

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**PRESCRIBED GRAZING**

(Ac.)

**CODE 528**

**DEFINITION**

Managing the harvest of vegetation with grazing and/or browsing animals.

Removal of herbage will be in accordance with site production limitations, rate of plant growth the physiological needs of forage plants and the nutritional needs of the animals.

**PURPOSE**

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

- Improve or maintain desired species composition and vigor of plant communities.
- Improve or maintain quantity and quality of forage for grazing and browsing animals' health and productivity.
- Improve or maintain surface and/or subsurface water quality and quantity.
- Improve or maintain riparian and watershed function.
- Reduce accelerated soil erosion, and maintain or improve soil condition.
- Improve or maintain the quantity and quality of food and/or cover available for wildlife.
- Manage fine fuel loads to achieve desired conditions.

Adequate quantity and quality drinking water will be supplied at all times during period of occupancy.

Adjust intensity, frequency, timing and duration of grazing and/or browsing to meet the desired objectives for the plant communities and the associated resources, including the grazing and/or browsing animal.

Manage kind of animal, animal number, grazing distribution, length of grazing and/or browsing periods and timing of use to provide grazed plants sufficient recovery time to meet planned objectives. The recovery period of non-grazing can be provided for the entire year or during the growing season of key plants. Deferment (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs.

Provide deferment or rest from grazing or browsing to ensure the success of prescribed fire, brush management, seeding or other conservation practices that cause stress or damage to key plants.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to all lands where grazing and/or browsing animals are managed.

Manage grazing and/or browsing animals to maintain adequate vegetative cover on sensitive areas (i.e. riparian, wetland, habitats of concern, karst areas).

**CRITERIA**

**General Criteria Applicable to All Purposes**

Perimeter fences shall be capable of preventing livestock escape. Interior fencing shall provide control necessary to implement the grazing plan.

Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target.

Develop contingency plans to deal with expected episodic disturbance events e.g. insect infestation, drought, wildfire, etc.

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](#).

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**Additional Criteria to Improve or Maintain the Health and Vigor of Plant Communities.**

Duration and intensity of grazing and/or browsing will be based on desired plant health and expected productivity of key forage species to meet management objectives.

Plan periodic deferment from grazing and/or browsing to maintain or restore the desired plant community following episodic events, such as wildfire or severe drought.

Where appropriate, soil test periodically for nutrient status and soil reaction and apply fertilizer and/or soil amendments according to soil test to improve or maintain plant vigor.

**Additional Criteria to Improve or Maintain Quantity and Quality of Forage for Animal Health and Productivity**

Plan grazing and/or browsing to match forage quantity and quality goals of the producer within the capability of the resource to respond to management.

Enhance diversity of rangeland and pasture plants to optimize delivery of nutrients to the animals by planning intensity, frequency, timing and duration of grazing and/or browsing.

Plan intensity, frequency, timing and duration of grazing and/or browsing reduce animal stress and mortality from toxic and poisonous plants.

Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

Dietary needs of livestock will be based on the National Research Council's Nutrient Requirements of Domestic Animals or similar scientific sources with appropriate adjustments made for increased energy demand required by browsing or grazing animals foraging for food including travel to and from pasture site.

Biosecurity safeguards will be in place to prevent the spread of disease between on-farm or ranch classes of livestock and between livestock farm or ranch units.

Shelter in the form of windbreaks, sheds, shade structures, and other protective features will be used where conditions warrant to

protect livestock from severe weather, intense heat/humidity, and predators.

**Additional Criteria to Improve or Maintain Surface and/or Subsurface Water Quality and Quantity.**

Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.

Plan intensity, frequency, timing and duration of grazing and/or browsing to:

- Minimize deposition or flow of animal wastes into water bodies.
- Minimize animal impacts on stream bank or shoreline stability.
- Provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff.
- Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.

If plant nutrients are to be applied in the form of fertilizer, Nutrient Management (590) will be applied.

**Additional Criteria to Improve or Maintain Riparian and Watershed Function.**

Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover and riparian/floodplain plant community structure and functions.

Plan intensity, frequency, timing and duration of grazing and/or browsing to:

- Provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff.
- Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.
- Maintain adequate riparian community structure and function to sustain associated riparian, wetland, floodplain and stream species.

**Additional Criteria to Reduce Soil Erosion and Maintain Soil Condition**

Minimize concentrated livestock areas, trailing, and trampling to reduce soil compaction, excess runoff and erosion.

Plan intensity, frequency, timing and duration of grazing and/or browsing to provide adequate ground cover, litter and canopy to maintain or improve infiltration and soil condition (minimum of 75% ground cover of desirable species).

Pasture fencing layouts shall provide lane ways that are least prone to livestock trail erosion.

**Additional Criteria to Improve or Maintain Food and/or Cover for Fish and Wildlife Species of Concern**

Identify species of concern in the objectives of the prescribed grazing plan.

Plan intensity, frequency, timing and duration of grazing and/or browsing to provide for the development and maintenance of the plant structure, density and diversity needed for the desired fish and wildlife species of concern.

