

NYSERDA's Innovations in Agriculture Program

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NYSERDA



Strategic Plan

- Focus on profitability
 - Productivity increases through efficiency and innovation
 - Conservation
 - Waste management as a profit center
- Develop key partnerships
 - NYS Dep't. of Agriculture and Markets
 - New York Farm Bureau

Strategic Plan, cont'd.

- Competitive public cost sharing targeting agricultural innovators
 - Farmers and cooperatives
 - Ag service sector
 - Ag financing sector
 - Ag colleges and universities



Strategic Plan, cont'd.

- Reduce costs and increase revenue
 - Encourage competition among service providers
 - Increase demand for solids by-products
 - Net metering of electricity production
 - Tip fees for organic waste as feedstocks
- Technology transfer - Cornell University Extension, USEPA AgSTAR, ag colleges
 - Performance monitoring
 - Cost and benefits evaluations
 - Objective analysis and reporting of results
 - Training future farmers and service providers

Agriculture – What Have We Done to Date?

- Helped over 1300 farms in NYS
- Provided \$14.3 million in assistance with nearly \$33 million in cofunding
- Organized 5 major conferences to bring farmers and other key players together
- Helped develop a service network in NYS – 60 companies, 91 banks
- Passed net metering legislation
- Supporting 13 composting projects

