

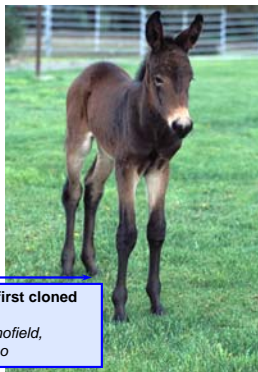
Glenn E. Shewmaker, Laurie M. Lawrence,
Garry D. Lacefield, and Daniel J. Undersander

Rationale

- Publications and web sites on feeding horses give anecdotal opinions from one extreme to another.
- Many of these are based on biases from a limited number of animals (1 or 2) which are generalized on a particular forage.
- This publication emphasizes the forage and hay quality is largely dependent on the maturity of the forage, and thus should be matched to the proper class of horse.
- A team of forage agronomists and animal nutritionists focused on the correct use of alfalfa hay and forage for horses.
- Objectives:
 - Science, rather than myth, is used to guide the use of alfalfa products for varying needs of horses.
 - The proper diet for horses of different ages, class, and activity are given in practical rations.

Science versus Myth

Alfalfa is a high quality, highly digestible feed for horses, but so many myths surround its use that many of the nation's horse owners either underutilize or misuse it. A concise, scientifically based, user-friendly publication by the National Alfalfa Alliance clarifies to owners of one or many horses how to match the characteristics of alfalfa hay to the age, class and activity level of their equines.



Idaho Gem, the first cloned equine, a mule
Photo by Phil Schofield,
University of Idaho



Sampson & Goliath cut hay for Jim Knight
Photo by Glenn Shewmaker

"Alfalfa is often the preferred forage for horses because of its high quality, high digestibility, and good roughage value.

Well-preserved alfalfa hay should be the foundation of a feeding program for young growing horses and active horses.

This publication describes the horse's digestive system and nutritional needs and how to select alfalfa hay.

It provides information on purchasing, storing, and feeding alfalfa hay; and uses science to discuss myths and realities of feeding horses."



Amounts of several nutrients required by horses in different physiological stages on a daily basis

Class	DE Mcal/day	Crude protein	
		Lb/day	% In diet
Recreational	20	1.8	10
Pregnant	20	1.9	11
Lactating	28	3.1	13
Weanling	16	1.9	14
Yearling	20	2.1	13
Performance			
-- Moderate	26	2.2	11
-- Heavy	32	2.9	12



ALFALFA The high-quality hay for horses



Glenn E. Shewmaker
Laurie M. Lawrence
Garry D. Lacefield
University of Idaho

Alfalfa is often the preferred forage for horses because of its high quality, high digestibility, and good roughage value. This publication describes the horse's digestive system and nutritional needs and how to select alfalfa hay for varying needs of horses. It also covers the proper use of alfalfa hay and uses science to discuss myths and realities of feeding horses.

The horse's digestive system

Horses are ruminants, meaning they have a multi-chambered stomach. The horse's digestive system is designed to break down and absorb nutrients from a variety of feeds, including alfalfa hay. The horse's digestive system is divided into several compartments, including the esophagus, rumen, reticulum, omasum, and abomasum. The rumen is the largest compartment and is where most of the digestion occurs. The horse's digestive system is designed to break down and absorb nutrients from a variety of feeds, including alfalfa hay.

Figure 1. The digestive tract and internal organs of the horse.

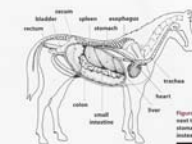


Figure 2. A mule of a horse's stomach from a 1200-lb horse shown next to the daily ration (13 lb) of hay. Because of their relatively small stomachs, horses are better adapted to eating large quantities of hay instead of eating one or two large meals each day.

Lacefield:

Calls the publication an attempt to bring the "best scientific information on feeding alfalfa to horses into one aesthetically pleasing publication that is applicable from Florida to New York to California."

Growing horses

Nutritional programs for growing horses focus on promoting steady, even growth and optimal skeletal development. Nutrient deficiencies and imbalances can result in developmental orthopedic diseases that may affect the ability of a horse to perform as an athletic adult. Horses will also be able to consume roughage and concentrate to meet their nutrient needs at weaning, which usually occurs around 6 to 8 months of age. Young horses should be fed high-quality forage, which is high in digestibility and nutrient density to meet their needs for tissue growth.

Performance horses

Nutrient needs of performance horses are affected by the type and duration of the exercise they perform. Exercise horses can utilize or require energy stored in a variety of ways. Horses and their owners have certain requirements that are not met by a horse at maintenance. Table 1 shows some examples that meet the needs of performance horses. Horses that exercise heavily may need higher-quality hay and less grain than horses that exercise less heavily.

Class	Maintenance		Performance	
	DE Mcal/day	Crude protein %	DE Mcal/day	Crude protein %
1200-lb yearling	16	10	16	10
1200-lb yearling	16	10	16	10
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1200-lb yearling	16	10	16	10
1200-lb yearling	16	10	16	10

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Meeting the Nutritional Needs of Horses

- Affected by age and production state.
- Young horses usually require the most nutrient-dense diets.
- As horses age, diets that are less nutrient dense.
- Lactating mares and horses with strenuous physical activities have much higher requirements than horses used for light recreational riding.

Lawrence:

The publication includes easy-to-use tables of example diets for recreational horses, lactating mares, weanlings, yearlings and horses that perform moderate or intense work. "People generally believe that all hay is the same," says Lawrence. "They don't realize that different horses have different requirements for different kinds of hay."

- The publication:**
- Describes the horse's digestive system
 - Specific nutritional needs of horses used for:
 - Recreational activities
 - Broodmares
 - Growing horses
 - Performance horses
 - Explains how growth stages of alfalfa affect forage quality
 - Discusses how alfalfa hay is classified
 - Defines terms used to describe alfalfa characteristics and quality
 - Reviews several types of forage products
 - Addresses preservatives and blister beetles
 - Buying, transporting and storing alfalfa hay.

Available from the
National Alfalfa Alliance:

Single copies of the 12-page publication can be downloaded from the NAA's Web site at www.alfalfa.org

Multiple copies can be purchased in lots of 25 for \$50, plus shipping and handling.

Purchasing and transporting hay

Hay is the preferred forage for horses because of its high quality, high digestibility, and good roughage value. This publication describes the horse's digestive system and nutritional needs and how to select alfalfa hay. It provides information on purchasing, storing, and feeding alfalfa hay; and uses science to discuss myths and realities of feeding horses.

Feeding hay

Horses are ruminants, meaning they have a multi-chambered stomach. The horse's digestive system is designed to break down and absorb nutrients from a variety of feeds, including alfalfa hay. The horse's digestive system is divided into several compartments, including the esophagus, rumen, reticulum, omasum, and abomasum. The rumen is the largest compartment and is where most of the digestion occurs. The horse's digestive system is designed to break down and absorb nutrients from a variety of feeds, including alfalfa hay.

Hay storage

Hay should be stored in a dry, well-ventilated area. Hay should be stored in a way that allows it to be accessed easily. Hay should be stored in a way that allows it to be accessed easily. Hay should be stored in a way that allows it to be accessed easily.