

TECHNICAL NOTE

RANGE TECHNICAL NOTE NO. 4

April 2023

PERENNIAL VEGETATION ESTABLISHMENT GUIDE

This technical note is to serve as a guide for installing herbaceous perennial vegetation according to the practice standards found in the South Dakota (SD) Natural Resources Conservation Service (NRCS) Technical Guide. It is the producer's responsibility to maintain this practice for the expected life span.

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1. SEEDING DATES

Seeding dates are based on climatic records, research, experience, and represent optimum periods for grass and/or forb/legume establishment. They vary from north to south and east to west with variation in soil temperatures and moisture conditions. Optimum seeding dates fluctuate annually. Recommended dates will provide for adequate development of adventitious roots (see [Figure 1](#)) prior to stressful periods, such as hot, dry summers, and cold, open winters. The dates listed below are suggestions that may be changed by the local district conservationist 10 days in either direction depending on current climatic conditions if conditions are properly documented.

Early Spring Prior to May 15 – *Cool-season species and warm-season species.* This is the best period for mixtures of cool-and warm-season grasses and forbs. Weed control as part of seedbed preparation can be accomplished by chemical burn-down or tillage and packing. See Sections [2](#) and [12](#) for a more detailed explanation.

Late Spring May 15 to June 15 – *Warm-season species.* Optimum period is when sustained soil temperatures reach 60 degrees (°) Fahrenheit (F). This is the best period for warm-season grasses for similar reasons related to seedbed preparation and weed control as stated above. If planting a mix of cool and warm season species, 51 percent (%) of the mix must be warm seasons in order to plant during this time frame.

Late Summer August 1 to September 1 – *Cool-season species only.* Seed only if soil moisture is adequate at or near the surface and to a substantial depth. Good for cool-season species on fields with weed management problems. If alfalfa is part of a mixture, seed by August 25. It is

essential that alfalfa plants reach the six-leaf stage prior to fall dormancy, for winter survival. Alfalfa requires six to eight weeks growth after emergence to develop the six-leaf stage.

Dormant November 1 to Spring Thaw – Cool-season species and warm-season species (including forbs), but the following guidance should be met:

- Soil temperature should be no more than 40°F at 10:00 a.m. before the seeding can occur. Information on current SD soil temperatures is available at SD State University's (SDSUs) Mesonet Site (<https://climate.sdstate.edu/archive/maps/>) or at <http://www.wcc.nrcs.usda.gov/scan/>.
- Pre-plant tillage may not be performed.
- If excessive cover exists, the drill must be equipped with furrow openers or other equipment capable of consistently cutting through residue and ensuring soil-seed contact.
- A minimum of 40% residue cover should be present at the time of seeding (see below for examples of 40% residue in cropland.) The intent is to provide for erosion control and to prevent early soil warming and premature germination of warm-season species when a late spring frost may adversely affect these plants.
- Weed growth will not be considered adequate cover for the purpose of reducing spring soil temperatures.
- A cover crop may be used to address the concerns related to residue/cover requirements for dormant season seedings. Refer to [Section 12](#), (Cover and Companion Crops). Note that planting dates for these cover crops do not extend beyond September 1. This is to ensure adequate growth before a fall frost.

Examples of 40% ground cover:



2. SEEDBED PREPARATION

New Seedlings:

A seedbed will be prepared that is free of competing vegetation and is not subject to excessive erosion. A firm seedbed will be provided so the seed is placed at the designed depth. **The seedbed should be firm enough so that the boot heel of an average adult penetrates the soil to a depth of approximately one-half inch.**

The presence or absence of weed populations, especially noxious weeds, will impact seedbed preparations. Each field should be evaluated for weed pressure. Seeding on fields with significant weed populations should be delayed until weeds are controlled. This may mean a protective cover crop will need to be planted (see [Section 12](#) for Cover Crop methods).

When planning a seeding, the previous three years of herbicide application should be considered. Use chemical labels to determine if there are any potential carryover issues. If the label doesn't

specifically address grass, legume, or forb species, then utilize “all other crops not listed” portion of the label. Any potential carryover problems should be addressed by delaying seeding, establishing a cover crop, and/or changing species to be planted. If a cover crop is necessary, refer to [Section 12](#).

Proper seedbed preparation should begin with the previous year's crop. Select a crop in the year prior to planting which is dissimilar to the species to be established. For example, soybean residue produces an excellent seedbed for grass species. Proper selection of crops the year prior to seeding will greatly enhance the success rate of the seeding and reduce seedbed preparation time.

Several crops (notably rye, wheat, barley, and alfalfa) are known to produce allelopathic chemicals which inhibit germination and new seedling establishment. Other commonly grown crops provide good cover and do not inhibit germination. Direct seeding into recently sprayed, hayed (or rolled) green rye or wheat will be avoided as the allelopathic effect will inhibit successful stand establishment. Fresh crop residue and freshly decomposing residue may have allelopathic impacts on growing seedlings. For dormant seedings, this is not a consideration. Heavy residue should be baled and removed to avoid pinning and ensure good seed to soil contact. Do not seed alfalfa into an existing thinning alfalfa stand or into a newly killed alfalfa stand. Wait at least one year before reseeding alfalfa into a field previously in alfalfa or an alfalfa mix.

In the event that grass seeding follows allelopathic crops (e.g., rye, wheat, alfalfa), residue management becomes important. The degree of crop residue decomposition prior to the next crop affects this allelopathic response. Newly incorporated residues are highly allelopathic while a loss of allelopathy occurs as residues decompose. Therefore, stubble from these crops should be allowed to overwinter before attempting to establish new seedings. In no-till situations, consider planting a cover crop that will enhance residue decomposition. For additional information on no-till and cover crop methods, see below and [Section 12](#).

Seedbed Preparation Methods:

No-Till Method – Seeding into standing stubble of a previous crop without further seedbed preparation. Seed to soil contact, seeding depth, and seed placement are critical and equipment settings and ability of equipment utilized to seed into heavy cover is critical. Pinning, seeding too deep, or not placing seed in contact with soil are major reasons for poor stands or stand failures. Excess straw or chaff should be removed prior to seeding. Use of harvest equipment, which spreads straw along a minimum of 80% of the header width, will prevent excess chaff problems. If weeds or excessive volunteering of previous crop are present, control with appropriate herbicide(s) in accordance with product label directions and any current recommendations from SDSU Cooperative Extension Service.

Cover Crop Method – Plant a cover crop the season prior to seeding perennial species. Cover crops may be a single species or a diverse mix but should not include overwintering species (i.e., winter wheat, cereal rye, etc.). Using cover crops to prepare the seedbed will help manage erosion, increase organic matter, enhance soil biology, reduce compaction, alleviate herbicide issues, trap moisture for dormant seedings, manage salinity or salt issues, reduce weed pressure, and/or reduce excessive residue by promoting decomposition and nutrient cycling. Cover crops may be hayed or grazed prior to seeding if excessive residue will inhibit seeding equipment from operating properly. No-till the perennial species directly into cover crop residue if possible. For more information about use of cover crops during perennial grass establishment see [Section 12](#).

Clean-Till Method – Seed into a new, clean tilled, firmly packed seedbed. If erosion or potential climatic factors are a potential concern, a cover crop should be used. See [Section 12](#) if a cover crop is to be used. Clean-till methods should not be utilized for a dormant seeding, unless cover crops are included.

3. STAND RENOVATION SEEDINGS

It may be desirable to replace an existing stand of introduced grass or grasses and legumes that has declined in vigor or no longer meets objectives. If it is necessary to establish a stand into an existing stand without any tillage operations, then a no-till seedbed may be prepared utilizing herbicides to completely control the existing grasses or grasses and legumes. The existing vegetation is controlled, and the new seed is planted directly into the undisturbed sod of the old species. Prior to attempting this method, excess litter should be removed if necessary, allowing seeding equipment to function properly. The existing stand may be hayed, grazed heavily, or prescribed burned to remove excessive litter. Herbicides are then applied to the regrowth. Glyphosate applied to actively growing plants in the fall of the year is the herbicide method of choice for eradication of cool-season grasses.

A spring follow-up application may be required to gain complete control. If no lush fall growth is present, defer application until the spring. In either case, all existing vegetation should be destroyed prior to drilling the new seeding. The new seeding is drilled directly into the destroyed stand.

This method of seeding is generally not as successful as seeding into a fully prepared seedbed due to several issues relating to seed to soil contact. It should only be used to renovate stands of introduced grasses, when soil conditions, availability of equipment, program restrictions, and other constraints make the use of a fully prepared seedbed impractical. ***It should never be used to rejuvenate rangelands.*** Rangelands are generally best improved through management techniques such as prescribed grazing or prescribed burning (please see the NRCS Conservation Practice Standard (CPS) Prescribed Grazing (528) or CPS Prescribed Burning (338)).

Stand Enhancement Seedings:

It is often the goal of management to attempt to establish new species of grasses and/or legumes directly into existing stands. Established growing stands of grasses or grass/legumes fully utilize all water, soil, and solar resources especially in western portions of SD. Attempting to establish new species into existing stands generally results in failure due to the existing vegetation out competing new seedlings for water and sunlight. Therefore, establishing new species directly into existing growing stands is not recommended. One exception is the enhancement of existing stands of introduced grasses through the addition of legumes.

Competition from existing vegetation is reduced either through tillage or herbicides. If tillage is used, it should consist of one chisel followed by one or two disking's. Tillage should be a minimum of three inches deep. If herbicides are used, they should be applied at rates which will temporarily impede the growth of existing vegetation. Legumes are then drilled directly into the tilled or herbicide treated seedbed.

Reinforcement Seeding:

Often when a new seeding is completed, portions fail to establish satisfactorily. Thin stands may exist across portions if not all of the stand. Areas of unsatisfactory plant populations may be improved by drilling seed directly into the existing thin portions of the stand. Weeds need to be controlled with herbicides prior to drilling. If excessive litter is present, it may have to be removed by mowing, raking, and removing the vegetation or through prescribed burning.

4. SEEDING EQUIPMENT

Seeding equipment that ensures proper seed placement and good seed–soil contact will be used. Modern grass seeding attachments that allow for proper seed flow, seed placement, and soil packing are needed to ensure a successful seeding.

Slower seeding speeds should be used for fluffy or rough-coated seed species. Three to five miles per hour should be the seeding speed for most types of grass drills. Seeding speeds in excess of six miles per hour may result in uneven or inconsistent grass and legume stands.

If a carrier is needed to help feed seed through the drill, cracked corn or rolled oats may be added to the mixture.

Drill calibration should be completed for both grass and grain drills prior to seeding. Please refer to [Section 5](#) for guidance in completing drill calibration.

Grass Drill:

Grass drills are specifically designed and equipped to properly meter and place various grass, legume, and/or forb seed. They share the following design characteristics.

Different seed boxes are normally required to handle the three types of grass seed commonly used. This includes the relatively clean, smooth seed characteristic of many cool-season grasses, the chaffy or trashy seed characteristic of many warm-season grasses, and fine, smooth seed, characteristic of legumes or grasses such as switchgrass, hard fescue, or reed canarygrass.

Seed boxes having the capability of seeding chaffy or awned grasses (i.e., blue grama, bluestems, and Indiangrass) are needed, only if such species are planned in the seeding mixture; likewise, fine seed or legume seed boxes are needed, only if such species are to be seeded.

Agitators or similar mechanisms prevent bridging of chaffy or trashy seed. They ensure a constant flow of seed at the desired rate. The seed is uniformly mixed.

Feeder mechanisms (picker wheels, fluted feed, etc.) ensure uniform flow of all types of grass seed either separately or in a mixture.

Oversized feeder tubes that allow constant flow of chaffy or trashy type seed from boxes to placement point (if such seed is used) are necessary.

Individually mounted, adjustable, spring loaded, double-disc openers will help to achieve good seed-to-soil contact.

Depth bands or other depth control systems should provide positive seed placement over varying degrees of seedbed firmness for a final planting depth of one-fourth to three quarters of an inch.

Press/packer wheels should provide adequate covering and firming of soil over and around the seed for necessary seed to soil contact after proper seed placement. They can be mounted individually on each furrow opener or independently to follow behind each opener. Press/packer wheels are not intended to provide the basic "firm seedbed". The firm seedbed must exist before the drilling operation begins.

Small Grain Drill:

Free-flowing grass seed (i.e., wheatgrasses) and legume seed can be planted with a small grain drill, only if, proper seeding depth can be maintained throughout the field. *Seeding depth is the most limiting factor to seeding success and contributes to most of the seeding failures when using a grain drill.* It is extremely important to have a firm seedbed when using a grain drill. Periodic

inspections should be done to check seeding depth especially when seeding across different soil types. Seeding depth will vary under actual planting conditions.

Checking the drill frequently and hand mixing the seed is essential to achieving a properly blended seed mix and helps ensure that seeds of different sizes are seeded evenly across the field. Periodic feeder mechanism adjustments are usually necessary to ensure proper seeding rates. A separate legume box is desirable for seeding small seeded species (i.e., switchgrass, hard fescue, reed canarygrass, and alfalfa). Ensure that the grain drill's drop tubes are placed in front of the packer wheels to allow for proper seed-soil contact.

Chaffy or awned seeds (i.e., bluestems, Indiangrass, and blue grama,) are extremely difficult to plant with a grain drill. Proper agitation is needed to prevent “bridging” of seed in the seed box and the feeder mechanism must be capable of metering a uniform flow of seed at the desired rate. Very few grain drills have this capability. Use of debearded seeds is strongly recommended when considering seeding chaffy or awned seeds in a grain drill. It is recommended that a grass drill be used for these types of fluffy seeded grasses.

Broadcast Seeder:

Broadcast seeding may only be used when seeding some legume species (i.e., alfalfa, sweet clover) or when slope, soil conditions, and/or size of the area to be seeded make the use of a drill impractical. Obtaining proper seed depth is very difficult with broadcast seeders. All broadcast seedings will have an operation which incorporates the seed into the soil (i.e., covering operation using a drag harrow, cultipacker, roller packer, or other suitable implement to cover and press the seed into the soil surface). When using the broadcast method, the seeding rates listed in [Table 2](#) will be multiplied by 1.5.

Air seeders:

Some air seeders and similar types of equipment may be used to seed free flowing grass seed (i.e., wheatgrasses) and legume seed if proper seeding depth can be obtained (as specified in [Section 10](#)). The shallow planting depths for grasses and legumes can be difficult to maintain with this type equipment. The equipment must be able to provide a uniform flow of seed at the desired rate. Use packer wheels or other suitable packing implement to press soil firmly around the seeds.

Land Rollers

When tillage is deemed necessary for seedbed preparation, the use of a land roller may be needed to achieve a firm seedbed prior to using one of the previously mentioned seeding equipment. Using a land roller on non-tilled soil may also be an option if the seedbed is not firm enough.

5. DRILL CALIBRATION

Grass or grain drills may be calibrated using the following methods.

Bulk weight method:

Raise the drill's drive wheel and measure its circumference in feet. Next, measure the distance between seed spouts or disc openers. Use Table A to determine the number of revolutions (R) to turn the drive wheel for the row spacing and wheel circumference (C) in feet (ft) for your drill.

Table A

| Row spacing in inches | No. of Seed Spouts to Use | Turns of Drive Wheel | Row spacing in inches | No. of Seed Spouts to Use | Turns of Drive Wheel |
|--------------------------|------------------------------|-------------------------|--------------------------|------------------------------|-------------------------|
| 6 | 4 | 96/C = R | 24 | 1 | 96/C = R |
| 7 | 4 | 82/C = R | 30 | 1 | 77/C = R |
| 8 | 3 | 96/C = R | 36 | 1 | 64/C = R |
| 10 | 3 | 77/C = R | 42 | 1 | 55/C = R |
| 12 | 2 | 96/C = R | 48 | 1 | 48/C = R |

Place enough seed in the box to cover spouts from which you will collect seed. Turn the drive wheel until all spouts are feeding. Place a container under the correct number of seed spouts (as determined from the Table A) and turn the drive wheel the number of revolutions previously determined. Weigh the sample in grams. Multiply this weight by 0.5. The result is the pounds (lbs.) per acre (ac) at that setting. Continue making adjustments in the drill setting and trials until the desired seeding rate is obtained.

Remember: Seeding rates as determined by this method are in terms of **bulk seed**. You need to convert your seeding rate from pure live seed per ac to bulk seed per ac when using this calibration method.

Example:

Row spacing = 7 inches

Number of seed spouts = 4

Circumference of drive wheel = 6.8 ft

Revolutions of drive wheel (R) = $82/C$

$R = 82/6.8 = 12$ revolutions

Bulk seeding rate is 15.1 lbs./ac. The drill is properly set when the 4 seed spouts yield 30 grams of seed after 12 revolutions of the drive wheel.

30 grams X 0.5 = 15 lbs./ac

Seeds per row foot method:

This method of determining the amount of seed being distributed by the seeding equipment is to count the number of seeds per ft of drill row while the machine is in operation.

Fill the drill with seed, make setting, and drive equipment over a hard ground surface or canvas. Count the number of seeds per ft of row and adjust until proper seeding rate is attained. Please use Table B to determine the linear ft of row necessary to equal one square ft planted.

Table B

| Row spacing in inches | Linear ft of row to equal one square ft |
|--------------------------|--|
| 6 | 2.0 ft |
| 7 | 1.7 ft |
| 8 | 1.5 ft |
| 10 | 1.2 ft |
| 12 | 1.0 ft |

To determine the proper number of seeds per ft of drill row for a specific seeding mixture; you will first need to calculate the bulk seeding rate for each species in the mix. From [Table 2](#), calculate the number of seeds per square foot (ft²) for each lbs. seeded (seeds per lbs. divided by 43,560 ft²/ac). Multiply the number of seeds per ft² for each lb. seeded by the bulk seeding rate for each species. Total the resulting numbers to determine the number of seeds per ft² for the mixture.

For example, if you want to calibrate a drill for a mixture of 4.5 lbs. pure live seed (PLS)/ac green needlegrass (80% purity and 70% germination) and 4.0 lbs. PLS/acre western wheatgrass (92% purity, and 85% germination), calculate the bulk seeding rate for each species. Bulk seeding rate would be 8 lb./ac for the green needlegrass and 5.1 lbs./ac for the western wheatgrass. [Table 2](#) shows one lbs. of green needlegrass seed contains 180,000 or 4.1 seeds/ft² for each lbs. seeded (180,000/43,560 ft²/ac). Western wheatgrass has 112,000 seeds per lbs. or about 2.6 seeds/ft² for each lb. seeded.

$$8 \text{ lbs./ac} \times 4.1 \text{ seeds/ft}^2/\text{lb.} = 32.8 \text{ seeds/ft}^2$$

$$5.1 \text{ lbs./ac} \times 2.6 \text{ seeds/ft}^2/\text{lb.} = 13.3 \text{ seeds/ft}^2$$

The total seeds per ft² for the mix would be 46. If the drill being calibrated has 7-inch row spacing, the drill calibration would be 46 seeds per 1.7 ft of row length.

6. SEED REQUIREMENTS

All seed must meet the requirements of SD State Seed Laws and Regulations. Information on state seed law is available under SD Article 12:36, Seed Inspection (<http://sdlegislature.gov/rules/DisplayRule.aspx?Rule=12:36>). All seed; including homegrown seed, must be officially tested for purity and germination to enable PLS calculations for determining the proper seeding rate. Tests must be made within a nine-month period, exclusive of the test month, prior to seeding. Retesting of seed is required if the nine month period has lapsed as stated in Article 12:36:04:01 (<http://sdlegislature.gov/rules/DisplayRule.aspx?Rule=12:36:04:01>). Information on sending seed to the seed lab at SDSU for testing is available at: <https://www.sdstate.edu/agronomy-horticulture-and-plant-science/sdsu-seed-testing-lab>.

Studies have shown tetrazolium (TZ) tests over predict seed viability. NRCS will only accept germination tests for helping to determine seed viability and calculating pure live seed. TZ tests are only approved for use in determining germination for green needlegrass (see SD CL 38-12A-20).

For seed purchased but not planted within the nine month window of the seed tag test date, germination must be retested for all species within that mix. Individual germination tests are needed for each species within the mix to determine seed viability. Purity of the mix shall be recalculated based on the results of the germination tests and additional seed may need to be purchased or substituted to meet pure live seeding rates for that planting.

Use certified seed when available.

Origin of non-varietal (common) grass seed of both native and introduced species for any planting is limited to North Dakota (ND), SD, Nebraska (NE), Montana (MT), Wyoming (WY), Minnesota (MN), and Iowa (IA).

Origin of non-varietal (common) native forbs and legumes is limited to ND, SD, NE, MT, WY, MN, IA, Idaho (ID), Washington (WA), Oregon (OR), Wisconsin (WI) in the United States and Alberta (AB), British Columbia (BC), Manitoba (MB), Ontario (ON), and Saskatchewan (SK) in Canada.

Foreign seed must be of adapted, named varieties.

Legume seed should be inoculated with the proper culture just prior to seeding in order to increase the potential for nitrogen fixation by the plant.

No noxious weed amounts are allowed on any seed tags. Recommended varieties for use in SD are included in [Table 1](#).

7. SEEDING RATES

All seeding rates will be based on PLS. The PLS can be calculated from information on the seed tag. By state law, seed tags must contain certain information. Specific information on seed tag requirements can be found at <http://sdlegislature.gov/rules/DisplayRule.aspx?Rule=12:36>. The PLS is derived by multiplying % pure seed by the % germination (plus % hard seed, if present) and dividing by 100. For example, if a sample of Indian grass has a purity of 96% and a germination of 74%, PLS would be calculated as follows:

$$(96\% \times 74\%) / 100 = 71.04\% \text{ PLS per lbs. of bulk seed}$$

To calculate the lbs. of bulk seed required, divide the PLS requirement for the seeding by the % PLS (expressed as a decimal). For example, if 1,000 lbs. of PLS of the above Indiagrass is required for the seeding, the amount of bulk seed to purchase and apply to the field is:

$$1,000 \text{ lbs. of PLS} / 0.7104\% = 1,408 \text{ lbs. of bulk seed}$$

[Table 2](#) contains seeding rates for all species approved for use in SD by Major Land Resource Area (MLRA). [Figure 2](#) provides a map showing SD MLRAs. Seeding rates have been developed to achieve an average distribution of 25 to 30 seeds per ft².

The percentage that each species makes of the mixture when added together will equal at least 100% in the seeding plan (such as the SD-CPA-4).

8. SPECIES CHARACTERISTICS

Species vary in their ability to tolerate environmental conditions such as drought and flooding (anaerobic tolerance). They also vary widely in their ability to establish, recover after a harvest, and persist. Season of growth influences species selection regarding forage preference and periods of use. [Table 3](#) identifies numerous characteristics for all recommended species.

9. SPECIES SELECTION AND ADAPTABILITY BY SITE FOR VARIOUS LAND USES

Certain species are best adapted to specific site conditions. In order for a seeding to be successful, it should be adapted to the soil, landscape, climatic, and topographic conditions. Seedings are also designed for their specific uses. For example, a seeding designed for the production of hay or intensive spring livestock grazing will contain different species than a seeding which is designed to restore native tall grass prairies. When two or more ecological sites (ES) are planned to be seeded with the same mixture a single species can be counted toward the required minimum of species on each ecological site, provided they are eligible species for the included sites.

[Table 4](#) contains species recommendations for Forage and Biomass Plantings (512). It is sorted by pasture and hay land suitability groups and by forage suitability groups, respectively (groupings of similar soil capabilities), and MLRA. More information detailing specific requirements of this practice can be found in the electronic Field Office Technical Guide (eFOTG) at: <https://efotg.sc.egov.usda.gov/#/>.

[Table 5](#) contains species recommendations for all grassland restoration type plantings. The table is sorted by ES (a grouping of similar soil capabilities) and MLRA. More information detailing specific requirements of this practice can be found in the eFOTG at: <https://efotg.sc.egov.usda.gov/#/>.

Table 6 has been combined with Table 5, so all prairie restoration seedings should use Table 5.

[Table 7](#) contains species recommendations for Critical Area Plantings (342). It is sorted by determining soil property (a grouping of similar soil capabilities) and MLRA. More information detailing specific requirements of this practice can be found in the eFOTG at: <https://efotg.sc.egov.usda.gov/#/>.

[Table 8](#) contains suggested seeding mixtures for Vegetated Treatment Areas (635). It is sorted by MLRA and predominant site conditions. More information detailing specific requirements of this practices can be found in the eFOTG at: <https://efotg.sc.egov.usda.gov/#/>.

10. SEEDING DEPTH

Optimum seeding depths are between one-quarter to three-quarter inch. Proper seeding depth is extremely important in successfully establishing native and introduced vegetation from seed. Native grasses, forbs, and shrubs need to be seeded at a shallow depth, as light plays a key role in the germination of many native species. Seeding too deep is the number one reason for stand failures.

11. STANDARD SEED MIXES

Standard seed mixes have been developed for Conservation Practices. This information can be found in Range Tech Note No 11 – Standard Seed Mixes. This tech note is located in eFOTG under Section 1 – All Technical Notes – Range.

12. COVER AND COMPANION CROPS

Cover Crops:

A cover crop is an annual residue-producing crop, planted during the growing season before seeding the perennial crop. Its purpose is to provide cover and residues to reduce evaporation, maintain cool soil temperatures, reduce weed competition, trap snow, alleviate herbicide interactions, improve soil structure and promote soil biology, and control wind and water erosion.

Cover crops may be used in all MLRAs. The following are examples of seeding dates and seeding rates:

| Crop | Seeding Rate (lbs./ac) | Spring Dates | Fall Dates |
|---------------|------------------------|-------------------|-----------------|
| Barley | 25 – 30 | April 15 – June 1 | Aug 15 – Sept 1 |
| Oats | 15 – 30 | April 15 – June 1 | Aug 15 – Sept 1 |
| Grain sorghum | 5 – 10 | May 15 – Aug 15 | |
| Millet | 10 – 15 | May 15 – Aug 15 | |
| Sudangrass | 15 – 20 | May 15 – Aug 5 | |

Any cover mix may be used to accomplish any one of the purposes listed above. A planner may develop a cover crop mixture that will meet the objectives of landowner/operator and will ensure that the cover crop will not interfere with the establishment of the perennial grass. Do not use overwintering species (wheat or rye) in a mix. Use of overwintering species will increase competition for the new seeding and may result in a failed stand.

The cover crop should not be allowed to go to boot stage. It should be clipped or grazed to 8-10 ins. in height, chemically killed prior to boot stage, or late seeded to winter kill in order to prevent seed formation. Remove or spread excess residues that would interfere with the drilling operation of the perennial species.

For more information on cover crops, species selection, and seeding rates, see CPS Cover Crop (340) and the Cover Crop Job sheet (SD-JS-340). These can be found in the eFOTG, Section 4 <https://efotg.sc.egov.usda.gov/#/>.

Companion Crops:

A companion crop is an annual that is planted with the perennial species. Companion crops are not recommended because of excessive competition with the seeded perennial species. Where erosion is a severe hazard, companion crops may be used in all MLRAs at the following maximum rates. Companion crops may also be useful to help certain seed mixtures flow through drills. Seeding rates for companion crops are lower than normal seeding rates for those crops to reduce competition with the seeded perennial species.

Seeding rates for companion crops should not exceed:

Barley: 10 lbs./ac

Oats: 10 lbs./ac

Spring wheat: 15 lbs./ac

If used, the companion crop should be clipped and removed before it becomes competitive with the perennial species.

13. MANAGEMENT AND PROTECTION DURING ESTABLISHMENT

Grazing:

Do not graze until stand is fully established. This period will be a minimum of one full growing season. If an adequate stand has not established during the first growing season, or if seedlings do not have well-developed root systems with adventitious roots above the sown seed, then deferment should be extended through the second growing season. See Figure 1, at the end of the document for a visual of adventitious roots. Flash grazing treatments during the deferment period for weed control will be handled on a case-by-case basis provided no damage will be done to the seeded species.

Weed Control:

During the establishment period, excessive amounts of competitive weeds will be controlled. Control weeds that compete with seedlings for sunlight and/or moisture during the growing season of the species planted. The first weed control operation will be needed early in seedling development or prior to weed seed maturity. Repeated weed control operations may be needed. Competitive weeds can be controlled either mechanically or chemically or by a combination of these methods.

Mechanical – When controlling competitive weeds by clipping or mowing, adjust the equipment to cut above the new seedlings and clip before the weeds set seed. If the clippings are dense enough to smother the new seedlings, promptly remove the clippings from the field.

Chemical – To control competitive weeds with herbicides use the appropriate herbicide(s) applied according to the manufacturer's label. The best control will generally be obtained when weeds are in the early stages of growth. Precautions should be taken to ensure that grass or legume seedlings are not injured by the selected herbicide(s). Please refer to SDSU Agricultural Weed Control Guides for specific herbicide recommendations on forage crops in SD.

Conditions may arise that limit weed control options. When weeds become too tall to manage with chemical or mechanical means, other options should be considered. Prescribed burning in the fall (or spring), mow-rake-and-bale, or other options may be advisable on a case-by-case basis. Contact your local or area specialist for further guidance in these situations.

Noxious weeds must be controlled in accordance with state law.

Insect Control:

Insects can be a threat to seedlings. Contact the SDSU Extension office for recommendations on control of specific insects affecting seeded species.

Caution:

When using any pesticides (herbicides or insecticides), please read and follow the manufacturer's label recommendations. The use of pesticides must be consistent with the label and in accordance with state and federal laws and regulations.

14. GUIDANCE FOR CRITICAL AREA PLANTING (342)

Seeding of a critical area may take place at any time of the year as long as a reasonable expectation of a successful seeding establishment is expected.

Site Preparation:

Follow guidance for seedbed preparation ([Section 2](#) above) and the additional following criteria.

If necessary, divert offsite water away from the critical area. This may require a permanent conservation practice, or in other instances, a temporary measure that will be effective during the period of establishment.

Where practical, grade to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring. Cabling of equipment to prevent rollover may be necessary on some slopes such as newly constructed dams.

On construction sites where the exposed and underlying soil material will not support adequate vegetation, minimum topsoil dressing of six inches will be applied as part of construction.

After construction is complete, the seedbed will be worked to a depth of three to five inches to break up compacted areas and permit rapid root development. Drag or pack to break up large clods and firm the seedbed.

Where slopes are steeper than 1.5:1, use some means other than vegetation to stabilize slopes.

Species Selection:

Allowable species will be selected from [Table 7](#) for the appropriate MLRA.

Between 50 to 75% of the mixture will be made up of sod forming species. Grass mixtures may include all native species, all introduced species, or a mixture of native and introduced species. Mixing smooth brome grass, Kentucky bluegrass, and/or crested wheatgrass with native species is not recommended.

When smooth brome is to be seeded in a mixture, do not include more than 10% of other native or introduced species for early establishment.

Single species may be used on saline or wet areas ([Table 7](#)).

Do not select aggressive species such as smooth brome grass when the adjacent area is dominated by native species.

When quick growth and/or protection of a critical area is needed, a quick establishing grass can be added in addition to the selected permanent seeding mixture. Use either slender wheatgrass or annual ryegrass. Slender wheatgrass can be used statewide and annual rye grass can be used in MLRAs 102A, 102B, 102C, 53B, 53C, 55B, 55C, 63B, 66, and 62. Add a maximum of three PLS lbs./ac of slender wheatgrass or a maximum of two PLS lbs./ac of annual ryegrass to the selected full seeding.

Conventional Seeding:

Seeding activities will follow recommendations found elsewhere in this technical note unless otherwise stated in this section.

Seeding rates will be 1.5 times those recommended in [Table 2](#) when using a drill (recommended rate multiplied by 1.5).

When possible, drilling will be accomplished perpendicular to the slope. On grassed waterways, drilling will follow a serpentine pattern.

Broadcasting:

Many critical area plantings are too steep or too small to efficiently and safely utilize a drill. In these cases, seed may be broadcast and incorporated by harrowing, packing, or raking by hand. When broadcast seeding, increase the seeding rates found in [Table 2](#) by two times (recommended rate multiplied by two).

Hydroseeding:

On sites that are too steep for regular equipment to operate, the use of a hydro seeder is an acceptable alternative. Seed, fertilizer, and mulch materials will be applied in one operation. Limit the application of 150 lbs. of solids per 100 gallons of water. If a legume seed is included in the mixture, any lime or fertilizer should be applied separately. A second trip may also be needed to apply an asphalt emulsion to long fiber mulches.

When using hydroseeding technique, increase seeding rates found in [Table 2](#) by a factor of two (recommended rate multiplied by two).

Sodding:

Sod may be used on areas requiring immediate cover to prevent erosion. The sod should be in strips or blocks of native grass mixture, switchgrass, prairie cordgrass, reed canary grass, or other suitable grasses. Bluegrass sod is to be used only when the area is irrigated and is desired for aesthetic purposes. Sod materials are to be taken from solid, thick growing stands.

Sod will be cut in strips of uniform width and to a uniform thickness of at least three inches for tall grass and ½ to 1½ inches for short grasses. Lay sod within 24 hours after it was cut.

Sod strips should be carefully placed in rows across (at right angles) to the direction of slope. The sod strips will be placed together tightly so that no open joints are left between the strips or between the end of strips. Joints between the end strips will be staggered. Any spaces between the joints will be filled with topsoil and all edges covered with topsoil at least two inches deep. The edge of the sod at the top of slopes will be turned under and a layer of soil compacted over the edge so as to conduct surface water over and onto the top of the sod. The sod will be well trampled to help it remain in place.

Fertilizing:

Do not fertilize predominantly warm-season grass seeding unless the soil material is very infertile.

Thoroughly mix all fertilizer into the upper three to five inches of the soil during final seedbed preparation.

Apply fertilizer based on the recommendations from a soil test or apply 30 to 40 lbs. of actual Nitrogen (N) and 40 to 60 lbs. of Phosphorus pentoxide (P₂O₅) per ac. Ten to 15 tons of manure per ac may be used in lieu of the commercial fertilizer and will also increase organic matter.

On medium textured soils, the addition of 5 to 10 lbs. of zinc per ac may speed up growth.

Mulching:

All mulching will be done in accordance with the SD CPS for Mulching (484). Mulching of critical area plantings is required for any of the following conditions:

Where seeding cannot be accomplished during the approved seeding periods and a cover crop is not used.

On grassed waterways, where a cover crop or companion crop is not used, and seeding is placed on a bare seedbed, and the design velocity is more than 2.5 ft per second.

Where a grassed waterway is established at the time of terrace construction, and the channel slope is 2% or greater.

On slopes 3:1 or steeper that are 10 ft or more in vertical height or longer than 20 ft; on cut south and west facing slopes; On all saline and alkaline areas.

Drill grass in the prepared seedbed, immediately prior to mulching or at the next suitable seeding period after mulching.

Management of Critical Areas During and After Establishment:

Weeds will be controlled as described elsewhere in this technical note. All use will be excluded until vegetation is well established.

Mow grassed waterways for hay annually after establishment. Other critical areas may be mowed as needed for stand maintenance.

Fertilize as necessary to maintain stand.

Inspect critical areas each spring and following heavy rain. Reshape and reseed eroded areas promptly. Reinforce grass seeding where stands are thin.

Manage any grazing use to ensure long-term survival of the stand.

Lift tillage implements and shut off sprayers when crossing critical areas. Do not till parallel to grassed waterways.

Avoid vehicular travel on critical areas.

Providing Food, Cover, and Shelter for Wildlife:

Wildlife habitat should be considered when developing critical area planting plans and species selection. For plant species to improve wildlife habitat, refer to the SD CPS Upland Wildlife Habitat Management (645).

15. GUIDANCE FOR PASTURE AND HAY PLANTING (512)

Seedbed preparation:

See Section 2 for seedbed preparation guidance.

Species Selection:

Select species to be seeded from [Table 4](#) for the appropriate MLRA. See Figure 2 below for MLRA map of SD. In cases where additional species selection is needed, see [Table 5](#) for the appropriate ecological site for the chosen MLRA. Orchardgrass, Timothy and Tall Fescue are adapted for use only in MLRAs 102A, 102B, and 102C. They are also adapted for use alone or in combination up to 30% as part of a mix in MLRA 55C. Orchardgrass is adapted statewide when under irrigation.

On slopes over 8%, 50% of the seed mixture will be rhizomatous species.

When more than one grass species is used, the percentage that each species make of the mixture should be in near equal proportions. If a legume is used in the mixture with two or more species, the percentage of the mixture left after determining the percentage of legume used should be divided into equal or near equal amounts between the grass species.

Introduced legumes should generally only be planted with cool-season grasses. Do not mix native and introduced grasses, unless the phenology, morphology, and seedling vigor of selected species is similar.

Species planned for seeding pastureland should be compatible with the planned management of the entire operating unit. Select species that provide good forage during the season pasture will be used for grazing.

For ease of management and proper use, pasture and hayland mixtures should generally consist of no more than two to four (ranging from west to east) grass species having similar growth habits and seasons of use. These may be planted with or without legumes. Seeding mixes with large numbers of grass species do provide additional benefits such as improved wildlife habitat, improved forage quality throughout the season, and greater resistance to abnormal environmental conditions such as drought or insect pressures. They do, however, create additional management challenges due to the seasonality of forage production and differing levels of palatability by livestock.

Cool-season pasture mixtures containing a legume will produce higher yields and better-quality forage than pure grass stands. For seedings where the primary planned use is livestock grazing, the percentage of legumes in the mixture will not exceed 50% (PLS basis) of the amount required for a full seeding. Pasture-type alfalfa or non-bloating legumes will be used. The land user should be aware of the bloat hazard when legumes are included in mixes that will be grazed.

If the purpose of the seeding is for wildlife and or pollinator habitat then there is no maximum percent recommended unless specified by a program.

Stand Enhancement Seedings through 512

Stand enhancement (adding legumes to existing stands) is sometimes a viable option to improve an existing stand. Seeding rates for stand enhancement through the addition of legumes should be one-half of a full seeding on pasturelands and a full seeding rate for haylands. Seedbed preparation will follow procedures described in [Section 2. Seedbed Preparation](#) above. Stand enhancement with legumes is only recommended east of the Missouri River, on all irrigated lands, and within the Black Hills and surrounding foothills.

16. GUIDANCE FOR RANGE PLANTING (550)

Seedbed preparation:

See [Section 2](#) for seedbed preparation guidance.

Species Selection:

Select species to be seeded from [Table 5](#) for the appropriate MLRA. See [Figure 2](#) below for MLRA map of SD. Use [Table 1](#) for approved varieties. To learn more about specific varieties see NDSU publications (Grasses for the Northern Great Plains Volumes 1 and 2), PLANTS database Plant Guides, “Characteristics” tab in the Seeding Tool (SD-CPA-4), or other appropriate resources.

Selected species should have a reasonable chance of surviving across all ecological sites within the planned seeding area. Seedings will be based on dominant ecological sites within the planning unit. Species with a narrow range of environmental adaptability (i.e., species adapted to wet sites) will not be used on fields containing ecological sites with diverse site characteristics (i.e., wet to dry).

An alternative to designing a single seeding mixture for multiple sites is to design and apply a unique seeding mixture for each ecological sites occurring in the area to be seeded. This method is recommended when existing sites have very diverse characteristics (i.e., wet vs. dry sites). The logistics of identifying the sites in the field, changing seed mixtures in the drill, and making certain all areas are seeded will be considered prior to selecting this method.

All seed mixes will contain a minimum of five native species. At least 5% of the mix shall be native forbs.

Recommend including the dominant and subdominant functional/structural groups for developing a seeding plan. See the Ecological Site Descriptions and Rangeland Health Reference sheet for the ecological sites where the seeding will be planned for dominant and subdominant groupings.

For alternative scenarios including a mixture of native and introduced species, utilize either Pasture and Hay Planting (512) or Conservation Cover (327). Critical Area Seedings (342) may be appropriate for certain situations.

Seedings by ecological sites are encouraged and should be used where deemed appropriate. Species that are adapted across multiple ecological sites within the planning unit should be utilized. A greater diversity of native species beyond the 5 species minimum is recommended.

For purposes of combatting competitive non-native species, competitive native rhizomatous species may be planned at a higher % rate than is listed in [Table 5](#). Total for all species should still equal at least 100%. For example: surrounding adjacent existing grasslands or right-of-way comprise a high percentage of smooth brome grass, the adjacent site calls for 20% maximum big bluestem. You may choose to plant more than 20% big bluestem.

When the ecological site is restrictive in the number of species that are recommended for the site, a higher percentage rate than is listed in [Table 5](#) may be used. See footnotes in [Table 5](#) for specific sites that allow for less than 5 species in a planting.

For more information on planning a range seeding mix, contact an area range management specialist, area resource conservationist for technology, or other experienced planners.

If the purpose of the seeding is for wildlife and or pollinator habitat, then there is no maximum percent of forbs recommended unless specified by a program.

Interseeding:

Due to the possibility of limited success when attempting to interseed native species into existing rangeland, interseeding will only be allowed if the following criteria are met. When interseeding into existing untreated rangeland, a specialized piece of equipment that prepares a seedbed and drills seed in one pass (interseeder) will be used. The interseeder should be equipped to plant fluffy and free flowing grass seeds, have double disc openers, and packer wheels. Seeding rates for interseedings will be one-half the rate shown in [Table 2](#).

