

## RANGE PLANTING SPECIFICATION

### Management

Range planting(s) will be undertaken only where grazing by domestic herbivores will be controlled two successive growing seasons, or until the seeded plants are well established.

Weeds should be controlled by mowing, spraying with labeled herbicides, or grazing. When weed/grass height differential is sufficient, a wick applicator may be used for applying a nonselective translocated herbicide. Generally, the seeded grass should be in at least a five leaf stage before spraying unless weed canopy will intercept most spray. All chemicals used must be registered, handled and applied in accordance with product label directions. For guidelines at the time of application refer to the **GUIDE FOR HERBICIDE USE IN NEBRASKA** (Section II - Water Quantity and Quality).

When broadleaf weeds threaten seeding establishment because of severe shading, they should be mowed or shredded or sprayed with labeled herbicides. Mowing or shredding should be discontinued in late July to early August. The height of mowing or shredding must be above the height of the seeded grasses.

Weedy grasses such as foxtail, barnyardgrass, sandbur, annual bromes, crabgrass, or other annual grasses should not be mowed or shredded unless severe shading occurs. Shredding may cause these annual grasses to stool out causing more competition to seeded grasses. When necessary mowing or shredding must be completed such that more leaves are cut from weedy grasses than from seeded grasses and discontinued in late July to early August. Pre-emergent herbicides may be appropriate for some warm season grass and forb seedings (refer to the product label).

Infestations of grasshoppers and other insects will be sprayed for control when necessary during establishment.

### Flash Grazing

Use flash grazing until the height and time of grazing reaches the point of 15% defoliation of seeded plants. Length of grazing period, number of animals, and soil condition should be considered before flash grazing. See your NRCS Range Management Specialist or extension specialist to assist with grazing guidelines.

Grazing will not be done when soils are wet and soil compaction or severe trampling would occur.

### Seedbed Preparation

Fields or areas that have excessive gullies, mounds, hummocks, or are too rough may be in need of mechanical conservation measures and should be shaped as necessary to establish a suitable cover crop and to establish a stand of native plants.

To adequately reduce weed competition from biennials, short-lived perennials, and remnants of introduced grasses, it generally will be necessary to prepare a seedbed and grow a crop two or more years. (NOTE: This may be reduced to 1 year, providing the competitive vegetation is adequately controlled.)

### Cover Crops

- When preparing a cover crop, refer to the Cover and Green Manure Crop (340) for additional information.
  - (1) Drill grain sorghum or forage sorghum at the rate of 10 to 15 pounds per acre or hybrid sudangrass at the rate of 15 to 25 pounds per acre in rows not to exceed 20 inches, between June 1 and July 15. If more growth is produced than desirable, or if sorghum will produce mature seed, the cover will be clipped to not less than approximately 6 to 8-inch stubble height and should be removed

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

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from the field if there is excessive mulch.

- (2) In Vegetative Zones III and IV, and on Silty and Clayey sites in Vegetative Zone I and II, grain sorghum or forage sorghum may be planted at the rate of 4 to 8 pounds per acre in rows up to 42 inches wide and harvested if stubble is left approximately 18 inches high. (Refer to Nebraska Vegetative Zone Map, Section I-MAPS).

### Crop Stubble

In all vegetative zones, any weed free crop stubble may be used, providing there is adequate cover to protect the seedlings and soils from wind and water erosion.

### Small Grain Stubble

Allelopathic effects may be present in the small grain fields. If a known effect exists, a cover crop other than small grain should be planted.

### Methods of Grass Seed Planting:

The planting operation shall be on the contour, where practical.

Drill method:

The best type of seeding equipment is a grass drill equipped with double disc furrow openers with depth bands and packer wheels. Fluffy and free-flowing grass seeds will be planted directly into the prepared seedbed without additional preparation (may need a coulter ahead of drill if using no-till). The grass drill should be operated as near to the contour as practical.

Range interseeding method:

Where applicable: Where desirable grasses are too thin, in patches, or not uniform, but are too abundant to destroy. (Additional information can be found in Range Technical Note 51).

Equipment: For no-till range interseeding (Sod Seeding), the drill shall be equipped to plant fluffy and free-flowing grass seeds, depth bands, coulters ahead of double disk openers and packer wheels. The no-till range interseeder shall make a furrow at least 14 inches wide, 2 to 3 inches deep, and shall be spaced not more

than 42 inches apart. The minimum seeding rate for these no-till plantings is 10 PLS/Sq. Ft.

