

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

PRESCRIBED GRAZING

(Acre)

CODE 528

DEFINITION

Managing the controlled harvest of vegetation with grazing animals.

PURPOSES

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes.

- Improve or maintain the health and vigor of [selected plants and to maintain stable and desired plant communities to better utilize the pasture resource](#).
- Improve or maintain quantity and quality of forage for livestock health and productivity.
- Improve or maintain water quality and quantity.
- Reduce accelerated soil erosion, and maintain or improve soil condition [and fertility for sustainability of the resource](#).
- Improve or maintain the quantity and quality of food, cover and [shelter](#) for wildlife and other animals of concern.
- Promote economic stability through grazing land sustainability [by improving or maintaining the opportunity of producers, managers and operators to achieve specified goals](#).
- [Maintain or improve air quality as related to efficiency of production \(less methane produced per unit of production\) and reduced dependency on machinery](#).
- [Improve or maintain animal health and productivity](#).

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where grazing [and/or browsing](#) animals are managed.

CRITERIA

General Criteria Applicable for all Purposes

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

[Extent of herbage removal will be in accordance with production limitations, rate of plant growth, the physiological needs of forage plants, \[plant sensitivities and landowner's management goals using Sections I & II of the FOTG and other references as guidance.\]\(#\)](#)

Manage kind of animal, animal number, grazing distribution, length of grazing period, and timing of use to provide sufficient deferment from grazing during growing period. [Grazing intervals and season of grazing will be based on the rate and physiological conditions of plant growth as described in UWEX publication A3529 – Pasture for Profit: A Guide to Rotational Grazing. This publication is on file in each field office.](#)

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

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

<p>Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.</p>

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

Duration and intensity of grazing will be based on desired plant health and expected productivity of key forage species to meet management unit objectives, **not based on calendar dates.**

Adjust grazing periods and/or stocking rates to meet the desired objectives for the plant communities and associated resources, including the grazing animal.

Schedule livestock movements based on rate of plant growth, available forage and utilization and not calendar dates.

Period rest from grazing may be needed to maintain or restore the desired plant community following episodic events, such as wildfire or severe drought.

Application of this practice will manipulate the intensity, frequency, duration, and season of grazing to:

- Insure optimum water infiltration,
- Maintain or improve riparian and upland area vegetation,
- Protect streambanks from erosion,
- Manage for deposition of animal waste away from water bodies, and
- Promote ecological and economical stable plant and wildlife communities on both upland and bottom land sites consistent with the landowners objectives.

Supplemental feeding, out-wintering, and winter-feeding shall be consistent with the purposes of this practices.

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

Plan grazing to match forage quantity and quality with goals of the livestock producer.

Grazing should be applied in accordance with forage quality and quantity criteria that best meets the production requirements for the kind and/or class of animal.

Animals shall be managed by grazing intervals and alternating rest periods to maintain forage in a vigorous vegetative state at its optimum nutrient value for animal category. This will be based initially on climatic expectations and adjusted for changing weather patterns.

Average stocking rates over the growing season shall not exceed the number needed to utilize the average annual forage production, based on UWEX publication A3529, unless supplemental feeding is provided to meet nutritional deficits. (Other paddock sizing worksheets to figure stocking rate may be approved by the state resource conservationist. See VT "Grazing Plan" spreadsheet attached.)

Vegetation shall be controlled in a manner that will minimize noxious weeds and obtain the desired species composition.

Movement of animals will be in a manner to improve and/or maintain animal health and performance, and to reduce or prevent spread of disease, parasites, and contact with harmful insects or toxic plants.

Adequate quantity and quality of water must be available in all grazing systems with all pastures/paddocks having access to water.

Additional Criteria to Improve or Maintain Water Quality and Quantity

Maintain adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.

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

Duration, intensity, frequency, and season of grazing in or near surface waters shall be designed to protect water quality by:

- Managing for deposition of animal wastes away from water bodies,
- Promoting uniform nutrient distribution throughout the pasture, and
- Minimize animal impacts to the stability of stream banks.
- Maintaining adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.