17. GUIDANCE FOR VEGETATED TREATMENT AREAS (635)

Species Selection:

At least three species are recommended to be included in each mixture and one of these should be tolerant to flooding and/or saturated conditions such as creeping foxtail, reed canary grass, etc. If salts/salinity is a potential concern (electrical conductivity (EC) >4.0 mmhos/cm), utilize salt tolerant species as listed in the table below or in [Table 3. Species Characteristics](#).

Sod-forming grasses are preferred; however, bunch grasses can be included in mixtures which include at least two sod-forming species.

Since most flow will occur during the spring and early summer months, it is advisable to use cool-season grasses for a majority of the mix. If warm-season grasses are to be included, consider developing cells within the vegetated treatment area and seed one or more cells to a dominant mixture of warm-season species.

Species that are desirable as forage for hay are advantageous since that will be the preferred method of biomass removal.

Species with large, fibrous root masses are desirable; whereas, species with large tap roots are undesirable because they increase the chance of preferential flow.

Including legumes in the mixture is only recommended in areas where rodents such as pocket gophers will not compromise the integrity of the vegetated treatment area. If pocket gophers infest a VTA, their gopher mounds may cause issues with farm equipment that pass over that area. Before planning to add legumes to a mixture, check with the producer or other local experts to determine whether or not pocket gophers may cause issues in the region.

Adding legumes to mixtures may help alleviate compaction layers that develop during grading and shaping activities. Legumes may be added to initial seeding at no more than 10% of total rate. If necessary, legumes can be removed with herbicides after initial compaction has been alleviated (two to four years).

All species selected must be adapted to the site (refer to [Table 2](#) and [Table 7](#) for adaptability ratings). An exception to this is orchard grass. Since these areas will be receiving additional moisture, orchard grass may be used on Vegetated Treatment Areas (VTA) statewide where it is otherwise adapted to the soil texture, salinity, and wetness of the site.

The following table lists potential species to consider for VTA.

| | Season of Use | Flood Tolerance | Salt Tolerance | Estimated Nitrogen Uptake/ton |
|-------------------------|---------------|-----------------|----------------|-------------------------------|
| big bluestem | Su | Good | Poor | 20 lbs./ton*** |
| creeping foxtail | Sp, Su, F | Very good* | Poor | 29 lbs./ton*** |
| intermediate wheatgrass | Sp | Fair | Fair | 28 lbs./ton*** |
| meadow brome | Sp, F | Fair | Poor | 35 lbs./ton*** |
| orchard grass | Sp, Su, F | Poor | Poor | 29 lbs./ton*** |
| pubescent wheatgrass | Sp, F | Fair | Fair | 28 lbs./ton*** |
| reed canary grass | Sp, Su | Very good* | Poor | 27 lbs./ton*** |
| smooth brome | Sp, F | Good | Poor | 39 lbs./ton*** |
| switchgrass | Su, F | Good | Fair | 23 lbs./ton*** |
| tall wheatgrass | Sp, F | Good | Good** | 28 lbs./ton |
| western wheatgrass | Sp, Su | Good | Good** | 28 lbs./ton |
| alfalfa | Sp, Su | Poor | Poor | 45 lbs./ton*** |
| birds foot trefoil | Sp, Su | Fair | Poor | 50 lbs./ton*** |
| red clover | Sp, Su | Fair | Poor | 40 lbs./ton*** |

Sp – Spring; Su – Summer; F – Fall

*Include one of these species if flooding or saturated soil conditions are anticipated.

**Include one of these species if high salt/salinity conditions are anticipated.

***Good choices for uptake of high levels of N.

[Table 8](#) contains seeding mixtures meant to offer suggestions on what would be considered a suitable mixture for vegetated treatment areas. All mixtures should be adapted to suit the predominant ecological sites/soils of the vegetated treatment area, and take into consideration how engineering modifications may change the site’s hydrology, soil structure, etc.

Seeding Rate, Seeding Methods, and Maintenance:

Seeding activities will follow recommendations found elsewhere in this technical note with the following exceptions:

Seeding rates for vegetated treatment areas will be four times the rate in [Table 2](#) (recommended rate in Table 2 multiplied by four).

All seeding, mowing, and haying activities should be conducted perpendicular to flow to prevent rills and gullies from forming.

18. GUIDELINES FOR STAND EVALUATION

To determine adequacy of stands and to determine if reseeding or reinforcement seeding is required, please follow Range Technical Note No. 1 “Guidelines for Herbaceous Stand Evaluation,” it’s accompanying worksheet, SD-ECS-10, and the following guidelines. The technical note and worksheet may be obtained in the eFOTG at: <https://efotg.sc.egov.usda.gov/#/>.

It should be recognized that environmental factors, such as, climate, insects, soils, and fertility affect the time required for stand establishment. Timeliness of precipitation, drought, extreme temperatures, severe winds, or late soil thaw can delay seedling emergence and/or development.

The adequacy of a stand will be based on density of established plants and stage of morphological development. To be considered established, a grass plant must have a well-developed adventitious root system and should exhibit signs of tillering or rhizome development. Please see [Figure 1](#) for an example of a seedling with adventitious roots. An alfalfa plant must have a well-

developed taproot with secondary and tertiary roots and a well-developed crown set below the soil surface and/or branched rhizomes.

Preliminary stand evaluation can be made four to eight weeks after germination; evaluate for progress and management problems (i.e., weeds, insects, etc.,) not for final establishment.

Generally, all stands must go through at least one winter before making final stand evaluation.

Stands resulting from late fall (dormant) or spring seedings should go through the first growing season and subsequent winter; evaluation for final establishment may be made any time during the second growing season.

Stands resulting from late summer seeding generally cannot be evaluated for final establishment until the end of subsequent, full growing season.

If evaluation reveals a marginal stand, consideration should be given to allowing a second growing season for establishment. Seedings that contain a high percentage of "hard seed" are more likely to produce new seedlings during the second growing season.

The alternative of a partial reinforcement seeding, in lieu of the full seeding rate, should be considered during the evaluations.

"Spot" seeding weak areas may be a logical alternative in the case of spotty or intermittent stands, in lieu of whole field reseeding. Use exclusion should follow spot seedings.

TABLE 1. APPROVED NAMED VARIETIES

Origin of non-varietal ('common') grass seed of both native and introduced is limited to ND, SD, NE, MT, WY, MN, and IA. If species and/or variety is not listed no known recommended variety is known to occur and non-varietal ('common') seed must be used

| Species | | Recommended Varieties for South Dakota |
|---------------------------------------|--|--|
| Introduced Cool-Season Grasses | | |
| Alkaligrass | | Chaplin, Fults |
| Bromegrass | Meadow | AC Knowles, Cache, Fleet, MacBeth, Montana, Paddock, Regar |
| | Smooth ^{1/} | AC Knowles hybrid, AC Rocket, Badger, Barton, Baylor, Bravo, Carlton, Cottonwood, Elsberry, Jubilee, Lincoln, Magna, Manchar, Polar, Radisson, Rebound, Saratoga, Signal |
| Creeping Foxtail | | Garrison, Retain |
| Hard Fescue | | Aurora, Discovery, Durar, Reliant, |
| Orchardgrass | | Ambassador, Chinook, Dawn, Justus, Kay, Kayak, Latar, Napier, Orbit, Orion, Paiute, Penlate, Potomac, Rancho |
| Tall Fescue | | Barcel, Barvetia, Courtney, Fawn, Kentucky 31, Martin, Mozark, Phyter, Southern Cross, Stargrazer, Tuscany II |
| Timothy | | Climax, Drummond, Hopkins, Itasca, Winmor |
| Wheatgrass | Bluebunch/ Quackgrass Hybrid (green) | AC Saltlander, NewHy |
| | Crested | |
| | Crested- Desert | Nordan, Summit |
| | Crested-Fairway | Douglas, Ephraim, NU-ARS-AC2, Parkway, RoadCrest, Ruff |
| | Crested-Hybrid Intermediate | CD-II, HyCrest, HyCrest II Amur, Beefmaker, Chief, Clarke, Greenar, Haymaker, Manifest, Oahe, Rush, Reliant, Slate, Tegmar |
| | Pubescent | Greenleaf, Luna, Maska, Topar |
| | Siberian | P-27, Vavilov, Vavilov II |
| | Tall | Alkar, Jose, Orbit, Platte |
| Wildrye | Altai | Eajay, Mustang, Pearl, Prairieland |
| | Dahurian | Arthur, James |
| | Mammoth | Volga |
| | Beardless | Shoshone |
| | Russian | Bozoisky Select, Bozoisky II, Cabree, Mankota, Mayak, Swift, Tetracan, Tom |
| All others | | Common |
| Native Cool-Season Grasses: | | |
| Alkaligrass (Nuttall's) | | Quill |
| Green Needlegrass | | AC Mallard Ecovar, Lodorm |
| Indian Ricegrass | | Nezpar, Rimrock |
| Mountain Brome | | Bromar |
| Reed Canarygrass | | Frontier, Loreed, Palaton, Rise, Vantage, Venture |
| Wheatgrass | Bluebunch | Anatone, Goldar, P-7 Selected Germplasm, Whitmar |
| | Slender | AC Pintail Ecovar, AC Sprig Ecovar, Adanac, AEC Hillcrest, Elbee, Firststrike, Primar, Pryor, Revenue |
| | Snake River | Secar |
| | Streambank/Thickspick | Bannock, Critana, Sodar |
| Wheatgrass | Western | Arriba, Barton Flintlock, Recovery, Rodan, Rosana, Walsh |
| Wildrye | Basin | Continental, Magnar, Trailhead, Washoe Germplasm |
| | Canada | Mandan |
| | Virginia | Omaha, Tober Germplasm |
| All Others | | Common |

Native Warm-Season Grasses

| | | |
|-------------------|----------|--|
| Bluestem | Big | Bison, Bonanza, Bonilla, Bounty, Central Iowa Germplasm, Champ, Northern Iowa Germplasm, Pawnee, Rountree, Sunnyview |
| | Little | Badlands, Blaze, Camper, Central Iowa Germplasm, Itasca, Northern Iowa Germplasm, Southern Iowa Germplasm |
| | Sand | Cherry, Garden, Goldstrike |
| Buffalograss | | Bismarck Ecotype (Veg.), Bowie, Cody, Plains, Tatanka |
| Grama | Blue | Bad River, Birdseye |
| | Sideoats | Butte, Central Iowa Germplasm, Killdeer, Northern Iowa Germplasm, Pierre, Southern Iowa Germplasm, Trailway |
| Indiangrass | | Central Iowa Germplasm, Chief, Holt, Nebraska 54, Northern Iowa Germplasm, Scout, Southern Iowa Germplasm, Tomahawk |
| Prairie Cordgrass | | Red River |
| Prairie Sandreed | | Bowman (ND-95), Goshen, Pronghorn |
| Switchgrass | | Dakotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer |
| All Others | | Common |

Non-varietal ('Common') native forbs and legumes will originate or be grown in ND, SD, NE, MT, WY, ID, WA, OR, MN, WI, and IA; AB, BC, MB, ON, and SK, Canada.

Native Legumes/Forbs:

| | | |
|---|--|-----------------|
| Lewis Flax | | Appar |
| Canada Milkvetch | | Sunrise |
| Narrow-leaved Purple Coneflower (<i>Echinacea angustifolia</i>) | | Bismarck |
| Cudweed Sagewort | | Summit |
| Maximilian Sunflower | | Medicine Creek |
| Purple Prairie Clover | | Bismarck, Kaneb |
| Stiff Sunflower | | Bismarck |
| White Prairie Clover | | Antelope |
| All Others | | Common |

Introduced Legumes:

| | | |
|-----------------------|-----|---|
| Alfalfa ^{2/} | | Fall Dormancy Rating Or Winter Survival Index (WSI) Of Three Or Less ^{3/} , Yellow Blossom, Salinity |
| Birdsfoot Trefoil | | Dawn, Empire, Fergus, Leo, Norcen, Viking |
| Cicer Milkvetch | | Lutana, Monarch, Windsor |
| Clover | Red | Kenland, Mammoth |
| Sainfoin | | Delaney, Eski, Remont, Shoshone |
| Small Burnet | | Delar |
| All Others | | Common |

Shrubs:

| | | |
|-------------------|----------|---------------------|
| Buffaloberry | Silver | Sakakawea |
| Fourwing Saltbush | Dewinged | Wytana, Snake River |
| All Others | | Common |

^{1/}Smooth Bromegrass can originate from any locale.

^{2/} The following web site is approved for the use in determining approved alfalfa varieties:

<http://www.alfalfa.org/falldormancy.html> Varieties must have a fall dormancy rating or WSI of three or less to meet specifications. Alfalfa varieties not listed on this website will require documentation from the distributor or developer to determine suitability.

TABLE 2. FULL SEEDING RATES

| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|---------------------------------------|--------------------------------------|-------------|--|--------------------------------|--|--------------------------------|
| | | | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| Introduced Cool-season Grasses | | | | | | |
| Alkaligrass | R/M | 2,108,000 | 50 | 1.0 | 50 | 1.0 |
| Altai wildrye | B/M | 68,000 | 30 | 19.2 | 25 | 16.0 |
| Creeping foxtail | R/M | 750,000 | 60 | 3.5 | 60 | 3.5 |
| Crested wheatgrass | B/M | 175,000 | 28 | 7.0 | 25 | 6.2 |
| Crested wheatgrass hybrid | B/M | 175,000 | 28 | 7.0 | 25 | 6.2 |
| Dahurian wildrye | B/M | 86,000 | 30 | 15.2 | 25 | 12.7 |
| Desert wheatgrass | R/M | 175,000 | 28 | 7.0 | 25 | 6.2 |
| Green wheatgrass ^{6/} | B/M | 135,000 | 28 | 9.0 | 23 | 7.4 |
| Hard fescue | B/S | 565,000 | 50 | 3.9 | 35 | 2.7 |
| Intermediate wheatgrass | R/M | 88,000 | 20 | 9.9 | 17 | 8.4 |
| Mammoth wildrye | R/T | 55,000 | 30 | 23.8 | 25 | 19.8 |
| Meadow brome | B/M | 80,000 | 30 | 16.3 | 25 | 13.6 |
| Orchardgrass ^{4/} | B/M | 654,000 | 50 | 3.3 | - | - |
| Pubescent wheatgrass | R/M | 88,000 | 20 | 9.9 | 17 | 8.4 |
| Russian wildrye | B/M | 175,000 | 30 | 7.5 | 25 | 6.2 |
| Siberian wheatgrass | R/M | 206,000 | 30 | 6.3 | 25 | 5.3 |
| Smooth brome | R/M | 135,000 | 25 | 8.1 | 20 | 6.5 |
| Tall fescue ^{4/} | R/M | 205,720 | 30 | 6.4 | - | - |
| Tall wheatgrass | B/T | 79,000 | 23 | 12.7 | 20 | 11.0 |
| Timothy ^{4/} | B/M | 1,300,000 | 30 | 1.0 | - | - |
| Native Cool-season Grasses | | | | | | |
| American mannagrass | R/T | 1,280,000 | 45 | 1.5 | 45 | 1.5 |
| American sloughgrass | St/S | 1,150,000 | 45 | 1.7 | 45 | 1.7 |
| Basin wildrye | B/T | 140,000 | - | - | 25 | 7.8 |
| Beardless wildrye | E/R | 150,000 | 30 | 8.7 | 25 | 7.3 |
| Blue wildrye | B/M | 134,500 | 30 | 9.7 | 25 | 8.1 |
| Bluebunch wheatgrass | B/M | 140,000 | - | - | 25 | 7.8 |
| Bluejoint reedgrass | R/M | 4,480,000 | 30 | 0.3 | 25 | 0.2 |
| Canada wildrye | B/M | 115,000 | 20 | 7.6 | 17 | 6.4 |
| Fowl bluegrass | B/M | 3,156,000 | 70 | 1.0 | 70 | 1.0 |
| Fowl mannagrass | R/M | 1,440,000 | 50 | 1.5 | 50 | 1.5 |
| Green needlegrass | B/M | 180,000 | 30 | 7.3 | 25 | 6.1 |
| Indian ricegrass | B/M | 235,000 | 30 | 5.6 | 25 | 4.6 |
| Montana wheatgrass | R/M | 155,000 | 30 | 8.4 | 25 | 7.0 |
| Mountain brome | B/M | 90,000 | 30 | 14.5 | 25 | 12.1 |
| Needleandthread | B/M | 115,000 | 25 | 9.5 | 25 | 9.5 |
| Nuttall's alkaligrass | B/S | 2,108,000 | 50 | 1.0 | 50 | 1.0 |
| Porcupinegrass | B/M | 150,000 | 25 | 7.3 | 25 | 7.3 |
| Prairie junegrass | B/S | 2,315,000 | 50 | 0.9 | 50 | 0.9 |
| Prairie wedgegrass | B/T | 200,000 | 35 | 7.6 | 35 | 7.6 |
| Rocky Mountain fescue | B/M | 1,200,200 | - | - | 40 | 1.5 |
| Reed canarygrass | R/T | 530,000 | 30 | 2.5 | 25 | 2.1 |
| Sandberg bluegrass | B/S | 1,046,960 | 30 | 1.2 | 25 | 1.0 |
| Slender wheatgrass | B/M | 155,000 | 25 | 7.0 | 17 | 4.8 |
| Snake River wheatgrass | B/T | 130,700 | - | - | 24 | 8.0 |
| Squirreltail | B/S | 192,000 | - | - | 25 | 5.7 |

| | | | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|---------------------------------------|---|-------------|---|--------------------------------------|---|--------------------------------------|
| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| Thickspike wheatgrass | R/M | 155,000 | 30 | 8.4 | 25 | 7.0 |
| Tufted hairgrass | B/M | 1,300,000 | 45 | 1.5 | 45 | 1.5 |
| Virginia wildrye | B/M | 96,000 | 30 | 13.6 | 25 | 11.3 |
| Western wheatgrass | R/M | 112,000 | 25 | 9.7 | 20 | 7.8 |
| Whitetop | R/M | 191,000 | 11 | 2.5 | - | - |
| Native Warm-season Grasses | | | | | | |
| Alkali sacaton | B/M | 1,758,000 | 50 | 1.2 | 50 | 1.2 |
| Big bluestem | R/T | 176,000 | 30 | 7.4 | 25 | 6.2 |
| Blue grama | B/S | 750,000 | 40 | 2.3 | 30 | 1.7 |
| Buffalograss | St/S | 50,000 | 30 | 26.1 | 25 | 21.8 |
| Green muhly | R/M | 1,280,000 | 35 | 1.2 | 34 | 1.2 |
| Indiangrass | R/T | 193,000 | 30 | 6.8 | 25 | 5.6 |
| Inland saltgrass | R/S | 520,000 | 30 | 2.5 | 25 | 2.1 |
| Little bluestem | B/M | 286,000 | 30 | 4.6 | 25 | 3.8 |
| Prairie cordgrass | R/T | 183,000 | 30 | 7.1 | 30 | 7.1 |
| Prairie dropseed | B/M | 224,000 | 25 | 4.9 | 25 | 4.9 |
| Prairie sandreed | R/T | 275,000 | 30 | 4.8 | 25 | 4.0 |
| Sand bluestem | R/T | 113,000 | 30 | 11.6 | 25 | 9.6 |
| Sand dropseed | B/M | 5,680,000 | 70 | 0.5 | 70 | 0.5 |
| Sand lovegrass | B/M | 1,625,680 | 30 | 0.8 | 25 | 0.7 |
| Sideoats grama | R/S | 180,000 | 30 | 7.3 | 25 | 6.1 |
| Switchgrass | R/T | 390,000 | 40 | 4.5 | 30 | 3.4 |
| Native Grasslikes | | | | | | |
| Baltic rush | R/M | 5,472,000 | 40 | 0.3 | 40 | 0.3 |
| Bebb's sedge | B/M | 544,000 | 50 | 4.0 | 50 | 4.0 |
| Bicknell's sedge | B/T | 272,000 | 40 | 6.4 | 40 | 6.4 |
| Blunt Broom Sedge | B/M | 1,920,000 | 40 | 0.9 | 40 | 0.9 |
| Bottlebrush sedge | B/M | 480,000 | 40 | 3.6 | 40 | 3.6 |
| Bristly sedge | R/T | 480,000 | 50 | 4.5 | 50 | 4.5 |
| Common spikerush | R/T | 816,000 | 30 | 1.6 | 30 | 1.6 |
| Crested sedge | B/M | 928,000 | 40 | 1.9 | 40 | 1.9 |
| Dudley's rush | B/M | 2,400,000 | 50 | 0.9 | 50 | 0.9 |
| Fox sedge | B/M | 1,600,000 | 37 | 1.0 | 37 | 1.0 |
| Hardstem bulrush | R/T | 320,000 | 40 | 5.4 | 40 | 5.4 |
| Inland rush | B/M | 2,800,000 | 50 | 0.8 | 50 | 0.8 |
| River bulrush | R/T | 68,800 | 25 | 15.8 | 25 | 15.8 |
| Slough sedge | R/T | 230,490 | 25 | 4.7 | 25 | 4.7 |
| Softstem bulrush | R/T | 496,000 | 40 | 3.5 | 40 | 3.5 |
| Torrey's rush | R/M | 1,600,000 | 50 | 1.4 | 50 | 1.4 |
| Woolly sedge | R/M | 480,000 | 50 | 4.5 | 50 | 4.5 |
| Introduced Forbs | | | | | | |
| Small burnet | E/P | 42,200 | 20 | 20.6 | 20 | 20.6 |
| Native Forbs | | | | | | |
| Allegheny monkeyflower | E/R/P | 32,000,000 | 75 | 0.1 | 75 | 0.1 |
| American / Water horehound | E/P | 3,025,308 | 55 | 0.8 | 55 | 0.8 |
| Arrow-leaved / common blue wood aster | E/R/P | 2,000,000 | 45 | 1.0 | 45 | 1.0 |
| Black-eyed Susan | E/A or Bi or P | 1,450,000 | 25 | 0.8 | 25 | 0.8 |
| Blanketflower | E/P | 157,000 | 25 | 6.9 | 25 | 6.9 |

| | | | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|------------------------------------|---|-------------|---|--------------------------------------|---|--------------------------------------|
| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| Blue vervain | E/P | 1,488,000 | 34 | 1.0 | 34 | 1.0 |
| Boneset | E/P | 2,560,000 | 25 | 0.4 | 25 | 0.4 |
| Bottle gentian | E/P | 9,000,000 | 80 | 0.4 | 80 | 0.4 |
| Broadbeard beardtongue | E/P | 313,000 | 25 | 3.5 | 25 | 3.5 |
| Butterfly milkweed | E/P | 67,000 | 25 | 16.3 | 25 | 16.3 |
| Calico aster | E/P | 4,000,000 | 30 | 0.3 | 30 | 0.3 |
| Canada / Meadow Anemone | E/R/P | 137,600 | 40 | 12.7 | 40 | 12.7 |
| Candle anemone / Thimbleweed | E/P | 376,000 | 30 | 3.5 | 30 | 3.5 |
| Columbine | E/P | 504,000 | 30 | 2.6 | 30 | 2.6 |
| Common Burreed | E/P | 8,000 | 25 | 136.1 | 25 | 136.1 |
| Common milkweed | E/R/P | 64,000 | 25 | 17.0 | 25 | 17.0 |
| Compass plant | E/P | 10,560 | 10 | 41.3 | 10 | 41.3 |
| Cudweed sagewort | E/R/P | 4,000,000 | 25 | 0.3 | 25 | 0.3 |
| Culvers root | E/P | 12,800,000 | 60 | 0.2 | 60 | 0.2 |
| Cup plant | E/R | 22,400 | 25 | 48.6 | 25 | 48.6 |
| Devil's beggartick | E/A | 195,300 | 20 | 4.5 | 20 | 4.5 |
| Ditch stonecrop | E/S/P | 45,000,000 | 75 | 0.1 | 75 | 0.1 |
| Dotted gayfeather | E/P | 136,000 | 25 | 8.0 | 25 | 8.0 |
| Early / lanceleaf figwort | E/P | 2,960,000 | 30 | 0.4 | 30 | 0.4 |
| Early Meadow rue | E/P | 1,888,000 | 25 | 0.6 | 25 | 0.6 |
| Eastern Daisy fleabane | E/A | 1,890,000 | 30 | 0.7 | 30 | 0.7 |
| Eastern Purple Coneflower | E/P | 96,000 | 25 | 11.3 | - | - |
| Evening primrose | E/Bi | 1,376,000 | 30 | 0.9 | 30 | 0.9 |
| False aster | E/P | 2,063,000 | 30 | 0.6 | 30 | 0.6 |
| False boneset | E/P | 512,000 | 25 | 2.1 | 25 | 2.1 |
| False gromwell | E/P | 24,000 | 25 | 45.4 | 25 | 45.4 |
| False sunflower | E/P | 60,000 | 25 | 18.2 | 25 | 18.2 |
| Field / Green sagewort | E/P | 4,000,000 | 35 | 0.4 | 35 | 0.4 |
| Foxglove beardtongue | E/P | 400,000 | 10 | 1.1 | 10 | 1.1 |
| Fragrant giant hyssop | E/St/P | 1,440,000 | 25 | 0.8 | 25 | 0.8 |
| Frost / hairy white oldfield aster | E/P | 2,240,000 | 30 | 0.6 | 30 | 0.6 |
| Fuzzytongue penstemon | E/P | 600,000 | 25 | 1.8 | 25 | 1.8 |
| Geyer's aster | E/P | 1,014,000 | 30 | 1.3 | 30 | 1.3 |
| Giant goldenrod | E/P | 700,000 | 15 | 0.9 | 15 | 0.9 |
| Golden alexanders | E/P | 176,000 | 25 | 6.2 | 25 | 6.2 |
| Grass-leaved / flat-top goldenrod | E/P | 5,600,000 | 40 | 0.3 | 40 | 0.3 |
| Grayhead coneflower | E/P | 625,000 | 25 | 1.7 | 25 | 1.7 |
| Great blue Lobelia | E/P | 12,800,000 | 60 | 0.2 | 60 | 0.2 |
| Heart-leaved golden Alexanders | E/P | 1,680,000 | 30 | 0.8 | 30 | 0.8 |
| Heath aster | E/P | 3,200,000 | 40 | 0.5 | 40 | 0.5 |
| Hoary vervain | E/A or P | 448,000 | 25 | 2.4 | 25 | 2.4 |
| Indian blanket | E/P | 153,000 | 25 | 7.1 | 25 | 7.1 |
| Ironweed | E/P | 384,000 | 25 | 2.8 | 25 | 2.8 |
| Joe-pye weed | E/P | 1,520,000 | 25 | 0.7 | 25 | 0.7 |
| Late figwort / carpenter's square | E/P | 2,368,000 | 30 | 0.6 | 30 | 0.6 |
| Lewis flax | E/B/P | 287,000 | 25 | 3.8 | 25 | 3.8 |
| Lindley's aster | E/P | 1,504,000 | 30 | 0.9 | 30 | 0.9 |
| Mad dog / blue skullcap | E/P | 1,040,000 | 35 | 1.5 | 35 | 1.5 |

| | | | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|--|---|-------------|---|--------------------------------------|---|--------------------------------------|
| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| Marsh betony / swamp lousewort | E/P | 612,800 | 20 | 1.4 | 20 | 1.4 |
| Maximilian sunflower | E/R/P | 250,000 | 25 | 4.4 | 25 | 4.4 |
| Meadow blazing star | E/P | 160,000 | 25 | 6.8 | 25 | 6.8 |
| Narrow-leaved Purple Coneflower | E/P | 120,000 | 25 | 9.1 | 25 | 9.1 |
| New England aster | E/P | 1,300,000 | 25 | 0.8 | 25 | 0.8 |
| Nodding beggartick / bur marigold | E/A | 43,324 | 5 | 5.0 | 5 | 5.0 |
| Nodding onion | E/P | 123,200 | 25 | 8.8 | 25 | 8.8 |
| Obedient plant | E/P | 288,000 | 60 | 9.1 | 60 | 9.1 |
| Old field goldenrod / Gray goldenrod | E/P | 4,800,000 | 40 | 0.4 | 40 | 0.4 |
| Pale spiked lobelia | E/P | 1,440,000 | 10 | 0.3 | 10 | 0.3 |
| Pasqueflower | E/P | 288,000 | 40 | 6.0 | 40 | 6.0 |
| Pennsylvania smartweed | E/A | 126,111 | 5 | 1.7 | 5 | 1.7 |
| Plains coreopsis | E/A,Bi or P | 1,650,000 | 25 | 0.7 | 25 | 0.7 |
| Prairie / Carolina larkspur | E/P | 656,000 | 25 | 1.7 | 25 | 1.7 |
| Prairie / downy phlox | E/P | 302,400 | 35 | 5.0 | 35 | 5.0 |
| Prairie / Richardson's alumroot | E/P | 12,000,000 | 55 | 0.2 | 55 | 0.2 |
| Prairie aster | E/P | 496,000 | 25 | 2.2 | 25 | 2.2 |
| Prairie blue-eyed grass | E/P | 480,000 | 45 | 4.1 | 45 | 4.1 |
| Prairie coneflower | E/P | 737,000 | 25 | 1.5 | 25 | 1.5 |
| Prairie Goldenrod / Upland white aster | E/P | 928,000 | 30 | 1.4 | 30 | 1.4 |
| Prairie Onion | E/P | 176,000 | 35 | 8.7 | 35 | 8.7 |
| Prairie smoke | E/R | 449,554 | 5 | 0.5 | 5 | 0.5 |
| Prairie spiderwort | E/P | 160,000 | 25 | 6.8 | 25 | 6.8 |
| Prairie sunflower | E/P | 273,000 | 25 | 4.0 | 25 | 4.0 |
| Prairie violet | S/P | 448,000 | 35 | 3.4 | 35 | 3.4 |
| Purple giant hyssop | E/R/P | 1,224,000 | 30 | 1.1 | 30 | 1.1 |
| Rocky Mountain bee plant | E/P | 64,000 | 20 | 13.6 | 20 | 13.6 |
| Rough blazing star | E/P | 256,000 | 25 | 4.3 | 25 | 4.3 |
| Sawtooth sunflower | E/P | 630,000 | 30 | 2.1 | 30 | 2.1 |
| Scarlet globemallow | E/P | 500,000 | 25 | 2.2 | 25 | 2.2 |
| Shell-leaf penstemon | E/P | 273,000 | 25 | 4.0 | 25 | 4.0 |
| Showy goldenrod | E/P | 1,520,000 | 25 | 0.7 | 25 | 0.7 |
| Silky / western silver aster | E/P | 664,000 | 15 | 1.0 | 15 | 1.0 |
| Sky-blue aster | E/P | 1,280,000 | 45 | 1.5 | 45 | 1.5 |
| Sneezeweed | E/P | 1,464,516 | 30 | 0.9 | 30 | 0.9 |
| Stiff goldenrod | E/P | 771,800 | 25 | 1.4 | 25 | 1.4 |
| Stiff sunflower | E/P | 85,000 | 25 | 12.8 | 25 | 12.8 |
| Swamp / purplestem aster | E/P | 1,248,000 | 30 | 1.0 | 30 | 1.0 |
| Swamp milkweed | E/P | 72,000 | 25 | 15.1 | 25 | 15.1 |
| Sweet cicely / Clayton's sweetroot | E/P | 40,000 | 5 | 5.4 | 5 | 5.4 |
| Sweet flag | E/P | 108,800 | 20 | 8.0 | 20 | 8.0 |
| Tall / American bellflower | E/A | 700,000 | 10 | 0.6 | 10 | 0.6 |
| Tall meadow rue | E/P | 176,000 | 25 | 6.2 | 25 | 6.2 |
| Tall thimbleweed | E/P | 384,000 | 30 | 3.4 | 30 | 3.4 |
| Thickspike gayfeather | E/P | 136,000 | 25 | 8.0 | 25 | 8.0 |
| Water plantain | E/P | 960,000 | 25 | 1.1 | 25 | 1.1 |
| Western yarrow | E/P | 2,800,000 | 25 | 0.4 | 25 | 0.4 |
| White panicle Aster | E/P | 2,496,000 | 55 | 1.0 | 55 | 1.0 |

| | | | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|---------------------------------------|---|-------------|---|--------------------------------------|---|--------------------------------------|
| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| White snakeroot | E/P | 2,400,000 | 55 | 1.0 | 55 | 1.0 |
| Whorled Milkweed | E/P | 169,600 | 35 | 9.0 | 35 | 9.0 |
| Wild bergamot | E/P | 1,200,000 | 25 | 0.9 | 25 | 0.9 |
| Wild garlic | E/P | 9,280 | 30 | 140.8 | 30 | 140.8 |
| Wild geranium | E/P | 78,400 | 30 | 16.7 | 30 | 16.7 |
| Wild golden glow / cutleaf coneflower | E/R/P | 252,222 | 40 | 6.9 | 40 | 6.9 |
| Introduced Legumes | | | | | | |
| Alfalfa ^{5/} | E/P | 210,000 | 30 | 6.2 | 25 | 5.2 |
| Alsike clover | Pr/P | 680,000 | 50 | 3.2 | 50 | 3.2 |
| Bird's-foot trefoil | Pr/P | 418,000 | 50 | 5.2 | - | - |
| Cicer milkvetch | Pr/P | 134,000 | 30 | 9.8 | 25 | 8.1 |
| Hairy vetch | E/P | 20,000 | 30 | 65.3 | 25 | 54.5 |
| Red clover | Pr/P | 275,000 | 30 | 4.8 | - | - |
| Sainfoin (podless) | E/P | 30,240 | 15 | 21.6 | 15 | 21.6 |
| Strawberry clover | E/P | 300,000 | 25 | 3.6 | 25 | 3.6 |
| Sweetclover | E/Bi | 260,000 | 25 | 4.2 | 20 | 3.4 |
| White clover | Pr/P | 800,000 | 25 | 1.4 | 25 | 1.4 |
| Native Legumes | | | | | | |
| American licorice | E/P/R | 58,000 | 25 | 18.8 | 25 | 18.8 |
| American vetch | Pr/P | 30,000 | 25 | 36.3 | 25 | 36.3 |
| Canada milkvetch | E/P | 266,000 | 25 | 4.1 | 25 | 4.1 |
| Canada tick trefoil | E/P | 88,000 | 25 | 12.4 | 25 | 12.4 |
| Cream / longbract wild indigo | PR/P | 25,600 | 10 | 17.0 | 10 | 17.0 |
| Groundplum milkvetch | Pr/P | 83,200 | 25 | 13.1 | 25 | 13.1 |
| Illinois bundleflower | E/P | 60,000 | 25 | 18.2 | 25 | 18.2 |
| Illinois tick trefoil | E/P | 68,800 | 25 | 15.8 | 25 | 15.8 |
| Indian breadroot scurfpea | Pr/P | 17,600 | 10 | 24.8 | 10 | 24.8 |
| Purple prairie clover | E/P | 290,000 | 25 | 3.8 | 25 | 3.8 |
| Round-headed bush clover | E/P | 128,000 | 25 | 8.5 | 25 | 8.5 |
| Showy partridgepea | E/P | 43,200 | 20 | 20.2 | 20 | 20.2 |
| White prairie clover | E/P | 278,000 | 25 | 3.9 | 25 | 3.9 |
| Native Shrubs | | | | | | |
| Big sagebrush | E/P | 2,000,000 | - | - | 23 | 0.5 |
| Black currant | E/P | 240,000 | 30 | 5.4 | 25 | 4.5 |
| Chokecherry | E/P | 5,000 | 3 | 26.1 | 3 | 26.1 |
| Dwarf indigo | E/P | 160,000 | 25 | 6.8 | 25 | 6.8 |
| Early wild rose | E/P | 41,600 | 25 | 26.2 | 25 | 26.2 |
| False indigo | Pr/P | 52,000 | 30 | 25.1 | 25 | 20.9 |
| Four-wing saltbush (dewinged) | E/P | 52,000 | 7 | 5.9 | 7 | 5.9 |
| Fringed sagewort | E/P | 4,536,000 | 21 | 0.2 | 21 | 0.2 |
| Gardner's saltbush | E/P | 110,000 | 30 | 11.9 | 25 | 9.9 |
| Golden currant | E/R/P | 240,000 | 30 | 5.4 | 25 | 4.5 |
| Juneberry | E/P | 82,000 | 30 | 15.9 | 25 | 13.3 |
| Leadplant | E/P | 200,000 | 30 | 6.5 | 25 | 5.4 |
| Prairie cinquefoil | E/P | 3,680,000 | 40 | 0.5 | 40 | 0.5 |
| Prairie rose | E/P | 45,000 | 30 | 29.0 | 25 | 24.2 |
| Redosier dogwood | E/P | 18,400 | 30 | 71.0 | 25 | 59.2 |
| Rubber rabbitbrush | E/P | 400,000 | - | - | 1 | 0.1 |

| SD Common Name ^{1/} | Growth Characteristics ^{2/} | Seeds/Pound | MLRA 53B/C, 55B/C, 56, 62, 63B, 66, 102A/B/C ^{3/} | | MLRA 54, 63A, 64, 65, 58D, 60A, 61 ^{3/} | |
|------------------------------|--------------------------------------|-------------|--|--------------------------------|--|--------------------------------|
| | | | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) | Seeds/Ft ² | Full Seeding Rate (Lbs PLS/Ac) |
| Sand sagebrush | E/P | 2,000,000 | - | - | 23 | 0.5 |
| Silver buffaloberry | E/P | 41,000 | 4 | 4.2 | 4 | 4.2 |
| Silver sagebrush | E/R/P | 1,132,000 | - | - | 26 | 1.0 |
| Western snowberry | E/P | 74,400 | 30 | 17.6 | 25 | 14.6 |
| Wild plum | E/P | 870 | 3 | 150.2 | 3 | 150.2 |
| Winterfat | E/P | 150,000 | 30 | 8.7 | 25 | 7.3 |

^{1/} For additional information see <http://plants.usda.gov/>

^{2/} Abbreviation Growth Characteristic

| | |
|----|---------------|
| A | Annual |
| B | Bunch |
| Bi | Biennial |
| E | Erect |
| M | Mid-height |
| P | Perennial |
| Pr | Prostrate |
| R | Rhizomatous |
| S | Short |
| St | Stoloniferous |
| T | Tall |

^{3/} See Figure 2 for a map of the MLRAs of SD.

^{4/} Adapted for use only in MLRAs 102A, 102B, and 102C, and alone or in combination up to 30% as part of a mix in MLRA 55C.

^{5/} Alfalfa may be seeded at a higher rate (up to 12 lbs/ac full seeding rate) **only** if being used in a hayland planting situation.

^{6/} Green wheatgrass is the updated name for bluebunch/quackgrass hybrid.

