***Agronomy Job Sheet*** ***January 2006***

## Definition

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

## Purpose

This practice is used to optimize the economic yield of forage, promote vigorous plant re-growth, maintain the stand life and manage the stand for the desired species composition. This includes timing harvest for the best stage of plant growth, maintaining adequate stubble height after cutting, supplying nutrients to maintain healthy productive stands, and controlling the invasion of undesirable weeds and brush.

## Where used

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

## Criteria

Forage will be harvested at a frequency and height that will maintain a desired healthy plant community. This will be at the state of maturity that provides the desired quality and quantity.

When managing forage stands for multiple use objectives that include wildlife considerations and use as livestock feed, harvesting at a later stage of maturity is acceptable. In this case, feed to a livestock class and type with lower nutritional needs.

Delay harvest if prolonged or heavy precipitation is forecast that would seriously damage cut forage.

Base harvest of mixed grass-legume stands on the state of maturity for legume forage quality except for trefoil, ladino and whit e clover. For these, base harvest on the grass component state of maturity.

Harvest silage/haylage crops at the ideal moisture range for the type of storage structure(s) being utilized. A critical component for any silage system is to ensure air tight forage containment.

For optimal dry hay quality, rake hay at 30 to 40 percent moisture and invert swaths when moisture is above 40 percent. Bale at optimum moisture levels: Approximate percent moisture should be:

- Bale field cut cured hay at 15 to 20 percent moisture
- Bale forced air-dried hay at 20 to 35 percent moisture
- Bale balage at 50-70% moisture

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Continued production and stand life depend on maintaining soil nutrients, applying manure judiciously, and controlling weeds and insects. The use of nitrogen is generally not recommended for alfalfa. For grass legume mixtures, a rate of 60 lb. per acre is suggested to be topdressed to established stands in early spring. Applications of phosphorus and potash should be based on recommendations from a recent, well-calibrated soil test. Guidelines for annual phosphate and potash application include:

- Apply topdress nutrients immediately after harvest and before regrowth resumes. Avoid contact with wet foliage. Do not topdress potash on soil testing very high for this nutrient.
- Topdress following first-cutting to stimulate second and third cutting regrowth or in early September to increase winter hardiness.
- Avoid application when soils are soft (such as early spring) when physical damage to the alfalfa crown is likely.
- Split the application to avoid salt damage if more than 500 lb/acre of material (irrespective of grade) is to be used in any year.
- Do not spread manure on alfalfa fields unless these fields are the only land available. When this is necessary, choose fields that have the most grass, usually the oldest stands.
- Apply no more than 3,000 gallons of liquid manure or 10 tons of solid manure per acre. Use supplemental fertilizer if additional nutrients are required.
- Spread manure immediately after removing a cutting so manure contacts the soil instead of the foliage.
- Adjust the spreader to break up large chunks of manure. Spread only when soils are firm.

## Wildlife

Forage harvest can be done to enhance wildlife objectives. Benefits depend on the vegetative species used and management practiced. Consider using adapted native vegetative species that can provide food and cover for important wildlife. Consider delaying mowing of grassed area until after the nesting season (August 1$^{st}$) for ground-nesting birds and animals where wildlife is the primary resource concern.

## Operation and maintenance

Establishing and maintaining a vigorous forage crop is the most important factor in weed management. Following proper soil fertility, pH and appropriate cutting schedules are the key to maintaining your stand.

## Considerations

Well fertilized plants withstand more intense harvest schedules and may produce a higher quantity and quality of forage. An excess or improper balance of nutrients such as nitrogen can produce plant material that causes toxicity in some animals.

See practice standard 511, Forage Harvest Management, for additional considerations.

Landowner_____ Field number(s)_____

| Purpose (check all that apply) | |
|---|---|
| ☐ Optimize economic yield of forage | ☐ Use forage plant biomass as a soil nutrient uptake tool |
| ☐ Promote vigorous plant re-growth | ☐ Provide wildlife food and cover |
| ☐ Maintain stand life | ☐ Control insects, diseases and weeds |
| ☐ Manage for the desired species composition | ☐ |

**Harvest Guidelines**

| Species | Cutting Time - First | Cutting Time - Subsequent | Cutting Height (inches) |
|---|---|---|---|
| Alfalfa | Late bud to early bloom | 10% bloom. Maintain a 30-day interval between the last cutting and the first killing frost. | 2 |
| Alsike & Red Clover | ¾ bloom to full bloom | Same | 2 |
| Sweetclover | Bud to early flower | Same | 3 |
| Smooth Brome, Intermediate and Pubescent wheatgrass, Timothy, Creeping Foxtail, Bluegrass, Redtop | Medium to full head | When basal sprouts appear | 3 |
| Orchardgrass | Boot to early heading, | When regrowth is 14 – 20 inches | 3 |
| Birdsfoot Trefoil | Early flower to ¼ bloom | When 8 – 12 inch regrowth has occurred but 4-6 weeks before killing freeze | 3-4 |
| Switchgrass and Big Bluestem | One Cut System: at heading<br>Two cut system: at boot or early heading | Two cut system: August | 6 |

**Fertilizer Recommendation**

| Field | Acres | Species | P | K | Month to apply |
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**Harvest**

| Field | First Cutting (Month) | Subsequent Cutting(s) Month | Cutting Height (inches) | Moisture Content for cutting and baling |
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# Forage Harvest Management – Job Sheet

Other relevant information, complementary practices and measures, and additional specifications may be included.

| **Additional Specifications and Notes:** |
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