

HOW TO CHOOSE HAY FOR HORSES

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CHARACTERISTICS TO DESCRIBE AND EVALUATE HAYS FOR HORSES

Listed below you will find some of the characteristics of hay that should be used to evaluate and select hay for horses. We have included characteristics that many horse owners and hay producers already use, as well as others that are important to consider, but are not widely used yet. Many times the horse owner as well as the hay producer bases their opinion on recommendations that were developed from research done for ruminants. We now know that ruminant principles do not always apply to horses. Along with the description of each characteristic, we have included an explanation of how it affects the horse.

1. CONTENT.

Percent of grass and/or legumes in the hay, as well as specific kind of grass or legume.

Content affects protein

In general, legumes (like alfalfa and clover) have higher protein content than grasses. Keep in mind that protein levels of hay are also affected by stage of maturity at time of cutting. Note that the leaves are the main plant structure where protein is stored.

In many cases, pure alfalfa hay has more protein than what the horse needs. Although this will not affect the horse's health, it will increase water requirements and cause more urination that is also high in ammonia. This means the protein is just being wasted. On the other hand, young horses that are developing have higher protein requirements, and alfalfa hay is an excellent supplement for them.

Content affects fiber

The fiber from grasses is more digestible than that of alfalfa and other legumes at the same stage of maturity.

How it affects the horse

Horses have low requirements for protein that can be met fairly easily; on the other hand, the equine digestive system is designed to have a constant input of digestible fiber. Therefore, it is more important to pay attention to amount of digestible fiber and energy content, rather than protein content of the hay.

How to determine content

Besides asking the producer, you can open a bale and analyze it. Legumes have round stems and round or oval leaflets that attach to the stem, individually or in groups. The leaves from grasses are long and narrow.

Other considerations

- Some legumes are hard to dry (like red clover) when making hay, and therefore are at higher risk of molding.
- Depending on how young the plant is at harvest, grass leaves tend to stay intact longer, compared to forage leaves, and can add softness to the hay.

2. STAGE

As forage plants mature, the nutritional value changes. They have more fiber, however, it is less digestible, and the levels of available (digestible) energy and protein decrease as the forage ages. Indicators of maturity in the case of legumes are flowers, and for grasses, well developed seed heads indicate maturity. Thick stems in both cases are indicators of maturity.

Stage affects type of fiber

“Hay bellies” develop when horses get fed forage that has too much non-digestible fiber and too little available energy. As plants mature, it will take longer for the bacteria and protozoa in the horse’s digestive system to digest it, causing hay bellies.

How this affects the horse

Grasses harvested at early boot stage (when the seed head is just starting to form), have excellent fiber digestibility and energy availability, and will produce very leafy and soft hay that smells sweet. This hay is very appealing to the horse and provides excellent nutrition. Keep in mind that even grass hay cut at early maturity stages makes hay that can meet the basic maintenance nutrient requirements of an adult horse. Furthermore, legumes, even at very mature stages, will still meet the nutritional requirements. The catch is that mature legume hay might not be soft enough for the horse to want to eat it.

What to look for in grass hay

Look for seed heads or that are very small, this indicates early maturity stages. If you can see mature seed heads, the fiber content will have gone up, is less digestible, and the hay may be coarser. Even so, if the hay is put up correctly, it might still be soft and sweet and attractive to the horse.

What to look for in legume hay

Legume hay is more controversial. When plants are harvested young (about 10% flower stage) the hay will have more leaves, thinner stems and be soft. The protein content will be very high and you will probably be paying for extra protein that the horse does not need and will convert into ammonia. Mature legumes make hay that does not exceed the protein level required by horses, but unfortunately, it tends to be very coarse.

3. LEAVES AND STEMS

The leave to stem ratio is important because it affects nutrition and softness. Leaves have more protein and digestible energy and less fiber than stems. More leaves also means softer hay.

4. TOUCH

How it affects the horse

Horses’ mouth, lips and tongue, are very soft; hence, softer hay will be consumed more readily, and there will be less waste. Even though some hay may meet or pass the nutritional requirements of a horse, it also has to be attractive and edible, or it will be wasted.

What to look for

Bales that feel soft and you would not mind sticking your bare hand and arm into. Make sure to run your fingers down the stem, seed heads or leaves to try and feel for stickers or sharp hairs.

5. SMELL

Sweet smell is attractive to people and horses, and it is also a good indication of having readily available energy (sugar). Much like soft touch, a sweet smell is an incentive for the horse to eat the hay and get its full nutritional value.

6. COLOR

How it affects the horse

Green is more attractive to those of us taking care of the animals, and it also is a good indication of having vitamin A. Bleached color indicates exposure to sunlight or rain and very likely oxidation of vitamin A, but note that other very essential nutrients are still there! Despite the color, any type of hay needs to be supplemented with an appropriate vitamin-mineral mix.

What to look for

Green is very appealing and a good insurance of quality, but in bad years do not get too hung up on color. If in doubt, send a sample for a nutritional analysis. Be sure to require an equine analysis. Analysis done for ruminants will not reflect the nutritional value for the horse.

7. CROP

How it affects the horse

Plants that grow under cooler temperatures build more digestible fiber. Therefore, 1st crop hay may have more fiber, and the fiber will be easier for the horse to digest and use.

What to look for

Just knowing whether it is 1st, 2nd or 3rd crop does not predict nutrient content. The stage of maturity at which the hay was cut is the foundation of its nutritional value. In general, 1st and 2nd crop hays are allowed to “grow older” in order to improve yield, and 3rd and 4th crops are cut younger because winter does not allow waiting longer (See “Stage” for more details). The way hay is cured and stored will affect the nutritional value as well. When forage plants are cut, they will continue to use up the soluble sugars in the cell. The faster they dry, the faster this process will stop. This process will continue as long as there is enough moisture, even after being baled. This causes the bale to heat up increasing the risk for molding or even burning. When you buy hay, look for bales that have been stored inside; touch inside the bale and take a sample. If the sample is dry and not warm (much less hot!) nor moldy, it’s a safe bet that the hay will remain the same quality if you store it well in your barn.

8. MOLD

How it affects the horse

Mold is detrimental if the horse inhales it, plus it has the potential to be toxic and/or upset the digestive system as well. The use of propionic acid is safe for horses and can be used to prevent molding of hay and grain. The horse has a very low pain threshold and can not tolerate the effect of certain molds or toxins to the gastrointestinal tract which is reflected as colic. Heaves is a bigger problem when dealing with moldy hay. A horse with heaves should not be exposed to mold spores or dust. Note that feeding moldy hay is not nearly as important a cause of colic as is underfeeding forage.

What to look for

Before buying a truckload of hay, be sure to inspect the inside of at least one bale. If the hay has been in storage inside and it is not moldy, then the risk of it getting mold is very low. Do not buy hay that is moldy, as it will only get worse.