

# The other business end of the cow

Who will help solve the problem of dairy manure odors?

By Lee Telega

**When you consider** the level of technology, management and infrastructure used to deliver nutrients to the “front end” of cows, it’s clear that “rear-end” nutrient management lags far behind.

A high level of management at the front end of the cow makes money. There’s much less economic incentive for rear-end nutrient management, particularly to control odors. As for its fertilizer value, a year’s amount of a cow’s manure is worth just a bit more than \$125, depending on the level of ammonia nitrogen conserved.

The cropland to which it’s applied, on average, grosses only \$500 and, at best, \$800 per acre in crops. A 26-ton per acre corn silage field selling for \$30 per ton grosses \$780. Average corn silage yields for most Northeast soils is about 17 tons per acre, or \$510 per acre.

## Developing rear-end infrastructure

There are two manure treatment technologies that currently offer the best solution to manure odors: composting, with sales for landscaping, and anaerobic digestion, with generation of electricity from methane. For the most part, public cost-share funds and/or economic development grants have offset the costs of these technologies.

The widespread adoption of manure treatment technologies to control odors won’t occur until the byproducts of those systems generate considerably more money than the value of an acre of feed. Electricity costs savings, sales of electricity to the grid, sales of compost or tipping fees from including other wastes in the system must generate \$400 to \$500 per cow annually for manure treatment to be a viable business.

“While we can continue to strive to make technical improvements in manure management, one of the remaining challenges in this field today is a business one,” says Janet Joseph, program manager for environmental research for New York State Energy Research and Development Authority (NYSERDA).



Since 1999, NYSERDA has provided grants and technical support to help the dairy industry use energy more efficiently and implement manure treatment systems.

On the whole, dairy farmers need to farm, not get into the manure treatment business. “We need to see new business relationships where we have third party entities financing, owning and operating a digester or composter as a business in and of itself,” says Joseph.

Already new ways of doing business at the rear end of the cow are emerging. More engineering firms that specialize in waste treatment and renewable energy in other business sectors are becoming interested in opportunities that livestock manure may offer.

Farm savings on electricity from manure may eventually return a profit. But to be a stand-alone business, treated-manure solids will have to be marketed to industries that produce crops of higher value than forages. They include horticulture, vegetable, orchards, vineyards, turf, Christmas tree and ornamentals industries.

Public use of treated manure products include land reclamation for landfill covers and environmental improvement projects, such as wetland restoration.

Developing these markets will be a necessary component of successful business models for manure treatment operations.

If you want to be on the cutting edge of manure management and odor control, look for assistance from professionals who:

- Know the ins and outs of composting or anaerobic digestion.
- Have marketing experience.
- Know the organic needs of high-value crops. ■

Dairy producers must make money from manure treatment technologies such as this digester at Matlink Dairy Farm, Clymer, N.Y., if they’re to be widely adopted.

## FYI

■ Lee Telega is senior Extension associate for the PRO-DAIRY program at Cornell University.

■ To learn more about the New York State Energy Research and Development Authority, see its website: [www.nyserdera.org](http://www.nyserdera.org). Or call its toll free number: 866-NYSERDA (697-3732). NYSERDA’s address is 17 Columbia Circle, Albany, NY 12203.