

Sampling Do's and Don'ts!

by Janet Fallon, CCA - Forage & Soils Lab Sales Technical Support

Every other year or so we do an article on sampling do's and don'ts. So here is yet another article on taking a good sample. It is a very important subject since taking a representative sample is the name of the game, especially when feed and fertilizer costs are so high. A good analysis will help you avoid costly over or under feeding of your livestock or your crops. I think we all know this but it doesn't hurt to remind folks how important it is.

In any event, we are rapidly approaching the time of year when many folks will be taking soil, forage and manure samples to help make management decisions relative to fertilizing the soil, feeding their animals or utilizing manure.

Here are a few tips that will help improve your sampling technique and sample turn around time.

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.



Left to right: Manure sample container, forage plant sample bag with sample information sheet inside, and Soil Sample box.

2. Use the right tools for the job.

- a. Use a Penn State Forage Probe for baled hay or a Dairy One Master Forage Probe 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. 300 - 400 grams (about a pound) of sample is plenty.
- b. A screw top wide mouth plastic 2 pint jar is good for manure samples. Glass is not a good idea.
- c. For soil samples, we recommend that you use our 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 1/2 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! You know what they say. The job isn't over until the paperwork is done. Perhaps the most important part of the whole process is filling out the sample information sheet! Turn around time may suffer if your sample sheet is missing, incomplete or it is too messy to read.

- a. Label each sample.

continued...Sampling Do's and Don'ts!

- b. Fill out the sample information sheet providing all the relevant information, consultant info, farm name, field name or forage type, date, analysis requested, account to be billed, how you want results (email, US Mail, Fax). 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 guess what someone's messy handwriting says. 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.
 - 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.**

I could go on and on describing how to collect a representative forage, soil or manure sample depending on the type of bale or silo or form of manure. Lucky for you, I won't. There are plenty of university bulletins on the subject including the three I have referenced below.

In any event, sampling forages, manure or soil isn't rocket science. It is really common sense. We need to take the time to collect samples that are representative of the forages we are feeding, the manure we are applying to the land or the soil we will be fertilizing. Precision feeding of livestock or crops is only possible when we know the nutrient content of the crops we feed or the soils we grow them on.

Recommended Principles for Proper Hay Sampling:

Dan Putnam, University of California, Davis

<http://www.foragetesting.org/files/hayprotocol.pdf>

Listing of Hay Probes:

http://www.foragetesting.org/index.php?page=hay_probes

Sampling hay, silage and TMR for analysis Dan Undersander, Randy Shafer, Jim Linn, Pat Hoffman, Paul Peterson

<http://learningstore.uwex.edu/pdf/A2309.pdf>

How to Sample Manure for Nutrient Analysis

<http://www.extension.iastate.edu/Publications/PM1558.pdf>

***Ohio State University Extension Soil Sampling, Handling and Testing AGF-206-95**

<http://ohioline.osu.edu/agf-fact/0206.html>



example of a Dairy One forage probe