TABLE 3. SPECIES CHARACTERISTICS

| SD common name | Scientific Name | Bloom Period ¹ | Nitrogen Fixation ² | Bloat ³ | Toxicity ⁴ | Seedling Vigor ⁵ | Drought Tolerance ⁶ | Anaerobic Tolerance ⁷ | Salinity Tolerance ⁸ | Season of Use ⁹ | Regrowth Rate ¹⁰ | Grazing Pref ¹¹ | Browsing Pref ¹² |
|---------------------------------------|---------------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Introduced Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | <i>Puccinellia distans</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Altai wildrye | <i>Leymus angustus</i> | | None | None | None | High | High | None | High | Sp, Su, Fall | Mod | High | High |
| Beardless wildrye | <i>Leymus triticoides</i> | | None | None | None | Low | High | High | High | Sp, Su, Fall | Mod | Med | Med |
| Creeping foxtail | <i>Alopecurus arundinaceus</i> | | None | None | None | Low | Med | High | High | Sp & Su | Rapid | High | High |
| Crested wheatgrass | <i>Agropyron cristatum</i> | | None | None | None | Med | High | None | Medium | Sp & Fall | Slow | Med | Low |
| Dahurian wildrye | <i>Elymus dahuricus</i> | | None | None | None | High | Med | Low | High | Sp & Su | Mod | Med | Low |
| Desert wheatgrass | <i>Agropyron desertorum</i> | | None | None | None | High | High | None | Medium | Sp & Fall | Slow | High | Low |
| Green wheatgrass | <i>Elymus hoffmannii</i> | | None | None | None | High | Med | Low | High | Sp & Su | Mod | Med | Low |
| Hard fescue | <i>Festuca brevipila</i> | | None | - | - | - | - | - | - | - | - | - | - |
| Intermediate/Pubescent wheatgrass | <i>Thinopyrum intermedium</i> | | None | None | None | High | Med | Low | Medium | Sp, Su, Fall | Slow | High | Med |
| Mammoth wildrye | <i>Leymus racemosus</i> | | None | None | None | High | High | None | Low | Sp & Su | Rapid | Low | Low |
| Meadow brome | <i>Bromus biebersteinii</i> | | None | - | - | - | - | - | - | - | - | - | - |
| Orchardgrass | <i>Dactylis glomerata</i> | | None | - | - | - | - | - | - | - | - | - | - |
| Reed canarygrass | <i>Phalaris arundinacea</i> | | None | None | Slight | Low | Low | High | Medium | Sp, Su, Fall | Mod | Med | Low |
| Russian wildrye | <i>Psathyrostachys juncea</i> | | | | | | | | | | | | |
| Siberian wheatgrass | <i>Agropyron fragile</i> | | None | None | None | High | High | None | High | Sp & Fall | Rapid | Med | Med |
| Smooth brome | <i>Bromus inermis</i> | | None | - | - | - | - | - | - | - | - | - | - |
| Tall fescue | <i>Schedonorus arundinaceus</i> | | None | - | - | - | - | - | - | - | - | - | - |
| Tall wheatgrass | <i>Thinopyrum ponticum</i> | | None | None | None | High | Med | Low | High | Sp | Mod | Med | Low |
| Timothy | <i>Phleum pratense</i> | | None | None | None | Med | Low | Low | Low | Sp & Su | Rapid | High | High |
| Native Cool-season Grasses | | | | | | | | | | | | | |
| American mannagrass | <i>Glyceria grandis</i> | | - | - | - | - | - | - | - | - | - | - | - |
| American sloughgrass | <i>Beckmannia syzigachne</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Basin wildrye | <i>Leymus cinereus</i> | | None | None | None | Med | Med | Med | High | Sp | Mod | High | Low |
| Blue wildrye | <i>Elymus glaucus</i> | | None | None | None | High | High | High | Medium | Sp, Su, Fall | Mod | Med | Low |
| Bluebunch wheatgrass | <i>Pseudoroegneria spicata</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Bluejoint reedgrass | <i>Calamagrostis canadensis</i> | | None | None | None | Med | Low | High | None | Sp | Mod | High | Med |
| Canada wildrye | <i>Elymus canadensis</i> | | None | None | None | High | Med | Low | Medium | Sp, Su, Fall | Mod | Med | Med |
| Fowl bluegrass | <i>Poa palustris</i> | | None | None | None | Med | Low | Med | Low | Sp & Su | Slow | Low | Low |
| Fowl mannagrass | <i>Glyceria striata</i> | | None | None | None | Med | Low | High | None | Sp | Slow | High | Low |
| Green needlegrass | <i>Nassella viridula</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Indian ricegrass | <i>Achnatherum hymenoides</i> | | None | None | None | High | High | None | Low | Sp, Su, Fall | Mod | High | High |
| Montana wheatgrass | <i>Elymus albicans</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Mountain brome | <i>Bromus marginatus</i> | | None | None | None | High | Med | None | High | Sp & Su | Slow | High | Med |
| Needleandthread | <i>Hesperostipa comata</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Nuttall's alkaligrass | <i>Puccinellia nuttalliana</i> | | None | None | None | Low | Low | High | High | Sp & Su | Slow | Low | Low |
| Porcupinegrass | <i>Hesperostipa spartea</i> | | None | None | None | Low | Med | None | None | Sp & Su | Slow | Med | Low |
| Prairie junegrass | <i>Koeleria macrantha</i> | | None | None | None | Low | High | None | None | Sp & Fall | Mod | High | Med |
| Prairie wedgegrass | <i>Sphenopholis obtusata</i> | | None | None | None | Med | Low | Low | None | Sp | Slow | Low | Low |
| Rocky Mountain fescue | <i>Festuca saximontana</i> | | None | - | - | - | - | - | - | Sp & Su | Slow | High | High |

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|-----------------------------------|---------------------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Sandberg bluegrass | <i>Poa secunda</i> | | None | None | None | Low | High | None | Low | Sp | Slow | Med | Med |
| Slender wheatgrass | <i>Elymus trachycaulus</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Snake River wheatgrass | <i>Elymus wawawaiensis</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Squirreltail | <i>Elymus elymoides</i> | | None | None | None | Med | High | None | Low | Sp | Mod | Med | Med |
| Thickspike wheatgrass | <i>Elymus lanceolatus</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Tufted hairgrass | <i>Deschampsia cespitosa</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Virginia wildrye | <i>Elymus virginicus</i> | | None | None | None | Med | Med | Med | None | Sp | Slow | Med | High |
| Western wheatgrass | <i>Pascopyrum smithii</i> | | None | None | None | Med | High | Med | High | Sp, Su, Fall | Mod | Med | Med |
| Whitetop | <i>Scolochloa festucacea</i> | | None | None | None | Med | Low | High | None | Sp & Su | | High | |
| Native Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | <i>Sporobolus airoides</i> | | None | None | None | Low | High | Med | High | Sp & Su | Mod | Med | Low |
| Big bluestem | <i>Andropogon gerardii</i> | | None | Low | None | Low | High | Med | Medium | Su | Mod | High | High |
| Blue grama | <i>Bouteloua gracilis</i> | | None | None | None | Low | High | None | Medium | Su & Fall | Mod | High | High |
| Buffalograss | <i>Bouteloua dactyloides</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Green muhly | <i>Muhlenbergia racemosa</i> | | None | None | None | Low | Low | Low | Low | Sp, Su, Fall | Slow | Low | Low |
| Indiangrass | <i>Sorghastrum nutans</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Inland saltgrass | <i>Distichlis spicata</i> | | None | None | None | Low | Med | High | High | Sp, Su, Fall | Slow | Low | Low |
| Little bluestem | <i>Schizachyrium scoparium</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Prairie cordgrass | <i>Spartina pectinata</i> | | None | None | None | Med | Low | High | Low | Sp & Su | Mod | Med | Low |
| Prairie dropseed | <i>Sporobolus heterolepis</i> | | None | None | None | Med | Med | None | None | Sp & Su | Slow | Med | Low |
| Prairie sandreed | <i>Calamovilfa longifolia</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Sand bluestem | <i>Andropogon hallii</i> | | None | None | None | Med | High | Med | Low | Su | Mod | High | Med |
| Sand dropseed | <i>Sporobolus cryptandrus</i> | | None | None | None | Low | High | None | Medium | Sp | Slow | Low | Med |
| Sand lovegrass | <i>Eragrostis trichodes</i> | | None | None | None | High | High | Low | Low | Su & Fall | Mod | High | High |
| Sideoats grama | <i>Bouteloua curtipendula</i> | | None | None | None | High | Med | None | Medium | Su | Mod | High | Med |
| Switchgrass | <i>Panicum virgatum</i> | | None | None | None | Med | Med | Med | Medium | Su | Mod | High | Med |
| Native Grasslikes | | | | | | | | | | | | | |
| Baltic rush | <i>Juncus arcticus</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Bebb's sedge | <i>Carex bebbii</i> | | None | None | None | Low | None | High | None | Sp & Su | Slow | Low | Low |
| Bicknell's sedge | <i>Carex bicknellii</i> | | None | None | None | Low | Med | Low | None | Sp & Su | Slow | Low | Low |
| Blunt Broom Sedge | <i>Carex tribuloides</i> | | - | - | - | - | Low | High | Low | Sp, Su | Slow | Low | - |
| Bottlebrush sedge | <i>Carex hystericina</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Bristly sedge | <i>Carex comosa</i> | | None | None | None | Low | Low | High | Low | Sp, Su, Fall | Slow | Low | Low |
| Common spikerush | <i>Eleocharis palustris</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Crested sedge | <i>Carex cristatella</i> | | - | - | - | - | Low | High | Poor | Sp, Su | Slow | Low | - |
| Dudley's rush | <i>Juncus dudleyi</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Fox sedge | <i>Carex vulpinoidea</i> | | None | None | None | Med | Low | Med | None | Sp | Slow | Med | |
| Hardstem bulrush | <i>Schoenoplectus acutus</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Inland rush | <i>Juncus interior</i> | | None | None | None | Low | Low | Med | None | Sp & Su | Slow | Low | Low |
| River bulrush | <i>Bolboschoenus fluviatilis</i> | | None | Low | None | Med | Low | High | None | Su | Slow | Med | |
| Slough sedge | <i>Carex atherodes</i> | | None | None | None | Low | Low | High | None | Sp & Su | Slow | Low | Low |
| Softstem bulrush | <i>Schoenoplectus tabernaemontani</i> | | None | None | None | Low | None | High | Low | Sp, Su, Fall | Slow | - | - |
| Torrey's rush | <i>Juncus torreyi</i> | | None | None | None | Med | Low | Med | Low | Su | Slow | Low | Low |

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|---------------------------------------|--------------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Woolly sedge | Carex pellita | | - | - | - | - | - | - | - | - | - | - | - |
| Introduced Forbs | | | | | | | | | | | | | |
| Small burnet | Sanguisorba minor | | - | - | - | - | High | - | - | - | - | - | - |
| Native Forbs | | | | | | | | | | | | | |
| Allegheny monkeyflower | Mimulus ringens | Jun-Sept | - | - | - | - | - | - | - | - | - | - | - |
| American / Water horehound | Lycopus americanus | Jul-Sept | None | None | None | Med | Low | High | Low | Su & Fall | Slow | - | - |
| Arrow-leaved / common blue wood aster | Symphotrichum (S.) cordifolium | Aug-Oct | None | None | None | Low | Med | None | None | Sp, Su, Fall | Slow | Low | Low |
| Black-eyed Susan | Rudbeckia hirta | Jul-Sept | None | None | None | Med | Med | None | None | Fall, & Sp | | Low | Low |
| Blanketflower | Gaillardia aristata | Jul-Aug | None | None | None | Med | Med | None | Low | Sp | Slow | Low | Low |
| Blue vervain | Verbena hastata | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Boneset | Eupatorium perfoliatum | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Bottle gentian | Gentiana andrewsii | Aug-Oct | None | None | None | Low | Med | Low | None | Sp, Su, Fall | Slow | Low | Low |
| Broadbeard beardtongue | Penstemon angustifolius | May-Jun | None | None | Mod | High | High | None | None | Sp & Su | Rapid | Med | Med |
| Butterfly milkweed | Asclepias tuberosa | Jun-Aug | None | None | None | Low | High | None | None | Sp & Su | Slow | Low | Low |
| Calico aster | Symphotrichum lateriflorum | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Canada / Meadow Anemone | Anemone canadensis | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Candle anemone / Thimbleweed | Anemone cylindrica | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Columbine | Aquilegia canadensis | Apr-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Common Burreed | Sparganium eurycarpum | | None | None | None | High | None | High | None | Sp | Slow | - | Med |
| Common milkweed | Asclepias syriaca | May-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Compass plant | Silphium laciniatum | Jun-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Cudweed sagewort | Artemisia ludoviciana | Aug-Sept | None | None | None | High | High | None | High | Sp & Su | Mod | Med | Med |
| Culvers root | Veronicastrum virginicum | Jun-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Cup plant | Silphium perfoliatum | Jul-Sept | None | None | None | | Low | Low | | Su | | | |
| Devil's beggartick | Bidens frondosa | Aug-Oct | None | None | None | Med | Low | Med | None | Sp, Su, Fall | Slow | Low | Low |
| Ditch stonecrop | Penthorum sedoides | Jun-Sept | None | None | None | Low | Med | Low | None | Sp | Slow | Low | |
| Dotted gayfeather | Liatris punctata | Aug-Sept | None | None | None | Med | High | None | None | Su | Slow | High | High |
| Early / lanceleaf figwort | Scrophularia lanceolata | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Early Meadow rue | Thalictrum dioicum | Apr-May | - | - | - | - | - | - | - | - | - | - | - |
| Eastern Daisy fleabane | Erigeron annuus | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Eastern Purple Coneflower | Echinacea purpurea | Jun-Jul | None | None | None | Med | Low | None | Low | Sp & Su | Slow | Low | Low |
| Evening primrose | Oenothera biennis | Jun-Sept | None | None | None | High | Med | None | None | Sp, Su, Fall | Slow | | |
| False aster | Boltonia asteroides | Aug-Oct | None | None | None | High | Low | Med | Low | Su | Slow | Low | Low |
| False boneset | Brickellia eupatorioides | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| False gromwell | Onosmodium bejariense | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| False sunflower | Heliopsis helianthoides | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Field / Green sagewort | Artemisia campestris | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Foxglove beardtongue | Penstemon digitalis | Jun-Jul | None | None | None | Med | High | Low | Medium | Sp & Su | Slow | Low | Med |
| Fragrant giant hyssop | Agastache foeniculum | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Frost / hairy white oldfield aster | Symphotrichum pilosum | Sept-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Fuzzytongue penstemon | Penstemon eriantherus | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Geyer's aster | Symphotrichum laeve | Aug-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Giant goldenrod | Solidago gigantea | Aug-Sept | None | None | None | High | Med | Low | None | Su | Slow | - | Med |

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|--------------------------------------|-----------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Golden alexanders | Zizia aurea | Apr-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Grass-leaved / flat-top goldenrod | Euthamia graminifolia | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Grayhead coneflower | Ratibida pinnata | Aug-Sept | None | None | None | Med | Med | None | None | Sp & Su | Slow | Med | Med |
| Great blue Lobelia | Lobelia siphilitica | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Heart-leaved golden Alexanders | Zizia aptera | Apr-May | - | - | - | - | - | - | - | - | - | - | - |
| Heath aster | Symphyotrichum ericoides | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Hoary vervain | Verbena stricta | Jun-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Indian blanket | Gaillardia pulchella | May-Sept | None | None | None | High | High | None | None | Sp, Su, Fall | - | Med | Med |
| Ironweed | Vernonia fasciculata | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Joe-pye weed | Eutrochium maculatum | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Late figwort / carpenter's square | Scrophularia marilandica | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Lewis flax | Linum lewisii | Jun-Jul | None | None | None | High | Med | None | Low | Sp | Slow | High | Low |
| Lindley's aster | S. ciliolatum | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Mad dog / blue skullcap | Scutellaria lateriflora | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Marsh betony / swamp lousewort | Pedicularis lanceolata | Aug-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Maximilian sunflower | Helianthus maximiliani | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Meadow blazing star | Liatris ligulistylis | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Narrow-leaved Purple Coneflower | Echinacea angustifolia | Jun-Jul | None | None | None | Med | High | None | - | Sp & Su | Slow | Med | - |
| New England aster | S. novae-angliae | Sept-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Nodding beggartick/bur marigold | Bidens cernua | Jun-Sept | None | None | None | High | Low | Med | Low | Sp, Su, Fall | Slow | Low | Low |
| Nodding onion | Allium cernuum | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Obedient plant | Physostegia virginiana | Aug-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Old field goldenrod/Gray goldenrod | Solidago nemoralis | Jul-Sept | None | None | None | High | Med | None | None | Sp & Su | Rapid | Med | Med |
| Pale spiked lobelia | Lobelia spicata | May-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Pasqueflower | Pulsatilla patens | Apr-May | - | - | - | - | - | - | - | - | - | - | - |
| Pennsylvania smartweed | Polygonum pennsylvanicum | Jun-Oct | None | None | None | Med | Med | Med | Low | Su | Slow | Low | - |
| Plains coreopsis | Coreopsis tinctoria | Jun-Sept | None | None | None | High | Low | Med | None | Sp & Su | Slow | - | - |
| Prairie / Carolina larkspur | Delphinium carolinianum | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Prairie / downy phlox | Phlox pilosa | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Prairie / Richardson's alumroot | Heuchera richardsonii | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Prairie aster | Symphyotrichum falcatum | Aug-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Prairie blue-eyed grass | Sisyrinchium campestre | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Prairie coneflower | Ratibida columnifera | Jun-Sept | None | None | None | Med | Med | None | Low | Su | Slow | Med | Med |
| Prairie Goldenrod/Upland white aster | Oligoneuron album | Jun-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Prairie Onion | Allium stellatum | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Prairie smoke | Geum triflorum | Apr-Jun | None | None | None | Med | High | None | None | Sp & Su | Slow | Low | Low |
| Prairie spiderwort | Tradescantia occidentalis | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Prairie sunflower | Helianthus petiolaris | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Prairie violet | Viola pedatifida | Apr-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Purple giant hyssop | Agastache scrophulariifolia | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Rocky Mountain bee plant | Cleome serrulata | Jun-Aug | None | None | None | High | Low | None | None | Sp & Su | Slow | - | - |
| Rough blazing star | Liatris aspera | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Sawtooth sunflower | Helianthus grosseserratus | Aug-Oct | None | None | None | High | Med | None | None | Sp, Su, Fall | Slow | Low | High |

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|---------------------------------------|---------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Scarlet globemallow | Sphaeralcea coccinea | Jun-Aug | None | None | None | High | High | None | Medium | Sp & Su | Rapid | Med | Med |
| Shell-leaf penstemon | Penstemon grandiflorus | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Showy goldenrod | Solidago speciosa | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Silky / western silver aster | Symphyotrichum sericeum | Sept-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Sky-blue aster | S. oolentangiense | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Sneezeweed | Helenium autumnale | Aug-Oct | None | None | Severe | High | Low | Low | Low | Sp & Su | Slow | Low | Low |
| Stiff goldenrod | Oligoneuron rigidum | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Stiff sunflower | Helianthus pauciflorus | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Swamp / purplestem aster | S. puniceum | Aug-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Swamp milkweed | Asclepias incarnata | Jun-Sept | None | None | Mod | Low | None | High | None | Sp | Slow | Low | - |
| Sweet cicely / Clayton's sweetroot | Osmorhiza claytonii | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Sweet flag | Acorus americanus | May-Jul | None | None | None | High | None | High | None | Sp & Su | Slow | Low | - |
| Tall / American bellflower | Campanulastrum americanum | Jul-Oct | None | None | None | Med | Low | Med | None | Sp, Su, Fall | Slow | - | - |
| Tall meadow rue | Thalictrum dasycarpum | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Tall thimbleweed | Anemone virginiana | Jun-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Thickspike gayfeather | Liatris pycnostachya | Jul-Sept | None | None | None | Low | Med | None | Low | Su | Slow | Low | Med |
| Water plantain | Alisma subcordatum | | None | None | None | Med | None | High | None | Sp & Su | Slow | - | - |
| Western yarrow | Achillea millefolium | May-Oct | None | Low | Slight | Low | Med | None | Low | Sp | Mod | Low | Med |
| White panicle Aster | S. lanceolatum | Sept-Oct | - | - | - | - | - | - | - | - | - | - | - |
| White snakeroot | Ageratina altissima | Jul-Oct | - | - | - | - | - | - | - | - | - | - | - |
| Whorled Milkweed | Asclepias verticillata | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Wild bergamot | Monarda fistulosa | Jul-Aug | None | None | None | Med | None | High | None | Sp | Slow | Med | Med |
| Wild garlic | Allium canadense | May-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Wild geranium | Geranium maculatum | Apr-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Wild golden glow / cutleaf coneflower | Rudbeckia laciniata | Jul-Oct | None | None | None | Med | High | Low | None | Sp | Mod | High | High |
| Introduced Legumes | | | | | | | | | | | | | |
| Alfalfa | Medicago sativa | Jun-Sept | High | High | None | High | High | None | Low | Sp, Su, Fall | Rapid | High | High |
| Alsike clover | Trifolium hybridum | Jun-Aug | High | High | Slight | Med | Low | High | Low | Sp & Su | Mod | High | High |
| Bird's-foot trefoil | Lotus corniculatus | May-Aug | Med | None | None | Low | Med | Med | High | Sp & Su | Rapid | High | High |
| Cicer milkvetch | Astragalus cicer | Jun-Jul | High | Low | Slight | Med | Med | Low | Medium | Sp & Su | Mod | Med | High |
| Hairy vetch | Vicia villosa | | Med | None | Slight | High | Med | None | Low | Fall & Sp | Slow | High | High |
| Red clover | Trifolium pratense | | Med | High | Slight | High | Low | None | Low | Sp & Su | Mod | High | High |
| Sainfoin (podless) | Onobrychis viciifolia | | Med | None | None | High | Med | None | Medium | Sp & Su | Mod | High | High |
| Strawberry clover | Trifolium fragiferum | | Med | High | Slight | Low | Low | High | High | Sp | Mod | High | High |
| Sweetclover | Melilotus officinalis | | Med | Med | Mod | High | High | Low | High | Sp & Su | Slow | Med | Low |
| White clover | Trifolium repens | | High | Low | Slight | Low | Low | Med | Low | Sp, Su, Fall | Rapid | High | High |
| Native Legumes | | | | | | | | | | | | | |
| American licorice | Glycyrrhiza lepidota | Jun-Aug | Low | None | None | Med | None | High | None | Sp & Su | Slow | - | - |
| American vetch | Vicia americana | May-Aug | Low | None | None | Low | High | None | None | Sp & Su | Mod | High | High |
| Canada milkvetch | Astragalus canadensis | Jun-Aug | Low | None | Slight | Med | Med | Med | None | Sp, Su, Fall | Mod | Low | Low |
| Canada tick trefoil | Desmodium canadense | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Cream / longbract wild indigo | Baptisia bracteata | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Groundplum milkvetch | Astragalus crassicaarpus | May-Jun | - | - | - | - | - | - | - | - | - | - | - |

| SD common name | Scientific Name | Bloom Period ¹ | Nitrogen Fixation ² | Bloat ³ | Toxicity ⁴ | Seedling Vigor ⁵ | Drought Tolerance ⁶ | Anaerobic Tolerance ⁷ | Salinity Tolerance ⁸ | Season of Use ⁹ | Regrowth Rate ¹⁰ | Grazing Pref ¹¹ | Browsing Pref ¹² |
|-------------------------------|------------------------------------|---------------------------|--------------------------------|--------------------|-----------------------|-----------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| Illinois bundleflower | <i>Desmanthus illinoensis</i> | Jul-Aug | Low | None | None | High | Med | None | None | Sp & Su | Mod | High | High |
| Illinois tick trefoil | <i>Desmodium illinoense</i> | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Indian breadroot scurfpea | <i>Pedimelum esculentum</i> | May-Jun | - | - | - | - | - | - | - | - | - | - | - |
| Purple prairie clover | <i>Dalea purpurea</i> | Jul-Sept | - | - | - | - | - | - | - | - | - | - | - |
| Round-headed bush clover | <i>Lespedeza capitata</i> | Aug-Sept | Med | None | None | Low | High | None | None | Su | Slow | Low | Med |
| Showy partridgepea | <i>Chamaecrista fasciculata</i> | Jul-Sept | Med | None | Slight | High | Med | None | None | Sp | - | Med | High |
| White prairie clover | <i>Dalea candida</i> | Jul-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Native Shrubs | | | | | | | | | | | | | |
| Big sagebrush | <i>Artemisia tridentata</i> | Jul-Sept | None | Low | None | Low | High | None | Medium | Sp & Su | - | Low | Low |
| Black currant | <i>Ribes americanum</i> | Apr-May | None | None | None | Med | High | Low | - | - | - | Med | High |
| Chokecherry | <i>Prunus virginiana</i> | May-Jun | None | None | Severe | Med | Med | Med | Medium | Sp & Su | - | Low | High |
| Dwarf indigo | <i>Amorpha nana</i> | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| Early wild rose | <i>Rosa blanda</i> | Jun-Jul | - | - | - | - | - | - | - | - | - | - | - |
| False indigo | <i>Amorpha fruticosa</i> | Jun-Jul | Med | None | Slight | Med | Med | None | Low | Sp & Su | - | Low | Low |
| Four-wing saltbush (dewinged) | <i>Atriplex canescens</i> | - | None | Low | None | High | High | None | High | Sp & Su | - | Med | High |
| Fringed sagewort | <i>Artemisia frigida</i> | Aug-Sept | None | None | None | High | High | Low | Medium | Sp & Fall | - | High | High |
| Gardner's saltbush | <i>Atriplex gardneri</i> | - | None | None | None | Med | High | None | High | Sp & Su | - | Low | High |
| Golden currant | <i>Ribes aureum</i> | Apr-May | None | None | None | High | Med | None | None | Sp & Su | - | Med | High |
| Juneberry | <i>Amelanchier alnifolia</i> | Apr-Jun | None | None | None | High | Low | None | Low | Sp & Su | - | Low | Med |
| Leadplant | <i>Amorpha canescens</i> | Jun-Aug | Med | None | None | Med | High | None | Low | Sp & Su | - | Low | High |
| Prairie cinquefoil | <i>Potentilla arguta</i> | Jul-Sept | None | None | None | Low | Low | Med | None | Sp & Su | - | Low | Low |
| Prairie rose | <i>Rosa arkansana</i> | May-Aug | - | - | - | - | - | - | - | - | - | - | - |
| Redosier dogwood | <i>Cornus sericea</i> | - | - | - | - | - | - | - | - | - | - | - | - |
| Rubber rabbitbrush | <i>Ericameria nauseosa</i> | Jul-Oct | None | - | Slight | High | High | - | Medium | Sp & Su | - | Low | High |
| Sand sagebrush | <i>Artemisia filifolia</i> | | - | - | - | - | - | - | - | - | - | - | - |
| Silver buffaloberry | <i>Shepherdia argentea</i> | May-Jun | Med | None | None | Med | Med | None | High | Sp & Su | - | Low | Med |
| Silver sagebrush | <i>Artemisia cana</i> | Aug-Sept | None | None | None | Med | High | None | Low | Sp, Su, Fall | - | Low | Med |
| Western snowberry | <i>Symphoricarpos occidentalis</i> | Jun-Jul | None | None | None | Low | High | None | Low | Sp | - | Low | High |
| Wild plum | <i>Prunus americana</i> | Apr-May | None | None | Slight | High | None | Med | Low | Sp & Su | - | Low | Med |
| Winterfat | <i>Krascheninnikovia lanata</i> | Jun-Jul | None | None | None | High | High | None | High | Su | - | High | High |

Dashes (-) : No rating available at this time. Sp = Spring and Su = Summer.

1. Bloom Period: The months that the plant typically blooms. The bloom period is defined as the time when pollen is shed, and stigmas are receptive.

2. Nitrogen fixation: If the plant fixes nitrogen, and the rate of fixation.

3. Bloat: The relative potential of an herbaceous plant to cause bloat in livestock.

4. Toxicity: The relative toxicity of the plant to either humans or livestock.

5. Seedling Vigor: The expected seedling survival percentage of the plant compared to other species with the same growth habit.

6. Drought Tolerance: The relative tolerance of the plant to drought conditions compared to other species with the same growth habit from the same geographical region.

7. Anaerobic Tolerance: The relative tolerance of the plant to anaerobic (flood, compacted) soil conditions.

8. Salinity Tolerance: The plant's tolerance to soil salinity. Tolerance to a soil salinity level is defined as only a slight reduction (not greater than 10%) in plant growth. None = tolerant to a soil with an electrical conductivity of the soil solution extract of 0-2 dS/m; Low = tolerant to 2.1-4.0 dS/m; Medium = tolerant to 4.1-8.0 dS/m; High = tolerant to greater than 8.0 dS/m.

9. Season of Use: The season when plants have their most active growth.

10. Regrowth Rate: The relative rate of regrowth of an herbaceous plant after a harvest of aboveground herbage. Woody plants are left blank here.

11. Grazing Preference: The relative palatability of this plant for grazing animals.

12. Browsing Preference: The relative palatability of this plant for browsing animals.

TABLE 4. SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 53B

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | G | | F | | G | G | F | | | G | F | | |
| Basin wildrye | | | F | | F | F | | | | F | | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | G | | G | G | F | G | | F | F | F | |
| Creeping foxtail | | | | | | F | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | G | G | | G | |
| Dahurian wildrye | G | F | G | F | G | G | | F | | G | F | F | |
| Desert wheatgrass | G | F | G | G | G | G | | F | G | G | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | G | F | | |
| Green wheatgrass* | G | F | G | F | G | G | G | F | F | G | G | F | |
| Intermediate/Pubescent wheatgrass | G | | F | F | G | G | | F | F | G | F | F | |
| Meadow brome | G | | F | | G | G | | | | G | G | F | |
| Reed canarygrass | | | | | | F | | | | | F | | G |
| Russian wildrye | G | F | G | F | G | F | F | F | F | G | | | |
| Siberian wheatgrass | | | F | G | | | | G | | F | | G | |
| Slender wheatgrass | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Smooth brome | G | | F | G | G | G | | | | G | G | F | |
| Tall wheatgrass | G | F | F | | G | F | G | | | F | G | | G |
| Western wheatgrass | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | F | | F | | G | G | | | | F | G | | |
| Blue grama | G | F | G | G | G | F | | F | G | G | | G | |
| Indiangrass | | | | | F | F | | | | | F | | |
| Little bluestem | F | | G | G | G | F | | G | G | G | G | G | |
| Prairie cordgrass | | | | | | | | | | | | | G |
| Prairie sandreed | | | G | G | F | | | G | G | G | | F | |
| Sand bluestem | | | G | | | | | G | G | | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | G | | F | |
| Switchgrass | F | | F | | G | G | F | | | F | G | | G |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | F | G | G | F | |
| Alsike clover | | | | | | F | F | | | | F | | G |
| American vetch | F | | G | G | G | G | | F | | G | F | F | |
| Canada milkvetch | F | | F | F | G | G | | F | | G | G | | |
| Cicer milkvetch | F | | G | F | G | G | | F | | G | F | | |
| Hairy vetch | | F | F | F | G | G | | | | F | F | | |
| Purple prairieclover | F | | G | F | G | F | | G | G | G | | G | |
| Sainfoin (podless) | | | G | F | F | | | F | | F | | F | |
| Sweetclover | G | F | G | F | G | G | F | F | F | G | G | F | F |
| White clover | F | | | | F | G | | | | | F | | |
| White prairieclover | F | | G | F | G | F | | G | G | G | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA .

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 53C**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | | | | | | | G |
| Altai wildrye | F | | F | | F | F | | F | | | F | | |
| Beardless wildrye | | F | | | | | | | | | | | |
| Canada wildrye | | | F | | F | G | | G | | | F | | |
| Creeping foxtail | | | | | | F | | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | F | | | F | |
| Desert wheatgrass | G | F | G | G | G | G | | F | F | | | F | |
| Green needlegrass | G | F | G | F | G | G | | F | F | | F | F | |
| Green wheatgrass* | G | F | G | F | G | G | | G | F | | G | F | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | | G | F | | F | F | |
| Meadow brome | G | | G | F | G | G | | G | | | G | | F |
| Reed canarygrass | | | | | | F | | | | | G | | G |
| Russian wildrye | G | F | G | F | G | G | | F | F | | | F | |
| Slender wheatgrass | G | F | G | F | G | G | | F | F | | G | F | |
| Smooth brome | G | F | G | | G | G | | F | F | | G | F | |
| Tall wheatgrass | G | G | G | | G | G | | F | | | G | | |
| Western wheatgrass | G | G | G | F | G | G | | F | F | | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | G | | F | F | G | G | | F | | | G | | |
| Indiangrass | F | | F | | G | G | | F | | | G | | |
| Little bluestem | F | | G | G | G | G | | G | F | | G | F | |
| Prairie sandreed | | | F | F | F | | | G | F | | | F | |
| Sand bluestem | | | F | | F | F | | G | F | | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | | | F | |
| Switchgrass | G | | F | | G | G | | F | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | | F | | |
| Alsike clover | | | | | | | | | | | F | | |
| Bird's-foot trefoil | F | | F | | F | G | | | | | G | | |
| Canada milkvetch | F | | F | | G | G | | F | | | F | | |
| Cicer milkvetch | F | | G | | G | G | | G | | | F | | |
| Purple prairieclover | | | G | G | G | F | | G | G | | | G | |
| Sainfoin (podless) | | | F | F | F | F | | F | | | | | |
| White prairieclover | F | | G | F | G | F | | G | G | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 54**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | F | | F | | G | G | F | | | G | | | |
| Basin wildrye | | | F | | F | F | | | | F | | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | G | | G | G | F | G | | F | F | F | |
| Creeping foxtail | | | | | | | F | | | | | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | F | G | G | G | |
| Dahurian wildrye | G | F | G | F | G | G | | F | | G | | F | |
| Desert wheatgrass | G | F | G | G | G | G | | F | F | G | G | G | |
| Green needlegrass | G | | G | F | G | G | | | | G | F | | |
| Green wheatgrass* | G | F | G | F | G | G | G | F | | G | F | F | |
| Intermediate/Pubescent wheatgrass | F | F | F | F | G | G | | F | | G | F | F | |
| Meadow brome | F | | F | | G | G | | | | F | F | | |
| Reed canarygrass | | | | | | F | | | | | | | G |
| Russian wildrye | G | F | G | F | G | G | F | F | | G | F | | |
| Siberian wheatgrass | F | | G | G | F | | | G | F | F | | G | |
| Slender wheatgrass | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Smooth brome | F | | F | F | G | G | | | | G | F | F | |
| Tall wheatgrass | F | F | F | | F | G | G | | | F | G | | G |
| Western wheatgrass | G | G | G | G | G | G | G | F | F | G | G | F | G |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | | | F | | G | G | | | | F | G | | |
| Blue grama | G | F | G | G | G | F | | F | F | G | | G | |
| Little bluestem | F | | G | G | G | F | | G | F | G | G | F | |
| Prairie cordgrass | | | | | | | | | | | | | G |
| Prairie sandreed | | | G | G | F | | | G | F | G | | F | |
| Sand bluestem | | | G | F | | | | G | F | F | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | G | | F | |
| Switchgrass | F | | F | | G | G | F | | | F | G | | G |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | G | G | F | |
| Alsike clover | | | | | | | F | | | | | | F |
| American vetch | F | | G | F | G | G | | F | | G | F | F | |
| Canada milkvetch | F | | F | F | G | G | | F | | G | F | | |
| Cicer milkvetch | F | | G | | G | G | | F | | G | F | | |
| Hairy vetch | | F | F | | F | F | | | | G | F | | |
| Purple prairieclover | F | | G | F | G | F | | F | F | G | | G | |
| Sainfoin (podless) | | | G | F | F | F | | F | | F | | F | |
| Sweetclover | G | F | G | F | G | G | F | F | F | G | G | F | F |
| White clover | F | | | | F | G | | | | F | | | |
| White prairieclover | F | | G | F | G | F | | F | F | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 55B**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | F | | F | | F | F | F | F | | F | F | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | F | | F | G | F | G | | F | F | | |
| Creeping foxtail | | | | | | F | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | F | G | | F | |
| Dahurian wildrye | G | F | F | F | G | G | | F | | | F | F | F |
| Desert wheatgrass | G | F | G | G | G | G | | F | F | G | | F | |
| Green needlegrass | G | F | G | F | G | G | | F | F | G | F | F | |
| Green wheatgrass* | G | F | G | G | G | G | G | G | F | G | G | F | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | | G | F | G | F | F | |
| Meadow brome | G | | G | F | G | G | | G | | G | G | | F |
| Reed canarygrass | | | | | | F | | | | | G | | G |
| Russian wildrye | G | F | G | F | G | G | F | F | F | G | | F | |
| Slender wheatgrass | G | F | G | F | G | G | G | F | F | G | G | F | |
| Smooth brome | G | F | G | | G | G | | F | F | G | G | F | |
| Tall wheatgrass | G | G | G | | G | G | G | F | | G | G | | |
| Western wheatgrass | G | G | G | F | G | G | G | F | F | G | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | F | F | G | G | | F | | F | G | | |
| Blue grama | G | F | G | G | G | F | | F | F | G | | F | |
| Indiangrass | F | | F | | G | G | | F | | F | G | | |
| Little bluestem | F | | G | G | G | G | | G | F | G | G | F | |
| Prairie cordgrass | | | | | | | F | | | | | | G |
| Prairie sandreed | | | F | F | F | | | G | F | F | | F | |
| Sand bluestem | | | F | | F | F | | G | F | F | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | G | | F | |
| Switchgrass | G | | F | | G | G | | F | | F | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | G | F | | |
| Alsike clover | | | | | | | F | | | | F | | |
| American vetch | F | | F | G | G | G | | F | | F | | F | |
| Bird's-foot trefoil | F | | F | | F | G | F | | | F | G | | |
| Canada milkvetch | F | | F | | G | G | | F | | F | F | | |
| Cicer milkvetch | F | | G | | G | G | | G | | G | F | | |
| Hairy vetch | F | F | F | F | G | G | | | | | F | | |
| Purple prairieclover | | | G | G | G | F | | G | G | G | | G | |
| Red clover | G | | F | | G | G | | | | F | | | |
| Sainfoin (podless) | | | F | F | F | F | | F | | F | | | |
| Strawberry clover | | | | | F | | G | | | | | | F |
| Sweetclover | G | F | G | F | G | G | F | F | F | G | F | F | |
| White clover | G | | | | G | G | | | | | F | | |
| White prairieclover | F | | G | F | G | F | | G | G | G | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 55C**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | F | | F | | F | F | F | F | | | F | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | F | | F | G | F | G | | | F | | |
| Creeping foxtail | | | | | | F | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | F | | | F | |
| Desert wheatgrass | G | F | G | G | G | G | | F | F | | | F | |
| Green needlegrass | G | F | G | F | G | G | | F | F | | F | F | |
| Green wheatgrass* | G | F | G | G | G | G | G | G | F | | G | F | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | | G | F | | F | F | |
| Meadow brome | G | | G | F | G | G | | G | | | G | | F |
| Orchardgrass | F | | G | F | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | F | | | | | G | | G |
| Russian wildrye | G | F | G | F | G | G | F | F | F | | | F | |
| Slender wheatgrass | G | F | G | F | G | G | G | F | F | | G | F | |
| Smooth brome | G | F | G | | G | G | | F | F | | G | F | |
| Tall fescue | G | F | G | | G | G | F | | | | G | | |
| Tall wheatgrass | G | G | G | | G | G | G | F | | | G | | |
| Timothy | F | | F | F | G | G | | | | | F | | |
| Western wheatgrass | G | G | G | F | G | G | G | F | F | | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | F | F | G | G | | F | | | G | | |
| Blue grama | G | F | G | G | G | F | | F | | | G | | |
| Indiangrass | F | | F | | G | G | | F | | | G | | |
| Little bluestem | F | | G | G | G | G | | G | F | | G | F | |
| Prairie sandreed | | | F | F | F | | | G | F | | | F | |
| Sand bluestem | | | F | | F | F | | G | F | | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | | | F | |
| Switchgrass | G | | F | | G | G | | F | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | | F | | |
| Alsike clover | | | | | | | F | | | | F | | |
| Bird's-foot trefoil | F | | F | | F | G | F | | | | G | | |
| Canada milkvetch | F | | F | | G | G | | F | | | F | | |
| Cicer milkvetch | F | | G | | G | G | | G | | | F | | |
| Purple prairieclover | | | G | G | G | F | | G | G | | | G | |
| Red clover | G | | F | | G | G | | | | | | | |
| Sainfoin (podless) | | | F | F | F | F | | F | | | | | |
| Sweetclover | G | F | G | F | G | G | F | F | F | | F | F | |
| White prairieclover | F | | G | F | G | F | | G | G | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 56**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | F |
| Altai wildrye | F | | F | | F | F | F | F | | | F | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | F | | F | G | F | G | | | F | | |
| Creeping foxtail | | | | | | F | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | F | F | | | F | |
| Dahurian wildrye | G | F | F | F | G | G | | F | | | F | F | F |
| Green needlegrass | G | F | G | F | G | G | | F | F | | F | F | |
| Green wheatgrass* | G | F | G | G | G | G | G | G | F | | G | F | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | | G | F | | F | F | |
| Meadow brome | G | | G | F | G | G | | G | | | G | | F |
| Orchardgrass | F | | G | F | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | F | | | | | G | | G |
| Russian wildrye | G | F | G | F | G | G | F | F | F | | | F | |
| Slender wheatgrass | G | F | G | F | G | G | G | F | F | | G | F | |
| Smooth brome | G | F | G | | G | G | | F | F | | G | F | |
| Tall fescue | G | F | G | | G | G | F | | | | G | | |
| Tall wheatgrass | G | G | G | | G | G | G | F | | | G | | |
| Timothy | F | | F | F | F | G | | | | | F | | |
| Western wheatgrass | G | G | G | F | G | G | G | F | F | | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | F | F | G | G | | F | | | G | | |
| Blue grama | G | F | G | G | G | F | | F | F | | | F | |
| Indiangrass | F | | F | | G | G | | F | | | G | | |
| Little bluestem | F | | G | G | G | G | | G | F | | G | F | |
| Prairie cordgrass | | | | | | | F | | | | | | G |
| Prairie sandreed | | | F | F | F | | | G | F | | | F | |
| Sand bluestem | | | F | | F | F | | G | F | | | F | |
| Sideoats grama | F | | G | G | G | G | | F | F | | | F | |
| Switchgrass | G | | F | | G | G | | F | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | | F | | |
| Alsike clover | | | | | | | F | | | | F | | |
| Bird's-foot trefoil | F | | F | | F | G | F | | | | G | | |
| Canada milkvetch | F | | F | | G | G | | F | | | F | | |
| Cicer milkvetch | F | | G | | G | G | | G | | | F | | |
| Hairy vetch | F | F | F | F | G | G | | | | | F | | |
| Purple prairieclover | | | G | G | G | F | | G | G | | | G | |
| Red clover | G | | F | | G | G | | | | | | | |
| Sweetclover | G | F | G | F | G | G | F | F | F | | G | | F |
| White clover | G | | | | G | G | | | | | F | | |
| White prairieclover | F | | G | F | G | F | | G | G | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 58D**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Altai wildrye | F | | G | F | G | G | F | F | | | | F | |
| Basin wildrye | | | G | | G | G | F | | | | | F | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Creeping foxtail | | | | | | | | | | | | | G |
| Crested wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Desert wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | | F | |
| Green wheatgrass* | | F | F | F | | | G | F | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | F | F | G | G | F | F | | | | F | |
| Meadow brome | F | | | | F | F | | | | | | | |
| Nuttall's alkaligrass | | | | | | | G | | | | | | |
| Reed canarygrass | | | | | | | | | | | | | G |
| Russian wildrye | G | F | G | G | G | | F | | | | | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | F | F | F | | F | F | | | | | | | |
| Tall wheatgrass | | G | F | | F | | G | | | | | | F |
| Thickspike wheatgrass | F | | G | G | G | F | F | F | | | | G | |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | F | | | F | F | F | | F | | | | | |
| Indiangrass | | | | F | | | | | | | | | |
| Little bluestem | F | | G | G | G | G | | G | | | | G | |
| Prairie sandreed | | | F | F | F | | | G | | | | F | |
| Sand bluestem | | | F | | F | | | G | | | | F | |
| Sideoats grama | G | | G | G | G | F | | F | | | | G | |
| Switchgrass | F | | | | F | F | | F | | | | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | | | G | |
| Alsike clover | | | | | | | F | | | | | | F |
| Canada milkvetch | F | | | | F | F | | | | | | | |
| Cicer milkvetch | G | | G | G | G | G | F | G | | | | G | |
| Purple prairieclover | F | | G | F | F | F | | F | | | | G | |
| Sainfoin (podless) | F | | F | F | F | F | | | | | | F | |
| White prairieclover | F | | G | F | F | F | | F | | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 60A

