



Public Consultation – Consistency & Transparency  
North East Residuals & Biosolids Conference 2013  
PRESENTED BY:  
Kevin Litwiller – Director, Business Development

# About Lystek

- Proven, award-winning provider of solutions for the conversion of biosolids and other organics into a Class A fertilizer product
- Solutions from the Waste Water Treatment Plant - through to beneficial end use
- Founded in 2000 at the University of Waterloo, headquartered in Cambridge, Ontario
  - Proprietary technology - protected by several US and CDN patents
- Experienced management team – expertise in microbiology, wastewater engineering, regulatory affairs, agrology, business development & marketing
- Helping municipalities & other generators and their communities understand how these materials can be turned into a ‘resource’, instead of ‘waste’ through advanced treatment



# Why were we founded?

- Escalating management challenges & costs – storage, transport & disposal is forcing communities to re-think needs & approaches – problems are not going away!
- Disposal in landfills is not considered sustainable - or responsible
- Concerns about pathogens, metals & odors are contributing to a distinct shift away from Class B - toward Class A treatment solutions. For example, in a recent WEFTEC workshop, it was noted that ***“Class B biosolids may contain pathogens, but Class A materials are treated to reduce enteric viruses below detection limits....”***
  - Safe, proven solutions & products are in high demand
  - Must be fiscally & environmentally responsible – reasonable up-front investments & ongoing costs are critical considerations
  - **Public understanding & acceptance is key – polarizing subject matter!**



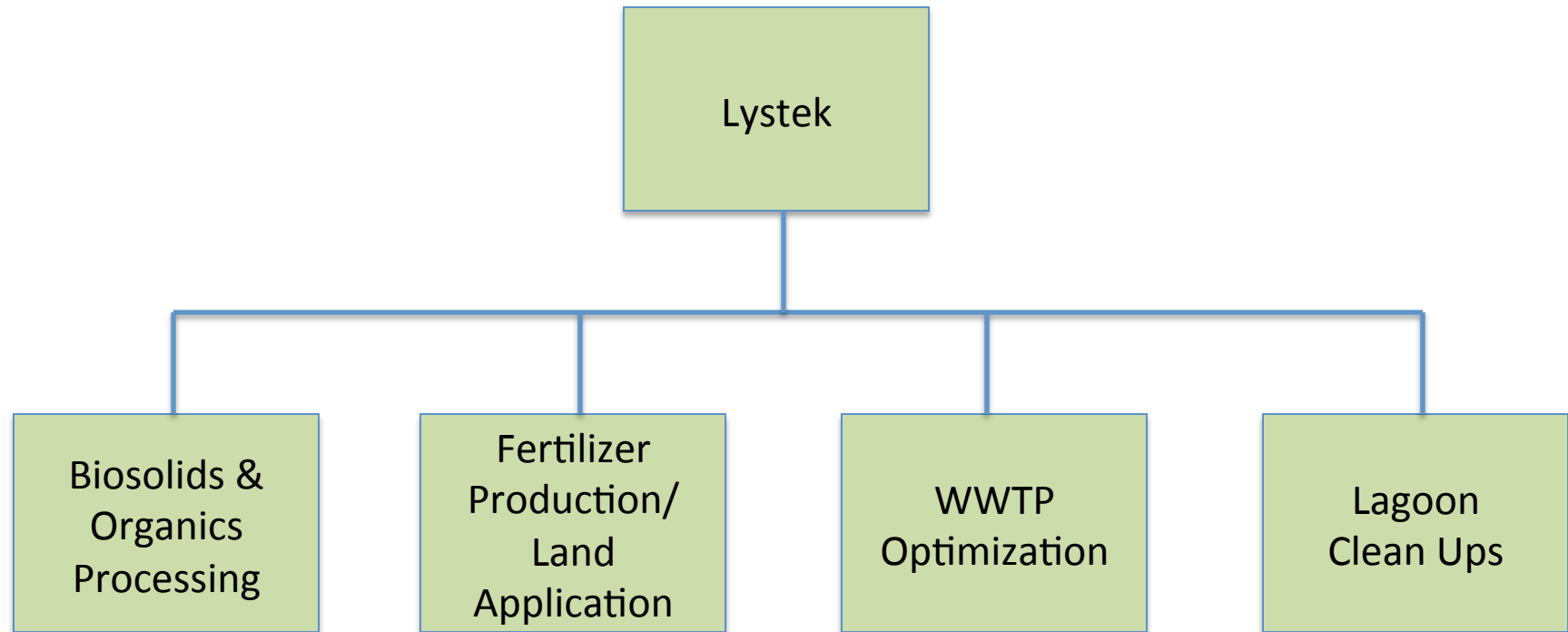
# How does Lystek do it?

