

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE STATE OF COLORADO NATURAL RESOURCES CONSERVATION SERVICE

Agronomy Technical Note No. 90

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To: All Offices

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SEED MIX RECOMMENDATIONS

The attached seed mix recommendations are to be used for planning conservation practices such as: Conservation Cover (327); Pasture and Hayland Planting (512); Range Seeding (550); and Wildlife Upland Habitat Management (645). The information contained herein represents a compilation of recommendations from Colorado NRCS State, Area and Field Staffs.

Pasture and Hayland (512) recommendations include introduced species with appropriate mixture percentage ranges for eastern and western slopes.

Range Seeding (550) recommendations include native species grouped by Range Sites, Major Land Resource Areas, and Surface Soil Textures.

When the attached seed mix recommendations are used in conjunction with Wildlife Upland Habitat Management (645), select plant species appropriate for the soil/climate situation that address site specific wildlife habitat objectives.

This technical note supplements Colorado Agronomy Technical Note No. 61, Seeding Rates (March 16, 1981).

Pasture and Hayland Planting (512) Seed Mix Recommendations

Surface Soil Textures: all soils except sand and loamy sand

Common Name	Height		% of Mixture
Pubescent wheatgrass	mid	(east slope)	0 to 45
		(west slope)	10 to 30
Intermediate wheatgrass <u>2/</u>	mid	(east slope)	0 to 40
		(west slope)	10 to 30
Smooth brome grass	mid		0 to 10
Tall wheatgrass <u>3/</u>	tall		0 to 10
		(Saline Seeps)	0 to 45
		(west slope)	10 to 20
Crested wheatgrass <u>3/</u>	mid		0 to 10
Russian wildrye <u>3/</u>	mid		0 to 10
Yellow bluestem	mid	(MLRA 69,77)	0 to 35
Orchardgrass (Paiute)	mid		0 to 10
Meadow brome grass	mid	(eastern foothills and west slope)	0 to 15
Cicer milkvetch		(west slope)	0 to 5
Small burnet		(west slope)	0 to 10
Alfalfa			0 to 10
Other adapted perennial grasses		(in total)	0 to 10
Other adapted perennial forbs			<u>1/</u>

Native species adapted to the range site, soils, and mixture may be substituted for introduced species

1/ Up to 0.5 pounds pure live seed per acre may be added to the mixture.

2/ Limited to areas with:

- > 14 inches mean annual precipitation (SE Colorado).
- > 12 inches mean annual precipitation (NE Colorado)
- > 8 inches mean annual precipitation (west slope)

3/ limited to slopes < 3% for seed mixtures that do not include sod formers.

Range Seeding (550) Seed Mix Recommendations

1. Range Site (MLRA): Deep Sand (67, 69, 72), Choppy Sand (67, 69, 72), Sandy Bottomland (67, 69, 72), Sandy Meadow (67, 69, 72), Sandy Foothill (49B), and Sandy Divide (48A, 49B).

Surface Soil Textures: loamy sand, sand

Common Name	Height	% of Mixture
Sand bluestem	tall	20 to 35
Yellow indiangrass	tall (east slope)	10 to 30
Switchgrass	tall	10 to 30
Prairie sandreed	tall	10 to 30
Sideoats grama	mid	0 to 15
Little bluestem	mid (east slope)	0 to 10
Blue grama	short	0 to 10
Western wheatgrass	mid	0 to 10
Needleandthread	mid	0 to 15
Thickspike wheatgrass	mid	0 to 10
Indian ricegrass	mid	0 to 10
Leadplant		<u>1/</u>
Bessey sandcherry		<u>1/</u>
Purple prairieclover		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

2. Range Site (MLRA): Sandy Plains (67, 69, 72, 77), Sandy Foothill (49B)

Surface Soil Textures: sandy loam

Common Name	Height	% of Mixture
Sand bluestem	tall (Big bluestem on Sandy Foothill)	15 to 30
Prairie sandreed	mid	10 to 25
Switchgrass	tall	10 to 25
Sideoats grama	mid	5 to 20
Yellow indiangrass	tall (east slope)	5 to 20
Western wheatgrass	mid	0 to 20
Blue grama	short	0 to 15
Little bluestem	mid (east slope)	0 to 10
Needleandthread	mid	0 to 15
Thickspike wheatgrass	mid	0 to 10
Indian ricegrass	mid	0 to 15
Leadplant		<u>1/</u>
Bessey sandcherry		<u>1/</u>
Purple prairieclover		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

Range Seeding (550) Seed Mix Recommendations

3. Range Site (MLRA): Loamy Plains (49, 67, 69, 70, 72), Clayey Plains (67), Siltstone Plains (67), Loamy Slopes (67, 72), Loamy Foothill (49B), Loamy Foothills (34, 35, 36, 48), and Clayey Foothill (49B), Clayey Foothills (34, 35, 48)

Surface Soil Textures: loam, silt loam, clay loam, clay, fine sandy loam, very fine sandy loam