**Additional Criteria for Management of Fine Fuel Load**

Plan intensity, frequency, timing, and duration of grazing and/or browsing to reduce hazardous fuel loads.

Plan intensity, frequency, timing and duration of grazing and/or browsing to manage fuel continuity, load and other conditions to facilitate prescribed burns.

**CONSIDERATIONS**

Protect soil, water, air, plant and animal resources when locating livestock feeding, supplementing, handling and watering facilities. Consider the environmental effects of livestock feeding, handling, and watering facilities in order to minimize stress, the spread of disease, parasites, contact with harmful organisms and toxic plants.

Consider deferring grazing when soil conditions are wet and soils are vulnerable to pugging or compaction.

Consider minimizing animal walking distances to watering facilities to 800 feet or less for most grazing livestock. The performance of lactating dairy cattle will improve with walking distances of 400 feet or less. For lactating dairy cows consider placing watering facilities at 400 to 800 feet intervals in travel lanes.

Utilization or stubble height target levels are tools that can be used in conjunction with monitoring to help ensure that resource conservation and producer objectives are met.

Where practical and beneficial, start the grazing sequence in a different management unit each growing season.

Consider prescribed grazing as a management tool for the removal or control of herbaceous weeds including invasive, noxious and prohibited plants in the application of Brush Management (314) and/or Herbaceous Weed Control (315).

Prescribed grazing should consider the needs of other enterprises utilizing the same land, such as wildlife and recreational uses.

Consider improving carbon sequestration in biomass and soils through management of grazing and/or browsing to produce the desired results.

**PLANS AND SPECIFICATIONS**

The prescribed grazing plan shall conform to all applicable federal, state and local laws. Seek measures to avoid adverse affects to endangered, threatened, and candidate species and their habitats.

Prepare a prescribed grazing plan for all planned management units where grazing and/or browsing will occur according to state standards and specifications.

Prescribed Grazing Plan will include:

- Goals and Objectives clearly stated.
- Resource Inventory that identifies:
  - existing resource conditions and concerns
  - ecological site or forage suitability group
  - identifies opportunities to enhance resource conditions
  - location and condition of structural improvements such as fences, water developments, etc, including seasonal availability and quality of watering sites.

- Forage Inventory of the expected forage quality, quantity and species in each management unit(s).
- Forage-Animal Balance developed for the grazing plan, which ensures forage produced or available meets forage demand of livestock and/or wildlife.
- Grazing Plan developed for livestock that identifies periods of grazing and/or browsing, deferment, rest, and other treatment activities for each management unit.
- Contingency plan developed that details potential problems (i.e., severe drought, flooding, insects) and serves as a guide for adjusting the grazing prescription to ensure resource management and economic feasibility without resource degradation.
- Monitoring plan developed with appropriate records to assess in determining whether the grazing strategy is resulting in a positive or upward trend and is meeting objectives. Identify the key areas and key plants that the manager should evaluate in making grazing management decisions.

#### **OPERATION AND MAINTENANCE**

**Operation.** Prescribed Grazing will be applied on a continuing basis throughout the occupation period of all planned grazing units.

Adjustments will be made as needed to ensure that the goals and objectives of the prescribed grazing strategy are met.

**Maintenance.** Monitoring data and grazing records will be used on a regular basis within the prescribed grazing plan to insure that objectives are being met, or to make necessary changes in the prescribed grazing plan to meet objectives.

All facilitating and accelerating practices (e.g. Fence (382), Pest Management (595), Brush Management (314), Pasture Planting (512) (etc.) that are needed to effect adequate grazing and/or browsing distribution as planned by this practice standard will be maintained in good working order and are being operated as intended.

#### **REFERENCES**

- Barnes, R.F., D.A. Miller, and C.J. Nelson. 1995. Forages, The Science of Grassland Agriculture, 5<sup>th</sup> Ed. Iowa State University Press, Ames, IA.
- Bedunah, D. J. and R. E. Sosebee, Editors. 1995. Wildland Plants. Physiological Ecology and Developmental Morphology. Society for Range Management, Denver, CO.
- Heitschmidt, R. K. and J. W. Stuth eds. 1991. Grazing Management an Ecological Perspective. Timber Press
- Hodgson, J. and A.W. Illius. Editors. 1996. Ecology and Management of Grazing Systems. CABI, Wellingford, UK.
- Holechek, J. L., R. D. Pieper and C. H. Herbel. 2000. Range management principles and practices. 5<sup>th</sup> edition. Prentice Hall, NJ.
- Smith, D., R.J. Bula, and R.P. Walgenbach. 1986. Forage Management 5<sup>th</sup> ed. Kendall/Hunt Publ. Co. Dubuque, Iowa.
- United States Department of Agriculture, Natural Resources Conservation Service. 1997. National range and pasture handbook. Washington, DC.
- Vallentine, J.F. 2001. Grazing management. Academic Press, San Diego, CA.
- Voisin, A. 1959. *Grass productivity*. Philosophical Library, New York.