## OUR TECHNOLOGY

- Patented technology utilizes a combination of heat (temperature), high shear mixing and pH (alkali) adjustment (KOH)
- Creates a unique, liquid fertilizer product called LysteGro that is still very high in organic matter (14-17%) with virtually complete pathogen kill
- Results in a low odor, Class A fertilizer product with high N-P-K values – registered & recognized as such at the federal level (Canada)
- Same system can be used to increase biogas recovery for green energy while reducing operating costs and overall volumes to manage
- Is simple & proven, takes up very little space, is low cost and easy to operate



# Solutions - Overview



# Where is Lystek in use now?

Site	Guelph	St Marys	Southgate OMRC	Iroquois	Elora
Status	Operating	Operating	Operating	Operating	2014
Volumes	18,000 t/ 26%	3,500 t/ 26%	150,000 t/ 3% - 26%	50,000 t/ 3% - 26%	3,000 t/ 26%
Capacity	10m <sup>3</sup> /h	3m <sup>3</sup> /h	30m <sup>3</sup> /h	9m <sup>3</sup> /h	5m <sup>3</sup> /h
Ownership	Guelph	St Marys	Lystek	Third High Farms	Elora

Solutions provider for the Cities of Toronto, Ottawa, Peterborough, Orangeville, the Regional Municipality of Waterloo and more....



