Good sampling protocol is the foundation for making better decisions

Sampling a farm's feed, forage, soil and manure is a critical component of making better decisions. The sample results can influence everything from how much you feed the cows to how much fertilizer you apply to fields, to which fields will get what crop next year. These decisions ultimately impact the bottom line of your farm business. So, by starting with good information now, you will have a head start on making much better decisions later.

Following are some tips for good sample collection, which will result in the most accurate analysis.

1. **Take a sample that is representative of what you will feed or fertilize.**
   a. Avoid spoiled feed that will not be fed or low or high spots in a field that are not representative of the rest of the field.

   b. Take 15 - 20 core sub-samples per lot of feed or per management area in a field.
      i. Combine sub-samples to create a composite sample that provides a realistic snapshot of that feed or that soil.

2. **Use the right tools for the job.**
   a. Use a Dairy One Master Forage Probe or Penn State Forage Probe for baled hay, or for sampling bunk silos.

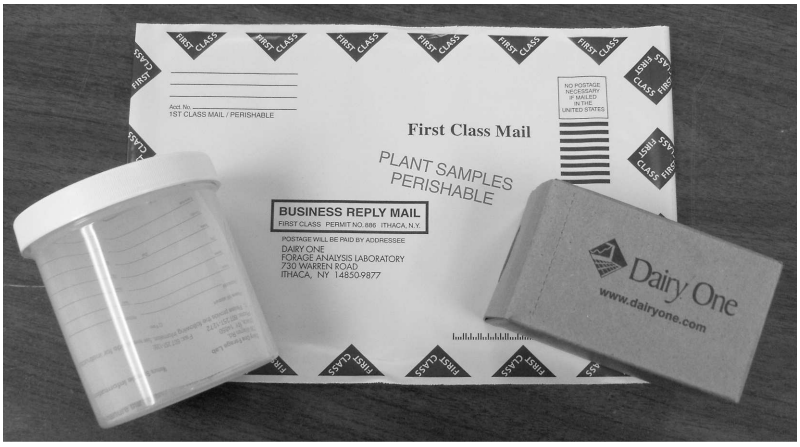
   b. Use a stainless steel soil probe to take soil samples.

   c. Use a clean plastic or stainless steel pail to mix sub-samples without contaminating them.

3. **Use sample containers provided by the lab if possible.**
   a. Zip lock bags are good for forage or feed samples but not for manure samples. About a pound, or 300 - 400 grams of sample is plenty.

   b. A screw top wide mouth plastic 2 pint jar is good for manure samples. Avoid using glass.

   c. For soil samples, use the Agro One cardboard sample box filled about 2/3 up. Larger samples take much longer to dry and process.



4. **Store samples properly depending on sample type and expected delivery time.**
   a. Refrigerate or freeze perishable forage, feed and manure samples if possible.

      i. Refrigeration is ok if you can deliver the sample within 24-48 hours.

      ii. Freezing is best if the forage or manure cannot be delivered to the lab in that period of time.

      iii. Don't fill manure containers to the top. Leave about ½ inch headspace to allow for expansion of the sample as it freezes.

      iv. Put potentially leaky sample containers inside a clean zip lock bag to contain some of the mess. No one likes dealing with smelly, messy silage or manure samples that have leaked in transit.

   b. PSNT samples should be kept cool and should be delivered and/or shipped the same day taken if possible.

5. **Do the paperwork!** Perhaps the most important part of the whole process is filling out the sample information sheet completely and correctly! Turn around time may suffer if your sample sheet is missing, incomplete or too messy to read.

a. Label each sample. Good identification is key to being able to rely on the results.

b. Fill out the sample information sheet providing all the relevant information, consultant information, farm name, field name or forage type, date, analysis requested, account to be billed, and how you want results (email, US Mail, Fax). If you would like results emailed, be sure your email address is on the information sheet. Soil samples need soil name (NY), field history, crop rotation, and yield goals etc.

c. Enclose the sample sheet(s) in a protective zip lock plastic bag if the sample may leak.

d. Some of our larger customers have switched to a bar coding system to label samples with all of the required information. This streamlines the process at your end as well as ours and we don't have to interpret someone's handwriting.

