

Seed Mix

4 – Ascalon

As of Date: 1 Nov 2023

NRCS Soil Survey

Reference Soil Map Unit 4 – Ascalon

Reference Ecological Site Description (ESD) – R067BY024CO – Sandy Loam

NRCS Consultation and References

- Reference CO_ECS_05 NRCS Grass Seeding Plan
- Reference 512-CPS-1 NRCS Conservation Practice Standard Pasture and Hay Planting Code 512
- Reference Forage Harvest Management (Code 511)
- Reference Prescribed Grazing (Code 528)
- Reference MU 4 – Rangeland Vegetation Productivity and Plant Composition
- Reference Seed Mix Salo.xlsx

Sites

Reclamation Sites that fall within Map Unit 81

- 454351 – Salt Ranch Fee 10 East

Land Use

Non-irrigated Dryland Rangeland

Planned Weed Control

Active in the Spring and throughout the growing season to control existing weed pressure.

Weed present:

- Kochia
- Creatgrass

Seeding Methods

Soil Preparation

Action	Specification	Purpose
Decompaction	Rip to depth of 18	Subsoil decompaction – reference 1003.c
Seedbed preparation	Disc the site to a depth of 6.0- inches using a disk and harrow, field cultivator, vibra-shank, or other alternative suitable to site conditions	Discing will break up soil clods and enhance seed to soil contact.
Fertilizer	NPK (20-20-20) – 50 lbs/acre	NPK provides plant available nitrogen for germination and growth
Seeding (see preferred seeding dates)	If reclamation occurs > 30-days prior to preferred seeding dates, drill seed into the soil surface no deeper than ½-inch using the recommended seed mix and rate	Drill seeding enhances seed to soil contact.
Seeds	Ascalon Grass Seed Mix	Rate - 18 Lbs/acre
Straw	Certified Weed Free	Eliminate the introduction of weed species
Crimp Straw	Crimp Straw to a depth of 3 inches without cutting the mulch fiber	Trap moisture, protect topsoil and seeds

Seeding Description

Seeding should be conducted using a drill seeder capable of direct seed placement into medium textured soils and the seed mix provided in Table 1 (native seed mixture). Seed depth is critical for most native grass species. It is recommended that the seed be placed no deeper than ½-inch below ground surface. **The recommended seed mix should be seeded at a rate of 18 lbs per acre.**

Seeding should occur within ideal seeding windows for greatest success. In Colorado, this is after September 15 for late fall, dormant seeding (preferred) and from spring thaw to June 1, for spring seeding. If reclamation is completed outside of the ideal seeding season, a cover crop should be seeded to provide quick vegetation establishment and more immediate ground cover and protection.

Soil Amendments

An application of NPK (20-20-20) fertilizer is recommended to increase germination success at an application rate of **50 lbs/acre = 2.5 lbs N/acre** (this is the recommendation for the native seed mixture).

Grazing

In accordance with 512-CPS-1 NRCS Conservation Practice Standards

“Exclude livestock until the plants are well established. Ensure the plants have reached the full start grazing heights or the recommended hay cutting heights (late elongation phase or later) before the first grazing or cutting begins. See NRCS CPSs Prescribed Grazing (Code 528) and Forage Harvest Management (Code 511) for details. There may be conditions and time of the growing season that require letting the plants reach maturity before any haying or grazing takes place to avoid the risk of killing the new plants.”

Additional Grazing Guidance

- Delay grazing time frame 12 – 15 months after planning as recommended by NRCS – reference email correspondence with Maria Bumgarner 30 Oct 2023.
- Protection of plantings (if applicable), such as livestock exclusion periods and through use of NRCS CPSs Forage Harvest Management (Code 511) and Prescribed Grazing (Code 528), as needed.
 - Description of successful establishment and when evaluation of establishment should be completed (e.g., minimum percent ground or canopy cover, percent stand, and stand density)

Seed Mix

Ascalon grass Seed Mix

NRCS ECS-05

4 – Ascalon

Seed Mixture Notes

- Seed mixture developed to tolerate herbicide application during the growing season and deep rooting species for grazing application. Forbs/shrubs were omitted from seed mix due to low tolerance of herbicide application.
- Grazing exclusion is required until the seeds have been established as requested by NRCS at this site – refer to grazing section for references.
- *Increasing pounds/acre is recommended for areas that have heavy weed infestation or new reclamation to 2x the seeding rate
- Seeding rate will be 18 Lbs/acre

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	CCRP			Date	1 NOV 2023
Tract/Field No	TA			Acres	
Soil Survey Area	Weld County CO617			Map Unit (s)	4 - Ascalon - Grass
Contract No.				CIN	
Seeding dates	Nov 1 - Apr 30			Purpose	Other
Seedbed preparation	Limited: less than 3 tillage operations			Seed rate	50
Drill type	grass			Acres to be seeded	5.00
Planting depth-Drill spacing (in)	.25 ----7-10inches				
Planned fertilizer application (lb/ac)	N	P ₂ O ₅	K ₂ O	A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.	
Planned weed control activities	Description	Herbicide		Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities	
	Date(s)	as needed			
Planned residue cover or mulch	Type	Other NRCS approved cover			
	Amount (lb/ac)				
	Application method				

