



Geranik Farms Biogas and Cogeneration Project

Owner	Gerald Benoit
Location	St. Albert, Ontario
Project Type	Agricultural, Owner-Built
Herd Size	75 lactating cows
Off-Farm Substrates	FOG, DAF
Design	
Digester Size	(1) 1000 m ³ completely mixed mesophilic digester
Feedstock Handling	1 x 50 m ³ FOG tank, 1 x 2 m ³ pasteurizer, 1 x 200 m ³ hydrolyzer
Special Considerations/ Challenges	Grid connection took about three years. The project was built first without CHP and operated on tipping fees only. After the grid situation was established, a CHP could be installed.
Development Period	2007 Feasibility Study 2008 System Design 2009 Construction of Initial Design (6 months!) 2011 Installation of CHP 2012 Addition of Hydrolyzer
Process Volume	4000 tonnes / year
Retention Time	31 days HRT
Gas Volume	180 m ³ /hr
Electrical Production	360 kW/hr
Available Heat	1 MM BTU/hr
Digestate Volume	27 m ³ /day
Background	
<p>Gerald Benoit had been seeking to grow and diversify his farm operations. This had been a challenge, since the property borders of the farmstead prevented expansion of its footprint. A digester facility offered a solution to this dilemma.</p> <p>Having learned of the CH Four digester projects at Terryland Farms and Pinehedge Farms, Mr. Benoit was motivated to immediately engage CH Four for his venture. As the biogas system at Terryland Farms was still under construction at that time, it was recommended to delay the beginning of a new project until after the successful commissioning of that system.</p> <p>Ultimately, the Geranik Farms Biogas and Cogeneration Project became a successful owner-built facility, whereby Mr. Benoit acted as the project manager and hired contractors for all of the work; labor was not diverted from the farm, with the exception of the facility's managing role.</p> <p>The system reached full capacity after the addition of a hydrolyzer. Furthermore, the farm experienced significantly improved plant health and crop yield, which is attributed to the quality of the digestate fertilizer when compared with the previous use of commercial fertilizer.</p>	