SCENIC VIEW DAIRY & BROOK VIEW DAIRY

"RECYCLING RESOURCES IN A NEW WAY"

Andrew Austin, P.E.
Anaerobic Digester Manager
Family Owned – West Michigan

Scenic View Dairy
- Fennville, MI
- 2,200 Milking Cows
- 1,500 Heifers
- 10,000 Finishing Swine Spaces

Brook View Dairy
- Freeport, MI
- 2,300 Milking Cows
- 1,000 Heifers
Reasons For Installing Digesters

- Innovative
- Electric Savings
- Electrical Sales
- Bedding Savings
  - No Sand!
- Consistent Nutrient Product (liquid effluent)
- Reduction of Phosphorus
SVD – Fennville

- Constructed Summer 2006 – Operational Fall 2006
- Phase 3 Renewables – Project Manager/ Technology Provider
- 3 X 870,000 gallons complete mix digester (mesophilic)
- Capital Cost – $3.2 Million
- USDA Grant - $432,000
- 20 year electrical contract with utility (Est. 2016)
- Two Caterpillar Co-Generators (450 kilowatts/each)
- Use Electric on-site (~35%), export excess (~65%)
- Increase biogas through co-feeding of food processing waste & FOG (fats, oils, and greases)
- FAN Separators (2) used to separate digestate into liquid/solids
- Use 75% of Biofibers on-site for bedding – milking cows & heifers
Biosolids

- 20 Ton produced Daily
- Used for animal bedding both on-site and off-site
- ~65% moisture
- Pathogen reduction
Phosphorus Removal

- Remove ~65-70% Phosphorus from effluent stream
- Polymer addition
- Form a solid “Cake”
- Solids are more economical to transport
Phosphorus Solids
Brook View Dairy

- Constructed Fall 2007– Started Spring 2008
- Phase 3 Renewables – Technology Provider
- 3 X 930,000 gallons complete mix digesters (mesophilic)
- Capital Cost – $2.1 Million
- USDA Grant - $500,000
- Two Caterpillar G3516 Co-Generators(800 Kilowatts/each)
- Use Electric on-site (~30%), export excess (~70%)
- Increase biogas through co-feeding of food processing waste, & FOG (fats, oils, and greases)
- Sell Carbon Credits
- Use Biofibers from FAN Separator for bedding on-site and off-site dairy
Inlet Pump/Grinder
Lessons Learned

- AD is feasible in cold climates
- Simple Works!
- Local Products & Support
- Consistency
- Preheat Substrate
- Foaming Issues
Questions???

www.scenicviewdairy.com
www.brookviewdairy.com