### Planting Depths

Grass drills and interseeders must be able to penetrate existing sod and needs to be adjusted to plant the seed to a depth of not less than 0.25 inch and not more than 1 inch.

### Planting Dates

**Seeding dates may be adjusted 1 to 2 weeks from normal planting dates when climatic conditions dictate.**

- Dominantly warm season mixture: November 1 to May 31 (optimum March 1 to May 20), unless the soil temperature is less than 55 degrees.
- Approximately equal proportions of cool- and warm-season grasses in mixture: November 1 to May 20 (optimum March 1 to May 15).
- Dominantly cool-season mixture: August 1 to September 15 and November 1 to April 15.

**Seed labeling, quality, and seed testing will be in accordance with the Nebraska Seed Law.**

- It is unlawful for any person to sell, offer for sale, expose for sale, or transport for sale any agricultural seed within Nebraska, unless the test to determine the percentage of germination required shall have been completed within a 12 month period or 6 months between states, exclusive of the calendar month in which the test was completed.
- A copy of current analysis of germination and purity must be furnished regardless of who grows or sells the seed.

### Seed Source

Grass seed must meet the distance (mileage) requirements for common/native ecotype seed or certified grass variety restrictions in accordance with Section II Pastureland and

Hayland Interpretations “Adapted Grass Varieties” and “Certified Perennial Grass Varieties Recommended for Nebraska” Extension publication EC90-120. Forb species and seed must be adapted to the site as shown in Section II Rangeland Interpretations and Pastureland and Hayland Interpretations.

Certified varieties that are best suited to meet client objectives are recommended. If certified varieties of perennial grasses are not available, it is permissible to use common/native ecotype seed originating from the same general locality of the planting site according to adapted grass variety restrictions in Section II-Pastureland and Hayland Interpretations.

Forb species and seed must be adapted to the site as shown in Section II-Range Interpretations and Pastureland and Hayland interpretations.

**Seeding mixtures and seeding rates for different range site groups.**

The minimum seeding rate is 20 PLS/Sq.Ft. (of grass). When computing seed mixtures refer to Table 1, A Guide for Use When Computing Seed Mixture by the Pure Live Seed Method (FOTG, Section II). Tolerance of 5% is allowed from seeding sheet minimum requirements.

For range interseeding, use a minimum of one-half the amounts specified by species for a minimum total of 10 PLS/Sq.Ft. (of grass).

**A. Forbs:**

Forbs may be added (in addition to the 20 PLS/Sq. Ft.) as a supplemental mixture to all range site grass seed mixtures, except wetlands. A minimum of 3% of the total seed mixture (2 PLS/Sq. Ft.) is recommended when adding forbs but not required. Refer to FOTG, Section II-Pasture and Hayland Interpretations for adapted species and guidelines for calculated pure live seed.

**B. Grasses:**

**Vegetative Zone I**

	Permitted Lbs. Minimum	PLS/Acre Maximum
<b><u>Shallow to Gravel</u></b>		
Blue grama	0.4	0.6
Little bluestem	0.4	0.8
Prairie sandreed	0.0	0.4
Sideoats grama	0.0	0.4
Green needlegrass	0.2	0.6
Western wheatgrass	0.4	0.8
<b><u>Clayey</u></b>		
Blue grama	0.2	0.4
Buffalograss	0.0	1.4
Green needlegrass	0.5	2.0
Little bluestem	0.0	0.8
Sideoats grama	0.0	1.5
Western wheatgrass	3.0	5.0
<b><u>Silty, Limy Upland</u></b>		
Sand bluestem	0.0	1.2
Blue grama	0.2	0.4
Buffalograss	0.0	0.6
Green needlegrass	0.0	1.0
Little bluestem	0.5	1.0
Sideoats grama	0.5	1.0
Western wheatgrass	1.0	2.0
<b><u>Sandy, Sands, and Sandy Lowland</u></b>		
Blue grama	0.1	0.3
Little bluestem	0.4	0.8
Prairie sandreed	0.0	1.0
Sand bluestem	1.0	1.5
Sand lovegrass	0.2	0.3
Switchgrass	0.2	0.4
Western wheatgrass	0.0	1.2

