

Minimizing Hay Feeding Loss Demonstration

300 Day Grazing – Emphasis Program

Objectives:

Evaluate the losses and economics of losses associated with various hay feeding systems.

Methods & Procedures:

Experimental Unit: Bale

Number of Experimental Units Needed Per Treatment: 3 to 4

Treatments –

Control	Alternative(s)*
1) Hay fed unprotected	1) Hay fed in a round bale ring style feeder 2) Hay fed in a cradle style feeder 3) Hay fed by unrolling (note: large round bales can be unrolled by hand if necessary)

*Only one alternative is necessary; however, the demonstration is not limited to one alternative either.

- 1) Weigh each bale prior to feeding and individually sample each bale by taking 6 core samples per bale, 3 samples per each side of bale. Determine dry matter content of each bale and calculate a dry matter weight for each bale.
- 2) Apply bales to treatments, relocating at each offering to prevent cross-contamination of unconsumed portions.
- 3) Collect and weigh residue and determine dry matter content of residue.
 - a. Hay fed unprotected –
 - i. If a small amount of waste is evident: rake the area, weigh the residue and subsample for dry matter determination. Raking may result in contaminations of pasture grasses and soil; be careful to avoid excessive contamination. Raking an area that does not contain hay residue can be used as a correction factor if needed.
 - ii. If a large amount of waste is evident: measure the diameter and calculate the circumference area covered by the residue. Collect 1 to 2 sq ft square sections of residue at multiple locations recording the total number of squares collected. The collected sample should be representative of the various depths of residue. Convert the dry matter content of collected squares to a total residue volume based on the circumference area of the residue.
 - b. Hay fed in a round bale ring style feeder – use method similar to (a-i or ii).

- c. Hay fed in a cradle style feeder – use raking method if rectangular waste is present.
- d. Hay fed by unrolling – use raking method. Raking an area that does not contain hay residue can be used as a correction factor if needed. If unrolled sections are lengthy, identify the total distance hay was unrolled, rake a portion of the distance, measure the length of the portion raked then correct back to the total length.
- e. Record the number of animals exposed to the bale and the number of days cattle were exposed to the bale.

Data Analysis:

- 1) Determine the amount of dry matter waste per bale/system based on initial weights adjusted for dry matter content and residue adjusted for dry matter content.
- 2) Determine the value of dry matter per bale.
- 3) Determine the value of dry matter per bale adjusted for feeding losses.
- 4) Determine how many bales (based on the value of wasted hay) are required to justify paying for hay feeding alternatives.

Outcomes:

- 1) Economic returns to hay feeding practices.
- 2) Percent hay loss for control group vs. alternative method.
- 3) Pounds of hay lost for control group vs. alternative method.

Outputs:

- 1) Number of producers reached through field days, news letters and presentations.
- 2) Adoption of practices by producers

Hay Storage Loss

Control Method

Agent Name: _____
Producer Name: _____

Hay

Hay feeding method _____
Hay Analysis (*Routine*) Attach analysis
Hay Type _____
Harvest Date _____
Feeding Date _____
Bale Value _____
Bale size (*length x height*) _____

Livestock

Type _____
Number _____
Estimated average weight _____

Bale Number	Bale Weight	DM content	Weight of residue	DM content residue
1				
2				
3				
4				

Hay Storage Loss

Alternative Method

Agent Name: _____
 Producer Name: _____

Hay

Hay feeding method _____
 Hay Analysis (*Routine*) Attach analysis
 Hay Type _____
 Harvest Date _____
 Feeding Date _____
 Bale Value _____
 Bale size (*length x height*) _____

Livestock

Type _____
 Number _____
 Estimated average weight _____

Bale Number	Bale Weight	DM content	Weight of residue	DM content residue
1				
2				
3				
4				

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