

Factors that Affect Hay Quality

Hay is the most common roughage fed to horses in confinement. The goal of a horse owner is to purchase and feed high quality hay. A good understanding of the factors that affect hay production will help you select high quality hay.

Factors that Affect Hay Quality:

1. **Growing Conditions** - Legumes are higher in protein, energy, calcium, and vitamin A than grass hay. Clovers are legumes and may not be as green in color as alfalfa. Red clover can cause horses to slobber excessively. A mixture of legume and grass plants is the best type of hay to use for some horses or geographical areas.

2. **Plant Species** - Rainfall at the proper time during the growing season will affect hay quality. Drought conditions result in stunted growth and fewer leaves. Excessive moisture often leads to diseases that decrease leaf production.

3. **Stage of Growth** - When plants mature and reach the reproductive stage of development, their protein content, digestibility, and palatability decline.

The ratio of stem to leaf increases with maturity, so the plant has a higher fiber content. Maximum nutrient content can be obtained by harvesting legumes when a few flowers start to appear. Grasses are harvested when the seed heads begin to appear, and grain hays when the grain is in the soft-dough stage.

4. **Weather Conditions** - Rain and too much sunlight are the two most influential factors that affect hay quality. Rain beats the leaves from legumes, leaches out soluble carbohydrates, and packs the hay so it doesn't dry properly. If hay is baled when it is too moist, it will become moldy and have a musty, moldy odor. Mold can be toxic to horses. Excessive sunlight will bleach the color of the leaves and causes a loss of vitamin A. If hay is cured too slowly, hay will ferment and lose its nutrient content.

5. **Harvesting Conditions** - Harvesting conditions can also affect hay quality. If hay is cut and placed in windrows, the stems should be cut to allow for proper drying. Excessive movement of hay after it is cut can shatter the leaves and mix dirt and debris into the hay.



Cornell University
Cooperative Extension
Orange County

Agriculture
Family & Consumer Sciences
4-H Youth Development

18 Seward Ave., Ste. 300
Middletown, NY 10940
845-344-1234
Mon.-Fri., 8:30 AM - 4:30 PM
www.cce.cornell.edu/orange
Garden Helpline: 845-343-0664