SAMPLING MANURE FOR ANALYSIS

Why Test Manure?

No two farming systems are exactly alike, neither is the manure produced on them. Nutrient content of manure varies from farm to farm due to a number of factors—including animal type, bedding, ration, storage/handling, and other herd management practices.

Nutrient values can be assigned by using University of Wisconsin "book "nutrient values for manure; however, testing manure for your farm will better indicate how animal management and other factors affect nutrient content. Ultimately, the goal is to identify the most accurate estimate of nutrient content of the manure to ensure accurate crediting of the manure when applied to cropland.

Manure sampling techniques can greatly influence the results. Following the recommended sampling procedures outlined in this publication will improve the accuracy of the manure nutrient analysis results from the testing lab.

However, variability can exist among different samplings even when they are taken by the same individual under ideal conditions. Due to these variations over time, manure nutrient concentration values used to determine field nutrient credits should ideally be based on long-term farm averages, assuming herd and manure management practices have not changed significantly. If an established baseline level does not exist for a farm, manure testing needs to be done frequently and consistently to develop a historic record that spans at least 2-3 years. Preferably, manure sampling and analysis should be done just prior to land application, with the time of year noted to monitor potential seasonal variability.

Note about submitting samples: Keep manure sample frozen until shipped or delivered to a laboratory. Ship early in the week (Mon-Wed) and avoid holidays and weekends.

This publication is available from the Nutrient and Pest Management Program, please contact us:
by phone (608) 265-2660,
email: npm@hort.wisc.edu or
visit our website at ipcm.wisc.edu

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Recommended Sampling Procedures

For all samples, identify the sample container with information regarding the farm, animal species and date. This information should also be included on the Manure Analysis Information sheet (see back of page example sheet along with a list of testing labs).

Solid Manure – dairy, beef, swine

While Loading

Take a pitchfork and grab multiple samples (at least 5) while loading several spreader loads and mix them in a bucket to create one composite sample. After thoroughly mixing, fill a one gallon plastic bag half full, squeeze out excess air, close and seal. Store sample in a freezer if not immediately delivered to a lab.

Daily Haul

Place a 5 gallon bucket under the barn cleaner 4-5 times while loading a spreader. Thoroughly mix the 4-5 samples together to create one composite sample. After thoroughly mixing, fill a one gallon plastic bag half full, squeeze out excess air, close and seal. Store sample in a freezer if not immediately delivered to a lab.

Stack or Bedded Pack

Sampling from a stack or bedded pack is not recommended. If sampling is necessary, use one of the other listed methods.

Solid Manure –poultry

Commonly 5-6 batches of birds are grown out before litter is removed. Poultry houses are normally sampled when the last batch of birds is removed from the house, since the nutrient content in poultry litter will change over time. Therefore, sampling earlier is not recommended.

Collect approximately 10 samples from throughout the house, sampling to the depth the litter will be removed. Avoid feeding and watering areas. Thoroughly mix the samples together to create one composite sample. After thoroughly mixing, fill a one gallon plastic bag half full, squeeze out excess air, close and seal. Store sample in a freezer if not immediately delivered to a lab.

Liquid Manure – dairy, beef, swine

From Storage

Agitate storage facility thoroughly before sampling. Collect several samples (at least five) from the storage facility or during loading using a bucket. Combine samples in a 5 gallon pail and thoroughly mix them together to create one composite sample. After mixing, fill a one quart plastic bottle ¾ full and tightly screw on lid. Store sample in a freezer if not immediately delivered to a lab.

During Application-Irrigated manure

Place several buckets around field to catch manure from irrigation equipment. Combine samples in a 5 gallon pail and thoroughly mix them together to create one composite sample. After mixing, fill a one quart plastic bottle ¾ full and tightly screw on lid. Store sample in a freezer if not immediately delivered to a lab.

Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP) Certified Soil Testing Labs that offer manure analysis:

UW Soil & Forage Lab	Marshfield, WI	**(715) 387-2523**
A & L Great Lakes Laboratories, Inc.	Fort Wayne, IN	**(260) 483-4759**
AgSource Cooperative Services	Bonduel, WI	**(715) 758-2178**
Dairyland Laboratories	Arcadia, WI	**(608) 323-2123**
Rock River Laboratory	Watertown, WI	**(920) 261-0446**

Department of Soil Science
College of Agricultural and Life Sciences
University of Wisconsin – Madison/Extension

Soil & Forage Analysis Laboratory
2611 Yellowstone Drive
Marshfield WI 54449-5501
Phone 715-387-2523 Fax 715-387-1723
website: http://uwlab.soils.wisc.edu

Lab Use Only
Date Rec'd

Report #

Manure Analysis Information Sheet

Please check how you would like to receive your results: ☐ U.S. Mail ☐ Fax ☐ Email	**Method of Payment:**
County where sample was taken:	Account ID **OR** Amount Paid $
Name:	☐Cash
Address:	☐Check No.
City: **State:** **Zip:**	☐VISA/MC
Phone: **Fax:**	*We will call for the number.*
Email Address:	

Routine Analysis includes dry matter/ moisture, total nitrogen, phosphorus, potassium, and sulfur. $22.00*

	1st Sample	2nd Sample	3rd Sample	4th Sample
Sample Identification:				
Solid Manure (results reported in lbs/ton)	☐	☐	☐	☐
Liquid Manure (results reported lbs/1000 gal)	☐	☐	☐	☐

Species:
1) Dairy
2) Veal/Dairy Calf
3) Beef
4) Swine-finish(indoor pit)
5) Swine-finish(outdoor pit)
6) Swine-farrow/nursery
7) Chicken-broiler
8) Chicken-layer
9) Turkey
10) Duck
11) Horse 13) Goat
12) Sheep 14) Other

Treatment:
a) None
b) Solid-liquid separation
c) Anaerobic digestion
d) Composting
e) Chemical additive (flocculants or coagulants)
f) Other (list)

Type of Storage:
1) daily haul
2) earthen pit
3) concrete pit
4) pit under barn
5) above ground tank
6) stacked pile-outside
7) stacked pile-inside
8) bedded pack
9) under cages
10) other (list)

Type of Bedding:
1) sawdust/shavings/bark
2) shredded paper
3) hay/straw
4) sand
5) mattresses
6) other (list)

Additional Tests: (Price in addition to routine package. More if separate; call lab for quote.)

		1st Sample	2nd Sample	3rd Sample	4th Sample
Ammonium-Nitrogen (NH4-N)	$8.00	☐	☐	☐	☐
Ash	$5.00	☐	☐	☐	☐
C:N Ratio (est. from ash:TN)	$5.00	☐	☐	☐	☐
Total Minerals without chloride**	$16.00	☐	☐	☐	☐
Total Minerals with chloride**	$24.00	☐	☐	☐	☐
Other (please call for specifics)					

*Prices effective 3/1/12, subject to change. ** Samples forwarded to Madison lab for analysis, extra time required.