MANAGING MANURE

Taking care of (manure) business

There are many facets to a sound manure management program. Probably one of the most important tools is to have enough storage to handle a range of weather and soil condition challenges that may be experienced during the year and especially the fall-winter-spring season.

The right amount of storage is different for each farm or region, but if every year a farmer is up against the wall and has to make risky manure applications to avoid overflowing storage, that is a sure sign of needing more storage, or improved management of the existing storage.

To aid in better manure management, oversight of manure handling activities should be clearly assigned and the lead person must truly take responsibility and have adequate time to oversee the process to make sure things are done right. All staff that work with manure transport and application, including custom operators, need to be trained on equipment operation, safety, and emergency action. They must also know what rate to apply and how to achieve it, as well as location of setbacks and other no-spread zones, and how to identify and communicate potential problems. The crew should strive to do the best job possible every time they go out to spread manure and also make sure that custom applicators are doing things correctly.

This level of preparation can go a long way to reduce or prevent environmental contamination and related fines, not to mention negative community image, and lost time due to unplanned clean-up and paperwork. There is no room for haphazard manure management, especially in the volumes that many farms are handling.

Regardless of storage circumstances and staff training, there are other practices that can be employed to reduce the risk of manure runoff. Some farms separate solids and store them elsewhere or use them for bedding. This reduces solids accumulation in storage and provides incrementally more storage space for liquids. Another approach for the fall application window is to clean out accumulated solids to increase existing storage capacity going into the winter.

In some cases last spring, when storage was reaching capacity and spreading was not a good idea, farmers traded storage space. Those with full storage arranged to take manure to a neighbor with extra space with an agreement to haul it back out at a later date. Farms with storage covers will have significantly reduced manure volumes, not only due to avoided rainfall, but also because drifted snow can be pumped off when it melts. Storage covers could be used more widely and some cost share opportunities have been used to implement this.

Many producers have constructed satellite manure storage facilities (often with underground transfer pipes) so that manure is close to large blocks of land for application when conditions are right. There has also been significant investment in drag-hose application technology with satellite storages or frac-tanks combined with manure incorporation through shallow tillage or manure injection. This places manure below the soil surface, resulting in reductions in odor, and reduces truck and tanker traffic and labor needed for land application of manure, while also protecting the soil from compaction.

Even without satellite storage and drag-hose systems, there are less complicated ways to apply manure to reduce risk of loss. For example, applying manure to fields with good soil cover can help reduce risk of runoff. Always avoid spreading when weather conditions are calling for significant rain or snowmelt. The period from late February through early April seems to be especially challenging in many, though not all, years and locations.

Sensitive fields, such as those that border and drain toward streams and have limited crop residue on the surface, should be avoided especially if frozen or snow covered and with warm weather conditions in the forecast. Runoff is very possible when soil conditions are wet and more rain follows. Traffic on wet soils can also cause significant compaction and yield reduction in following crops. Keep in mind that adding 10,000 gallons per acre of liquid manure is equivalent to nearly 0.4 inches of rain, making runoff risk that much greater.

Manure application when tile outlets are flowing can be a problem, so when spreading manure, outlets should be monitored and operations should be stopped immediately if outflow becomes cloudy. Overall, managers and staff need to be highly observant of results and make changes to reduce losses based on experience.

Tough conditions can still occur, even if all other measures have been taken to avoid spreading in adverse weather conditions. Therefore, all farms should have last resort, emergency, spreading locations to deal with the tough conditions. These should be selected based on farm experience and by talking with a CAFO planner or conservation professional from Soil and Water Conservation District (SWCD) or Natural Resources Conservation Service (NRCS). Fields that are fairly level, drain internally, or do not have nearby ditches or streams are prime candidates.

Across the industry, we must continue to find ways to improve manure handling to minimize losses and offsite impacts. Planning and training are important aspects of risk reduction but the best results arise when both management and farm staff are vigilant and motivated to keep manure on the land where it belongs. The stakes are high and farms that take a professional approach to manure management will be the most successful.

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