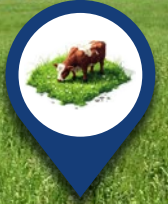




United States Department of Agriculture

CONSERVATION CHOICES FOR

Healthy Pastures



Conservation practices for healthy, sustainable, profitable pastures.

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Des Moines, Iowa

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As a landowner or farm operator you face many decisions when managing the resources on your land. When you evaluate options for your grazing operation, consider implementing some of the conservation practices highlighted in this brochure. Featured practices will be separated by how to better manage forage, provide livestock water, improve the forage base, and protect sensitive areas.

The foundation for healthy pasture is healthy soil, which leads to healthy plants, leading to healthy animals.

NRCS staff and your local soil and water conservation district (SWCD) can assist you in making the right choices to protect your resources and improve your operation.

To learn more about conservation planning assistance, visit the staff at your local NRCS office to improve management for all resource concerns. NRCS staff and your local SWCD are available to help you make the best choices to protect your operation and resources.



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Conservation Choices

Practices for Managing Forage and Grazing Animals

Healthy pastures are properly managed for livestock and plants. A great rule of thumb for grazing forages is *Take Half/Leave Half*. When one-half of the plant in a field is grazed, it is time to move livestock to a new grazing unit to let that unit recover. During the recovery, new roots will grow, supplying water and nutrients for new forage. Measure the average heights of grazed plants at the start of the grazing period, then when average heights are about half the beginning height, it is time to move. Begin grazing and end grazing heights are available for multiple species in NRCS guidance.

Conservation Practice	How it helps/Tips
Grazing Management (528)	
Defined: Managing the harvest of vegetation with grazing and browsing animals to achieve specific ecological, economic, and management objectives. 	• Improve or maintain desirable species composition, structure, productivity, health and/or vigor of plants and plant communities. • Improve or maintain quality, quantity, and/or balance of forages to meet the nutritional needs and ensure the health and performance of grazing animals. • Reduce or eliminate the transportation of sediment, nutrients, pathogens, or chemicals to surface and groundwater. • Reduce runoff and compaction and enhance or maintain key soil health components, such as soil organic matter, aggregate stability, habitat for soil organisms, water infiltration, and water holding capacity. • Prevent or reduce sheet, rill, classic gully, ephemeral gully, bank, or wind erosion. • Improve or maintain terrestrial or aquatic habitat for wildlife, fish, invertebrates, or other organisms. • Manage biomass accumulation for the desired fuel load to reduce wildfire risk or to facilitate prescribed burning. • Reduce plant pest pressure from invasive and/or undesirable plants and other pests as part of an integrated plan. Comments:
Fence (382)	
Defined: A constructed barrier to animals or people. 	• Provides a means to control the movement of animals to accomplish conservation objectives. (See Access Control and Grazing Management.) <i>Note: Virtual fences are a new technology which can be used through the Fence conservation practice standard.</i> Comments:

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Practices for Livestock Water

Healthy livestock need ample amounts of quality water to efficiently convert forages into milk or meat. It needs to be adequately distributed for the livestock. Trails from grazing animals are a typical sign of inadequate livestock water distribution. Research suggests that for all livestock in the herd to receive ample drinking water they should not need to travel more than 800 feet to water from anywhere in the grazing paddock. This research was based on cattle and may need to be less for small ruminants.

Conservation Practice		How it helps/Tips
Watering Facility (614)		
Defined: Storing or providing drinking water to livestock. 		• Supplies daily water requirements. • Improves animal distribution. • Provides an alternative water source that is alternative to a sensitive resource. Comments:
Livestock Pipeline (516)		
Defined: A pipeline and appurtenances installed to convey water for livestock. 		• Convey water to points of use for livestock. • Reduces energy use. Comments:

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Practices for Livestock Water

Conservation Practice	How it helps/Tips
Pumping Plant (533)	
Defined: A facility that delivers water at a designed pressure and flow rate. 	• Delivers water for improved plant condition and livestock. • Reduces energy use and potential need to truck water to pasture. Comments:
Water Well (642)	
Defined: A hole drilled, dug, driven, bored, jetted, or otherwise constructed into an aquifer for agricultural water supply. 	• Addresses the need for adequate livestock water quality and quantity. Comments:
Pond (378)	
Defined: A water impoundment made by constructing an embankment, excavating a dugout, or a combination of both. 	• Stores water for livestock, fish, fire control, erosion control, or flow detention. • Improves water quality. Comments:

