Culbac® Hay

For maximum performance and efficiency

Alfalfa hay quality: A vital component of feeding value and profitability

Production of high quality alfalfa hay is a vital component for maximum performance and efficiency of high performing animals. Alfalfa hay baled with more retained leaves will *have higher feeding value* and contain *greater nutritional quality,* which can reduce ration costs, improve performance and higher profitability.

Controlling quality variables

Maturity and leaf loss are two management issues which have a large impact on forage quality. Culbac® Hay Treatment can help hay producers produce higher quality hay with more leaves as well as protect hay from spoilage in times of high humidity and slow drying weather.

Leaf retention at baling can be controlled

Leaf retention has been shown to have a significant impact on forage quality (Table 1). Two–thirds of the nutritive value of alfalfa hay is in the leaf material and reduces significantly as leaves are lost during drying.

Culbac® Hay Treatment allows hay to be baled at higher moisture, which increases leaf retention. When baled at the recommended moisture level, Culbac® Hay Treatment will allow the production of higher quality hay without spoilage and heat damage.

Table 1. Baling Moisture and Leaf Loss

	Moisture	Leaf:Stem	CP,%
At cutting	81.0	60:40	21.0
Baled at	**15.0**	**42:58**	**13.0**
Baled at	23.0	58:42	19.0

Research

Both University and TransAgra International's own trial work demonstrates that baling alfalfa at higher moisture (18% – 22% moisture) maximizes leaf capture, decreases mold and heat damage, while maximizing alfalfa quality.

New Mexico State University research demonstrated that approximately 30% of the leaf material was lost when baled at 15.0% moisture. Another New Mexico State study found that the most significant protein loss occurred when alfalfa hay dries down from 23% to 13% moisture.

TRANSAGRA INTERNATIONAL INC.

Naturally Effective Solutions

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Application

Culbac® Hay Treatment can be applied at the baler or at the swather or cutter. When applied at the baler, either Culbac® Hay Dry or Culbac® Hay Liquid can be used. When applied at the cutter, a low volume sprayer is used to apply Culbac® Hay Liquid ahead or behind the conditioner.

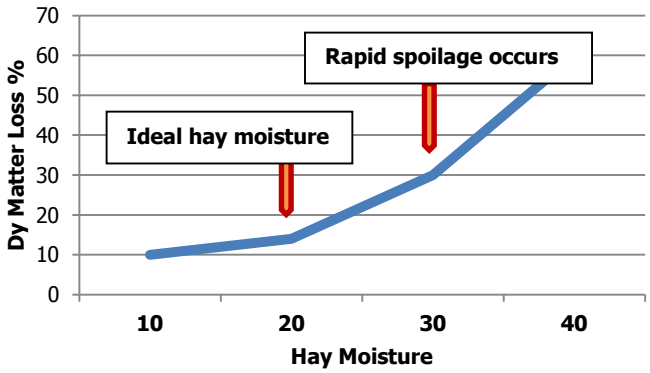
Additional Benefits of Using Culbac® at the Swather/Cutter vs. Baler

- Stops mold growth earlier
- Improved forage quality after a rain

Recommended alfalfa baling moisture

As shown in the graph below, the rate of spoilage in hay accelerates at 20%. When the moisture level reaches 30%, spoilage can be very significant and hard to control.

Figure 1. Dry Matter Loss From Spoilage



The ideal baling moisture level for alfalfa hay should be between 18% and 22%. This range provides adequate moisture for high leaf retention and but not too high for prevention of spoilage from mold.

Since weather is unpredictable, and hay making conditions are not always ideal, Culbac® Hay provides an additional margin of safety when rain is imminent or high humidity slows hay drying. Even in worst case conditions, Culbac® Hay can help make the difference to improve the quality of the baled hay.

Application Rates for Culbac® Hay

Culbac® Hay Liquid:

- Use 2.6 ounces of Culbac® Hay Liquid per ton of hay (16 – 22 % moisture).
- For a uniform application, dilute Culbac® Hay Liquid at the rate of 1 gallon per 11.5 gallons of water. The table below provides further details for mixing.

Figure 2. Mixing Directions for Culbac® Hay Liquid

Hay treated, tons	50	100	150	200	250
Culbac Hay Liq., gal.	1.0	2.0	3.0	4.0	5.0
Water, gal.	11.5	23.0	34.5	46.0	57.0
Total, gal.	12.5	25.0	37.5	50.0	62.5

Culbac® Hay Dry:

- Use Culbac® Hay Dry at the rate of 0.4 pounds per ton of hay (16 – 22% moisture).
- Apply Culbac® Hay Dry through a dry granular applicator at the baler.

Use the table below to determine the appropriate moisture level for your baling operation.

Figure 3. Recommended Moisture Levels for Using Culbac® Hay (Liquid or Dry)

Bale type	Legume hay	Grass hay
Small square	23%	21%
Round	20%	18%
Ton square	18%	16%

Get the most from your forage with Culbac® Hay Treatments.