

## **Standard Operating Procedure: Dairy Manure and Wastewater Storage**

1. Locate manure stockpiles and wastewater storage ponds at least 150 ft downstream from any well and above the 100-year flood plain.
2. Protect wellheads with grassed buffer areas.
3. Locate wastewater storage pond in low permeability clayey soils with a deep watertable.
4. Use berms or trenches to keep runoff water away from stockpiles.
5. Use grassed filter strips below stockpiles to reduce runoff volume by settling solids and removing nutrients.
6. Soil sample downhill from stockpiles to monitor nitrate buildup.
7. Remove solids from wastewater with a settling pond or separating screen before it is transported to the storage pond. This will reduce odors and minimize lagoon loading.
8. Seal wastewater storage ponds to prevent seepage. The seepage requirement for wastewater storage is less than 1/32 inch per day.
9. Be sure that the wastewater storage pond has the capacity to handle the runoff from a 25-year, 24-hour storm, in addition to the wastewater from the milking parlor.
10. Mark the top of the normal storage level in the pond with adequate room above that for the 25-year, 24-hour storm. If rainfall brings the pond level above the marker, the pond should be drawn down within 15 days.
11. For optimal bacterial degradation, never pump out the bottom 6 feet of the pond.
12. Remove solids from the bottom of the pond when it builds up to 8 inches deep.
13. Inspect your pond monthly-maintain vegetated slopes, look for settling or bulges in the slopes, fill rodent holes, repair drying cracks, look for seepage outside of embankments, and inspect inlet and outlet structures and valves.
14. Keep cows away from wastewater storage pond banks to maintain the seal.
15. Consider aerating or covering storage ponds or planting windbreaks if the odor bothers neighbors.
16. Have a plan for wastewater storage or utilization in case of heavy rainfall.