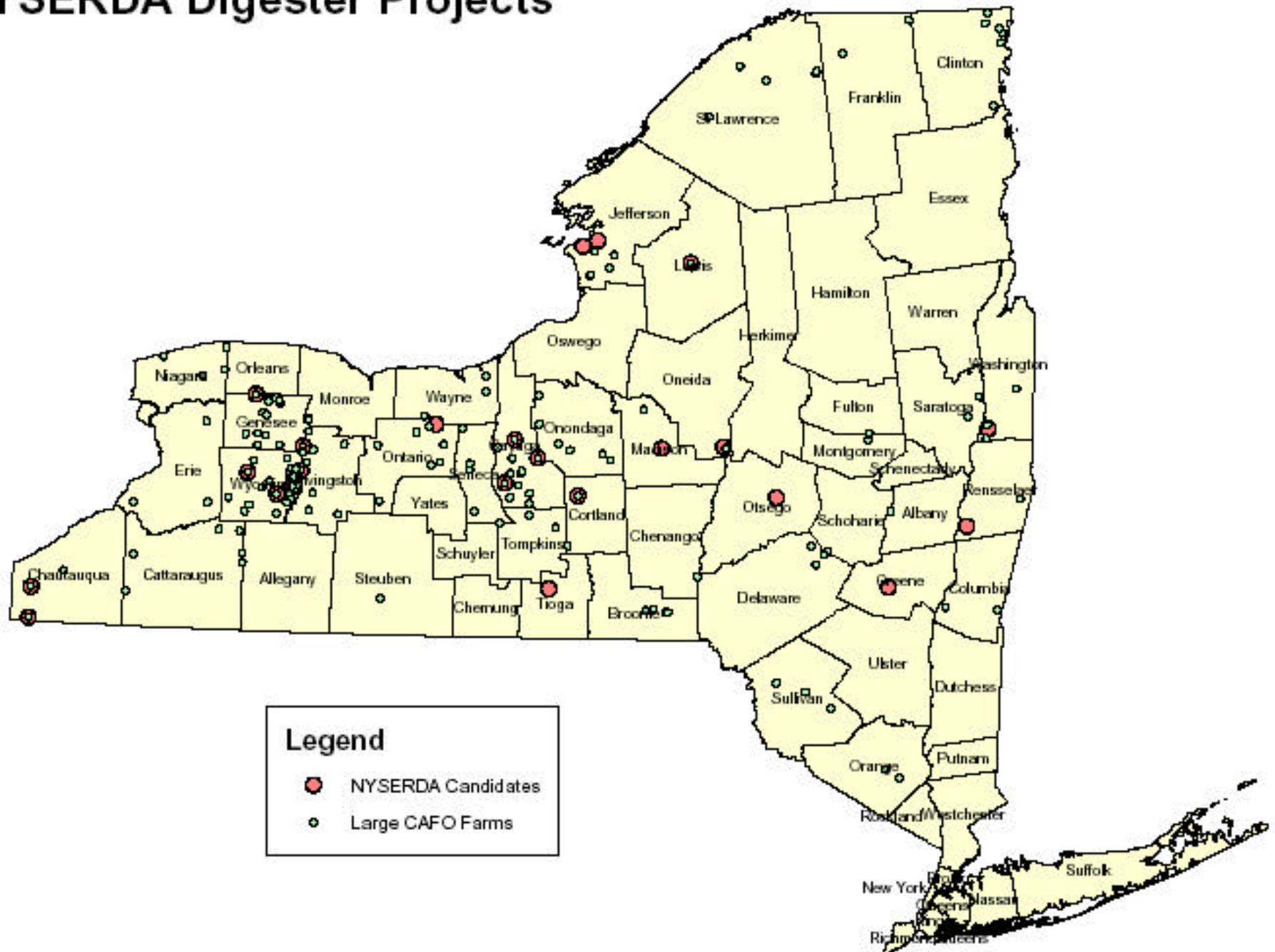


Manure Anaerobic Digester Program

- Demonstrations at 26 different farms
 - 6 working, 3 under construction, 17 in planning
- Evaluating 11 different technologies with 4 different bedding materials
- Evaluating 5 different engines/generators



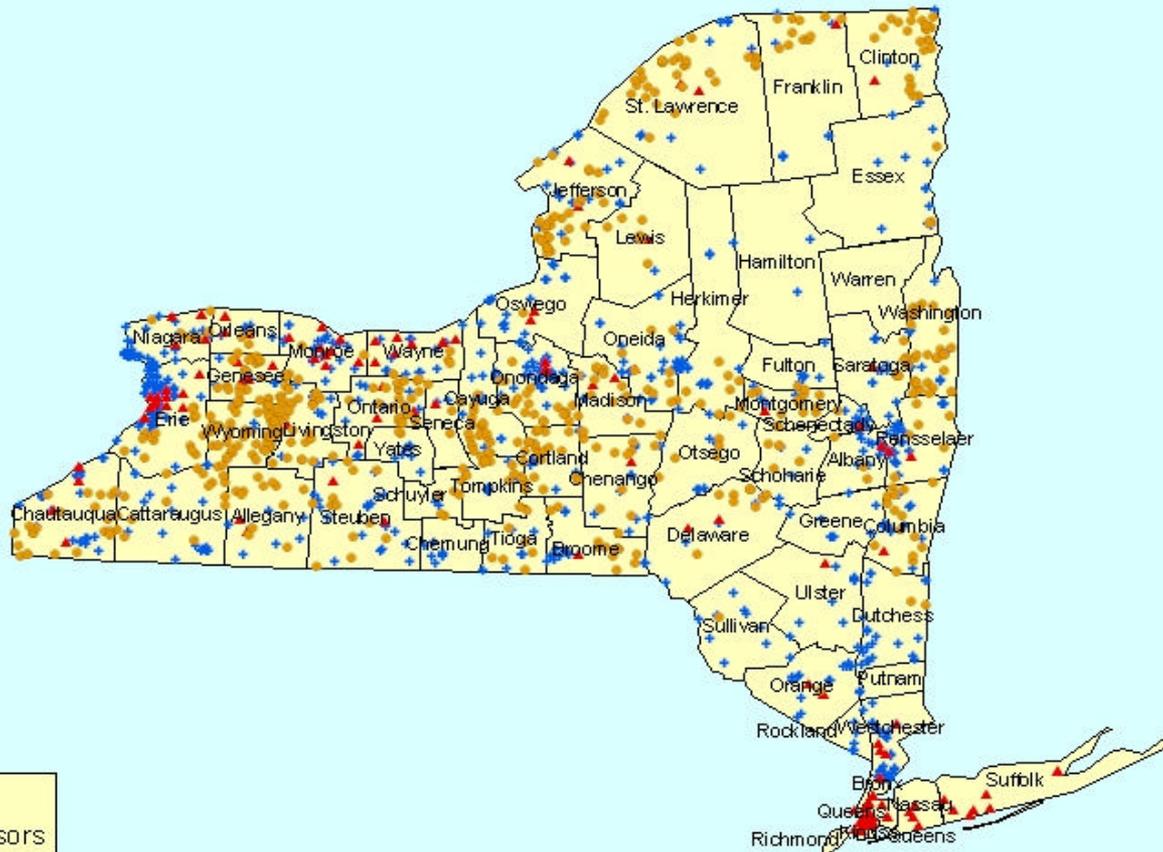
NYSERDA Digester Projects



Manure Digestion Issues

- High capital costs
- System sizing
- Comparable performance documentation
- By-product use
- Feedstock supplement potential
- Type of engine/generator
- Type of animal bedding
- Cold weather
- Comfort level of lenders





