# CONSERVATION PRACTICE SPECIFICATION

# Forage and Biomass Planting – 512

Forage and Biomass Planting - 512 shall be planned and applied in accordance with the standard detailed in the Field Office Technical Guide (FOTG) - Section IV - Conservation Practices. This document provides conservation planners with additional parameters, recommendations, references, and requirements for developing site-specific plans for this practice.

**1. Refer to Herbaceous Vegetation Establishment Guide (FOTG - Section I - Reference Subjects) for:**

- Seeding dates (Part 1)
- Seedbed preparation (Part 2)
- Seeding equipment (Part 3)
- Drill calibration (Part 4)
- Seed requirements (Part 5)
- Seeding depth (Part 6)
- Cover and companion crops (Part 7)
- Management and protection during establishment (Part 8)
- Procedure for stand evaluation (Part 9)

**2. Selecting Species and Varieties**

a. Determine the Forage Suitability Group (FSG) from the soils information located in either the Web Soil Survey or the county specific Interpretive Table in FOTG - Section II - Soil Information subsection. If the predominant Forage Suitability Group is rated "not suited", the soils possess one or more physical (such as too steep, shallow, wet, stony) or chemical properties that make their economic use for forage production difficult or impossible. A field visit will be completed to determine the specific limitation for planning purposes. If "not suited" acres are insignificant, scattered throughout or cannot be managed separately, the seeding should be designed using the predominant FSG with consideration to other major soils. If due to strongly saline, utilize Conservation Practice Critical Area Planting (342) or Range Planting (550) for establishing permanent herbaceous vegetation. If limitations are due to other properties, utilize Conservation Practice Range Planting (550).

b. Refer to Table 1 – Mixture Compatibility and Table 2 – Species Suitability of this specification for selecting species and developing mixtures for the appropriate Forage Suitability Group. Preferred species, indicated with the letter (G), will produce up to their genetic potential. Other suitable species indicated with the letter (F), are adapted but will not produce at their highest potential. A dash (-) indicates that the species is unsuited and shall not be recommended.

c. Refer to Herbaceous Vegetation Establishment Guide for best-adapted varieties and full seeding rates of grasses, forbs and legumes. Use named varieties when available.

d. Refer to Table 1 of this specification for mixture compatibility and allowable limits.

## 3. Planning Considerations

a. Species planned for pasture or hayland should be compatible with the planned management of the entire operating unit. Select species that provide good forage for grazing or hay as appropriate. Consider all existing forages available on the operation when selecting the types of forages to be planted. Identify windows of time throughout the grazing or haying season when forage is lacking in quantity and quality. Next select species that are of high quality during the deficient period.

b. For ease of management, mixtures should consist of grass, forb and/or legume species having similar growth habits, similar palatability during the intended period of use, and similar seasons of growth. Refer to Herbaceous Vegetation Establishment Guide for species characteristics table.

c. Caution should be used when mixing warm and cool-season species for pasture use. Warm/cool season mixtures should not be used for hayland. Growth periods and maturity are different, which causes difficulty with stand management. Consider using Practice 550, Range Planting in Section IV – Conservation Practices subfolder, for designing mixtures for a pasture that will be grazed during various periods throughout the growing season.

d. Grass stand longevity and productivity can generally be improved with perennial legumes in the pasture and hayland mixture. As level of management increases on pasture, seeding mixture diversity may be increased. Consult NRCS area or state specialist for guidance in these situations.

e. Pasture-type alfalfas should be used in pasture mixtures, since this type of alfalfa shows better survivability under grazing use. The land user should be aware of bloat hazard when legumes are included in pasture mixtures. There have been no cases of bloat reported when grazing stands of Cicer milkvetch and/or sainfoin.

f. Where water erosion is a concern all operations and seeding should be performed across the general slope of the fields where appropriate.

g. For improved germination, scarification of legumes with hard seed coats is recommended. Scarification is especially important with the following species: Cicer milkvetch, purple prairie clover, white prairie clover, leadplant, birdsfoot trefoil and Canada milkvetch.

h. The landuser should be aware of potential toxicity to horses, sheep and goats when they are allowed to graze pure stands of switchgrass.

i. Sodic-saline soils and saline soils should only be seeded into standing or flat residues. The late fall (dormant) seeding period is recommended for cool-season species. However, if site conditions permit, the spring and later summer seeding periods are also permissible.

j. Slender wheatgrass, Dahurian and Canada wildrye are short-lived species but establish rapidly and provide quick cover.

k. Fertilization is not recommended during the establishment phase. Fertilization during the establishment phase tends to favor annual weeds over perennial forage species. For recommendations on management of established stands, refer to Practice 511, Forage Harvest Management found in FOTG - Section IV – Conservation Practices subfolder.

l. On slopes greater than 9%, a minimum of 50% of the mixture must be rhizomatous grass species.

m. 100% alfalfa seedings are only permitted on sites with slopes ≤ 3% **and** alfalfa is rated as "Good" in the Adapted Species list for the design Forage Suitability Group. Mixtures on slopes > 3% but ≤ 9%, will contain at least a 20% grass component. This only applies to new seedings.

