

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

RANGE PLANTING

(acre)
CODE 550

DEFINITION

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

PURPOSE

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

- 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.

CONDITIONS WHERE THIS 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 re-seeding to occur, or where the potential for enhancement of the vegetation by grazing management is unsatisfactory.

CRITERIA

General Criteria Applicable to All Purposes Stated Above

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

Species, cultivars or varieties selected shall provide adequate cover to control erosion by wind and/or water within an acceptable period of time.

Seedbed preparation and planting methods will be suitable to meet any special needs for obtaining an acceptable establishment of planted materials.

Planting depths, dates, seeding rates, soil amendments and fertilizer needs for establishment, minimum seed quality standards, and management during the establishment period such as weed control and deferment from grazing shall be followed to enhance establishment success.

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.

Additional Criteria to Provide 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.

CONSIDERATIONS

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

Other practices such as **Brush Management** (Code 314) and **Grazing Land Mechanical Treatment** (Code 548) may be used to promote a satisfactory site preparation to ensure 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).

Selection of species for planting in a mixture shall be designed so that palatability to one another is similar to avoid spot or selective grazing.

Consider the effect on cultural and historic resources whenever the land is disturbed for planting or other reasons.

Practice Effects

Soil

During planting there may be a temporary increase in sheet and rill erosion, depending on the type of seedbed preparation. The long-term effects will be a reduction in sheet and rill erosion and wind erosion. Ephemeral and classic gully erosion will be reduced.

Water

The long term effect will be reduced runoff and increased infiltration. Ground water will be enhanced. Surface water quality will increase due to reduced erosion and sediment delivery.

Air

Initially, air quality may be slightly reduced depending on method of seedbed preparation and location. The long term effect will be an improvement in air quality.

Plant

There will be an increase in forage production and an improvement in plant health and vigor due to proper species selection and management techniques.

Animal

Animal habitat and health will improve because of an increase in forage quantity and quality. Cover will increase which will benefit domestic and wild animals.

Refer to Section V of the FOTG for additional information on the physical effects of this practice on resource concerns.

PLANS AND SPECIFICATIONS

Site-specific specifications which document the requirements for installing, operating and maintaining the practice on a particular site to achieve its intended purpose(s) shall be prepared in accordance with this standard and the practice specification.

For standard plantings, the site-specific specifications shall be documented on the *NRCS Hawaii Jobsheet for this practice* and given to the client. Plantings that require more detailed information, may require the use of other practices prior to planting and require the preparation of a special site-specific specification.

Other documents, such as practice worksheets, maps, drawings, and narrative statements in the conservation plan may be used to plan or design the practice and to prepare the site-specific specifications.

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 over-seeding or spot replanting. Thin stands may only need additional grazing deferment during the growing season.

REFERENCES

Larson, J.E. 1980. *Revegetation Equipment Catalog*. Revision of Range Seeding Equipment Handbook. U.S.F.S. Equipment Development Center, Missoula, Montana. 198 pp.

O'Reilly, M.V. 1992. *Better Pastures for the Tropics*. Frank Sauer & Sons P/L, Rockhampton, Queensland. 80 pp.

Skerman, P.J. 1977. *Tropical Forage Legumes*. Food and Agriculture Organization of the United Nations, Rome. 611 pp.

Slayback, R.D. and C.L. Renney. 1972. *Intermediate Pits Reduce Gamble in Range Seeding in the Southwest*. J. Range Mgt. 25: pp. 224-227.

Whitney, L. D., E.Y. Hosaka, and J. C. Ripperton. 1939. *Grasses of the Hawaiian Ranges*. Hawaii Agricultural Experiment Station of the University of Hawaii. Bulletin 82. 148 pp.