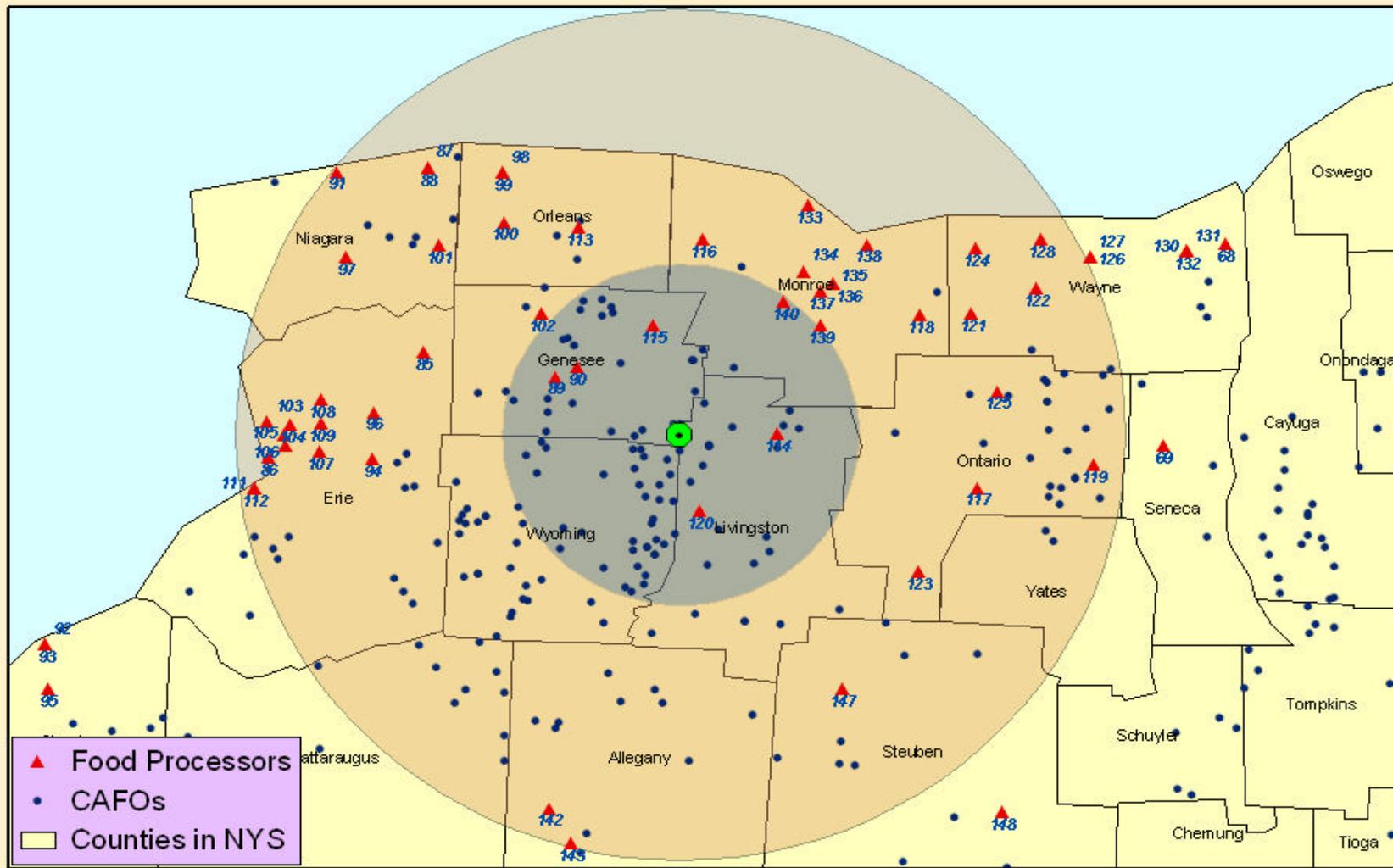
- Large Farms
- ▲ Food Processors
- + Supermarkets
- Counties in NYS

Distribution of Some Potential Sources of Feedstocks for Digesters and Composting Operations

Norman Scott, Jianguo Ma
 Cornell University
 September, 2003

0 25 50 Miles

Supported by NYSERDA.



**Food Waste Sources around Noblehurst Farms, Inc.
at Livingston, NY
(radius = 20 or 50 miles)**

Norman Scott, Jianguo Ma
Cornell University
February, 2004

0 5 10 Miles

Supported by NYSERDA.

Anaerobic Digestion - Future Directions

- Documenting system performance and costs
- Coordinated tech transfer program among States
- Optimizing designs and operations
- Expand to include food processing industry
- New business models
- Curriculum development for future farmers and service providers