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**Silty Overflow**

Big bluestem	0.5	1.0
Blue grama	0.1	0.2
Green needlegrass	0.0	1.0
Little bluestem	0.3	0.8
Sideoats grama	0.5	1.0
Switchgrass	0.2	0.4
Western wheatgrass	1.0	2.0

**Subirrigated**

Big bluestem	1.2	2.4
Indiangrass	0.5	1.0
Little bluestem	0.3	0.6
Reed canarygrass	0.0	0.3
Switchgrass	0.3	0.6
Western wheatgrass	0.0	1.0

**Vegetative Zone II**

	Permitted Lbs. Minimum	PLS/Acre Maximum
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**Shallow to Gravel**

Big/Sand bluestem	0.0	1.0
Blue grama	0.4	0.6
Little bluestem	0.4	0.8
Prairie sandreed	0.0	0.4
Sideoats grama	0.0	0.4
Green needlegrass	0.2	0.6
Western wheatgrass	0.4	0.8

**Clayey**

Blue grama	0.2	0.4
Buffalograss	0.0	1.4
Green needlegrass	0.5	2.0
Little bluestem	0.0	0.8
Sideoats grama	0.0	1.5
Western wheatgrass	3.0	5.0
Big bluestem	0.0	1.2
Indiangrass	0.0	0.8
Switchgrass	0.0	0.4

**Silty, Limy Upland**

Big bluestem	0.0	1.2
Blue grama	0.0	0.4
Buffalograss	0.0	0.4
Green needlegrass	0.0	0.5
Indiangrass	0.0	0.8
Little bluestem	0.5	1.0
Sand bluestem	0.0	1.8
Sideoats grama	0.4	1.0
Switchgrass	0.0	0.4
Western wheatgrass	0.0	2.0

**Sandy, Sands, and  
Sandy Lowland**

Blue grama	0.0	0.2
Indiangrass	0.0	0.8
Little bluestem	0.4	0.8
Prairie sandreed	0.0	0.6
Sand bluestem	1.2	2.0
Sand lovegrass	0.1	0.3
Switchgrass	0.2	0.5
Western wheatgrass	0.0	1.2

**Silty Overflow,  
Clayey Overflow,  
and Silty Lowland**

Big bluestem	1.0	1.6
Blue grama	0.0	0.2
Green needlegrass	0.0	0.5
Indiangrass	0.3	0.6
Little bluestem	0.4	0.8
Sideoats grama	0.0	0.8
Switchgrass	0.2	0.5
Western wheatgrass	1.0	2.0

**Subirrigated**

Big bluestem	1.2	2.4
Indiangrass	0.5	1.0
Little bluestem	0.3	0.6
Reed canarygrass	0.0	0.3
Switchgrass	0.3	0.6
Western wheatgrass	0.0	1.0

**Vegetative Zone III**

	Permitted Lbs. Minimum.	PLS/Acre Maximum
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**Silty, Limy Upland,  
and Clayey**

Big bluestem	0.6	1.2
Blue grama	0.0	0.2
Green needlegrass	0.0	0.6
Indiangrass	0.4	0.8
Little bluestem	0.5	1.0
Sideoats grama	0.3	0.8
Switchgrass	0.2	0.4
Western wheatgrass	0.0	1.5

**Sandy, Sands, and  
Sandy Lowland**

Blue grama	0.0	0.2
Indiangrass	0.4	0.8
Little bluestem	0.5	1.0
Prairie sandreed	0.0	0.6
Sand bluestem	1.2	2.0
Sand lovegrass	0.0	0.3
Switchgrass	0.3	0.5
Western wheatgrass	0.0	1.0

**Silty Overflow,  
Clayey Overflow,  
and Silty Lowland**

Big bluestem	1.0	1.8
Indiangrass	0.4	0.8
Little bluestem	0.3	0.6
Sideoats grama	0.4	0.6
Switchgrass	0.3	0.5
Virginia wildrye	0.0	1.5
Western wheatgrass	0.0	1.5

**Subirrigated**

Big bluestem	1.2	2.4
Indiangrass	0.5	1.0
Little bluestem	0.3	0.6
Reed canarygrass	0.0	0.3