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Altai wildrye | F | | G | F | G | G | F | F | | | | F | |
| Basin wildrye | | | G | | G | G | F | | | | | F | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Creeping foxtail | | | | | | | | | | | | | G |
| Crested wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Desert wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | | F | |
| Green wheatgrass* | | F | F | F | | | G | F | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | F | F | G | G | F | F | | | | F | |
| Meadow brome | F | | | | F | F | | | | | | | |
| Nuttall's alkaligrass | | | | | | | G | | | | | | |
| Reed canarygrass | | | | | | | | | | | | | G |
| Russian wildrye | G | F | G | G | G | | F | | | | | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | F | F | F | | F | F | | | | | | | |
| Tall wheatgrass | | G | F | | F | | G | | | | | | F |
| Thickspike wheatgrass | F | | G | G | G | F | F | F | | | | G | |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | F | | | F | | F | | F | | | | | |
| Little bluestem | F | | G | G | G | G | | G | | | | G | |
| Prairie sandreed | | | F | F | F | | | G | | | | F | |
| Sand bluestem | | | F | | F | | | G | | | | F | |
| Sand lovegrass | | | F | | | | | F | | | | | |
| Sideoats grama | G | | G | G | G | F | | F | | | | G | |
| Switchgrass | F | | | | F | F | | F | | | | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | | | G | |
| Alsike clover | | | | | F | | F | | | | | | F |
| Canada milkvetch | F | | | | F | F | | | | | | | |
| Cicer milkvetch | G | | G | G | G | G | F | G | | | | G | |
| Purple prairieclover | F | | G | F | F | F | | F | | | | G | |
| Sainfoin (podless) | F | | F | F | F | F | | | | | | F | |
| White prairieclover | F | | G | F | F | F | | F | | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 61

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Altai wildrye | F | | G | F | G | G | F | F | | | | F | |
| Basin wildrye | | | G | | G | G | | | | | | F | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | | | | | F | | | | | | |
| Creeping foxtail | | | | | | | F | | | | | | G |
| Crested wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Desert wheatgrass | G | F | G | G | G | G | | G | | | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | | F | |
| Green wheatgrass* | | F | F | F | | | G | F | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | F | F | G | G | | F | | | | F | |
| Meadow brome | F | | | | G | G | | | | | | | |
| Reed canarygrass | | | | | | | | | | | | | G |
| Russian wildrye | G | F | G | G | G | | F | | | | | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | F | | F | | G | G | | | | | | | |
| Tall wheatgrass | | G | F | | F | | G | | | | | | F |
| Thickspike wheatgrass | F | | G | G | G | F | | F | | | | G | |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | F | | | G | F | F | | F | | | | | |
| Little bluestem | F | | G | G | G | G | | G | | | | G | |
| Prairie sandreed | | | F | F | F | | | G | | | | F | |
| Sand bluestem | | | F | | F | | | G | | | | F | |
| Sand lovegrass | | | F | | | | | F | | | | | |
| Sideoats grama | G | | G | G | G | F | | F | | | | G | |
| Switchgrass | F | | | | F | F | | F | | | | | F |
| Legumes/Forbs | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | | G | | | | G | |
| Alsike clover | | | | | F | | | | | | | | F |
| Canada milkvetch | F | | | | F | F | | | | | | | |
| Cicer milkvetch | G | | G | G | G | G | | G | | | | G | |
| Purple prairieclover | F | | G | F | F | F | | F | | | | G | |
| Sainfoin (podless) | | | F | F | F | F | | | | | | F | |
| White prairieclover | F | | G | F | F | F | | F | | | | G | |
| Small burnet | G | | F | | G | | | | | | | | F |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 62

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-Season Grasses | | | | | | | | | | | | | |
| Creeping Foxtail | | | | | | | | | | | | | G |
| Crested Wheatgrass | G | | G | G | F | | | F | | | | F | |
| Green Needlegrass | G | | G | F | G | | | F | | | | F | |
| Green Wheatgrass* | | | | F | | | | | | | | | |
| Intermediate/Pubescent wheatgrass | G | | F | F | F | | | F | | | | F | |
| Meadow Brome | F | | F | | F | | | | | | | | |
| Mountain Brome | G | | G | | G | | | | | | | | |
| Orchardgrass | F | | F | F | G | | | | | | | F | |
| Reed Canarygrass | | | | | | | | | | | | | G |
| Smooth Brome | G | | F | | G | | | | | | | | |
| Tall Wheatgrass | F | | | | F | | | | | | | | |
| Timothy | G | | F | F | G | | | | | | | | |
| Western Wheatgrass | G | | G | G | G | | | F | | | | F | F |
| Warm-Season Grasses | | | | | | | | | | | | | |
| Big Bluestem | F | | | F | F | | | | | | | | |
| Little Bluestem | F | | F | G | F | | | | | | | | |
| Sideoats Grama | | | F | G | | | | | | | | | |
| Switchgrass | | | | | | | | | | | | | F |
| Legumes | | | | | | | | | | | | | |
| Alsike Clover | G | | F | | G | | | | | | | | G |
| Canada Milkvetch | G | | G | | G | | | | | | | | |
| Cicer Milkvetch | G | | G | G | G | | | F | | | | F | F |
| Illinois Bundleflower | G | | F | | G | | | | | | | | |
| Purple Prairieclover | G | | G | F | G | | | | | | | | |
| Red Clover | G | | F | | G | | | | | | | | G |
| Sainfoin (Podless) | G | | G | F | G | | | F | | | | F | F |
| White Prairieclover | G | | G | F | G | | | G | | | | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 63A**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | G | | G | | G | G | F | F | | F | G | | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | | | F | | F | G | F | G | | F | F | | |
| Creeping foxtail | | | | | | F | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | G | F | G | | F | |
| Desert wheatgrass | G | F | G | G | G | G | | G | F | G | | F | |
| Green needlegrass | G | F | G | F | G | G | | F | F | G | F | F | |
| Green wheatgrass* | G | | | F | G | G | G | | F | G | G | F | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | | F | F | G | F | F | |
| Meadow brome | F | | F | F | G | G | | F | | G | G | | F |
| Reed canarygrass | | | | | | F | | | | | F | | G |
| Russian wildrye | G | F | G | F | G | G | F | F | F | G | | F | |
| Slender wheatgrass | G | F | G | F | G | G | G | F | F | G | G | F | |
| Smooth brome | F | F | F | | G | G | | F | F | G | G | F | |
| Tall wheatgrass | G | G | G | | G | G | G | F | | G | G | | |
| Western wheatgrass | G | G | G | F | G | G | G | F | F | G | G | F | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | F | F | G | G | | F | | F | G | | |
| Indiangrass | F | | F | | G | G | | F | | F | G | | |
| Little bluestem | G | | G | G | G | G | | G | F | G | G | F | |
| Prairie sandreed | | | F | F | F | | | G | F | F | | F | |
| Sand bluestem | | | F | | F | F | | G | F | F | | F | |
| Sideoats grama | G | | G | G | G | G | | F | F | G | | F | |
| Switchgrass | G | | F | | G | G | | F | | F | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | | F | | G | F | | |
| Alsike clover | | | | | | | F | | | | F | | |
| Bird's-foot trefoil | F | | F | | F | F | F | | | F | G | | |
| Canada milkvetch | F | | F | | F | G | | F | | F | F | | |
| Cicer milkvetch | F | | G | G | G | G | | G | | G | G | | |
| Purple prairieclover | | | G | G | F | F | | F | G | G | F | G | |
| Sainfoin (podless) | | | F | F | F | F | | F | | F | F | | |
| Sweetclover | G | F | G | F | G | G | F | F | F | G | F | F | |
| White prairieclover | F | | G | F | F | F | | G | G | G | F | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 63B**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Creeping foxtail | | | | | | | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | | | F | | | | G | |
| Desert wheatgrass | G | F | G | G | G | | | F | | | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | F | G | |
| Green wheatgrass* | | F | | F | | | G | | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | F | F | | | G | F | |
| Meadow brome | G | | G | F | G | G | | | | | G | F | |
| Nuttall's alkaligrass | | | | | | | G | | | | | | |
| Orchardgrass | F | | G | F | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | | F | | | | G | | G |
| Russian wildrye | G | F | G | F | G | | F | | | | | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | G | F | G | F | G | G | | F | | | G | F | |
| Tall wheatgrass | F | G | F | | G | G | G | | | | G | | F |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | G | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | G | G | G | G | | G | | | G | F | |
| Indiangrass | G | | F | F | G | G | | G | | | G | | |
| Little bluestem | G | | G | G | G | G | | G | | | G | G | |
| Prairie sandreed | | | F | F | F | F | | G | | | | | |
| Sand bluestem | | | F | | F | F | | G | | | | | |
| Sand lovegrass | | | | | | | | F | | | | | |
| Sideoats grama | G | | G | G | F | F | | F | | | | G | |
| Switchgrass | G | | F | F | G | G | F | G | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | | F | G | |
| Alsike clover | | | | | | | F | | | | G | | F |
| Bird's-foot trefoil | F | | | | F | G | F | | | | G | | |
| Canada milkvetch | F | | | | F | G | | | | | F | | |
| Cicer milkvetch | G | | G | G | G | G | F | F | | | F | G | |
| Illinois bundleflower | F | | | | F | G | | F | | | F | | |
| Purple prairieclover | F | | G | G | F | F | | F | | | F | G | |
| Red clover | F | | F | | F | G | | | | | G | | |
| Sainfoin (podless) | | | G | F | F | | | F | | | | F | |
| White prairieclover | F | | F | F | F | F | | | | | F | F | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 64**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Altai wildrye | F | | G | F | G | G | F | F | | | G | F | |
| Basin wildrye | | | G | | G | G | F | | | | G | F | |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Creeping foxtail | | | | | | | | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | G | | G | | | G | G | |
| Desert wheatgrass | G | F | G | G | G | G | | G | | | G | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | F | F | |
| Green wheatgrass* | | F | F | F | | | G | F | | | F | | |
| Intermediate/Pubescent wheatgrass | G | F | F | F | G | G | F | F | | | G | F | |
| Meadow brome | F | | | | F | F | | | | | G | | |
| Nuttall's alkaligrass | | | | | | | G | | | | | | |
| Reed canarygrass | | | | | | | | | | | | | G |
| Russian wildrye | G | F | G | G | G | | F | | | | G | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | F | F | F | | F | F | | | | | G | | |
| Tall wheatgrass | | G | F | | F | | G | | | | G | | F |
| Thickspike wheatgrass | F | | G | G | G | F | F | F | | | F | G | |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | G | G | F |
| Alkali sacaton | | | | | | | F | | | | | | |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | F | | | F | F | F | | F | | | G | | |
| Indiangrass | | | | F | | | | | | | | | |
| Little bluestem | F | | G | G | G | G | | G | | | G | G | |
| Prairie sandreed | | | F | F | F | | | G | | | | F | |
| Sand bluestem | | | F | | F | | | G | | | | F | |
| Sand lovegrass | | | F | | | | | F | | | | | |
| Sideoats grama | G | | G | G | G | F | | F | | | | G | |
| Switchgrass | F | | | | F | F | | F | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | | F | G | |
| Alsike clover | | | | | | | F | | | | F | | F |
| Bird's-foot trefoil | | | | | | | | | | | F | | |
| Canada milkvetch | F | | | | F | F | | | | | F | | |
| Cicer milkvetch | G | | G | G | G | G | F | G | | | G | G | |
| Purple prairieclover | F | | G | F | F | F | | F | | | F | G | |
| Red clover | | | | | | | | | | | F | | |
| Sainfoin (podless) | F | | F | F | F | F | | | | | F | F | |
| White prairieclover | F | | G | F | F | F | | F | | | F | G | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 65

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Creeping foxtail | | | | | | | | | | | F | | G |
| Crested wheatgrass | | | G | | G | | | G | | | | | |
| Desert wheatgrass | | | G | | G | | | G | | | | | |
| Green needlegrass | | | G | | G | | | | | | F | | |
| Intermediate/Pubescent wheatgrass | | | G | | G | | | F | | | G | | |
| Meadow brome | | | F | | G | | | | | | G | | |
| Orchardgrass | | | | | F | | | | | | F | | |
| Reed canarygrass | | | | | | | | | | | F | | G |
| Russian wildrye | | | G | | G | | | | | | | | |
| Smooth brome | | | F | | G | | | F | | | G | | |
| Tall wheatgrass | | | | | F | | | | | | G | | F |
| Western wheatgrass | | | G | | G | | | F | | | G | | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | | | G | | G | | | F | | | G | | |
| Indiangrass | | | F | | G | | | F | | | G | | |
| Little bluestem | | | G | | G | | | G | | | G | | |
| Prairie sandreed | | | G | | F | | | G | | | | | |
| Sand bluestem | | | G | | F | | | G | | | | | |
| Sand lovegrass | | | F | | | | | F | | | | | |
| Sideoats grama | | | G | | F | | | F | | | | | |
| Switchgrass | | | F | | G | | | F | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | | | G | | G | | | G | | | F | | |
| Alsike clover | | | | | | | | | | | G | | F |
| Bird's-foot trefoil | | | | | F | | | | | | G | | |
| Canada milkvetch | | | | | F | | | | | | F | | |
| Cicer milkvetch | | | G | | G | | | G | | | G | | |
| Purple prairieclover | | | G | | F | | | F | | | F | | |
| Red clover | | | | | F | | | | | | G | | |
| Sainfoin (podless) | | | F | | F | | | | | | F | | |
| White prairieclover | | | F | | F | | | | | | F | | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 66**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Creeping foxtail | | | | | | | F | | | | F | | G |
| Crested wheatgrass | G | F | G | G | G | | | F | | | | G | |
| Desert wheatgrass | G | F | G | G | G | | | F | | | | G | |
| Green needlegrass | G | F | G | F | G | G | | | | | F | G | |
| Green wheatgrass* | | F | | F | | | G | | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | F | F | | | G | F | |
| Meadow brome | G | | G | F | G | G | | | | | G | F | |
| Nuttall's alkaligrass | | | | | | | G | | | | | | |
| Orchardgrass | F | | G | | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | | F | | | | G | | G |
| Russian wildrye | G | F | G | F | G | | F | | | | | G | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | G | F | G | F | G | G | | F | | | G | F | |
| Tall wheatgrass | F | G | F | | G | G | G | | | | G | | F |
| Western wheatgrass | G | G | G | G | G | G | G | F | | | G | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Big bluestem | G | | G | G | G | G | | G | | | G | F | |
| Indiangrass | G | | F | F | G | G | | G | | | G | | |
| Little bluestem | G | | G | G | G | G | | G | | | G | G | |
| Prairie sandreed | | | F | F | F | F | | G | | | | | |
| Sand bluestem | | | F | | F | F | | G | | | | | |
| Sand lovegrass | | | | | | | | F | | | | | |
| Sideoats grama | G | | G | G | F | F | | F | | | | G | |
| Switchgrass | G | | F | F | G | G | F | G | | | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | | F | G | |
| Alsike clover | | | | | | | F | | | | G | | F |
| Bird's-foot trefoil | F | | | | F | G | F | | | | G | | |
| Canada milkvetch | F | | | | F | G | | | | | F | | |
| Cicer milkvetch | G | | G | G | G | G | F | F | | | F | G | |
| Illinois bundleflower | F | | | | F | G | | F | | | F | | |
| Purple prairieclover | F | | G | G | F | F | | F | | | F | G | |
| Red clover | F | | F | | F | G | | | | | G | | |
| Sainfoin (podless) | | | G | | F | | | F | | | | F | |
| White prairieclover | F | | F | F | F | F | | | | | F | F | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 102A & 102B

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | F | | | | F | F | | | | | F | | |
| Creeping foxtail | | | | | | | F | | | | F | | G |
| Crested wheatgrass | | F | | | | | | | F | | | | |
| Desert wheatgrass | | F | | | | | | | F | | | | |
| Green needlegrass | G | F | G | F | G | G | | | F | | F | G | |
| Green wheatgrass* | | F | | F | | | G | | F | | | | |
| Intermediate/Pubescent wheatgrass | G | F | G | G | G | G | F | F | F | G | G | F | |
| Meadow brome | G | | G | F | G | G | | | | | G | F | |
| Orchardgrass | F | | G | F | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | | F | | | | G | | G |
| Russian wildrye | | F | | | | | | | F | | | | |
| Slender wheatgrass | | F | | | | | G | | F | | | | |
| Smooth brome | G | F | G | F | G | G | | F | F | G | G | F | |
| Tall fescue | G | F | G | | G | G | F | | | | G | | |
| Tall wheatgrass | F | G | F | | G | G | G | | | F | G | | F |
| Timothy | F | | F | F | G | G | | | | | F | | |
| Virginia wildrye | F | | | | F | F | | | | | F | | |
| Western wheatgrass | F | G | G | G | F | F | G | F | F | G | F | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | G | G | G | G | | G | | G | G | F | |
| Indiangrass | F | | F | F | G | G | | G | | G | G | | |
| Little bluestem | F | | G | G | F | F | | G | F | F | F | G | |
| Prairie cordgrass | | | | | | | F | | | | | | G |
| Prairie sandreed | | | F | F | F | F | | G | F | | | | |
| Sand bluestem | | | F | | F | F | | G | F | | | | |
| Sand lovegrass | | | | | | | | F | | | | | |
| Sideoats grama | F | | G | G | F | F | | F | F | G | | G | |
| Switchgrass | G | | F | F | G | G | F | G | | G | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | G | F | G | |
| Alsike clover | | | | | | | F | | | | G | | F |
| Bird's-foot trefoil | F | | F | F | G | G | F | | | | G | | |
| Canada milkvetch | F | | | | F | G | | | | | F | | |
| Cicer milkvetch | G | | G | G | G | G | F | F | | G | F | G | |
| Illinois bundleflower | F | | | | F | G | | | | F | F | | |
| Purple prairie clover | F | | G | G | F | F | | F | G | G | F | G | |
| Red clover | F | | F | F | F | G | | | | | G | | |
| Sweetclover | | F | | | | | | | F | | | | |
| White prairie clover | F | | F | F | F | F | | | G | G | F | F | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 4
SPECIES ADAPTABILITY BY FORAGE SUITABILITY GROUPS
MLRA 102C**

| SD common name | Clayey Subsoil | Clay-pan | Droughty Loam | Limy Upland | Loam | Over-flow | Saline | Sand | Shallow | Steep Loam | Sub-irrigated | Very Droughty Loam | Wet |
|-----------------------------------|----------------|----------|---------------|-------------|------|-----------|--------|------|---------|------------|---------------|--------------------|-----|
| Cool-season Grasses | | | | | | | | | | | | | |
| Alkaligrass | | | | | | | G | | | | | | G |
| Beardless wildrye | | F | | | | | G | | | | | | |
| Canada wildrye | F | | | | F | F | | | | | F | | |
| Creeping foxtail | | | | | | | F | | | | F | | G |
| Crested wheatgrass | | F | | | | | | | | | | | |
| Desert wheatgrass | | F | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | | | | | | G | |
| Green wheatgrass* | | F | | F | | | G | | | | | | |
| Intermediate/Pubescent wheatgrass | G | F | G | F | G | G | F | F | | G | G | F | |
| Meadow brome | G | | G | F | G | G | | | | | G | F | |
| Orchardgrass | F | | G | F | G | G | | | | | F | F | |
| Reed canarygrass | | | | | | | F | | | | G | | G |
| Russian wildrye | | F | | | | | | | | | | | |
| Slender wheatgrass | | F | | | | | G | | | | | | |
| Smooth brome | G | F | G | F | G | G | | F | | G | G | F | |
| Tall fescue | G | F | G | | G | G | F | | | | G | | |
| Tall wheatgrass | F | G | F | | G | G | G | | | F | G | | F |
| Timothy | F | | F | F | G | G | | | | | F | | |
| Virginia wildrye | F | | | | F | F | | | | | F | | |
| Western wheatgrass | F | G | G | G | F | F | G | F | | G | F | G | F |
| Warm-season Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | F | | | | | | |
| Big bluestem | G | | G | G | G | G | | G | | G | G | F | |
| Indiangrass | F | | F | F | G | G | | G | | G | G | | |
| Little bluestem | F | | G | G | F | F | | G | | G | F | G | |
| Prairie cordgrass | | | | | | | F | | | | | | G |
| Prairie sandreed | | | F | F | F | | | G | | | | | |
| Sand bluestem | | | F | | F | F | | G | | | | | |
| Sand lovegrass | | | | | | | | F | | | | | |
| Sideoats grama | F | | G | G | F | F | | F | | G | | G | |
| Switchgrass | G | | F | F | G | G | F | G | | G | G | | F |
| Legumes | | | | | | | | | | | | | |
| Alfalfa | G | F | G | G | G | G | F | G | | F | F | G | |
| Alsike clover | | | | | | | F | | | | G | | F |
| Bird's-foot trefoil | F | | F | F | G | G | F | | | | G | | |
| Canada milkvetch | F | | | | F | G | | | | | F | | |
| Cicer milkvetch | G | | G | G | G | G | F | F | | F | F | G | |
| Purple prairie clover | F | | G | G | F | F | | F | | F | F | G | |
| Red clover | F | | | F | F | G | | | | G | G | | |
| White prairie clover | F | | F | F | F | F | | | | F | F | F | |

G – Good adaptation for forage production on this group of soils in this MLRA.

F – Fair adaptation but will not produce at its highest potential.

*Green wheatgrass is the new name for the Quackgrass/Bluebunch Wheatgrass hybrid.

Note – If no species are rated for a FSG soil group, the group does not occur in this MLRA. If the species is not on the above table, refer to the ESD for species suitability

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 53B**

| MLRA 53B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------------------|------------------|----|----|-----|----|------|----|----|------------------|----|-----|------|----|------|-----|-----|-----|-----|------------------|
| | SD common name | CD ^{2/} | Cp ^{1/} | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SL ^{1/} | SM | SwG | SwLy | Sy | SyCp | TCp | TLy | TSa | VSw | WM ^{1/} |
| Grasses | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | 20 | | | | | | 20 | | | | |
| American mannagrass | | | | 15 | | | | | | | | 15 | | | | | | | | | 10 |
| American sloughgrass | 10 | | | 10 | | | | | | | | 15 | | | | | | | | | 10 |
| Big bluestem | | | 20 | | 40 | 20 | 40 | 20 | 50 | | | | | 20 | 20 | 20 | | 20 | 10 | | |
| Blue grama | | 25 | 10 | | 5 | 10 | 10 | 5 | 10 | 20 | | | 30 | 10 | 20 | 15 | 40 | 5 | 5 | 40 | |
| Bluejoint reedgrass | | | | 25 | | | | | | | | 25 | | | | | | | | | 25 |
| Buffalograss | 5 | 5 | 5 | | | 5 | | | | | | | 10 | | | | 5 | | | 10 | |
| Canada wildrye | | | 10 | | 5 | 10 | 10 | 10 | 10 | | | | | 10 | 10 | 5 | | 10 | 5 | | 10 |
| Fowl bluegrass | 5 | | | 5 | 10 | | 5 | | 10 | 5 | 5 | | | | | | | | | | 10 |
| Fowl mannagrass | | | | 15 | | | | | | | | 15 | | | | | | | | | 5 |
| Green needlegrass | 10 | 30 | 30 | | 20 | 30 | 15 | | 10 | | | | | 20 | 10 | 15 | 10 | 20 | | 10 | |
| Indiangrass | | | 15 | | 20 | 15 | 15 | 20 | 25 | | | | | | 20 | 10 | | | 15 | | |
| Inland saltgrass | 10 | 5 | | | | | | | | | 70 | | | | | | 5 | | | | |
| Little bluestem | | 10 | 15 | 40 | 40 | 15 | 10 | 20 | 15 | | | | 30 | 30 | 30 | 15 | | 30 | 20 | 30 | |
| Needleandthread | | 10 | 20 | | | 20 | 5 | 20 | | | | | 35 | 20 | 25 | 20 | 10 | 10 | 20 | 35 | |
| Nuttall's alkaligrass | 5 | | | | | | | | | | 35 | | | | | | 20 | | | | |
| Porcupinegrass | | 10 | 10 | | 10 | 10 | 15 | 10 | 10 | | | | 10 | 20 | 20 | 10 | | 20 | 20 | 10 | |
| Prairie cordgrass | 10 | | | 60 | | | | | | 10 | 25 | 50 | | | | | | | | | 60 |
| Prairie dropseed | | | 5 | | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| Prairie junegrass | | 5 | 5 | | | 5 | 5 | 10 | | | | | 10 | 5 | 10 | 5 | 5 | 5 | 5 | 10 | |
| Prairie sandreed | | 5 | 10 | | | 10 | 20 | 30 | | | | | 20 | 10 | 30 | 25 | | 10 | 30 | 20 | |
| Sand bluestem | | | | | | | | 30 | | | | | | | 30 | 10 | | | 30 | | |
| Sand dropseed | | | | | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Sandberg bluegrass | | 5 | | | | | | | | | | | | | | | 5 | | | | |
| Sideoats grama | | 10 | 15 | | 20 | 15 | 20 | 15 | 20 | | | | 30 | 20 | 20 | 10 | 20 | 20 | 10 | 30 | |
| Slender wheatgrass | 10 | 10 | 15 | 10 | 5 | 15 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | 10 | | 10 | 10 |
| Switchgrass | | | 15 | | 20 | 15 | 20 | 20 | 30 | 20 | | | | | 20 | 10 | | | 20 | | 10 |
| Virginia wildrye | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | | | 10 | | | 10 | 5 | | 10 |
| Western wheatgrass | 100 | 40 | 40 | 10 | 20 | 40 | 30 | 20 | 20 | 80 | 10 | 30 | 25 | 25 | 40 | 60 | 10 | 30 | 20 | | 10 |
| Whitetop | | | | 50 | | | | | | | | 50 | | | | | | | | | 50 |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | |
| Bebb's sedge | | | | | | | | | | | | 10 | | | | | | | | | 10 |
| Bicknell's sedge | 5 | | | | 5 | | | | | | | | 5 | | | | | | | | 10 |
| Blunt Broom Sedge | | | | 15 | | | | | | | | | | | | | | | | | 15 |

| MLRA 53B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | |
|---|---|------------------|----|----|-----|----|------|----|----|------------------|----|-----|------|----|------|-----|-----|-----|-----|------------------|
| SD common name | CD ^{2/} | Cp ^{1/} | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SL ^{1/} | SM | SwG | SwLy | Sy | SyCp | TCp | TLy | TSa | VSw | WM ^{1/} |
| Bristly sedge | | | | | | | | | | | 5 | | | | | | | | | 10 |
| Common spikerush | 10 | | | | | | | | 5 | | 10 | | | | | | | | | 10 |
| Crested sedge | | | | 15 | | | | | | | | | | | | | | | | 15 |
| Fox sedge | | | | 10 | 5 | | | | 5 | | 10 | | | | | | | | | 10 |
| Hardstem bulrush | | | | 10 | | | | | | | 10 | | | | | | | | | 5 |
| Inland rush | 5 | | | | 5 | | | | 5 | 5 | | | | | | | | | | 5 |
| River bulrush | | | | | | | | | | | 15 | | | | | | | | | |
| Slough sedge | | | | 60 | | | | | | | 40 | | | | | | | | | 60 |
| Softstem bulrush | | | | 10 | | | | | | | 10 | | | | | | | | | 5 |
| Torrey's rush | 5 | | | | 5 | | 5 | | 5 | 5 | | | | | | | | | | 10 |
| Woolly sedge | | | | 10 | | | | | 5 | | 10 | | | | | | | | | 10 |
| Forbs | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| American Vetch | | | 5 | | | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Black-eyed Susan | | 5 | 5 | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | 5 | 5 | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Eastern purple coneflower | | 5 | 5 | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Blanket flower | | | | | | 5 | 5 | 5 | | | | | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Blue vervain | | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Boneset | | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Broadbeard beardtongue | | | | | | 5 | | 5 | | | | | 5 | 5 | 5 | | 5 | 5 | | |
| Canada / Meadow anemone | | | | | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Canada milkvetch | | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | | | | | | |
| Canada tick trefoil | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | |
| Common Bur-reed | | | | 5 | | | | | | | 5 | | | | | | | | | 5 |
| Common milkweed | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | | | | 5 |
| Compass plant | | | 5 | | 5 | 5 | 5 | | 5 | | | | | | | | | | | |
| Cudweed sagewort | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Devil's beggartick | | | 5 | | 5 | | 5 | | 5 | 5 | | | | | | | | | | 5 |
| Dotted gayfeather | | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / lanceleaf figwort | | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | 5 | 5 | | |
| Eastern Daisy fleabane | | | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | | | |
| False boneset | | | 5 | | | 5 | | | | | | | 5 | 5 | 5 | | 5 | | | |
| False sunflower | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | |
| Fragrant giant hyssop | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | | | | | | 5 |
| Geyer's aster | | | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 |
| Groundplum milkvetch | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |

| MLRA 53B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | |
|--|---|------------------|----|----|-----|----|------|----|----|------------------|----|-----|------|----|------|-----|-----|-----|-----|------------------|
| SD common name | CD ^{2/} | Cp ^{1/} | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SL ^{1/} | SM | SwG | SwLy | Sy | SyCp | TCp | TLy | TSa | VSw | WM ^{1/} |
| Heart-leaved golden alexanders | | | | | | | 5 | | 5 | | | | | | | | | | | |
| Heath aster | | 5 | 5 | | | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Hoary vervain | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | | 5 | | 5 | 5 | |
| Illinois bundleflower | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | | | 5 | |
| Indian blanket | | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Indian breadroot scurfpea | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Ironweed | 5 | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | 5 | | 5 |
| Joe-pye weed | | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Late figwort / carpenter's square | | | | 5 | 5 | | 5 | | 5 | | | | | | | | | | | 5 |
| Lewis flax | | | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 | | | 5 | | 5 |
| Maximilian sunflower | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | |
| New England aster | | 5 | 5 | | | 5 | | 5 | | | | | | 5 | | | | | | |
| Nodding onion | | 5 | | | | | | | | | | 5 | 5 | | | 5 | 5 | | 5 | |
| Old field goldenrod / Gray goldenrod | | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Pasqueflower | | | | | | | | | | | | 5 | 5 | | | | 5 | | 5 | |
| Plains coreopsis | 5 | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Prairie / Richardson's alumroot | | | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Prairie aster | | 5 | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | | |
| Prairie blue-eyed grass | | | | | | | | | | | 5 | | | | | | | | | 5 |
| Prairie coneflower | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Prairie goldenrod / Upland white aster | | | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Prairie Onion | | 5 | 5 | | | | | | | | | 5 | 5 | | | 5 | 5 | | 5 | |
| Prairie spiderwort | | 5 | 5 | | | 5 | | 5 | | | | | 5 | 5 | 5 | | 5 | 5 | | |
| Prairie sunflower | | | | | | | | 5 | | | | | | 5 | 5 | | | 5 | 5 | |
| Purple prairieclover | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Rocky Mountain bee plant | | | | | | | | 5 | | | | | | 5 | | | | | | |
| Rough blazing star | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | |
| Round-headed bush clover | | 5 | 5 | | | 5 | | 5 | | | | | | 5 | | | | | | |
| Scarlet globemallow | | 5 | 5 | | | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Shell-leaf penstemon | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | |
| Silky / western silver aster | | | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Stiff goldenrod | | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | |
| Stiff sunflower | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | | |
| Swamp milkweed | | | | 5 | 5 | | 5 | | 5 | | 5 | | | | | | | | | 5 |
| Tall meadow rue | | 5 | 5 | | 5 | 5 | 5 | | 5 | | | | | | | | | | | |
| Tall thimbleweed | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | | | | |
| Water plantain | | | | 5 | | | | | | | 5 | | | | | | | | | 5 |

| MLRA 53B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | |
|---------------------|---|------------------|----|----|-----|----|------|----|----|------------------|----|-----|------|----|------|-----|-----|-----|-----|------------------|
| SD common name | CD ^{2/} | Cp ^{1/} | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SL ^{1/} | SM | SwG | SwLy | Sy | SyCp | TCp | TLy | TSa | VSw | WM ^{1/} |
| Western yarrow | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| White panicle Aster | | | | | | | | | | | 5 | | | | | | | | | 5 |
| White prairieclover | | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild bergamot | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | |
| Shrubs | | | | | | | | | | | | | | | | | | | | |
| Black currant | | | | | 5 | | 5 | | 5 | | | | | | | | | | | |
| Chokecherry | | | | | 5 | | 5 | | | | | | | | | | | | | |
| Dwarf indigo | | | 5 | | | 5 | | 5 | | | | 5 | | 5 | | | 5 | 5 | 5 | |
| Early wild rose | | | | | | | 5 | | 5 | | | | | | | | | | | |
| Fringed sagewort | | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Golden currant | | | | | | | 5 | | 5 | | | | | | | | | | | |
| Juneberry | | | | | | | 5 | | 5 | | | | | | | | 5 | | | |
| Leadplant | | | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Prairie cinquefoil | | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | | | | | | |
| Prairie rose | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Redosier dogwood | | | | | 5 | | 5 | | 5 | | | | | | | | | | | 5 |
| Western snowberry | | | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | |
| Wild plum | | | | | 5 | | 5 | | 5 | | | | | | | | | | | |

1. On these sites a minimum of two species can be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 53C, 55C**

| MLRA 53C/55C | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------------------|----|----|------|----|----|-----|----|-------------------|------|----|----|------------------|----|-----|-----|----|-----|----|-----|------------------|----|
| | SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LM | LSb | Ly | LyF ^{3/} | LyOv | Sa | Sb | SL ^{1/} | SM | SwC | SwG | Sy | TCp | TU | VSw | WM ^{1/} | |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | | | | 30 | | | | | | 20 | | | |
| American mannagrass | | | | | | 15 | | | | | | | | | 15 | | | | | | | | 10 |
| American sloughgrass | 5 | | | | | 10 | | | | | | | | | 10 | | | | | | | | 10 |
| Big bluestem | | | 20 | 40 | | | 40 | 20 | 35 | 50 | 30 | 50 | | | | 30 | 10 | 20 | | 40 | | | |
| Blue grama | | 25 | 10 | 10 | 10 | | 10 | 10 | 5 | 10 | 10 | 10 | 20 | | 30 | 20 | 20 | 40 | 20 | 20 | | | |
| Bluejoint reedgrass | | | | | | 25 | | | | | | | | | 25 | | | | | | | | 25 |
| Buffalograss | | 10 | 10 | | 5 | | | 10 | 5 | | | | | | | | 10 | | 10 | 5 | 10 | | |
| Canada wildrye | | | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | | 10 | | | | 10 | | 10 | | | | | 10 |
| Fowl bluegrass | 5 | | | 5 | | 5 | 10 | | 5 | 5 | | 10 | 5 | 5 | | | | | | | | | 10 |
| Fowl mannagrass | | | | | | 15 | | | | | | | | | | 15 | | | | | | | 5 |
| Green muhly | | | | | | | | | | | | | 10 | | | | | | | | | | |
| Green needlegrass | | 40 | 30 | 40 | 40 | | 25 | 40 | 35 | 30 | | 10 | 10 | | | 25 | 10 | 10 | 10 | 20 | 20 | | |
| Indiangrass | | | 20 | 10 | | | 20 | 10 | 20 | 20 | 20 | 25 | | | | | | | 20 | | 10 | | |
| Inland saltgrass | 10 | 5 | | 5 | 5 | | | | | | | | | 70 | | | | | | 10 | | | |
| Little bluestem | | 20 | 30 | 20 | | | 40 | 30 | 25 | 20 | 30 | 30 | | | | 40 | 30 | 40 | | 40 | 30 | | |
| Needleandthread | | 20 | 20 | 10 | | | | 20 | 15 | 10 | 20 | | | | | 20 | 30 | 25 | 10 | 20 | 30 | | |
| Nuttall's alkaligrass | 5 | | | | | | | | | | | | | 30 | | | | | | 20 | | | |
| Porcupinegrass | | 5 | 10 | 10 | | | 20 | 20 | 15 | 10 | 20 | 10 | | | | 10 | 10 | 20 | | 20 | 10 | | |
| Prairie cordgrass | | | | | | 60 | | | | | | 10 | 50 | 60 | | | | | | | | | 60 |
| Prairie dropseed | | | 10 | | | | | 10 | 10 | | 10 | | | | | 5 | | | | 5 | | | |
| Prairie junegrass | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 10 | 5 | | | | 10 | 10 | 10 | 5 | 10 | 10 | | |
| Prairie sandreed | | 10 | 10 | 20 | | | | 10 | 10 | 20 | 40 | | | | | 10 | 20 | 40 | | 10 | 20 | | |
| Prairie wedgegrass | | | | | | | | | | | | | 5 | 5 | | | | | | | | | |
| Sand bluestem | | | | | | | | | | | | 30 | | | | | | | | 30 | | | |
| Sand dropseed | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | 5 | 5 | 5 | | |
| Sandberg bluegrass | | 5 | | | | | | | | | | | | | | | | | | 5 | | | |
| Sideoats grama | | 20 | 20 | 20 | 10 | | 20 | 30 | 20 | 20 | 20 | 20 | | | | 30 | 30 | 20 | 20 | 30 | 30 | | |
| Slender wheatgrass | 5 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | 10 | 10 | 10 | | | 10 | 10 | 10 | |
| Switchgrass | | | 20 | 20 | | 10 | 20 | 20 | 30 | 20 | 20 | 25 | 20 | | | 10 | | | 20 | | 10 | | 10 |
| Virginia wildrye | | | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | | 10 | 10 | | | 10 | | | 10 | | | | 10 |

| MLRA 53C/55C | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|----|----|------|----|----|-----|----|-------------------|------|----|----|------------------|----|-----|-----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LM | LSb | Ly | LyF ^{3/} | LyOv | Sa | Sb | SL ^{1/} | SM | SwC | SwG | Sy | TCp | TU | VSw | WM ^{1/} |
| Western wheatgrass | 100 | 40 | 40 | 50 | 80 | 10 | 20 | 30 | 30 | 30 | 20 | 25 | 80 | 10 | 30 | 30 | 20 | 60 | 30 | 40 | 10 |
| Whitetop | | | | | | 50 | | | | | | | | 50 | | | | | | | 50 |
| Grasslikes | | | | | | | | | | | | | | | | | | | | | |
| Bebb's sedge | | | | | | | | | | | | | | 10 | | | | | | | 10 |
| Bicknell's sedge | 5 | | | | | | 5 | | | | | 5 | | | | | | | | | 10 |
| Blunt Broom Sedge | | | | | | 15 | | | | | | | | | | | | | | | 15 |
| bottlebrush sedge | | | | | | 5 | | | | | | | | | | | | | | | 10 |
| Bristly sedge | | | | | | | | | | | | | | 5 | | | | | | | 10 |
| Common Spikerush | 10 | | | | | 10 | | | | | | | 10 | | | | | | | | |
| Crested sedge | | | | | | 15 | | | | | | | | | | | | | | | 15 |
| Fox sedge | | | | | | 10 | 5 | | | | | 5 | | 10 | | | | | | | 10 |
| Hardstem bulrush | | | | | | 10 | | | | | | | | 10 | | | | | | | 5 |
| Inland rush | 5 | | | | | | 5 | | | | | 5 | 5 | | | | | | | | 5 |
| River bulrush | | | | | | | | | | | | | | 15 | | | | | | | |
| Slough sedge | | | | | | 60 | | | | | | | | 60 | | | | | | | 60 |
| Softstem bulrush | | | | | | 10 | | | | | | | | 10 | | | | | | | 5 |
| Torrey's rush | 5 | | | 5 | | | 5 | | | 5 | | 5 | 5 | | | | | | | | 10 |
| woolly sedge | | | | | | 10 | | | | | | | | 10 | | | | | | | 20 |
| Forbs | | | | | | | | | | | | | | | | | | | | | |
| American / Water horehound | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| American licorice | 5 | | | 5 | | 5 | 5 | | | 5 | | 5 | | 5 | | | 5 | | | | 5 |
| American vetch | | 5 | 5 | 5 | 5 | | | 5 | 5 | | | | | | | 5 | 5 | | 5 | 5 | |
| Black-eyed Susan | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 |
| Blanketflower | | | | | | | | 5 | 5 | 5 | 5 | | | | | | 5 | | 5 | | |
| Blue vervain | | | | 5 | | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | | 5 |
| Boneset | | | | 5 | | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | | 5 |
| Broadbeard beardtongue | | | | | | | | 5 | 5 | | 5 | | | | | | 5 | | 5 | | |
| Canada / Meadow Anemone | | | | | | 5 | 5 | | | | | 5 | | 5 | | | | | | | 5 |
| Canada milkvetch | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | | | 5 | | | | |
| Canada tick trefoil | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | |
| Common burreed | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Common milkweed | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | 5 |
| Compass plant | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | | 5 | | |