<u>Common Name</u>	<u>Height</u>	<u>% of Mixture</u>
Western wheatgrass	mid	20 to 45
Sideoats grama	mid	20 to 40
	(west slope)	10 to 20
Blue grama	short	10 to 25
Green needlegrass	mid	5 to 30
	(MLRA 69)	0 to 30
Needleandthread	mid	0 to 15
Switchgrass	tall	(east slope) 0 to 20
Big bluestem	tall	(east slope) 0 to 10
Little bluestem	mid	(east slope) 0 to 10
Buffalograss 2/	short	0 to 10
Yellow indiagrass	mid	(east slope) 0 to 10
Galleta grass	mid	(MLRA 69) 0 to 15
Thickspike wheatgrass	mid	(west slope) 0 to 20
Bluebunch wheatgrass	mid	(west slope) 0 to 10
Indian ricegrass	mid	(west slope) 0 to 15
Streambank wheatgrass	mid	(west slope) 0 to 10
Slender wheatgrass	mid	(west slope) 0 to 10
Muttongrass	mid	(west slope) 0 to 10
Junegrass	mid	(west slope) 0 to 10
Fourwing saltbush		<u>1/</u>
Winterfat		<u>1/</u>
Purple prairieclover		<u>1/</u>
American vetch		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

Range Seeding (550) Seed Mix Recommendations

4. Range Site (MLRA): Gravel Breaks (67, 69, 72), Loess Breaks (67, 72), Sandstone Breaks (67, 69), Limestone Breaks (69, 72), and Gravelly Foothill (49)

Surface Soil Textures: gravelly loam, silt loam, sandy loam, and gravelly sandy loam

Common Name	Height	% of Mixture
Sideoats grama	mid	20 to 45
Little bluestem	mid	10 to 35
Western wheatgrass	mid	10 to 20
Blue grama	short	5 to 15
Switchgrass	tall	0 to 20
Prairie sandreed	tall	0 to 20
Yellow indiagrass	tall	0 to 20
Big bluestem	tall	0 to 20
Needleandthread	mid	0 to 15
Indian ricegrass	mid	0 to 10
Galleta grass	mid (MLRA 69)	0 to 10
Purple prairieflower		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

5. Range Sites (MLRA): Shaly Plains including Shale Breaks (67, 69, 72), Alkaline Plains (67, 69), Salt Flat (67, 69, 72), Salt Meadow (34, 35, 48, 51, 67, 69, 72), Saline Overflow (67, 69), and Shaly Foothill (49)

Surface Soil Textures: clay, clay loam, silty clay loam, silt loam, and loam.

Common Name	Height	% of Mixture
Western wheatgrass	mid	30 to 45
Sideoats grama	mid	20 to 40
	(Salt Meadow and Saline Overflow)	0 to 10
Alkali sacaton	mid	10 to 35
Prairie cordgrass	tall (east slope Salt Meadow)	10 to 15
Green needlegrass	mid (not on Salt Meadow)	0 to 15
Switchgrass	tall	0 to 20
	(Salt Meadow)	10 to 30
Blue grama	short	0 to 15
Yellow indiagrass	mid (east slope)	0 to 10
Big bluestem	tall (east slope)	0 to 10
Galleta grass	mid (MLRA 69)	0 to 15
Canada wildrye	mid (west slope)	0 to 10
Buffalograss <u>2/</u>	short	..0 to 5
Fourwing saltbush	(not for Salt Meadow)	<u>1/</u>
Winterfat	(not for Salt Meadow)	<u>1/</u>
Purple prairieflower		<u>1/</u>
American Vetch		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

Range Seeding (550) Seed Mix Recommendations

6. Range Site (MLRA): Overflow (49, 67, 72)

Surface Soil Textures: sandy loam, loam, clay loam

Common Name	Height	% of Mixture
Western wheatgrass	mid	30 to 45
Green needlegrass	mid	10 to 30
Switchgrass	tall	10 to 20
Big bluestem	tall (east slope)	5 to 20
Yellow indiagrass	mid (east slope)	5 to 20
Blue grama	short	0 to 10
Fourwing saltbush		<u>1/</u>
Winterfat		<u>1/</u>
Purple prairieflower		<u>1/</u>
American Vetch		<u>1/</u>
Other adapted native perennial forbs		<u>1/</u>

7. Range Site: Wet Meadow (51, 67, 69, 72)

Surface Soil Textures: all soils

Common Name	Height	% of Mixture
Switchgrass	tall	15 to 30
Yellow indiagrass	mid (east slope)	15 to 30
Big bluestem	tall (east slope)	15 to 30
Prairie cordgrass	tall (east slope)	15 to 30
Little bluestem	mid	0 to 10
Western wheatgrass	mid	10 to 20
Basin wildrye	tall (west slope)	0 to 10
Reed canarygrass	tall (west slope)	0 to 10
Tufted hairgrass	mid (west slope)	0 to 10
Canada wildrye	mid	0 to 10
Slender wheatgrass	mid	0 to 10
Other adapted native perennial forbs		<u>1/</u>

1/ Up to 0.5 pounds pure live seed per acre may be added to the mixture.

2/ If bur is used, a separate seeding operation or drillbox is required.