



# Ag Health News

LABORATORIES

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### Certified Hay Sampler:

For more information about Ag Health Labs, hay sampling and NFTA go to:

[www.aghealthlabs.com](http://www.aghealthlabs.com)  
[www.foragetesting.org](http://www.foragetesting.org)

Email us at  
[ahlabs@aghealthlabs.com](mailto:ahlabs@aghealthlabs.com)  
to be added to our email newsletter list!

### NFTA Annual Conference

Attended: June 6th –10th In Lincoln, NE

### Topics Discussed:

- Forage Quality
- Forage Sampling
- Fiber Digestibilities
- NIR Analysis
- Starch Analysis
- Lab Safety

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## Hay Sampling

Highlights from the National Forage Testing Association (NFTA) Annual Conference in Lincoln, NE (June 2011)

**Definition of 'Lot':** Hay harvested from the same field and same cutting (must be 200 tons or less).

**Sampling a 'Lot':** The GOAL is to sample a 'lot' of hay. If the amount of hay to sample is over 200 tons, it is best to divide it into 'lots' of 200 tons apiece and sample and analyze each 'lot' separately. An average of the 'lots' can be calculated after the analysis is done on each 'lot' of 200 tons.

**Sampling Techniques:** The largest factor in 'variability' of nutrient analysis is **Sampling Techniques!**

Below is a list of 'hay sampling practices' that affect 'variability' of nutrient analyses.

### Sampling equipment

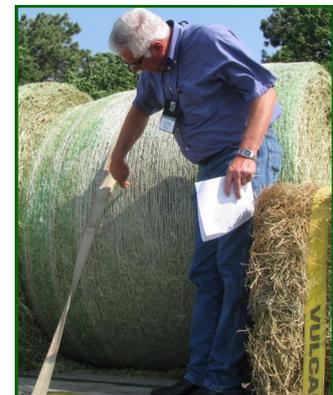
- Hay should be sampled by coring the bales of hay with a hay probe. *It is NOT recommended to take a 'grab' sample or to send flakes of hay to the lab.*
- Depth of coring: Use a probe that travels 12 to 24 inches into the hay bale.
- The internal diameter of the probe should be 3/8 inch (*If the probe is too big or too small to produce enough hay to fill a 1-quart Ziploc bag 3/4 full with 10 Cores, then get another one!*).
- Condition of equipment: The probe tip must be sharp (*A dull tip may reduce the amount of stem material due to the tip sliding past rather than cutting the stem*).



(Above: Dr. Dan Putnam shows examples of hay samplers.)

### Sampling method (how the sample is obtained)

- Random vs. non-random sampling: In order to get a representative sample of a hay stack, there can be no pre-chosen reasons (*non-random*) for selecting a sampling location (*such as color, leafiness, or location*)
- Techniques to avoid non-random sampling:
  1. Sample every 4<sup>th</sup> or 5<sup>th</sup> bale in a stack or field of hay.
  2. Take 6 to 10 samples randomly on all 4 sides of the stack of hay.
- Method of obtaining samples:
  1. Sample the end of the bale (not the sides) and between strings.
  2. Take 1 core sample per bale.
  3. *Square bales* - Insert probe at a 90° angle into the bale.
  4. *Round bales* - Insert probe towards the center of the bale.
- Sample the hay as close to feeding or point of sale as possible.
- Amount of "hay cores" taken: It is recommended to take enough cores to fill a **1-quart Ziploc bag ~3/4 full of hay.**



(Above: Dr. Dan Putnam shows the location of where to sample a round bale.)



- Sample handling:
  1. Place in sealed plastic bags (**Pre-labeled bags are available at Ag Health Labs**).
  2. Do NOT split a sample 'prior to grinding' (**Ag Health Labs will grind and split samples upon request!**).

(Left: Dr. Dan Putnam shows the location of where to sample a square bale.)

By:  
Crystal Maiden and  
Lynn VanWieringen

Check out our website at:  
[www.aghealthlabs.com](http://www.aghealthlabs.com)

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### Johne's Prevalence Higher than Thought

Dr. Ynte Schukken, Cornell University, reported findings from a Johne's disease study at the Johne's Disease Integrated Program. The three state study found higher levels of Johne's pathogens (MAP) in tissues from cull cows than fecal sampling had shown. Based on their research they felt that the true prevalence is likely close to 30 percent of dairy cattle.

The good news was many of the low level shedders showed no significant losses in production or reproductive performance. The more critical issue in controlling Johne's transmission was finding the "super shedders," which contribute to both calf and adult cow infection, and isolating or culling them.

Dr. Fred J. Muller, DVM

### Connecting Across Continents: From one lab to another

Ag Health Labs recently welcomed visitors from Saudi Arabia. Dr. Alluwiami visited Sunnyside to learn how large U.S. dairy herds were controlling Johne's Disease through routine testing and best management practices. Dr. Ahmed Alluwiami is a Professor of Immunology and the Director of Saudi Veterinary Medical Society.



*(Pictured on Right: Dr. Fred Muller discusses blood testing procedures for Johnes Disease)*