| MLRA 53C/55C | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|----|----|------|----|----|-----|----|-------------------|------|----|----|------------------|----|-----|-----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LM | LSb | Ly | LyF ^{3/} | LyOv | Sa | Sb | SL ^{1/} | SM | SwC | SwG | Sy | TCp | TU | VSw | WM ^{1/} |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | |
| Devil's beggartick | | | | 5 | | 5 | 5 | | | 5 | | 5 | | | | | | | | | 5 |
| Ditch stonecrop | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Dotted gayfeather | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Dwarf indigo | | | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Early / lanceleaf figwort | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | 5 | | |
| Eastern Daisy fleabane | | | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | | 5 | | |
| Eastern purple coneflower | | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| False aster | | | | | | 5 | | | | | | 5 | 5 | 5 | | | | | | | 5 |
| False boneset | | | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | |
| False indigo | | | | 5 | | 5 | | | | 5 | | | | | | | | | | | |
| False sunflower | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | |
| Field / Green sagewort | | | | | | | | 5 | 5 | | 5 | | | | | 5 | | 5 | | 5 | |
| Fragrant giant hyssop | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| Geyer's aster | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 |
| Giant goldenrod | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Groundplum milkvetch | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Heart-leaved golden Alexanders | | | | | | 5 | 5 | | 5 | 5 | | | | | | | | | | | |
| Heath aster | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | |
| Hoary vervain | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Illinois bundleflower | | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 |
| Indian blanket | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Indian breadroot scurfpea | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | | 5 | 5 | 5 | 5 | |
| Ironweed | 5 | | | 5 | | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | | 5 |
| Joe-pye weed | | | | 5 | | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | | 5 |
| Late figwort / carpenter's square | | | | 5 | | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | | 5 |
| Leadplant | | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| Lewis flax | | | | | | | | 5 | 5 | 5 | 5 | | | | | | 5 | | 5 | | |
| Mad dog / blue skullcap | | | | | | 5 | | | | | | | 5 | 5 | | | | | | | 5 |
| Marsh betony / swamp lousewort | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Maximilian sunflower | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | |
| Narrow-leaved Purple Coneflower | | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| New England aster | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | 5 | | | | 5 |

| MLRA 53C/55C | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|--|---|----|----|------|----|----|-----|----|-------------------|------|----|----|------------------|----|-----|-----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LM | LSb | Ly | LyF ^{3/} | LyOv | Sa | Sb | SL ^{1/} | SM | SwC | SwG | Sy | TCp | TU | VSw | WM ^{1/} |
| Nodding beggartick / bur marigold | | | | | | 5 | 5 | | 5 | 5 | | | 5 | 5 | | | | | | | 5 |
| Nodding onion | | 5 | 5 | | 5 | | | | | | | | | | 5 | 5 | | 5 | | | |
| Old field goldenrod / Gray goldenrod | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Pale spiked lobelia | | | | 5 | | 5 | 5 | | | | | 5 | | | | | | | | | 5 |
| Pasqueflower | | | | | | | | | | | | | | | | 5 | | | 5 | | |
| Pennsylvania smartweed | 5 | | | | | 5 | | | | | | | 5 | 5 | | | | | | | 5 |
| Plains coreopsis | 5 | | | | | 5 | 5 | | | | | 5 | | 5 | | | | | | | 5 |
| Prairie / Carolina larkspur | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | 5 | | | |
| Prairie / Richardson's alumroot | | | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Prairie aster | | 5 | 5 | | | | | 5 | 5 | 5 | | | | | | | | 5 | | 5 | |
| Prairie blue-eyed grass | | | | | | | | | | | | | | 5 | | | | | | | 5 |
| Prairie coneflower | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| Prairie Goldenrod / Upland white aster | | | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Prairie Onion | | 5 | 5 | | 5 | | | | | | | | | | 5 | 5 | | 5 | | | |
| Prairie spiderwort | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Prairie sunflower | | | | | | | | | | | 5 | | | | | | | 5 | | | 5 |
| Purple giant hyssop | | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | | | |
| Purple prairie clover | | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Rocky Mountain bee plant | | | | | | | | | | | 5 | | | | | | | 5 | | | |
| Rough blazing star | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Round-headed bush clover | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | | | | 5 | | | |
| Scarlet globemallow | | 5 | 5 | | 5 | | | 5 | 5 | | | | | | 5 | 5 | 5 | | 5 | 5 | |
| Shell-leaf penstemon | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | |
| Silky / western silver aster | | | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | |
| Sneezeweed | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | | | | | | | 5 |
| Stiff goldenrod | | 5 | 5 | | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Stiff sunflower | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | | |
| Swamp milkweed | | | | 5 | | 5 | 5 | | | 5 | | 5 | | 5 | | | | | | | 5 |
| Sweet flag | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Tall meadow rue | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | | | | | | | |
| Tall thimbleweed | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | | | |
| Water plantain | | | | | | 5 | | | | | | | | 5 | | | | | | | 5 |
| Western yarrow | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | |

| MLRA 53C/55C | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|----|----|------|----|----|-----|----|-------------------|------|----|----|------------------|----|-----|-----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LM | LSb | Ly | LyF ^{3/} | LyOv | Sa | Sb | SL ^{1/} | SM | SwC | SwG | Sy | TCp | TU | VSw | WM ^{1/} |
| White panicle Aster | | | | | | | | | | | | | | 5 | | | | | | | 5 |
| White prairie clover | | 5 | 5 | | | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild bergamot | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild geranium | | | | 5 | | | | | | 5 | | 5 | | | | | | | | | 5 |
| Shrubs | | | | | | | | | | | | | | | | | | | | | |
| Black currant | | | | 5 | | | 5 | | 5 | 5 | | 5 | | | | | | | | | |
| Chokecherry | | | | | | | | | | 5 | | | | | 5 | | | | 5 | | |
| Early wild rose | | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | | |
| Four-wing saltbush (dewinged) | | | | | 5 | | | 5 | 5 | | | | 5 | | | | 5 | 5 | 5 | | |
| Fringed sagewort | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Gardner's saltbush | | | | | | | | | | | | | 5 | | | | | | | | |
| Golden currant | | | | | | | | 5 | 5 | 5 | | | | | | | 5 | | | | |
| Juneberry | | | | 5 | | | | | 5 | 5 | | | | | | | | | | | |
| Prairie cinquefoil | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | | 5 | | 5 | | |
| Prairie rose | | 5 | 5 | | 5 | | 5 | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | |
| Redosier dogwood | | | | 5 | | | | | | 5 | | 5 | | | | | | | | | 5 |
| Sand sagebrush | | | | | | | | | | | 5 | | | | | | 5 | | | | |
| Silver sagebrush | | 5 | 5 | | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Western snowberry | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | 5 | | |
| Wild plum | | | | 5 | | | | 5 | 5 | 5 | | 5 | | | | | | | | | |

1/ On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2/ A single species is allowable on this site when planning a Range

3/ Loamy Floodplain (LyF) only occurs in MLRA 55C.

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 54**

| MLRA 54 SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|------|------|------|----|------|-----|-----|-----|-----|----|-----|
| | CD ^{2/} | Cp | CSa | Cy | LiSa | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | VSw | WL | WM |
| Grasses | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | 10 | | | | | | | | | | 10 | | | | | | | | | | | 100 |
| American mannagrass | | | | | | | | | | | | | | | | | | | | | 15 | 15 |
| American sloughgrass | 5 | | | | | | | | | | | | | | | | | | | | 20 | 20 |
| Big bluestem | | | 10 | 15 | 5 | 15 | 45 | 15 | 20 | 50 | | 10 | 10 | 5 | 30 | 30 | 20 | | 10 | | | |
| Blue grama | | 25 | 5 | 10 | 10 | 10 | 5 | 10 | 5 | | | 15 | 10 | 10 | 10 | 10 | 5 | 35 | 10 | 25 | | |
| Blue wildrye | | | | | | | 5 | | | | | | | | | | | | | | | |
| Bluebunch wheatgrass | | | | | | 5 | | | | | | 5 | 5 | | 5 | | | | 5 | 5 | | |
| Bluejoint reedgrass | | | | | | | | | | | | | | | | | | | | | 20 | 30 |
| Buffalograss | | 10 | | 5 | | 5 | | | | | | 5 | 5 | | | | | 5 | | 10 | | |
| Canada wildrye | | | 10 | 10 | | 10 | 10 | 10 | 5 | 5 | | | | | 5 | 5 | 10 | | | | | |
| Fowl bluegrass | 5 | | | | | | | | | 5 | 5 | | | | | | | | | | | 10 |
| Fowl mannagrass | | | | | | | | | | | | | | | | | | | | | | 15 |
| Green needlegrass | | 20 | | 35 | 5 | 35 | 25 | 40 | | 10 | | 20 | 15 | 5 | 5 | 10 | 10 | 5 | 15 | | | |
| Indian ricegrass | | | 5 | | | | | 10 | | | | | | | | | | 5 | | | | |
| Indiangrass | | | 5 | 10 | | 10 | 20 | | 10 | 10 | | | | | 10 | 10 | 10 | | | | | |
| Inland saltgrass | 5 | | | | | | | | | | 10 | 5 | | | | | | 5 | | | | |
| Little bluestem | | | 10 | 20 | 35 | 20 | 10 | 10 | 20 | 10 | 5 | 15 | 25 | 35 | 10 | 10 | 10 | | 25 | 30 | | |
| Needleandthread | | 5 | 20 | 5 | 15 | 10 | 10 | 10 | 20 | | | 5 | 15 | 15 | 20 | 20 | 20 | 20 | 15 | 35 | | |
| Nuttall's alkaligrass | 10 | | | | | | | | | | 30 | | | | | | | 20 | | | | |
| Porcupinegrass | | | | 10 | 10 | 10 | 10 | 15 | 5 | 5 | | 5 | 25 | 10 | 5 | 5 | 5 | | 25 | | | |
| Prairie cordgrass | 15 | | | | | | | | | 10 | 25 | | | | | | | | | | 50 | 60 |
| Prairie dropseed | | | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | | | | 5 | | | |
| Prairie junegrass | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie sandreed | | 10 | 25 | | 35 | | | | 35 | | | | 10 | 35 | 30 | 30 | 30 | | 5 | | | |
| Sand bluestem | | | 30 | | 25 | | | | 40 | | | | | 30 | 30 | 30 | 30 | | | | | |
| Sand dropseed | | 5 | 5 | | 5 | 5 | | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | | 5 | | |
| Sandberg bluegrass | | | | | | 5 | | 5 | | | | 5 | | | | 5 | | 10 | 5 | 5 | | |
| Sideoats grama | | 10 | 5 | 10 | 10 | 10 | 10 | 15 | | | | 20 | 25 | 10 | 10 | | 5 | 20 | 25 | 20 | | |
| Slender wheatgrass | 10 | 10 | | 10 | | 10 | 10 | 10 | 5 | 10 | 20 | 5 | 10 | | 10 | | 10 | 10 | 10 | 10 | | 10 |
| Snake river wheatgrass | | | | | | 5 | | | | | | 5 | 5 | | 5 | | | | 5 | 5 | | |
| Switchgrass | | | | | | 10 | 20 | 10 | 20 | 20 | 20 | | | | 10 | 10 | 15 | | | | | |
| Tufted hairgrass | | | | | | | | | | 10 | | | | | | | | | | | | 5 |
| Virginia wildrye | | | 10 | 10 | | 10 | 10 | 10 | 5 | 10 | 10 | | | | 5 | | 15 | | | | | 10 |
| Thickspike Wheatgrass | 100 | 45 | | 45 | 10 | 40 | 25 | 40 | 10 | 10 | 60 | 50 | 25 | 10 | 30 | 30 | 20 | 45 | 25 | 20 | | 10 |
| Western wheatgrass | 100 | 40 | 5 | 45 | 10 | 40 | 25 | 40 | 10 | 10 | 60 | 50 | 25 | 10 | 30 | 30 | 20 | 45 | 25 | 20 | | 10 |
| Whitetop | | | | | | | | | | | | | | | | | | | | | 50 | 50 |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | | |
| Baltic rush | | | | | | | | | | | 5 | | | | | | | | | | | 5 |
| Bebb's sedge | | | | | | | | | | | | | | | | | | | | | | 10 |
| Bristly sedge | | | | | | | | | | | | | | | | | | | | | | 10 |

| MLRA 54 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|------|------|------|----|------|-----|-----|-----|-----|----|----|
| SD common name | CD ^{2/} | Cp | CSa | Cy | LiSa | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | VSw | WL | WM |
| Common spikerush | 15 | | | | | | | | | 5 | | | | | | | | | | | 10 | 5 |
| Fox sedge | | | | | | | | | | 5 | | | | | | | | | | | 5 | 5 |
| Hardstem bulrush | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Inland rush | 5 | | | | | | | | | 5 | 5 | | | | | | | | | | | 5 |
| Slough sedge | | | | | | | | | | | | | | | | | | | | | 50 | 40 |
| Softstem bulrush | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Torrey's rush | 5 | | | | | | | | | 5 | 5 | | | | | | | | | | 10 | 10 |
| Woolly sedge | | | | | | | | | | 5 | | | | | | | | | | | 10 | 10 |
| Forbs | | | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | | | | | | 5 | | | 5 | | | | | | | | | | | 5 | 5 |
| American vetch | | | | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Black-eyed Susan | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Blue vervain | | | | | | | 5 | | | 5 | | | | | | | | | | | 5 | 5 |
| Boneset | | | | 5 | 5 | 5 | 5 | | | 5 | | | | | | | | | | | | 5 |
| Bottle gentian | | | | | | | | | | 5 | | | | | | | | | | | | 5 |
| Broadbeard beardtongue | | | | | 5 | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Canada / Meadow Anemone | | | | | | | 5 | | | 5 | | | | | | | | | | | | 5 |
| Canada milkvetch | | 5 | 5 | 5 | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Canada tick trefoil | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | | |
| Common Bur-reed | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Common milkweed | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | | | | 5 | 5 |
| Compass plant | | | | 5 | | 5 | 5 | 5 | 5 | | | 5 | | | | | | | | | | |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Devil's beggartick | | | | | | | 5 | 5 | | 5 | 5 | | | | | | 5 | | | | | 5 |
| Dotted gayfeather | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Early / lanceleaf figwort | | | | 5 | 5 | 5 | 5 | | 5 | 5 | | | | | 5 | | | | | | | |
| Eastern Daisy fleabane | | | | 5 | | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | | | |
| False boneset | | | | 5 | 5 | 5 | | | | | | | | | | | | | | | | |
| False gromwell | | | | | | | | | 5 | | | | 5 | | 5 | 5 | 5 | | | | | |
| False sunflower | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | | |
| Fragrant giant hyssop | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | | | 5 | | |
| Fuzzytongue penstemon | | 5 | | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Geyer's aster | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | | 5 |
| Groundplum milkvetch | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Heart-leaved golden Alexanders | | | | | | | 5 | | | 5 | | | | | | | | | | | | |
| Heath aster | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 | | | |
| Hoary vervain | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | | 5 | 5 | 5 | | |
| Illinois bundleflower | | 5 | 5 | 5 | | 5 | | 5 | 5 | | | 5 | | | 5 | | | | | | | |
| Indian blanket | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | |
| Indian breadroot scurfpea | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | |
| Ironweed | 5 | | | | | | 5 | | | 5 | | | | | | | | | | | 5 | 5 |
| Joe-pye weed | | | | | | | 5 | | | 5 | | | | | | | | | | | 5 | 5 |
| Lewis flax | | | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Maximilian sunflower | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | | | | 5 |

| MLRA 54 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | |
|---|---|----|-----|----|------|----|------|-----|----|----|------------------|------|------|------|----|------|-----|-----|-----|-----|----|----|
| SD common name | CD ^{2/} | Cp | CSa | Cy | LiSa | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | VSw | WL | WM |
| Narrow-leaved Purple Coneflower (<i>Blacksamson echinacea</i>) | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| New England aster | | 5 | 5 | 5 | | 5 | | 5 | 5 | | | | | | 5 | | | | | | 5 | |
| Old field goldenrod / Gray goldenrod | | 5 | | 5 | | 5 | | 5 | 5 | | | 5 | | | 5 | 5 | | | 5 | 5 | | |
| Pasqueflower | | | | | 5 | 5 | | | | | | | 5 | 5 | | | | | 5 | 5 | | |
| Pennsylvania smartweed | | | | | | | | | | | | | | | | | | | | | 10 | |
| Plains coreopsis | 5 | | | | | | 5 | | | 5 | 5 | | | | | | | | | | 5 | 5 |
| Prairie / Carolina larkspur | | | | 5 | | | | 5 | | | | | | | | | | | | | | |
| Prairie / Richardson's alumroot | | | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | |
| Prairie aster | | 5 | | 5 | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie blue-eyed grass | | | | | | | 5 | | | 5 | | | | | | | | | | | | 5 |
| Prairie coneflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie Goldenrod / Upland white aster | | | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | |
| Prairie Onion | | 5 | | 5 | | 5 | | 5 | | | | 5 | | 5 | | | | 5 | 5 | 5 | | |
| Prairie smoke | | 5 | | 5 | 5 | 5 | | | | | | 5 | 5 | | | | | | 5 | | | |
| Prairie spiderwort | | | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Prairie sunflower | | | | | 5 | | | | 5 | | | | | 5 | 5 | 5 | | | | 5 | | |
| Purple prairieclover | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | | |
| Rocky Mountain bee plant | | | | | 5 | | | | 5 | | | | | 5 | 5 | | 5 | | | | | |
| Rough blazing star | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | 5 | | | | |
| Round-headed bush clover | | | | 5 | | 5 | | 5 | 5 | | | | | | 5 | | | | | | | |
| Scarlet globemallow | | 5 | | 5 | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Shell-leaf penstemon | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | 5 | | | 5 | | |
| Stiff goldenrod | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Stiff sunflower | | | 5 | | 5 | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | | 5 | | | |
| Swamp milkweed | | | | | | | 5 | | | 5 | | | | | | | | | | | 5 | 5 |
| Tall thimbleweed | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | | | | | |
| Water plantain | 5 | | | | | | | | | | 5 | | | | | | | | | | 5 | 5 |
| Water plantain | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 | | 5 | | | |
| Western yarrow | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| White prairieclover | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Whorled milkweed | | 5 | | | | 5 | | | | | | | | | 5 | | | | | | | |
| Wild bergamot | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | | | 5 | | | | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | |
| Big sagebrush | | 5 | | 5 | | | | | | | | 5 | | | | | | | | | | |
| Black currant | | | | | | | 5 | 5 | | | | | | | | | | | | | | |
| Chokecherry | | | | | | | 5 | 5 | | 5 | | | | | | | 5 | | | | | |
| Dwarf indigo | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | | | | | 5 | | 5 | | | |
| False indigo | | | | | | | 5 | | | 5 | | | | | | | | | | | | |
| Four-wing saltbush (dewinged) | | 5 | | 5 | | | | | | | 5 | 5 | | | 5 | | | 5 | 5 | | | |
| Fringed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Gardner's saltbush | | | | | | 5 | | | | | 5 | | | | | | | 5 | | | | |

| MLRA 54 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|------|------|------|----|------|-----|-----|-----|-----|----|----|
| SD common name | CD ^{2/} | Cp | CSa | Cy | LiSa | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | VSw | WL | WM |
| Golden currant | | | | | | 5 | 5 | 5 | | 5 | | | | | | | 5 | | | | | |
| Juneberry | | | | | | | 5 | 5 | | 5 | | | | | | | | | | | | |
| Leadplant | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | 5 | 5 | | | 5 | | |
| Prairie cinquefoil | | 5 | 5 | 5 | | 5 | 5 | | 5 | | | 5 | | | 5 | 5 | 5 | 5 | | | | |
| Prairie rose | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| Redosier dogwood | | | | | | | 5 | 5 | | 5 | | | | | | | | | | | 5 | 5 |
| Sand sagebrush | | | | | | | | | 5 | | | | | | 5 | | | | | | | |
| Silver buffaloberry | | | | 5 | | | | 5 | | 5 | | 5 | 5 | | 5 | 5 | 5 | | 5 | | | |
| Silver sagebrush | | 5 | | | | 5 | | 5 | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | |
| Wild plum | | | | | | | 5 | 5 | | 5 | | | | | | | | | | | | |
| Winterfat | | 5 | | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | | |

1. On these sites a minimum of two species can be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for ES.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 55B**

| MLRA 55B SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|-----|----|----|-----|----|------|----|----|------|------------------|----|-----|-----|------|----|------|-----|-----|-----|------------------|
| | Cp | CSa | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | SwLy | Sy | SyCp | TCp | TLy | VSw | WM ^{1/} |
| Grasses | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | 30 | | 10 | | | | | 20 | | | |
| American mannagrass | | | | 15 | | | | | | | | 15 | | | | | | | | | 10 |
| American sloughgrass | | | | 10 | | | | | | | | 10 | | | | | | | | | 10 |
| Big bluestem | | 10 | 15 | | 40 | 20 | 40 | 20 | 50 | 30 | | | 50 | | 20 | 20 | 30 | | 20 | | |
| Blue grama | 20 | 20 | 20 | | 10 | 20 | 10 | 20 | 10 | 10 | 20 | | 10 | 20 | 10 | 20 | 10 | 30 | 5 | 30 | |
| Bluejoint reedgrass | | | | 25 | | | | | | | | 25 | | | | | | | | | 25 |
| Buffalograss | 10 | | 10 | | | 10 | | | | | | | | 10 | | | | 5 | | 10 | |
| Canada wildrye | | 10 | | 10 | | 10 | 10 | 10 | 10 | 10 | | | | | 10 | 10 | | | | | 10 |
| Fowl bluegrass | | | | 10 | 10 | | 5 | | 10 | | 5 | 5 | 5 | | | | | | | | 10 |
| Fowl mannagrass | | | | 15 | | | | | | | | 15 | | | | | | | | | 10 |
| Green needlegrass | 40 | 20 | 40 | | 25 | 40 | 30 | | 10 | | | | 25 | 10 | 20 | 10 | 40 | 10 | 10 | | |
| Indiangrass | | 20 | 10 | | 20 | 10 | 20 | 20 | 25 | 20 | | | 20 | | | 20 | | | 20 | | |
| Inland saltgrass | | | | | 5 | | | | | | 70 | | 5 | | | | 5 | 5 | | | |
| Little bluestem | 10 | 40 | 30 | | 40 | 30 | 20 | 30 | 30 | 20 | | | 40 | 30 | 30 | 40 | 10 | | 30 | 30 | |
| Needleandthread | 20 | 20 | 20 | | | 20 | 10 | 25 | | 10 | | | | 30 | 10 | 20 | 20 | 10 | 20 | 30 | |
| Nuttall's alkaligrass | | | | | | | | | | | 30 | | | | | | | 20 | | | |
| Porcupinegrass | | | 20 | | 15 | 20 | 10 | 25 | | | | | | 10 | 30 | 20 | 20 | | | | |
| Prairie cordgrass | | | | 60 | | | | | 5 | 10 | 30 | 60 | 10 | | | | | | | | 60 |
| Prairie dropseed | | | 5 | | | 5 | 5 | 10 | | | | | | 5 | 10 | 5 | | | | | |
| Prairie junegrass | 5 | | 5 | | | 5 | 5 | 10 | | 5 | | | 5 | 10 | 5 | 10 | 5 | 5 | 5 | 10 | |
| Prairie sandreed | 20 | 40 | 10 | | | 10 | 20 | 40 | | 30 | | | | 20 | 10 | 40 | 30 | | 10 | 20 | |
| Prairie wedgegrass | | | | | | | | | | | | 10 | | | | | | | | | 5 |
| Sand bluestem | | 40 | | | | | | 30 | | 30 | | | | | | 30 | | | | | |
| Sand dropseed | | 5 | | | | 5 | | 5 | | 10 | | | | 5 | | 10 | 5 | | | 5 | |
| Sandberg bluegrass | | | | | | | | | | | | | | | | | | 10 | | | |
| Sideoats grama | 20 | 20 | 30 | | 20 | 20 | 20 | 20 | 20 | 15 | | | 20 | 30 | 25 | 20 | 20 | 20 | 20 | 30 | |
| Slender wheatgrass | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 30 | 10 | 10 | 10 | 10 | 10 | 20 | 10 | 10 | 10 | 10 |
| Switchgrass | | 20 | | 10 | 20 | 20 | 20 | 20 | 20 | 30 | 20 | | 20 | | 20 | 20 | | | | | 10 |
| Virginia wildrye | | 5 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | 10 | | | 10 | | | | | 10 |
| Western wheatgrass | 40 | 20 | 40 | 10 | 20 | 40 | 50 | 20 | 25 | 25 | 60 | 10 | 20 | 30 | 40 | 20 | 30 | 60 | 40 | 40 | 10 |
| Whitetop | | | | 50 | | | | | | | | 40 | | | | | | | | | 50 |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | |
| Baltic rush | | | | | | | | | | | 5 | | | | | | | | | | 10 |
| Bebb's sedge | | | | | | | | | | | | 10 | | | | | | | | | 10 |
| Bicknell's sedge | | | | | 5 | | | | 5 | | | | 5 | | | | | | | | 10 |
| Blunt Broom Sedge | | | | 15 | | | | | | | | | | | | | | | | | 10 |
| Bottlebrush sedge | | | | 5 | | | | | | | | 5 | | | | | | | | | 10 |
| Bristly sedge | | | | | | | | | | | | 5 | | | | | | | | | 10 |
| Common spikerush | | | | | | | | | | | | 10 | 5 | | | | | | | | 5 |
| Crested sedge | | | | 15 | | | | | | | | | | | | | | | | | 15 |

| MLRA 55B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|-----|----|----|-----|----|------|----|----|------|------------------|----|-----|-----|------|----|------|-----|-----|-----|------------------|
| SD common name | Cp | CSa | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | SwLy | Sy | SyCp | TCp | TLy | VSw | WM ^{1/} |
| Fox sedge | | | | 10 | 5 | | | | 5 | | | 10 | 5 | | | | | | | | 10 |
| Hardstem bulrush | | | | 10 | | | | | | | | 10 | | | | | | | | | 5 |
| Inland rush | | | | | 5 | | | | 5 | | 5 | | | | | | | | | | 5 |
| River bulrush | | | | | | | | | | | | 15 | | | | | | | | | |
| Slough sedge | | | | 60 | | | | | | | | 60 | | | | | | | | | 60 |
| Softstem bulrush | | | | 10 | | | | | | | | 10 | | | | | | | | | 5 |
| Torrey's rush | | | | | 5 | | 5 | | 5 | | 5 | | 5 | | | | | | | | 10 |
| Woolly sedge | | | | 5 | | | | | | | | 5 | | | | | | | | | 40 |
| Forbs | | | | | | | | | | | | | | | | | | | | | |
| American / Water horehound | | | | | | | | | | | | 5 | 5 | | | | | | | | 5 |
| American licorice | | | | 5 | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | | | | | 5 |
| American vetch | | | 5 | | | 5 | 5 | 5 | | | | | | | 5 | 5 | 5 | | 5 | 5 | |
| Black-eyed Susan | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 |
| Blanketflower | | 5 | | | | 5 | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Blue vervain | | | | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | | | | 5 |
| Boneset | | | | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | | | | 5 |
| Bottle gentian | | | | | | | | | 5 | | | | 5 | | | | | | | | 5 |
| Canada / Meadow Anemone | | | | 5 | 5 | | 5 | | 5 | | | | 5 | | | | | | | | 5 |
| Canada milkvetch | 5 | 5 | 5 | | | 5 | | 5 | | | | | | | 5 | 5 | 5 | | | | |
| Canada tick trefoil | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | | 5 | 5 | | | | | |
| Common Burreed | | | | 5 | | | | | | | | 5 | | | | | | | | | 5 |
| Common milkweed | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | | 5 | | | | 5 | 5 |
| Compass plant | | | 5 | | 5 | 5 | 5 | | 5 | | | | 5 | | | | | | | | |
| Cudweed sagewort | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Devil's beggartick | | | | 5 | 5 | | 5 | | 5 | 5 | 5 | | 5 | | | | | | | | 5 |
| Dotted gayfeather | 5 | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / lanceleaf figwort | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | 5 | | |
| Eastern Daisy fleabane | | | 5 | | | 5 | 5 | 5 | | | | | | 5 | | 5 | | | 5 | | |
| Eastern purple coneflower | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| false boneset | | | 5 | | | 5 | | | | | | | | | | | | | | | |
| False gromwell | | | | | | | 5 | 5 | | | | | 5 | | | 5 | 5 | | | | |
| False sunflower | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | | | 5 | | | | | |
| Field / Green sagewort | | | | | | | | 5 | | | | | | 5 | | | 5 | 5 | 5 | 5 | |
| Fragrant giant hyssop | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | | | 5 | |
| Geyer's aster | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | | 5 | | 5 |
| Giant goldenrod | | | | | | | | | 5 | | | 5 | | | | | | | | | 5 |
| Grass-leaved / flat-top goldenrod | | 5 | | | | | | | | 5 | | | | | | | | | | | |
| Great blue Lobelia | | | | | | | | | | 5 | | | 5 | | | | | | | | |
| Groundplum milkvetch | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | | 5 | 5 | 5 | 5 | 5 | |
| Heart-leaved golden Alexanders | | | | 5 | | | | | | | | | 5 | | | | | | | | |
| Heath aster | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 |
| Hoary vervain | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | 5 | | 5 | |
| Illinois bundleflower | 5 | 5 | 5 | 5 | | 5 | | 5 | | | | | | 5 | 5 | 5 | | | | 5 | |
| Indian blanket | 5 | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |

| MLRA 55B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|----|----|-----|----|------|----|----|------|------------------|----|-----|-----|------|----|------|-----|-----|-----|------------------|
| SD common name | Cp | CSa | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | SwLy | Sy | SyCp | TCp | TLy | VSw | WM ^{1/} |
| Indian breadroot scurfpea | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | | | | 5 | 5 | 5 | 5 | 5 | | |
| Ironweed | | | | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | | | | 5 |
| Joe-pye weed | | | | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | | | | 5 |
| Late figwort / carpenter's square | | | | 5 | 5 | | 5 | | 5 | 5 | | | 5 | | | | | | | | 5 |
| Lewis flax | | 5 | | | | 5 | 5 | 5 | | | | | | | 5 | 5 | 5 | | 5 | | |
| Mad dog / blue skullcap | | | | 5 | | | | | | | | 5 | | | | | | | | | |
| Maximilian sunflower | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | 5 | | | | | |
| Narrow-leaved purple coneflower (Blacksamson echinacea) | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| New England aster | 5 | 5 | 5 | 5 | | 5 | | 5 | | | | 5 | | | | 5 | | | | | 5 |
| Nodding beggartick / bur marigold | | | | 5 | | | | | | | | 5 | | | | | | | | | 5 |
| Old field goldenrod / Gray goldenrod | 5 | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Pale spiked lobelia | | | | | | | | | | 5 | | | 5 | | | | | | | | |
| Pasqueflower | | | | | | | | | | | | | | 5 | 5 | | | | 5 | | |
| Pennsylvania smartweed | | | | | | | | | | | | 5 | | | | | | | | | 5 |
| Plains coreopsis | | | | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | | | | 5 |
| Prairie / Richardson's alumroot | | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | | | 5 | 5 | |
| Prairie aster | 5 | | 5 | | | 5 | 5 | | | | 5 | | | | 5 | 5 | 5 | | 5 | | |
| Prairie blue-eyed grass | | | | | | | | | 5 | | | | | | | | | | | | 5 |
| Prairie coneflower | 5 | 5 | 5 | | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Prairie Goldenrod / Upland white aster | | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | | | 5 | 5 | |
| Prairie Onion | | | | | | | | | | | | | | 5 | 5 | | | 5 | 5 | 5 | |
| Prairie spiderwort | 5 | | 5 | | | 5 | | 5 | | 5 | | | | | 5 | 5 | 5 | | 5 | 5 | |
| Prairie violet | | | | | 5 | | | | 5 | | | | 5 | | | | | | | | |
| Purple giant hyssop | | | 5 | | | 5 | 5 | 5 | 5 | | | | | | | 5 | | | | | |
| Purple prairieclover | 5 | 5 | 5 | | | 5 | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Rocky Mountain bee plant | | 5 | | | | | | 5 | | | | | | | | 5 | 5 | | | 5 | |
| Rough blazing star | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | 5 | | 5 | |
| Round-headed bush clover | 5 | 5 | 5 | | | 5 | | 5 | | | | | | | | 5 | | | | | |
| Scarlet globemallow | 5 | | 5 | | | 5 | | | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Shell-leaf penstemon | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | | | 5 | |
| Silky / western silver aster | | 5 | 5 | | | 5 | | 5 | | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | |
| Stiff goldenrod | 5 | 5 | 5 | | | 5 | | 5 | | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Stiff sunflower | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 | | 5 | | |
| Swamp milkweed | | | | 5 | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | | | | | 5 |
| Sweet flag | | | | 5 | | | | | | | | 5 | | | | | | | | | 5 |
| Tall meadow rue | 5 | | 5 | | 5 | 5 | 5 | | 5 | | | | 5 | | | | | | | | |
| Tall thimbleweed | | | 5 | | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | | | |
| Water plantain | | | | 5 | | | | | | | | 5 | | | | | | | | | 5 |
| Western yarrow | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| White panicle Aster | | | | 5 | | | | | | | | 5 | | | | | | | | | |
| White prairieclover | 5 | 5 | 5 | | | 5 | | 5 | | | | | | 5 | 5 | 5 | | 5 | 5 | 5 | |

| MLRA 55B | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|-----|----|----|-----|----|------|----|----|------|------------------|----|-----|-----|------|----|------|-----|-----|-----|------------------|
| SD common name | Cp | CSa | Cy | LM | LSb | Ly | LyOv | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | SwLy | Sy | SyCp | TCp | TLy | VSw | WM ^{1/} |
| Wild bergamot | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | 5 | 5 | 5 | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | |
| Black currant | | | | | 5 | | 5 | | 5 | | | | 5 | | | | | | | | |
| Chokecherry | | 5 | | | 5 | | 5 | | | | | | | | 5 | | | | | | |
| Dwarf indigo | | 5 | 5 | | | 5 | | 5 | | | | | | 5 | | 5 | | | 5 | 5 | |
| Early wild rose | | | | | | | 5 | | 5 | | | | 5 | | | | | | | | |
| False indigo | | | | 5 | | | 5 | | | | | | | | | | | | | | |
| Fringed sagewort | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Gardner's saltbush | | | | | | | | | | | 5 | | | | | | | | | | |
| Golden currant | | 5 | | | | 5 | 5 | | | | | | | | | 5 | | | | | |
| Juneberry | | 5 | | | | | 5 | | | | | | | | | | | | | 5 | |
| Leadplant | | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Prairie cinquefoil | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | | | | | 5 | | | | | |
| Prairie rose | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Redosier dogwood | | | | | 5 | | 5 | | 5 | | | | 5 | | | | | | | | 5 |
| Western snowberry | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | 5 | | |
| Wild plum | | | | | 5 | 5 | 5 | | 5 | | | | 5 | | 5 | | | | | | |

