NRCS Natural Resources Conservation Service

Forage Harvest Management

Conservation Practice Job Sheet *AK - 511*

Definition

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

Purposes

- Optimize yield and quality of forage at the desired levels
- Promote vigorous plant re-growth
- Maintain stand life
- 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

Where Used

This practice applies to all land uses, including hay, crop, pasture, native pasture and range, where machine harvested forages are grown.

Resource Management Systems

Forage Harvest Management is the key component of an RMS system for hayland, and may be a facilitating practice on other land uses. A well planned forage harvest system is the key to maintaining or improving productivity, health, vigor and condition. Other facilitating and accelerating practices, such as Nutrient Management, Pest Management or Prescribed Grazing may be utilized to address natural resource concerns and the producers objectives identified during the conservation planning process and to insure the success of the management system.

General Criteria

- **Stand Health** Forage will be harvested at a frequency and height that will maintain a desired healthy plant community through its life expectancy.
- **Alaska CES** - Alaska Cooperative Extension Service recommendations based on maturity, moisture content, length of cut, height and harvest interval should be used as references for the practice specifications.
- **Stage of Maturity-** Harvest at the stage of maturity that provide the desired quality and quantity of forage. Harvest at intervals and maturity that will provide adequate food reserves and /or basal or auxiliary tillers for re-growth and/or reproduction to occur without loss of plant vigor. Manipulate timing and cutting heights of harvest to ensure germination and establishment of re-seeding or inter-seeded species.
- **Moisture Content –** Bale at optimum moisture levels to preserve quality and quantity. Harvest silage/haylage within the optimum moisture range for the type of storage structures being utilized.
- **Length of Cut –** When harvesting for ensilage, forage will be chopped to a size that allows adequate packing to produce the anaerobic conditions necessary to ensure the proper ensiling process.
- **Contaminants –** Forage shall not contain contaminants at levels injurious to the animals being fed or rejection of the offered forage.
- **Stubble Height –** Harvest at a height that will promote the vigor and health of the desired species. Cutting heights will provide adequate residual leaf area, adequate numbers of terminal, basal or auxiliary tillers or buds, and/or un-severed stem bases that store food reserves needed for full, vigorous recovery.
- **Nutrient Uptake –** Implement a harvest regime that utilizes the maximum amount of available or targeted nutrients and evaluate nutrient management options by planning conservation practice (590) Nutrient Management.
- **Pest Control -** Lessen incidence of disease, insect damage, and weed infestation by managing for desirable plant vigor. Plan and schedule removal of invasive plants. Schedule harvest periods to control disease, insect and weed infestations. When a pesticide is used, adhere to the specified days to harvest period on the label. Evaluate pest management options by

planning conservation practice Pest Management (595).

- **Wildlife –** If client objectives include providing suitable habitat for desired wildlife specie(s), then appropriate harvest schedules, cover patterns, and plant height for the desired specie(s) should be maintained.
- **Regulations** - Forage Harvest Management must comply with Local, State and Federal Regulations.

Plans and Specifications

Practice specifications are provided to ensure that forage harvest management and system components meet the resource needs and producer's objectives as part of an overall conservation plan.

This component of a conservation plan shall be prepared in accordance with the criteria of the NRCS Forage Harvest Management Standard #511 and Forage Harvest Management Specification #511 in the FOTG and shall document the criteria to apply the practice to achieve its intended purpose(s).

Minimum components:

- Goals and Objectives
- Plan map
- Soil map
- Resource inventory (i.e. resource condition, existing structures, facilities, equipment
- Forage inventory(i.e. species, quality and quantity
- Sensitive resource areas and setbacks needed
- Completion of the Forage Harvest Management Specification Checklist
- Contingency plan for potential natural disasters
- Monitoring plan for key areas, plant species, health, quantity and quality of forage
- Operation and maintenance requirements
- Additional conservation practices relevant to the practice and management unit

Operation and Maintenance

- Practice will be applied on a continuing basis throughout the life of the practice
- Review and update the plan in order to incorporate new techniques, schedules, resource concerns, incorporate monitoring data, and ensure that objectives are met.
- Maintain records of activities for the life of the practice.
- Maintain all facilitating practices that are needed to carry out this practice.
- Clear fields of debris that could damage machinery or lead to livestock sickness or death (hardware disease).
- Monitor weather conditions and take action accordingly before and after cutting to optimize forage curing time to preserve feed quality and prevent forage swaths or windrows from smothering underlying plants.
- Operate all equipment at the optimum settings and speeds to minimize loss of leaves. Set shear-plate on forage chopper to the proper theoretical cut for the crop being harvested. Keep knives well sharpened. For silage, ensure good compaction and an air-tight seal to exclude oxygen and mold formation.
- Inspect and repair harvesting equipment following manufacturer's preventative maintenance procedures. All shields shall be in place during machine operation to prevent injury or death. Shut off machinery before working on or unplugging moving parts. Select equipment sizes and capacities that will harvest the normal acreage in a timely and economically feasible manner.

Forage Harvest Management Job Sketch or attach detailed Plan Map

- Draw or sketch the planning unit- show any sensitive areas and required setback zones, water bodies, fences, facilities, wells, and buildings. Indicate field locations, numbers, and acres.
- Include other relevant information-complementary practices, differing conditions in field, and adjacent field conditions

Scale 1" = _ _ ft. (NA indicates sketch not to scale: grid size = ½" by ½ ")

Forage Harvest Management Plan Map

- Review the Forage Harvest Management plan and facilitating practices and revise yearly if necessary

Maintain harvest records, maps and monitoring data for making adjustments to plan

Forage Harvest Management Narrative:

- Additional description of alternatives, if needed, and contingency plans
- Overall conservation plan integration issues and practice interactions

Forage Harvest Management *AK* - 511

Conservation Practice Specification Checklist

Owner _____Operator_____

Tract #_____Farm #_____

Location _____

Field #s _____

Contract #_____Contract Item #_____

MANDATORY DOCUMENTATION WITHIN THE PLAN

Check

_____Practice Objectives

_____Identification of the extent of practices planned and applied

_____Location identification (aerial photo, soils map, reference to the conservation plan map or sketch with legal description)

_____Environmental Evaluation (NRCS-CPA-52)

_____Documentation of necessary permits (federal, state, tribal, local)

DATA NEEDED FOR SITE SPECIFIC PRACTICE SPECIFICATIONS

Check

_____Management Objectives – Narrative:_____

_____Type of harvest; Hay, Green Chop, Silage, Aftermath grazing, Other: _____

_____Species to be managed: _____

_____Minimum cutting height: _____

_____Stage of maturity: _____

_____Moisture content at harvest: _____

_____Approximate harvest dates: First cutting_____ Second cutting_____

_____Length of cut for silage: _____

_____Soil / forage production values: Potential_____ Objective_____

_____Soil conditions to minimize compaction from equipment: _____

_____Nutrient Management Practice: _____

_____Pest Management Practice: _____

_____Irrigation Water Management Practice: _____

_____Prescribed Grazing Practice: _____

_____Relevant wildlife considerations: _____

_____Additional specifications for this site: _____

ADDITIONAL SPECIFICATIONS AND NOTES:

PRACTICE CERTIFICATION

This practice is designed and planned according to NRCS AK Standards and Specifications.

Conservationist: _____ Date: _____

PRACTICE CERTIFICATION

Program_____ Contract # _____

I agree to install this practice as designed and planned. Acres Planned

Client: _____ Date: _____ | |

This practice was applied and maintained in accordance with this job sheet. Acres Applied

Completed by: _____ Date: _____ | |

Deviations from Planned Design: