MANURE TEST

MINNESOTA VALLEY TESTING LABORATORIES, INC.
1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
1411 S. 12th St. ~ Bismarck, ND 58502 ~ 800-279-6885 ~ Fax 701-258-9724
51 L Avenue ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.mvtl.com

MEMBER ACIL

MANURE ANALYSIS REPORT

WENDELL BOEHLJE
DAKOTA CO-OP
PEARL CITY ELEVATOR
DAKOTA IL 61018

Date Received: May 29 2009
Date Reported: Jun 16 2009

PO #: 39143
Account #: 004201
WO #: 92-3864 Lab #: 09-N4751

SAMPLE INFORMATION
LIQUID/SOLID: LIQUID
Livestock Type: BEEF
Farmer Name: EUGENE MAIER
Project Name:
Sample Description: 1

RESULTS: Reported As Received
Source:

Project No:

ANALYTE	ACTUAL ANALYSIS		TOTAL NUTRIENTS	
Moisture, Total	95.6	%		
Nitrogen, Total	0.33	%	28	lbs/1000 GAL
Phosphorus	0.25	% as P2O5	21	lbs/1000 GAL
Potassium	0.46	% as K2O	39	lbs/1000 GAL
Nitrogen, Ammonia	0.16	% as N		
Sulfur	0.15	%		
Calcium	940	mg/Kg		
Magnesium	420	mg/Kg		
Sodium	1140	mg/Kg		
Copper	3.08	mg/Kg		
Iron	112	mg/Kg		
Manganese	8.81	mg/Kg		
Zinc	13.1	mg/Kg		

COMMENTS:
1. Availability of Nitrogen changes depending on application technique.

2. TOTAL NUTRIENTS FOR N,P,K CONVERSION FACTORS
lbs/1000 gallon = % x 85 lbs/ton = % x 20

Approved by: TC Sjulin DKP

TC Sjulin, Laboratory Manager Nevada, IA

Report Number
[ABNUM 9195862]
6-145233

PEARL CITY ELEVATOR INC

BOX 248
PEARL CITY IL 61062-0248

Lab Number: 9195862
Description: H. MEYERS BEEF MAN.

Sample Id: 2

Report Date: Jul 26, 2006
Received Date: MAY 20, 2006
Sampled Date:
P.O. Number:

Account Number: 9237

Parameters	Analysis as Received	Nutrients lbs/1000gals	Est. First Year Availability lbs/1000gals
Ammonium Nitrogen(N)	0.14 %	20.4	20
Organic Nitrogen(N)	0.33 %	19.0	7
Total Nitrogen(N)	0.47 %	39.4	27
Phosphorus(P_2O_5)	0.39 %	33.3	23.
Potassium(K_2O)	0.40 %	33.6	30
Sulfur(S)	0.07 %	5.5	2
Calcium(Ca)	0.30 %	25.6	18
Magnesium(Mg)	0.11 %	9.6	7
Sodium(Na)	0.18 %	15.5	11
Copper(Cu)	7 ppm	0.06	0.04
Iron(Fe)	202 ppm	1.71	1.19
Manganese(Mn)	22 ppm	0.19	0.13
Zinc(Zn)	30 ppm	0.26	0.18
Moisture	91.8 %		
Total Solids	8.2 %	692.9	
Total Salts		104.7	
pH	7.1		

Members used for Manure analysis

st year availability of nitrogen is calculated based on preplant application with incorporation.
rogen available from previous years application not considered.
al manure salts should not exceed 500 lbs/acre. Less than 500 lbs/acre if annual rainfall is less than 25 inches /or the soil CEC is less than 12 meq/100g. Salt contributions from commercial fertilizer applications must also considered. Soil test yearly to monitor phosphorus levels, organic matter, pH, and micronutrients. Spring soil test residual nitrate - make accurate sidedress recommendations! Nitrogen availabilty will vary with methods of lication and field conditions. The nitrogen availability values used on a manure management plan must comply with te regulation. These regulations vary from state to state.

John Torpy, Midwest Labs. INC.

Soil Sampling and Manure Analysis

Jim Morrison, Extension Educator, Crop Systems

Before manure is applied, consideration needs to be given to soil characteristics including soil type, texture (sand, sandy loam, etc.), depth to water table and bedrock, presence of fractured limestone, and slope. A soil survey book for your county is a good reference. To effectively use nutrients in manure, both the soil and manure need to be sampled and analyzed.