1. On these sites a minimum of two species can be planted when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for ES.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 58D**

| MLRA 58D SD Common Name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|-----|------|------|------|----|------|-----|-----|-----|-----|-----|----|----|
| | CD ^{1/} | Cp | CSa | Cy | CyOv | Ly | LyOv | LyT | Sa | SH | SL ^{1/} | SOv | SwCy | SwLy | SwSy | Sy | SyCp | SyT | Tcp | TLy | TSy | VSw | WL | WM |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | 10 | | | | | | | | | | 20 | | | | | | | | 20 | | | | | |
| American mannagrass | | | | | | | | | | | | | | | | | | | | | | | 15 | 15 |
| American sloughgrass | 5 | | | | | | | | | | | | | | | | | | | | | | 10 | 15 |
| Big bluestem | | | 20 | 15 | 20 | 15 | 40 | 35 | 20 | 30 | | | 20 | 20 | 20 | 20 | 15 | 15 | | 15 | 15 | 10 | | |
| Blue grama | | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 15 | 10 | 10 | 10 | 10 | 10 | 30 | 5 | 10 | 20 | | |
| Blue wildrye | | | | 10 | 10 | 10 | 10 | 10 | | | 10 | 10 | | | | | | | | | | | | 10 |
| Bluebunch wheatgrass | | | | 5 | | 5 | | | | | | | 5 | 5 | 5 | 5 | | | | 5 | | 5 | | |
| Bluejoint reedgrass | | | | | | | | | | | | | | | | | | | | | | | 35 | 15 |
| Buffalograss | | 10 | | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | | | | | 10 | 5 | | 10 | | |
| Canada wildrye | | | | | 10 | 10 | 10 | 5 | 10 | 10 | | 10 | | | | 10 | | 10 | | | | | | 10 |
| Fowl bluegrass | 10 | | | | 5 | | | | | | 5 | | | | | | | | | | | | | 10 |
| Fowl mannagrass | | | | | | | | | | | | | | | | | | | | | | | 10 | 10 |
| Green needlegrass | | 5 | | 30 | 40 | 40 | 30 | 30 | | 20 | | 30 | 35 | 15 | 5 | | 5 | 15 | 10 | 15 | 5 | | | |
| Indian ricegrass | | 5 | 5 | | | | | | | 5 | | | | | 5 | 5 | 5 | | 5 | | 5 | | | |
| Indiangrass | | | 20 | | | | 10 | 5 | 10 | | | | | | | 10 | | | | | | | | |
| Inland saltgrass | 10 | 5 | | | | | | | | | 30 | 20 | 5 | | | | 5 | | 10 | | | | 5 | |
| Little bluestem | | 5 | 20 | 5 | 5 | 10 | 10 | 15 | 15 | 40 | | | 15 | 25 | 25 | 35 | 15 | 10 | | 20 | 30 | 30 | | |
| Montana wheatgrass | 5 | 20 | | 10 | 5 | 10 | | | | | 10 | 5 | | | | | | | 20 | | | | | |
| Needleandthread | | 20 | 30 | 5 | 5 | 15 | 15 | 20 | 30 | 10 | | | 10 | 20 | 25 | 30 | 30 | 25 | 5 | 25 | 15 | 35 | | |
| Nuttall's alkaligrass | 30 | | | | 20 | | | | | | 35 | 25 | | | | | | | | | | | | |
| Porcupinegrass | | | 5 | 5 | 5 | 10 | 10 | 10 | 15 | 5 | | | 10 | 5 | | 15 | | 10 | | 10 | | | | |
| Prairie cordgrass | | | | | 5 | | 10 | | | | 25 | 15 | | | | | | | | | | | 70 | 35 |
| Prairie dropseed | | | | | 5 | | 5 | 5 | | 10 | | | | | | | | | | 5 | | | | |
| Prairie junegrass | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 10 | 5 | | 5 | 10 | 10 | 5 | 10 | 5 | 5 | | 5 | 5 | 10 | | |
| Prairie sandreed | | 5 | 40 | 5 | | 10 | 15 | 15 | 40 | | | | 10 | 10 | 35 | 35 | 30 | 40 | | 5 | 35 | 10 | | |
| Sand bluestem | | | 40 | | | | | | 40 | | | | | | 15 | 30 | 10 | | | | 15 | | | |
| Sand dropseed | | 5 | 5 | | | 5 | | | 5 | | | | | | 5 | 10 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Sandberg bluegrass | | | | 5 | | 5 | | 5 | | | | | | | | | 5 | | 10 | 5 | 5 | 5 | | |
| Sideoats grama | | | 20 | 15 | | 15 | 10 | 15 | 10 | 20 | | | 15 | 10 | 5 | 20 | | | 20 | 15 | 10 | 5 | | |
| Slender wheatgrass | 10 | 10 | | 10 | 20 | 10 | 10 | 10 | 5 | 10 | 10 | 20 | 10 | 10 | | 10 | 5 | 10 | 5 | 5 | | 10 | 10 | |
| Snake river wheatgrass | | | | 5 | | 5 | | | | | | | 5 | | 5 | 5 | | | | 5 | | 5 | | |
| Squirreltail | | | | | | | | | | | | | 5 | 5 | 5 | | | | | 5 | | | | 10 |
| Switchgrass | | | 20 | | 10 | | 15 | 15 | 20 | | 20 | 10 | | | | 10 | 10 | 10 | | | | | 10 | 10 |
| Thickspike wheatgrass ^{3/} | 100 | 50 | 5 | 50 | 15 | 50 | | 40 | 10 | | 50 | 45 | 45 | 40 | 20 | 30 | 5 | | 10 | | | 5 | | |
| Tufted hairgrass | | | | | 5 | | 5 | | | | | | | | | | | | | | | | | |
| Virginia wildrye | | | | | 10 | 10 | 10 | 5 | 10 | 10 | 5 | 10 | | | | 10 | | 10 | | | | | | 10 |
| Western wheatgrass | 100 | 50 | 5 | 50 | 50 | 50 | 40 | 40 | 10 | 20 | 50 | 45 | 45 | 40 | 20 | 30 | 30 | 30 | 50 | 40 | 20 | 25 | 10 | 10 |
| Whitetop | | | | | | | | | | | | | | | | | | | | | | | 15 | 10 |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | | | | |
| Baltic rush | | | | | | | | | | | 5 | | | | | | | | | | | | | 15 |

| MLRA 58D | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|-----|------|------|------|----|------|-----|-----|-----|-----|-----|----|----|
| SD Common Name | CD ^{1/} | Cp | CSa | Cy | CyOv | Ly | LyOv | LyT | Sa | SH | SL ^{1/} | SOv | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | TSy | VSw | WL | WM |
| Bebb's sedge | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| Blunt Broom Sedge | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| Bristly sedge | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| Common spikerush | 30 | | | | 5 | | | | | | | | | | | | | | | | | | 10 | 15 |
| Crested sedge | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| Fox sedge | | | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Hardstem bulrush | | | | | | | | | | | | | | | | | | | | | | | 5 | 10 |
| Inland rush | 5 | | | | | | | | | | 5 | 5 | | | | | | | | | | | 5 | |
| Slough sedge | | | | | | | | | | | | | | | | | | | | | | | 30 | 15 |
| Softstem bulrush | | | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Torrey's rush | 5 | | | | 5 | | 5 | 5 | | | 5 | 5 | | | | | | | | | | | 10 | |
| Woolly sedge | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| Forbs | | | | | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | | | | 5 | | 5 | 5 | | | | 5 | | | | | | | | | | | 5 | 5 |
| American Vetch | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Black-eyed Susan | | | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | | | 5 | | |
| Blue vervain | | 5 | | | 5 | | 5 | | | | | | | | | | | | | | | | 5 | |
| Boneset | | 5 | | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | | | | | | 5 | | | | |
| Broadbeard beardtongue | | 5 | 5 | | | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| Canada / Meadow Anemone | | | | | | | | 5 | | | | 5 | | | | | | | | | | | | |
| Canada milkvetch | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | | 5 | 5 | | | |
| Canada tick trefoil | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | 5 | | | | | | 5 | | |
| Common Bur-reed | | | | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Common milkweed | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | | | | 5 | |
| Compass plant | | | | 5 | 5 | 5 | 5 | 5 | | | | | | | | | | | | | | | | |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Devil's beggartick | | | | | 5 | | 5 | 5 | | | 5 | 5 | | | | | | | 5 | | | | | 5 |
| Dotted gayfeather | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Early / lanceleaf figwort | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | | 5 | | | | | 5 | 5 | | |
| Eastern Daisy fleabane | | | | 5 | | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | |
| False boneset | | | | 5 | 5 | 5 | | | | 5 | | | | 5 | | 5 | 5 | | | 5 | | | | |
| False sunflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | | | | | | | |
| Field / Green sagewort | | | | | | | | | | 5 | | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Fragrant giant hyssop | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | | 5 | |
| Fuzzytongue penstemon | | | | 5 | | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Geyer's aster | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | | 5 |
| Groundplum milkvetch | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | |
| Heath aster | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | | | | 5 | | | | |
| Hoary vervain | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | | 5 | | | 5 | |
| Illinois bundleflower | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | | 5 | |
| Indian blanket | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | | | 5 | | | | 5 | | | 5 | |
| Indian breadroot scurfpea | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 |
| Ironweed | 5 | | | | 5 | | 5 | | | | | | | | | | | | | | | | | 5 |
| Joe-pye weed | | | | | 5 | | 5 | | | | | | | | | | | | | | | | | 5 |

| MLRA 58D | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----|-----|----|------|----|------|-----|----|----|------------------|-----|------|------|------|----|------|-----|-----|-----|-----|-----|----|----|
| SD Common Name | CD ^{1/} | Cp | CSa | Cy | CyOv | Ly | LyOv | LyT | Sa | SH | SL ^{1/} | SOv | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | TSy | VSw | WL | WM |
| Lewis flax | | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| Maximilian sunflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | | 5 | | 5 | | | | | | 5 |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | |
| New England aster | | 5 | 5 | 5 | | 5 | | 5 | 5 | | | | | | | 5 | | | | | | | 5 | 5 |
| Old field goldenrod / Gray goldenrod | | | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | 5 | | |
| Pasqueflower | | | | | | | | | | 5 | | | | 5 | 5 | | | | | 5 | 5 | 5 | | |
| Plains coreopsis | 5 | | | | 5 | | 5 | | | | 5 | | | | | | | | | | | | 5 | |
| Prairie / Richardson's alumroot | | | 5 | 5 | | 5 | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | | |
| Prairie aster | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie blue-eyed grass | | | | | | | 5 | | | | | 5 | | | | | | | | | | | | 5 |
| Prairie coneflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Prairie goldenrod / Upland white aster | | | | 5 | | 5 | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | |
| Prairie smoke | | | | | | 5 | | | | 5 | | | | 5 | | | | | | | 5 | | | |
| Prairie spiderwort | | | 5 | 5 | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| Prairie sunflower | | | 5 | | | | | | 5 | 5 | | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| Purple prairieclover | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Rocky Mountain bee plant | | 5 | 5 | | | | | | 5 | | | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| Rough blazing star | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | 5 | | | 5 | | |
| Round-headed bush clover | | 5 | 5 | 5 | | 5 | | 5 | 5 | | | | | | | 5 | | | | | | | | |
| Scarlet globemallow | | 5 | | 5 | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | |
| Shell-leaf penstemon | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | 5 | | |
| Stiff goldenrod | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | | | 5 | | |
| Stiff sunflower | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | 5 | 5 | | | | 5 | | | |
| Swamp milkweed | | | | | 5 | | 5 | | | | | | | | | | | | | | | | | 5 |
| Tall meadow rue | | | | 5 | 5 | 5 | 5 | 5 | | | | | | | | | | | | | | | | |
| Tall thimbleweed | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | | | | 5 | | | | | |
| Water plantain | 5 | | | | | | | | | | 5 | | | | | | | | | | | | | 5 |
| Western yarrow | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| White prairieclover | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Whorled milkweed | | | | 5 | | 5 | | | 5 | | | | | | | 5 | | | | | | | | |
| Wild bergamot | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | 5 | | | 5 | | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | | | |
| Big sagebrush | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | |
| Black currant | | 5 | | | 5 | | 5 | 5 | | | | | | | | | | | 5 | | | | | |
| Chokecherry | | | | | 5 | | 5 | 5 | | | | 5 | 5 | | | | | | 5 | | | | | |
| Dwarf indigo | | | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | | |
| False indigo | | 5 | | | 5 | | 5 | | | | | | | | | | | | | | | | 5 | 5 |
| Four-wing saltbush (dewinged) | 5 | 5 | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Fringed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Gardner's saltbush | | 5 | | | | | | | | | 5 | | 5 | | | | | | 5 | | | | | |

| MLRA 58D | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|----|-----|----|------|----|------|-----|----|----|------------------|-----|------|------|------|----|------|-----|-----|-----|-----|-----|----|----|
| SD Common Name | CD ^{1/} | Cp | CSa | Cy | CyOv | Ly | LyOv | LyT | Sa | SH | SL ^{1/} | SOv | SwCy | SwLy | SwSy | Sy | SyCp | SyT | TCp | TLy | TSy | VSw | WL | WM |
| Golden currant | | 5 | | | | 5 | 5 | 5 | | | | | | | | 5 | | 5 | | | | | | |
| Juneberry | | | | | 5 | | 5 | 5 | | | | | | | | | | 5 | | | | | | |
| Leadplant | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 | | 5 | | 5 | | |
| Prairie cinquefoil | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | | | |
| Prairie rose | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | |
| Redosier dogwood | | | | | 5 | | 5 | 5 | | | | | | | | | | 5 | | | | | | |
| Sand sagebrush | | | | | | | | | 5 | | | | | | | 5 | | | | | | | | |
| Silver buffaloberry | | | | 5 | 5 | 5 | 5 | | | | | | 5 | | | | | | | | | | | |
| Silver sagebrush | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | |
| Western snowberry | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | | 5 | | 5 | 5 | 5 | | 5 | | | | |
| Wild plum | | | | | 5 | 5 | 5 | 5 | | | | 5 | | | | | | 5 | | | | | | |
| Winterfat | | 5 | | 5 | | 5 | | | | | 5 | | 5 | | | 5 | | | 5 | | | | | |

1. A single species is allowable on this site when planning a Range Seeding (550).

2. Thickspike wheatgrass may be substituted if western wheatgrass is unavailable.

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for ES.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 60A**

| MLRA 60A SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|----|----|------|----|----|----|------|-----|----|----|----|------------------|-----|------------------|-----|--------------------|------|------|------|----|-----|----|-----|------------------|----|--|
| | CD ^{2/} | Cp | Cy | CyOv | DC | LL | Ly | LyOv | LyT | PC | Sa | Sb | SL ^{1/} | SSb | SU ^{1/} | SwC | SwDC ^{1/} | SwLy | SwPC | SwSy | Sy | TCp | TU | VSw | WL ^{1/} | | |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | | 10 | 30 | 50 | 30 | | | | | | | | | | | | |
| American sloughgrass | 10 | | | | | | | | | | | | | | | | | | | | | | | | | 10 | |
| Basin wildrye | | | | | | | | | | | | 10 | | | | | | | | | | | | | | | |
| Big bluestem | | | 10 | 30 | | | 15 | 50 | 20 | 20 | 20 | 50 | | 30 | | 20 | | 15 | 20 | 30 | 30 | | 15 | | | | |
| Blue grama | | 20 | 10 | 10 | 10 | 10 | 15 | 10 | 15 | 10 | 10 | 5 | 10 | 10 | 10 | 15 | 15 | 10 | 5 | 10 | 10 | 30 | 20 | 25 | | | |
| blue wildrye | | | 10 | 10 | | 10 | | 10 | 10 | | | 10 | 10 | 10 | | | | | | | | | | | | | |
| Bluebunch wheatgrass | | | | | | | | | | | | | | | | 10 | | 10 | | 10 | | | 20 | 10 | | | |
| Bluejoint reedgrass | | | | | | | | | | | | | | | | | | | | | | | | | | 30 | |
| Buffalograss | | 10 | 10 | | 10 | | 10 | | | | | | | | | | 10 | 10 | | | | 10 | 10 | | | | |
| Canada wildrye | | | 5 | 10 | | 10 | 10 | 10 | 10 | | | 10 | | | | | | | | | 10 | | 10 | | | | |
| Fowl bluegrass | 5 | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | | |
| Green muhly | | | | 5 | | | | | | | | 10 | | | | | | | | | | | | | | | |
| Green needlegrass | | 30 | 50 | 30 | 30 | 30 | 25 | 20 | 30 | 20 | | 10 | | 10 | | 30 | 15 | 15 | 10 | | | 15 | 10 | 5 | | | |
| Indian ricegrass | | | | | | | | | | | 10 | | | | 10 | | | | | 10 | 10 | | | | | | |
| Indiangrass | | | | 10 | | | | 10 | 10 | | 10 | 20 | | 20 | | | | | | | | 15 | | | | | |
| Inland saltgrass | 10 | | | | | | | | | | | | 25 | 20 | 10 | | | | | | | | | | | 10 | |
| Little bluestem | | 10 | 10 | 20 | | | 20 | 10 | 25 | 35 | 30 | 10 | | 20 | | 15 | | 20 | 40 | 20 | 20 | 10 | 45 | 25 | | | |
| Montana wheatgrass | 5 | 20 | 10 | | 10 | | | | | 10 | | | 10 | 5 | 20 | | 10 | | 10 | | | 20 | | | | | |
| Needleandthread | | 20 | 15 | 10 | | 10 | 25 | 10 | 20 | 10 | 20 | | | | | 10 | | 20 | | 30 | 25 | 15 | 25 | 25 | | | |
| Nuttall's alkaligrass | 20 | | | | | | | | | | | | 30 | | 10 | | | | | | | | | | | | |
| Porcupinegrass | | | 5 | 10 | | | 10 | 10 | | | 20 | | | | | 10 | | | | | | | 10 | | | | |
| Prairie cordgrass | | | | 10 | | | | 10 | | 10 | | 30 | 30 | 20 | | | | | | | | | | | | 60 | |
| Prairie dropseed | | | | | | | | | 10 | | | | | | | | | | | | | | | | | | |
| Prairie junegrass | | 5 | 5 | 5 | 5 | 10 | 5 | 5 | 5 | 10 | 10 | | | | 10 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | | | |
| Prairie sandreed | | 20 | | 15 | | | | 15 | 20 | 35 | 40 | | | | | 10 | | 10 | 15 | 25 | 40 | 10 | 20 | 10 | | | |
| Prairie wedgegrass | | | | | | | | | | | | 10 | | | | | | | | | | | | | | | |
| Sand bluestem | | | | | | | | | 10 | 20 | 50 | | | | | | | | | 10 | 30 | | | | | | |
| Sand dropseed | | | | | | | | | | | 10 | | | 10 | | | | | | 10 | 10 | 10 | | | | 10 | |
| Sandberg bluegrass | | 5 | 5 | 5 | 5 | 10 | 5 | 5 | | 10 | 10 | | 10 | | 10 | 10 | 10 | 5 | | 10 | 10 | 10 | 10 | 10 | | | |
| Sideoats grama | | 5 | 15 | 10 | 5 | | 30 | 20 | 15 | 20 | 20 | 10 | | 20 | | 30 | 20 | 20 | 15 | 20 | 10 | 10 | 30 | 30 | | | |
| Slender wheatgrass | 10 | 10 | 10 | 20 | | 20 | 10 | 10 | | | 10 | 10 | 15 | 10 | 10 | 10 | | | | | | 10 | | 10 | | 10 | |
| Snake river wheatgrass | | | | | | | | | | | | | | | | 10 | | 10 | | 10 | | | 20 | 10 | | | |
| Squirreltail | | | | 5 | 5 | 5 | | | | | | | 5 | | 5 | 5 | 5 | | | | | 5 | | | | | |
| Switchgrass | | | | 20 | | | | 25 | 10 | 20 | 15 | 25 | 20 | 20 | | | | | 15 | 10 | 10 | | | | | 10 | |
| Virginia wildrye | | | 5 | 10 | | 10 | 10 | 10 | 10 | | | 10 | | 10 | | | | | | | | 10 | | | | | |
| Western wheatgrass ^{4/} | 100 | 40 | 60 | 60 | 80 | 30 | 40 | 40 | 50 | 25 | 20 | 25 | 60 | 30 | 50 | 50 | 80 | 30 | 20 | 20 | 20 | 50 | 30 | 20 | 10 | | |
| Whitetop | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Common spikerush | 25 | | | | | | | | | | | 10 | 10 | | | | | | | | | | | | | 10 | |
| Dudley's rush | | | | | | | | | | 10 | | | | | | | | | 10 | | | | | | | | |

| MLRA 60A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----|----|------|----|----|----|------|-----|----|----|----|------------------|-----|------------------|-----|--------------------|------|------|------|----|-----|----|-----|------------------|----|--|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LL | Ly | LyOv | LyT | PC | Sa | Sb | SL ^{1/} | SSb | SU ^{1/} | SwC | SwDC ^{1/} | SwLy | SwPC | SwSy | Sy | TCp | TU | VSw | WL ^{1/} | | |
| Inland rush | 5 | | | | | | | | | | | 5 | 5 | 5 | | | | | | | | | | | | | |
| Slough sedge | | | | | | | | | | | | | | | | | | | | | | | | | | 60 | |
| Torrey's rush | 5 | | | 5 | | | | | | | | 5 | 5 | 5 | | | | | | | | | | | | | |
| Forbs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | | | 5 | | 5 | | 5 | | | | 5 | 5 | 5 | | | | | | | | | | | | 5 | |
| American vetch | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | |
| Black-eyed Susan | | 5 | 5 | | | | 5 | | 5 | | 5 | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | | |
| Blanket flower | | | 5 | | | | 5 | | | | 5 | | | | | 5 | | 5 | 5 | 5 | 5 | | | | | | |
| Blue vervain | | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | 5 | |
| Boneset | | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | 5 | |
| Broadbeard beardtongue | | | | | | | 5 | | | 5 | 5 | | | | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Canada / Meadow anemone | | | | 5 | | | | 5 | | | | 5 | | | | | | | | | | | | | | | |
| Canada milkvetch | | 5 | 5 | | | 5 | 5 | | 5 | | 5 | | | | | | | | | 5 | 5 | | | | | | |
| Canada tick trefoil | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | | | | | | 5 | | | | | | |
| Common milkweed | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | 5 | | 5 | | | 5 | |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Devil's beggartick | | | | 5 | | | | 5 | 5 | | | 5 | 5 | 5 | | | | | | | | | | | | | |
| Dotted gayfeather | | 5 | 5 | | | | 5 | | 5 | 5 | 5 | | | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / lanceleaf figwort | | | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | | | | | | 5 | | 5 | | | | |
| Eastern daisy fleabane | | | 5 | | | | 5 | | | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | | |
| false boneset | | | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | 5 | | 5 | 5 | 5 | 5 | | 5 | | | | |
| False gromwell | | | | | | | 5 | | | | 5 | | | | | | | | | | | | | | | | |
| False sunflower | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | | | | | | 5 | | | | | | |
| Fragrant giant hyssop | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | 5 | | 5 | 5 | | 5 | |
| Fuzzytongue penstemon | | 5 | 5 | | | | 5 | | 5 | | 5 | | | | | 5 | | 5 | | 5 | 5 | | 5 | | | | |
| Geyer's aster | | | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | | |
| Groundplum milkvetch | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Heath aster | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Hoary vervain | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Illinois bundleflower | | 5 | 5 | | | | 5 | | 5 | | 5 | | | | | 5 | | | 5 | | 5 | | 5 | 5 | | | |
| Indian blanket | | 5 | 5 | | | | 5 | | 5 | | 5 | | | | | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Indian breadroot scurfpea | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Ironweed | 5 | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | 5 | |
| Joe-pye weed | | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | 5 | |
| Lewis flax | | | | | | | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | 5 | 5 | | 5 | | | | |
| Maximilian sunflower | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | | | | | | 5 | | | | | | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | 5 | 5 | | | | 5 | | 5 | | 5 | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| New England aster | | 5 | 5 | | | | 5 | | 5 | | 5 | | | | | | | | | | 5 | | | | | | |
| Old field goldenrod / Gray goldenrod | | 5 | 5 | | | | 5 | | 5 | | 5 | | | | | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | |
| Pasqueflower | | | | | | | | | | | | | | | | | | 5 | 5 | | | | | | 5 | | |
| Pennsylvania smartweed | | | | | | | | | | | | 5 | | | | | | | | | | | | | | 5 | |

| MLRA 60A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----|----|------|----|----|----|------|-----|----|----|----|------------------|-----|------------------|-----|--------------------|------|------|------|----|-----|----|-----|------------------|---|--|--|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LL | Ly | LyOv | LyT | PC | Sa | Sb | SL ^{1/} | SSb | SU ^{1/} | SwC | SwDC ^{1/} | SwLy | SwPC | SwSy | Sy | TCp | TU | VSw | WL ^{1/} | | | |
| Plains coreopsis | 5 | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | 5 | | | |
| Prairie / Carolina larkspur | | | | | | | | | 5 | | | | | | | | | | | | | 5 | | | | | | |
| Prairie / Richardson's alumroot | | | 5 | | | | | 5 | | 5 | 5 | | | | | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| Prairie aster | | 5 | 5 | | | | | 5 | 5 | 5 | 5 | | | | | 5 | | | 5 | | 5 | 5 | | 5 | | | | |
| Prairie blue-eyed grass | | | | 5 | | | | 5 | | | | 5 | | | | | | | | | | | | | | | | |
| Prairie coneflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | | | |
| Prairie goldenrod / Upland white aster | | | 5 | | | | | 5 | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | | |
| Prairie onion | | 5 | 5 | | 5 | 5 | 5 | | 5 | | | | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | | 5 | | | |
| Prairie spiderwort | | 5 | 5 | | | 5 | 5 | | 5 | | | | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | | | | |
| Prairie sunflower | | | | | | | | | | | 5 | | | | | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Purple prairieclover | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Rocky Mountain bee plant | | | | | | | | | | | 5 | | | | | | | | | | 5 | 5 | | | | 5 | | |
| Rough blazing star | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | | | |
| Round-headed bush clover | | 5 | 5 | | | | | 5 | | 5 | | | | | | | | | | | | 5 | | | | | | |
| Scarlet globemallow | | 5 | 5 | | 5 | | 5 | | | 5 | | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Shell-leaf penstemon | | 5 | | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | 5 | | 5 | 5 | | | |
| Stiff goldenrod | | 5 | 5 | | 5 | | 5 | | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Stiff sunflower | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | |
| Swamp milkweed | | | | 5 | | | | 5 | | | | 5 | | 5 | | | | | | | | | | | | 5 | | |
| Tall meadow rue | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | | 5 | | | | | | | | | | | | | | |
| Tall thimbleweed | | | 5 | 5 | | | | 5 | 5 | | | | 5 | 5 | | | | | | | | | | | | | | |
| Western yarrow | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| White prairieclover | | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Wild bergamot | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | | | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Big sagebrush | | 5 | 5 | | 5 | | 5 | 5 | 5 | | | | | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | | |
| Black currant | | | | 5 | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | |
| Chokecherry | | | | 5 | | | | | 5 | | 5 | | | | | | 5 | | | | | | | 5 | | | | |
| Dwarf indigo | | | 5 | | | | | 5 | | 5 | 5 | | | | | | 5 | | | | | 5 | | 5 | 5 | | | |
| False indigo | | | | 5 | | | | 5 | | | | 5 | | | | | | | | | | | | | | 5 | | |
| Four-wing saltbush (dewinged) | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Fringed sagewort | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | |
| Gardner's saltbush | | | 5 | | 5 | | | | | | | | 5 | | 5 | | 5 | | | | | | 5 | | | | | |
| Golden currant | | | | | | | 5 | 5 | 5 | | | | | | | | | | | | | 5 | | | | | | |
| Juneberry | | | | | | | | 5 | 5 | | | | | | | | | | | | | | | | | | | |
| Leadplant | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | | | 5 | 5 | | 5 | | 5 | 5 | | |
| Prairie cinquefoil | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | | | | 5 | | | | | 5 | | 5 | | | | |
| Prairie rose | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | | | |
| Redosier dogwood | | | | 5 | | | | 5 | 5 | | | 5 | | 5 | | | | | | | | | | | | | | |
| Rubber rabbitbrush | | 5 | 5 | | | | | | | | | | 5 | | 5 | | | | | | | | | | | | | |
| Sand sagebrush | | | | | | | | | | | 5 | | | | | | | | | | | | | | | | | |
| Silver buffaloberry | | | | | | | | 5 | 5 | | | 5 | | | | | 5 | | | | | | | | | 5 | | |
| Silver sagebrush | | 5 | | 5 | | 5 | | 5 | 5 | | 5 | | | | | | 5 | | | | | 5 | 5 | 5 | | | | |

| MLRA 60A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|----|----|------|----|----|----|------|-----|----|----|----|------------------|-----|------------------|-----|--------------------|------|------|------|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | DC | LL | Ly | LyOv | LyT | PC | Sa | Sb | SL ^{1/} | SSb | SU ^{1/} | SwC | SwDC ^{1/} | SwLy | SwPC | SwSy | Sy | TCp | TU | VSw | WL ^{1/} |
| Western snowberry | | | 5 | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | | | | | | 5 | | | | |
| Wild plum | | | | 5 | | | | 5 | 5 | | 5 | | | | | | | | | | | | | | |
| Winterfat | | | 5 | | 5 | | 5 | | 5 | | | | 5 | | 10 | 5 | 5 | 5 | | 5 | | 5 | 5 | | |

1. On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

3. Thickspike wheatgrass may be substituted if western wheatgrass is unavailable.

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for ES.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 61**

| MLRA 61 SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|----------------------------------|---|----|----|-----|----|----|----|----|------|------|------|----|----|-----|----|
| | Cy | LL | Ly | LyT | Ov | RH | Sb | SH | SwCy | SwLy | SwSy | Sy | TU | VSw | WL |
| Grasses | | | | | | | | | | | | | | | |
| American sloughgrass | | | | | | | | | | | | | | | 10 |
| Big bluestem | 20 | 40 | 30 | 20 | 40 | 30 | 50 | 30 | 15 | 25 | 30 | 30 | 20 | 20 | |
| Blue grama | 10 | 10 | 20 | 10 | 10 | 20 | | 5 | 10 | 10 | 10 | 10 | 10 | 15 | |
| Bluebunch wheatgrass | | | 5 | | | 20 | | 10 | 10 | 10 | | 5 | 5 | 20 | |
| Bluejoint reedgrass | | | | | | | 10 | | | | | | | | 30 |
| Buffalograss | 10 | | 5 | 5 | 5 | | | 10 | 5 | | | | | 10 | |
| Canada wildrye | 5 | 10 | 10 | 10 | 10 | 10 | 15 | 10 | 10 | 5 | 10 | 10 | 10 | 10 | |
| Fowl bluegrass | | 5 | | | 5 | | 10 | | | | | | | | |
| Fowl mangrass | | | | | | | | | | | | | | | 10 |
| Green needlegrass | 40 | 30 | 30 | 30 | 20 | 5 | 10 | 20 | 30 | 10 | 20 | 10 | 20 | 10 | |
| Indian ricegrass | | | | | | | | 5 | | | | 5 | | | |
| Indiangrass | 10 | 10 | 10 | | 10 | 10 | 25 | 10 | 10 | 10 | 10 | 15 | 10 | 10 | |
| Inland saltgrass | | | | | | | 5 | | | | | | | | 10 |
| Little bluestem | 10 | 10 | 15 | 15 | 10 | 10 | 15 | 30 | 20 | 30 | 20 | 30 | 45 | 25 | |
| Needleandthread | 10 | 10 | 25 | 15 | 10 | 30 | | 15 | 10 | 20 | 20 | 25 | 30 | 35 | |
| Porcupinegrass | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 15 | |
| Prairie cordgrass | | | | | | | 15 | | | | | | | | 60 |
| Prairie dropseed | | | 10 | | | 5 | | 15 | 10 | 10 | 10 | | 10 | | |
| Prairie junegrass | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 10 | 10 | 5 | 10 | 10 | 10 | |
| Prairie sandreed | | | | 20 | 10 | | | | 10 | 10 | 20 | 35 | 10 | 20 | |
| Sand bluestem | | | | | | | | | | | | 30 | | | |
| Sand dropseed | | | | 5 | | | | 5 | | | | 5 | | 5 | |
| Sandberg bluegrass | 5 | 5 | 5 | 5 | | | | | 5 | | | 5 | | 5 | |
| Sideoats grama | 30 | 10 | 20 | 10 | 10 | 10 | 15 | 20 | 25 | 20 | | 15 | 25 | 20 | |
| Slender wheatgrass | 10 | 10 | 10 | 15 | 10 | 10 | 15 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Squirreltail | | | | | | | | | 10 | 10 | | | | | |
| Switchgrass | 10 | 25 | 10 | 15 | 15 | 10 | 25 | 10 | 10 | 10 | 15 | 10 | 10 | 10 | 10 |
| Virginia wildrye | 5 | 10 | 5 | 10 | 10 | | 10 | | | | | 10 | | | |
| Western wheatgrass ^{2/} | 50 | 30 | 30 | 40 | 30 | 30 | 20 | 20 | 40 | 30 | 15 | 20 | 25 | 20 | 10 |
| Whitetop | | | | | | | | | | | | | | | 50 |
| Grass-likes | | | | | | | | | | | | | | | |
| Baltic rush | | | | | | | 10 | | | | | | | | 10 |
| Common spikerush | | | | | | | | | | | | | | | 10 |
| Slough sedge | | | | | | | | | | | | | | | 20 |
| Forbs | | | | | | | | | | | | | | | |
| American licorice | | 5 | | 5 | | | | | | | | | | | 5 |
| American vetch | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | | 5 | |
| Black-eyed Susan | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Blanket flower | | | 5 | | 5 | | | 5 | | 5 | 5 | 5 | 5 | | |
| Blue vervain | | 5 | | | | | 5 | | | | | | | | 5 |
| Boneset | | 5 | | | | | 5 | | | | | | | | 5 |

| MLRA 61 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|---|---|----|----|-----|----|----|----|----|------|------|------|----|----|-----|----|
| SD common name | Cy | LL | Ly | LyT | Ov | RH | Sb | SH | SwCy | SwLy | SwSy | Sy | TU | VSw | WL |
| Broadbeard beardtongue | | | 5 | | | | | 5 | | 5 | 5 | 5 | 5 | | |
| Canada / Meadow Anemone | | | | | | | 5 | | | | | | | | |
| Canada milkvetch | 5 | | 5 | 5 | | | 5 | | | | | 5 | | | |
| Common milkweed | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 |
| Cudweed sagewort | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | | 5 | | | |
| Dotted gayfeather | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / lanceleaf figwort | 5 | | 5 | | | | | | | | | 5 | | | |
| false boneset | | | 5 | 5 | 5 | | | | 5 | | 5 | 5 | | | |
| false gromwell | | | 5 | | | | | | | | | | | | |
| False sunflower | 5 | | 5 | 5 | | | 5 | | | | | | | | |
| Field / Green sagewort | | | | 5 | | | | | | | | 5 | | 5 | |
| Fragrant giant hyssop | 5 | | | 5 | | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Fuzzytongue penstemon | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Geyer's aster | 5 | | 5 | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Groundplum milkvetch | 5 | | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | 5 | |
| Heart-leaved golden Alexanders | 5 | | 5 | | | | | | 5 | 5 | 5 | | 5 | | |
| Heath aster | 5 | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | |
| Hoary vervain | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Indian blanket | 5 | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | 5 | 5 | |
| Indian breadroot scurfpea | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | | |
| Ironweed | | 5 | | | | | | 5 | | | | | | | 5 |
| Joe-pye weed | | | | | | | | 5 | | | | | | | 5 |
| Lewis flax | | | 5 | | | | | 5 | | 5 | | | 5 | | |
| Lindley's aster | | 5 | | 5 | 5 | | 5 | | | | | | | | |
| Maximilian sunflower | 5 | 5 | 5 | 5 | 5 | | 5 | | | | | 5 | | | |
| Narrow-leaved Purple Coneflower (<i>Blacksamson echinacea</i>) | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| New England aster | 5 | | 5 | 5 | | | | | | | | | | | |
| Nodding onion | | | | | | | | | 5 | 5 | | | | | |
| Old field goldenrod / Gray goldenrod | 5 | | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | 5 | |
| Pale spiked lobelia | | | | | | | | 5 | | | | | | | |
| Pennsylvania smartweed | | | | | | | | | | | | | | | 5 |
| Plains coreopsis | | 5 | | | | | | 5 | | | | | | | 5 |
| Prairie aster | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Prairie blue-eyed grass | | | | | | | | 5 | | | | | | | 5 |
| Prairie coneflower | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie spiderwort | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie sunflower | | 5 | | | 5 | | | 5 | | | | 5 | | 5 | |
| Purple prairieclover | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Rough blazing star | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Scarlet globemallow | 5 | | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 | | |
| Shell-leaf penstemon | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Showy goldenrod | 5 | | 5 | | 5 | | | 5 | | 5 | 5 | 5 | 5 | | |
| Stiff goldenrod | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 | |

| MLRA 61 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|---------------------------------------|---|----|----|-----|----|----|----|----|------|------|------|----|----|-----|----|
| SD common name | Cy | LL | Ly | LyT | Ov | RH | Sb | SH | SwCy | SwLy | SwSy | Sy | TU | VSw | WL |
| Stiff sunflower | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | | |
| Swamp / purplestem aster | | 5 | | 5 | 5 | | 5 | | | | | | | | |
| Swamp milkweed | | | | | | | 5 | | | | | | | | 5 |
| Tall meadow rue | 5 | | 5 | 5 | | | 5 | | | | | | | | |
| Water plantain | | | | | | | | | | | | | | | 5 |
| Western yarrow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| White prairieclover | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild bergamot | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Wild golden glow / cutleaf coneflower | | 5 | | | 5 | | 5 | | | | | | | | |
| Shrubs | | | | | | | | | | | | | | | |
| Big sagebrush | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | | 5 | | |
| Chokecherry | | 5 | | | 5 | | 5 | | | | | | 5 | | |
| Dwarf indigo | 5 | | 5 | 5 | | | | 5 | | | | | 5 | 5 | |
| False indigo | | | | | | | | | | | | | | | 5 |
| Four-wing saltbush (dewinged) | 5 | | | | | | | | | 5 | | | 5 | | |
| Fringed sagewort | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | |
| Juneberry | 5 | 5 | | | | | | 5 | 5 | 5 | | 5 | 5 | | |
| Leadplant | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Prairie cinquefoil | 5 | | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | | |
| Prairie rose | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | | | 5 | | 5 | |
| Redosier dogwood | | | | | | | 5 | | | | | | | | 5 |
| Silver buffaloberry | | 5 | | | 5 | | | | 5 | | | | 5 | | |
| Silver sagebrush | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | |
| Western snowberry | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| Wild plum | | 5 | 5 | | 5 | | 5 | | | | | | | | |
| Winterfat | 5 | | 5 | | | | | | 5 | 5 | | | 5 | | |

1. Thickspike wheatgrass may be substituted if western wheatgrass is unavailable.

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for ES.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 62**

| MLRA 62 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | |
|----------------------------------|---|----|----|------|----|----|------|------|----|----|-----|
| SD common name | CL | Cy | Ly | LyOv | Sb | SH | StOv | SwLy | TU | VL | WSb |
| Grasses | | | | | | | | | | | |
| Big bluestem | 15 | 15 | 20 | 25 | 20 | 15 | | 15 | 15 | 20 | 20 |
| Blue grama | 20 | | | | | 20 | | 20 | 20 | | |
| Canada wildrye | 10 | | | 10 | 10 | | 10 | | | | 10 |
| Green needlegrass | 10 | 25 | 20 | 10 | 10 | 10 | 30 | 10 | 20 | 30 | 10 |
| Indiangrass | | | | | | | | | | 15 | |
| Little bluestem | 20 | 20 | 20 | | | 20 | | 20 | 30 | | |
| Mountain brome | | | | 25 | 20 | | 20 | | | 20 | 20 |
| Prairie dropseed | 15 | 5 | 15 | 5 | 20 | 15 | | 15 | | 20 | 20 |
| Rocky Mountain fescue | 10 | | 10 | 10 | | 15 | 10 | 15 | 10 | 10 | |
| Sideoats grama | | | | | | | | | 20 | | |
| Slender wheatgrass ^{1/} | 15 | 15 | 15 | 15 | 15 | 15 | 50 | 15 | 15 | 20 | 15 |
| Switchgrass | | | | | | | | | | 20 | |
| Virginia wildrye | | 10 | 10 | 10 | 10 | | | | | | 10 |
| Western wheatgrass ^{1/} | 5 | 20 | 20 | 10 | 10 | 20 | | 20 | 20 | 20 | 10 |
| Forbs | | | | | | | | | | | |
| American vetch | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | |
| Canada milkvetch | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Prairie aster | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 |
| Purple prairieclover | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | |
| Stiff goldenrod | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Stiff sunflower | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 |
| Western yarrow | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| White prairieclover | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | |
| Wild bergamot | | | | 5 | 5 | | 5 | | | | 5 |
| Shrubs | | | | | | | | | | | |
| Chokecherry | | | | 5 | 5 | | | | | | 5 |
| Golden currant | | | | 5 | 5 | | 5 | 5 | 5 | | 5 |
| Juneberry | | | | 5 | 5 | | | | 5 | | 5 |
| Leadplant | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | |
| Redosier dogwood | | | | 5 | 5 | | | | | | 5 |
| Rubber rabbitbrush | | 5 | | | | | | | | | |
| Western snowberry | | | 5 | 5 | 5 | | | | 5 | 5 | 5 |

1. Thickspike or slender wheatgrass may be substituted if western wheatgrass is unavailable.

Note – If the species is not on the above table, refer to the ESD for species suitability

