Non-Earthen Liquid Manure Storages

Are there visible openings in concrete walls of the manure storage facility? Such cracks should be plugged on the inside of the storage. Cracks should be monitored to ensure they do not become wider, indicating more serious structural problems.

Are pump ports kept covered and undamaged?

Solid Manure Storage/Composting

Is the manure stored on-site? In Indiana, for example, if manure is stored on site for more than 72 hours at a permitted operation, it must be covered or otherwise protected.

Do manure storage piles have adequate run-on and run-off controls? If not, provide diversions or berms.

If located within 300 feet of surface waters, drainage inlets or water wells, is there an impermeable barrier or surface gradient present to divert run-off?

Animal Mortality Handling

Are mortalities handled (to rendering, burying, composting, freezing, etc.) within a reasonable time (24 hours in Indiana)? Are there run-on and run-off controls from the compost site? Is the compost applied to land appropriately and at agronomic rates?

Are burial sites adequately covered? Mortality requirements vary by state; check local regulations.

Land Application Equipment

Is a routine equipment maintenance plan followed? Are pressure sensors and shut-off switches operational for irrigation system control? Any noticeable leaks around pipes? Is the transport vehicle or conveyance free of leaks? Are watertight valves functioning properly for tank inlet/outlet? Are measures taken to contain solid manure during transport?

About this Publication

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Publications in this series:
- Land Application Records and Sampling
- Emergency Action Planning for Livestock Operations
- Mortality Management
- Inspecting Your Confined Feeding Operation
- Feeding Strategies to Lower N&P in Manure
- Building Good Neighbor Relationships
- Disposal of Farm Medical Wastes
- Manure Nutrient Recycling
- Environmentally Sensitive Field Characteristics
- Manure Applicator Calibration
- Odor Control Options for Confined Feeding
- Comprehensive Nutrient Management Plans
Earthen Liquid Manure Storage/Lagoon

Do embankments have significant areas without vegetation?  Y N
If yes, seed with hardy native grasses that resist soil erosion. Vegetation on and around earthen berms should be kept properly trimmed to minimize problems with burrowing animals.

Do embankments have trees or woody shrubs growing?  Y N
If yes, remove them. The roots can penetrate the earthen berm.

Do berms have low areas?  Y N
Fill in and compact settled areas on the berm. If the depression is more than a few inches, consult a professional engineer or the NRCS.

Is spillway eroded or damaged?  Y N
Prevent erosion through proper maintenance. If the spillway becomes damaged, have it restored to its original condition.

Has the liner been damaged by equipment or erosion?  Y N
Keep agitator at least 3' away from the liner, or pave the affected area. If damaged, fill and compact the area to restore the liner.

Do embankment slopes contain uneven areas (slumps, gullies, or bulges)?  Y N
Watch for such areas, which can indicate more severe problems. If found, have a professional engineer or the NRCS examine the structure.

Are there soggy or damp areas at the base of the lagoon embankment?  Y N
These areas can indicate more severe problems. If found, have a professional engineer or NRCS examine the structure.

Is there evidence of animal burrows?  Y N
If so, fill with compacted clay or concrete. Consult a professional engineer or the NRCS if the burrows are extensive. Burrowing animals can ruin the integrity of the earthen structure. Remove surrounding areas that provide feed and shelter; keep the area trimmed and inspect for burrows at least monthly.

Are level markers firmly and properly mounted?  Y N
Liquid level markers should be installed on all earthen storages that are pumped periodically. They allow the manager to easily tell when the storage should be pumped. Install liquid level markers that can be installed and seen without stepping onto the interior slope of the berm.

Are level markers easily visible?  Y N
Markers should be easily visible from the top of the berm. Use brightly colored paint or other highly visible mark. Markers should indicate the depth when pumping should start.

Is the liquid level below the freeboard level required in your state?  Y N

Clean Water Diversions

Is the surface water diversion adequate?  Y N
Diverting excess clean water away is key to maintaining the design detention time in the storage. Roof gutters and downspouts should be sized adequately to carry storm flows.

Are diversions and diversion outlets properly vegetated and maintained to minimize erosion?  Y N
This does not affect the wastewater storage, but, if improperly maintained, can result in eroded soil reaching waterways.

Are perimeter drains or tiles open and functioning?  Y N
Drains that either divert clean water around the storage or lower the groundwater table around a storage must remain open for the storage to function as intended.