

WHY DAIRY FARMERS NEED AND WANT HIGH QUALITY ALFALFA HAY

QUALITY OF HAY = PERFORMANCE AND PROFITABILITY

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Why do dairy farmers want high quality forages, including alfalfa hay, to feed to their milking herds? Feeding high-quality forages results in greater feed intake and as a result, dairy cows produce more milk, and they often times can produce this milk more economically. With advancing stage of plant maturity, fiber digestibility and protein content of the alfalfa plant decreases while the amount of fiber increases. Consequently, less energy is available to the cow when it consumes more mature alfalfa. Energy is the nutrient that most often limits performance in dairy or beef cattle - not protein. The take home message here is that the quality of alfalfa hay fed to dairy cows governs performance and profitability.

High producing dairy cows need alfalfa hay, which, after harvest, contains a relative feed value greater than 150. Hay or silage that tests lower than this will increase feed costs, decrease milk production and decrease profitability for the dairy herd. Forage that tests lower can be fed to those cattle that require lower amounts of nutrients relative to the high-producing dairy cow. Table 1 lists the recommended uses for various qualities of alfalfa.

Table1. Recommended uses for various qualities of alfalfa.

Relative Feed Value	Uses for dairy cattle
Over 180	Excellent forage but needs to be fed with other forages
150 to 180	High-producing dairy cows and calves under 3 months of age
120 to 150	Low-producing dairy cows and young heifers over 4 months of age
100 to 120	Dry cows (check potassium level in diet of close-up dry cows) and older heifers when fed with corn silage

Classical studies done at the University of Wisconsin with mid-lactation dairy cows fed alfalfa hay as the sole forage found that for each 1 percent increase in NDF above 40 percent, the amount of alfalfa hay consumed by these cows decreased by 0.5 pound, and milk production decreased by 1 pound per day. Feeding additional grain with lower quality forages did not increase production to the amount seen when early-cut, higher quality forages were fed with lower amount of grain.

This decrease in milk production can be seen even when as little as 5 pounds of alfalfa hay is fed. If we compare the difference in energy supplied by 5 pounds of alfalfa hay with an RFV of 150 versus 115, the lower quality alfalfa hay (RFV = 115) supports 1.5 fewer pounds of milk. At current milk prices, a dairy farmer would generate \$0.23 less daily income per cow with the lower quality alfalfa hay if the ration was not rebalanced. For a 100-cow herd, this reduction in milk production could decrease milk income by \$700 per month. Put another way, profitability for this farmer would be equal if he or she spent an additional \$90/ton for the higher quality alfalfa hay. With the lower quality alfalfa hay, intake is often times decreased. If we take into account a 3-pound decrease in intake of the poorer quality hay, milk production could decrease by as much as 7 pounds of milk, especially in early lactation cows. The bottom line is that dairy farmers need to buy quality hay that has been tested for its nutrient content.

What about feeding western alfalfa hay, which has an RFV over 200? Alfalfa hay with a relative feed value (RFV) of 200 contains considerably less fiber than hay with a slightly lower relative feed value. Alfalfa hay with an RFV greater than 200 acts like a concentrate in a milking cow diet, and these diets need to be balanced as such. In order to use these supreme quality hays, consult your nutritionist to make sure you have adequate amounts of effective fiber (chew factor) in the diet. These hays can be used effectively in diets for the milking herd, but they must be properly balanced to reflect their nutrient composition.