

ANAEROBIC DIGESTION

EVALUATION AND OPTIMIZATION OF FIVE MANURE DIGESTERS IN NEW YORK STATE

OBJECTIVES

- Monitor baseline performance of 5 digesters in New York State
- Document how well they are working
- Evaluate impacts on overall farm profitability
- Make qualitative evaluations of their impacts on the neighboring environment
- Optimize performance of digester system



AA Dairy
Soft-top plug-flow digester.



Farber Farms
Fixed film vertical digester.



Noblehurst
Hard-top plug-flow digester.

AA Dairy- Candor, Tioga County

- 500-cow dairy freestall
- Horizontal plug-flow, soft top
- Solids separation post digestion
- Composting solids for sale
- Generator powered by diesel engine (used) converted to use biogas
- 36-day retention time

Dairy Development International- Homer, Cortland County

- 800-cow dairy freestall
- Horizontal plug-flow, soft top
- Solids separation post digestion
- Microturbines for power generation (planned)
- 21-day retention time

Farber Dairy- East Jewett, Greene County

- 120-cow dairy tiestall
- Vertical plug-flow, hard top
- Fixed film digester
- Solids separation pre-digestion
- Methane used to heat digester only (no electric generation)
- 4-day retention time

Matlink Dairy Farm- Clymer, Chautauqua County

- 750-cow dairy freestall
- Horizontal complete mixed system - soft top
- Solids separation post digestion
- Generator powered by stock diesel engine modified to use biogas
- 20-day retention time
- Manure and food waste digestion
- Excess gas used in onsite food dryer

Noblehurst Dairy Farm- York, Livingston County

- 1000-cow dairy
- Side-by-side horizontal plug-plow, hard top
- Solids separation post digestion (under construction)
- Generator powered by stock diesel engine modified to use biogas
- 20-day retention time.

