

**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

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 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

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

Supply adequate quantity and quality drinking water 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 species/class 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.

Plan for deferment (non-grazing period) and/or rest 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 contingencies to deal with expected episodic disturbance events e.g. wet periods, drought, winter, pests, wildfire, etc.

Criteria for Temporary Earthen Livestock Heavy Use Areas

Also termed Sacrifice Areas or Lots, temporary earthen areas on pastures may be used for a concentrated livestock area when needed and provided that all of the following criteria are met:

- Use the earthen concentrated livestock area site no more than 180 days in a year.
- Use the same earthen concentrated livestock area site no more than once every 4 years, unless soil test results including phosphorus levels show that more frequent use is possible.

- Ensure that runoff leaves the temporary earthen concentrated livestock area site and enters the vegetative buffer as sheet flow, not concentrated flow. Protect the buffer from livestock damage.
- Provide a 150' flow length vegetative buffer located down-slope from the earthen concentrated livestock area and the same width on the contour as the unpaved concentrated livestock area. In lieu of the 150', NRCS Conservation Practice Standard (CPS) *Vegetated Treatment Area (Code 635)* and Design Guide 5 may be used to design a specific flow length.
- Locate the earthen concentrated livestock area site on average land slopes between 1% and 8% and locate the vegetative buffer area on average land slope between 1% and 15%.
- Locate the earthen concentrated livestock area outside of natural or constructed drainage-ways, at least 100' from neighboring property lines, wells, springs, wetlands, karst basin intake areas, and ponds, etc.
- Locate the vegetative buffer area outside of natural or constructed drainage-ways, at least 50' from neighboring property lines, streams, 100-yr floodplains, wells, springs, wetlands, karst basin intake areas, and ponds, etc.
- The seasonal high water table must be no closer than 18" from the ground surface for the earthen concentrated livestock area and 1' from the ground surface for the vegetative buffer area.
- Locate the earthen concentrated livestock area at least 100' from down-slope subsurface drain lines.
- Locate the earthen concentrated livestock area and vegetative buffer area on soils with a permeability of less than 6 inches/hour in the upper 40 inches of the soil profile.
- Locate on soils with convex slopes. Maintain positive slopes within the earthen concentrated livestock area. NRCS CPS *Diversion (Code 362)* will be followed where slopes do not meet this criteria.
- Accumulated manure and feed will be removed from the earthen concentrated livestock area after use and vegetation established for the next growing season. Refer to criteria in NRCS CPS *Critical Area Planting (Code 342)* or *Forage and Biomass Planting (512)* for vegetation establishment.

- Limit each earthen concentrated livestock area to a maximum of 50 AU and 1 acre in size.
- Design dimensions of the earthen concentrated livestock area with a maximum flow length (L) to width (W) ratio of 1L to 2 W.
- The vegetative grass buffer can be partially or fully in the pasture and will maintain at least 3 inches of vegetation.

If all of the above criteria are not met, then the area must meet the criteria found in CPS *Heavy Use Area Protection (Code 561)*.

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; 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 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 poisonous plants.

Base 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 pasture site.

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

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

Use 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.

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

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

If a current soil test is not available and more than 2 AU/Acre are being planned, the Nutrient Calculator within the *NRCS Pasture Planning Tool* will be used to determine nutrient deposition loads. If pasture nutrients are calculated to be out of balance, criteria found in *CPS Nutrient Management (Code 590)* will be followed.

Locate infrastructure to promote uniform grazing and manure distribution. Locate feeding and sacrifice areas away from environmentally sensitive areas such as wetlands, streams/creeks, adjacent riparian areas and drainage swales.

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.
- Provide a detailed prescription of allowable grazing/browsing periods, minimum residue heights, and frequency of use if flash grazing is utilized within the riparian corridor.

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 fuel loads, manage fuel continuity and other conditions to facilitate prescribed burns.

