

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

The high-quality hay for horses



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

Alfalfa is often the preferred forage for horses because of its high quality high digestibility, and good roughage value. This publication is the foundation of a feeding program for young growing horses, recreational horses, and active horses. This publication describes the horse's digestive system and nutritional needs and how to select alfalfa hay that provides the most nutrients and best quality forage. It also includes information on purchasing, storing, and feeding alfalfa hay and uses science to discuss myths and realities of feeding horses.

The horse's digestive system

Horses are ruminant animals. They do not have a rumen. Instead, they have a large cecum and a large colon. The horse's digestive system is designed to break down fiber into small particles that can be absorbed. The horse's digestive system is designed to break down fiber into small particles that can be absorbed. The horse's digestive system is designed to break down fiber into small particles that can be absorbed.

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

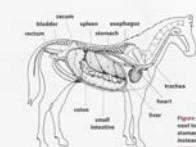


Figure 2. A mule of a horse's stomach from a 1200-lb horse shown next to the daily ration (18 lb) of hay. Because of their relatively small stomachs, horses are better adapted to eating large quantities of hay instead of eating one or two large meals each day.

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."

"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

Purchasing and transporting hay

Hay should be purchased in small quantities and transported in a way that minimizes spoilage. Hay should be purchased in small quantities and transported in a way that minimizes spoilage. Hay should be purchased in small quantities and transported in a way that minimizes spoilage.

Feeding hay

Horses should be fed hay in a way that provides adequate roughage. Horses should be fed hay in a way that provides adequate roughage. Horses should be fed hay in a way that provides adequate roughage.

Hay storage

Hay should be stored in a way that minimizes spoilage. Hay should be stored in a way that minimizes spoilage. Hay should be stored in a way that minimizes spoilage.

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.

Growing horses

Nutritional programs for growing horses focus on providing 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 more likely to develop chronic lamenesses if they are not fed properly. Horses should be fed a diet that provides adequate energy and protein to support their growth and development. Horses should be fed a diet that provides adequate energy and protein to support their growth and development.

Nutrient	1200-lb horse		1800-lb horse	
	Class 1	Class 2	Class 1	Class 2
Crude protein	1.8	2.1	2.1	2.4
Crude fiber	18	18	18	18
Cellulose	18	18	18	18
Starch	18	18	18	18
Cellulose	18	18	18	18
Starch	18	18	18	18

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.

