United States Department of Agriculture
Natural Resources Conservation Service

Forage Harvest Management

Virginia Conservation Practice Job Sheet *511*

Definition

The timely cutting and removal of forages from the field as hay, green-chop or ensilage.

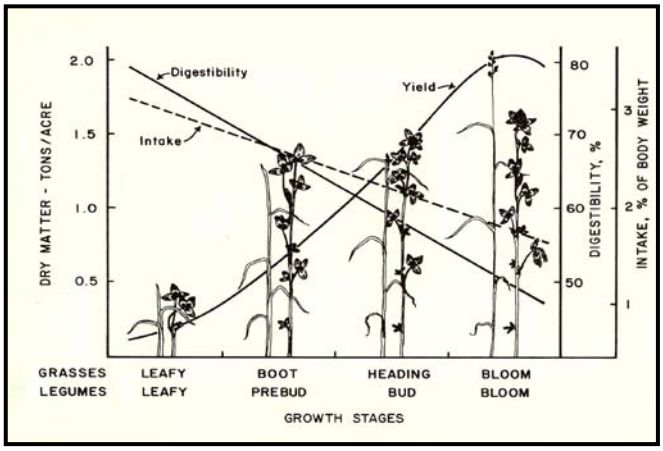
Purpose

- Optimize yield and quality of forage at the desired levels
- Promote vigorous plant re-growth
- Manage for the desired species composition
- Use forage plant biomass as a soil nutrient uptake tool
- Control insects, diseases and weeds
- Maintain and/or improve wildlife habitat

Conditions where practice applies

This practice applies to all land uses where machine harvested forage crops are grown.

General Harvest Specifications



1. Forages will be harvested at a frequency and height that optimizes the desired forage stand, plant community, and stand life.
2. Harvest forages at the stage of maturity that provides the desired quality and quantity without compromising plant vigor and stand longevity.
3. Harvest silage/haylage crops within the optimum moisture range for the type of storage method(s) or structure(s) being utilized.
4. For nutrient uptake, employ a harvest regime that utilizes the maximum amount of available or targeted nutrients. This may require more frequent harvests to increase uptake instead of managing for stand longevity.
5. For pest management considerations, schedule harvests for disease, insect, or weed control.
6. For wildlife habitat considerations, schedule harvests to enhance cover and nesting sites for target species.

As forages mature, digestibility and intake decrease. Deciding when to harvest hay is a compromise between quality and yield. The true quality test for hay is animal performance.

Client/Operating Unit:		Farm #:
County:	Field Office:	Tract #:

Goals, Objectives, and/or Specific Purpose
Specify the goal, objective or purpose for applying this practice. If multiple purposes select (x) any that specifically apply. ☐ Optimize yield and quality of forage at the desired levels ☐ Promote vigorous plant re-growth ☐ Manage for the desired species composition ☐ Use forage plant biomass as a soil nutrient uptake tool ☐ Control insects, diseases and weeds ☐ Maintain or improve wildlife habitat

Recommended Harvest Stages, Residual Height, and Recovery Time

Forages	Stage of Harvest	Minimum Stubble After Harvest (inches)	Recovery Period (days)
Alfalfa	Bud stage 1st cutting; 1/10 bloom second & later cuttings. For spring seedings, 1st cutting at mid to full bloom.	3	20-25
Tall Fescue, Orchardgrass, Timothy	Boot to early head stage for 1st cut; later cuts at 4-6 week intervals.	3-5	20-30
Red or Crimson Clovers	Early bloom	2-3	18-25
Small Grains	Boot to early head stage		
Soybeans	Mid to full bloom before leaves begin to fall		
Sericea Lespedeza	Height of 15 to 18 inches	4-6	18-25
Annual Lespedeza	Early bloom before bottom leaves begin to fall	2-3	20-30
Ladino or White Clover	Cut at correct stage for companion grass		
Bermudagrass	15-18 inch height for 1st cutting, every 4-5 weeks thereafter or when 15 inches high	2-3	18-30
Sudangrass, Sorghum-Sudan Hybrids, Pearl Millet	Height of 30 - 40 inches; minimum 20" for subsequent cuttings	5-7	
Native Grasses (Eastern Gamagrass, Indiangrass, Big Bluestem, Switchgrass)	Harvest in early boot stage at 45 day intervals	8	30-45
Ryegrass	Early to full bloom	2-3	14-25

Minimum Stubble Height and Regrowth Period

After harvest, it is important to leave enough leaf area on the plant to allow for plant survival and rapid regrowth. If forages are harvested below recommended minimum cutting height, regrowth is slowed, weeds may increase, productivity may decline and the stand may die. Allow enough recovery time after harvest to allow the forages to accumulate carbohydrate reserves necessary for regrowth in the plant crown, rhizomes, stolons, or roots.

Site Specific Forage Harvest Management Information								
(A)	(B)	(C)	(D)	(E)	(F)	(E)	(F)	(G)
Field No.	Field Acres	Harvest Date	Forage Species	Harvest Method	Optimum Harvest Moisture (%)	Growth Stage at Harvest	Minimum Stubble Height (inches)	Recovery or Rest Period (days)

Silage length of cut will be based on Cooperative Extension Service recommendations.
Contaminant avoidant recommendations:

- Ensiling can reduce nitrate levels up to 50%.
- Ensure multiple cuttings of sudangrass, and sorghum-sudangrass forages are at least 18 inches tall prior to harvest to avoid possible prussic acid poisoning.

Others:

Suggested Moisture Content for Stored Forages	
Harvest Method	**Optimum Moisture**
Hay	15 - 18%
Baleage	45 - 55%
Haylage	40 - 60%
Wilted silage	60 - 70%
Direct cut silage	≤70%

Operations and Maintenance Plan

-Before forage harvest, clear fields of debris which could damage machinery or, if ingested, harm livestock.
-Operate all equipment at optimum settings to minimize loss of leaves.
-To control forage plant diseases, insects, and movement of weeds, clean harvesting equipment after harvest and before storing.
-Set shear-plate on forage chopper to the proper theoretical cut for the crop being harvested. Keep knives well sharpened. Do not use re-cutters or screens unless forage moisture levels fall below recommended levels for optimum chopping action.
-Dispose of the plastic wrap or bags used to store forage in an environmentally sound manner.
-Follow all agricultural equipment manufacturers' safety measures when operating forage harvesting equipment.
-Maintain soil fertility and pH at recommended levels according to soil test results.

Other maintenance specific to this plan:

Planner Certification

The Forage Harvest Management practice planned in this job sheet fulfills minimum requirements of NRCS Conservation Standard Practice 511.

_____	_____	_____
Signature	Title	Date

Certification of Practice Completion

The Forage Harvest Management practice planned in this job sheet has been completed and maintained according to NRCS plans and specifications. (Indicate in Practice Specifications if there were any changes to the planned practice and acreage.)

_____	_____	_____
Signature	Title	Date

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"= _____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")

Additional Specifications and Notes:

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