

Welcome to the Manure Spreader! This is an informational newsletter put together by the IFAS Livestock Waste Testing Laboratory (LWTL) at the University of Florida. The purpose is to provide information about what the LWTL has to offer, with regard to services and guidance on sustainable waste management for optimum economic, aesthetic and environmental returns from agricultural to landscape uses.

About Us: The LWTL offers analytical tests, interpretations and nutrient recommendations for animal manure and other waste by-products. The laboratory services and the educational programs are available to all citizens of Florida and are made possible by a consortium of donors that include the USDA-Natural Resource Conservation Service (USDA-NRCS), Florida Department of Agriculture and Consumer Services (FDACS), the Suwannee River Water Management District (SRWMD), Sunbelt Milk Producers Association, and Florida Rural Water Association. Beginning January 2008, the LWTL operations started at Wallace Building, on UF campus in Gainesville, as a part of IFAS ANALYTICAL SERVICES LABORATORIES (ANSERV) Labs. These services are offered as a part of Nutrient Management program led by Dr. Rao Mylavarapu, in Soil & Water Science Department.

What is in a manure test? Laboratory analysis will include a test for nitrogen (N), ammonium (NH₄-N), phosphorus (P) and potassium (K) as well as percent moisture, percent solids, percent ash, and pH. Based on test results, nutrient recommendations for N, P, and K are provided for selected crops and up to three different crops per sample can be selected from a given list.



How to get Started! Samples can be delivered to the LWTL via packaged mail or dropped off in person on any working day. All samples should be appropriately labeled along with completely filled out forms and any applicable fee. Appropriate forms can be downloaded and printed from our website-

<http://soilslab.ifas.ufl.edu>

All the requested information on the forms must be provided including the crop codes, county of sample origin, current method of application and previous application history, if any. For poultry litter samples, at least one half-quart ziploc bag volume of sample should be provided. For all liquid, effluent and slurry samples, only leak-proof bags or bottles should be used to avoid spills. Samples must be appropriately labeled with grower's name and sample ID. Samples should be delivered to the address provided on this page.

This newsletter is edited by-
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Livestock Waste Analysis Grower Report

SRWMD: SRWMD CR 48
Live Oak, FL 32060
PHONE: 352-392-0091

LAB#: 6480
Sample Label: 58 Compost
Date Collected: October 14, 2008
Date Delivered: December 22, 2008
Date of Report: Madison
County of Sample Collected By: JCL

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88 Compost
October 14, 2008
December 22, 2008
Madison
JCL

Sample Type: Composted poultry broiler litter
Crop or Use: Corn, non-irrigated
Application Equipment: Applied by manure spreader
Incorporation: No (Sample will be incorporated within 24 hours)
Previous Applications: Manure was applied to field last year. Cleanout was less than 1 month ago.

***Nutrient Content in Manure as Delivered to Laboratory			
Nutrient Component	Raw Sample	Adjusted For Application Losses of N	Units
Nitrogen (N)	26	24	lbs/ton
Phosphorus (P2O5)	36	36	lbs/ton
Potassium (K2O)	26	26	lbs/ton

pH as Sampled: 8.4
Moisture Content: 91%
Total Solids: 91%
Total Ash: 6%

***Total Nutrient Requirement for:			
	lbs N/acre	lbs P ₂ O ₅ /acre	lbs K ₂ O/acre
Corn, non-irrigated	150	125	120

Nitrogen Recommendation Base

***Manure application rate (A) (lb) to supply crop N requirement: 6.1 tons/acre

By supplying the crop N requirement at the rate shown above, the following total nutrients will be applied:

150 lbs N/acre
212 lbs P₂O₅/acre
161 lbs K₂O/acre

Supplemental nutrients needed:

0 lbs N/acre
0 lbs P₂O₅/acre
0 lbs K₂O/acre

***Economic value of manure at the rate shown above:

N: \$138 per acre
P₂O₅: \$155 per acre
K₂O: \$79 per acre

***Cost of additional nutrients needed:

\$0 N per acre
\$0 P₂O₅ per acre
\$0 K₂O per acre

Phosphorus Recommendation Base

***Manure application rate (A) (lb) to supply crop P requirement: 3.6 tons/acre

By supplying the crop P requirement at the rate shown above, the following total nutrients will be applied:

85 lbs N/acre
125 lbs P₂O₅/acre
95 lbs K₂O/acre

Supplemental nutrients needed:

65 lbs N/acre
0 lbs P₂O₅/acre
25 lbs K₂O/acre

***Economic value of manure at the rate shown above:

N: \$75 per acre
P₂O₅: \$155 per acre
K₂O: \$63 per acre

***Cost of additional nutrients needed:

\$50 N per acre
\$0 P₂O₅ per acre
\$17 K₂O per acre

*** Assumptions are shown in footnotes on Page 2. Prices Updated on: 10/29/2008
Revised October 2008.

What's New at the LWTL

- The LWTL has started operating from the Gainesville location starting January, 2008.
- New space for the lab was identified and a safety "bio-hood" has been purchased at a cost of over \$6,000 and installed for preventing any bio-hazard as per the UF Environmental Health and Safety requirements.
- A student technician has been hired to work on sample preparation and digestion for further analyses.
- Kelley Hines, Chemist, Nutrient Management Program in Soil & Water Science Department has been assigned to coordinate the LWTL activities and oversee client communications.
- Several agencies including FDACS, SRWMD, Florida Rural Water Association and other members of the Suwannee partnership toured the facilities and learned about the Nutrient and Waste Management Program. Several suggestions were also made during the tour for improvements of the LWTL programs and services.
- Feedback from the agencies was solicited and based on their input the LWTL software and database were upgraded and the reports were redesigned.
- All procedures and methods have been verified and modified for standardization and quality control for accuracy and consistency.
- Samples from producers participating in Best Management Practices (BMP) programs are analyzed free of cost.
- Consultant and researcher samples are charged \$20 a sample.

Information on LWTL Reports

The LWTL provides a report that reflects the type of sample submitted- solids, effluent or slurry- and give the test values in pounds per acre, pounds per acre-inch or pounds per 1000 gallons. Values for P and K are reported as P_2O_5 and K_2O , respectively. Reports give values of N adjusted based on estimated losses during the application process. Reports also provide the fertilizer equivalent value of the manure "as-is" basis. The chart listed on the front page of each report lists the fertilizer equivalent for "raw" nitrogen value, nitrogen value adjusted for losses during application, P_2O_5 and K_2O . A selection of crops is listed on the manure sample forms, which can be downloaded and printed from the website. Based on the nutrient concentrations in the samples and the nutrient requirements of the crop, recommendations for land application are either N- or P-based. A routine soil test should then be performed to assess the soil nutrient levels and recommendations for supplemental fertilizer applications. The costs to apply additional nutrients needed is listed on the front page of each report. Page two of the report gives the actual values for each analyte in mg/kg, percent and one of the afore mentioned units. Nitrogen losses are listed during application, and while awaiting incorporation. These losses are given in the units of percent and pounds.



Details of the samples analyzed
Oct 2007-Sept 2008

Dairy effluents- 63
Dairy solids- 74
Poultry litter- 88
Dairy slurries- 4
Others- 3
Total- 232

