

# Let Them Eat Hay

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## Worried about Hay Belly?

"Hay belly" refers to distention of the abdomen.

When viewed from the front, the horse looks pregnant. However, it is not caused by hay per se. A horse can eat very large amounts of hay and still look trim.

It's caused by poor fermentation. The distention is from excessive fluid and gas. The usual cause of this is poor quality hay with excessive amounts of cellulose and lignin. These hays are overly mature and

Most people when asked what they feed their horses will give you the brand name of a bagged feed and the percent protein it contains. They may or may not know what type of hay they feed. Some even believe hay is nothing more than a fibrous filler.

Certainly very few people consider that hay is an important protein source. If a pregnant mare is being fed a moderate quality hay with 0.8 Mcal/lb calories and 8% protein, will she be getting less protein than a mare who gets her calories from both hay and 5 pounds/day of a 14% mare and foal feed? You may think the mare supplemented with the high protein feed would get more protein, but that's not correct.

The reason is calories. If this mare needs 24 Mcal (megacalories) per day, she would require 30 pounds of hay. At 8%, that's 2.4 pounds of protein. The mare and foal feed has 14% and 5 pounds of it would yield 0.7 lbs of protein. However, the calories are likely 3 times higher so she's getting 12 Mcal from that 5 pounds, leaving only 12 more to come from the hay. At 0.8 Mcal/lb, that's 15 pounds of hay which provides 1.2 pounds of protein for a total of 1.9 compared to the 2.4 she would get on a hay only diet. Even if you allow for the protein in the grain to be 20% more digestible, the total still won't be as high on a hay only diet.

Another little known fact about hay that many would not suspect to be true is that it is an excellent source of B vitamins. In fact, levels are typically equal to or considerably higher than found in grains. Vitamin A slowly declines over time but up to an age of 1 year from cutting, green hays have abundant vitamin A. They are also a major source for vitamin D. Only vitamins C and E are lost in large amounts with curing of grasses.

Hay is also a major source of minerals for the horse.

border on straw. Stems are thick and woody and/or large amount of stem compared to leaf. Hays should be pliable, with high ratio of leaf to stem.

Another cause is disruption of the microorganisms in the bowel. This often accompanies poor quality hay because there is not enough fermentable material to support good populations of organisms. A change to a better hay usually solves the problem. If not, direct fed microbials (probiotics) can help.

Even if feeding the full recommended amount of a fortified grain, or using a protein/mineral balancer feed, the horse is still only getting 50% or less of their minimum daily mineral requirements. Hay contains all of the nutritionally important minerals, although supplementation is normally required.

Finally, hay is much more than just a high fiber filler. In fact, most of the fiber is fermented in the large intestine to produce volatile fatty acids which nourish both the horse and the intestinal lining cells. Calories in hay also come from simple sugars, starch, complex plant sugars and other types of carbohydrates not digestible in the small intestine but easily fermented to fatty acids in the horses large bowel.

In short, hay is an important food, not just something to keep the horse busy. After all, the horse evolved eating nothing but plant material and to this day feral horses do well with no concentrates/grains.

Dr. Eleanor Kellon, VMD, currently serves as the Staff Veterinary Specialist for Uckele Health & Nutrition. An established authority in the field of equine nutrition for over 30 years, Dr. Kellon is a valuable resource in the field of applications and nutraceuticals in horses.