



Kent Stanford
Regional Extension Agent
News Release

Hay Alternatives for Horses

Adverse summer grass growing or harvesting conditions or excessively long, cold winter weather can make it difficult to find or afford horse hay. These problems may tempt horse owners to feed their horses an all-concentrate diet. However, horse owners should remember a diet without roughage can be detrimental to the horse. A constant fiber source is needed to maintain the "good" bacteria in the horse's hindgut which break down plant fibers to provide energy for the horse.

The bulk provided by fiber keeps the horse's digestive tract functioning smoothly, decreasing incidence of colic. Horses with adequate fiber exhibit less behavioral problems, such as wood chewing and stall walking, than horses without enough fiber in the diet. The minimum daily amount of long roughage (hay or pasture) needed by the horse is 1 pound of roughage per one hundred pounds of body weight.

There are feeds other than hay or pasture that can provide roughage for the horse. These feeds are not always more cost-effective than hays, but they usually can be purchased when hay is not readily available. Although many of these feeds can substitute for hay, it is more beneficial to maintain the minimum roughage requirement with hay or pasture and use these feeds to boost the amount of roughage in the horse's diet.

Complete feeds are pelleted feeds that have ground hay (usually alfalfa) combined in the pellet. They increase the fiber content of the diet but do not provide the bulk necessary to keep the horse's digestive tract functioning smoothly.

Alfalfa cubes or pellets are similar to complete feeds. They provide fiber but do not provide the needed bulk. However, alfalfa cubes are long fiber hay pressed into cubes. Cubes will give the horse needed bulk in its intestines. There have been infrequent reports of horses choking on the large cubes, but there is probably no danger for the normal horse.

Silage and haylage can be fed to horses, and they provide fiber and bulk. However, these feeds can result in digestive problems because of the possible presence of molds and other toxic substances. Only high quality silage or haylage should be fed to horses. It may take horses some time to become accustomed to the taste of silage or haylage. Up to one half of the horse's hay ration can be replaced with silage. Usually one pound of hay is equivalent to 3 pounds of silage on a dry matter basis.

HorseHage is a patented procedure for vacuum packaging high-moisture hay. The product was developed in England and is very popular with horse owners there. It is being marketed in the U.S. and provides bulk to the diet. It also can be directly substituted for hay in the diet.

Shredded sugar beet pulp is a by-product of the sugar beet industry and is a very popular horse feed in some areas of the U.S. It is palatable, relatively high in digestible energy and a good source of fiber and bulk. Beet pulp comes in a dry flake form. When wet, it absorbs tremendous amounts of water, swelling to three to four times its original bulk. Therefore, to prevent serious colic, bulk beet pulp should be soaked in water for 8 to 12 hours before feeding it to horses. It also should be limited to 25 percent of the ration.

Citrus pulp is the pulp and residue of fruit processed for juice. The palatability and feeding value varies with the processing conditions, but it can provide bulk to the diet. It is recommended that citrus pulp be limited to 25 percent of the ration.

Grain hulls, such as cottonseed hulls, peanut hulls, oat hulls and rice mill feed, can increase bulk in the horse's diet. Generally, these feed by-products are not extremely palatable to horses and are low in nutritive value. Peanut hulls especially are susceptible to aflatoxins, which may be poisonous to horses. Hulls should be limited to 10 percent of the total ration.

Soybean hulls are the filmy skin covering the bean. Unlike the true grain hulls mentioned above, soy hulls are slightly lower than oats in terms of nutritional value. Also, because of their small size, they may not provide the bulk needed by the horse's digestive tract. Soy hulls often are pelleted and the unpelleted, loose soy hulls are not recommended because they are hard for most horse owners to handle and tend to blow around in the feeder. Soy hulls are not very palatable to horses, but most horses will eat them mixed with a sweet feed. Limit them to about 50 percent of the diet, and remember that mixing them into a balanced sweet feed destroys the nutritional balance of the sweet feed. This should not be a serious problem for a mature horse at maintenance if you are just feeding it for a short time, such as to meet its energy needs during winter.

Ground corn cobs are low in nutritive value but provide a good source of bulk in the horse's diet when fed coarsely ground.

Straw from cereal grains are lower in nutritive value than hays, but they can be used in horse diets to provide bulk. Straw should be limited to 10 percent of the total ration.

Chaff is a mixture of chopped straw and molasses. Like straw, it is a good source of bulk and should be limited to about 10 percent of the total ration.

Many of these feeds are low in nutritive value. Horse owners should realize that they may have to increase the amount of concentrate feed to maintain the horse's body weight when these feeds are substituted for hay. Because of the generally low nutritive value, these feeds should be fed as a small proportion of the total diet. High levels may prevent the horse from eating enough of the ration to meet its nutrient needs. Before using a new feedstuff, horse owners should consult with their county Extension agent or with horsemen experienced with using the feed. As always, new feeds should be gradually introduced to a horse's diet to reduce the possibility of colic or laminitis (founder).

For more about this topic or other animal science related information, please contact Kent Stanford, Regional Extension Agent-Animal Science and Forages at the St. Clair County Extension Office at (205) 338-9416 or email stanfmk@auburn.edu.

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