## 4. Biomass Plantings

a. Select plants that provide adequate kinds and amount of plant materials needed. Manage plant material removal timing and intensity to favor plant health and soil quality factors.

b. Preliminary research results from Central Grasslands Research Extension Center's statewide biomass research plots would indicate a mixture of tall wheatgrass and intermediate wheatgrass produces the best results in western ND and on droughty soils throughout the state. In eastern ND (MLRA 55A&B, 56), pure stands of switchgrass established on soils with a forage suitability group rating of "Good" for switchgrass produced the best plant material for biomass production. See all of Central Grassland's biomass research results at: http://www.ag.ndsu.edu/CentralGrasslandsREC/biofuels-research-1 .

## 5. Pasture and Hay Renovation

Pasture and hay renovation has limited application in the state. Usually, a complete seedbed preparation and seeding operation is recommended. Exceptions to this are:

a. On soils with high erosion potential where the stand composition and/or vigor have deteriorated and a complete re-establishment is required: Areas where wind erosion is the concern, re-establishment should be done in narrow strips. Where water erosion is the concern, re-establishment should be done in narrow strips on the contour.

b. Pasture or hayland that is low in vigor and production: fertilization and/or a light mechanical disturbance of the soil surface may improve these areas. For information on type, rate, and time of fertilizer application, uses recommendations by North Dakota State University, Cooperative Extension Service http://www.ext.nodak.edu/extpubs/soilfert.htm (Circulars SF-721 and SF-728).

c. Interseeding adapted native and/or introduced legumes into existing introduced pasture or hayland (not applicable to rangeland or native grassland) on which the desirable legume/forb species were never established, have diminished, or disappeared from the stand has had limited success within the state. Benefits of successfully establishing legumes/forbs into an existing grass stand would include improvements to soil health, increased forage production, enhanced diet quality and improved wildlife habitat. Interseeding the same or different grass species into existing grass stands has not proven successful.

On-site investigation to determine feasibility of interseeding is required. Timing of precipitation, soils, soil moisture at time of seeding, species selection, seedling vigor, seeding technique, and the amount of competition from established species are all factors affecting the level of success. Vigor and density of the existing stand will impact available moisture for new seedlings. Soil surface conditions, including amount of bare

soil surface, litter amounts (thickness and extent), and presence of a root mat (most common with Kentucky bluegrass), will directly affect the ability to obtain good seed/soil contact.

Interseeding may be considered if the Pasture Condition Score Sheet (GRASS Bundle - ND-CPA-32) shows an overall score of less than 36 OR an indicator rating of three or less for Live Plant Cover and a rating of two or less for Plant Residue and Plant Vigor. In addition, plant litter amounts will be minimal with no root mat or club moss present.

Species adaptation information for native legumes can be found in FOTG - Section IV – Conservation Practices - 550 - Range Planting Specification –Table 1. Suitability information for introduced legumes can be found in FOTG – Section IV – Conservation Practices – 512 - Pasture and Hay Planting Specification. Seeding rates for adapted legume/forbs should be one-half the recommended full seeding rate for the species. If multiple legume/forb species are being interseeded, then the total seeding rate for all species should not exceed 50%. Full seeding rates are shown in Table 1 of the Herbaceous Vegetation Establishment Guide.

Site preparation and seeding technique will be a site specific determination. To reduce competition to seedlings, smooth bromegrass stands may need to be suppressed with an application of Glyphosate as per label directions. Other techniques such as heavy harrowing when plant litter is very dry (days with extremely low relative humidity) may reduce litter cover and help ensure seed to soil contact. Seeding equipment will need to penetrate the soil surface and place the seed at the proper depth. Seeding dates will follow the recommendations in the Herbaceous Vegetation Establishment Guide for the spring and late fall (dormant) seeding periods. The late summer seeding period is not recommended due to moisture limitations. Grazing will be deferred for at least one growing season to allow for seedling establishment. Dormant season grazing may be permissible on a case-by-case basis.

## 6. Guidelines for stand evaluation

a. Stands for forage production must have a minimum density of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass-legume mixtures, two grass plants and two legume plants per square foot.

b. See Part 9 of Herbaceous Vegetation Establishment Guide for additional guidance on stand evaluation.

## 7. Established stand management

a. Refer to FOTG – Section IV – Conservation Practices – 528 – Prescribed Grazing Specification for management of established pasture plantings.

b. Refer to FOTG – Section IV – Conservation Practices – 511 – Forage Harvest Management Specification for management of established hayland plantings.

