

# What is Haylage Worth for Lactating Cows?

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It depends. That's an answer that most people hate to hear. We'd like to have things simple and clear cut if we could. However, most things in this world are not that simple. When it comes to haylage one of the biggest variables is the moisture content. Most of us are accustomed to pricing dry hay. The moisture content of dry hay doesn't vary too much. When it comes off the field it may be as high as 18-19% moisture. After it's been in the barn all winter and had a chance to "sweat out" it could be as low as 8-10% moisture. Hay out of the field tends to bring a lower price than the same hay coming out of the barn. The market is usually flush with hay at that time, the moisture content is higher, no storage costs are involved, and the seller gets his money sooner. So even though the prices do vary, moisture differences are rarely an issue with the price of dry hay.

With haylage, moisture content can have a tremendous impact on its value. Let's take dry hay that has a value of \$90/ton. We'll assume it's 90% dry matter (10% moisture). Each ton contains 1800 lbs. of dry matter (2000 lbs./ton X .90). Each pound of dry matter is worth \$.05 ( $\$90.00 \div 1800$ ). If we look at the same feed as haylage we can figure its value based on the amount of dry matter it contains per ton. If we assume 35% dry matter, then we'll have 700 lbs. (2000 lbs./ton X .35) of dry matter per ton. 700 lbs. X \$.05 equals \$35.00 per ton. The same haylage at 50% dry matter would be worth \$50.00 per ton [(2000 lbs./ton X .50) X \$.05]. Haylage frequently brings less money per pound of dry matter than dry hay because it's more costly to transport (much of the weight from water) and it's perishable (once exposed to air). Dry hay prices can also be influenced by the horse market.

Haylage fed to dairy cows should really be priced on quality (its ability to make you milk) and dry matter. While recently working with an area producer (who wanted to buy haylage) we came up with a set of standards (as a starting point for our pricing) and a formula to determine its real value. Our standards are as follows:

	<u>Legume</u> <u>(&gt;75%)</u>	<u>Mostly Legume</u> <u>(50-75%)</u>	<u>Mostly Grass</u> <u>(50-75%)</u>	<u>Grass</u> <u>(&gt;75%)</u>
Adj. Crude Protein	19%	19%	19%	19%
N.D.F.	42%	46.17%	50.33%	54.5%
Dry Matter	35%	35%	35%	35%

Standards are based on 35% dry matter in storage at \$35/ton (your base price could vary up or down from our \$35 value depending on your local market conditions).

N.D.F. adjustments: +\$2.00 per point if it's lower than the standard, -\$2.00 per point if it's higher than the standard (based on the dry matter analysis).

#### Adjusted Crude

Protein adjustments: +\$.50 per point if it's higher than the standard, -\$.50 per point if it's lower than the standard (based on the dry matter analysis).

Dry matter adjustm: after the N.D.F. & A.C.P. adjustments are made, take (do this last) the value per ton and divide it by 700 (the pounds of dry matter in our standards – 2000 lbs./ton  $\times$  .35). Multiply that answer by the lbs. of dry matter in the actual sample.

Let's go through a couple of examples:

EXAMPLE #1 Let's say we have a greater than 75% legume haylage. The forage test (on a dry matter basis) tells us the adjusted crude protein is 22.3%, the N.D.F. (on a dry matter basis) is 40.7%, and the dry matter is 36.2%.

Base starting price = \$35.00/ton

N.D.F. adjustment      +\$2.60/ton  $[(42 - 40.7) \times \$2.00]$

Adj.C.Protein adj.      +\$1.65/ton  $[(22.3 - 19.0) \times \$0.50]$

Price after NDF &      \$39.25/ton (based on 35% dry matter)  
ACP adjustments

$39.25 \div 700 = .0560714$

D.M. lbs. in our sample is:  $(2000 \text{ lbs./ton} \times .362 = 724 \text{ lbs.})$

$724 \text{ lbs.} \times .0560714 = \$40.595693/\text{ton}$

Round it to \$40.60/ton (as fed)

EXAMPLE #2 Let's say we have a greater than 75% grass haylage. The forage test (on a dry matter basis) tells us the adjusted crude protein is 12.3%, the N.D.F. (on a dry matter basis) is 63.1%, and the dry matter is 30%.

Base starting price = \$35.00/ton

N.D.F. adjustment      -\$17.20/ton  $[(63.1 - 54.5) \times \$2.00]$

Adj.C.Protein adj.      -\$3.35/ton  $[(19.0 - 12.3) \times \$0.50]$

Price after NDF &      \$14.45/ton (based on 35% dry matter)  
ACP adjustments

$14.45 \div 700 = .0206428$

D.M. lbs. in our sample is:  $(2000 \text{ lbs./ton} \times .30 = 600 \text{ lbs.})$

$600 \text{ lbs.} \times .0206428 = \$12.38568/\text{ton}$

Round it to \$12.39/ton (as fed)

You can quickly see that good quality haylage should command a premium, while poor quality haylage really isn't worth very much if you're feeding it to dairy cows. From a quality standpoint N.D.F. really drives the system. For our standards, N.D.F. is higher for the grass because grass will have a higher N.D.F. at a comparable digestibility.

When you consider the fact that it will cost (including labor and equipment depreciation) most producers between \$15 and \$20 per ton (at 35% dry matter) to get haylage from the field into storage you really can't afford to be feeding poor quality. In our example #2 it cost us more to get it off the field than it was worth!!

Without printing all the math to show you the calculations, below is a listing of several haylages and their calculated value based on our system:

<u>Type</u>	<u>Legume</u>	<u>Mixed M.Leg.</u>	<u>Mixed M.Grass</u>	<u>Grass</u>	<u>Grass</u>	<u>Mixed M.Grass</u>
NDF%	40.0	44.0	57.2	57.0	60.0	63.0
ACP%	22.0	22.4	15.3	17.6	12.6	10.3
DM%	50.0	37.6	35.0	47.0	36.5	33.6
35% dry matter value	\$40.50	\$41.04	\$19.41	\$29.35	\$20.80	\$5.31
as fed value	\$57.86	\$44.09	\$19.41	\$39.41	\$21.69	\$5.10

Some recent work by John Conway, from the Pro Dairy Program and Kevin Ganoë, our Regional Field Crops Specialist indicates that the premium (or penalty) for variations in NDF content (at 35% D.M.) really should be about \$5.00/ton (at 35% D.M.). They did not add a protein calculation into their dataset. Their numbers are based on feed intake potential and milk production potential. My numbers are based on the same assumptions, but they're generated based on the fact that the buyer will make a profit by paying a premium for higher quality. Also, I'm not sure the actual market is quite ready for the \$5.00 differential per point of NDF. I'm not doubting it's value, but I don't think the market is refined enough to accept that fact.

So what's the bottom line here? Whether you're buying haylage or evaluating your own haylage, quality pays big time!! Here are some guidelines I've developed for dairy producers to judge haylage. They're based on the 35% D.M. standard and the \$35/ton base price, so you'll need to go through the calculations.

<\$20.00/ton value: Forget it, you'll lose money feeding it. Find something better to feed the cows.

\$20.00-\$22.50/ton value: Really question the quality. You need to be really desperate to feed this to lactating cows.

\$22.50-\$27.50/ton value: Not the best, but you could live with it if you have no other alternative.

\$27.50-\$30.00/ton value: It's getting better. You'll do O.K., but strive for a little better next time.

>\$30.00/ton value: Congratulations!! This is the stuff that'll make you money!!

**TIMELINESS OF HARVEST** will make you more money than most any other practice on your farm!!!