



AEM Tier 2 Worksheet

Process Wash Water

Glossary

Aerobic Lagoon: A Best Management Practice (BMP) consisting of a shallow impoundment with a large surface area designed for adequate diffusion of oxygen to biologically treat animal and other agricultural wastes.

Organic Matter Filter Bed: A BMP consisting of a system designed to handle process waste water using organic matter (bark, wood chips, hay, etc.) to provide an energy source for degradation, a media for bacteria, a biofilter to control odors, and insulation so the waste can be treated and infiltrated.

Biochemical Oxygen Demand (BOD): The decrease in oxygen content of a water sample brought about by the bacterial breakdown of organic matter.

Land Application: The application of process wash water to agricultural land at agronomically acceptable rates and according to USDA Natural Resources Conservation Service (NRCS) Conservation Practice Standard NY-633 for Waste Utilization.

Vegetative Filter Area: An area of grass sod, meeting NRCS Standard NY-393a, for removing sediment, organic matter, nutrients, and other pollutants from barnyard runoff or waste water. To address process wash water that includes settled solids, the system will include a settling tank and a pipeline leading from the tank to the vegetative filter area with a level cross-section, which allows the effluent to spread evenly over the filter area.

Background

Process wash water poses a potential for contamination to both groundwater and surface water. Wash water may contain ammonia and nitrate (from agricultural wastes), detergents, cleaning chemicals, phosphorus and microbes. It also may have a high Biochemical Oxygen Demand (BOD), which is harmful to aquatic life. Substantial additions of waste milk (BOD of 100,000 mg/liter) to the wash water will dramatically increase the pollution potential. The characteristics of the process wash water needs to be carefully evaluated to determine the COD, total solids, volatile solids, N, P, and K along with other chemicals.

If process wash water is not added to manure for proper field disposal, this worksheet may be valuable in evaluating your system and procedures for disposal. The wash water disposal system must be properly designed and maintained to prevent these contaminants from entering surface water, groundwater, or a well. To prevent contamination of water, you should:

1. Check the treatment system you use to dispose of wash water. Make sure it's in good condition and large enough to handle all the wash water produced on your farm.
2. Take measures to reduce the amount of water you use in the processing operation.
3. Remove the first rinse containing the highest concentrated material from the disposal system and limit the amount of organic material dumped into the disposal system.

Agricultural Water Quality Principle:

Process wash water should be properly treated and disposed of to protect surface and ground water resources.

AEM Tier 2 Worksheet: Process Wash Water		Potential Concern		
Factors Needing Assessment	Lower 1	2	3	Higher 4
To what level is the process cleanup water managed (excluding cleanup water directed to storage for land application)?	Organic matter is removed from tanks, floor, or process lines before washdown. AND First rinse is collected to limit organic matter entering the system.		Some debris and organic matter is washed down the drain.	All organic matter and other solids washed are down the drain.
What is the method of storage, treatment, or disposal of process wash water?	Properly designed, sized, and maintained: <ul style="list-style-type: none"> - aerobic lagoon - settling tank and vegetative filter area, - organic matter bed, - constructed wetland, and - manure storage. - storage and land application 	Properly designed and maintained septic system and no water reaching surface.	Septic system of unknown design with no water from the leach field reaching the surface. OR Daily spread.	Dry well or stone pit; OR dumped on soil surface; OR disposal in field tile, ditch, or surface water; OR septic system with water coming to the surface; OR septic system in very permeable soils (sand or gravel).

Other

1. How many gallons of water are used for process clean up?
2. Is human waste treated separately?
3. Is your water tested/treated for hardness?
Are you measuring & using proper amounts of cleansers?

Milking Center Wash Water

1. Is first rinse water collected and fed?
2. What do you do with treated milk?
3. Has herd size increased since the system was installed?

Additional Comments