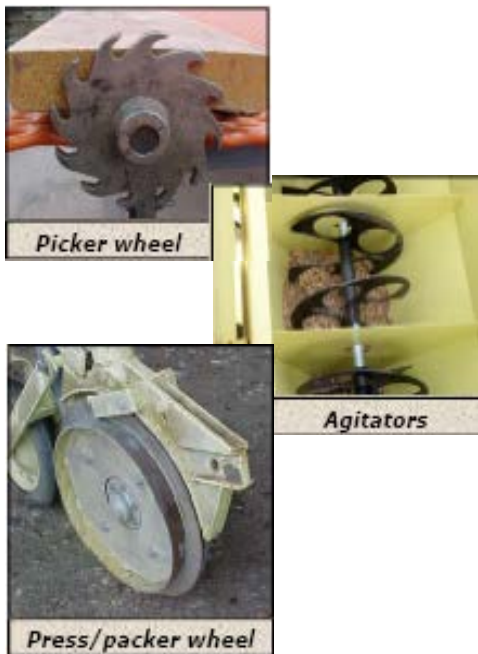
Establishing a cover crops are an excellent step prior to grass seeding. The cover crop reduces soil erosion, protects the seedlings, provides organic matter, and prevents competition from weeds. Forage and long-season grain sorghum or Milo and Sudan grass are ideal cover crops. Plant cover crop on sandy soils from June 1st to June 15th at a rate of 10 to 15 pounds per acre for Sudan grass and 8 to 12 pounds per acre for forage and



grain sorghum. If the soil is a clay or loam texture the crop can be drilled between June 10th and June 30th at a rate of 8 to 12 pounds per acre of Sudan grass and 6 to 8 pounds for forage and grain sorghum. The grass seed can be planted directly into the standing cover crop during the following fall or spring of the next year.

KEY # 3 – SEED PLACEMENT

The seeding equipment should provide proper seed depth, uniform seeding rate, and good seed to soil contact. Grass seed can be broadly categorized into three types; fluffy or chaffy, smooth small seed, and smooth large seed. Grass drills are quipped with separate boxes to properly place and meter each of the three seed types. Picker wheels and agitators in the fluffy/chaffy box and oversized feeder tubes keep rough coated seeds flowing evenly.



Depth bands on grass drills are essential for planting depth control. Press/packer wheels contribute to close seed/soil contact. Free flowing grass seed (e.g. wheatgrass) can be successfully planted with a small grain drill if proper, shallow and consistent seeding depth is maintained.

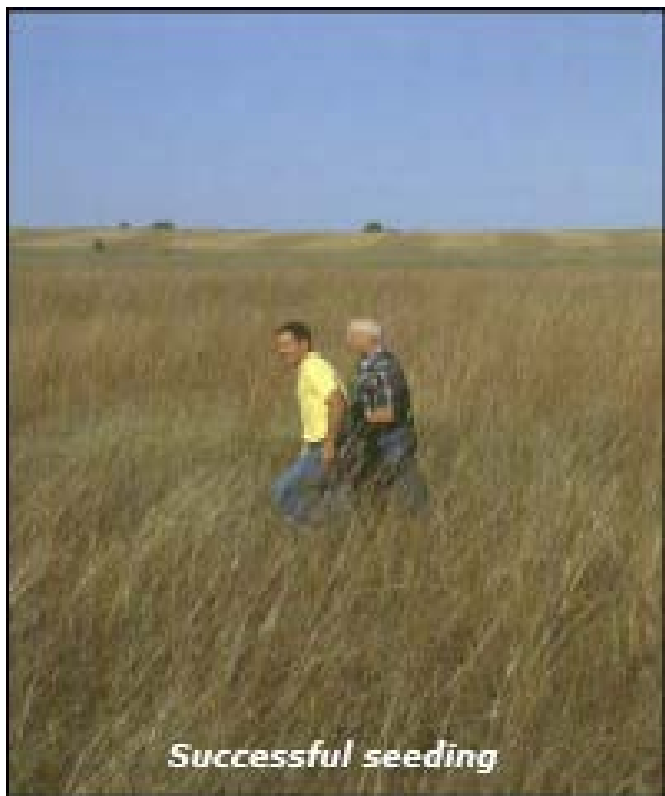
Drills should be calibrated to monitor seeding rate. Seeding rate can be determined by counting dropped seeds after traveling a given distance on a hard surface, collecting seed from openers after traveling a given distance, or turning the drive wheel on the drill and collecting from openers. Contact the local NRCS office for additional information.

KEY # 5 – WEED CONTROL

Weeds compete for moisture and light with young seedlings. Competitive weeds can be controlled mechanically by clipping or mowing. The grasses should be in the five leaf grass stage, which means that there is an average of five leaf blades on each grass plant within the grass seeding. Dense residue clipping should be removed from the seeded area. Weeds can also be controlled with herbicides, if the grass stand is not a native mixture. Recommendations for herbicides should be made by the Colorado Cooperative Extension agent or local County Weed Districts.

THE TWO MAIN REASONS GRASS SEEDINGS FAIL ARE:

- 1. Planting too deep**
- 2. Lack of weed control**



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.