

FACT SHEET FOR THE RECLAMATION OF PLANT SEEDINGS ON COAL BED METHANE PIPELINES AND DRILLING SITES

By Roger Hybner and Larry Holzworth*

In the Powder River Basin of Montana and Wyoming, coalbed methane drilling activity has left both landowners and reclamation companies seeking information on replanting and reclamation. Main points to be considered for reclamation are soil types, dryland or wetland/riparian conditions, native or introduced specie preference, ease of establishment, and seed availability.

Site preparation is crucial for the success of all reclamation plant species. All topsoil should be salvaged prior to and replaced after construction. The site should be smooth and firm, yet free from compaction and large clods of dirt. Due to their small size, grass or legume seed should be drilled no deeper than ½", especially when heavy clay soils are involved. If the seed is broadcast, the soil surface needs to be roughened prior to seeding. When broadcasting the seed or using drop tubes followed by a rollerpacker or harrow, a general rule is to leave 20% of the seed on the soil surface. Soil should be compacted firmly around the seed so that proper germination and appropriate root development can occur. A light, straw mulch can also aid in keeping the soil from drying out as the result of sun and wind exposure.

Cool season grasses and legumes need a soil temperature of 40°F for germination while warm season grasses need a soil temperature of 50°F. Generally, cool season species can be planted from November 1st to March 15th as a dormant planting. If planting in the spring, late March or early April works the best. Warm season grasses should be planted after May 1st to avoid a late frost.

Weed control can be a problem on disturbed areas and several methods may be implemented during the establishment year. One control method that works well is mechanical mowing at a height just above the new seedlings to reduce weed cover and prevent weed seed formation. Several herbicides will work effectively if grasses or legumes are planted by themselves. Contact your local Cooperative Extension Educator for more information on the proper herbicide to use.

New grass or legume plantings should not be grazed until the plants have gone dormant the fall following planting since young seedlings do not have an adequate root structure to withstand grazing. Postponing grazing until the plants have gone dormant and hardened off gives the plants' roots a full growing season to establish themselves and become hardy enough to withstand light grazing pressure.

Woody plant species may have to be bought as transplants or cuttings and established by hand planting. Matting for weed control can be purchased or cost-shared at your local NRCS office. All plantings must be protected with fencing.

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	Intro/ Native	PPT (Inches)**	Soils Type	Salinity E.C.	Seeding Rate*		Intro/ Native	PPT (Inches) **	Soils Type	Salinity E.C.	Seeding Rate*
GRASSES						LEGUMES					
Bunchgrasses						Species					
Dry - Species						Species					
Bluebunch Wheatgrass	N	8	coarse-loam	6	7	Prairie Clover	N	12	coarse-loam	4	3
Big Bluestem	N	15	loam-fine	4	4	White or Yellow Sweetclover	N	12	coarse-loam	8	4
Blue Grama	N	5	loam-fine	4	1	Alfalfa	I	10	loam-fine	4	5
Sideoats Grama	N	12	coarse-loam	4	4.5	Cicer Milkvetch	I	15	loam-fine	8	7
Prairie Junegrass	N	8	loam-fine	6	0.5	Sainfoin	I	12	coarse-loam	4	34
Indian Ricegrass	N	5	coarse-fine	4	6	Birdfoot Trefoil	I	15	loam-fine	8	5
Indiangrass	N	15	coarse-loam	4	5	SHRUBS/TREES					
Needle and Thread	N	5	coarse-loam	4	6	Dry - Species					
Green Needlegrass	N	13	loam-fine	8	6	Fourwing Saltbush	N	9	loam-fine	8	5
Slender Wheatgrass	N	8	loam-fine	20	6	Winterfat	N	9	coarse-fine	8	8
Crested Wheatgrass	I	9	loam-fine	15	4	Fringed Sagewort	N	9	coarse-fine	4	1
Orchard Grass	I	16	coarse-fine	8	4	Cudweed Sagewort	N	12	coarse-loam	4	0.25
Russian Wildrye	I	9	loam-fine	20	6	Sagebrush Species	N	12	coarse-fine	8	1
Moist - Species						Rubber Rabbitbrush					
Alkali Cordgrass	N	12	loam-fine	16	6	Buffalobery	N	8	coarse-fine	12	0.5
Redtop	N	14	coarse-fine	8	1	SEED SOURCES:					
Switchgrass	N	12	loam-fine	12	4	Skunkbush Sumac	I	8	coarse-fine	6	1
Canada Bluegrass	N	12	coarse-loam	6	1	Wild Plum	I	10	coarse-fine	8	20
Tall Fescue	I	15	loam-fine	8	4	Green Ash (Tree)	I	10	coarse-fine	8	0.25
Timothy	I	15	coarse-fine	4	2	Moist - Species					
Wet - Species						Plains Willow					
Tufted Hairgrass	N	15	coarse-fine	8	1	Chokecherry	N	10	coarse-fine	8	1
Fowl Bluegrass	N	15	coarse-fine	8	1	Silverberr	N	12	coarse-fine	8	1
Sod Formers						Boxelder (Tree)					
Dry - Species						*PLS #/A **PPT=Rainfall in Inches					
Western Wheatgrass						N					
Buffalo Grass						N					
Smooth Bromegrass						I					
Prairie Sandreed						N					
Pubescent Wheatgrass						I					
Intermediate Wheatgrass						I					
Thickspike Wheatgrass						N					
Moist - Species						SEED SOURCES:					
Blue-joint Reedgrass						N					
Reed Canarygrass						I					
Creeping Foxtail						I					
Wet - Species						American Slough Grass					
Manna Grass						N					

Sources for the grass and legume species listed above can be obtained from the Montana and Wyoming Seed Certification Services. E-mail addresses and websites are listed below:

Montana Seed Growers Assoc.
334 Leon Johnson Hall
Montana State University
P.O. Box 173140
Bozeman, MT 59717-3140
Phone: (406)994-5121
E-mail: ranson@montana.edu
Web: http://agads.v.msu.montana.edu/MSGA

Wyoming Seed Certification Service
P.O. Box 983
Powell, WY 82435
Phone: (307)754-9815
E-mail: mdhnoore@uwyo.edu
Web: www.uwyo.edu/plants

Contact local NRCS offices for recommended cultivars of each species and sources of planting seeds.

The Wetland Plant Directory can be found at the following Web site:
www.nhqrncs.usda.gov/BCS/PMC/pubs/wetlandvendors.html

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