Note- See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 63A**

| MLRA 63A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|----|----|------|-----|----|----|----|------|-----|----|----|------------------|----|----|-----|-----|------|----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | CyT | DC | LC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SM | Sw | SwC | SwG | SwPC | Sy | TB | TCp | TU | VSw | WL ^{1/} |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | | | 30 | | | | | | | | 20 | | | |
| American mannagrass | | | | | | | | | | | | | | 15 | | | | | | | | | | |
| American sloughgrass | | | | | | | | | | | | | | 10 | | | | | | | | | | 10 |
| Big bluestem | | | 15 | 30 | 20 | | 40 | 15 | 40 | 20 | 20 | 50 | | | 20 | 20 | | 30 | 30 | 30 | | 20 | | |
| Blue grama | | 30 | 20 | 10 | 10 | 10 | 5 | 20 | 10 | 10 | 20 | 10 | 20 | | 20 | 20 | 30 | 20 | 20 | 20 | 40 | 30 | 30 | |
| Bluejoint reedgrass | | | | | | | | | | | | | | 25 | | | | | | | | | | 25 |
| Buffalograss | 5 | 10 | 10 | | 10 | 10 | 5 | 10 | | | | | | | | | 10 | | | | | | 10 | |
| Canada wildrye | | | | 10 | 10 | | | 10 | 10 | 10 | | 10 | | | | | | | | 10 | 20 | | | |
| Fowl bluegrass | 5 | | | | | | | | 5 | | | 5 | 5 | 5 | | | | | | | | | | |
| Fowl mannagrass | | | | | | | | | | | | | | 15 | | | | | | | | | | |
| Green muhly | | | | | | | | | 5 | | | 10 | | | | | | | | | 20 | | | |
| Green needlegrass | | 30 | 40 | 50 | 30 | 40 | 10 | 40 | 50 | 50 | | 10 | | | 25 | 25 | | | | 10 | 40 | 10 | 25 | |
| Indian ricegrass | | | | | | | | | | | 5 | | | | | | | | | 5 | | | | |
| Indiangrass | | | 10 | 10 | | | | 10 | 10 | 10 | 20 | 25 | | | | | | | | 20 | | | | |
| Inland saltgrass | 10 | | | | | 10 | | | | | | | 70 | | | | | | | | | | | |
| Little bluestem | | 10 | 20 | 20 | 20 | | 20 | 20 | 20 | 20 | 30 | 20 | | | 40 | 40 | 30 | 30 | 40 | 20 | | 30 | 30 | |
| Needleandthread | | 20 | 20 | 10 | 20 | | 10 | 20 | 10 | 20 | 25 | | | | 20 | 20 | 30 | 15 | 25 | 10 | 10 | 30 | 30 | |
| Nuttall's alkaligrass | 20 | | | | | | | | 10 | | | | 30 | | | | | | | | | 20 | | |
| Porcupinegrass | | 5 | 20 | 10 | 10 | | 20 | 20 | 10 | 10 | 20 | | | | 10 | 10 | 5 | 10 | 20 | 15 | | 10 | | |
| Prairie cordgrass | | | | 5 | | | | | | | | 10 | 30 | 60 | | | | | | | | | | 60 |
| Prairie dropseed | | | | | | | | | | | | | | | | | | | | | 10 | | | |
| Prairie junegrass | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 10 | | | | 10 | 10 | 10 | | | 10 | 10 | 10 | 10 | |
| Prairie sandreed | | 20 | 10 | 20 | 10 | | 20 | 10 | 20 | 10 | 40 | | | | 10 | 10 | 20 | 30 | 40 | 20 | | 10 | 20 | |
| Sand bluestem | | | | | | | | | | | 40 | | | | | | | | | 30 | | | | |
| Sand dropseed | | | | | 5 | | | | | 5 | 5 | | | | | | | | | 5 | | 5 | | 5 |
| Sandberg bluegrass | | | | | | | | | | | | | | | | | | | | | | 10 | | |
| Sideoats grama | | 20 | 30 | 20 | 10 | 20 | 20 | 30 | 20 | 25 | 20 | 20 | | | 30 | 40 | 30 | 30 | 20 | 30 | 20 | 30 | 30 | |
| Slender wheatgrass | 10 | 10 | 10 | 10 | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | 10 | 10 | | 10 | 10 |
| Squirreltail | | | | | | | | | | | | | 5 | | | | | | | | | 5 | | |
| Switchgrass | | | | 20 | | | 20 | | 20 | 25 | 20 | 25 | 20 | | | | | | | 20 | | | | |
| Virginia wildrye | | | | 10 | 10 | | | 10 | 10 | 10 | | 10 | | | | | | | | 10 | | | | |
| Western wheatgrass ^{3/} | 100 | 40 | 50 | 40 | | 80 | 20 | 40 | 40 | 40 | 20 | 25 | 70 | 10 | 20 | 30 | 20 | 20 | 20 | 20 | 60 | 30 | 20 | 10 |
| Whitetop | | | | | | | | | | | | | | 50 | | | | | | | | | | 50 |

| MLRA 63A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----|----|------|-----|----|----|----|------|-----|----|----|------------------|----|----|-----|-----|------|----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | CyT | DC | LC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SM | Sw | SwC | SwG | SwPC | Sy | TB | TCp | TU | VSw | WL ^{1/} |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | | | | |
| Baltic rush | | | | | | | | | | | | | 5 | | | | | | | | | | | 5 |
| Bebb's sedge | | | | | | | | | | | | | | 10 | | | | | | | | | | |
| Bristly sedge | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |
| Common spikerush | 40 | | | | | | | | | | | | | 30 | | | | | | | | | | 10 |
| Fox sedge | | | | | | | | | | | | 5 | | 10 | | | | | | | | | | 10 |
| Hardstem bulrush | | | | | | | | | | | | | | 25 | | | | | | | | | | |
| Inland rush | 5 | | | | | | | | | | | 5 | | | | | | | | | | | | |
| River bulrush | | | | | | | | | | | | | | 15 | | | | | | | | | | |
| Slough sedge | | | | | | | | | | | | | | 60 | | | | | | | | | | 60 |
| Softstem bulrush | | | | | | | | | | | | | | 25 | | | | | | | | | | |
| Torrey's rush | 5 | | | 5 | | | | | 5 | | | 5 | 5 | | | | | | | | | | | |
| Woolly sedge | | | | | | | | | | | | | | 20 | | | | | | | | | | 10 |
| Forbs | | | | | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | | | 5 | 5 | | | | 5 | 5 | | 5 | 5 | 5 | | | | 5 | | | | | | 5 |
| American vetch | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | 5 | 5 | 5 | | | | |
| Black-eyed Susan | | 5 | 5 | | | | | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Blue vervain | | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Boneset | | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Broadbeard beardtongue | | | | | | | | 5 | | | 5 | | | | 5 | | | 5 | 5 | 5 | | 5 | | |
| Canada milkvetch | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | | | | 5 | 5 | 5 | | | | |
| Canada tick trefoil | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | | | | |
| Common Bur-reed | | | | | | | | | | | | | | 5 | | | | | | | | | | |
| Common milkweed | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | | | 5 | | 5 |
| Compass plant | | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | | | 5 | 5 | | | | | | 5 | | |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Devil's beggartick | | | | 5 | 5 | | | | 5 | 5 | | 5 | 5 | | | | | | | | | | | |
| Dotted gayfeather | | 5 | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / lanceleaf figwort | | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | | 5 | | |
| Eastern daisy fleabane | | | 5 | | | | | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | | |
| false boneset | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | | |
| False sunflower | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | | | | |
| Field / Green sagewort | | | | 5 | | | | 5 | | | | | | | | | 5 | | | | | | 5 | |
| Fragrant giant hyssop | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | 5 | |
| Fuzzytongue penstemon | | 5 | 5 | | | | | 5 | | | 5 | | | | 5 | 5 | | | 5 | 5 | | 5 | | |
| Geyer's aster | | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | | |
| Giant goldenrod | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |

| MLRA 63A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|----|----|------|-----|----|----|----|------|-----|----|----|------------------|----|----|-----|-----|------|----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | CyT | DC | LC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SM | Sw | SwC | SwG | SwPC | Sy | TB | TCp | TU | VSw | WL ^{1/} |
| Groundplum milkvetch | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Heart-leaved golden alexanders | | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | | | | | |
| Heath aster | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | | 5 | 5 | |
| Hoary vervain | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Illinois bundleflower | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | | | 5 | 5 |
| Indian blanket | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 |
| Indian breadroot scurfpea | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 |
| Ironweed | | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Joe-pye weed | | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Lewis flax | | | | | | | | 5 | 5 | 5 | 5 | | | | 5 | | | | | 5 | | | 5 | |
| Mad dog / Blue skullcap | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |
| Maximilian sunflower | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | 5 | | | | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | 5 | 5 | | | | 5 | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| New England aster | 5 | 5 | 5 | | | | | 5 | | 5 | 5 | | | 5 | | | | | | 5 | | | | 5 |
| Nodding beggartick / bur marigold | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |
| Old field goldenrod / Gray goldenrod | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 |
| Pasqueflower | | | | | | | | | | | | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Pennsylvania smartweed | 5 | | | | | | | | | | | 5 | | 5 | | | | | | | | | | 5 |
| Plains coreopsis | 5 | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Prairie / Carolina larkspur | | | | | | | | | | | | | | | 5 | 5 | 5 | | | | 5 | | | |
| Prairie / Richardson's alumroot | | | 5 | | | | | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 |
| Prairie aster | | 5 | 5 | | | | | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 |
| Prairie coneflower | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 |
| Prairie goldenrod / Upland white aster | | | 5 | | | | | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 |
| Prairie onion | | 5 | 5 | | | 5 | | 5 | | | | | | | 5 | 5 | | | | | | 5 | | |
| Prairie smoke | | | | | | | | | | | | | | | 5 | | | | | | 5 | | | |
| Prairie spiderwort | | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | 5 | | 5 | |
| Prairie sunflower | | | | | | | | | | | 5 | | | | | | | | | 5 | 5 | | | 5 |
| Purple prairieclover | | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Rocky Mountain bee plant | | | | | | | | | | | 5 | | | | | | | | | 5 | | | | |
| Rough blazing star | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 |
| Round-headed bush clover | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | | | | | | 5 | | | | |
| Scarlet globemallow | | 5 | 5 | | | 5 | | 5 | | | | | | | 5 | 5 | | | 5 | 5 | | 5 | 5 | |
| Shell-leaf penstemon | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | | | 5 | 5 |
| Stiff goldenrod | | 5 | 5 | | | 5 | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Stiff sunflower | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | 5 | 5 | | | |

| MLRA 63A | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|----|----|------|-----|----|----|----|------|-----|----|----|------------------|----|----|-----|-----|------|----|----|-----|----|-----|------------------|
| SD common name | CD ^{2/} | Cp | Cy | CyOv | CyT | DC | LC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SM | Sw | SwC | SwG | SwPC | Sy | TB | TCp | TU | VSw | WL ^{1/} |
| Swamp milkweed | | | | 5 | | | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Tall meadow rue | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | 5 | | | | | | | | | | | | |
| Tall thimbleweed | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | | | | | | | | | 5 | | | |
| Water plantain | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |
| Western yarrow | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| White panicle aster | | | | | | | | | | | | | | 5 | | | | | | | | | | 5 |
| White prairieclover | | 5 | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild bergamot | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | | | |
| Black currant | | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | | 5 | | | |
| Chokecherry | | | | 5 | 5 | | | | 5 | 5 | | | | | 5 | 5 | | | | 5 | | 5 | | |
| Dwarf indigo | | | 5 | | | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | |
| False indigo | | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | | | | | 5 |
| Four-wing saltbush (dewinged) | 5 | 5 | 5 | | | 5 | | 5 | | | | | 5 | | | | | | | 5 | | 5 | | |
| Fringed sagewort | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Gardner's saltbush | | | | | | | | | | | | | 5 | | | | | | | | | | | |
| Golden currant | | | | | | | | 5 | 5 | 5 | | | | | | | | | | 5 | 5 | | | |
| Juneberry | | | | 5 | | | | | 5 | 5 | | | | | | | | | | | | | | |
| Leadplant | | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Prairie cinquefoil | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | | 5 | | | 5 | |
| Prairie rose | | | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | | | | | 5 | 5 | | | 5 | 5 | | 5 | 5 |
| Redosier dogwood | | | | 5 | | | | | 5 | 5 | | 5 | | | | | | | | | | | | |
| Sand sagebrush | | | | | | | | | | | | 5 | | | | | | | | | 5 | | | |
| Silver buffaloberry | | | | | 5 | | | | 5 | 5 | | 5 | | | 5 | 5 | | | | | 5 | | 5 | |
| Silver sagebrush | | 5 | | 5 | 5 | | | | 5 | 5 | | | | | 5 | 5 | | | | | | 5 | 5 | |
| Western snowberry | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | | 5 | 5 | 5 | | | |
| Wild plum | | | | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | | | | | | 5 | | | |
| Winterfat | | | 5 | | | 5 | | 5 | | | | | 5 | | 5 | 5 | | | | | | 5 | 5 | |

1. On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

3. Thickspike wheatgrass may be substituted if western wheatgrass is unavailable.

Note: If the species is not on the above table, refer to the ESD for species suitability

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 63B**

| MLRA 63B SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | |
|----------------------------|---|----|----|------|------------------|----|------|------------------|----|-----|-----|----|-----|
| | CD ^{2/} | Cp | Cy | CyOv | DC ^{2/} | Ly | LyOv | SL ^{1/} | Sw | SwC | TCp | TU | VSw |
| Grasses | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | 30 | | | 20 | | |
| Big bluestem | | | 20 | 40 | | 30 | 45 | | 30 | 30 | | 40 | |
| Blue grama | | 20 | 10 | 10 | 10 | 20 | 10 | | 30 | 10 | 40 | 20 | 20 |
| Bluejoint reedgrass | | | | | | | | | | | | | |
| Buffalograss | | 10 | 10 | | 5 | 10 | | | 5 | 5 | 5 | | 10 |
| Canada wildrye | | | 10 | 10 | | 10 | 10 | | 10 | 10 | | 10 | |
| Fowl bluegrass | 5 | | | 5 | | | 5 | | | | | | |
| Green muhly | | | | | | | 10 | | | | | | |
| Green needlegrass | | 40 | 40 | 25 | 40 | 40 | 30 | | 25 | 25 | 10 | 25 | 20 |
| Indiangrass | | | 10 | 10 | | 20 | 20 | | 15 | | | 10 | |
| Inland saltgrass | 5 | 5 | | | 5 | | | 70 | | | 20 | | |
| Little bluestem | | 20 | 30 | 20 | | 30 | 20 | | 40 | 40 | | 30 | 20 |
| Needleandthread | | 20 | 20 | 10 | | 20 | 10 | | 25 | 20 | 10 | 20 | 30 |
| Nuttall's alkaligrass | | | | | | | | 30 | | | 20 | | |
| Porcupinegrass | | 10 | 20 | 10 | | 20 | 10 | | 10 | 10 | | 10 | 5 |
| Prairie cordgrass | | | | | | | | 40 | | | | | |
| Prairie dropseed | | | | | | | | | 5 | 5 | | 10 | |
| Prairie junegrass | | 5 | 5 | 5 | | 5 | 5 | | 10 | 10 | 5 | 10 | 10 |
| Prairie sandreed | | 20 | 10 | 20 | | 10 | 20 | | 10 | 10 | | 10 | 20 |
| Sand bluestem | | | | | | 10 | | | 20 | 15 | | 10 | 10 |
| Sand dropseed | | | 5 | | | 5 | | | | 5 | | 5 | 5 |
| Sideoats grama | | 20 | 30 | 20 | 20 | 25 | 20 | | 20 | 30 | 20 | 30 | 30 |
| Slender wheatgrass | 10 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | | 10 | 10 |
| Switchgrass | | | 20 | 20 | | 20 | 20 | 20 | 10 | | | 10 | |
| Virginia wildrye | | | 10 | 10 | | 10 | 10 | | | | | | |
| Western wheatgrass | 100 | 40 | 50 | 40 | 80 | 40 | 30 | 80 | 30 | 30 | 60 | 30 | 40 |
| Grass-likes | | | | | | | | | | | | | |
| Baltic rush | | | | | | | | 5 | | | | | |
| Common spikerush | 40 | | | | | | | 10 | | | | | |
| Inland rush | 5 | | | | | | | | | | | | |
| Torrey's rush | 5 | | | 5 | | | 5 | | | | | | |
| Forbs | | | | | | | | | | | | | |
| American licorice | 5 | | | 5 | | | 5 | | | | | | |
| American vetch | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 |
| Black-eyed Susan | | 5 | 5 | | | | 5 | | 5 | 5 | | 5 | 5 |
| Blanketflower | | | | | | 5 | 5 | | 5 | | | 5 | |
| Blue vervain | | | | 5 | | | 5 | | | | | | |
| Boneset | | | | 5 | | | 5 | | | | | | |
| Broadbeard beardtongue | | | | | | 5 | | | 5 | | | 5 | |
| Canada milkvetch | | 5 | 5 | | | | 5 | | | | | | |

| MLRA 63B SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | |
|--|---|----|----|------|------------------|----|------|------------------|----|-----|-----|----|-----|
| | CD ^{2/} | Cp | Cy | CyOv | DC ^{2/} | Ly | LyOv | SL ^{1/} | Sw | SwC | TCp | TU | VSw |
| Canada tick trefoil | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Common milkweed | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | |
| Compass plant | | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | |
| Cudweed sagewort | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Devil's beggartick | | | | 5 | | | 5 | | | | | | |
| Dotted gayfeather | | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Early / lanceleaf figwort | | | 5 | 5 | | 5 | 5 | | | | | | |
| Eastern daisy fleabane | | | 5 | | | 5 | | | 5 | 5 | | 5 | |
| False boneset | | | 5 | 5 | | 5 | 5 | | | 5 | | | 5 |
| False sunflower | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Field / Green sagewort | | | | | | 5 | | | 5 | | | | 5 |
| Fragrant giant hyssop | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Geyer's aster | | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | |
| Groundplum milkvetch | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Heart-leaved golden alexanders | | | | | | | 5 | | | | | | |
| Heath aster | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Hoary vervain | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Illinois bundleflower | | 5 | 5 | | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Indian blanket | | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Indian breadroot scurfpea | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Ironweed | | | | 5 | | | 5 | | | | | | |
| Joe-pye weed | | | | 5 | | | 5 | | | | | | |
| Late figwort / Carpenter's square | | | | 5 | | | 5 | | | | | | |
| Lewis flax | | | | | | 5 | 5 | | 5 | | | 5 | |
| Maximilian sunflower | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| New England aster | 5 | 5 | 5 | | | 5 | | | | | | | |
| Old field goldenrod / Gray goldenrod | | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Pasqueflower | | | | | | | | | 5 | 5 | | 5 | |
| Pennsylvania smartweed | 5 | | | | | | | | | | | | |
| Plains coreopsis | 5 | | | 5 | | | 5 | | | | | | |
| Prairie / Richardson's alumroot | | | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Prairie aster | | 5 | 5 | | | 5 | 5 | | 5 | 5 | | 5 | |
| Prairie coneflower | | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Prairie goldenrod / Upland white aster | | | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Prairie onion | | 5 | | | 5 | | | | | 5 | | | |
| Prairie spiderwort | | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| Purple prairieclover | | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| Rocky Mountain bee plant | | | 5 | | | 5 | | | 5 | | | | 5 |
| Rough blazing star | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Round-headed bush clover | | 5 | 5 | | | 5 | | | | | | | |
| Scarlet globemallow | | 5 | 5 | | | 5 | | | 5 | 5 | 5 | 5 | |
| Shell-leaf penstemon | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |

| MLRA 63B SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | |
|----------------------------|---|----|----|------|------------------|----|------|------------------|----|-----|-----|----|-----|
| | CD ^{2/} | Cp | Cy | CyOv | DC ^{2/} | Ly | LyOv | SL ^{1/} | Sw | SwC | TCp | TU | VSw |
| Stiff goldenrod | | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 |
| Stiff sunflower | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | |
| Swamp milkweed | | | | 5 | | | 5 | | | | | | |
| Tall meadow rue | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Tall thimbleweed | | | 5 | 5 | | 5 | 5 | | | | | | |
| Western yarrow | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 |
| White prairieclover | | 5 | 5 | | | 5 | | | 5 | 5 | 5 | 5 | 5 |
| Wild bergamot | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Shrubs | | | | | | | | | | | | | |
| Black currant | | | | 5 | | | 5 | | | | | | |
| Chokecherry | | | | | | | 5 | | 5 | 5 | | 5 | |
| Dwarf indigo | | | 5 | | | 5 | | | 5 | 5 | | 5 | 5 |
| False indigo | | | | 5 | | | 5 | | 5 | | | 5 | |
| Fringed sagewort | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | |
| Gardner's saltbush | | | | | 5 | | | 5 | | | 5 | | |
| Golden currant | | | | 5 | | | 5 | | | | | | |
| Juneberry | | | | 5 | | | 5 | | | | | | |
| Leadplant | | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Prairie cinquefoil | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | |
| Prairie rose | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 |
| Redosier dogwood | | | | 5 | | | 5 | | | | | | |
| Silver buffaloberry | | | | | | | | | 5 | 5 | | 5 | |
| Silver sagebrush | | 5 | | 5 | | | 5 | | 5 | 5 | 5 | 5 | |
| Western snowberry | | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 |
| Wild plum | | | | 5 | | 5 | 5 | | | | | | |

1. On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 64**

| MLRA 64 SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----|------------------|----|----|------|----|----|------|-----|----|----|------------------|-----|----|-----|----|------|----|-----|----|-----|----|-----|--|
| | BOv | BT | CD ^{2/} | Cp | Cy | CyOv | DC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SSb | Sw | SwC | Sy | SyLL | TB | TCp | TU | VSw | WL | WSb | |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | | 10 | 30 | 40 | | | | | | 20 | | | | | |
| American sloughgrass | | | | | | | | | | | | | | | | | | | | | | | 10 | | |
| Big bluestem | 20 | 15 | | | 15 | 40 | | 15 | 45 | 20 | 20 | 50 | | 25 | 20 | 20 | 20 | | 20 | | 20 | | | 30 | |
| Blue grama | 10 | 10 | | 30 | 20 | 10 | 10 | 20 | 10 | 10 | 20 | 10 | 20 | 10 | 30 | 30 | 20 | 10 | 10 | 30 | 30 | 40 | | 10 | |
| Blue wildrye | | | | | 10 | 10 | | | 10 | 10 | | 10 | 10 | 10 | | | | | | | | | | 10 | |
| Bluebunch wheatgrass | | | | | | | | | | | | | | | 10 | 10 | | | | | | 10 | | | |
| Bluejoint reedgrass | | | | | | | | | | | | | | | | | | | | | | | 30 | 10 | |
| Buffalograss | | | 10 | 10 | 10 | | | 5 | | 10 | | | | | 10 | 10 | | | | | | 10 | | | |
| Canada wildrye | | | | | 10 | 10 | | 10 | 10 | 10 | | 10 | | | 10 | | 10 | | 15 | | | | | | |
| Fowl bluegrass | 5 | | 10 | | | 5 | | | 5 | | | 5 | | 5 | | | | 5 | | | | | | 5 | |
| Green muhly | 10 | | | | | 10 | | | | | | 10 | | | | | | | | | | | | 10 | |
| Green needlegrass | 20 | 20 | | 30 | 40 | 50 | 40 | 10 | 50 | 30 | | 10 | | 10 | 25 | 30 | | | 20 | 30 | 25 | | | | |
| Indian ricegrass | 15 | | | | | | | | | | | 10 | | | | | | 10 | | | | | | | |
| Indiangrass | | | | | 10 | 10 | | 10 | 10 | 10 | 20 | 25 | | 20 | | | | 20 | 10 | | | | | 20 | |
| Inland saltgrass | | | 10 | | | | | | | 10 | | | 70 | | | | | | | 10 | | | | | |
| Little bluestem | 15 | 30 | | | 5 | 20 | 20 | | 30 | 20 | 20 | 40 | 30 | | 20 | 40 | 40 | 30 | 30 | 20 | | 30 | 30 | | |
| Needleandthread | 20 | 20 | | 20 | 20 | 10 | | 20 | 10 | 20 | 20 | | | | 20 | 20 | 40 | 20 | 10 | 20 | 30 | 30 | | | |
| Nuttall's alkaligrass | | | 10 | | | | | | | | | | 30 | | | | | | | 20 | | | | | |
| Porcupinegrass | | | | 10 | 20 | 10 | | | 10 | | 20 | | | | 10 | 10 | 20 | | 10 | 10 | 10 | | | | |
| Prairie cordgrass | 10 | | | | | 10 | | | 10 | | | 20 | 30 | | | | | | | | | | 60 | 30 | |
| Prairie junegrass | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | |
| Prairie sandreed | 15 | 30 | | 20 | 10 | 20 | | 10 | 20 | 10 | 40 | | | | 10 | 10 | 40 | 30 | | 10 | 10 | 20 | | | |
| Sand bluestem | | | | | | | | | | | | 30 | | | | | | 30 | 40 | | | | | | |
| Sand dropseed | | | | | | | | | | | 5 | | | 10 | | | | 10 | 10 | | 5 | | 10 | | |
| Sand lovegrass | | | | | | | | | | | | | | | | | | | 10 | | | | | | |
| Sandberg bluegrass | | | | | 5 | | | | | | | | | | | | | | | 10 | | | 10 | | |
| Sideoats grama | 10 | 10 | | 20 | 30 | 20 | 20 | 30 | 20 | 25 | 20 | 10 | | 20 | 30 | 40 | 20 | | 10 | 20 | 30 | 30 | | | |
| Slender wheatgrass | | | 10 | 10 | 10 | 10 | | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | | 10 | 10 | 10 | |
| Snake river wheatgrass | | | | | | | | | | | | | | | | 10 | 10 | | | | | | 10 | | |
| Squirreltail | | | | | | | | | | | | | 10 | | | 10 | | | | | | | | | |
| Switchgrass | 30 | 10 | | | | 20 | | 10 | 20 | 25 | 20 | 25 | 20 | 20 | | | | 20 | 30 | | | | | 30 | |
| Tufted hairgrass | | | | | | | | | | | | 5 | | | | | | | | | | | | 10 | |
| Virginia wildrye | | | | | 10 | 10 | | 10 | 10 | 10 | | 10 | | 10 | | | | 10 | 10 | | | | | 10 | |
| Western wheatgrass | 40 | 40 | 100 | 40 | 50 | 60 | 80 | 50 | 50 | 50 | 20 | 25 | 80 | 20 | 30 | 40 | 20 | 20 | 20 | 60 | 30 | 20 | 10 | 10 | |
| Whitetop | | | | | | | | | | | | | | | | | | | | | | | | 50 | |
| Grass-likes | | | | | | | | | | | | | | | | | | | | | | | | | |
| Common spikerush | | | 40 | | | | | | | | | 10 | | | | | | | | | | | 10 | 10 | |
| Fox sedge | | | | | | | | | | | | 5 | | | | | | | | | | | | 5 | |
| Inland rush | | | | | | | | | | | | 5 | 5 | 5 | | | | | | | | | | 5 | |
| Torrey's rush | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | 5 | | | | | | 5 | |

| MLRA 64 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|----|------------------|----|----|------|----|----|------|-----|----|----|------------------|-----|----|-----|----|------|----|-----|----|-----|----|-----|
| SD common name | BOv | BT | CD ^{2/} | Cp | Cy | CyOv | DC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SSb | Sw | SwC | Sy | SyLL | TB | TCp | TU | VSw | WL | WSb |
| Forbs | | | | | | | | | | | | | | | | | | | | | | | | |
| American licorice | 5 | 5 | 5 | | | 5 | | | 5 | 5 | | 5 | 5 | 5 | | | | | | | | | 5 | 5 |
| American vetch | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | 5 | 5 | 5 | | 5 | 5 | | |
| Black-eyed Susan | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 |
| Blue vervain | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | |
| Boneset | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | |
| Broadbeard beardtongue | 5 | 5 | | | | | | | | | 5 | | | | 5 | | 5 | 5 | | | 5 | | | |
| Canada milkvetch | | | | 5 | 5 | | | 5 | | 5 | 5 | | | | | | 5 | | | | | | | |
| Canada tick trefoil | | | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | | | 5 | | | | | | | |
| Common milkweed | | | | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | | | | | 5 | | |
| Cudweed sagewort | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Devil's beggartick | | | | | | 5 | | | 5 | 5 | | 5 | | 5 | | | | | | | | | | 5 |
| Dotted gayfeather | 5 | 5 | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Early / Lanceleaf figwort | | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | | | | 5 | | | 5 |
| Eastern daisy fleabane | | | | | 5 | | | 5 | | | 5 | | | | 5 | 5 | 5 | | | | 5 | | | |
| False boneset | 5 | 5 | | | 5 | 5 | | 5 | | 5 | 5 | 5 | | | | | | 5 | | | 5 | | | |
| False sunflower | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | | 5 | | | 5 | | | | | | | |
| Field / Green sagewort | | | | | | 5 | | | 5 | 5 | | | | | | | | | | | | | | |
| Fragrant giant hyssop | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | |
| Fuzzytongue penstemon | | | | 5 | 5 | | | | | | 5 | | | | 5 | 5 | 5 | | | | 5 | | | |
| Geyer's aster | | | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 |
| Groundplum milkvetch | | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | |
| Heath aster | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Hoary vervain | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Illinois bundleflower | | | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | | |
| Indian blanket | | | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Indian breadroot scurfpea | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | | |
| Ironweed | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | 5 |
| Joe-pye weed | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | |
| Lewis flax | 5 | 5 | | | | | | | 5 | | 5 | | | | 5 | | 5 | 5 | | | 5 | | | |
| Maximilian sunflower | | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | | | | | | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| New England aster | | | 5 | 5 | 5 | | | | | | 5 | | | | | | 5 | | | | | | | |
| Old field goldenrod / Gray goldenrod | | | | 5 | 5 | | | 5 | | | 5 | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| Pasqueflower | | | | | | | | | | | | | | | | | | | 5 | | | 5 | | |
| Pennsylvania smartweed | | | 5 | | | | | | | | | | | | | | | | | | | | 5 | 5 |
| Plains coreopsis | | | 5 | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | 5 | |
| Prairie / Richardson's alumroot | | | | | | | | 5 | | | 5 | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| Prairie aster | 5 | 5 | | 5 | 5 | | | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | | 5 | | | |
| Prairie blue-eyed grass | | | | | | | | | 5 | | | 5 | | 5 | | | | | | | | | 5 | 5 |
| Prairie coneflower | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Prairie goldenrod / Upland white aster | | | | | 5 | | | 5 | | | 5 | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| Prairie onion | | | | 5 | 5 | | 5 | | | 5 | | | | | | 5 | | | | | | | | |

| MLRA 64 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---|----|------------------|----|----|------|----|----|------|-----|----|----|------------------|-----|----|-----|----|------|----|-----|----|-----|----|-----|
| SD common name | BOv | BT | CD ^{2/} | Cp | Cy | CyOv | DC | Ly | LyOv | LyT | Sa | Sb | SL ^{1/} | SSb | Sw | SwC | Sy | SyLL | TB | TCp | TU | VSw | WL | WSb |
| Prairie smoke | | | | | | | | | | | | | | | 5 | | | | 5 | | | 5 | | |
| Prairie spiderwort | | | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| Prairie sunflower | 5 | 5 | | | | | | 5 | | 5 | 5 | | | | | 5 | 5 | 5 | 5 | | | 5 | | |
| Purple prairieclover | 5 | 5 | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Rocky Mountain bee plant | 5 | 5 | | | | | | | | | 5 | | | | | | | 5 | | | | 5 | | |
| Rough blazing star | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | |
| Round-headed bush clover | | | | 5 | 5 | | | | | | 5 | | | | | | | 5 | | | | | | |
| Scarlet globemallow | | | | 5 | 5 | | 5 | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | | | |
| Shell-leaf penstemon | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | |
| Stiff goldenrod | 5 | 5 | | 5 | 5 | | 5 | 5 | | | 5 | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | |
| Stiff sunflower | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | | 5 | | 5 | |
| Swamp milkweed | | | | | | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | |
| Tall meadow rue | | | | 5 | 5 | 5 | | | 5 | | | 5 | | 5 | | | | | | | | | | |
| Western yarrow | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| White prairieclover | 5 | 5 | | 5 | 5 | | | 5 | | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Wild bergamot | | | | 5 | 5 | 5 | | | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | | | |
| Big sagebrush | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | | | 5 | 5 | | | |
| Black currant | 5 | 5 | | | | 5 | | | 5 | 5 | | 5 | | 5 | | | | 5 | 5 | | | | | |
| Chokecherry | | | | | | 5 | | | 5 | 5 | | | | | 5 | 5 | | | 5 | | 5 | | | |
| Dwarf indigo | | | | | 5 | | | | | | 5 | | | | 5 | 5 | 5 | | | | 5 | 5 | | |
| False indigo | | | | | | 5 | | | 5 | 5 | | | | | | | | | | | | | | |
| Four-wing saltbush (dewinged) | | | | 5 | 5 | 5 | 5 | | | | | | 5 | | 5 | 5 | 5 | | | 5 | 5 | | | |
| Fringed sagewort | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | 5 | 5 | 5 | | | 5 | 5 | 5 | | |
| Gardner's saltbush | | | | | | | | | | | | | 5 | | | | | | | | | | | |
| Golden currant | 5 | 5 | | | | | | | 5 | 5 | | 5 | | | | | | 5 | 5 | 5 | | | | |
| Juneberry | | | | | | 5 | | | 5 | | | | | | | | | 5 | | | | | | |
| Leadplant | | | | | 5 | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | | |
| Prairie cinquefoil | | | | 5 | 5 | 5 | | | 5 | | 5 | | | | 5 | 5 | 5 | | | | 5 | | | |
| Prairie rose | 5 | 5 | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | |
| Redosier dogwood | 5 | 5 | | | | 5 | | | 5 | | | 5 | | 5 | | | | | 5 | | | | | 5 |
| Sand sagebrush | | | | | | | | | | | 5 | | | | | | | 5 | 5 | | | | | |
| Silver buffaloberry | 5 | 5 | | | | | | | 5 | 5 | | 5 | | | 5 | 5 | | | 5 | | 5 | | | |
| Silver sagebrush | 5 | 5 | | 5 | | 5 | | | 5 | 5 | | | | | 5 | 5 | 5 | | | 5 | 5 | | | |
| Western snowberry | 5 | 5 | | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | | 5 | | | | |
| Wild plum | | | | | | 5 | | | 5 | | | 5 | | | | | | | 5 | 5 | | | | |
| Winterfat | | | | | 5 | | 5 | 5 | | | | | 5 | | 5 | 5 | | | | | 5 | | | |

1. On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 65, 66**

| MLRA 65, 66 SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|-------------------------------|---|-----|----|----|------|-----|----|----|-----|-----|-----|----|------|------------------|-----|
| | CD ^{2/} | CSa | DW | Ly | LyOv | LyT | Sa | Sb | SSb | SwG | SwL | Sy | SyLL | WL ^{1/} | WSb |
| Grasses | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | 40 | | | | | | |
| American mannagrass | | | | | | | | | | | | | 10 | 10 | 10 |
| American sloughgrass | | | 10 | | | | | | | | | | | 10 | |
| Big bluestem | | 10 | | 30 | 40 | 20 | 20 | 50 | | | 25 | 35 | | | 40 |
| Blue grama | | 20 | | 20 | 10 | 10 | 20 | 10 | 10 | 40 | 10 | 20 | 10 | | |
| Bluejoint reedgrass | | | 25 | | | | | | | | | | | 25 | 20 |
| Buffalograss | 5 | | | 10 | | 5 | | | | 10 | 5 | | | | |
| Canada wildrye | | 10 | | 10 | 10 | 10 | | 10 | | | 5 | 10 | | | |
| Fowl bluegrass | 5 | | | | | | | 5 | 5 | | | | | | 10 |
| Fowl mannagrass | | | | | | | | | | | | | 10 | 10 | 10 |
| Green muhly | | | | | | | | 10 | | | | | | 5 | |
| Green needlegrass | | | | 40 | 50 | 40 | | 10 | 10 | 20 | 10 | | | | |
| Indian ricegrass | | 5 | | | | | 5 | | | | | 5 | | | |
| Indiangrass | | 20 | | 10 | 15 | 10 | 20 | 25 | 20 | | 10 | 20 | 10 | | 25 |
| Inland saltgrass | 15 | | | | | 5 | | | 20 | | | | | | |
| Little bluestem | | 40 | | 20 | 20 | 25 | 30 | 40 | 30 | 30 | 35 | 40 | 30 | | |
| Needleandthread | | 10 | | 20 | 10 | 20 | 25 | | | 30 | 20 | 25 | 20 | | |
| Nuttall's alkaligrass | 20 | | | | | | | | 10 | | | | | | |
| Porcupinegrass | | 10 | | 20 | 10 | 10 | 20 | | | 10 | 20 | 20 | | | |
| Prairie cordgrass | | | 60 | | | | | 20 | 15 | | | | | 75 | 40 |
| Prairie dropseed | | | | 5 | | | | | | | 5 | | | | |
| Prairie junegrass | | 5 | | 5 | 5 | 5 | 10 | | | 10 | 5 | 10 | | | |
| Prairie sandreed | | 40 | | 10 | 20 | 10 | 40 | | | 25 | 15 | 35 | 30 | | |
| Prairie wedgegrass | | | | | | | | 5 | 5 | | | | | 5 | 5 |
| Sand bluestem | | 40 | | | | | 40 | | 10 | 35 | 25 | 40 | 45 | | |
| Sand dropseed | | 5 | | 5 | | 5 | 5 | | | 10 | 5 | 5 | 5 | | |
| Sideoats grama | | 20 | | 30 | 20 | 15 | 20 | 20 | 20 | 20 | 35 | 20 | | | |
| Slender wheatgrass | 10 | | 10 | 10 | 10 | 20 | 10 | 10 | 10 | 10 | | 10 | | 10 | 10 |
| Switchgrass | | 20 | | 15 | 20 | 25 | 20 | 20 | 25 | | 10 | 20 | 25 | | 30 |
| Tufted hairgrass | | | | | | | | 5 | | | | | | | 5 |
| Virginia wildrye | | 5 | | 10 | 10 | 10 | | 10 | 10 | | | 10 | | | |
| Western wheatgrass | 100 | | 10 | 30 | 50 | 40 | 20 | 20 | 30 | 20 | 20 | 20 | 15 | 10 | 10 |
| Whitetop | | | 50 | | | | | | | | | | | 50 | |
| Grass-likes | | | | | | | | | | | | | | | |
| Common spikerush | 40 | | 10 | | | | | 5 | | | | | | 10 | |
| Fox sedge | | | | | | | | 5 | | | | | | | 5 |
| Hardstem bulrush | | | | | | | | | | | | | | | 5 |
| Inland rush | | | | | | | | 5 | 5 | | | | | | 5 |
| Slough sedge | | | 60 | | | | | | | | | | | 40 | 10 |
| Softstem bulrush | | | | | | | | | | | | | | | 5 |

| MLRA 65, 66 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|---|---|-----|----|----|------|-----|----|----|-----|-----|-----|----|------|------------------|-----|
| SD common name | CD ^{2/} | CSa | DW | Ly | LyOv | LyT | Sa | Sb | SSb | SwG | SwL | Sy | SyLL | WL ^{1/} | WSb |
| Torrey's rush | | | | | 5 | | | 5 | 5 | | | | | | 5 |
| Forbs | | | | | | | | | | | | | | | |
| American licorice | 5 | | 5 | | 5 | 5 | | 5 | 5 | | | | | 5 | 5 |
| American vetch | | | | 5 | 5 | 5 | | | | 5 | 5 | | | | |
| Black-eyed Susan | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 |
| Blue vervain | | | 5 | | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | |
| Boneset | | | 5 | | 5 | | | 5 | 5 | | | | | 5 | |
| Broadbeard beardtongue | | 5 | | 5 | | | 5 | | | | 5 | 5 | 5 | | |
| Canada milkvetch | | 5 | | 5 | | 5 | 5 | | | | 5 | 5 | | | |
| Canada tick trefoil | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | |
| Common milkweed | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | |
| Compass plant | | | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Cudweed sagewort | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Devil's beggartick | | | | | 5 | 5 | | 5 | 5 | | | | 5 | | 5 |
| Dotted gayfeather | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | |
| Early / Lanceleaf figwort | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 |
| Eastern daisy fleabane | | | | 5 | | | 5 | | | 5 | | 5 | | | |
| False boneset | | | | 5 | 5 | 5 | | 5 | | | | | 5 | | |
| False sunflower | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | |
| Field / Green sagewort | | | | | 5 | 5 | | | | | | | | | |
| Fragrant giant hyssop | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Fuzzytongue penstemon | | | | 5 | | | 5 | | | | | 5 | | | |
| Geyer's aster | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 |
| Groundplum milkvetch | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | |
| Heath aster | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 |
| Hoary vervain | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Illinois bundleflower | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | | 5 | | | |
| Indian blanket | | 5 | | 5 | | 5 | 5 | | | 5 | | 5 | | | |
| Indian breadroot scurfpea | | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | |
| Ironweed | | | 5 | | 5 | | | 5 | 5 | | | | | 5 | 5 |
| Joe-pye weed | | | 5 | | 5 | | | 5 | 5 | | | | | 5 | |
| Lewis flax | | | | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | |
| Maximilian sunflower | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | |
| Narrow-leaved purple coneflower (<i>Blacksamson echinacea</i>) | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| New England aster | 5 | 5 | | 5 | | 5 | 5 | | | | | 5 | | 5 | 5 |
| Old field goldenrod / Gray goldenrod | | 5 | | 5 | | 5 | 5 | | | 5 | | 5 | | | |
| Pennsylvania smartweed | | | | | | | | 5 | | | | | | 5 | 5 |
| Plains coreopsis | 5 | | 5 | | 5 | | | 5 | 5 | | | | | 5 | 5 |
| Prairie / Carolina larkspur | | | | | | | 5 | | | | | 5 | 5 | | |
| Prairie / Richardson's alumroot | | 5 | | 5 | | | 5 | | | 5 | | 5 | | | |
| Prairie aster | | | | 5 | | 5 | | | | | | 5 | | | |
| Prairie blue-eyed grass | | | | 5 | 5 | | | | | | | | | | 5 |
| Prairie coneflower | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | |

| MLRA 65, 66 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | |
|--|---|-----|----|----|------|-----|----|----|-----|-----|-----|----|------|------------------|-----|
| SD common name | CD ^{2/} | CSa | DW | Ly | LyOv | LyT | Sa | Sb | SSb | SwG | SwL | Sy | SyLL | WL ^{1/} | WSb |
| Prairie goldenrod / Upland white aster | | 5 | | 5 | | | 5 | | | 5 | 5 | 5 | | | |
| Prairie onion | | | | | | | | 5 | | | 5 | | | | |
| Prairie spiderwort | | | | 5 | | 5 | 5 | | | | | 5 | | | |
| Prairie sunflower | | 5 | | | | | 5 | | | | | 5 | | | |
| Purple prairieclover | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | |
| Rocky Mountain bee plant | | 5 | | | | | 5 | | | | | 5 | | | |
| Rough blazing star | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Round-headed bush clover | | 5 | | 5 | | 5 | 5 | | | | | 5 | | | |
| Scarlet globemallow | | | | 5 | | | | | | 5 | | 5 | 5 | | |
| Shell-leaf penstemon | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | |
| Stiff goldenrod | | 5 | | 5 | | 5 | 5 | 5 | | 5 | | 5 | 5 | | |
| Stiff sunflower | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | |
| Swamp milkweed | | | 5 | | 5 | | | 5 | 5 | | | | | | 5 |
| Tall meadow rue | | | | 5 | 5 | 5 | | 5 | 5 | | | | | | |
| Water plantain | | | 5 | | | | | | | | | | | | 5 |
| Western yarrow | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| White prairieclover | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | |
| Wild bergamot | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | |
| Shrubs | | | | | | | | | | | | | | | |
| Black currant | | | | | 5 | 5 | | 5 | | | | | 5 | | |
| Chokecherry | | | | | 5 | 5 | | 5 | | | | | | | |
| Dwarf indigo | | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | | 5 | | 5 | |
| False indigo | | | | | 5 | 5 | | 5 | | | | | | 5 | 5 |
| Four-wing saltbush (dewinged) | | | | 5 | | 5 | | | 5 | | | 5 | | | |
| Fringed sagewort | | | | 5 | 5 | 5 | | | | 5 | 5 | | | | |
| Golden currant | | | | 5 | 5 | 5 | | | | | | 5 | 5 | | |
| Juneberry | | | | | 5 | 5 | | | 5 | | | | 5 | | |
| Leadplant | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | |
| Prairie cinquefoil | | 5 | | 5 | 5 | 5 | 5 | | | | | 5 | | | |
| Prairie rose | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | |
| Redosier dogwood | | | | | 5 | | | 5 | 5 | | | | 5 | | 5 |
| Sand sagebrush | | 5 | | | | | 5 | | | | | 5 | | | |
| Silver buffaloberry | | | | 5 | 5 | 5 | | | | | | | | | |
| Silver sagebrush | | | | | 5 | 5 | | | | | | | | | |
| Western snowberry | | 5 | | 5 | 5 | 5 | 5 | 5 | | | | 5 | | | |
| Wild plum | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | | |

1. On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2. A single species is allowable on this site when planning a Range Seeding (550).

