United States Department of Agriculture

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

PRESCRIBED GRAZING

CODE 528

(ac)

DEFINITION

Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives.

PURPOSE

Apply this practice as a part of a conservation management system to achieve one or more of the following:

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

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

General Criteria Applicable to All Purposes

Manage stocking rates and grazing periods to adjust the intensity, frequency, timing, duration, and distribution of grazing and/or browsing to meet the planned objectives for the plant communities, and the associated resources, including the grazing and/or browsing animals.

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

NRCS reviews and periodically updates conservation practice standards. To obtain the current version of this standard, contact your Natural Resources Conservation Service State office or visit the Field Office Technical Guide online by going to the NRCS website at https://www.nrcs.usda.gov/ and type FOTG in the search field.

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Provide desired grazed/browsed plants sufficient recovery time from grazing/browsing to meet planned objectives. The recovery period can be provided for part or all of the growing season of key plants.
Deferment and/or rest will be planned for critical periods of plant or animal needs.

Manage livestock movements based on rate of plant growth, available forage, and identified objectives such as utilization, plant height or standing biomass, residual dry matter, and/or animal performance.

Manage grazing and/or browsing animals to maintain adequate vegetative cover on sensitive areas (i.e., riparian, wetland, habitats of concern, and karst areas).
Provide adequate quantity and quality of drinking water during period of occupancy.

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

Develop monitoring plans that directly support adaptive management decisions based upon identified ecologic triggers and thresholds to optimize the conservation outcome for the selected purposes.

Conform to all applicable Federal, State, Tribal and local laws. Seek measures to avoid adverse effects to endangered, threatened, and candidate species and their habitats.

Additional Criteria to Improve or Maintain the Health and Vigor of Desired Plant Communities. Base the intensity, frequency, timing, and duration of grazing and/or browsing on desired plant health, expected productivity, and composition of key species to meet management objectives.

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

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

Average stocking rates (animal units/acre) over the growing season shall not exceed those calculated in an animal forage balance unless seasonal forage production is higher than the estimated amount and minimum forage heights are maintained. The animal forage balance must also take supplemental feed into account.

The plan shall identify the primary pasture forage species and minimum stubble height using Table 1. Grazing shall be initiated when the designated species reaches a minimum height and ceased when a minimum stubble height is reached. Minimum heights may be exceeded for specific management objectives as outlined in the plan.

Table 1. Minimum Heights of Pasture Species for Initiating and Terminating Grazing

Species	Begin Grazing	End Grazing
	Minimum to Optimum Height of Vegetative Growth	Minimum
Alfalfa	8-12	4
Red Clover	8-12	4
Alsike Clover	8-12	4

Ladino Clover	8-12	4
Kura Clover	8-12	4
Festololium	6-8	3
Kentucky Bluegrass	4-6	2
Meadow Fescue	8-12	4
Orchardgrass	8-12	4
Perennial Ryegrass	6-8	3
Reed Canarygrass	8-12	4
Smooth Brome	8-12	4
Tall Fescue	8-12	4
Timothy	8-12	4
Big Bluestem	12-14	6
Indiangrass	12-14	6

Species	**Begin Grazing** **Minimum to Optimum Height of Vegetative Growth**	**End Grazing** **Minimum**
Little Bluestem	4-6	2
Sideoats Grama	4-6	2
Switchgrass	12-14	6
*Minimum stubble height is critical if stand is to be maintained. This applies to that part of the grazing season after the initial rapid growth period in early May, as well as at the end of the grazing season.		

Defer grazing in the spring on out-wintering or bale grazing area until forage plants have recovered to the minimum pre-grazing height.

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

Plan grazing and/or browsing to match forage quantity and/or 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 to reduce animal stress and mortality from toxic and/or poisonous plants.

Provide supplemental feed and/or minerals as needed to balance with forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

Base the dietary needs of livestock 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 grazing/ browsing area.

Manage livestock to avoid the spread of disease, parasites, and contact with harmful insects

and plants. An example is to avoid grazing young stock in paddocks following mature animals when Johne's disease is a concern or returning sheep to a paddock before the parasite cycle has completed.

Additional Criteria to Improve or Maintain Surface and/or Subsurface Water Quality and/or Quan- tity.

