

BUYING HORSE-QUALITY HAY

Unless your horse is that talkative Mr. Ed, it can't tell you the nutrients it needs

Alex Malcolm and Jennifer Ingwerson-Niemann

High-quality hay is an important source of essential nutrients in a horse's diet.

A horse's protein and energy requirements depend on age, stage of development, workload, and environmental factors. Expect a mature horse to consume up to 2.5 percent of its body weight a day. This can vary greatly with the workload and reproductive status of a horse. For optimum health, nutritionists recommend at least half of this should be roughage (feed that is high in fiber), such as hay. Proper feeding still depends on the feeder's careful observation

and good judgment. Horses are individuals, and rations may have to be adjusted for "easy keepers" or "hard keepers."

One percent of a horse's body weight and/or 50 percent of the total ration as roughage are minimal forage requirements. A 1,000-pound horse should be given a minimum 10 pounds of roughage each day.

When purchasing hay, horse owners should consider nutrient value in relation to the cost of the hay. Hay generally falls into one of two categories – grasses and legumes (such as alfalfa). Legume hays are higher in protein, energy, calcium, and vitamin A than grass hays.

While grass hay alone may not meet the total dietary requirements of young, growing horses or those used for high levels of performance, high-quality grass hay may supply ample nutrition for less-active adult horses. If your horse's ration is primarily forage-based, a supplement should be considered to balance for the vitamins and minerals that may not be present or may have leached from the hay over time.

Submitting a hay analysis for forage nutritive value is always recommended but in some situations, horse owners need to purchase hay before a hay sample can be submitted. Below are some of the characteristics used to physically evaluate horse hay.



Choosing Right Hay Type

Mixed hay content is the percent of grass (for example, orchardgrass, bromegrass) and legumes (alfalfa or clover) in hay. When baled at a similar maturity, legumes have higher amounts of digestible energy, crude protein, and calcium, and lower amounts of nonstructural carbohydrates compared to grasses. The digestible energy and crude protein of pure alfalfa hay is above the requirements of most horses. Excessive crude protein can affect the horse's health. Excess protein is excreted as urea in the urine and may induce kidney stress. Horses consuming excess protein often increase water consumption, causing increased urination. Too much digestible energy can lead to excessive weight gain. Obesity in horses contributes to laminitis, thermal regulation problems, poor reproduction, and metabolic syndrome. Pure alfalfa hay is ideal for horses with higher nutritional and caloric needs, including performance horses and lactating broodmares.

Texture of hay. A horse's mouth, lips, and tongue are very sensitive. "Softer" hays, indicating a higher-water content, will be consumed more readily, reducing waste compared to more "coarse," lower-water content hays. If the hay feels rough or coarse against your skin, it may be consumed slowly and less efficiently by the horse. Hay with thistles, foxtail seed heads, burs, and other sharp or coarse plant material should not be fed to horses.

Hay odor. Hay that smells slightly sweet can be a good indicator of forage quality. Much like soft hay, hay with a sweet odor is more likely to



eastern light photography at shutterstock.com

be eaten by a horse than hay with a musty odor. Reject any hay that smells or appears moldy. Before purchasing hay, be sure to inspect the inside of at least one bale. If the hay has been stored inside a dry environment for more than 14 days and is not moldy, then the risk of it becoming moldy is very low. The use of propionic acid is safe for horses and can be used to prevent molding of hay at the time of baling.

Hay color. Green hay is very appealing and a good indicator of quality; however, never make a decision based on color alone - many weeds are also green when baled. Bleached color indicates exposure to sunlight or rain and likely oxidation of vitamins. Horses on a primarily hay diet should always be fed a ration balancer (vitamin and mineral mix). Hay bleached in color may have lower amounts of nonstructural carbohydrates.

Other things to consider

1. At what stage was the hay harvested?

Nutrient value largely depends on the age at which the hay was harvested. Forage plants have more fiber and less crude protein as they become more mature. Maturity indicators are flowers for legumes and seed heads for grasses. Thick stems in both cases are also indicators of maturity. Early-maturity hay is very leafy and has a high nutrient density and palatability. Late-maturity hay contains coarser, thicker stems and fewer leaves. Hay type should be matched to the horse type. Early-maturity hay would best fit growing horses and lactating mares but

may not be the most economical or the most beneficial choice for mature, maintenance horses with lower nutrient requirements. Mid- to late-maturity hay is best for horses with lower nutrient requirements, meeting their nutritional requirements with a decreased tendency to become overweight.

