

Animal Sciences



Management Tips for Spring Manure Applications

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The weather is finally beginning to get warmer, signaling that spring is just around the corner. Although spring is an exciting time of growth and new beginnings, it is also very busy for many livestock producers. This is the time when they plan to apply manure that has been collected and stored over winter.

As plans for planting and getting into fields accelerate, preparing ahead for manure application will help to streamline the process, insure proper nutrient application rates to support anticipated crop yields, prevent nutrient losses, and comply with manure application regulations.

Producers should consider the following management tips as they prepare for spring manure applications:

- Collect representative manure samples and submit the samples to a certified lab to have them analyzed for major crop nutrients, including nitrogen (N), phosphorus (P₂O₅), and potassium (K₂O).
- Determine the appropriate application rates for each field based upon the manure nutrient concentration, soil tests, and the crop being grown on those fields. Nutrient application rates are usually based on nitrogen or phosphorus.
- Reduce the spring manure application rate to account for nutrients from fall manure applications or previous fertilizer applications.
- Reduce the spring manure application rate based on nutrient carryover (specifically nitrogen) from legumes grown on the field the previous year.

- Inspect manure handling and application equipment to make sure it will function correctly. Replace or repair anything that needs to be fixed to prevent leaks and spills.
- Calibrate manure application equipment so that you will know how much manure is applied on the available land.
- Determine the location of buffers and sensitive areas in fields to which manure will be applied, and consider the location of drainage areas and tile lines. Remember specific setbacks that need to be adhered to in your nutrient management plan.
- Visit with neighbors to inform them of expected upcoming application dates and determine if there are days when manure application might be avoided.
- Monitor weather forecasts before manure application and avoid applying immediately prior to predicted rainfall events.
- Be sure your manure application record-keeping calendar or system is prepared and up-to-date.

During manure application, they should keep in mind the following:

- Apply manure to fields according to calculated rates. Do not over-apply manure.
- Do not apply manure to setbacks or buffers.
- Do not apply manure to saturated or very wet fields. Manure applied to wet fields is more likely to leave the field in runoff or tile flow. Also, heavy application equipment can cause significant compaction, which can result in reduced yields.

- Be mindful of wind speed and direction and how these may impact neighbors during application. Adjust application schedules accordingly.
- Check and monitor application equipment (including hoses, pipes, pumps, connectors, etc.) at least once daily during application to detect any leaks or malfunctioning equipment.
- Record the date, acreage and field location, amount, and source of any manure applied. Record actual nitrogen and phosphorus application rates for each field.

Manure application periods are very important for livestock producers. Proper management and application of manure is essential to maximize the fertilizer value of the manure, meet regulatory requirements, protect the environment, and foster good neighborhood relations.

Additional information and materials on manure management practices may be found in the following links and publications:

- Purdue Animal Manure Solutions Web site: www.agriculture.purdue.edu/PAMS/
- Animal Manure as a Plant Nutrient Resource: www.ces.purdue.edu/extmedia/ID/ID-101.html
- Calculating Manure and Manure Nutrient Application Rates: www.ces.purdue.edu/extmedia/AY/AY-277.html
- Land Application Records and Sampling: www.ces.purdue.edu/extmedia/ID/ID-300.pdf
- Land Application of Manure and Environmentally Sensitive Field Characteristics: www.ces.purdue.edu/extmedia/ID/ID-308.pdf
- Manure Applicator Calibration: www.ces.purdue.edu/extmedia/ID/ID-309.pdf
- Manure Management Planner Software: www.agry.purdue.edu/mmp/
- Nutrient Management Record Keeping Calendar: Contact Tamilee Nennich at tnennich@purdue.edu or 765-494-4823 for ordering information.