Fall 2009 Manure Application

For many swine producers fall (post corn and soybean harvest) is the time for land application of manure. This year may prove more challenging than most years due to the wet weather and excessive soil moisture. In fact due to a delayed grain harvest, there may be little opportunity to land apply manure before freezing weather and frozen soil conditions set in. Even in those cases where farmers have been able to harvest corn/soybeans wet soils increase the chances of nutrient leaching and run off during/after manure application.

Therefore, the following top 7 list should be reviewed as producers prepare/wait for fall manure application.

1. Review nutrient management plan.
   In order to prevent leaching and/or runoff resulting from manure application, lower manure application rates may be warranted. Nutrient leaching may increase when injecting liquid manures and solids runoff may increase when spreading solid manures during episodes of high rainfall. Consequently more acres of land and additional fields may be required for this falls manure application. Using fields with flatter slopes and lower Phosphorous Index scores may be a good idea. Plan ahead, manure may have to wait for application under emergency guidelines this coming winter when the ground is frozen. Review of your current nutrient management plan and noted application methods, application rates and fields of choice may require revising for this year. Making updates now while it is raining may save time, energy and cost later.

2. Develop an application emergency plan.
   The incidence of manure spills increases when the weather is harsh. Handling manure is bad enough on a sunny, 80 degree day. Near freezing temperatures, wet weather and muddy conditions increase the chances for something to go wrong. Train employees in manure spill response. This information should be part of your manure management plan. Remind your team of your plan. Emphasize who to contact, safety issues and what to do when emergencies occur.

3. Take manure samples.
   If nutrient overload, runoff and/or leachate is a potential problem, as it is this year, it is especially important to know the nutrient (N, P, K but especially N and P) concentration of the manure. High nutrient loads mean more land area for application is required. In a wet year like this year, balancing nutrient application with potential for runoff is more important than normal to prevent environmental contamination. Sampling ahead of land application helps plan which fields can be used.

Sampling during land application or manure agitation may provide better results to use in future planning, but will not provide nutrient analysis results to use in planning application rates for this fall. It is important to build a history of nutrient analyses overtime for manure sampling to help manage the nutrients in manure for crop production over the years.

Correct sampling technique is most important. A sample that is not representative of the manure volume is of little value. Slurry sampling is best accomplished using a probe of sufficient length to reach to the bottom of the storage tank. Sampling should only take place immediately following agitation and multiple samples from several locations should be collected and pooled, especially if only one sample will be sent to a laboratory for analysis. For solid manure, several grab samples from several locations in a manure pile both inside and outside of the stack should be collected and pooled.

4. Take soil samples.
   Soil samples should be taken prior to manure application. If a field has not been sampled recently, then one sample for every 2.5 acres is best. Generally one sample collected for every 10 acres is adequate especially, on fields that are routinely sampled.

5. Calibrate application equipment.
   When applying inorganic fertilizer for crop production, has the application equipment been calibrated? You bet it has! Calibrating manure application equipment takes a little time, but in the long run it will help meet the correct application rate and make better use of manure nutrients.

   To determine how much solid manure a manure spreader applies layout a 56 square inch sheet of plastic. Spread manure at the desire rate of travel and spreader settings. The net weight in pounds collected on the plastic sheet is equivalent to tons per acre application rate. Remember nutrients (N, P, K) are calculated based on the dry matter weight of the manure – not the wet weight basis, unless the laboratory has been given directions otherwise.

6. Timing of application.
   Application on dry soil is the best option. This fall we do not have that choice. Try to apply at least 24 hours before a substantial rainfall. This will help prevent runoff. Injection of slurry is a necessity but it requires dryer soil conditions. Surface application of solid manure should be followed by some kind of primary tillage but even pulling a disk over freshly applied manure is more desirable than no tillage. Applying manure to snow covered or frozen ground may not be allowed except under emergency conditions, and this looks like it could be one of those years.

7. <u>And lastly, consider the neighbors.</u>
   Yes, manure does have odor. In blunt terms, it just smells bad. That is not perception. It is reality. Therefore, inform your neighbors. Let them know about manure application plans. If possible, tell them how long it might take, how you plan to apply the manure, and how long they might expect to smell the manure. Inquire about any outdoor events in the neighborhood such as weddings, cookouts, etc. and try to avoid those times for application. This will be extremely difficult this fall because we seem to have such small "windows of opportunity" to land apply manure. Most neighbors will understand. Some won't, but at least make an effort. It may yield future dividends.

   Handling manure is always stressful. This year it will be especially stressful.