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Practices for Improving the Forage Base

Conservation Practice	How it helps/Tips
Brush Management (314)	
Defined: Managing or removing invasive and noxious woody plants. 	• Restore or release desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality, or enhance hydrology. • Improve forage accessibility, quality, and quantity for livestock. • Manage fuel loads to achieve desired conditions. • Pervasive plant species are controlled to a desired level of treatment that will ultimately contribute to creation or maintenance of an ecological site description “steady state” addressing the need for forage, wildlife habitat, and/or water quality. Comments:
Herbaceous Weed Treatment (315)	
Defined: Removing or controlling herbaceous weeds including invasive, noxious, prohibited, or undesirable plants. 	• Enhances accessibility, quality, and quantity of forages. • Restores or releases native or desired plant communities for wildlife habitat. • Protects soils and controls erosion. • Reduces fine fuel loads and wildfire hazards. • Controls pervasive plant species to a desired level of treatment. Comments:
Pasture and Hay Planting (512)	
Defined: Establishing adapted and compatible species, varieties, or cultivars of perennial herbaceous plants suitable for pasture or hay production. 	• Improve or maintain livestock nutrition and health. • Provide or increase forage supply during periods of low forage production. • Reduce soil erosion. • Improve water quality. • Improve air quality. • Improve soil health. Comments:

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Practices for Improving the Forage Base

Conservation Practice	How it helps/Tips
Annual Forages for Grazing Systems (810)	
Defined: Establish adapted and compatible species, varieties, or cultivars of annual forage species suitable for pasture or fodder. 	• Provide or increase forage supply during periods of low forage production or to extend the grazing season. • Provide temporary cover to reduce wind and water erosion and forage for sites where perennial forages will be reestablished. • Improve soil microbial life and soil aggregate stability. Comments:
Nutrient Management (590)	
Defined: Manage rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts. 	• Improve plant health and productivity. • Reduce excess nutrients in surface and ground water. • Reduce emissions that are a detriment to air quality. • Reduce the risk of potential pathogens from manure, biosolids, or compost application from reaching surface and ground water. • Improve or maintain soil organic matter. Comments:
Pest Management Conservation System (595)	
Defined: A system that combines integrated pest management (IPM) decision-making process with natural resource conservation to address pest impacts. 	• Reduce plant pest pressure. • Reduce injury to beneficial organisms. • Reduce transport of pesticides to surface and ground water. • Reduce emissions that are a detriment to air quality. Comments:

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Practices for Improving the Forage Base

Conservation Practice	How it helps/Tips
Prescribed Burning (338)	
Defined: A planned fire applied to a predetermined area. 	• Manage undesirable vegetation to improve plant community structure and composition. • Manage pests, pathogens, and diseases to reduce plant pest pressure. • Improves plant and seed production, quantity, and quality. • Facilitate distribution of grazing and browsing animals to improve forage-animal balance. • Improves and maintains habitat for soil organisms and enhances soil health. Comments:

Practices for Protecting Sensitive Areas

Conservation Practice	How it helps/Tips
Access Control (472)	
Defined: The temporary or permanent exclusion of animals, people, vehicles equipment from an area. 	• Controlling access to areas like ponds and streams can help improve or maintain water quality and keep banks from eroding and deteriorating. • Keeps livestock healthier. Long-term access to certain waterbodies can lead to foot rot and disease. • Allows streambanks and shorelines to heal naturally, providing habitat for fish and wildlife. • Can protect sensitive habitat or culturally significant areas. • Access can be permanent or temporary: » Permanent limits access by animals, people and vehicles, with the only exceptions being emergency situations. » Temporary allows short-term access, such as allowing livestock to flash graze a stream corridor for a couple days at a time while forages are growing. Comments:

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Practices for Protecting Sensitive Areas

Conservation Practice	How it helps/Tips
Riparian Forest Buffer (391)	
Defined: An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from a watercourse or waterbody. 	• Reduce transport of sediment to surface waters, reduce transport of pathogens, chemicals, pesticides, and nutrients to surface and groundwater. • Maintain or increase total carbon stored in soils and/or perennial biomass to reduce atmospheric concentrations of greenhouse gases. • Lower elevated stream water temperatures. • Restore diversity, structure, and composition of riparian plant communities. Comments:
Riparian Herbaceous Cover (390)	
Defined: Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats. 	• Provides or improves food and cover for fish, wildlife and livestock. • Improves and maintains water quality. • Establishes and maintains habitat corridors. • Increases water storage on floodplains. • Reduces erosion and improves stability to stream banks and shorelines. • Increases net carbon storage in the biomass and soil. • Enhances pollen, nectar, and nesting habitat for pollinators. • Restores, improves or maintains the desired plant communities. • Dissipates stream energy and trap sediment. • Enhances streambank protection as part of stream bank soil bioengineering practices. Comments:

