

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RANGE PLANTING

(Ac.)

CODE 550

DEFINITION

Establishment of adapted perennial vegetation such as grasses, forbs, legumes, shrubs, and trees.

PURPOSE

Restore a plant community similar to its historic climax or the desired plant community.

Provide or improve forages for livestock.

Provide or improve forage, browse, or cover for wildlife.

Reduce erosion by wind and/or water.

Improve water quality and quantity.

Increase carbon sequestration.

CONDITIONS WHERE PRACTICE APPLIES

On rangeland, native or naturalized pasture, grazed forest, or other suitable location where the principle method of vegetation management will be with herbivores. This practice shall be applied where desirable vegetation is below the acceptable level for natural reseeding to occur, or where the potential for enhancement of the vegetation by grazing management is unsatisfactory.

CRITERIA

General Criteria Applicable to All Purposes

Specific guidance on seeding dates, rates and depths, seedbed preparation, seeding equipment and calibration, species selection, seed requirements, use of cover and companion crops, management and protection during the establishment period, and stand evaluations is

contained in Range Technical Note No. 4 "Perennial Vegetation Establishment," which is located in Section I of the South Dakota Technical Guide.

Tables in Range Technical Note No. 4 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, and Table 5 lists allowable species by minimum and maximum percentage for each ecological site by Major Land Resource Area (MLRA).

All seedings will contain a minimum of four species unless otherwise specified in Table 5 of Range Technical Note No. 4.

When two or more ecological sites 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. In addition, all required species with a listed minimum percentage requirement for each site occurring in the area to be seeded must be included in the mixture. Limits are set within Table 5 for the minimum and maximum percentage for each species. This requirement may often mean that more than four species will be required, especially on seedings with a diversity of ecological sites, as four adapted species for each site (unless otherwise specified) must be included in the overall seeding mixture.

All ecological sites that occupy more than five percent of the area to be seeded should be considered in the design of the seeding mix. Selected species should have a reasonable chance of surviving across all ecological sites.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#), or visit the [electronic Field Office Technical Guide](#).

SDTG Notice 233
Section IV
NRCS-MARCH 2006

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).

The percentage that each species makes of the mixture when added together will equal 100 percent.

An alternative to designing a single seeding mixture for multiple sites is to design and apply a unique seeding mixture for each ecological site 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.

Species, cultivars, or varieties selected, must be compatible with management objectives and adapted to climate conditions, soils, landscape position, (e.g., aspect) and ecological site(s).

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 shall make a furrow at least 8 inches wide, at least 3 inches deep, and not spaced more than 42 inches between furrow centers. It 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 on Table 2 of Range Technical Note No. 4.

Seeding rates will be calculated on a pure live seed (PLS) basis or percent germination.

Additional Criteria to Improve Forages for Livestock

Selection of a species or combination of species shall be designed to meet the desired nutritional and palatability requirements for the kind and class of livestock.

Selection of species or combination of species shall be designed to meet the desired season of use or grazing period.

Additional Criteria for Improved Water Quality and Quantity

Select a species or combination of species that will maintain a stable soil surface and increase infiltration.

Species that have high evapotranspiration rates, such as some woody species and phreatophytes, shall not be planted when watershed yields are the primary objective.

A mixture of shrubs and trees indigenous to the site shall be planted when riparian area, stream bank stability and water temperature criteria are important. Special care will be taken to ensure that the selected species are adapted to the specific sites selected for planting.

Additional Criteria for Improving Forage, Browse or Cover for Wildlife

Selection of planted species shall meet dietary and palatability requirements for the intended wildlife species.

Species will be selected and planted in a designed manner that will meet the cover requirements of the wildlife species of concern.

Additional Criteria to Increase Carbon Sequestration

For optimal carbon storage, select species that increase site biomass.

CONSIDERATIONS

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 rangelands is generally cost prohibitive.

On diverse areas having a wide variety of ecological sites, or where unique sites exist that are considerably different in their species adaptation, separate seeding operations may need to be conducted to better match the variety of adapted species. The areas in question will

need to be of a large enough extent to justify separate seeding operations.

Planting materials selected should contribute to wildlife and aesthetics when opportunities exist.

Other practices such as Brush Management (314) or Grazing Land Mechanical Treatment (548) may be used to promote a satisfactory site preparation to insure a successful range planting.

Use of certified planting materials should be encouraged, however, distance and source limitations on seed and planting stock should be considered in terms of logistics and costs.

Any special handling requirements for planting materials need to be followed for best results, (e.g., beards or awns on seed, hard seed coats, seed mixture ratios).

Where air quality concerns exist, site preparation techniques should be utilized that will minimize airborne particulate matter generation and transport.

PLANS AND SPECIFICATIONS

For standard plantings, appropriate forms, worksheets, etc., may be used to develop specifications and documentation. Plantings that require more detailed information, may require the use of other practices prior to planting and require a specific site specification prepared.

OPERATION AND MAINTENANCE

Operation. Identify any required items needed to assist in stand establishment such as mowing, burning, flash grazing, and herbicides to control weeds. Address insect and disease control needs where they are likely to create establishment problems.

Maintenance. Any necessary replanting due to drought, insects, or other uncontrollable event which prevented adequate stand establishment should be addressed as soon as possible. Recommendations may vary from complete re-establishment to overseeding or spot replanting. Thin stands may only need additional grazing deferment during the growing season.