Switchgrass	0.3	0.6
Virginia wildrye	0.0	1.0
Western wheatgrass	0.0	1.0

**Shallow to Gravel**

Big/Sand bluestem	0.6	1.6
Blue grama	0.1	0.3
Indiangrass	0.0	0.4
Little bluestem	0.6	1.4
Prairie sandreed	0.0	1.0
Sand lovegrass	0.0	0.2
Sideoats grama	0.0	0.8
Switchgrass	0.2	0.5
Western wheatgrass	0.0	1.0

**Vegetative Zone IV**

	Permitted Lbs. Minimum	PLS/Acre Maximum
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**Silty, Limy Upland**

Big bluestem	1.0	1.6
Blue grama	0.0	0.1
Indiangrass	0.6	1.0
Little bluestem	0.6	1.2
Sideoats grama	0.4	0.8
Switchgrass	0.2	0.4
Western wheatgrass	0.0	1.0

**Clayey-Dense Clay**

Big bluestem	0.8	1.6
Indiangrass	0.4	1.0
Little bluestem	0.4	0.8
Sideoats grama	0.3	0.6
Switchgrass	0.3	1.0
Western wheatgrass	0.0	1.2

**Sandy, Sands, and  
Sandy, Lowland**

Indiangrass	0.5	1.0
Little bluestem	0.5	1.0
Prairie sandreed	0.0	0.5
Sand bluestem	1.5	2.5

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Sand lovegrass	0.2	0.3
Switchgrass	0.3	0.6

### **Silty Overflow, Clayey Overflow, and Silty Lowland**

Big bluestem	1.2	2.2
Indiangrass	0.5	1.2
Little bluestem	0.3	1.0
Sideoats grama	0.0	0.5
Switchgrass	0.3	0.6
Virginia wildrye	0.0	1.0
Eastern gamagrass	0.0	0.3
Western wheatgrass	0.0	1.0

### **Subirrigated**

Big bluestem	1.2	2.4
Indiangrass	0.5	1.0
Little bluestem	0.3	0.6
Reed canarygrass	0.0	0.3
Switchgrass	0.3	0.6
Virginia wildrye	0.0	1.0
Eastern gamagrass	0.0	0.3
Western wheatgrass	0.0	1.0

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**1/TABLE 1 - A GUIDE FOR USE WHEN COMPUTING SEED MIXTURES BY THE PURE LIVE SEED METHOD**

	The number of viable seeds planted per square foot when the following amounts of pure live seed are planted on one acre									
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
	Pounds									

**GRASSES**

**Warm Season:**

Big bluestem	0.38	0.76	1.14	1.52	1.90	2.28	2.66	3.04	3.42	3.80
Blue grama	1.89	3.78	5.67	7.56	9.45	11.34	13.23	15.12	17.01	18.90
Buffalograss (burs)	0.13	0.26	0.39	0.52	0.65	0.78	0.91	1.04	1.17	1.30
Indiangrass	0.40	0.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00
Little bluestem	0.60	1.20	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00
Prairie sandreed	0.63	1.26	1.89	2.52	3.15	3.78	4.41	5.04	5.67	6.30
Sand bluestem	0.26	0.2	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60
Sand lovegrass	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00	27.00	30.00
Sideoats grama	0.44	0.88	1.32	1.76	2.20	2.64	3.08	3.52	3.96	4.40
Switchgrass	0.89	1.78	2.67	3.56	4.45	5.34	6.23	7.12	8.01	8.90

**Cool Season:**

Green needlegrass	0.42	0.84	1.26	1.68	2.10	2.52	2.92	3.36	3.78	4.20
Reed canarygrass	1.22	2.44	3.66	4.88	6.10	7.32	8.54	9.76	10.98	12.2
Western wheatgrass	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50

**FORBS**

Maximilian sunflower	0.34	0.68	1.02	1.36	1.70	2.04	2.38	2.72	3.06	3.40
Pitcher sage	0.34	0.68	1.02	1.36	1.70	2.04	2.38	2.72	3.06	3.40
Purple prairieclover	0.64	1.28	1.92	2.56	3.20	3.84	4.48	5.12	5.76	6.40

1/ For more information on seeding computations and pure live seed calculations for additional species, refer to FOTG, Section II-Pasture and Hayland Interpretations.