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

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

- Minimize deposition or flow of animal wastes into water bodies.
- Minimize animal impacts on stream bank or shoreline stability.
- Maintain or improve hydrologic function including infiltration and/or filtering capacity and soil surface stability to reduce runoff by providing adequate ground cover, plant spacing, and plant density.
- Ensure the location and management of supplemental feeding, out-wintering, and winter feeding areas are planned and implemented to address any identified water quality resource concerns.

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

Minimize concentrated livestock areas to improve or maintain 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 optimum ground cover, plant density, and/or plant structure 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 or Improve Soil Health

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

Plan intensity, frequency, timing, and duration of grazing and/or browsing to provide adequate ground cover, litter, and canopy to maintain or improve infiltration.

Additional Criteria to Improve or Maintain Food and/or Cover for Fish and/or 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 habitat requirements of 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 manage fuel continuity and loading to reduce wildfire hazard and/or facilitate desired conditions for prescribed burns.

CONSIDERATIONS

Protect soil, water, air, plant, and animal resources when locating livestock feeding, supplementation, handling, and watering facilities.

Design and install livestock feeding, handling, and watering facilities in a manner to improve and/or maintain animal distribution and forage production. Design and install facilities to minimize stress, the spread of disease, parasites, contact with harmful organisms, and toxic plants.

Utilization, stubble height, and other 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.

Develop alternatives that minimize additional grazing management infrastructure while still achieving plan objectives for the desired fish and wildlife species of concern.

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

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

Plan biosecurity safeguards to prevent the spread of disease between on-farm or ranch classes of livestock and between livestock farm or ranch units.

Provide shelter in the form of windbreaks, sheds, shade structures, and other protective features where conditions warrant to protect livestock from severe weather, intense heat/humidity, and predators.

If nutrients are being applied, Wisconsin NRCS Conservation Practice Standard (WI NRCS CPS), Nutrient Management (Code 590) will be applied.

Maintain conservative stocking rates as a drought contingency strategy to minimize detrimental consequences during drought on economic and ecological sustainability.

Enhance pasture sustainability by including multiply functional groups (grasses, legumes, and forbs) of forages.

Use mechanical means, such as harvesting, clipping, and inter-seeding of pastures to manipulate the pasture sward.

Plan access roads or animal trail placement to minimize erosion and enhance livestock flow.

PLANS AND SPECIFICATIONS

Prepare a prescribed grazing plan for all planned conservation 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.
  - Opportunities to enhance resource conditions.
- An overview plan map or maps with the following information:
  - Location of existing and proposed structural practices such as fences, water developments, animal trails, access roads, etc., including seasonal availability and quality of watering sites.
  - Location of critical and sensitive areas to grazing livestock such as shorelines, wetlands, forests, and natural areas.
  - Direction of livestock flow in a rotational stocking system.
  - Size and location of permanent paddocks (pasture divisions) and a typical temporary paddock.
- Forage inventory of the expected forage quality, quantity, and species in each management unit(s).
- Forage-animal balance developed for the grazing plan that 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/or other treatment activities for each management unit that accommodates the flexibility needed for adaptive management decisions as supported by the contingency plan and monitoring plan in order to meet goals and objectives.
- Contingency plan developed that details adaptive management decisions to avoid damaging the sward during severe drought and prolonged wetness, such as moving livestock to a feedlot or “sacrifice paddock” until the forage plants have recovered or the soils have become dry enough to avoid compaction. A sacrifice paddock should be big enough to feed the livestock and hold them. It should not be considered part of the acres certified as prescribed grazing.

- Monitoring plan developed with appropriate protocols and records that assess whether the grazing strategy is resulting in a movement toward meeting goals and objectives. Short-term monitoring includes grazing records in each pasture unit. Long-term monitoring determines whether the resource concerns have been solved. Identify the key areas, key plants, or other monitoring indicators 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 livestock occupation period of all planned grazing units.

Adaptive management decisions will be made as needed and documented within the plan 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 ensure that objectives are being met, or to make necessary changes in the prescribed grazing plan to meet objectives.

All facilitating and accelerating conservation practices (e.g., WI NRCS CPSs, Fence (Code 382), Pest Management (Code 595), Brush Management (Code 314), Forage and Biomass Planting (Code 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 operated as intended.

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