## 8. Documentation

a. Use ND-CPA-9 (electronic or hardcopy) to document practice planning and installation. This form is located in FOTG-Section IV-Forms.

| Table 1. MIXTURE COMPATIBILITY AND ALLOWABLE LIMITS | | | | |
|---|---|---|---|---|
| **Species** | **Mixture Compatibility[1]** | **Mixture % Min.-Max.[2]** | **Growth Characteristics[3]** | **Best Use[8]** |
| **Introduced Cool-Season Grasses** | | | | |
| Bromegrass | | | | |
| Meadow | D,H | 30-100 | B/M | Both |
| Creeping foxtail | F | 50-100 | R/M | Both |
| Hard fescue | A,B,C,D | 0-20 | B/S | Pasture |
| Timothy [4] | C,D,H | 10-50 | B/M | Both |
| Wheatgrass | | | | |
| Crested | B | 30-100 | B/M | Both |
| Green | A,B,C,D,J | 30-100 | B/M | Both |
| Intermediate/Pubescent | A,B,C,D,H | 30-100 | R/M | Both |
| Siberian | B | 30-100 | B/M | Pasture |
| Tall | J | 30-100 | B/T | Hay |
| Wildrye | | | | |
| Altai | E | 80-100 | B/M | Pasture |
| Dahurian | A,B,C,D,E | 0-20 | B/M | Both |
| Russian | E | 80-100 | B/M | Pasture |
| **Native Cool-Season Grasses** | | | | |
| Green needlegrass | G,H,N,K | 10-100 | B/M | Both |
| Reed canarygrass | F,R | 50-100 | R/T | Both |
| Wheatgrass | | | | |
| Slender/Awned/Bearded | A,B,C,D,E,G,J,K,N | 0-20 | B/M | Both |
| Western | A,B,C,G,H,J,K,N | 10-100 | R/M | Both |
| Wildrye | | | | |
| Basin | G,P | 50-100 | B/T | Pasture |
| Beardless | J | 10-50 | R/M | Pasture |
| Canada | A,B,C,D,G,J,K,N | 0-20 | B/M | Both |
| **Native Warm-Season Grasses [6]** | | | | |
| Bluestem | | | | |
| Big | G,K | 30-100 | R/T | Both |
| Little | G,K | 10-50 | B/M | Pasture |
| Sand | G,K | 30-100 | R/T | Pasture |
| Grama | | | | |
| Blue | G,K | 20-100 | B/S | Pasture |
| Sideoats | G,K | 20-100 | R/S | Pasture |
| Indiangrass | G,K | 30-100 | R/T | Pasture |
| Prairie cordgrass | G,K | 10-100 | R/T | Both |
| Prairie sandreed | G,K | 30-100 | R/T | Pasture |
| Switchgrass [5] | G,K | 30-100 | R/T | Both |
| **Native Legumes** | | | | |
| American vetch | J,K,N,P | 0-20 | Pr/P | Pasture |
| Canada milkvetch | J,K,N,P | 0-5 | E/P | Both |
| Purple prairieclover | J,K,N,P | 0-20 | E/P | Pasture |
| White prairieclover | J,K,N,P | 0-20 | E/P | Pasture |

| Table 1. MIXTURE COMPATIBILITY AND ALLOWABLE LIMITS | | | | |
|---|---|---|---|---|
| **Species** | **Mixture Compatibility[1]** | **Mixture % Min.-Max.[2]** | **Growth Characteristics[3]** | **Best Use[8]** |
| Introduced Legumes [7] | | | | |
| Alfalfa | A,B,C,D,E,N,P | 10-100 [9] | E/P | Both |
| Birdsfoot trefoil | A,B,C,D,E,N | 20-100 | Pr/P | Both |
| Cicer milkvetch | A,B,C,D,E,J,N,P | 10-50 | Pr/P | Both |
| Clover | | | | |
| Alsike | F,J | 0-50 | Pr/P | Both |
| Ladino (white clover) | A,B,C,D,E,N,P | 0-30 | Pr/P | Both |
| Red [4] | A,B,C,D,E,N,P | 0-30 | Pr/P | Both |
| Strawberry | J,P | 0-30 | E/P | Pasture |
| Sweet | A,B,C,D,E,J,N,P | 0-10 | E/B | Both |
| Hairy vetch | A,B,C,D,E,J,N,P | 0-10 | Pr/A | Both |
| Sainfoin | A,B,C,D,E,J,N,P | 10-100 | E/P | Both |

[1] Based on compatibility of species and suitability groups, species with the same letter can be mixed.

[2] As level of grazing management increases, seeding mixture diversity may be increased. Consult area or state specialist for guidance with these situations.

[3] R = Rhizomatous, B = Bunch, S = Short (<18"), M = Medium (18" to 36"), T = Tall (> 36"), A = Annual, B = Biennial, P = Perennial, E = Erect, Pr = Prostrate. See http://plants.usda.gov/java/ for additional information.

[4] Limited to MLRA 55A, 55B, and 56.

[5] Research indicates that pure stands of switchgrass may be toxic to horses, goats and sheep.

[6] Warm season native grasses will not be mixed with introduced legumes due to competitive nature of the common introduced legumes.

[7] On slopes greater than 9%, the seeding mixture will contain at least 50% rhizomatous species.

[8] Indicates whether species is recommended for use as pasture, hayland or both. Based upon growth habit.