# In-Plant Deployments



City of Guelph



Town of St. Marys



# Regional Processing Centre



Approach to OMRC



Rear of OMRC – biofilter system



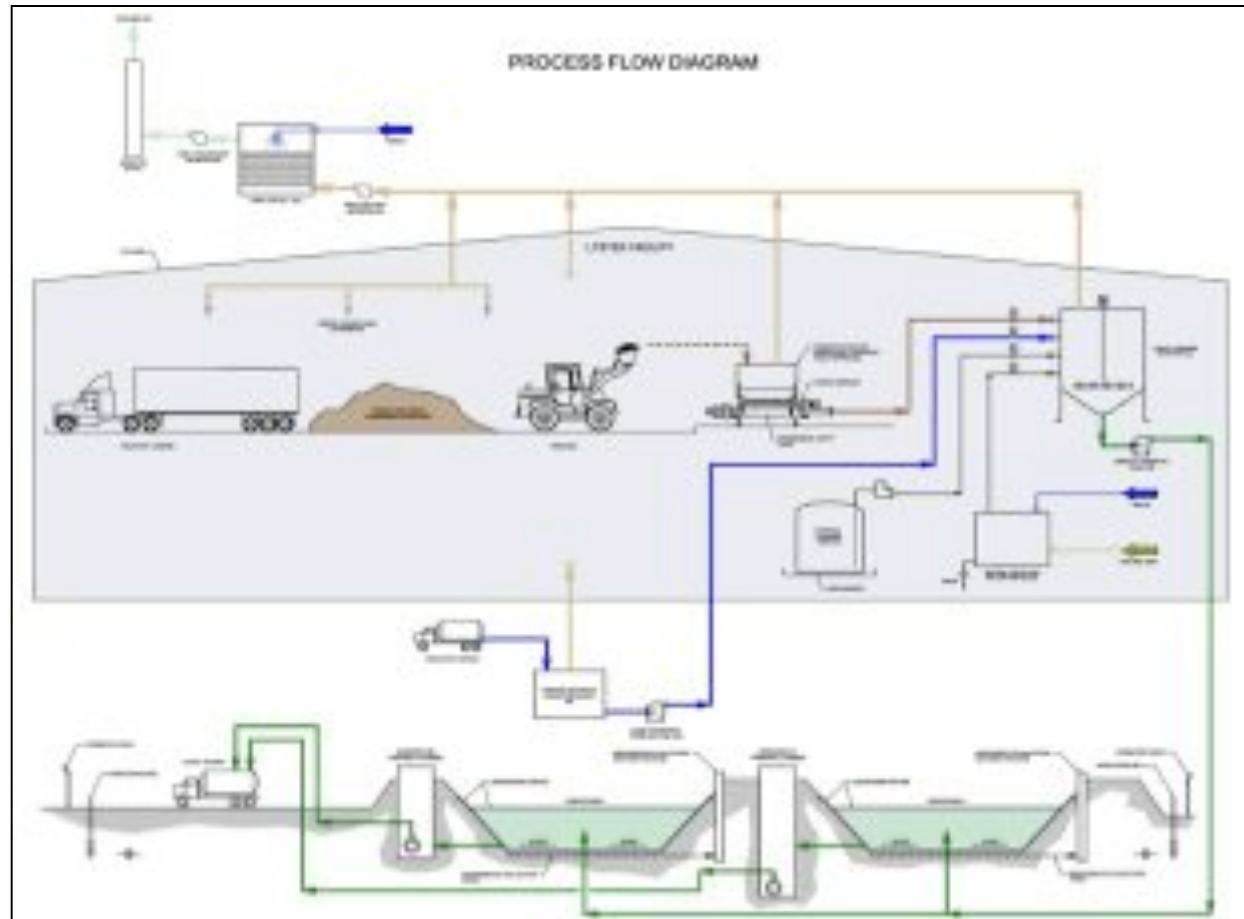
# Regional OMRC – Details

- State-of-the-art, fully licensed, regional receiving & processing facility
- Located in the Township's zoned "Eco Industrial Park " – heart of a farming community with a population base of approximately 7,000 residents
- Initiative that is fully supported by local Mayor, Council & majority of the community
- Constructed in 2012/2013 – Commissioned in April, 2013
- Capacity – to divert up to 150,000 tonnes of bio-organics from landfills annually
- Providing services to customers within 80 – 90 mile radius
- Extensive biofilter system for treating/handling all building air emissions/odors
- Fully lined & covered storage reservoirs for finished fertilizer product - capacity for approximately 64,000 m<sup>3</sup> or 16,900,000 US gallons



# Regional OMRC

## OVERVIEW OF CENTRE OPERATION



# Regional OMRC – Storage



# Key Issues/Community Concerns?

- Truck traffic and noise – safety?
- Odors – quality of life?
- Pathogens, metals – health & safety
- Environmental impacts?
- Proximity to town?
- Jobs & other economic benefits?
- Who are you people & why in our community?
- First Nations – environment, unresolved land claims



**Public understanding & acceptance is key – polarizing subject matter!**



# How do you achieve community buy in?

## START BY LEARNING ABOUT THE COMMUNITY!

- Historical situation – what's the back story/history of biosolids in the area?
- What is the demographic make up of the community?
  - Rural (agriculture) vs. more urban – or mix?
  - What is the general education level/awareness?
  - What are their general values/beliefs?
- What are the economic drivers in the community?
- What are some of the other, existing sensitivities –i.e. environmental, political, etc.?



# How do you achieve community buy in?

## START BY LEARNING ABOUT THE COMMUNITY!

- Who are the key, community influencers/leaders – formal and informal?
- What can you learn from the above to help you formulate an engagement plan?

- **UNDERSTAND GOING IN THAT:**

- **YOU NEED TO BE CONSISTENT & TRANSPARENT**
- **IT WILL TAKE BOTH TIME & MONEY TO “SUCCEED”**
- **NO MATTER HOW WELL PREPARED, YOU MAY STILL HAVE**

### **SURPRISES**

*(i.e. MEDIA SAVVY “NIMBY’s”, FIRST NATIONS INTERESTS)*

- **NO MATTER WHAT YOU DO, IT IS UNLIKELY YOU WILL EVER ACHIEVE 100% “BUY IN” or SUPPORT!**



# Development of Key Messages

## WHY SHOULD THE COMMUNITY WELCOME/TRUST YOU?

- Who are you (people)? What you've done previously (expertise)? How does this align with the community's goals and values? Explain.
- What is your value to the community? Job creation? Increased tax revenues? Reduced costs? Provision of some product and/or services not currently available? Explain.
- Does your solution meet/exceed all applicable regulatory guidelines and/or requirements? (local, state/provincial, federal, etc.) Is it proven? Explain.
- Develop messages & open dialogue with simple, easy to understand language. Avoid using big words, being too "scientific" or using too much "techno speak".
- If they can't understand you, they will never trust you!
- Above all, make sure your messages are consistent, transparent and sincere!***



# Sustainable Cycle



- Decreases need for organic “waste” disposal
- Decreases management program costs
- Meets demand for local agriculture
- Increases use of organic, nutrient-rich fertilizers
- Decreases reliance on chemical fertilizers
- Increases yield of existing farmlands



