Pasture and Hayland Management

Nebraska Conservation Planning Sheet No. 12

USDA Natural Resources Conservation Service
Lincoln, NE

reprinted April 1997

What is pasture and hayland management?

Pasture and hayland management is the proper treatment and use of established stands of perennial forage crops being harvested as pasture or hay. This includes timing mechanical harvest or grazing for the best stage of plant growth, maintaining adequate stubble height after cutting or grazing, supplying nutrients to maintain healthy productive stands, and controlling the invasion of undesirable weeds and brush.

How it helps the land

Pasture and hayland management will extend the life of the desired forage species, maintain higher quality and quantity of forage supplies, protect the land from soil erosion, retain runoff for moisture conservation, provide wildlife benefits, and improve water quality.

Where the practice applies

Pasture and hayland management can be used for all fields established in desirable perennial plants that are being utilized for pasture and hay.

Where to get help

For assistance in planning pasture and hayland management on your farm or ranch, contact your Natural Resources Conservation Service office.

Applying the practice

This practice is considered applied when the vegetative cover is being maintained throughout the year to prevent soil erosion, and forage production capabilities of soils and the objectives of the producer are met or exceeded.

Planning a pasture and hayland management program involves balancing forage needs by evaluating forage production capabilities. Forage production is then compared with livestock needs. The producer's goal should be to provide a year-long supply of forage. Specific details for planning a year-long forage program can be obtained by completing a livestock grazing and forage balance sheet.

Other considerations

Pasture and hayland management may require one or more of the following items to meet the requirements for soil erosion control and maintain quantity and quality of forage production.

- Identify the key management plant species in the pasture or hayland.
- Apply lime and fertilizer based on soil test results and University of Nebraska recommendations.
- Place water and minerals in ungrazed or undergrazed areas of the pasture to improve grazing distribution.
- Implement a planned grazing system (PGS) to improve forage utilization and maintain plant stands.
- Adjust stocking rate so not to overgraze.
- Maintain the minimum grazing height for the plants being managed (Table I).
- Cross-fence large pastures to help in applying a planned grazing system.
- Provide adequate water supplies for each pasture.
- Control weeds and brush with mowing, selective herbicides, and/or prescribed burning.

- Harvest hay from areas in a pasture not grazed by livestock in order to manage plant growth.
- Harvest hay at the desired growth stage for the plant species. If allowed, make additional cuttings at the recommended interval (Table II).
- Leave adequate stubble height when cutting for hay or weed control.
- Harrow areas of livestock concentration, where manure has accumulated, to recycle nutrients.

Maintaining the practice

Pasture and hayland management methods and inputs need to be applied each growing season to maintain a productive stand of vegetation.

As pasture and hayland becomes unproductive, renovation or re-establishment is needed. This may include inter-seeding grasses and/or legumes.

If seeding or inter-seeding is needed, see the conservation planning sheet on *Pasture and Hayland Planting* for guidelines.

Table I. Grazing Height for Grasses & Legumes 1/

Desired or Dominant Species	Continuous Grazing Starting Height (inches)	Rotation Grazing & PGS		Stop Grazing Average Height (inches)	End Growing Season Height on Pastures Grazed First Next Year (inches)
		Spring Starting Height (inches)	Second Succeeding Grazing 2/ (inches)		
Bluegrass	4	3	4	2	3
Crested Wheatgr.	4	3	4	2	4
Creeping foxtail	6	5	6	3	6
Interm. wheatgrass	6	5	6	3	6
Pubescent wheatgr.	6	5	6	3	6
Meadow bromegr.	6	5	6	3	6
Orchardgrass	6	5	6	3	6
Smooth bromegr.	6	5	6	3	6
Tall fescue	6	5	6	3	6
Reed canarygrass	8	6	8	4	8
Tall wheatgrass	7	5	6	4	6
Western wheatgr.	6	5	6	3	4
Russian wildrye	6	5	6	2	4
Big & sand bluestem	10	8	8	4	8
Indiangrass	10	8	8	4	8
Switchgrass	10	8	8	4	8
Alfalfa	6	5	6	2	6
Alsike & Red clover	6	5	6	2	6
Birdsfoot trefoil	6	5	6	3	6
Cicer milkvetch	8	8	8	5	8
Sweet clover	6	5	6	2	NO MIN.

1/ Grazing height is the average height when leaves are lifted to vertical position.

2/ Minimum regrowth is critical if stand is to be maintained. On pastures grazed only during the dormant season, height at end of grazing period is applicable.

Table II. Hay Harvest Guidelines

Species 1/	Cutting Time/Height (inches)	Cutting Height (inches)
Creeping foxtail	Early to full head	3
Interm./Pubescent Wheatgrass	2nd & later cuttings	
Meadow bromegrass	8 - 10 in. regrowth	
Smooth bromegrass		
Tall wheatgrass		
Western wheatgrass		
Tall fescue		3
Orchardgrass	Boot to early heading	
	Later cuttings	
Crested wheatgrass	8 - 10 in. regrowth	3
Green needlegrass		
Reed canarygrass	1st cutting - Early boot	3
	Later cuttings - when basal sprouts appear	
Big & sand bluestem 2/	Early boot to boot stage	3
Indiangrass 2/		
Prairie sandreed 2/		
Switchgrass 2/		
Alfalfa 3/	1st cutting - Late boot to early bloom	2
	Later cuttings - Early bloom to 1/4 flower	
Alsike & Red Clover	1/4 to 1/2 bloom	2
Birdsfoot Trefoil	Early flower to 1/4 bloom	4
Sweetclover	Bud to early flower	3

1/ To maintain grass stands, livestock will not graze hay land until grass is dormant in the fall.

2/ On late maturing warm-season grasses, harvest a minimum of 6 weeks prior to killing frost.

3/ Do not cut alfalfa later than 4 weeks before average killing frost date.

Table III. Fertilizer Recommendation (based on soil test results)

Tract/Field #	Acres	Species	N	P	K	Lime	Month to Apply

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (800) 245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1997—556-368