

Legume Hay and Grass Hay Quality Guidelines - Equine

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Laboratory analysis of hay samples using the Complete Equine Nutrition analysis from Rock River Laboratory, Inc. provides nutrient values for Moisture, Crude Protein, Soluble Protein, ADICP, NDICP, ADF, aNDF, aNDFom, Sugar, WSC, Starch, NSC, Fat, Ash, Digestible Energy as defined by Kentucky Equine Research, and Complete Macro-Minerals (Ca, P, Mg, K, Na, S, and Cl). For more information on the definitions of these values please reference [ABCs of Analysis](#). These values are a useful tool which can be used by an equine nutritionist in helping to formulate a balanced ration for your horse. Laboratory analytical values are given on a dry matter (DM) basis which is the nutrient value with water removed.

Legume Hay Guidelines

	Industry Guidelines		RRL Analyzed Values	
	Ideal Values	Typical Values	15th Percentile	85th Percentile
Moisture	10-16%			
CP	>16%	14-22%	15.40%	21.20%
ADF	30-35%	30-45%	29.20%	38.70%
NDF	40-50%	40-65%	38.20%	51.50%
Sugar (WSC)			6.80%	9.80%

Grass Hay Guidelines

	Industry Guidelines		RRL Analyzed Values	
	Ideal Values	Typical Values	15th Percentile	85th Percentile
Moisture	10-16%			
CP	>10%	8-14%	8.50%	15.50%
ADF	30-35%	30-45%	34.10%	42.33%
NDF	40-50%	40-65%	52.20%	64.12%
Sugar (WSC)			7.50%	11.90%

It is important to understand the digestible energy, protein, and mineral requirements for the animal you are feeding. This can vary greatly depending on the feed consumption, size, and activity level of your horse. Horses with special health conditions may require additional considerations when it comes to feed acquisition and diet formulation. Consult an equine nutritionist to help determine your horses needs and formulate a balanced diet based on lab tests.

References:

Smarsh, D. 2020. Understanding a Hay Analysis. Penn State Extension. <https://extension.psu.edu/understanding-a-hay-analysis>

Martinson, K. 2018. Understanding your Hay Analysis. University of Minnesota Extension. <https://extension.umn.edu/horse-nutrition/understanding-your-hay-analysis#horse-digestible-energy-%28de%29-1320265>

Shewmaker, G.E., Undersander, D., Lawrence, L.M., Lacefield, G.D.. Alfalfa The High Quality Hay for Horses. [https://www.alfalfa.org/pdf/Alfalfa%20for%20Horses%20\(low%20res\).pdf](https://www.alfalfa.org/pdf/Alfalfa%20for%20Horses%20(low%20res).pdf)