

MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Inspecting Your Confined Feeding Operation

Michigan State University

Michigan State University Extension

Best Environmental Management Practices, Farm Animal Production

Lyndon Kelley, Michigan State University, and Don Jones and Alan Sutton, Purdue University

Issued 2002

2 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.

Non-Earthen Liquid Manure Storages

Are there visible openings in concrete walls of the manure storage facility? Y N

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? Y N

Solid Manure Storage/Composting

Is the manure stored on-site? Y N
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? Y N
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? Y N

Animal Mortality Handling

Are mortalities handled (to rendering, burying, composting, freezing, etc.) within a reasonable time (24 hours in Indiana)? Y N

Are there run-on and run-off controls from the compost site? Y N

Is the compost applied to land appropriately and at agronomic rates? Y N

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

Land Application Equipment

Is a routine equipment maintenance plan followed? Y N

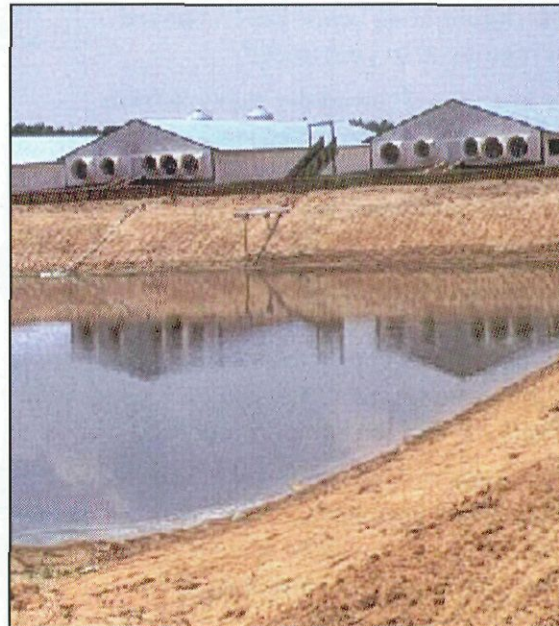
Are pressure sensors and shut-off switches operational for irrigation system control? Y N

Any noticeable leaks around pipes? Y N

Is the transport vehicle or conveyance free of leaks? Y N

Are watertight valves functioning properly for tank inlet/outlet? Y N

Are measures taken to contain solid manure during transport? Y N



About this Publication

This publication was funded by USDA Special Needs, Purdue University, and Michigan State University.

It was adapted in part from the Livestock and Poultry Environmental Stewardship project, funded by the U.S. EPA, coordinated by the University of Nebraska-Lincoln, and published by the MidWest Plan Service, 122 Davidson Hall, Iowa State University, Ames, Iowa 50011-3080. See <www.lpes.org> or call (800-562-3618) to obtain access to this and other lessons.

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



It is the policy of the Purdue University Cooperative Extension Service, David C. Petritz, Director, that all persons shall have equal opportunity and access to the programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability.

Purdue University is an Affirmative Action employer.
This material may be available in alternative formats.

1-888-EXT-INFO

<http://www.ces.purdue.edu/extmedia>



MSU is an affirmative-action, equal-opportunity institution. Michigan State University Extension programs and materials open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status. Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Margaret A. Bethel, Extension Director, Michigan State University, E. Lansing, MI 48824. This information is for educational purposes only.

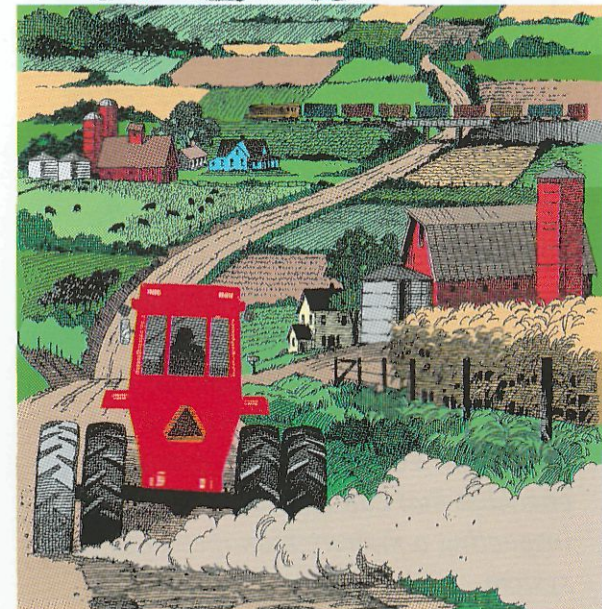
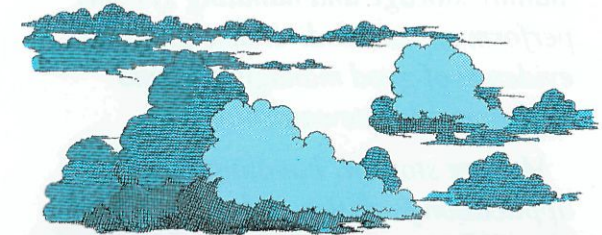


Best Environmental Management Practices

Farm Animal Production

Inspecting Your Confined Feeding Operation

Don Jones and Alan Sutton, Purdue University and Lyndon Kelley, Michigan State University



Best Environmental Management Practices

Farm Animal Production

Inspecting Your Confined Feeding Operation

Don Jones and Alan Sutton, Purdue University and Lyndon Kelley, Michigan State University

Monitoring manure management systems is certainly advisable, and often required by regulation, to ensure that manure storage and handling systems perform as intended. It also provides evidence of good management and environmental stewardship.

Manure storage, handling, and application facilities and equipment should be inspected at regular intervals, usually monthly, to ensure that potential problems are detected and fixed before negative environmental impacts occur. In some states, regulatory inspectors also inspect operations occasionally. Checklists offer a means of ensuring that all relevant items are inspected and documented on a routine basis. The record should be retained on the farm and may be useful in the event of litigation. Following is a "generic" checklist that can be used when visually inspecting a manure management system.

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

Are inlet pipes conveying manure from confinement houses submerged?

Keeping pipes submerged minimizes freezing, odors and minimizes problems with wild animals.

Are all inlet and intake pipes adequately supported? Y N

All pipes that extend more than about 6' into a storage berm should be anchored or supported to protect the seal around the pipe as it passes through the earthen berm.

Are recycle or transfer pumps, valves, and controls operating properly? Y N

Be sure that valves can be shut off completely and all automatic monitors and shutoffs are functioning as intended.

Manure Storage Inspection Checklist

Lagoon/Storage Pond I.D. Number _____

Date _____

Inspected by _____

Are all pipes secured to prohibit animal entry/damage? Y N

Open pipes should be screened or otherwise shielded to keep wild animals from nesting.

Is intake pipe depth for recycling or irrigation system 18-24 inches below the liquid surface? Y N

This minimizes freezing and protects pump intakes from clogging with floating debris.

Does the lagoon contain floating vegetation or foreign materials (such as medical debris, trash, etc.)? Y N

If yes, remove the floating debris and dispose of properly.

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.