Dairy farmers are responsible for legally disposing of all milk that they contaminate with antibiotics. One plant alone processed over 4 million pounds of contaminated milk in 1988 which probably doesn't nearly account for all milk lost. Antibiotic residues can be a very expensive problem. The first line of defense for dairymen is to carefully observe the proper handling and use of drugs and milk withdrawal times for antibiotics. When a volume of milk whether it be a bulk tank, a truckload, or a plant silo has been contaminated, the legal options for disposal become limited and sometimes expensive. Some of these options are highlighted in this article.

Processing for Animal Feed

The most desirable option for a dairyman is to send contaminated milk to a plant where it can be processed for beneficial use in animal feeds. Cabarrus Creamery has provided this service for several years and was relicensed in 1989 to continue. Since this plant also processes uncontaminated milk for human consumption, strict controls monitored closely by USDA prevent accidental contamination of products for human consumption. If the plant were not allowed to use the same processing equipment, economics would force it to discontinue the processing of contaminated milk. Since this is the only plant in North Carolina currently providing this service, the option is only open to those dairymen within economic hauling distances.
Municipal Waste Treatment

Another alternative in some areas may be adding the contaminated milk to a community or city sewer system for treatment at its waste treatment plant. *The waste treatment plant operators must be contacted and all details arranged before this option is used.* The acceptability of this method depends entirely on whether or not the treatment plant has the capacity to handle any additional waste load. Many small plants already operate at or beyond capacity and simply will not accept any additional loading. Other towns operating near capacity may accept the contaminated milk for a surcharge since the additional loading would tax their plant's capacity.

Farm Lagoons / Storage

Small volumes (bulk tank or a truckload) may be added to existing manure storage basins or lagoons provided adequate storage is available. The contaminated milk should be added to the storage at a point where it will quickly be diluted in liquid as opposed to dumping it on top of a surface crust where odors and fly breeding may persist for several days. If the milk is quickly diluted, odors should be no greater than usual. Since milk has substantial protein nitrogen, the basin contents should be well mixed and a sample sent for nutrient analysis prior to land spreading. The nitrogen content of the sample should determine proper land application rates. Antibiotics which have a relatively short half-life and which are substantially diluted with manure slurry or lagoon liquid should pose no recontamination threat to lactating animals when land applied. Currently, as long as milk comes from the same farm or from one truckload and is added to the farm lagoon prior to land spreading, the N.C. Department of Health, Environment and Natural Resources, Division of Environmental Management is not requiring a disposal permit. *DEM may step in, however, and regulate this practice if the contaminated milk is disposed of improperly resulting in water quality impairments.* This may be the least expensive option for dairymen outside economic hauling distances from Cabarrus Creamery. Before any contaminated milk is accepted on farm, the dairyman should arrange details for handling and treatment with the milk hauler and DEM. This option would not be a practical treatment for an entire silo of contaminated milk unless several farm lagoons were utilized.

Direct Land Application

If raw antibiotic-contaminated milk is spread directly on the land surface, it should meet the following conditions: 1) it should be spread at rates compatible with nitrogen fertilizer requirements of the intended receiver crop, 2) no direct runoff of the milk into receiving streams should occur, and 3) it should be immediately soil incorporated. *Spreading undiluted antibiotic-contaminated milk directly back to land surfaces without meeting these conditions is not an acceptable option and should be avoided.* Nuisance conditions and/or water quality impairments are the likely result inviting regulatory action.

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