Additional Criteria for Soil Erosion and Condition

Maintain adequate ground cover, litter, and canopy to maintain or improve infiltration and soil condition.

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

Duration, intensity, frequency, season of grazing, and pasture design shall be managed to reduce soil erosion by:

- Minimize soil compaction,
- Sustaining vegetative cover, and
- Prevent gullies.

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

Grazing on somewhat poorly, poorly, and very poorly drained soils shall be deferred during times of high water table occurrence.

Ground cover provided by grasses and legumes shall be maintained at a level (75% or more) to minimize erosion.

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

Manage for diverse plant communities.

Manage plant height, structure and density for desired wildlife habitat.

Provide rest from grazing during critical nesting periods.

When forages are planted, select forage species that have value for both wildlife and livestock. Manage plant height, structure and density for desired wildlife habitat.

Additional Criteria to Promote Economic Stability through Grazing Land Sustainability

Evaluate the economics of the forage system and associated infrastructure.

Develop a grazing system that provides forage for as much of the year as possible to minimize supplemental feed cost.

Develop a contingency plan to ensure resource management and economic feasibility without resource degradation.

Reduce the loss of livestock from toxic and poisonous plants.

CONSIDERATIONS

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.

When needed, rest areas for a period of time to ensure the success of prescribed burning, brush control, seeding or other conservation practices.

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

When weeds are a significant problem prescribed grazing should be implemented in conjunction with pest management to protect desired plant communities.

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

Supplemental feed and/or mineral requirements should be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing livestock. Placement of supplemental feed should be considered to reduce negative impacts to soil, water, air, plant, and animal resources.

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

Consider the needs of other activities utilizing the same land, such as wildlife and recreational uses.

Testing paddock soil according to UVM soil test. Lime and additional fertilizer added should not exceed recommended amounts according to soil test recommendations after manure and legume credits have been taken.

Reference NRCS Standard Code 590, Nutrient Management, for mechanically applied manure.

Enhancing pasture sustainability by including multiple species of forages. Where practical, start the grazing sequence in a different management unit each growing season.

Using mechanical means, such as harvesting, clipping, and dragging of pastures to manipulate the pasture sward. Use stubble heights and paddock monitoring as management tools.

When needed, rest areas for a period of time to ensure success of brush control, seeding or other conservation practices.

Design watering, feeding, and handling systems with evaluation of traffic patterns, manure distribution, forage production, and management goals. These facilities should be designed and installed to minimize stress, the spread of disease, parasites, contact with harmful organisms, predators and toxic plants.

Plan lane placement and design to minimize erosion and enhance livestock flow.

Contact local NRCS, NRCD, or UVM offices for information on local grazing networks.

Promote vegetative cover in riparian areas.

Use management practices to extend the grazing season.

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.

Consider the following when designing a prescribed grazing plan:

Landowner's Goals and Objectives - In order for any prescribed grazing plan to work, this primary objective must be met and clearly stated.

Landowner's/Operators Time - Consider available time for all on and off-farm tasks when developing a grazing system.

Soils - Where possible, avoid placing fields/paddocks across different soil types.

Topography - Strive for topographical uniformity in the field/paddock layouts to promote uniform grazing. Consider aspect when planning early spring grazing.

Special Features - Consider roads, streams, ponds, stone walls cellar holes, and wooded areas.

Source and Location of Water - Make efforts to reduce the distance animals travel to water. Locate water to reduce negative impacts. Desired walking distance should be 800 feet or less for most grazing livestock. Lactating dairy cattle should have distances 400 feet or less. For lactating dairy cows consider placing watering facilities at 400 to 800 feet intervals in travel lanes.

Location of Supplemental Feeding Areas - Consider effects on resource base, grazing distribution, storage requirements, labor, and access when locating feeding areas.

Fencing - Consider the condition, location, and type of existing fences. See Vermont Conservation Practice Standard *Fence* (Code 382) and Engineering Fencing Specification for types when developing plan.

