

# Ask the Nutritionist



KELLY VINEYARD, M.S., PH.D., SENIOR EQUINE NUTRITIONIST, PURINA ANIMAL NUTRITION

*Ask the Nutritionist is a monthly column featuring questions answered by PhD equine nutritionists and sponsored by Purina Animal Nutrition. Have a nutrition question you want to see featured? Email Marie Rosenthal. For clinics looking for specific nutritional advice, visit [purinamills.com/ask-an-expert](http://purinamills.com/ask-an-expert).*

## When should I recommend my client obtain a hay analysis, and what forage analysis labs do you recommend? How do I help my client interpret the results?

You might recommend a forage analysis when managing the diet of a horse with sugar and starch sensitivities, when treating a horse experiencing chronic colic or digestive upset, or if you suspect a potential nutrient deficiency or toxicity (i.e., selenium). Obtaining a forage analysis is also a good practice to help owners better understand how forage contributes to their overall nutrition and feeding program, especially when hay is purchased in bulk.

### HOW TO TAKE A HAY SAMPLE

For best results, obtain a representative sample of the entire hay batch. To do this, you'll need to collect at least 6 core samples using 1 of these methods:

1. Hay probe powered by an electric drill or hand brace
2. Hand-grab technique

Combine core samples, mix well, place a subsample into the sample bag and submit for analysis. Confirm the quantity needed for analysis with your laboratory.

### WHERE TO SEND A HAY SAMPLE

[Equi-Analytical Laboratory Services](#) is an example of a reputable commercial lab specializing in horse forage analysis, but there are many others. Most states have a forage testing lab for their residents. Check with your county extension agent or state university for information.

When submitting the sample, you may be asked to select a preferred analytical method. Near-infrared technology (NIR) is adequate for most purposes. When a precise analysis is needed (i.e., mineral analysis), traditional analytical (wet chemistry) methods are preferred.

### HOW TO INTERPRET A HAY ANALYSIS

Interpreting a hay analysis can be simple or complex, depending on the reason for testing.

### HOW TO TAKE A REPRESENTATIVE HAY SAMPLE

- Collect core samples from a minimum of 6 hay bales
- Combine core samples and mix well
- Take subsample from mixture and place in sample bag
- Submit sample to laboratory for analysis



When screening hay for use in the diets of horses with sugar and starch sensitivities, a good rule of thumb is to target an ethanol-soluble carbohydrate (ESC) and starch level of 12% or less. Screening hay for sensitive horses (those with a history of chronic colic or digestive issues) is less straightforward. Because the consumption of overly mature hay can easily lead to colic in sensitive horses, choose good-quality hay that was harvested properly, isn't overly mature and provides adequate fiber and calories.

On a feed analysis report, the relative feed value (RFV) serves as a good benchmark to assess [overall hay quality](#). A higher RFV tends to reflect higher quality hays with greater digestibility and calorie content. For sensitive horses, feeding hay with an RFV of  $\geq 87$ , neutral detergent fiber (NDF) of  $\leq 60$  (as fed basis) and acid

detergent fiber (ADF) of  $\leq 42$  (as fed basis) is recommended.

When obtaining a hay analysis in a suspected mineral deficiency or toxicity situation, use the forage mineral concentration paired with daily amount fed to calculate total daily intake. In more complex cases, consult with an experienced equine nutritionist to assist with forage analysis interpretation.

**Contact a Purina PhD nutritionist for a complimentary consultation through Purina Customer Service, 800-227-8941 or send us a message at [www.purinamills.com/ask-an-expert](http://www.purinamills.com/ask-an-expert).**

### UPCOMING TOPICS

July: Colic  
August: Lameness  
September: Cardiology

**Have a question you want to see featured? Send them to [modernequinevet@gmail.com](mailto:modernequinevet@gmail.com).**



### ABOUT THE AUTHOR

Dr. Kelly Vineyard is a senior nutritionist, equine technical solutions, with Purina Animal Nutrition. She provides expert technical nutrition advice and insights in a variety of areas, including new product innovation, product research and veterinarian and customer technical support.