

Challenges and opportunities exist in applying manure in the summer

By NATALIE RECTOR



MANURE applications follow on the heels of wheat and corn silage harvest. The dry soil conditions of late summer can be some of the best for hauling manure from the standpoint of reducing soil compaction. However, this time of year has some drawbacks along with some opportunities to keep in mind.

Minimize nitrogen losses

Manure applied on hot, dry soils increases the volatilization of ammonia nitrogen up into the air. With the current price of nitrogen fertilizer, this is a valuable nutrient to be losing. Any form of injection, incorporation or soil aeration will improve the nitrogen retention of manure. Rainfalls after application will also help incorporate the nutrients.

Relying on rainfall has some disadvantages as well. A slow and moderate rain is beneficial. A hard, pounding rain can lead to runoff. If manure will be surface-applied, evaluate fields ahead

Key Points

- Manure applied on hot, dry soils raises the volatilization of ammonia nitrogen.
- Monitor tile outlets before, during and after the manure applications.
- Late-summer applications provide an excellent time to collect manure samples.

of time to select and prioritize those that present the least risk of runoff. Fields with no surface water, streams or ditches are the first priority. When there is surface water within proximity of the field, what is the risk of the manure reaching the surface water? The slope, surface roughness and crop residue can impact the probability of the manure reaching waters. Silage fields that have no residue and slope toward surface waters should be avoided when manure cannot be incorporated. Wheat stubble offers more protection to runoff.

Monitor tile outlets

Another concern for the hot, dry summertime is tile-drained lands. Generally, tile is on heavy clay soils. Under ex-

cessively dry conditions, these types of soils crack. This cracking can lead directly to the tile lines. Manure, especially if low in solids content, can act like water. If that occurs, the manure nutrients can travel directly through the soil cracks to the tile lines and eventually end up in surface ditches or streams. Any opportunities to separate barn-lot runoff, parlor wash water and other water sources from the herd's manure will decrease the dilution of manures and improve their chances of not reaching tile lines.

Opportunities to mitigate this concern include waiting for a rain to wet the soil and decrease the cracking. Surface tillage will disrupt the cracks (along with worm holes and root channels) and reduce the risk of manure reaching the tile lines. Reducing rates of manure and making multiple trips at lower rates will decrease the risks as well.

Any time manure is applied to tile-drained fields, producers should monitor the tile outlets before, during and after the manure applications to ensure that manure is not reaching the tiles.

Should a discharge occur, have a

plan for dealing with manure that may reach tile lines, such as blocking outlets or blocking the flow once it reaches the ditch.

Collect manure and soil samples

Late-summer manure applications provide an excellent time to collect manure samples that are representative of what is being applied to the land. These manure samples will add to a producer's base of knowledge on the consistency and quantity of manure nutrients. These are valuable tests for calibrating nutrients of the manure to the cropland. Teaming these up with current soil tests will lead to a sound nutrient management plan that is not only environmentally sound but will be economically sound as well.

Manure that is targeted at fields needing phosphorus and potassium, and are going to crops that will utilize the nitrogen will reduce fertilizer purchases. For more information, visit www.rootzone.msu.edu.

Rector is a Michigan State University Extension nutrient/manure management agent.

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