



Feedstock Sampling Protocol

When sampling feedstocks you are attempting to obtain a representative sample of a given material. You will eventually secure a one-quart to one-gallon sample (check with your lab for their preference); however the pile you are sampling from could contain 10, 100 or 1000 (or more) yards of material. As a result, pulling a sample from one location in the pile will not provide you with information that represents all of the differences in the material throughout the pile. In order to overcome this, you need to take multiple sub-samples that, combined, will represent the entire pile in a quart- or gallon-sized sample. You will want to take at least 16 sub-samples according to the protocol listed below, and combine them in order to obtain your representative sample that will be sent to the lab. In general it is best to take more than one sample from a given pile in order to fully represent the variability of the material. If the pile is greater than 100 cubic yards it is recommended that you pull at least two samples. Additionally, you want to prevent cross-contamination of the feedstock you are sampling with other feedstocks or materials that you may have sampled recently. It is therefore important to ensure that all tools and equipment used for sampling are clean.

Tools

1. 5-gallon bucket (clean)
2. Spaded shovel (clean)
3. Trowel (clean)
4. Sample container or zip lock bag (new)
5. Permanent marker

Sample Collection

1. Take at least 16 sub-samples (one shovel-full) from around the pile, including all sides and at various depths. Approximately 75% of sub-samples should be obtained 12" in from the outer edge of the pile. See Figure 1 on the back for pile sampling process.
2. Remove any distinctly unrepresentative matter (trash, branches, etc.)
3. Collect the sub-samples in the 5-gallon bucket and thoroughly mix the materials together.
4. With your trowel remove roughly one quart to one gallon (check with your lab) and place in sample container (zip lock bags will work, however with liquid or semi-solid dairy or hog samples, plastic screw-capped jars are best).
5. Label and date each sample clearly in permanent marker.

Sample Handling and Shipping

1. Store sample on ice while in transit and freeze as soon as possible.
2. Complete necessary lab forms making sure that the sample is identified the same way on the container and the form – ex. “Ayers Farm Heifer Manure – 07/08/06”
3. When sample is completely frozen, send to lab as Priority Mail in order to ensure rapid delivery.
4. If freezing the sample is not possible, ship with ice packs.

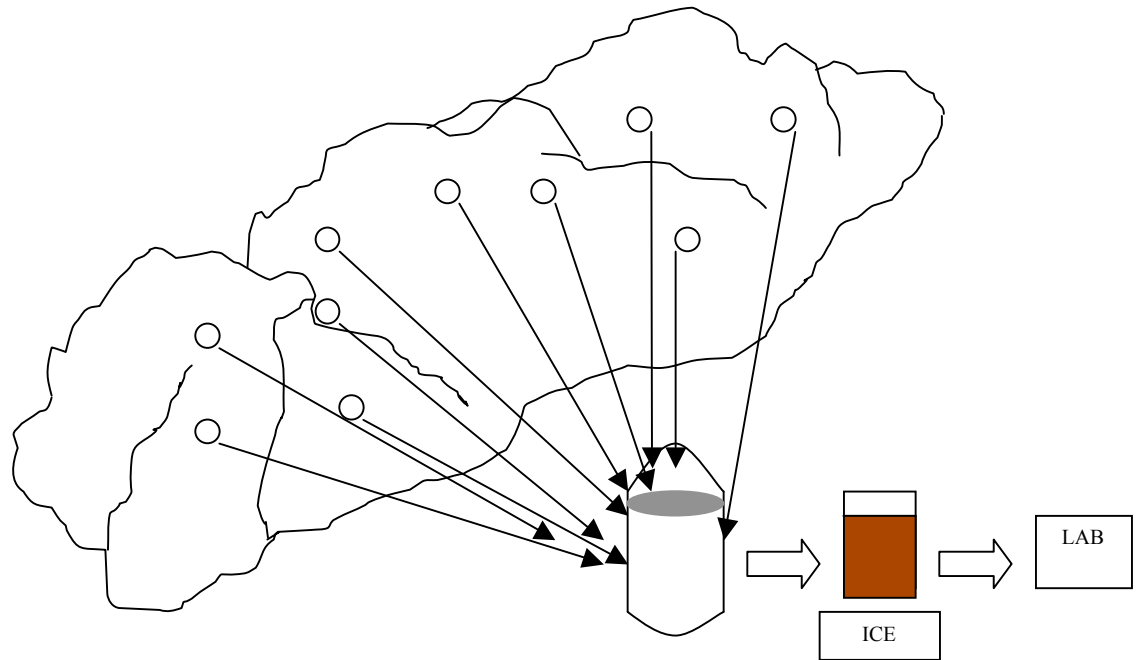


Figure 1. Feedstock Sampling method - The sampling size decreases from an entire pile of manure or other feedstock until eventually you are left with a representative ¼-1 gallon sample. Sub-samples should be gathered randomly from around the pile at various heights and depths. 75% of sub-samples should be taken at a depth of 12” or more. Samples should be frozen if possible or stored and shipped on ice when not.

Submitting your Sample for Analysis

While there is a wide variety of feedstock characteristics you may be interested in testing for, if you are intending to use the lab analysis for compost recipe development, you will, at the least, want to request the following information from your lab:

- Percent solids or percent moisture
- Bulk Density
- Conductivity (salts)
- % Carbon
- % Nitrogen and possibly % nitrate nitrogen
- Carbon: Nitrogen ratio
- % Organic Matter (less critical unless you are handling a material with a high non-organic content, such as dairy manure with sand bedding, or for accounting for changes in organic matter)