

Questions & Answers

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Q What are the nutritional differences between legume hay (alfalfa) and grass hay?

A There are several nutritional differences between legume hay and grass hay. In the United States, legume hays typically include alfalfa and clover. Grass hays include many varieties of grasses and can include the grain (oat) hays. One of the biggest differences between legume and grass hay is protein content. On average, legume hays contain much higher levels of protein. It is not uncommon for legume hays to contain in excess of 15% protein while grass hays typically will contain 10% protein or less. The extra protein contained in legume hays is not dangerous for horses since they break down the extra protein and utilize it for energy. The downside of this extra protein is the nitrogen must be eliminated from the body. The horse will drink more water and urinate more frequently.



Photo by Mark Llewellyn

The energy content is also different between legume and grass hay. Legume hays contain more calories per pound than grass hay. This higher calorie load in the legume hays translates into fewer pounds of hay necessary to maintain body weight. This is not particularly good news for those horses that already have trouble keeping their weight down. The reason for the higher calorie content in legume hay is a lower fiber content. The higher fiber level in grass hay allows horses to eat more feed without putting on weight. This is the reason that most nutritionists who want to reduce the calorie intake of horses advise that grass hay be fed.

The other major difference between legume and grass hay is the mineral profile. The calcium content of legume hays is typically very high in relation to the amount of calcium in grass hays. The phosphorus content is not that different between grass and legume hays. Since calcium is higher in legume hays and phosphorus is nearly the same, the ratio of calcium to phosphorus in legume hay is quite high. This ratio is important for proper bone growth. Hay containing an excess of calcium without adequate phosphorus can lead to bone anomalies.

Q Does hay lose its nutritional value while in storage?

A Hay begins to lose its nutritional value at the time of cutting and continues to lose nutritional value while in storage. The nutrients most affected by harvesting and storage are vitamins, with the protein and mineral content of hay being quite stable.

All green parts of growing plants are rich in carotene and, therefore, have a high vitamin A value. In fact, the degree of green color in a plant is a good index of vitamin content. Approximately 50% of the vitamin A may be lost from hay during the first 24 hours of the curing process. If the hay is subjected to rain or other weather damage, the vitamin losses are greater. The losses of vitamin content continue during storage with the rate of destruction determined by temperature, exposure to air and sunlight, and length of storage time. Under average conditions where hay is stored in a barn, vitamin content of hay can be expected to decrease by approximately 7% per month. If hay is left outside without cover, the vitamin losses will be greater. Again, the color of hay is the best non-laboratory means of determining vitamin content. The greener the hay, the higher the vitamin level. ∞

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011-64-03-300-3185 FAX

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Nutrition Services, Inc.

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402-362-1750 FAX

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