FORAGE HARVEST MANAGEMENT
(Acre)
Code 511

DEFINITION

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

PURPOSE

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

- Optimize yield and quality
- Promote vigorous plant re-growth
- Maintain stand life
- Manage for the desired species composition
- Use forage plants for uptake of excess nutrients
- Control insects, diseases and weeds
- Maintain and/or improve wildlife habitat

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

General criteria applicable to all purposes

Harvest plants at the frequency and height to maintain a healthy stand.

A. Stage of Maturity

Harvest forage at the stage of maturity that provides the desired quality and quantity.

If possible, delay harvest if prolonged or heavy precipitation is forecast.

B. Moisture Content

Harvest silage/haylage crops within the optimum moisture range for the type of storage structure(s) being utilized.

Treat direct cut hay crop silage (moisture content > 70%) with chemical preservatives, or add dry feed stuffs to avoid fermentation and seepage losses of digestible dry matter.

For optimal forage quality, rake, ted, or invert swaths, and bale when hay has sufficient moisture to prevent leaf loss.

Bale at optimum moisture levels to preserve forage quality and quantity. Approximate percent moisture should be as follows:

- ◊ Ted or invert swaths when moisture is above 40 percent
- ◊ Rake hay at 30 to 40 percent moisture
- ◊ Bale forced air dried hay at 20 to 35 percent moisture
- ◊ Bale field cured hay at 15 to 20 percent moisture

C. Length of cut

When harvested for silage, chop to a size that contributes to the development of anaerobic conditions.

D. Contaminants

Do not feed forage with contaminants sufficient to cause rejection of the feed, or injury, illness or death of the animal.

Additional criteria to improve or maintain stand life, plant vigor, and forage species mix

A. Stage of Maturity and Harvest Interval

Cut forage plants at a stage of maturity and harvest interval that will maintain adequate energy reserves and/or basal or axillary tillers or buds for re-growth to occur without loss of plant vigor.

Cut reseeding annuals at a stage of maturity and frequency that ensures the production of viable seed to maintain desired stand density.

If plants show signs of short-term environmental stress, adjust management to assure the continued health and vigor of the stand.

B. Stubble Height

Cut forage plants at a height that will promote the vigor of the desired species. Cut at heights that maintain adequate residual leaf area; adequate numbers of terminal, basal, or axillary tillers or buds; and/or un-severed stem bases to contribute to rapid plant re-growth.

Refer to the Forage Harvest Management Conservation Practice Job Sheet, Table 3 (Rev. January, 2008) for appropriate stubble heights for the major forage species grown in Georgia.

Time harvest and adjust cutting heights to ensure germination and establishment of reseeding annuals.

Additional criteria to use as a nutrient uptake tool

Time harvests to maximize uptake of targeted nutrients. See Agricultural Waste Management Field Handbook, Table 6-6, for plant nutrient uptake by forage crops.

Additional criteria to control disease, insect, and weed infestations

Schedule harvests to control, or reduce the impact of pests.

Maintain plant vigor to reduce the effect of pests on forage productivity.

Read and follow the label when using pesticides. See Pest Management Practice Standard (595).

Additional criteria to improve wildlife habitat values

If objectives include providing wildlife habitat, maintain appropriate harvest schedules, cover patterns, and plant height to support the desired species.

CONSIDERATIONS

When pastures produce forage in excess of livestock demand during high growth periods, consider preserving forage nutritive value by machine harvesting a portion of the standing crop. Coordinate this practice with Prescribed Grazing (528).

Select cultivars that are suitable for the harvest regime, species mix, and forage quality desired. See Pasture

and Hayland Planting (512) for forage species adapted to Georgia.

Proper fertilization helps plants withstand more frequent harvesting, and typically results in improved quality and yield.

Clean harvesting equipment between fields where movement of weeds is a concern.

Match forage nutritive value to the needs of the animals being fed. For instance, immature legume forages can be too low in fiber and lead to metabolic disorders in ruminants. Overly mature forage cut for hay may be too low in crude protein and digestible energy to achieve profitable livestock weight gains.

Harvesting for maximum yield may sacrifice nutritive value. Consider the quantity of digestible nutrients stored as harvested forage, and the level of animal performance that will result from feeding these nutrients.

Storage method affects the quality of hay. Wherever possible, store hay under cover and on a drained surface to reduce degradation.

Round bales stored outside should be placed on a well-drained surface with the flat ends of the bales firmly butted against one another to create rows. Row spacing should be at least 3-feet to allow light penetration and air circulation. Except when bale covers are used, bales should be stored in rows with sides not touching so as to avoid creating a moisture-holding area between the sides of the bales.

Hay bales should not be stored under trees.

In conjunction with harvest options, explore storage and feeding options that will retain acceptable forage quality and minimize digestible dry matter loss.

In regions where rainfall and/or humidity levels cause unacceptable forage quality losses in at least one harvest during the year, consider the following: ensiling forage used on-farm; use of desiccants, preservatives, or conditioners; barn curing to reduce field drying time; greenchopping, or grazing.

To reduce safety hazard, avoid operating harvesting and hauling equipment on field slopes over 25 percent, particularly on cross slope traffic patterns.

PLANS AND SPECIFICATIONS

Document Forage Harvest Management in the practice narrative of the conservation plan, and in the Forage Harvest Management Conservation Practice Job Sheet.

These plans and specifications shall be consistent with this standard and shall describe the requirement for applying the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

Before forage harvest, clear fields of debris that could damage machinery, or if ingested by livestock, lead to sickness (for example, hardware disease) or death.

Inspect and repair harvesting equipment following manufacturer's preventative maintenance procedures.

Keep shields in place during equipment operation. Shut off

machinery before working on or cleaning moving parts.

Select equipment sizes and capacities for the acreage normally harvested.

Operate all forage harvesting 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 sharp. Do not use recutters or screens unless forage moisture levels fall below recommended levels for optimum chopping action.

Regardless of silage/haylage storage method, ensure good compaction and an air-tight seal to exclude oxygen and mold formation.

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