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.

PURPOSES

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.
- 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 PRACTICE APPLIES

On land where the planned use is rangeland, native pasture, and grazeable woodland where the principle method of vegetation management will be with herbivores.

CRITERIA

Species, cultivars or varieties selected must be compatible with management objectives and adapted to climatic conditions and soils. Species shall provide adequate cover to control erosion by 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 fertility needs, weed control and deferment from grazing shall be followed to enhance establishment success.

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

A mixture of shrubs and trees indigenous to the site should be planted if needed to meet riparian area management objectives or provide streambank stabilization.

CONSIDERATIONS

Revegetate native grazing lands that cannot be reclaimed or revegetated by natural processes within a reasonable period of time in order to conserve soil and water, produce forage for animals (domestic or wild), and improve the

Conservation practice standards are reviewed periodically, and updated as needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

overall environment. Generally, seeding is recommended when desirable species: 1) make up less than 15% of plant community, 2) are not well distributed throughout the pasture, or 3) cannot be managed to establish an adequate stand within an acceptable time frame.

Seeding or planting should include species that best meet the objectives of the land owner or manager. The cooperator should have a good understanding of management requirements to establish and maintain the desired plant community. The seeded area must be large enough and located so as to enable the necessary management for establishment and stand maintenance.

Forbs and legumes are an important component of livestock and wildlife diets and should be considered as part of the base mixture for range seeding. Many native forbs and legumes are high quality, nutritious forage species; excellent wildlife food plants; and contribute to the nitrogen cycle. If used as part of the seeding mixture, the combination of forbs and legumes should not exceed 25 percent of the total mixture. In some cases, it may be desirable to plant a pure stand of forbs or legumes in solid blocks or strips within a pasture. Specialized grazing systems may be needed to meet the quality component of livestock and wildlife diets and adapted species should be considered for inclusion into range seeding mixtures.

PLANS AND SPECIFICATIONS

Use appropriate forms or worksheets to develop specifications and provide documentation. Plantings that require more detailed information or involve the use of other practices prior to planting need a site specific planting plan.

OPERATION AND MAINTENANCE

Seed Selection

- Species selected for planting (Table 1 of the Range Planting Specifications) must be adapted to the site and soil conditions.
- A pure stand or mixture of species will be used depending on the producer's objectives and the needs of the land. These items should be considered:
  - Mixtures of adapted native species are preferred. Mixtures can provide a more balanced year-round forage supply and meet the needs of the land for cover and erosion control.
    - Normally no more than four species are practical in a seeding mixture.
    - Mixtures of native and introduced species may be used if species are compatible in grazing preference and/or management needs.
- **CAUTION**: Many introduced species have different management requirements than native species. Some can be very aggressive and competitive. Others require fertilizer for acceptable performance.
- When highly palatable introduced species are used in a mixture with native species, the total mixture should be made up no more than 50%

order for equipment and animals to utilize the area.

and no less than 25% of the introduced species.

- Pure stands of native or introduced species may be used where they will perform well, meet the objectives of the producer, and the needs of the land.
- Use certified seed of locally adapted and proven cultivators of commercially available varieties or locally harvested and tested native plant seed. For best adaptation, seed should come from sources within a 200 mile radius of the seeded area if possible.

Seeding Rates

- See Table 1 of the Range Planting Specifications for seeding rates, dates,
  depths and other requirements.
- Seeding rates for individual species in mixtures should be calculated by multiplying the full seeding rate for each species by the percentage of the total mixture represented by that species (Table 2 of the Range Planting Specifications).

Seedbed Preparation

- Old fields - on areas being converted from cropland to rangeland, the seedbed will be prepared using equipment and methods that will result in a clean, firm seedbed without excessive weed competition.
- Rangelands or forestlands - on rangelands or forests being reseeded following brush management or extensive disturbance, additional seedbed preparation with heavy equipment will likely be necessary in

Seeding Method

- Drill- A grass seed drill equipped with double disk openers and depth bands followed by a cultipacker, press wheels, or drag chains is the preferred seeding method. Seed should be planted 1/8 to 1/2 inch deep if adequate moisture is present, or 1/2 to 3/4 inch deep if soil surface is dry. Distance between rows should not exceed 12 inches in most cases. Eastern gamagrass should be planted in 30 to 38 inch rows at a depth of one inch.
- Broadcast - Use of a broadcast seeder,
  broadcasting seed by hand, and aerial seeding are acceptable methods of seeding where conditions permit seed to be placed in contact with mineral soil and where uniform seed distribution can be achieved. Regardless of method, it will be Necessary to use a cultipacker, press wheels or similar techniques following broadcast seeding to aid coverage of seed.

Weed Control

Control excessive weed competition during establishment period by one or more of the following methods:

- Herbicides - Chemicals used must be federally and locally registered and must be applied in accordance with registered uses, label directions and all applicable laws, regulations, and policies. Pre-emerge herbicides may be used as appropriate prior to germination of desired species. When post-emerge herbicides are used,

seedlings should be in the 3 to 5 leaf stage. Weed control is needed when there are 3 or more weeds per square

foot or when they form a canopy of 50% of more.

- Mechanical - Weeds should be mowed when they reach a height of 6 to 8 inches. Mowing height should be above the height of the seeded plants. Mowing should not be done when daily maximum air temperature exceeds 95 degrees to avoid dehydration of seedlings.
- Grazing - Flash grazing by livestock can be an effective method of weed control for annual grasses and forbs. It requires high concentrations of livestock to be used for a short time (usually 1 to 3 days) to graze weeds when they are palatable and readily eaten. This technique will not be used later than July 15 except when unusual growing conditions promotes excessive summer weed production. Flash grazing will not be used when soils are wet and boggy or when hoof-action will damage seedlings. Grazing will cease immediately at the first signs of damage to seeded plants.

Fertilizer

- Fertilizer for establishment purposes will be done according to a current soil test or recommended establishment rates for local conditions. A soils test is especially important when seeding old cropland fields. Most native grasslands or forests being reseeded will require little, if any fertilizer for establishment. However, a soils test to determine phosphorous requirements would be helpful.
- If P and K are used, they may be applied at time of planting with a drill with a fertilizer attachment.

Nitrogen fertilization should be delayed until seedlings have reached a height of 4 to 6 inches to prevent excessive use of fertilizer by competing vegetation.

Management

- Seedlings should not be grazed the first year following seeding during the establishment period. Light grazing may be possible during the first dormant season following seeding if plants are sufficiently established so that they will not be damaged or destroyed. In some cases it may be necessary to defer grazing for part or all of the second growing season to ensure establishment. Flash grazing for weed control is a possible exception to these grazing restrictions.
- Seeded areas should be protected from burning until well established.
- Protect seeded areas from insect damage.
- Following establishment, management should be implemented to ensure full development and maintenance of a satisfactory stand of the seeded species. Grazing should be in accordance with forage budgets, grazing management plans and prescribed grazing standards.

Criteria for Determining Stand Establishment

Evaluate plantings (Table 3 of the Range Planting Specifications) at end of first growing season. If stand is questionable, it will be necessary to re-evaluate during the first half of the second growing season. Make final determination by June 1 of second year**.**