[9] 100% alfalfa seedings are only permitted on sites with slopes ≤ 3% **and** alfalfa is rated as "Good" in the Adapted Species list for the design Forage Suitability Group. Mixtures on slopes > 3% but ≤ 9%, will contain at least a 20% grass component. This only applies to new seedings.

| TABLE 2 - SPECIES SUITABILITY - MLRA 53A | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | | |
| Meadow | G | - | F | - | G | G | - | - | - | G | G | F | F |
| Creeping foxtail | - | - | - | - | - | F | F | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Green | G | F | G | F | G | G | G | F | F | G | G | F | - |
| Crested | G | F | G | G | F | F | - | - | G | G | - | G | - |
| Intermediate/Pubescent | G | - | F | F | G | G | - | F | F | G | F | F | F |
| Tall | F | F | F | - | F | F | G | - | - | F | G | - | - |
| Wildrye | | | | | | | | | | | | | |
| Altai | G | - | F | - | G | G | F | - | - | G | F | - | - |
| Dahurian | - | - | - | - | - | - | - | - | - | G | - | - | - |
| Russian | G | - | F | - | G | G | F | F - | F | G | - | - | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | - | - | G | F | - | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | G | G | F | G | G | G | F | F | G | G | F | G |
| Western | G | G | G | F | G | G | G | F | F | G | G | G | F |
| Wildrye | | | | | | | | | | | | | |
| Basin | - | - | F | - | F | F | F | - | - | F | G | - | - |
| Beardless | - | - | - | - | - | - | G | - | - | - | - | - | - |
| Canada | - | - | G | - | F | G | F | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY - MLRA 53A (continued) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | | |
| Big | F | - | F | - | G | G | - | - | - | F | G | - | - |
| Little | F | - | G | G | F | F | - | G | G | G | G | G | - |
| Sand | - | - | G | - | - | - | - | G | G | F | - | F | - |
| Grama | | | | | | | | | | | | | |
| Blue | - | - | - | - | - | - | - | - | G | G | - | - | - |
| Sideoats | F | - | G | G | F | G | - | F | F | G | - | F | - |
| Indiangrass | F | - | F | - | F | G | - | - | - | - | G | - | - |
| Prairie sandreed | - | - | G | G | - | - | - | G | G | G | - | F | - |
| Switchgrass | F | - | F | - | G | G | F | - | - | F | G | - | F |
| **Native Legumes** | | | | | | | | | | | | | |
| American vetch | - | - | - | - | - | - | - | - | - | F | - | - | - |
| Canada milkvetch | F | - | F | F | G | G | - | - | - | F | F | - | - |
| Purple prairieclover | F | - | G | F | G | F | - | F | G | G | - | F | - |
| White prairieclover | F | - | G | F | G | F | - | G | G | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | G | F | G | F | G | - |
| Birdsfoot trefoil | F | - | - | - | F | - | - | - | - | - | - | - | - |
| Cicer milkvetch | F | - | G | F | G | G | - | F | - | G | F | - | - |
| Clover | | | | | | | | | | | | | |
| Alsike | | - | - | - | - | F | F | - | - | - | F | - | F |
| Sweet | - | - | - | - | - | - | - | - | F | G | - | - | - |
| Hairy vetch | - | - | - | - | - | - | - | - | - | F | - | - | - |
| Sainfoin | - | - | G | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY - MLRA 53B | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | | |
| Meadow | G | - | F | - | G | G | - | - | - | G | G | - | - |
| Creeping foxtail | - | - | - | - | - | F | F | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Green | G | F | G | F | G | G | G | F | F | G | G | F | - |
| Crested | G | F | G | G | G | G | - | F | G | G | G | G | - |
| Intermediate/Pubescent | G | - | F | F | G | G | - | F | F | G | F | F | - |
| Siberian | - | - | F | G | - | - | - | G | - | F | - | G | - |
| Tall | G | F | F | - | G | F | G | - | - | F | G | - | G |
| Wildrye | | | | | | | | | | | | | |
| Altai | G | - | F | - | G | G | F | - | - | G | F | - | - |
| Dahurian | G | F | G | F | G | G | - | F | - | G | F | F | - |
| Russian | G | F | G | F | G | F | F | F | F | G | - | F | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | - | - | G | F | F | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Western | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Wildrye | | | | | | | | | | | | | |
| Basin | - | - | F | - | F | F | - | - | | F | - | | |
| Beardless | - | F | - | - | - | - | G | - | - | - | - | - | - |
| Canada | - | - | G | - | G | G | F | G | - | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY - MLRA 53B (continued) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | | |
| Big | F | - | F | - | G | G | - | - | - | F | G | - | - |
| Little | F | - | G | G | G | F | - | G | G | G | G | G | - |
| Sand | - | - | G | - | - | - | - | G | G | - | - | F | - |
| Grama | | | | | | | | | | | | | |
| Blue | G | F | G | G | G | F | - | F | G | G | - | G | - |
| Sideoats | F | - | G | G | G | G | - | F | F | G | - | F | - |
| Indiangrass | - | - | - | - | F | F | - | - | - | - | F | - | - |
| Prairie cordgrass | - | - | - | - | - | - | - | - | - | - | - | - | G |
| Prairie sandreed | - | - | G | G | F | - | - | G | G | G | - | F | - |
| Switchgrass | F | - | F | - | G | G | F | - | - | F | G | - | G |
| **Native Legumes** | | | | | | | | | | | | | |
| American vetch | F | - | G | G | G | G | - | F | - | G | F | F | - |
| Canada milkvetch | F | - | F | F | G | G | - | F | - | G | G | - | - |
| Purple prairieclover | F | - | G | F | G | F | - | G | G | G | - | G | - |
| White prairieclover | F | - | G | F | G | F | - | G | G | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | F | F | G | G | F | - |
| Cicer milkvetch | F | - | G | - | G | G | - | F | - | G | F | - | - |
| Clover | | | | | | | | | | | | | |
| Alsike | - | - | - | - | - | F | F | - | - | - | F | - | G |
| White | F | - | - | - | F | G | - | - | - | - | F | - | - |
| Sweet | G | F | G | F | G | G | F | F | F | G | G | F | F |
| Hairy vetch | - | F | F | F | G | G | - | - | - | F | F | - | - |
| Sainfoin | - | - | G | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 54 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | | |
| Meadow | F | - | F | - | G | G | - | - | - | F | F | - | - |
| Creeping foxtail | - | - | - | - | - | - | F | - | - | - | - | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Green | G | F | G | F | G | G | G | F | - | G | F | F | - |
| Crested | G | F | G | G | G | G | - | F | F | G | G | G | - |
| Intermediate/Pubescent | F | F | F | F | G | G | - | F | - | G | F | F | - |
| Siberian | F | - | G | G | F | - | - | G | F | F | - | G | - |
| Tall | F | F | F | - | F | G | G | - | - | F | G | - | G |
| Wildrye | | | | | | | | | | | | | |
| Altai | F | - | F | - | G | G | F | - | - | G | - | - | - |
| Dahurian | G | F | G | F | G | G | - | F | - | G | - | F | - |
| Russian | G | F | G | F | G | G | F | F | - | G | F | - | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | | |
| Green needlegrass | G | - | G | F | G | G | - | - | - | G | F | - | - |
| Reed Canarygrass | - | - | - | - | - | F | - | - | - | - | - | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Western | G | G | G | G | G | G | G | F | F | G | G | F | G |
| Wildrye | | | | | | | | | | | | | |
| Basin | - | - | F | - | F | F | - | - | - | F | - | - | - |
| Beardless | - | F | - | - | - | - | G | - | - | - | - | - | - |
| Canada | - | - | G | - | G | G | F | G | - | 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 | | | | | | | | | | | | | |

