

Organic Management Company Invests in Award-Winning Lystek Technology

Addressing storage limitations, providing diversion solutions & diversifying their business

Lystek 
Nothing wasted.
Everything to gain.



Municipalities are looking to their partners for cost effective ways to return nutrients to agricultural lands that have been removed through harvesting and food consumption.

ABOUT

Headquartered in Iroquois, Ontario, Third High Farms Ltd. is the largest, regional biosolids management company in Eastern Ontario.

CHALLENGES

- Business growth and diversification limited by provincially regulated storage capacity
- Risk of exceeding storage limits and valuable organic material being shipped to landfills

SOLUTION

- Full-scale Lystek system to treat dewatered biosolids
- Includes design, construction, commissioning, and training for a new state-of-the-art processing facility

RESULTS

- 100% of received organic material recycled
- Ability to process biosolids year round
- Production of a safe, federally registered, nutrient rich biofertilizer product (LysteGro®)
- Diversification of services with a saleable biofertilizer product
- Increased capacity to receive and process organic material

CANADA'S LARGEST CITY

With a metro population above six million, Toronto is the fourth most populous city in North America. Not surprisingly the organic "waste" management challenges created by this population density are significant. Despite those challenges, the City celebrated an important milestone in 2014 when it achieved 100% diversion in its biosolids management program.

One of the key organizations that contributed to the achievement of this significant milestone is Third High Farms Ltd., an organics management company that also provides services to Ottawa, Peterborough, Brockville, Kingston and many more. "We provide transportation, treatment and management of biosolids," says Dean Swerdfeger, President, Third High Farms.

"Rather than relying on traditional landfills, we're seeing more municipalities that are practicing closed loop diversion," says Swerdfeger. "They're looking for cost effective ways to return nutrients to agricultural lands that have been removed through harvesting and food consumption," he says.

DIVERSION MEANS PROCESSING MORE ORGANIC MATERIAL

Cutting down or eliminating the practice of sending useful organic material to the landfill is a top priority for many cities. According to Environment and Climate Change Canada, greenhouse gas emissions from landfills account for 20% of Canada's methane production. That is an alarming number given that methane is 21 times more potent than carbon dioxide in terms of its impact on global warming.

While the practice of diverting biosolids is admirable, it also puts pressure on the storage and processing capabilities of organics management companies like Third High Farms. The company saw demand for its biosolids management services surge in the early 2000s largely over growing concerns about greenhouse gas emissions.

What should have been a good news business story was tempered by strict operating conditions in accordance with the Environmental Protection Act. "We have a Ministry of the Environment approved, organics receiving site in Iroquois (Ontario) that is licensed to store up to 50,000 tons of dewatered biosolids material in covered buildings," says Swerdfeger. This material would be stored during winter months and applied to agricultural land during spring and summer.

"LIVE OR DIE BY STORAGE"

The maximum biosolids storage capacity of the Third High Farms receiving site imposed a real limit to the company's business growth and ability to service new clients Swerdfeger says. "We live or die by storage. Had we reached capacity, valuable material would have gone to a landfill. It's that simple," he says.

Growing demand for biosolids diversion solutions in Ontario, coupled with a desire to diversify the business, motivated Third High Farms in 2012 to look at a technology that would address storage issues while providing the company with innovative new ways to service municipalities.

"Essentially we had been acting as a hauler, storage site, and land applier of dewatered biosolids," says Swerdfeger. "We wanted the ability to manage more liquid material and provide more sophisticated, long-term, resource recovery solutions."



THE LYTEK SOLUTION

The key to addressing storage issues while simultaneously creating more diversified business opportunities was the ability to efficiently convert organic materials – hauled from across the Province - into a saleable biofertilizer product that can be safely stored anywhere.

Third High Farms reviewed a number of alkaline stabilization processes and decided to invest in Lystek's patented and proven, low heat, low pressure thermal hydrolysis solution. "Lystek's technology was the only one that addressed all of our needs", confirms Swerdfeger. "We also liked its small footprint, low cost and ease of operation compared to others we had seen." As part of its due diligence, Third High Farms inspected and saw a demonstration of Lystek's solution at the City of Guelph where the company's award winning biosolids management solution was successfully integrated into an existing Wastewater Treatment Plant (WWTP).

The complete solution from Lystek involved the design, building, and commissioning of a new building to house the Lystek system. Lystek's design/engineering team was on-site throughout to oversee the installation followed by a two-week training phase for the facility operators.

The Lystek solution produces a low-odor, high nutrient biofertilizer product called LysteGro®. The product is pathogen-free, federally registered (CFIA) in Canada and it meets/exceeds the US EPA criteria as a Class A EQ product. The LysteGro® product is also easier to store, transport and utilize than dewatered, Class B biosolids. Also, Third High Farms is now able to supply and apply LysteGro® more quickly.

The processing capacity of the Lystek system, commissioned at the Third High Farms processing center in 2013, is 9m³ of biosolids feedstock per hour. The addition of the state-of-the-art, Lystek solution to the Third High Farms biosolids management operation is playing a vital role in contributing to its industry leadership position while ensuring it has the capacity and efficiency to be competitive on new business opportunities. "With Lystek technology, we can now provide municipalities with a competitive solution that better supports their biosolids diversion goals while giving us another option for managing and monetizing the resulting product," says Swerdfeger.



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About Lystek International

Lystek is a leading provider of Thermal Hydrolysis solutions for the sustainable management of biosolids and organics. The multi-use, award-winning Lystek system reduces costs, volumes and GHG's by converting municipal and industrial wastewater treatment facilities into resource recovery centers. This is achieved by transforming organic waste streams into value-added products and services, such as the patented LysteMize® process for optimizing digester performance, reducing volumes and increasing biogas production; LysteGro®, a high-value, nutrient-rich biofertilizer and LysteCarb®, an alternative source of carbon for BNR systems.