2. How many leaves and stems are present?

Harvesting procedures can affect leaf content, mainly on legume hays. Excessive movement of the hay during the drying process can shatter leaves. Over-cured hay will lose its leaves when baled. Stem content is related to the age at which the plant was harvested as discussed above. The ratio of stem-to-leaf increases as hay becomes more mature resulting in a higher fiber content.

3. Is the hay free of dust, mold, and weeds?

Clean hay is a must. Moldy and dusty hay can inflame the respiratory

tract and cause respiratory issues. Horses may develop permanent lung damage after consuming moldy or dusty hay. Heaves is a common respiratory problem that occurs when a horse consumes moldy or dusty hay. Mold can also cause digestive upsets in a horse. Reject bales that seem excessively heavy for their size or feel warm to the touch, as they could contain excess moisture indicating mold, or worse, undergo spontaneous combustion. Weeds are undesirable in hay because they are low in digestibility and palatability by a horse. In some cases, weeds may also be poisonous. Many times, hay will not be consumed by a horse if weeds are present, and viable weed seed in hay can lead to weed infestations on your place.

4. Is the hay free of insects?

Alfalfa hay may be infected with blister beetles. An irritating chemical called cantharidin is ingested when a horse eats a blister beetle. Clinical signs include blisters in their mouths and through their gastrointestinal tracts. Signs of exposure and toxicity can include

dunking their mouth into water sources, decrease in eating, stretching to urinate, colic, and fever. Severe cases of toxicity and cases not treated can be fatal.

5. Is the hay weathered?

Weather conditions affect field-cured hay, hay that is left out in the field to dry after it has been cut. Rain and excessive sunlight reduce hay quality by reducing the nutrient content. The ideal moisture content of hay when baled is 12 to 18 percent. Excessive moisture due to rain can cause the hay to mold when baled or processed. When possible, purchase and feed hay within a year of harvest to preserve nutritional value. The longer a hay ages, the more the nutrient, vitamin, and mineral content decreases.

Finding a quality, dependable local source of hay can provide peace of mind and help an owner spend money wisely. Building a relationship with the producer will help ensure you have the best-quality possible hay in wet years and in drought.



Alex Malcolm is a University of Wyoming Extension agriculture and horticulture and 4-H educator in Fremont County, and **Jennifer Ingwerson-Niemann** is the extension equine specialist. Malcolm can be reached at (307) 857-3654 or amalcolm@uwyo.edu. Ingwerson-Niemann is at (307) 766-4373 or jingwers@uwyo.edu.



LOOKING FOR A PLACE TO BUY HAY?

The new Wyoming Hay and Forage Association has a website for you!

There is little debate Wyoming produces high-quality hay. The low humidity, warm days, and cooler nights make for a great climate for hay production. You might be asking, where can I buy some of this wonderful Wyoming hay?

The new Wyoming Hay and Forage Association's website connects you with local hay producers who have hay for sale that matches your needs. Whether looking for small squares to feed horses or round bales for feeders, you can find it at www.wyhay.com.

The website allows searching for hay by county, city, hay type (alfalfa, grass, oat, mixed, etc.) and bale type (small square, round, 3 by 3). Hay producers can also include information regarding what cutting (first, second, third, fourth), irrigated vs. dryland, and quality parameters such as protein and relative feed value, and can upload a forage analysis and pictures if they desire. Prices will not be listed on the website, to encourage interaction between the buyer and the seller.

Association members will also have their own profile pages on the website so buyers can not only see what hay is for sale, but also learn about their family, their operation, and get to know the seller. In a time when the emphasis on buying local is increasing, this website is a great way to buy your hay local, too!

The website became live at the end of December, and producers are still being added to the site.

For more information, contact Caleb Carter, University of Wyoming Extension educator, (307) 532-2436.