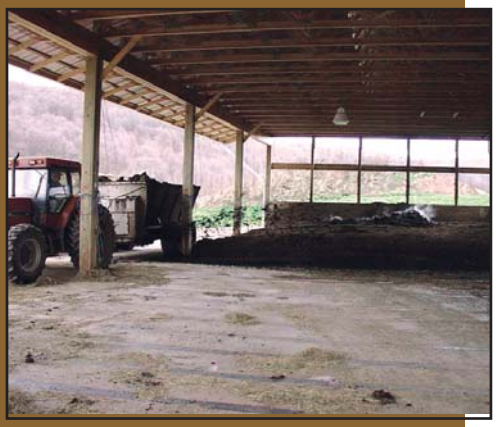
BIODRYING DEMONSTRATION AT THE INMAN FARM



Potential discharges of odors, pathogens, and excess nutrients from land application of manure are of particular concern in the Catskill Mountain watershed where New York City's reservoirs are located. In this project, the Watershed Agricultural Council is demonstrating one technology that can help farms avoid environmental problems.

There are many potential advantages of composting manure. The resultant product is drier and odor is greatly reduced. The reduction in manure volume and weight allows farmers to transport the manure farther away, and spread nutrients more evenly, covering a larger acreage to comply with best management practices. As a stabilized compost, it can be spread on hay ground during the growing season. Some farms sell the compost off the farm. This helps to reduce the amount of phosphorus applied to fields.

To achieve these potential benefits, challenges in composting must be met. Most dairy manure is too wet to compost by itself. Dry bulking agent may have to be bought and mixed with the manure. Also, weather affects traditional composting, making it a hard task in the winter.

Biodrying is a system designed to better dry composting manure by using forced aeration and by recycling previously composted, drier solids as a bulking agent. The biodrying process is being demonstrated on the 85-cow Inman Farm, Bovina Center (Delaware County) in the New York City Watershed. This system includes a composting shed and computer-controlled, forced-air system. If managed carefully, the heat generated by aerobic composting can provide the energy to reduce 12% dry-matter, raw manure to a 60% dry-matter, stable material. The final compost volume would be reduced by half, and the weight to one-fifth the weight of the original manure, due to water loss and solids conversion to gases.

Continued work on this system is needed to determine the operating procedures that will produce quality compost, and to determine if odor control, pathogen control, sales of compost, and phosphorous exporting potential are sufficient to offset the capital and operating costs.

Funding for this project has also been provided by The Watershed Agricultural Council, NYS Electric and Gas Corporation (NYSEG) and Niagara Mohawk Power Corporation, a National Grid Company.

NYSERDA'S 4th Annual
Innovations in Agriculture

NYSERDA
New York State Energy Research and Development Authority