

EquiSUMMIT™ Feeding Forages 101

The gastrointestinal tract (GIT) of the horse is divided into two sections – the foregut and hindgut. The foregut – the mouth to the small intestine – is where the digestion of grains occurs. The hindgut includes the rest of the GIT tract and contains approximately 65% of the digestive system’s capacity. The hindgut is enlarged to slow the movement of contents so that microbes can ferment the fiber that was not digested in the foregut. This fermentation process encompasses most of the digestion and the majority of the energy production for the horse.

Forage is the primary supplier of fiber and should be the basis of any horse diet. The amount of forage fed depends on the size and activity level of the horse. Table 1 provides recommended levels of forage to be fed as a percent of horse body weight. The feeding recommendations are based on a dry matter basis.

Table 1. Recommended Forage Feeding Rates

Category	Forage Amount (dry matter basis) as % of Body Weight	Forage Amount (dry matter basis) in lbs./day for 1,000 lbs. Horse
Absolute Minimum	1.0%	10
For Weight Loss	1.2%	12
Recommended Minimum	1.5%	15
Standard	1.8-2.5%	18-25
Maximum	3.0-3.5%	30-35

Pasture and hay are the most common sources of forage, but can vary widely in quality. Table 2 outlines the differences in crude protein, digestible nutrients and energy provided by varying qualities of alfalfa (legume), grass or mixed hays.

Table 2. Quality Estimates for Types of Hay

	High Quality	Average Quality	Low Quality
Legume			
Crude Protein (%)	18-23%	16-17%	Below 15%
Total Digestible Nutrients (%)	60-65%	56-66%	Below 55%
Digestible Energy (Mcal/lbs.)	1.2-1.0	1.0-0.9	Below 0.9
Mixed			
Crude Protein (%)	15-18%	11-14%	Below 10%
Total Digestible Nutrients (%)	57-62%	55-57%	Below 55%
Digestible Energy (Mcal/lbs.)	1.0-0.95	0.95-0.85	Below 0.85
Grass			
Crude Protein (%)	12-14%	9-11%	Below 7%
Total Digestible Nutrients (%)	57-60%	54-57%	Below 50%
Digestible Energy (Mcal/lbs.)	0.95-0.90	0.90-0.85	Below 0.85

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There are three main goals when selecting a forage:

1. Ensuring that an adequate amount of high-quality forage is fed
2. Matching the forage to the nutritional requirements of the horse
3. Considering any other concerns, such as insulin dysregulation or Equine Metabolic Syndrome, that require a diet low in sugar and starch

Table 3 provides some guidance when selecting forage types for your horse.

Table 3. Matching Forage Types to Your Horse

Horse Category	Nutritional Needs	Forage Choice
Performance	High Calorie Needs Moderate Protein Requirements - Bone Remodel - Muscle Development	Limit Feed Alfalfa - 25% of forage intake Free Choice Grass
Overweight	Low Calorie Needs Low Protein Needs	Limit Feed Grass Hay No Pasture or Utilize Grazing Muzzle
Late Pregnant or Lactating	High Calorie Needs High Protein Needs - Fetal Development - Milk Production	Mixed Hay - Alfalfa - 50% - Grass - 50% Free Choice Pasture
Carbohydrate Sensitive	EMS, Cushing's Disease (PPID), Insulin Resistant, Overweight	Warm Season Grass (Teff or Bermuda) Alfalfa Avoid Pasture and Test any Cool Season Grass Fed

Ensuring that your horse's nutritional needs are met is one of the most important things you can do as an owner. Always discuss with your nutritionist how best to meet those needs.

Reference:

1. Duren, S., (2022, May 25-26) Proper Forage Feeding, EquiSUMMIT 2022, <https://www.kemin.com/na/en-us/markets/animal/equine/welcome-to-equisummit/equisummit?submissionGuid=e9401e50-2800-4258-90ba-f584ccf1179a>