

# Forage Trends in the Equine Nutrition Industry

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In the past few years, extreme environmental conditions such as excess rain, drought or natural disasters have affected pasture and hay availability in many areas of the country. In these situations, horse owners are faced with the challenge of finding good quality forage sources (which may be scarce and/or very expensive) or considering the use of forage alternatives. Fortunately, there are many forage alternatives available that are appropriate for replacing some or all of the hay/pasture in a horse's diet. Further, a forage alternative may be an appropriate choice for a horse that requires nutrient consistency to help manage a nutritionally related medical condition.

The term "forage alternative" may be used to define a high fiber feed that can safely be used as a substitute for the forage component of a horse's diet, as well as nontraditional forages and byproduct roughages that have been utilized in feeding horses and other livestock.

High fiber commercially prepared feeds that contain adequate fermentable fiber and indigestible fiber to serve as forage alternatives may also be referred to as "complete feeds". These products not only contain adequate forage and roughage ingredients to meet a horse's fiber needs, but are also nutritionally fortified and balanced to meet all nutrient requirements of the horses for which they are designed. A well-formulated complete feed may be utilized to replace all of the pasture/hay in the horse's diet, or can be fed as a partial forage replacement. In general, the recommendation when using a complete feed as a partial forage replacement is to replace 50% of the hay with the complete feed and decrease the concentrate portion of the diet by 0.5-1 lb per day. If replacing hay and still feeding a concentrate, replace the hay with the same amount of complete feed, and reduce the concentrate by 2-3 lbs/day. If the complete feed is to be used as the sole ration, feeding directions on the bag or feed label should include directions to follow.

In addition to fortified complete feeds, there are several forage alternatives available that are appropriate to use as a partial or complete replacement for hay and/or pasture, as well as some that are appropriate to use only as partial replacements.

Several "hay stretcher" products are offered by feed manufacturers that may or may not be fortified complete feeds. A hay stretcher that is not nutritionally fortified would be appropriate to replace the forage in a horse's diet, but would not be sufficient to meet all nutrient requirements. These products can usually be fed to replace hay pound for pound in the ration, and either a vitamin/mineral supplement, ration balancing feed or concentrate feed would be offered in addition to result in a nutritionally balanced diet.

Additional forage alternatives commonly utilized in horse diets include hay cubes, pellets or blocks, chopped hay and beet pulp (shreds or pellets). Several less traditional alternatives have appeared on the market in the past few years including pelleted soy hulls, haylage, and fodder.

Processed hay (cubes, pellets and blocks) can be fed pound for pound to replace hay in the ration. Usually these products are simply processed hay, either alfalfa, grass or a mixture, with the same potential quality and nutrient variability as the long-stemmed equivalents. However, intake of processed hay is often more rapid than long-stemmed forage, so it may be beneficial to offer smaller meals spaced throughout the day. Beet pulp, either shreds or pellets, may also be used as a forage replacement, but should only be used to partially replace hay/pasture (limit to 50% replacement) due to the low amount of indigestible fiber (bulk). Further, it may be preferable to soak beet pulp for horses with increased risk of choke. Compared to grass hay, alfalfa and beet pulp are higher in calories, so feeding rates may require adjustment.

Chopped hay has become more popular in the past several years in the United States. Benefits include consistency, convenience, and palatability. Some people view the fiber length as a benefit compared to pelleted forages. Nutrient content and quality can be a concern, however. It is important to note nutrient guarantees and ingredients of such products – ingredients such as straw greatly decrease nutritional value for horses. Chopped hay is sometimes mixed with molasses to increase palatability, which could render it inappropriate for horses with sensitivities to soluble carbohydrates.

Pelleted soy hulls may be used as a forage alternative, although it is recommended to limit to no more than 70% of the forage. Soy hulls are seen less often as a viable forage alternative for horses due to limited availability, inconsistent quality, and lower palatability than other options.

Haylage as a forage source is more common in Europe than in the US. Haylage is chopped hay that is harvested and preserved by ensiling rather than traditional drying – it is sealed in plastic, allowing some fermentation to take place. Haylage is much higher in moisture content than baled hay, and may be a higher risk of digestive upset or other health issues due to the possible presence of mold or other toxic substances such as botulism. Haylage should be fed quickly once the package is opened to reduce the risk of mold development.

Hydroponic fodder has appeared on the market in the United States fairly recently. Hydroponic fodder is hydroponically grown sprouted cereal grains, grass or legumes. Little nutritional information is available on fodder for horses, but concerns include low fiber content, poor mineral balance, and mold due to the high-moisture environment inherent in the hydroponic method.

If a forage alternative is the best option, there are several management considerations to keep in mind:

1. To reduce the risk of digestive disturbances, all dietary changes should be made gradually. It is recommended to take at least 7-10 days for a full transition to a new diet.
2. If using a pelleted forage alternative, it is preferable to divide the daily ration into at least three or more meals spread evenly throughout the day.
3. If possible, feeding some long-stemmed hay may provide some beneficial “chew factor” and help alleviate boredom, even if only a few pounds per day.

While shortages of hay and/or pasture create challenges in providing optimal rations for horses, taking advantage of one of the many forage alternatives available can help horse owners provide quality nutrition with ample fiber to keep their horses healthy and productive through difficult climate situations.