

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE INSTALLATION GUIDELINES**

**PASTURE AND HAY PLANTING**

(ac.)  
**CODE 512**

Installation guidance for this practice is found in South Dakota Range Technical Note No. 4, "Perennial Vegetation Establishment" which is located in Section I of the South Dakota electronic Field Office Technical Guide (eFOTG). It contains specific guidance on seeding dates, rates and depth, seedbed preparation, seeding equipment and calibration, seed requirements, species selection, use of cover and companion crops, management and protection during the establishment period, and stand evaluations.

Tables contained in the Technical Note contain specific information to be used in the installation of this practice as follows:

Table 1. lists allowable varieties for use in South Dakota.

Table 2. provides seeding rate information.

Table 3. provides information on species characteristics and adaptability.

Table 4. lists allowable species for each forage suitability group by Major Land Resource Area (MLRA).

### **SPECIES SELECTION**

When two grass species are used, the percentage that each species makes of the mixture should be in near equal proportions. If a legume is used in the mixture with two 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.

Do not mix warm season and cool season grasses for hayland use. 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. Generally, tall wheatgrass, reed canarygrass, and Russian wildrye will be seeded alone.

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 will consist of no more than two grass species having similar growth habits and similar seasons of use. These may be planted with or without legumes.

Cool season pasture mixtures containing a legume will produce higher yields and better quality forage than will pure grass stands. For pasturelands the percent of legumes in the mixture will not exceed 50 percent (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 pasture mixes.

Cool season hayland mixtures containing legumes will produce higher yields and better quality forage than will pure grass stands. For haylands, the percent of legumes in the mixture will not exceed 75 percent (PLS basis) of the amount required for a full seeding. Hayland type alfalfa should be used.

On slopes over 6 percent, 75 percent of the seed mixture (PLS basis) will be rhizomatous species.

Russian wildrye, because of its basal leaf-growth characteristics, is not suitable for hay production

Legume seed shall be inoculated with the proper viable rhizobia before planting.

**STAND ENHANCEMENT (ADDING LEGUMES TO EXISTING STANDS)**

Seeding rates for stand enhancement through the addition 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 Range Technical Note No. 4. Stand enhancement with legumes is only allowed east of the Missouri River, on all irrigated lands, and within the Black Hills and surrounding foothills.

**FERTILIZATION**

In most instances fertilization has not proven beneficial, and may in fact be detrimental to seedling establishment due to increased weed growth caused by the addition of nutrients. Fertilization prior to seeding is generally not recommended. Fertilization of established stands is beneficial if soil tests indicate a response will occur and economics warrant the additional inputs. See conservation practice Nutrient Management (590) for additional information.