Contact Janet Fallon at janet.fallon@dairyone.com if you would like to find out if your business is a good candidate for bar coding or not.

6. **Ship samples correctly.**
   a. Use our pre-addressed forage sample mailers.

   b. Where available, use a Dairy One pick up point to save on shipping time and expense. Pick up points are identified on our website, www.dairyone.com.

   c. Ship perishable samples early in the week or ship via overnight delivery so they don't sit in a truck or warehouse over a long, warm weekend.

7. **And last but not least, be safe. Use common sense and a good buddy system when taking samples in bunk or tower silos, hay mows or manure storages.**

A wealth of health information

By Angela M. Daniels

When times are tight, it is more important than ever to have reliable information to make sound decisions. Test day provides you with more health and production information than any other single dairy activity.

If you are one of those that dropped this service, here's what you are missing.

- **Production.** Milk production is the most obvious data. Productive cows are healthy cows. Look at milk production by pen, peak milk, milk deviations from test to test, performance of cows by lactation group, low cows, high cows and persistency, to name a few.

- **Components.** Many times, component information is the first area of a test to be cut. However, there is a lot of insight about health gained from analyzing components. For example, fat and protein rations tell us about acidosis, energy and the transition period of the herd. Many farms think they can solely rely on bulk tank or string sample components. While these are great tools for monitoring the herd, relying on averages can be quite misleading.

- **Somatic cells.** Somatic cell information is a great indicator of udder health. This information tells us about the effectiveness of the dry cow program, pen hygiene management, parlor routines, infection status of the herd, and effectiveness of lactation therapy, chronic mastitis cows and sub-clinical mastitis status.

- **Milk urea nitrogen.** MUN levels in individual cows are a useful gauge for evaluating carbohydrate and protein levels in the diet. Examine the average level of MUN by pen, as well as to look at the minimum and maximum levels in a pen and to follow the median by pen from test to test. I caution my clients not to focus on individual cow MUN values, but look for trends within a group.

- **Reproduction.** While many on-farm software systems do a great job in tracking and evaluating reproduction, DHIA reports can provide an easy way to benchmark and find hidden profits. Evaluate conception rates, pregnancy rates, average days to first service, average days open and age at first calving. To help benchmark, your farm can be compared to other dairies in your region and across the nation.

- **Other health add-ons.** There has been a lot of activity in the area of developing tests that utilize test-day milk. This is an efficient means of testing an entire herd or portions of the herd with no added farm labor. Currently, bovine viral diarrhea, Johne's disease, leucosis and mastitis pathogen tests are available on test-day milk.
- **Inventory.** Not only is it handy to have a third-party inventory, but this information is obviously important for day-to-day management. As it relates to health, stocking densities are important information when trouble-shooting health problems.
- **Quality control for on-farm meters.** For farms that utilize on-farm metering systems for daily milk production, DHIA testing will allow for quality control of those meters. Just ask your tester to provide a comparison of the weights for a few turns. This will quickly identify if any maintenance is needed on any of those meters. Because daily milk-weight variation is an important and early indicator of health, it pays to have accurate information.

Test-day information provides a wealth of health information for you and your consulting team. Both your veterinarian and nutritionist utilize this information to look for trends, evaluate the effectiveness of programs and gain an understanding of what is really going on with cows. Maybe today is the right time to give your DHIA tester a call.

Angela M. Daniels is a veterinarian with Circle H Headquarters LLC, a dairy and swine veterinary practice, food safety laboratory and DHIA milk-testing and contract research organization in Dalhart, Texas. Reprinted with permission. This article first appeared in Dairy Herd Management in May 2010.