

Manure Testing

Fundamentals of Nutrient Management

Training Course

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Tom Basden
WVU Extension Service

Components of Manure Testing

- I. Sample Collection
- II. Chemical Analysis
 - III. Interpretation

I. Sample Collection of Manure and Bio-Solids, (sludge)

- Liquids (< 5% solids) and Slurries (5-10% solids)
 - agitate tanks/pit thoroughly before sampling
 - collect sample a few feet below surface, at several locations

I. Sample Collection of Manure and Bio-Solids, (sludge)

- Semi-solid(10-25% solids) and Bedded-pack (> 25% solids)
 - make hole in surface crust
 - sample tube should reach well into the interior of storage system, sample several locations

I. Sample Collection of Manure and Bio-Solids, (sludge)

- Poultry Litter, Deep Stack(65% solids)
 - dig into pile 2-3 feet
 - collect small sample including manure feathers and bedding, sample several locations in the pile

I. Shipping and Packaging Samples

- Obtain mailing tubes, leak-proof plastic bottles and submission forms from WVDA Lab in Moorefield
- Fill bottles half full, leave air space

I. Shipping and Packaging Samples

- Samples are biologically active so keep them cool.
- Freeze if storing samples
- Mail out on Mondays and Tuesdays, avoid weekend layover

I. Manure Submission Form

- Fill out form accurately
- improves our database
- allows lab to ID and retest odd results

II. Manure Analysis

Test Parameters

- (N) Nitrogen (TKN)
- (P) Phosphate (P_2O_5)
- (K) Potash (K_2O)
- Ammonia, subtract from TKN to get Organic Nitrogen fraction

II. Manure Analysis

Test Parameters

- C:N Ratio
- Moisture

II. Manure Analysis Test Parameters

- Copper
- Calcium
- Magnesium
- NPK Availability during 1st year

II. Bio-Solids Analysis

Test Parameters

- TKN, Organic and Ammonia N
- P Phosphorus and K Potassium
- % Solids
- pH and Fecal Coliform count

III. Interpretation of Results

- Moorefield Lab results ready to plug into NMP
- Bio-Solids results in mg/kg on dry weight basis, need to convert to lb./ton or lb/1000gal.

III. Interpretation of Results

- A single sample can be used but running averages are better
- Take sample at each clean-out X4
- Every other year or if things change, such as bedding, feed or storage system