



6200 Jefferson NE  
Albuquerque, New Mexico 87109-3734  
Phone: (505) 761-4400 Fax: (505) 761-4462  
Web site: [www.nm.nrcs.usda.gov](http://www.nm.nrcs.usda.gov)

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**Evaporative versus Storage Ponds**

**Background**

While it is recognized that there is an evaporative component to the normal runoff and wastewater storage ponds, in this fact sheet what we are calling an evaporative pond consists of a pond using evaporation as the sole component to get rid of the water instead of pumping water out into the fields. Evaporative ponds have been used in New Mexico for the past 20 years for animal feeding operations for waste storage facilities, lot runoff ponds, or combined ponds. Approximately 1/3 of New Mexico waste management systems are evaporative and 2/3 of the operations consist of 60-day storage combined with land application.

A lack of irrigation water rights and land for manure/effluent application has often been an argument for using evaporative systems. Another argument is that dairy producers do not want to be farmers. In the latter case, the evaporative system is often used as a disposal system.

Although NRCS planners encourage 60-day storage systems, some dairies have converted 60-day storage facilities with land application of effluent to facilities with evaporative ponds and no land application. Other states are not using evaporative ponds or cost sharing on this practice.

There has been little research on the build up of trace elements over time and sludge toxicity to plants and animals. There is concern for the sustainability of this practice and potential adverse effects over time to the environment. In addition, there is concern regarding how the concentrated sludge will be disposed of at the end of the practice life.

**Considerations**

Utilizing manure/effluent as a resource is a more sustainable, economical and efficient system than a purely evaporative system. If not evaporated, effluent and nutrients/organic matter present in effluent would be utilized for crop production – for a state like New Mexico, water and nutrients are prime resources to be utilized most efficiently.

Evaporative ponds pose potential water quality and environmental problems, with the long-term concentrated buildup of metals and/or trace elements. Little monitoring of these types of systems has been conducted in New Mexico or other states. NM state regulations for solid waste exempt agricultural waste disposed of on-site. It is assumed that trace elements will be concentrated and reach hazardous waste levels. Decommissioning procedures for these systems are not included as part of the discharge permit. The permit also does not cover disposal of solids that accumulate during the life of the structure with an evaporative system.

From the producer's perspective, there are several disadvantages to using evaporative systems also. It is difficult to maintain freeboard, there is a higher cost of construction, since a larger surface area is required, and thus a greater expense for lining large ponds.