CONSIDERATIONS

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

Design and install livestock feeding, handling, and watering facilities to improve and/or maintain animal distribution. These facilities will also be designed and installed to minimize stress, spread of disease, parasites, contact with harmful organisms and toxic plants.

Sizing guidelines can be found in FOTG Section III, Concentrated Livestock Area Guidance-Exhibit 5.

Include Temporary Earthen Livestock Heavy Use Areas (Sacrifice Areas) to prevent damage to the larger pasture area or system. These small areas are temporarily fenced out of a larger field or paddock to hold and feed livestock. This avoids overgrazing or damaging remaining pasture due to drought, lack of forage or wet soil conditions during the growing season. During frozen ground (winter dormancy) conditions the entire pasture area may be used, as appropriate and per contingency guidelines.

Include PA NRCS *Prescribed Grazing Contingency Worksheet* to document specific limitations based on seasonal or site conditions where needed. Consider using *Prescribed Grazing Contingency Worksheet* to provide clear and detailed management requirements.

When developing a prescribed grazing plan, the Pasture Condition Scoring (PCS) Guide may be used to determine benchmark conditions then followed periodically as monitoring documentation. Set goals to maintain a minimum score of 35 using PCS sheet on all grazing units (with exception of the designated sacrifice area).

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

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 desired results.

PLANS AND SPECIFICATIONS

The prescribed grazing plan shall conform to all applicable federal, state and local laws. Seek measures to avoid adverse effects to

endangered, threatened and candidate species and their habitats.

Prepare a prescribed grazing plan for all management units where grazing and/or browsing will occur according to state standards and specifications. The PA NRCS *Pasture Planning Tool* or hand calculations are acceptable methods to be used in determining specifications outlined in the grazing plan.

The *Prescribed Grazing Plan* will include:

- Goals and objectives clearly stated;
- Resource Inventory that identifies:
 - existing resource conditions and concerns;
 - soil types, productivity groups, and yield potential;
 - options to enhance resource conditions.
- A map showing farm, tract and field numbers, soil map units and grazing unit layout, including location and condition of structural improvements such as fencing, watering and sacrifice areas.
- Forage inventory including expected forage quality, quantity and species in each management unit.
- Livestock inventory including the number, kind, class and average weight of livestock throughout the grazing system.
- Forage-livestock balance developed for existing conditions and the expected balance after plan implementation, to ensure forage produced or available meets forage demand of livestock.
- Grazing program developed for livestock that identifies periods of grazing and/or browsing, deferment, rest, and other treatment activities for each management unit.
- Contingency statements detailing potential problems (i.e., severe drought, flooding, insects) as a guide for adjusting the grazing prescription, ensuring resource management and economic feasibility without resource degradation.
- Monitoring program developed with appropriate records, to assist in determining whether the grazing strategy results in a positive trend and meets objectives. Identify key areas and key plants that the manager should evaluate in making management decisions.

OPERATION AND MAINTENANCE

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.

Monitoring for maintenance will include an annual pasture walkover for visual changes and periodic evaluation sheet to insure that objectives are being met. Based on evaluation, any recommended changes to meet objectives and practice certification will be documented.

Move livestock to a feed lot or designated sacrifice area in times of drought or very wet soil conditions to protect the integrity of the pasture sod. Renovate or re-seed pastures if the stand is undesirable or unable to meet system needs.

Soil test pastures and hay fields at least every three years, to maintain adequate nutrient and pH levels based on soil test results; this will also augment soil fertility, biology, as well as expected forage productivity and persistence.

All facilitating practices, e.g. *Fence (382)*, *Pest Management (595)*, *Brush Management (314)*, *Forage and Biomass Planting (512)*, *Livestock Pipeline (516)*, *Watering Facility (614)*, *Livestock Shelter Structure (576)*, etc. that are needed to affect adequate grazing and/or browsing distribution as planned will be maintained in good working order.

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