

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**PRESCRIBED GRAZING**

(Ac.)  
Code 528

**DEFINITION**

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

**PURPOSE**

- 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.

**CONDITIONS WHERE PRACTICE APPLIES**

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

**CRITERIA**

**General Criteria Applicable to All Purposes**

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.

Adequate quantity and quality of 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.

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

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 or wildfire.

**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.

Plant growth (production), health, and vigor are influenced by a number of factors including: rainfall, soil fertility, temperature, plant efficiency, carbon dioxide, light intensity, and leaf surface area. How these factors relate to managing a grazing system can be found in Agronomy Technical Note 31, *Forage Management in a Grazing System*.

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

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.

Agronomy Technical Note 32, *Graziers Arithmetic*, can be used to assist in determining the Carrying Capacity or Stock Density of a grazing system.

Producer will be made aware of the need for biosecurity safeguards to prevent the spread of disease between on-farm classes of livestock and between livestock farm 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. As needed, refer to Heavy Use Area Protection (561) to provide protection to concentration areas.

Locate livestock watering and supplemental feeding areas as far from water bodies as possible to reduce the potential for adversely impacting water bodies with sediment and nutrients.

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.
- Enhance nutrient cycling by causing more uniform manure distribution and increased rate of decomposition.

**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. As needed, refer to Heavy Use Area Protection (561) to provide protection to concentration areas.

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. As needed, refer to Heavy Use Area Protection (561) to provide protection to concentration areas.

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.

#### **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. Prescribed burns will meet requirements of Prescribed Burn (338).

### **CONSIDERATIONS**

Protect soil, water, air, plant and animal resources when locating livestock feeding,

supplementation, handling and watering facilities.

Livestock feeding, supplementation, handling, and watering facilities will be designed and installed in a manner to improve and/or maintain animal distribution. These facilities will also be designed and installed to protect water quality, minimize stress, the spread of disease, parasites, contact with harmful organisms and toxic plants.

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.

A Prescribed Grazing System is being met if pastures are grazed with an effort to allow plants to recover from grazing or harvest defoliation and prevent spot grazing. For this reason, continuous grazing is generally not considered to meet the requirements of Prescribed Grazing. However, continuous grazing can be used with low stocking rates and appropriate clipping or harvest of forage to keep mature plants actively growing. The harvest efficiency of continuous grazing or slow rotation is considerably lower than a more intensive rotational grazing system.

When weeds are a significant problem prescribed grazing and/or browsing should be implemented in conjunction with other pest management practices to promote plant community resistance to invasive species and protect desired plant communities.

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.

If nutrients are being applied, Nutrient Management (590) will be utilized.

## 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. Agronomy Technical Note 33, *Creating a Prescribed Grazing Plan*, can be used as a reference to assist in developing a prescribed grazing plan.

Prescribed Grazing Plan will include:

- Goals and Objectives clearly stated.
- Resource Inventory that identifies:
  - existing resource conditions and concerns,
  - identifies opportunities to enhance resource conditions, and
  - plan map that identifies paddocks and acres and the location of structural improvements such as fences, water developments, etc.
- Forage Inventory of the expected forage quality, quantity and species in each management unit(s).
- Forage-Animal Balance developed for the grazing plan, which identifies forage surpluses and/or deficiencies for the kind and class of grazing livestock and/or browsing wildlife of concern. Alternatives will be provided to the producer to assist them in managing forage surpluses and/or deficiencies.
- 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 identifies 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. (See USDA-NRCS Guide to Pasture Condition Scoring and the Pasture Condition Score Sheet from Iowa FOTG.) Refer to the following site: <ftp://ftp-fc.sc.egov.usda.gov/GLTI/technical/publications/pasture-score-guide.pdf>

The use of computer programs, such as Iowa Forage and Livestock Balance Worksheet (available with Agronomy Technical Note 30 and with Pasture Management Tools on the Iowa NRCS website:

<http://www.ia.nrcs.usda.gov/technical/pasture.html>), GSAT, or other developed and approved programs within the state, are also considered adequate documentation if they contain the information outlined under Plans and Specifications in this standard.

## OPERATION AND MAINTENANCE

**Operation.** Prescribed Grazing will be applied on a continuing basis throughout the occupation period of all planned grazing units. Other practices, such as Forage Harvest Management (511), Pasture and Hay Planting (512), Nutrient Management (590), Pest Management (595), Heavy Use Area Protection (561), Fence (382), Watering Facility (614), Pond (378), Water Well (642), and Prescribed Burning (338), may be used to improve the effectiveness of the grazing plan and the overall management of the system.

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 and Hay Planting (512) Prescribed Burn (338), Watering Facility (614) (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.

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[http://efotg.nrcs.usda.gov/references/public/IA/N314\\_06-2001.pdf](http://efotg.nrcs.usda.gov/references/public/IA/N314_06-2001.pdf)

Fence:  
[http://efotg.nrcs.usda.gov/references/public/IA/382\\_std\\_Fencing\\_October\\_1998\\_-\\_reviewed\\_Jan\\_02.pdf](http://efotg.nrcs.usda.gov/references/public/IA/382_std_Fencing_October_1998_-_reviewed_Jan_02.pdf)

Fence Construction Specifications:  
[http://efotg.nrcs.usda.gov/references/public/IA/IA-92\\_Feb05.pdf](http://efotg.nrcs.usda.gov/references/public/IA/IA-92_Feb05.pdf)

Forage Harvest Management:  
[http://efotg.nrcs.usda.gov/references/public/IA/N511\\_06-2002.pdf](http://efotg.nrcs.usda.gov/references/public/IA/N511_06-2002.pdf)

Heavy Use Area Protection:  
[http://efotg.nrcs.usda.gov/references/public/IA/561\\_std\\_Heavy\\_Use\\_Area\\_Protection\\_IA\\_June\\_02.pdf](http://efotg.nrcs.usda.gov/references/public/IA/561_std_Heavy_Use_Area_Protection_IA_June_02.pdf)

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[http://efotg.nrcs.usda.gov/references/public/IA/IA-95\\_Feb05.pdf](http://efotg.nrcs.usda.gov/references/public/IA/IA-95_Feb05.pdf)

Nutrient Management:  
[http://efotg.nrcs.usda.gov/references/public/IA/N590\(12-2006\).pdf](http://efotg.nrcs.usda.gov/references/public/IA/N590(12-2006).pdf)

Pasture and Hayland Planting:  
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Pest Management:  
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Use Exclusion:  
[http://efotg.nrcs.usda.gov/references/public/IA/N472\\_Reviewed\\_02-2002.pdf](http://efotg.nrcs.usda.gov/references/public/IA/N472_Reviewed_02-2002.pdf)

Water Well:  
<http://efotg.nrcs.usda.gov/references/public/IA/642WaterWell.pdf>

Water Facility (Tank):

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Guideline for Herbaceous Stand Evaluation (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote19.pdf>

Iowa Forage and Livestock Balance Worksheet (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote30.pdf>

Forage Management in a Grazing System (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote31.pdf>

Graziers Arithmetic (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote32.pdf>

Creating a Prescribed Grazing Plan (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote33.pdf>

Pasture and Hayland Planting (Technical Note):

<http://efotg.nrcs.usda.gov/references/public/IA/AgronomyTECHnote34.pdf>

Guide to Pasture Condition Scoring, Pasture Condition Score Sheet, National Range and Pasture Handbook:

<http://www.ia.nrcs.usda.gov/technical/pasture.html>

Grazing Lands Technical Publications:

<http://www.glti.nrcs.usda.gov/technical/publications/index.html>