

Responding to manure spills

As livestock production has changed over the years, so has manure management. As more livestock are raised in confinement type systems, manure produced on these facilities has shifted from being traditionally solid to being more liquid. Liquid manure has an increased risk of being spilled or moving offsite. Storage structures, transport, and application equipment need to be in proper working order to keep manure onsite and from entering residential or environmentally sensitive areas. Knowing how to respond to manure spills or releases caused by structure failure or equipment can save critical time to prevent manure from becoming a hazard to people and the environment.

What is a spill?

A spill is any release that has the potential to threaten ground or surface water. It also can have the potential to create a hazardous situation. For example, a spill on a public road could create a traffic hazard and be a threat to public safety. A spill is site specific, 3,000 gallons applied on an acre of cropland is not the same as 3,000 gallons applied a few feet from a stream or spilled in a road ditch.



On livestock farms or within manure handling businesses, all employees (from tractor driver to welder (and even office secretary or spouse, as they may be the first person a newer employee reaches when a problem occurs)) should know what to do when a spill or release happens.

Prevention should be a number one priority to reduce the risk of a spill. The storage structure should be inspected at least annually or each time the structure is emptied. When structures are empty, this provides an opportunity to look for stress fractures or other factors that might lead to a release of manure.

Transport and application equipment should be inspected regularly to reduce the risk of incidents that could lead to a spill. On tankers or frac tanks, welds, seams, tires and hoses should be checked to

ensure no leaks will occur during transport on public roads.

For dragline or hose application systems, couplings should be placed away from sensitive areas such as culverts, ditches, and streams. The hose should be traveled regularly to inspect for leaks or loose couplings.

For all involved in the manure application operation, phone numbers of the supervisor overseeing the operation and the farm owner should be at the ready to reduce response time in case of a spill or release.

Be prepared

Not being prepared when a spill occurs will cost precious time especially when the manure is released near or headed toward a sensitive area. Having a list of emergency contacts prepared ahead of time to help you contain or control a spill will save time and reduce the amount of manure to clean up. Included in this list should be owners of front end loaders or skid steers to help build dams or divert manure from sensitive areas. A list of vacuum tank owners will help in removing manure out of ditches or away from make-shift dams. Other special equipment could include backhoes or dozers to help move earth and divert manure.



Tillage equipment such as a chisel plow or disc can help slow the spread of a spill. Also, make sure everyone has the phone number of your states spill response hotline. Once a spill is contained, it is in best interest of the operation to contact state natural resource management agencies. These agencies are usually the people in charge of overseeing the control and cleanup of a manure spill or release.



Spill Response Plan

The best preparation in responding to a manure spill or release is to have a spill response plan. Plans should be simple enough to remember, but complete enough to make sure the response is done correctly.

Spill Response Steps:

1. Stop the application

The first step in responding to a spill should be to stop the application process. If using a draghose system, turn off the pumps. All crew members working with the application process should stop and help, if needed.



2. Control the spill

The second step would be to determine the best way to stop the spill and take action to contain the flow or spill area. For drag lines, clamp the hose or park a tractor on the hose and turn off any valves. If manure is moving off site, work up ground ahead of the flow. If in a road ditch, ravine or stream; create a set of earthen dams. Once manure is trapped by an earthen dam, use a vacuum tank to remove the manure and apply to fields offsite.



If tile inlets are present in or near fields where a spill or release has occurred, using a plastic barrel or pail placed around the inlet can prevent manure from entering the tile inlet. Berming up the area around the pail or barrel with soil will help to seal manure away from the inlet.



3. Begin the clean up

The third step in a spill response plan is to begin the cleanup effort. If in a ditch, pump out the manure and remove solids. You may need to flush with approximately three times as much water as the volume of the spill. Continue to flush with water to remove manure solids from the affected area. Once

manure is collected, land apply all spilled manure in a proper way to fields prepared to receive the manure. If soil is soaked with manure, the cleanup plan may require the soil be removed and apply to land.



4. Report the spill

Reporting the incident of a spill is mandatory in most states. State natural resources departments are generally the agencies with jurisdiction regarding a manure spill or release. Contacting state resources agencies as soon as a spill is controlled or as clean up begins is recommended. Not contacting the agency with jurisdiction about a spill or release will most likely lead to monetary fines or reprimand.

Others who may need to be contacted in the event of a spill are local animal waste specialists and county sheriff's departments. During many spill or release events, roads may need to be closed or traffic rerouted so the sheriff's department should be notified. The sheriff's department may be a logical first call as they can then contact other resource authorities and you can focus on the cleanup. Steps 3 and 4 could be reversed depending on the severity of the spill or release.

5. Fill out documentation

The final step in responding to a spill or release is to fill out documentation of what was done to contain and control the spill. Items in this report should include what happened to cause the spill, how it was controlled and contained, resources used in the effort such as tillage equipment and vacuum tanks, and who was involved in the cleanup. Be sure to document the time when specific phone calls and actions took place. Also, it is recommended to take pictures of the cleanup event. Cell phones and disposable cameras are good ways to provide evidence of the cleanup effort.

Sources:

Manure Gas Safety: Review of Practices and Recommendations for Wisconsin Livestock Farms , November, 2008
<http://datcp.wi.gov/uploads/Environment/pdf/ManureGasSafetyReport.pdf>
<http://fyi.uwex.edu/ag/safety/confined-spaces/>