Soil Sampling

Fields that receive application of manure need to be soil tested on a regular basis. Knowing the phosphorus (P) and potassium (K) soil test level is an important aspect of manure application management. Fields with low test levels of P and K should have first priority when planning manure application.

Consideration needs to be given to the pre-sidedress nitrogen soil test (PSNT) if manure has been applied in the current year or if the field has a history of manure application. More information on this subject can be found in the fact sheet entitled "Field Determination of N Availability from Manure."

Here are some soil sampling techniques to keep in mind:

- Sample soil every four years. To improve the consistency from previous tests, sample at the same time of the year, from the same locations within the field, after the same crop, and at the same depth.
- Sample to a depth of 7 inches. A one-inch diameter soil probe is the preferred sampling tool.
- One composite sample (consisting of five cores) from every 2.5 acres is suggested. If considerable variation in test values over short distances in the field is suspected, collect one composite sample for every 1.1 acres.
- Either summer or early fall is the best season for collecting samples.

Contact your Extension Unit Office for a list of soil testing laboratories in your area. Further information on this topic is found in the *Illinois Agronomy Handbook* available at Extension Unit Offices.

Manure Analysis

Just like variations in soil tests results, nutrients in manure will vary from operation to operation. The method of manure collection, storage, and application; species of livestock and their ration; and presence of bedding influence the amount of nutrients in manure.

"Book" or table values of nutrients in manure are available from univer-

Manure Sampling Information

"Book" or table values of nutrients in manure are available from universities, Midwest Plan Service, and other sources. Even though these figures are good ballpark estimates, variations will exist; a yearly laboratory analysis of manure is encouraged. Additional samples should be collected when major changes occur in the feeding or management program. The key to reliable analysis is to collect representative samples of manure.

Liquid Samples

Before samples are taken, liquid manure should be well agitated. Studies indicate that agitated manure has more consistent nutrient levels from first load to last as compared to non-agitated samples.

Be very careful of pit gases when agitating liquid manure. They can kill both animals and humans. Open doors, windows, and curtains, windows and turn on fans to provide adequate ventilation when agitating. A manure pit should not be agitated with animals and people in the building.

Collect composite samples, mix and pour into a quart-sized plastic (avoid glass) container with a screw-on lid, filling it two-thirds full. Incomplete filling allows room for the gases to expand. If the liquid manure is not agitated, collect samples from the first load, middle load, and last load. If not delivered immediately to a laboratory after collecting, freeze the samples.

Solid Samples

With good, representative sampling, consistent results can be obtained with solid manure. Collect samples when the manure is being loaded for spreading or from several locations in the manure stack. Mix and place the composite sample in a gallon-sized plastic bag, twist and tie securely and place it inside a second bag.

As with liquid samples, if not delivered to the laboratory soon after collecting, freeze the sample.

Shipping the Sample

Be sure to mark each sample with your name, address, phone number, sample date, location, and animal species. The sample should be kept cool or frozen en route to the laboratory. If it is not possible to deliver the sample(s) yourself, call the laboratory for shipping instructions. The laboratory will provide directions and possibly shipping containers.

On the following page is a list of laboratories that analyze manure.

Laboratory Reports

Most laboratories will report total nitrogen, ammonium nitrogen, phosphorus (P), and potassium (K) in pounds per ton or pounds per 1000 gallons. Dry matter will also be indicated.

Manure Sampling

An annual manure analysis is required of all different types of manure produced by animals in the operation. This analysis will be used to calculate the nutrient recommendations for crops in your plan. The following procedures shall be followed:

1. Livestock waste sampling shall be performed under the direction of a Certified Livestock Manager to ensure a representative sample from the livestock waste storage facility and to preserve the integrity of the sample.
2. The livestock waste handling facility owner or operator shall annually obtain a laboratory analysis of the nutrient content of the livestock manure to be applied to land as provided within the manure management plan. Livestock manure shall be sampled prior to or during the application process. Multiple sub-samples shall be obtained and may be combined into one sample for analysis so that a representative sample is used for preparation of the manure management plan. Results of a sample taken during manure field application the previous year can be used for plan preparation, unless there has been a change in the manure management practice (for example, how manure is stored, feed, type of waterers, type and/or age of animals, etc.) during the year.
3. The laboratory analysis of the livestock manure sample shall include, but not be limited to, total nitrogen, ammonium nitrogen, total phosphorus, total potassium and percent total solids. (You may need to specifically ask your lab for all the items on the list, as not all labs provide them all routinely).
4. Sampling Techniques: See attached Manure Sampling Information sheets
5. Testing Laboratories: See attached Laboratories That Test Manure Samples for a partial list of testing laboratories
6. Calibrate application equipment using the Manure Spreader Calibration page.