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

**TABLE 5. RANGE SEEDING RATES AND MIXTURES
MLRA 102A, 102B, 102C and 56**

| MLRA 102A/102B/102C & 56 SD common name | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|----|------|----|----|-----|----|----|-------------------|-----|------|-----|----|----|------|------------------|----|-----|-----|----|----|-----|----|
| | Cp | CSa | Cy | CyOv | LB | LM | LSb | LU | Ly | LyF ^{2/} | LyL | LyOv | LyU | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | Sy | TU | VSw | WM |
| Grasses | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkali sacaton | | | | | | | | | | | | | | | | | 30 | | 10 | | | | | |
| American mannagrass | | | | | | 10 | | | | | | | | | | | | 15 | | | | | | 5 |
| American sloughgrass | | | | | | 10 | | | | | | | | | | | | 10 | | | | | | 10 |
| Big bluestem | 15 | 20 | 30 | 30 | 30 | | 40 | 40 | 30 | 40 | 40 | 45 | 35 | 20 | 60 | 25 | | | 40 | 20 | 40 | 20 | 10 | |
| Blue grama | 20 | 10 | 10 | | 10 | | | 10 | 10 | 5 | 10 | | | 10 | 10 | | | | | 15 | 10 | 10 | 20 | |
| Bluejoint reedgrass | | | | | | 25 | | | | | | | | | | | | 25 | | | | | | 25 |
| Buffalograss | 10 | | 10 | | | | | 5 | 10 | 5 | 10 | | 5 | 10 | | | | | | 20 | 10 | | 20 | |
| Canada wildrye | 10 | 5 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | 10 | 10 | 10 | 10 | | 10 |
| Fowl bluegrass | | | | 10 | | 10 | 5 | | | | | | | | | | | 5 | 5 | | | | | 5 |
| Fowl mannagrass | | 5 | | | | 10 | | | | | | | | | | | | 15 | | | | | | 5 |
| Green muhly | | | | | | | 5 | | | | | | | | | 5 | | | | | | | | 5 |
| Green needlegrass | 30 | | 30 | 40 | 5 | | 20 | 10 | 20 | 20 | 20 | 25 | 10 | | | | | | 20 | 15 | | 30 | 20 | |
| Indiangrass | | | 20 | 30 | 20 | | 40 | 15 | 25 | 25 | 25 | 30 | 20 | 20 | 30 | 30 | | | 20 | | 20 | 20 | | |
| Inland saltgrass | | | | | | | | | | | | | | | | | 40 | | 5 | | | | | |
| Little bluestem | 15 | 15 | 25 | 20 | 40 | | 30 | 35 | 30 | 25 | 30 | 20 | 30 | 30 | 25 | 30 | | | 40 | 25 | 30 | 30 | 30 | |
| Needleandthread | 15 | 20 | 10 | | 10 | | 10 | 15 | 10 | 10 | 10 | | 20 | 20 | 10 | 20 | | | 10 | 30 | 20 | 20 | 30 | |
| Nuttall's alkaligrass | | | | | | | | | | | | | | | | | 30 | | | | | | | |
| Porcupinegrass | 20 | 10 | 20 | 10 | 10 | | 20 | 15 | 20 | 15 | 10 | 10 | 20 | 20 | 10 | 20 | | | | 30 | 20 | 20 | 20 | |
| Prairie cordgrass | | | | 5 | | 60 | | | | | | | | | 10 | 10 | 30 | 60 | 10 | | | | | 60 |
| Prairie dropseed | 10 | | 10 | 10 | | | 10 | 15 | 15 | 15 | 10 | 10 | 10 | 10 | 10 | | | | 10 | 15 | 10 | 15 | | |
| Prairie junegrass | 5 | 5 | 5 | 5 | 5 | | 5 | 10 | 5 | 5 | 5 | 5 | 10 | 10 | 5 | 5 | | | 5 | 10 | 10 | 10 | 10 | |
| Prairie sandreed | 10 | 20 | 10 | | 10 | | | | 10 | 10 | 5 | | | 20 | | 30 | | | | 10 | 20 | 10 | | |
| Prairie wedgegrass | | | | | | | 5 | | | | | | | | 5 | 5 | | | | | | | | 10 |
| Sand bluestem | | 30 | | | | | | | | | | | | 35 | | 30 | | | | | 30 | | | |
| Sand dropseed | | 10 | | | | | | | | | | | | 5 | | 10 | | | | 5 | 5 | | 5 | |
| Sideoats grama | 20 | 20 | 15 | 10 | 15 | | 15 | 40 | 15 | 15 | 20 | 10 | 20 | 10 | | 15 | | | 10 | 20 | 10 | 20 | 20 | |
| Slender wheatgrass | 20 | 15 | 10 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Switchgrass | 10 | 10 | 20 | 30 | 10 | 10 | 10 | 15 | 20 | 30 | 25 | 30 | 20 | 20 | 25 | 30 | 40 | | 20 | 10 | 20 | 10 | 10 | 5 |
| Virginia wildrye | | 10 | 10 | 10 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 10 | 10 | 10 | | | 10 | | 10 | | | 5 |
| Western wheatgrass | 40 | 10 | 20 | 55 | 20 | 10 | 5 | 15 | 20 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 70 | 10 | 10 | 15 | 20 | 20 | 15 | 10 |
| Whitetop | | | | | | 50 | | | | | | | | | | | | 50 | | | | | | 50 |
| Grasslikes | | | | | | | | | | | | | | | | | | | | | | | | |
| baltic rush | | | | | | | 10 | | 5 | | | | | | 10 | | 5 | | 10 | | | | | 10 |
| Bebb's sedge | | | | | | | | | | | | | | | | | | 10 | | | | | | 10 |
| Bicknell's sedge | | | | | | | 5 | | 5 | | | | | | 5 | 5 | | | | | | | | 10 |
| Blunt Broom Sedge | | | | | | 15 | | | | | | | | | | | | | | | | | | 15 |

| MLRA 102A/102B/102C & 56 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|-----|----|------|----|----|-----|----|----|-------|-----|------|-----|----|----|------|------|----|-----|-----|----|----|-----|----|
| SD common name | Cp | CSa | Cy | CyOv | LB | LM | LSb | LU | Ly | LyF2/ | LyL | LyOv | LyU | Sa | Sb | SbSa | SL1/ | SM | SSb | SwG | Sy | TU | VSw | WM |
| Bottlebrush sedge | | | | | | 10 | | | | | | | | | | | | 10 | | | | | | 10 |
| Bristly sedge | | | | | | | | | | | | | | | | | | 5 | | | | | | 10 |
| common spikerush | | | | 10 | | 5 | 5 | | | | | | | | | | 10 | | | | | | | 5 |
| Crested sedge | | | | | | 15 | | | | | | | | | | | | 10 | | | | | | 15 |
| Dudley's rush | | | | | | | | | | | | | | | | | 5 | 5 | | | | | | 5 |
| Fox sedge | | | | 20 | | 15 | | | | | | | | | 5 | | | 10 | | | | | | 5 |
| Hardstem bulrush | | | | | | 5 | | | | | | | | | | | | 10 | | | | | | 5 |
| Inland rush | | | | 5 | | | 5 | | | | | | | | 5 | 5 | 10 | | 5 | | | | | 5 |
| River bulrush | | | | | | | | | | | | | | | | | | 15 | | | | | | |
| Slough sedge | | | | | | 60 | | | | | | | | | | | | 60 | | | | | | 60 |
| Softstem bulrush | | | | | | 5 | | | | | | | | | | | | 10 | | | | | | 5 |
| Torrey's rush | | | | 5 | | | 5 | | | | | 5 | | | 5 | | 10 | | 5 | | | | | 5 |
| woolly sedge | | | | 5 | | 10 | | | | | | | | | | | | 10 | | | | | | 40 |
| Forbs | | | | | | | | | | | | | | | | | | | | | | | | |
| Allegheny monkeyflower | | | | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | | | | | 5 |
| American / Water horehound | | | | 5 | | 5 | | | | | | | | | | | | | 5 | | | | | 5 |
| American licorice | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | | | | 5 | 5 | | | | | 5 |
| American Vetch | | | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | 5 | | | | | | 5 | 5 | 5 | 5 | |
| Arrow-leaved / common blue wood aster | | | | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Black-eyed Susan | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | |
| Blanketflower | | 5 | | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | |
| Blue vervain | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Boneset | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Bottle gentian | | | | | | | 5 | | | | | | | | 5 | 5 | | | | | | | | |
| Butterfly milkweed | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | | | |
| Calico aster | | | | | | 5 | | | | | 5 | | | | | | | 5 | | | | | | 5 |
| Canada / Meadow Anemone | | | | 5 | | 5 | 5 | | | 5 | | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Canada milkvetch | 5 | | 5 | | 5 | | | | 5 | 5 | | | 5 | 5 | | | | | | | | 5 | | |
| Canada tick trefoil | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | | |
| Candle anemone / Thimbleweed | | | 5 | | 5 | | | 5 | | | | | 5 | | | | | | | | 5 | | | |
| Columbine | | | | | 5 | | 5 | | | 5 | 5 | 5 | | | | | | 5 | | | | | | 5 |
| Common Bur-reed | | | | | | 5 | | | | | | | | | | | | 5 | | | | | | 5 |
| Common milkweed | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | 5 |
| Compass plant | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | | | 5 | | |
| Cream / longbract wild indigo | | 5 | 5 | | 5 | | | 5 | 5 | | | | 5 | 5 | | | | | | | 5 | 5 | 5 | |
| Cudweed sagewort | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | | |
| Culvers root | | | | 5 | | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Cup plant | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 |
| Devil's beggartick | | | | 5 | 5 | 5 | 5 | | | | 5 | 5 | | | 5 | 5 | | | 5 | | | | | 5 |

| MLRA 102A/102B/102C & 56 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|-----|----|------|----|----|-----|----|----|-------------------|-----|------|-----|----|----|------|------------------|----|-----|-----|----|----|-----|----|
| SD common name | Cp | CSa | Cy | CyOv | LB | LM | LSb | LU | Ly | LyF ^{2/} | LyL | LyOv | LyU | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | Sy | TU | VSw | WM |
| Ditch stonecrop | | | | | | 5 | | | | | | | | | | | | 5 | | | | | | 5 |
| Dotted gayfeather | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | |
| Dwarf indigo | | | 5 | | | | | | 5 | 5 | | | | 5 | | | | | | | 5 | 5 | 5 | 5 |
| Early / lanceleaf figwort | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | 5 | 5 | |
| Early Meadow rue | | | | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | | | | | 5 |
| Eastern Daisy fleabane | | | | | 5 | | | | | | 5 | | | | | | | | | | | 5 | | |
| Eastern purple coneflower | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | 5 | 5 | 5 | 5 | 5 |
| Evening primrose | | | 5 | | | | | 5 | 5 | 5 | | | | 5 | | | | | | | | 5 | | |
| False aster | | | | | | 5 | | | | | | | | | | | | 5 | 5 | | | | | 5 |
| False boneset | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 |
| False gromwell | 5 | | | | 5 | | 5 | 5 | | | | | 5 | | | | | | | 5 | | 5 | 5 | 5 |
| False indigo | | | | 5 | | 5 | | | | 5 | 5 | 5 | | | 5 | | | | | | | | | |
| False sunflower | 5 | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | | | | | 5 | | 5 | | |
| Field / Green sagewort | 5 | | | | | | | | 5 | 5 | | | | 5 | | 5 | | | | | 5 | 5 | 5 | 5 |
| Foxglove beardtongue | | | | | | 5 | | | | | 5 | | | | 5 | 5 | | | 5 | 5 | | | | 5 |
| Fragrant giant hyssop | 5 | | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 |
| Frost / hairy white oldfield aster | | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | |
| Geyer's aster | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 |
| Giant goldenrod | | | | | | | | | | | | | | | 5 | | | | 5 | | | | | 5 |
| Golden alexanders | 5 | | 5 | 5 | | | | | 5 | 5 | 5 | 5 | | 5 | 5 | | | | | | | 5 | | |
| Grass-leaved / flat-top goldenrod | | | | | | | 5 | | | | | | | | 5 | 5 | 5 | | | | | | | 5 |
| Grayhead coneflower | 5 | | 5 | | 5 | | | | 5 | 5 | | | | 5 | | | | | | | | 5 | 5 | |
| Groundplum milkvetch | 5 | | 5 | 5 | | | | 5 | 5 | 5 | | 5 | 5 | 5 | | | | | | | 5 | 5 | 5 | 5 |
| Heart-leaved golden Alexanders | | | | 5 | | 5 | 5 | | | | | | | | 5 | 5 | | | | 5 | | | | |
| Heath aster | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 |
| Hoary vervain | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 |
| Illinois bundleflower | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 |
| Illinois tick trefoil | | | | 5 | 5 | | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | 5 | | |
| Indian blanket | 5 | | 5 | | | | | 5 | 5 | 5 | | | 5 | 5 | | | | | | | 5 | 5 | 5 | 5 |
| Indian breadroot scurfpea | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | 5 | 5 | | | | | | | 5 | 5 | 5 | 5 |
| Ironweed | | | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | 5 | | | | 5 |
| Joe-pye weed | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | 5 |
| Late figwort / carpenter's square | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | | | | | 5 |
| Leadplant | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | | 5 | 5 | 5 | 5 |
| Lewis flax | | | | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | | | | | | 5 | | |
| Lindley's aster | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | 5 |
| Mad dog / blue skullcap | | | | | | 5 | | | | | | | | | | | | | 5 | | | | | 5 |
| Marsh betony / swamp lousewort | | | | | | 5 | | | | | | | | | | | | | 5 | | | | | 5 |
| Maximilian sunflower | 5 | | 5 | 5 | | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | | 5 | | |

| MLRA 102A/102B/102C & 56 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|----|------|----|----|-----|----|----|-------------------|-----|------|-----|----|----|------|------------------|----|-----|-----|----|----|-----|----|--|
| SD common name | Cp | CSa | Cy | CyOv | LB | LM | LSb | LU | Ly | LyF ^{2/} | LyL | LyOv | LyU | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | Sy | TU | VSw | WM | |
| Meadow blazing star | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | | | 5 | | | | | | |
| Narrow-leaved Purple Coneflower | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | | |
| New England aster | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | | | 5 | | | 5 | |
| Nodding beggartick / bur marigold | | | | | | 5 | | | | | | | | | | | | | | | | | | 5 | |
| Nodding onion | 5 | 5 | 5 | | | | | | | | | | | 5 | | | | | | | | 5 | 5 | | |
| Obedient plant | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | | | | 5 | | | | | 5 | |
| Old field goldenrod / Gray goldenrod | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | | 5 | | | | | | 5 | 5 | 5 | 5 | | |
| Pale spiked lobelia | | | | | | | 5 | | | | | | | | 5 | 5 | | | 5 | | | | | | |
| Pasqueflower | | | 5 | | 5 | | | | 5 | | | | 5 | 5 | | | | | | 5 | | 5 | 5 | | |
| Pennsylvania smartweed | | | | | | | | | | | | | | | 5 | 5 | | 5 | | | | | | 5 | |
| Plains coreopsis | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | 5 | | | | | 5 | |
| Prairie / Carolina larkspur | | | 5 | | | | | | 5 | 5 | | | | 5 | | | | | | | | 5 | | | |
| Prairie / downy phlox | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | | | | |
| Prairie / Richardson's alumroot | | | 5 | | | | | 5 | 5 | 5 | | | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | |
| Prairie aster | 5 | | 5 | | | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | | | | | 5 | | | | |
| Prairie blue-eyed grass | | | | | | | 5 | 5 | | | | | 5 | | 5 | 5 | | 5 | | | | | | 5 | |
| Prairie coneflower | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | 5 | 5 | 5 | | |
| Prairie Goldenrod / Upland white aster | | 5 | 5 | | | | | | 5 | 5 | | | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | |
| Prairie Onion | 5 | 5 | 5 | | | | | | | | | | | 5 | | | | | | | | 5 | 5 | | |
| Prairie spiderwort | 5 | 5 | 5 | | | | | 5 | 5 | 5 | | 5 | 5 | 5 | | 5 | | | | | 5 | | 5 | | |
| Prairie violet | | | | | | | 5 | | | | | | | 5 | 5 | | | | 5 | | | | | | |
| Purple giant hyssop | | | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | | 5 | | | | | | | 5 | | | | |
| Purple prairie clover | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | |
| Rocky Mountain bee plant | | | | | | | | | | | | | | 5 | | | | | | | 5 | | 5 | | |
| Rough blazing star | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | |
| Round-headed bush clover | 5 | | 5 | | | | | | 5 | 5 | | | | 5 | | | | | | | 5 | | | | |
| Sawtooth sunflower | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | | | | | 5 | |
| Shell-leaf penstemon | 5 | | 5 | 5 | 5 | | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | |
| Showy goldenrod | 5 | | 5 | | 5 | | | | 5 | | | | | | | | | | | | 5 | | | | |
| Showy partridgepea | | | 5 | 5 | 5 | | | 5 | 5 | 5 | | 5 | 5 | 5 | | | | | | | 5 | | | | |
| Silky / western silver aster | | 5 | 5 | | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | | | | 5 | 5 | 5 | 5 | | |
| Sky-blue aster | | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | |
| Sneezeweed | | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | |
| Stiff goldenrod | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | |
| Stiff sunflower | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | | |
| Swamp / purplestem aster | | | | | | 5 | | | | | 5 | | | | 5 | | | | 5 | | | | | 5 | |
| Swamp milkweed | | | | 5 | | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | 5 | | | | 5 | |
| Sweet cicely / Clayton's sweetroot | | | | | | 5 | | | | | | | | | 5 | 5 | | | 5 | 5 | | | | 5 | |
| Sweet flag | | | | | | 5 | | | | | | | | | | | | | 5 | | | | | 5 | |

| MLRA 102A/102B/102C & 56 | Maximum Percentage of Species per Ecological Site | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|-----|----|------|----|----|-----|----|----|-------------------|-----|------|-----|----|----|------|------------------|----|-----|-----|----|----|-----|----|---|--|
| SD common name | Cp | CSa | Cy | CyOv | LB | LM | LSb | LU | Ly | LyF ^{2/} | LyL | LyOv | LyU | Sa | Sb | SbSa | SL ^{1/} | SM | SSb | SwG | Sy | TU | VSw | WM | | |
| Tall / American bellflower | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | | 5 | | | | | 5 | | |
| Tall meadow rue | 5 | | 5 | 5 | | | 5 | | 5 | 5 | | 5 | | | 5 | 5 | | | 5 | | | | | | | |
| Tall thimbleweed | | | 5 | | | | 5 | | 5 | 5 | 5 | | | | 5 | | 5 | | | | | | | | | |
| Thickspike gayfeather | | | 5 | 5 | | | 5 | 5 | 5 | 5 | | 5 | 5 | | 5 | 5 | | | 5 | | | | | | | |
| Water plantain | | | | | | 5 | | | | | | | | | | | | | 5 | | | | | 5 | | |
| Western yarrow | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | |
| White panicle aster | | | | 5 | | 5 | | | | | | | | | | | | | 5 | | | | | 5 | | |
| White prairie clover | 5 | 5 | 5 | | 5 | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | |
| White snakeroot | | | 5 | | 5 | | | 5 | 5 | | 5 | | | 5 | | | | | | | 5 | | | | | |
| Whorled milkweed | | | | | 5 | | 5 | | | | | | | | 5 | 5 | | | | | | | | | | |
| Wild bergamot | 5 | | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | | 5 | | 5 | 5 | 5 | | | 5 | 5 | 5 | 5 | 5 | | | |
| Wild garlic | | | | | | | 5 | | | | | 5 | | 5 | 5 | | | | | | | | | | | |
| Wild geranium | | | | 5 | | 5 | | | | 5 | | 5 | | | 5 | 5 | | | 5 | | | | | 5 | | |
| Wild golden glow / cutleaf coneflower | | | | 5 | 5 | 5 | 5 | | | 5 | 5 | 5 | | | 5 | 5 | | 5 | | | | | | 5 | | |
| Shrubs | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Black currant | | 5 | | 5 | | | 5 | | | | | 5 | | | 5 | | | | | | | | | | | |
| Chokecherry | | 5 | 5 | 5 | | | | | 5 | 5 | | 5 | | | 5 | | | | 5 | | 5 | 5 | | | | |
| Early wild rose | | | | 5 | 5 | | | | | 5 | | 5 | | | 5 | | 5 | | | | | | | | | |
| Fringed sagewort | 5 | 5 | 5 | 5 | | 5 | | | 5 | 5 | | 5 | | | | 5 | | | | 5 | 5 | 5 | 5 | | | |
| Golden currant | | 5 | | 5 | | | 5 | | 5 | 5 | | 5 | | | | 5 | | | | | | | | | | |
| Juneberry | | 5 | | 5 | | | 5 | | | 5 | | 5 | | | | 5 | | | | | | 5 | | | | |
| Prairie cinquefoil | 5 | 5 | 5 | 5 | | | | | 5 | 5 | | 5 | | 5 | | | | | | | 5 | 5 | | | | |
| Prairie rose | 5 | | 5 | | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | 5 | 5 | | | |
| Redosier dogwood | | | | 5 | | 5 | 5 | | | | | 5 | | | 5 | 5 | | | 5 | | | | | | 5 | |
| Silver buffaloberry | | | 5 | | 5 | | | | 5 | 5 | | | | 5 | | | | | | | 5 | 5 | | | | |
| Western snowberry | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | | | 5 | 5 | | 5 | | | |
| Wild plum | | | | | | | | | 5 | 5 | | 5 | | | 5 | 5 | | | | | | | | | | |

1/ On these sites a minimum of two species must be planted when planning a Range Seeding (550).

2/ Loamy Floodplain (LyF) only occurs in MLRA 102A and 102B.

Note: If the species is not on the above table, refer to the ESD for species suitability.

Note: See Table 9 for more information on acronyms for Ecological Sites.

The information from the following tables has been combined with Table 5. For Prairie Restoration type seedings, use the recommended maximum rates from Table 5 for the appropriate MLRA and Ecological Site.

**TABLE 6A. PRAIRIE RESTORATION
TALL-GRASS PRAIRIE REGION -- MLRAs 56, 102A, 102B, 102C**

**TABLE 6B. PRAIRIE RESTORATION
MIXED-GRASS PRAIRIE REGION -- MLRAs 54, 58D, 60A**

**TABLE 6B. PRAIRIE RESTORATION
MIXED-GRASS PRAIRIE REGION -- MLRAs 53B, 53C, 55B, 55C, 63A, 63B, 64, 65, 66**

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRAs 53B, 53C, 55B, 55C**

| Species/Growth Form | Determining Soil Property | | | | |
|-----------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | G | G | | G | F |
| Blue grama | G | G | | F | |
| Indiangrass | G | G | | G | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | G | G | | G | F |
| Western wheatgrass | G | G | G | F | F |
| Whitetop | | | | | G |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | F | | G |
| Intermediate/Pubescent wheatgrass | G | G | F | F | |
| Reed canarygrass | | | F | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Canada wildrye | F | F | | F | F |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Illinois bundleflower | F | F | | F | |
| Purple/white prairie clover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | F | F | | F | |
| Bird's-foot trefoil | G | G | | G | |
| Red clover | G | G | | F | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRA 54, 63A**

| Species/Growth Form | Determining Soil Property | | | | |
|---------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | G | G | | G | F |
| Blue grama | G | G | | F | |
| Buffalograss | G | F | | | |
| Indiangrass | F | F | | G | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | F | F | | F | |
| Thickspike wheatgrass | F | F | | F | |
| Western wheatgrass | G | G | G | F | F |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | | | G |
| Intermediate wheatgrass | G | G | F | G | |
| Reed canarygrass | | | | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Hard fescue | G | G | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Purple/white prairieclover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | G | G | | G | |
| Red clover | F | F | | | |
| Sainfoin (podless) | G | G | | G | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**ABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRA 64, 65**

| Species/Growth Form | Determining Soil Property | | | | |
|------------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | G | G | | G | F |
| Blue grama | G | G | | F | |
| Buffalograss | G | F | | | |
| Indiangrass | F | F | | G | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | F | F | | F | |
| Thickspike wheatgrass | F | F | | F | |
| Western wheatgrass | G | G | G | F | F |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | | | G |
| Intermediate/ Pubescent wheatgrass | G | G | F | G | |
| Mammoth wildrye | | | | G | |
| Reed canarygrass | | | | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Hard fescue | G | G | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Purple/white prairieclover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | G | G | | G | |
| Red clover | F | F | | | |
| Sainfoin (podless) | G | G | | G | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site Table 2
Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRA 58D, 60A, 61**

| Species/Growth Form | Determining Soil Property | | | | |
|---------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | F | F | | G | F |
| Blue grama | G | G | | F | |
| Buffalograss | G | F | | | |
| Indiangrass | | | | F | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | | | | F | |
| Thickspike wheatgrass | G | G | | G | |
| Western wheatgrass | G | G | G | F | F |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | | | G |
| Intermediate wheatgrass | G | G | F | F | |
| Reed canarygrass | | | | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Hard fescue | G | G | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Purple/White prairieclover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | G | G | | G | |
| Red clover | F | F | | | |
| Sainfoin (podless) | G | G | | G | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRA 62**

| Species/Growth Form | Determining Soil Property | | | | |
|-----------------------------------|---------------------------|------------------------|---------------|--------|-----------|
| | Clayey Texture | Loamy Or Silty Texture | Sandy Texture | Saline | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big Bluestem | G | G | G | | F |
| Blue Grama | G | G | F | | |
| Indiangrass | | | F | | F |
| Prairie Cordgrass | | | | | G |
| Prairie Sandreed | | | G | | |
| Sand Bluestem | | | G | | |
| Sideoats Grama | G | G | G | | |
| Switchgrass | | | F | | |
| Thickspike Wheatgrass | G | G | G | | |
| Western Wheatgrass | G | G | F | | F |
| Tame Sod-forming Grass | | | | | |
| Creeping Foxtail | | | | | G |
| Intermediate/Pubescent Wheatgrass | F | F | F | | |
| Reed Canarygrass | | | | | G |
| Smooth Brome | G | G | F | | |
| Native Bunchgrass | | | | | |
| Canada Wildrye | F | F | F | | |
| Green Needlegrass | G | G | F | | |
| Little Bluestem | F | G | G | | |
| Mountain Brome | G | G | G | | |
| Slender Wheatgrass | G | G | F | | |
| Virginia Wildrye | G | G | G | | |
| Tame Bunchgrass | | | | | |
| Hard Fescue | G | G | | | |
| Meadow Brome | F | F | F | | |
| Tall Wheatgrass | | | | | F |
| Native Legumes | | | | | |
| Canada Milkvetch | G | G | G | | |
| Purple Prairieclover | G | G | G | | |
| Introduced Legumes | | | | | |
| Alsike Clover | G | G | G | | |
| Red Clover | G | G | F | | |
| Sainfoin (Podless) | G | G | G | | |
| Small Burnet | G | G | G | | |
| Native Shrubs | | | | | |
| Leadplant | F | G | G | | |
| Western Snowberry | F | G | F | | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRA 63B, 66**

| Species/Growth Form | Determining Soil Property | | | | |
|---------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | G | G | | G | F |
| Blue grama | G | G | | F | |
| Indiangrass | G | G | | G | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | G | G | | G | F |
| Western wheatgrass | G | G | G | F | F |
| Whitetop | | | | | G |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | F | | G |
| Intermediate wheatgrass | G | G | F | G | |
| Mammoth wildrye | | | | G | |
| Reed canarygrass | | | F | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Canada wildrye | F | F | | F | F |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Illinois bundleflower | F | F | | F | |
| Purple/white prairieclover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | F | F | | F | |
| Bird's-foot trefoil | G | G | | G | |
| Red clover | G | G | | F | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred species for the site; F – Second choice species for the site; blank space – not suited for the site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 7. CRITICAL AREA PLANTING (342)
SPECIES ADAPTED TO GENERALIZED PLANTING SITES
MLRAs 102A, 102B, 102C, and 56**

| Species/Growth Form | Determining Soil Property | | | | |
|-----------------------------------|---------------------------|------------------------|--------|---------------|-----------|
| | Clayey Texture | Loamy or Silty Texture | Saline | Sandy Texture | Wet Soils |
| Native Sod Forming Grass | | | | | |
| Big bluestem | G | G | | G | F |
| Indiangrass | G | G | | G | F |
| Prairie cordgrass | | | F | | G |
| Prairie sandreed | | | | G | |
| Sand bluestem | | | | G | |
| Sideoats grama | G | G | | G | |
| Switchgrass | G | G | | G | F |
| Western wheatgrass | G | G | G | F | F |
| Whitetop | | | | | G |
| Tame Sod-forming Grass | | | | | |
| Alkaligrass | | | G | | |
| Creeping foxtail | | | F | | G |
| Intermediate/Pubescent wheatgrass | G | G | F | F | |
| Reed canarygrass | | | F | | G |
| Smooth brome | G | G | | F | |
| Native Bunchgrass | | | | | |
| Alkali sacaton | | | G | | |
| Canada wildrye | F | F | | F | F |
| Green needlegrass | G | G | | F | |
| Little bluestem | F | G | | G | |
| Nuttall's alkaligrass | | | G | | |
| Slender wheatgrass | F | F | | F | |
| Tame Bunchgrass | | | | | |
| Meadow brome | G | G | | F | |
| Tall wheatgrass | | | G | | F |
| Timothy | F | F | | | |
| Native Legumes | | | | | |
| Canada milkvetch | G | G | | G | |
| Illinois bundleflower | G | G | | F | |
| Purple/white prairieclover | G | G | | G | |
| Introduced Legumes | | | | | |
| Alfalfa | G | G | | G | |
| Alsike clover | F | F | | F | |
| Bird's-foot trefoil | G | G | | G | |
| Red clover | G | G | | F | |
| Native Shrubs | | | | | |
| Leadplant | F | G | | G | |
| Western snowberry | F | G | | F | |

G – Preferred Species For The Site; F – Second Choice Species for the Site; Blank Space – Not Suited for the Site. Table 2 Seeding rates should be doubled if broadcasting or multiplied by 1.5 if being drilled for this practice.

**TABLE 8. VEGETATED TREATMENT AREAS (635)
SUGGESTED SEEDING MIXTURES**

| MLRA | Species | % In Mixture | Lbs/PLS/Acre | Predominant Site Conditions | Prepared Mix Code in Seeding Tool* |
|--|---|----------------------------------|---|---|---|
| 102A, 102B, 102C | Smooth Brome Meadow Brome Orchardgrass Creeping Foxtail | 20 20 30 30 | 6.4 13.0 4.0 4.2 | good soils with short duration of saturated soils | VTA1 |
| 102A, 102B, 102C, 55B, 55C, 53B, 53C, 56 | Smooth Brome Intermediate Wheatgrass Or Pubescent Wheatgrass Creeping Foxtail | 30 20 50 | 9.6 8.0 7.0 | good soils with long duration of saturated soils | VTA2 |
| 102A, 102B, 102C, 55B, 55C, 53B, 53C, 63A, 63B, 54, 58D, 60A, 64, 65, 66 | Tall Wheatgrass Western Wheatgrass Intermediate Wheatgrass Or Pubescent Wheatgrass Creeping Foxtail | 35 30 25 10 | 17.8 11.6 10.0 1.4 | saline soils with potential to reach ec > 4.0 mmhos/cm | VTA3 |
| 63A, 63B, 54, 58D, 60A, 64, 65, 66 | Smooth Brome Intermediate Wheatgrass Or Pubescent Wheatgrass Western Wheatgrass Slender Wheatgrass Prairie Cordgrass Creeping Foxtail | 20 30 20 10 10 10 | 5.2 10.0 6.2 2.0 2.8 1.4 | good soils with short to moderately saturated soils in western South Dakota | VTA4 |
| 102A, 102B, 102C, 55B, 55C, 53B, 53C, 63A, 63B, 54, 58D, 60A, 64, 65, 66 | Big Bluestem Switchgrass Western Wheatgrass | 40 40 20 | 10.0 5.4 6.2 | sites or cells that anticipate major discharge events in summer | VTA5 |

*These mixes have all been loaded into the SD Seeding Tool (SD-CPA-4), for ease of use. They can be easily accessed using the Prepared Mix button on the Seeding Plan tab of the tool.

TABLE 9. SD's ACRONYMS FOR ECOLOGICAL SITES

| Ecological Site Name | Acronym | | Ecological Site Name | Acronym |
|-----------------------------|----------------|--|-----------------------------|----------------|
| Badlands Overflow | BOv | | Sands | Sa |
| Badlands Terrace | BT | | Sandy | Sy |
| Calcarous Fen | CF | | Sandy Claypan | SyCp |
| Channery Loam | CL | | Sandy Limy | SyLi |
| Choppy Sands | CS | | Sandy Lowland | SyLL |
| Choppy Sands | CSa | | Sandy Terrace | SyT |
| Clayey | Cy | | Savannah | Sv |
| Clayey Overflow | CyOv | | Shallow | Sw |
| Clayey Savannah | CSv | | Shallow Breaks | SwB |
| Clayey Terrace | CyT | | Shallow Clay | SwC |
| Claypan | Cp | | Shallow Clayey | SwCy |
| Closed Depression | CD | | Shallow Dense Clay | SDC |
| Deep Marsh | DM | | Shallow Dense Clay | SwDc |
| Deep Wetland | DW | | Shallow Gravel | SwG |
| Dense Clay | DC | | Shallow Limy | SwL |
| Gravelly | Gr | | Shallow Loamy | SwL |
| Gravelly Loamy | GrLy | | Shallow Loamy | SwLy |
| Irrigated Sands | IrSa | | Shallow Marsh | SM |
| Limy Clay | LC | | Shallow Porous Clay | SPC |
| Limy Sands | LiSa | | Shallow Porous Clay | SwPC |
| Limy Subirrigated | LSb | | Shallow Sandy | SwSy |
| Limy Upland | LU | | Shallow To Gravel | SwG |
| Linear Meadow | LM | | Steep Loamy | SLy |
| Loamy | Ly | | Steep Loamy | Stly |
| Loamy Floodplain | LyF | | Stony Hills | SH |
| Loamy Lowland | LyL | | Stony Loamy | StLy |
| Loamy Overflow | LOv | | Stony Overflow | StOv |
| Loamy Overflow | LyOv | | Subirrigated | Sb |
| Loamy Terrace | LT | | Subirrigated Sands | SbSa |
| Loamy Terrace | LyT | | Thin Breaks | TB |
| Loamy Upland | LyU | | Thin Claypan | TCp |
| Loess Breaks | LB | | Thin Loamy | TLy |
| Lowland | LL | | Thin Sands | TSa |
| Overflow | Ov | | Thin Sandy | TSy |
| Porous Clay | PC | | Thin Upland | TU |
| Rocky Hills | RH | | Valley Loam | VL |
| Saline Lowland | SL | | Very Shallow | VSw |
| Saline Overflow | SOv | | Wet Land | WL |
| Saline Subirrigated | SSb | | Wet Meadow | WM |
| Saline Upland | SU | | Wet Subirrigated | WSb |

FIGURE 1. GRASS SEEDLING MORPHOLOGY

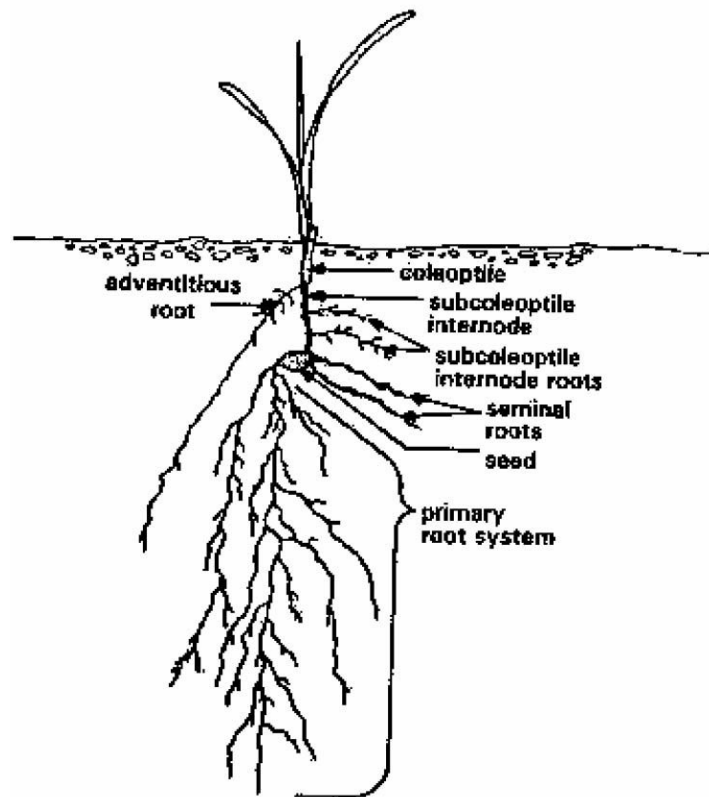
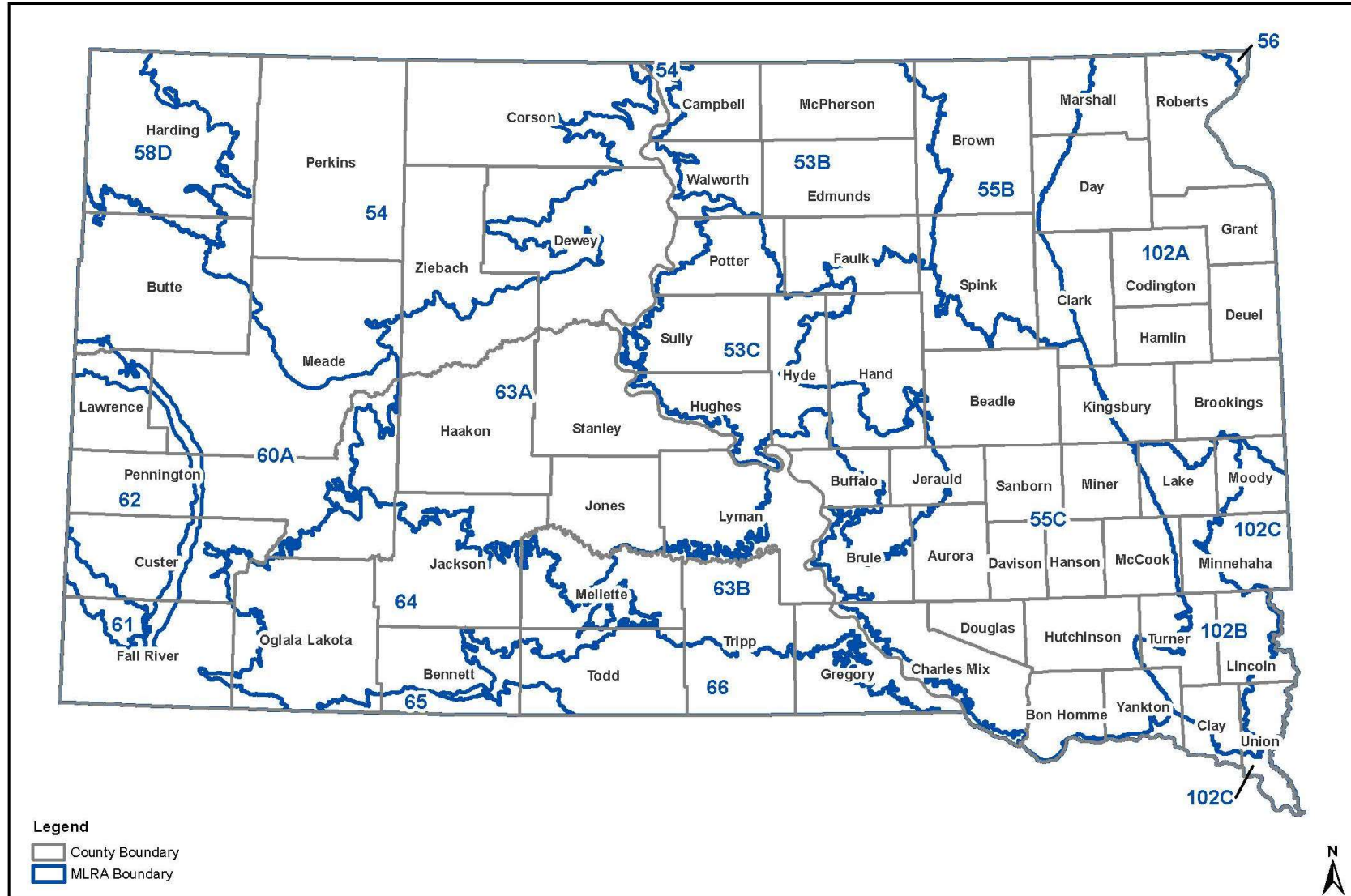


FIGURE 2. MLRA Map of SD

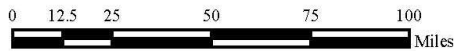
United States Department of Agriculture

Natural Resources Conservation Service

Major Land Resource Area (MLRA) Boundaries



Source:
1:100k DLG
Information provided by NRCS Personnel



Map Produced by:
USDA - NRCS, Rapid City FSO GIS, July 2016
UTM NAD83 Projection