Minnesota Pollution Control Agency

July 1997

Closure and Abandonment of Manure Storage Structures

Earthen Holding Basins

Background Information

The concern over these abandoned structures is that trees and other deep rooted vegetation start to grow on the basin walls. This creates cracks in the liner and allows manure to seep into the groundwater. Also, unless the basin is emptied regularly, it fills with rain and snow melt water and overflows. Any manure remaining in the basin mixes with the water and could potentially overflow to a nearby surface water. If the fences are not maintained, safety is added to the list of concerns. The steep interior sides of the basin make it difficult to climb out of.

How to Close/Abandon

When an earthen basin will no longer be used the following steps should be taken to close the basin:

1. Agitate the basin thoroughly. Remove and spread all manure and wastewater. A drag line may be needed to remove solids if there is not an adequate amount of liquid.

2. The sludge layer left in the bottom of the basin should be scraped out and land applied.

   Note: All of the material removed from the basin is required to be land applied at agronomic rates.

3. Fill the basin in with material from the dikes or other earthen material that may be available. Only material allowed to be buried under federal, state and local regulations may be used as fill. It is necessary to fill in the basin to prevent it from being a safety hazard when it fills in with rain and snow melt waters.

Concrete Pits

Background Information

Concrete pits located under barns or with covers do not represent as much of a safety hazard as earthen basins. However, if the barns are removed or the cover weakens, it can be dangerous. If the pit develops cracks, or holes, the manure could seep out into the groundwater.

How to Close/Abandon

Concrete pits may be filled in the same as earthen holding basins. The owner may want to break up the concrete and remove it, if possible. This will prevent rain and snow melt waters from pooling in the abandoned pits.

Steel Tanks

Background Information

Steel tanks are **not allowed** to be used for manure storage.

Unfortunately, there are feedlot owners who have installed used fuel tanks underground for storing manure. This type of tank is not designed for this

type of use and is usually removed from a gas station because of potential leaking. The tank may be damaged further during transport and installation. Without groundwater monitoring it is difficult to determine if manure is leaking out of the tank.

How to Close/Abandon

All manure is to be removed and field spread at agronomic rates. The tank can then either be removed completely and the hole filled in, or punctured and filled with clean earthen fill.

Open Lots

Background Information

As long as there are livestock on an earthen open lot, soil compaction is occurring and preventing seepage through the feedlot soils. When livestock are removed from the lot there is no longer any hoof action to maintain this compacted layer.

Freeze and thaw cycles, root growth from weeds and drying will deteriorate the compacted layer. The manure left on the lot can then seep through the cracks into the ground water, or erode with soil to surface water.

How to Close or Abandon

All manure should be scraped off of the lot and field spread. A vegetative cover should be established on the area to take up remaining nutrients. This vegetation should be harvested to remove nutrients from the lot area.

For more information contact:

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