Laboratories That Test Manure Samples

Please note: This is an incomplete list and no endorsement is implied.

Alvey Labs
1511 E. Main Street
PO Box 175
Belleville IL 62221 (618) 233-0445
N, P, and K

A & L Memphis
411 N. 3rd Street
Memphis TN 38105 (901) 527-2780

A & L Midwest
13611 B. Street
Omaha NE 68144 (402) 334-7770

A & L Great Lakes Laboratories Inc.
3505 Conestoga Drive
Fort Wayne IN 46808 (219) 483-4759
N, P and K; total solids; other tests, including minerals available

Dairyland Laboratories, Inc.
217 East Main
Arcadia, WI 54612 (608) 323-2123
N,P,K, and S

Edglo Laboratories
2121 E. Washington Blvd.
Ft. Wayne IN 46803 (219) 424-1622

Iowa Testing Laboratories
PO Box 188, Hwy 17 North
Eagle Grove IA 50533
(515) 448-8741 (800) 274-7645
FAX: (515) 448-3402
N, P and K; trace elements available

Midwest Feed Test
1454 E. Surrey Road
Farwell, MI 48622 (517) 386-2726

GMS Laboratories, Inc.
23877 E. 00 North Rd., P.O. Box 61
Cropsey, IL 61731 (309) 377-2851

Sieco
629 Washington Street
PO Box 407
Columbus IN 47202 (812) 372-9911

University of Missouri
Equipment Station
Chemical Laboratory
Room 4 Agriculture Bldg.
Columbia MO 65211 (314) 882-2608

University of Wisconsin
Soil & Forages Analysis Laboratory
8396 Yellowstone Drive
Marshfield WI 54449 (715) 387-2523
FAX: (715) 387-0479
TKN, NH, N, P, S total solids; sample bottles and instruction sheet on request

EMT
8100 N. Austin Ave.
Morton Grove, IL 60053 (847) 967-6666
N, P, K, S & TKN

Test America
850 W. Bartlett Rd.
Bartlett, IL 60103 (630) 289-3100
N, P, K, S, & TKN

American Environmental Analytical Corp.
8609 W. Byrn Mawr Ave. Suite 201
Chicago, IL 60631 (773) 693-8030

LGI
1532 De Witt Box 247
Ellsworth, IA 50075 515-836-4444

Minnesota Valley Testing Lab
35 West Linconway
Nevada, IA 50201 515-382-5486

Corn Belt Testing
105 Dixon Avenue P.O. Box 111
Rock Falls, IL 61071 815-625-4895

Manure Sample Analysis Results—Summary of All Manure Storages

Form 5-A

Year: 2009

Attach lab results to this form

Storage name (same name as Form 4-A)	Lab Sample date / Farm sampling date ☐☐	Sampling method	Total N	Ammonium-N	P_2O_5 Total P ☐☐	K_2O Total K ☐☐	% Total Solids	Other nutrients (list) (Optional)	Notes	Sampling supervised by:	Lab name and ID#
	M/D/Y	Insert code	☐ lb/1000 gal. ☐ lb/ton ☐ ppm ☐ percent	☐ lb/1000 gal. ☐ lb/ton ☐ ppm ☐ percent	☐ lb/1000 gal. ☐ lb/ton ☐ ppm ☐ percent	☐ lb/1000 gal. ☐ lb/ton ☐ ppm ☐ percent		☐ lb/1000 gal. ☐ lb/ton ☐ ppm ☐ percent	Comment here on possible reasons for any unusual sample numbers. Feeding changes, water dilution, etc.	Check (✓) if this person is a Certified Livestock Mgr	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	
										☐	

SAMPLING METHODS (INSERT APPROPRIATE CODE LETTERS)

S: Representative sample of solid or semi-solid manure from dry stack, bedded pack, etc.

MX: Mixed sample after agitation

TC: Top to bottom composite from tank, pit, etc.
Stratified sample of tank, pit, etc.
TT top, TM middle, TB bottom

LS: Lagoon supernatant (liquid)

LG: Lagoon sludge

LC: Lagoon supernatant and sludge combined sample

O: Other (explain) _____