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Practices for Consideration

Conservation Practice	How it helps/Tips
Heavy Use Protection Area (561)	
Defined: Stabilizing or protecting an intensively used area. 	• Used to protect areas that cannot maintain vegetation, such as around livestock watering facilities. • Provides a stable non-eroding surface for areas frequently used by livestock. • Reduce soil erosion. • Protects and improves water quality. Comments:
Trails and Walkways (575)	
Defined: A constructed path with a vegetated, earthen, gravel, paved, or other hard surface to facilitate the movement of animals, people, or off-road vehicles. 	• Provides or improves animal access to forage, water, working/handling facilities, or shelter. • Protects ecologically sensitive, erosive, or potentially erosive sites. • Provides a pedestrian or off-road vehicle access for agricultural, construction, or maintenance operations. • Used in grazing operations that move livestock back to a central location multiple times per week, such as a grazing dairy operation. Comments:
Silvopasture (381)	
Defined: Establishment and/or management of desired trees and forages on the same land unit. 	• Provide forage, shade or shelter for livestock. • Improve the health and productivity of trees, shrubs and forages. • Improve water quality, biological diversity, and soil quality. • Increase carbon sequestration and storage. • Provide for beneficial organisms and pollinators. • Reduce soil erosion. Comments:

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Practices for Consideration

Conservation Practice	How it helps/Tips
Windbreak-Shelterbelt Establishment and Renovation (380)	
Defined: Establishing, enhancing, or renovating windbreaks (shelterbelts), which are single or multiple rows of trees and/or shrubs in linear or curvilinear configurations. 	• Provides shelter from wind, snow and excessive heat to protect animals and structures. • Reduces erosion from wind. • Manages snow distribution to reduce obstacles, ponding and flooding that impacts animals and resources. • Enhances plant health and productivity by protecting plants from wind-related damage. • Improves air quality. Comments:
Livestock Shelter Structure (576)	
Defined: A permanent or portable structure to protect animals from negative environmental factors. Structure will have fewer than four walls this structure is not to be construed to be a building. 	• Provides protection for livestock from excessive heat, wind, cold, or snow. • Improves the distribution of grazing livestock to enhance wildlife habitat, reduce overused areas, or correct other resource concerns resulting from improper animal distribution. Comments:
Grade Stabilization Structure (410)	
Defined: A structure used to control the grade in natural or constructed channels. 	• Reduce erosion. • Improve water quality. • Applied where channels require a structure to stabilize the grade or to control gully erosion. • They can resemble a pond in a pasture setting. • Not required to hold water like a pond for livestock watering. Comments:

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Practices for Consideration

Conservation Practice	How it helps/Tips
Water and Sediment Control Basin (638)	
Defined: An earthen embankment or a combination ridge and channel constructed across the slope of a minor drainageway. 	• Helps reduce gully erosion. • Traps sediment. • Reduces and manages runoff. Comments:

Pasture Condition Score

Pasture Condition Score (PCS) is a systematic way to assess how well a pasture is being managed and resources protected.

A pasture rated with a high score is well-managed with productivity (plant and animal) being sustained or enhanced. By rating the key indicators common to all pastures, pasture condition can be evaluated and the primary reasons for a low condition score can be identified.

A low rating typically means the pasture has one or more challenges, such as poor plant growth, weedy species invasion, poor animal performance (low forage quantity and quality), visible soil loss, increased runoff, and impaired water quality in or adjacent to the pasture.

The PCS should be performed several times a year during critical management periods throughout the grazing season. Regardless of the time of year selected to do the PCS, the best time to score a pasture is just before it is grazed.

The PCS should be performed:

- as a benchmark condition of the pasture;
- early in the growing season before grazing events occur;
- at peak forage supply periods;
- at low forage supply periods;
- at plant stress periods such as drought or very wet conditions
- when conservation practices (management) have been fully applied.

Work with NRCS to train you on how to use the Pasture Condition Score to help you better manage your pastures.



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Helping People Help the Land
May 2025