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced	Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs				
Blue grama	Native <i>Bouteloua gracilis</i>	Blackwell	75.0	11.50
Western wheatgrass	Native <i>Pascopyrum smithii</i>	Aldous, cimm.,camper, blaze	13.0	12.85
Buffalograss (bur)	Native <i>Buchloe dactyloides -Bouteloua dactyloides</i>	cheyenne	10.0	19.45
Sideoats grama	Native <i>Bouteloua curtipendula</i>		2.0	1.15
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00

Shrubs

0				0.00
0				0.00
0				0.00

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

Shrubs	0.00
Grasses, Forbs	44.95
Total lbs PLS	44.95
Seed Rate (lbs PLS/acre)	8.99

Additional Recommendations

Seed MUST be sorted by size and type (e.g., large hard, small, fluffy). Grazing delay for 12-15 months post seeded to ensure establishment. Reference NRCS Conservation Practice Standards, Pasture and Hay Planting - CODE 512, Prescribed Grazing (Code 528), and Forage Harvest Management (Code 511)

Seed Mix

Ascalon Forb/Shrub Seed Mix

NRCS ECS-05

4 – Ascalon

Seed Mixture Notes

- Seed mixture has been developed for interseeding, once grass species have been established and weed control has been successful.
- Weed control will be continuous (spring – fall) post reclamation.
- The timing of interseeding will be determined by continuous monitoring of the vegetative growth of the grass mix. ETA 2 to 3 years before interseeding event can be recommended (spring of 2026 or 2027)
- The forb/shrub seed mixture will not tolerate herbicide application.
- Grazing exclusion is required until the seeds have been established as requested by NRCS at this site – refer to grazing section for references.

Seeding Methods

Soil Preparation

Action	Specification	Purpose
Interseed	Drill seed into the soil surface no deeper than ½-inch using the recommended seed mix and seeding rate	Drill seeding enhances seed to soil contact
Seeds	Ascalon Forb/Shrub Seed Mix	Rate - 7 Lbs/acre

Seed Substitution based on ESD parameters

The Salo seed mix was compared to the Sandy Plains Ecological description for this area and the following substitution were made:

Suggested	Replacement
Fringed Sage	Purple prairie clover
Prairie flax	Prairie coneflower

Seed mix composition adjusted to meet parameters of the Sandy Plain Ecological site annual production (Lb/Acre).

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	CCRP			Date	1 NOV 2023
Tract/Field No	TA			Acres	
Soil Survey Area	Weld County CO617			Map Unit (s)	4 - Ascalon Forbs/Shrubs
Contract No.				CIN	
Seeding dates	Nov 1 - Apr 30			Purpose	Other
Seedbed preparation	Limited: less than 3 tillage operations			Seed rate	50
Drill type	grass			Acres to be seeded	5.00
Planting depth-Drill spacing (in)	.25 ----7-10inches				
Planned fertilizer application (lb/ac)	N	P ₂ O ₅	K ₂ O	A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.	
Planned weed control activities	Description	Herbicide		Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities	
	Date(s)	as needed			
Planned residue cover or mulch	Type	Other NRCS approved cover			
	Amount (lb/ac)				
	Application method				

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced	Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs				
Scarlet globemallow	Native <i>Sphaeralcea coccinea</i>	Blackwell	30.0	6.55
Winterfat	Native <i>Krascheninnikovia lanata</i>	Aldous, cimm.,camper, blaze	5.0	4.45
Blanketflower	Native <i>Gaillardia aristata</i>	cheyenne	5.0	2.75
Dotted Gayfeather	Native <i>Liatris punctata</i>		5.0	8.65
Purple prairie clover	Native <i>Dalea purpurea purpurea</i>		20.0	7.90
Prairie Coneflower	Native <i>Ratibida columnifera</i>		20.0	2.40
Lanceleaf coreopsis	Native <i>Coreopsis lanceolata</i>		5.0	2.60
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00
0			0.0	0.00

Shrubs

Prairie sagewort	Native <i>Artemisia frigida</i>		10	0.85
0	0			0.00
0				0.00

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

Shrubs	0.85
Grasses, Forbs	35.30
Total lbs PLS	36.15
Seed Rate (lbs PLS/acre)	7.23

Additional Recommendations

Seed MUST be sorted by size and type (e.g., large hard, small, fluffy). Grazing delay for 12-15 months post seeded to ensure establishment. Reference NRCS Conservation Practice Standards, Pasture and Hay Planting - CODE 512, Prescribed Grazing (Code 528), and Forage Harvest Management (Code 511)