**TABLE 2 - SPECIES SUITABILITY – MLRA 54 (continued)**

| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Native Warm-Season Grasses** | | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | | |
| Big | - | - | F | - | G | G | - | - | - | F | G | - | - |
| Little | F | - | G | G | G | F | - | G | G | G | G | F | - |
| Sand | - | - | G | F | - | - | - | G | G | F | - | F | - |
| Grama | | | | | | | | | | | | | |
| Blue | G | F | G | G | G | F | - | F | G | G | - | G | - |
| Sideoats | F | - | G | G | G | G | - | F | F | G | - | F | - |
| Prairie cordgrass | - | - | - | - | - | - | - | - | - | - | - | - | G |
| Prairie sandreed | - | - | G | G | F | - | - | G | G | G | - | F | - |
| Switchgrass | F | - | F | - | G | G | F | - | - | F | G | - | G |
| **Native Legumes** | | | | | | | | | | | | | |
| American vetch | F | - | G | F | G | G | - | F | - | F | F | F | - |
| Canada milkvetch | F | - | F | F | G | G | - | F | - | F | F | - | - |
| Purple prairieclover | F | - | G | F | G | F | - | F | F | G | - | G | - |
| White prairieclover | F | - | G | F | G | F | - | F | F | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | F | - | G | G | F | - |
| Cicer milkvetch | F | - | G | - | G | G | - | F | - | G | F | - | - |
| Clover | | | | | | | | | | | | | |
| Alsike | - | - | - | - | - | - | F | - | - | - | - | - | F |
| White | F | - | - | - | F | G | - | - | - | - | - | - | - |
| Sweet | G | F | G | F | G | G | F | F | F | G | G | F | F |
| Hairy vetch | - | F | F | - | F | F | - | - | - | F | F | - | - |
| Sainfoin | - | - | G | 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

| TABLE 2 - SPECIES SUITABILITY - MLRA 55A | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | | |
| Meadow | G | - | G | F | G | G | - | F | - | G | G | - | - |
| Creeping foxtail | - | - | - | - | - | F | F | - | - | - | F | - | G |
| Timothy | - | - | - | - | - | G | - | - | - | - | - | - | F |
| Wheatgrass | | | | | | | | | | | | | |
| Green | G | F | G | G | G | G | G | F | F | G | G | F | - |
| Crested | G | F | G | G | G | G | - | F | F | G | F | G | - |
| Intermediate/Pubescent | G | F | G | F | G | G | - | F | F | G | F | F | - |
| Tall | G | G | G | - | G | G | G | F | - | G | G | - | F |
| Wildrye | | | | | | | | | | | | | |
| Altai | F | - | F | - | F | F | F | F | - | F | F | - | - |
| Dahurian | G | F | G | F | G | G | - | F | - | G | F | F | - |
| Russian | F | F | G | F | G | F | F | F | F | G | - | F | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | F | F | G | F | F | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | G | G | G | G | G | G | F | F | G | G | F | - |
| Western | G | G | G | G | G | G | G | F | F | G | G | F | G |
| Wildrye | | | | | | | | | | | | | |
| Beardless | - | F | - | - | - | - | G | - | - | - | - | - | - |
| Canada | - | - | G | - | F | G | F | 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 | | | | | | | | | | | | | |

