

UVM Extension Fact Sheet: Champlain Valley Crop, Soil and Pasture Team

How to Take a Manure Sample

Introduction

Manure is a valuable source of plant nutrients that is essential for good crop growth. Seventy-five percent of the nutrients animals eat is returned in their manure and urine. Applying manure on farm fields is a great way to return nutrients to the soil from which they were removed during crop harvest, and manure improves the soil by adding organic matter. Knowing the nutritive value of your manure is as important as knowing the nutrient content of purchased fertilizer or animal feed. This information is also essential to prevent potential environmental risk by over-applying manure. Manure nutrient content may vary greatly and is influenced by factors such as type and age of the animal, supplemental feeds, bedding material, water runoff, the type of storage being used, the amount of time it is stored, application methods and biological breakdown. Therefore, the best results are from samples taken near or at the time of application. Samples submitted for testing should be representative of manure as it is used/spread. Multiple samples are generally necessary to better represent variability in manure characteristics.



Solid Manure (greater than 16 percent solids)

From the spreader: It is recommended to collect solid manure samples directly from the spreader using a pitchfork, shovel or plastic gloves. Collect 5 to 10 subsamples from different loads and avoid large pieces or chunks of bedding. Mix all subsamples thoroughly and place on quart of manure in the UVM test jar. Samples must be kept cool to prevent any ammonia nitrogen loss. Freeze the sample.

From piles: Identify 10 to 12 widely dispersed points on the stack that represent the average moisture content of the manure. Samples should be taken from a depth of at least 18 inches at various locations of the pile. Avoid taking samples from the surface layer, which is lower in nutrient value. From each point, remove the top crust layer and collect 3 to 5 subsamples using a small shovel or plastic gloves. Place all subsamples in a wheelbarrow or plastic bucket. Mix thoroughly and crumble the collected subsamples. Remove one quart and place it in a UVM test jar. Samples must be kept cool to prevent any ammonia nitrogen loss. Freeze the sample.

For more information, please contact the UVM Extension Champlain Valley Crop, Soil & Pasture Team

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Liquid / Slurry Manure (less than 16 percent solids)

Samples can be taken either at the time of application or from storage tanks.

From storage tanks or pits: Agitate the manure mixture for at least 2 to 4 hours before sampling. Subsamples can be dipped from the agitated storage using a bucket on a rope, thrown into the manure storage. Take a minimum of 10 subsamples of manure from the lagoon, about 3 to 4 feet below the surface, from different sections of the storage facility. Samples can also be taken from the recycle inflow pipe. Combine all subsamples, while keeping the mixture from settling, into the UVM test jar, filling it to within 2 to 3 inches of the top (allowing for room for the sample to expand during freezing.) Freeze the sample.

Samples at time of application: Collect samples out of several tanker or spreader loads and mix well in a plastic bucket. Alternatively, place 3 to 6 small buckets (plastic coffee cans) at several locations in the field(s) to catch manure from the spreader or irrigation equipment. Mix and collect subsamples, while keeping the mixture from settling, into the UVM test jar, filling it to within 2 to 3 inches of the top (allowing for room for the sample to expand during freezing.) Freeze the sample.



Bring all samples to the UVM Extension office in Middlebury. We're at 23 Pond Lane, Suite 300, Middlebury, VT.

What does it mean?

If you would like help interpreting your manure analysis results to determine appropriate application rates or to determine its fertilizer value, please contact a member of the Champlain Valley Crops, Soil and Pasture team.

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