



Hay Production: Quality vs. Quantity

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As we move closer to the start of haying season, it's important to remember hay is one of the most common sources of stored feed for livestock. Most of harvested hay is used by the original producer; therefore quality should clearly be of high importance for your own livestock. But in hay production, does quality trump quantity?

A common belief is that cows can simply eat more low quality forage to meet their energy demands, but according to the Beef Cattle Research Council, this is not true in most cases because the higher fiber content in low-quality forage actually decreases voluntary intake.

Research by the Beef Cattle Research Council stated that forage with low protein content (seven percent or less), high acid detergent fiber (ADF) and neutral detergent fiber (NDF) cannot meet the nutritional needs of many, if any, classes of livestock without additional feed supplementation. In turn, feeding higher quality forage may mean no supplementation is required other than minerals to meet nutrient requirements. In fact, the research suggested harvesting and feeding higher quality forage may prevent several conditions altogether (e.g., loss of body condition, dystocia, lower milk production and delayed returning estrous).

When we look at feed efficiency in dairy and beef cows we see that there are some differences that affect hay management.

Dairy Cows

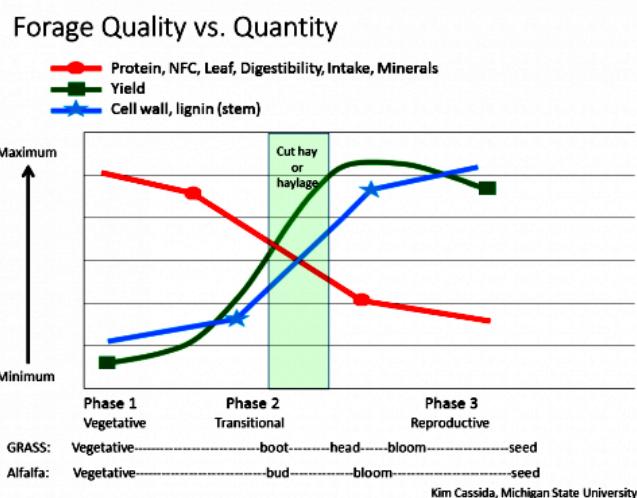
Dairy cows need the best quality alfalfa hay with the most nutrients per pound, eating as much as possible to keep up with their caloric demands when producing milk. Feed efficiency (FE) - sometimes called dairy efficiency - measurement is often used to help determine the cows' ability to turn nutrients into milk. FE equates to the pounds of milk produced per pound of dry matter consumed. Since forages make up a very large component of the slowly digestible part of a lactating cows diet, they are critical for maintaining a desired FE. If you see that FE values are very high it may mean that forage quality and feed quality may need to be improved (Penn State Extension: Forages have the greatest effect on feed efficiency).

Beef Cattle

In contrast, beef cattle diets are much simpler than those of dairy cows. They do better with a mix of straw and alfalfa or a lower-quality grass source that is not as rich in protein. Alfalfa (green or fed as hay) is better for calves, younger cattle, or dairy and pregnant cows in late gestation. While the nutritional value of hay for beef cattle isn't as crucial as dairy, it is still something for producers to think about, especially pre-calving and while nursing a calf.

Sweet Spot

As the forage matures in the field and gets a higher ratio of stem-to-leaf material, fiber content increases and the percentages of protein and energy decrease. Likewise, digestibility and feed intake also decrease, equating to a decrease in quality and quantity. So essentially, early cut hay forage is more nutritious than late cut hay forage and it's all about finding that sweet spot between cutting length and forage quality.



This means hay should be cut between the time of the late boot stage (emergence from the leaf sheath) and full seed head expression, before flowers begin to open and release pollen.

Cutting Height

Cutting height is something that you may need to consider in a mixed alfalfa-grass mixture. According to Dr. Dan Undersander, leaving the proper length in the field is important to the future quality of subsequent cuts within the season. He recommends the following cutting heights for optimum regrowth:

- For alfalfa – minimum of 3 inches
- For cool season grasses – minimum of 4 inches

To get more information on this as well as some excellent cutting information go to [Cutting Height Recommendations](#)

Regardless of the forage type, quality hay production takes special attention to detail and constant management. Whether you are setting hay quality goals based on your livestock's production purpose or calculating feed efficiency, the most important end results are happy, healthy cows and the potential for improved profitability.

(Adapted from an article in Beef Magazine)