| TABLE 2- SPECIES SUITABILITY - MLRA 55A (continued) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | | |
| Big | G | - | F | F | G | G | - | F | - | F | G | - | - |
| Little | F | - | G | G | G | G | - | G | G | G | G | G | - |
| Sand | - | - | F | - | F | - | - | G | F | F | - | F | - |
| Grama | | | | | | | | | | | | | |
| Blue | G | F | G | G | G | F | - | F | G | G | - | G | - |
| Sideoats | F | - | G | G | G | G | - | F | F | G | - | F | - |
| Indiangrass | F | - | F | - | G | G | - | - | - | F | G | - | - |
| Prairie cordgrass | - | - | - | - | - | - | F | - | - | - | - | - | G |
| Prairie sandreed | - | - | F | F | F | - | - | G | G | F | - | F | - |
| Switchgrass | G | - | F | - | G | G | F | F | - | F | G | - | G |
| **Native Legumes** | | | | | | | | | | | | | |
| American vetch | F | - | G | G | G | G | - | F | - | F | F | F | - |
| Canada milkvetch | F | - | F | G | G | G | - | F | - | F | G | - | - |
| Purple prairieclover | F | - | G | G | G | F | - | G | G | G | - | G | - |
| White prairieclover | F | - | G | F | G | F | - | G | G | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | F | - | G | G | F | - |
| Birdsfoot trefoil | F | - | F | - | F | G | F | - | - | F | G | - | - |
| Cicer milkvetch | F | - | G | - | G | G | - | F | - | G | F | - | - |
| Clover | | | | | | | | | | | | | |
| Alsike | - | F | - | - | - | F | F | - | - | - | F | - | G |
| White | G | - | - | - | G | G | - | - | - | - | F | - | - |
| Red | G | - | F | - | G | G | - | - | - | F | - | - | - |
| Strawberry | - | - | - | - | F | - | G | - | - | - | - | - | F |
| Sweet | G | F | G | F | G | G | F | F | F | G | G | G | F |
| Hairy vetch | F | F | F | F | G | G | - | - | - | F | F | - | - |
| Sainfoin | - | - | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 55B | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | | |
| Meadow | G | - | G | F | G | G | - | F | - | G | G | - | - |
| Creeping foxtail | - | - | - | - | - | F | F | - | - | - | F | - | G |
| Timothy | G | - | - | - | F | G | - | - | - | - | - | - | F |
| Wheatgrass | | | | | | | | | | | | | |
| Green | G | G | G | G | G | G | G | G | F | G | G | F | - |
| Crested | G | F | G | G | G | G | - | F | F | G | F | G | - |
| Intermediate/Pubescent | G | F | G | F | G | G | - | G | F | G | F | F | - |
| Tall | G | G | G | - | G | G | G | F | - | G | G | - | G |
| Wildrye | | | | | | | | | | | | | |
| Altai | F | - | F | - | F | F | F | F | - | F | F | - | - |
| Dahurian | G | F | F | F | G | G | - | F | - | F | F | F | - |
| Russian | F | F | G | F | G | F | F | F | F | G | - | F | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | F | F | G | F | F | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | G | G | G | G | G | G | F | F | G | G | F | - |
| Western | G | G | G | G | G | G | G | F | F | G | G | F | F |
| Wildrye | | | | | | | | | | | | | |
| Beardless | - | F | - | - | - | - | G | - | - | - | - | - | - |
| Canada | - | - | F | - | F | G | F | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 55B (continued) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Steep Loam | Subirrigated | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | | |
| Big | G | - | F | F | G | G | - | F | - | F | G | - | - |
| Little | F | - | G | G | G | G | - | G | G | G | G | G | - |
| Sand | - | - | F | - | F | - | | G | F | F | - | F | - |
| Grama | | | | | | | | | | | | | |
| Blue | G | F | G | G | G | F | - | F | G | G | - | G | - |
| Sideoats | F | - | G | G | G | G | - | F | F | G | - | F | - |
| Indiangrass | F | - | F | - | G | G | - | - | - | F | G | - | - |
| Prairie cordgrass | - | - | - | - | - | - | F | - | - | - | - | - | G |
| Prairie sandreed | - | - | F | F | F | - | - | G | F | F | - | F | - |
| Switchgrass | G | - | F | - | G | G | F | F | - | F | G | - | G |
| **Native Legumes** | | | | | | | | | | | | | |
| American vetch | F | - | G | G | G | G | - | F | - | F | F | F | - |
| Canada milkvetch | F | - | F | F | G | G | - | F | - | F | G | - | - |
| Purple prairieclover | F | - | G | G | G | F | - | G | G | G | - | G | - |
| White prairieclover | F | - | G | F | G | F | - | G | G | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | F | - | G | G | F | - |
| Birdsfoot trefoil | F | - | F | - | F | G | F | - | - | F | G | - | - |
| Cicer milkvetch | F | - | G | - | G | G | - | F | - | G | F | - | - |
| Clover | | | | | | | | | | | | | |
| Alsike | - | F | - | - | - | F | F | - | - | - | F | - | G |
| White | G | - | - | - | G | G | - | - | - | - | F | - | - |
| Red | G | - | F | - | F | G | - | - | - | F | - | - | - |
| Strawberry | - | - | - | - | F | - | G | - | - | - | - | - | F |
| Sweet | G | F | G | F | G | G | F | F | F | G | G | F | F |
| Hairy vetch | F | F | F | F | G | G | - | - | - | - | F | - | - |
| Sainfoin | - | - | 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 | | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 56 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Subirrigated | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | | | | |
| Bromegrass | | | | | | | | | | | | |
| Meadow | G | - | G | F | G | G | - | G | - | G | - | F |
| Creeping foxtail | - | - | - | - | - | F | F | - | - | F | - | G |
| Wheatgrass | | | | | | | | | | | | |
| Green | G | F | G | G | G | G | G | G | F | G | F | - |
| Crested | G | F | G | G | G | G | - | F | F | - | F | - |
| Intermediate/Pubescent | G | F | G | F | G | G | - | G | F | F | F | - |
| Tall | G | G | G | - | G | G | G | F | - | G | - | - |
| Wildrye | | | | | | | | | | | | |
| Altai | F | - | F | - | F | F | F | F | - | F | - | - |
| Dahurian | G | F | F | F | G | G | - | F | - | F | F | F |
| Russian | G | F | G | F | G | G | F | F | F | - | F | - |
| **Native Cool-Season Grasses** | | | | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | F | F | F | F | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | - | G | - | G |
| Wheatgrass | | | | | | | | | | | | |
| Slender/Awned/Bearded | G | F | G | F | G | G | G | F | F | G | F | - |
| Western | G | G | G | F | G | G | G | F | F | G | F | F |
| Wildrye | | | | | | | | | | | | |
| Beardless | - | F | - | - | - | - | G | - | - | - | - | - |
| Canada | - | - | F | - | F | 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 | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 56 (continued) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Saline | Sand | Very Shallow to Gravel | Subirrigated | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | | | | |
| Bluestem | | | | | | | | | | | | |
| Big | G | - | F | F | G | G | - | F | - | G | - | - |
| Little | F | - | G | G | G | G | - | G | F | G | F | - |
| Sand | - | - | F | - | F | F | - | G | F | - | F | - |
| Grama | | | | | | | | | | | | |
| Blue | G | F | G | G | G | F | - | F | F | - | F | - |
| Sideoats | F | - | G | G | G | G | - | F | F | - | F | - |
| Indiangrass | F | - | F | - | G | G | - | F | - | G | - | - |
| Prairie cordgrass | - | - | - | - | - | - | F | - | - | - | - | G |
| Prairie sandreed | - | - | F | F | F | - | - | G | F | - | F | - |
| Switchgrass | G | - | F | - | G | G | - | F | - | G | - | F |
| **Native Legumes** | | | | | | | | | | | | |
| American vetch | F | - | F | G | G | G | - | F | - | - | F | - |
| Canada milkvetch | F | - | F | - | G | G | - | F | - | F | - | - |
| Purple prairieclover | - | - | G | G | G | F | - | G | G | - | G | - |
| White prairieclover | F | - | G | F | G | F | - | G | G | - | G | - |
| **Introduced Legumes** | | | | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | - | F | - | F | - | - |
| Birdsfoot trefoil | F | - | F | - | F | G | F | - | - | G | - | - |
| Cicer milkvetch | F | - | G | - | G | G | - | G | - | F | - | - |
| Clover | | | | | | | | | | | | |
| Alsike | - | - | - | - | - | - | F | - | - | F | - | - |
| White | G | - | - | - | G | G | - | - | - | F | - | - |
| Red | G | - | F | - | G | G | - | - | - | - | - | - |
| Sweet | G | F | G | F | G | G | F | F | F | G | F | F |
| Hairy vetch | F | F | F | F | G | G | - | - | - | F | - | - |
| Sainfoin | - | - | 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 | | | | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 58C | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Sand | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | |
| Bromegrass | | | | | | | | | |
| Meadow | - | - | - | - | F | G | - | - | - |
| Creeping foxtail | - | - | - | - | - | - | - | - | G |
| Wheatgrass | | | | | | | | | |
| Green | - | F | G | F | G | G | F | F | - |
| Crested | G | - | G | G | G | G | F | G | - |
| Intermediate/Pubescent | F | - | F | - | G | G | F | F | - |
| Siberian | - | - | F | G | F | - | G | G | - |
| Tall | - | - | - | - | F | G | - | - | F |
| Wildrye | | | | | | | | | |
| Altai | - | - | F | - | F | G | - | - | - |
| Dahurian | G | F | G | F | G | G | F | F | F |
| Russian | - | - | F | - | F | G | F | F | - |
| **Native Cool-Season Grasses** | | | | | | | | | |
| Green needlegrass | G | - | F | - | G | G | - | - | - |
| Reed canarygrass | - | - | - | - | - | F | - | - | G |
| Wheatgrass | | | | | | | | | |
| Slender/Awned/Bearded | G | F | F | F | G | G | F | G | G |
| Western | G | G | F | F | G | G | F | F | F |
| Wildrye | | | | | | | | | |
| Basin | - | - | F | - | F | F | - | - | - |
| Canada | - | - | 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 | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY – MLRA 58C (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Sand | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | |
| Bluestem | | | | | | | | | |
| Big | - | - | F | - | F | G | - | - | F |
| Little | - | - | G | G | G | F | G | F | - |
| Sand | - | - | G | - | - | F | G | F | - |
| Grama | | | | | | | | | |
| Blue | G | F | G | G | G | F | F | G | - |
| Sideoats | F | - | G | G | G | G | F | F | - |
| Prairie cordgrass | - | - | - | - | - | - | - | - | G |
| Prairie sandreed | - | - | G | - | - | - | G | F | - |
| Switchgrass | F | - | - | - | F | G | - | - | G |
| **Native Legumes** | | | | | | | | | |
| American vetch | F | - | G | F | G | G | F | F | - |
| Canada milkvetch | F | - | F | F | G | G | - | - | - |
| Purple prairieclover | F | - | G | F | G | F | F | F | - |
| White prairieclover | F | - | G | F | G | F | G | F | - |
| **Introduced Legumes** | | | | | | | | | |
| Alfalfa | F | F | F | - | G | G | F | F | - |
| Cicer milkvetch | F | - | G | - | G | G | F | - | - |
| Clover | | | | | | | | | |
| Alsike | - | - | - | - | - | - | - | - | G |
| White | - | - | - | - | F | F | - | - | - |
| Sweet | G | F | G | F | G | G | F | G | F |
| Hairy vetch | - | - | - | - | - | F | - | - | - |
| Sainfoin | - | - | G | 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 | | | | | | | | | |

