

**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

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.

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 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, wildfire, etc.

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.

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.

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.

Livestock feeding, 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 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.

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 applied.

Additional Considerations for Irrigated Pastures and Grazed hayland

On new seedings, the best way to establish future grazing height is to take the first crop for hay. Cutting at the desired grazing height, in many species, will form a "stubble barrier" and will help prevent overgrazing. (See Attachment A)

When legumes are to be harvested by grazing, information regarding bloat control should be provided or non-bloating species should be considered.

Grazing should be applied to enhance nutrient cycling.

Additional Considerations for Grazed Forest

The intensity of grazing needs to be adjusted to allow for wildlife habitat, watershed protection, and timber production. Special emphasis should be placed on protecting seeding and sapling stands.

Eliminate grazing for a sufficient number of years after timber harvest to encourage reproduction or to prevent damage to planted trees.

Grazing by livestock can be used as an alternative to fire and herbicide to control competition to tree seedlings.

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.

Water facilities (including tank and troughs) should be of an adequate size to provide enough water in a 2-hour period for all animals grazing in a given pasture.

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.

Additional Specifications for Irrigated Pastures and Grazed Hayland

Fertilize to meet the needs of the plant and to meet the production objectives of the operator. Refer to Nutrient Management Standard (590) for further guidance.

Irrigation frequency and amount will be adjusted when soil and/or irrigation water is high in soluble salts depending on the specific situation.

Clipping heights will not be less than the grazing heights for the production level desired, as shown in table 1.

Allow pastures to grow to "minimum height at beginning of grazing season" as shown in table 1 before grazing. Remove livestock

when grass is grazed to height shown for the production level desired as shown in the table.

Plan grazing systems so that livestock do not enter a pasture until available soil moisture is at 50% in the top 3 inches of Soil (Approximately 3 days on heavy soils, 2 days on medium textured soils, or 1 day on light soils following irrigation).

Match the period of rotation to the periods of irrigation and to require regrowth periods of the species in the pasture.

Pastures and hayland are to be renovated, aerated, or rotated when productivity consistently drops below 70% of the site potential or undesirable species exceed 20% of the total production.

Weeds are to be monitored yearly throughout the life of the stand and controlled as necessary to maintain forage quality, reduce the concern for livestock poisoning, and to maintain the productivity of the stand.

Patchy or irregularly grazed areas exceeding 20% of the field are to be mechanically harvested to maintain a more uniform plant height and to control weeds.

Irrigated pastures or other grazed areas should be dragged or harrowed a minimum of once every year or as often as necessary, preferably in the fall, for control of nutrient and parasite problems from manure deposition.

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TABLE 1

ATTACHMENT A

**GROWTH HEIGHTS AND STAGES FOR START OF GRAZING
AND MINIMUM STUBBLE HEIGHTS
FOR GRAZED PASTURE AND HAYLAND
DURING THE GROWING SEASON**

Species	Start of Grazing Height	Growth Stage	Minimum Stubble Heights
GRASSES			
Kentucky Bluegrass	6"	Vegetative	3"
Smooth Bromegrass	8"	Early Boot	4"
Regar Bromegrass	8"	Early Boot	4"
Reed Canarygrass	12"	Vegetative	4"
Tall Fescue	8"	Early Boot	4"
Sorghum/Sudangrass*	30"	Vegetative	6"
Sudangrass*	18"	Vegetative	6"
Orchardgrass	8"	Boot	3"
Timothy	8"	Boot	3"
Crested Wheatgrass	6"	Vegetative	3"
Intermdt, Wheatgrass	8"	Early Boot	4"
Pubescent Wheatgrass	8"	Early Boot	4"
Siberian Wheatgrass	6"	Vegetative	3"
Tall Wheatgrass	10"	Vegetative	6"
Russian Wildrye	8"	Vegetative	4"
**LEGUMES			
Alfalfa	6"	Mid to Late Bud	2"
Ladino Clover	4"	Early Bloom	3"
Red Clover	6"	Early Bloom	3"
Alsike Clover	6"	Early Bloom	2"
Cicer Milkvetch	8"	Early Bloom	4"
Sainfoin	12"	Early Bloom	6"
Birdsfoot Trefoil	8"	Early Bloom	3"
MEADOWS			
Meadow Foxtail	6"	Vegetative	3"
Red Top	8"	Vegetative	3"
Saltgrass	4"	Vegetative	3"
Broadleaf Sedges	6"	Vegetative	3"
Wiregrass	4"	Vegetative	3"

* Sorghum/Sudangrass regrowth should not be grazed following cutting, 2 weeks following a frost, or during drought conditions to avoid Prussic acid poisoning. Waiting until the crop is 30" for Sorghum or Sudangrass hybrids or 18" for Sudangrass will reduce this concern. Grazing closer than 6" may reduce or eliminate further production.

** Care should be taken when grazing legumes to avoid bloat.