Weather Conditions - Consider the use of shade and other shelter when designing a grazing system. Consider winter feeding conditions and windbreaks.

TYPES OF PRESCRIBED GRAZING METHODS

Rotational Grazing - Rotate animals through two or more pastures. A recovery period follows each grazing period. The rotations may be extensive (slow, every two to four weeks); moderate (weekly); or intensive (one half to two days)

Management Intensive Grazing - allocates a small amount of forage in a short time (several hours to one or two days). Large pastures are grazed in strips with the use of temporary fencing.

First and Last Grazers - Involves two livestock groups. First grazers utilize the highest quality forage in a paddock before being rotated to another paddock. The last grazers are then rotated into the field to graze the remaining forage to the desired height.

Stockpiling (deferred grazing) – Grazing is delayed during part of the growing season to accumulate forage for use during periods of slow or no forage regrowth.

Limit Time Grazing - Animals are allowed to graze high quality forage like sorghum for a limited time each day.

Creep Grazing - allows passage by smaller animals to higher quality forage.

Continuous Stocking - A method of grazing livestock on a specific land unit where animals have unrestricted and uninterrupted access throughout the time period when grazing is allowed.

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

Guidelines for developing a prescribed grazing plan include:

1. Goals and Objectives clearly stated.
2. Resource Inventory (i.e. Resource condition, existing structures, facilities, and soil).
3. Forage Inventory of the expected forage quality, quantity and species of forage in each management unit(s) during the grazing period.
4. Forage-Animal Balance developed as a sustainable grazing plan for the management unit(s), which insure forage produced or available meets forage demand of livestock and/or wildlife of concern.
5. Grazing Plan developed for livestock that identifies periods of grazing, rest, and other treatment activities for each management unit.
6. Contingency plan developed that details potential problems (i.e., severe drought, flooding) and serves as a guide for adjusting the grazing prescription to ensure resource management and economic feasibility without resource degradation.
7. Monitoring plan developed with appropriate records to assess whether the grazing strategy 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 grazing units.

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

Maintenance. All facilitating practices (i.e. Fence, Watering Facilities, Pest Management) that are needed to effect adequate grazing distribution as planned by this practice standard will be maintained in good working order.

Operation. The producer will apply management grazing on a continuing basis according to the management goals, making adjustments as needed to insure that the objectives of its managed grazing plan are met. Adjustments may include; changing length of grazing and rest periods, changing paddock sizes, moving watering facilities, and moving access or travel lanes.

Repair and/or replace fences incapable of controlling livestock to the level required by the prescribed grazing plan.

Maintenance. All facilitating practices (i.e. Fence, Watering Facilities, Walkways etc) that are needed to effect this grazing practice standard will be maintained in good working order. The managed grazing plan will specify when evaluations of the current feed and forage supply should be made. Evaluations may include: 1. determining excess pasture growth and adjusting managed grazing plan accordingly or applying other harvest techniques, 2. determining if there is a shortage of pasture growth and adjust managed grazing plan accordingly or apply supplemental feeding techniques, 3. determining if quality of the pasture stand meets the production goals and adjusting the managed grazing plan accordingly or and 4. applying improvement methods such as frost-seeding or inter-seeding.

REFERENCES

1. University of Wisconsin Extension Service and Minnesota Extension Service. Publication A3529 – Pastures for Profit: A Guide to Rotational Grazing
2. USDA – Natural Resources Conservation Service, Field Office Technical Guide, Section IV
3. <http://www.wa.nrcs.usda.gov/Eng/DesignAids/Drawings/Standard/LivestockFac.htm>
4. Planned Fencing Systems for Controlled Grazing. March 2002. Virginia Cooperative Extension. <http://www.ext.vt.edu/resources>
5. Virginia NRCS Tech Guide @ www.va.nrcs.usda.gov
6. National Range Pasture Handbook (in NRCS field offices)
7. <http://grassfarmer.com>
8. www.glci.org
9. www.caf.wvu.edu/~forage/ Has fact sheets, tutorials, and economics.
10. <http://pss.uvm.edu/vtcrops/Pasture.htm>