| SPECIES SUITABILITY – MLRA 58D | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Sand | Very Droughty Loam | Wet |
| **Introduced Grasses** | | | | | | | | | |
| Bromegrass | | | | | | | | | |
| Meadow | F | - | - | - | F | F | - | - | - |
| Creeping foxtail | - | - | - | - | - | - | - | - | G |
| Wheatgrass | | | | | | | | | |
| Green | - | F | F | F | - | - | F | - | - |
| Crested | G | F | G | G | G | G | G | G | - |
| Intermediate/Pubescent | G | F | F | F | G | G | F | F | - |
| Tall | - | G | F | - | F | - | - | - | F |
| Wildrye | | | | | | | | | |
| Altai | F | - | G | F | G | G | F | F | - |
| Russian | G | F | G | G | G | - | - | G | - |
| **Native Cool-Season Grasses** | | | | | | | | | |
| Green needlegrass | G | F | G | F | G | G | - | F | - |
| Reed canarygrass | - | - | - | - | - | - | - | - | G |
| Wheatgrass | | | | | | | | | |
| Slender/Awned/Bearded | - | F | - | - | - | - | - | - | - |
| Streambank/Thickspike | F | - | G | G | G | F | F | G | - |
| Western | G | G | G | G | G | G | F | G | F |
| Wildrye | | | | | | | | | |
| Basin | - | - | G | - | G | G | - | F | - |
| Beardless | - | 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 | | | | | | | | | |

| TABLE 2 - SPECIES SUITABILITY - MLRA 58D (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Species | Clayey Subsoil | Claypan | Droughty Loam | Limy Upland | Loam | Over flow | Sand | Very Droughty Loam | Wet |
| **Native Warm-Season Grasses** | | | | | | | | | |
| Bluestem | | | | | | | | | |
| Big | F | - | - | F | F | F | F | - | - |
| Little | F | - | G | G | G | G | G | G | - |
| Sand | - | - | F | - | F | - | G | F | - |
| Grama | | | | | | | | | |
| Sideoats | G | - | G | G | G | F | F | G | - |
| Indiangrass | - | - | - | F | - | - | - | - | - |
| Prairie sandreed | - | - | F | F | F | - | G | F | - |
| Switchgrass | F | - | - | - | F | F | F | - | F |
| **Native Legumes** | | | | | | | | | |
| Canada milkvetch | F | - | - | - | F | F | - | - | - |
| Purple prairieclover | F | - | G | F | F | F | F | G | - |
| White prairieclover | F | - | G | F | F | F | F | G | - |
| **Introduced Legumes** | | | | | | | | | |
| Alfalfa | G | F | G | F | G | G | G | F | - |
| Cicer milkvetch | G | - | G | G | G | G | G | G | - |
| Clover | | | | | | | | | |
| Alsike | - | - | - | - | - | - | - | - | F |
| Sainfoin | 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 | | | | | | | | | |