# Formulating & executing your plan

## GETTING THE MESSAGE OUT

Build a list of stakeholders and ensure your message is appropriate for each

Execute using a diverse range of communications approaches/channels – for example:

- Introductory letters to educate & inform the community about your initiative
- Voluntary facilitation of a Public Advisory/Liaison Committee
- Public information centres & presentations w/displays
- Refer to & share information/research/references from credible, third party sources, (customers, industry associations, gov. agencies, educational institutions)
- Distribute a community newsletter – hard copy & online (digital) formats
- Offer tours of any enabled sites you may already have (as practical)
- Get articles & “good news” into the local media – **BECOME MEDIA SAVVY!**



# Formulating & executing your plan

## MORE IDEAS FOR GETTING THE MESSAGE OUT

- Presentations to, and participation in, the local Chamber of Commerce
- Sponsorships of local sports teams and community events
- Post Q & A's from the community on your own & the host community's web site
- Development & distribute/share Case Studies, testimonials, etc.
- Attendance and participation in, local Council meetings
- Establishment & ongoing relationships with key community leaders
- Make sure you are in full compliance with all regulatory framework & can count on the “good word” & support from these critical, third party stakeholders



**BE EMPATHETIC, CONSISTENT & TRANSPARENT AT ALL TIMES!**



# Newsletters



## Newsletter: January 2012





### Welcome Note from the President

Welcome to our inaugural newsletter! Over the coming months, and beyond, we will be working in cooperation with the community to build the Southgate Organic Materials Recovery Centre. This initiative will demonstrate what can be accomplished when technology people and a desire to change the past are combined to create sustainable solutions for real-world challenges. It is widely recognized that the current practice of dumping unprocessed bio-waste on farm lands or into landfills simply cannot continue. Incineration is not the answer either. Using a very expensive process to burn material that has real value, and that ultimately only emits more harmful Green House Gases into the air simply does not make sense. These are just some of the reasons we are excited about working with the community of Southgate to build this exemplary facility. We have an opportunity to do something we can all be very proud of, for many years to come. This newsletter will keep you fully informed every step of the way.

Rick Mosher, President

### Grand Opening - OMRC Information Office



Please join us for the Grand Opening of the Southgate Organic Materials Recovery Centre Information Office in downtown Dundas on January 24 from 4 pm until 9 pm. All residents are welcome at 40 Main St. East, next to the Dundas Bakery for this exciting event. Lystek staff and Southgate Council will be on hand to share time and information regarding this initiative, join us and enjoy coffee and refreshments and, of course, to learn more about the many benefits that will be realized through this new addition to the Southgate Eco Park!

The information office will be open every Tuesday and Thursday evening from 4 pm until 9 pm, beginning with the Grand Opening on the 24th. This will provide the residents of Southgate with a physical location where Lystek staff can be engaged to learn more about the OMRC. This will also serve as an excellent location for local contractors, farmers, and other local businesses looking to explore possible opportunities with Lystek.

Come join us for our Grand Opening! We expect it to be a fun and informative evening!

### 2011-12 Champions! Novice Storm Team Wins Regional Tournament



In case you haven't already heard, the Dundas Novice Storm Hockey Team won the Quinte Regional Silver Stick Tournament on December 30, 2011. Teams from all over the part of the province compete in this four-day tournament and the Dundas team came out on top! The next step is an opportunity for these twelve local players to compete in the International Silver Stick Tournament in St. Clair Shores, Michigan on January 25-27, 2012. This is a once in a lifetime experience for these 8-year-olds and Lystek is proud to have been chosen as the primary sponsor of the team for this event. Go Storm!



## Newsletter: February 2012





### Why Lystek? A Note from the President

In our last newsletter we shared our company philosophy and beliefs with you. We shared that the very foundation of Lystek is rooted in environmental responsibility and stewardship and the belief that we can, and must, do better. It is from this basic philosophy that the company was founded and from which we will grow, with the help and support of communities like yours, communities that recognize the value and importance of returning valuable nutrients back to the earth, where they belong.

Why do we need to do this? Historically, three-quarters of all bio-waste generated in Canada and the United States (over 10 million dry tonnes a year), have been disposed of in one of three ways:

- 1) applied to farm land - with minimal to no processing;
- 2) sent to landfill sites or
- 3) incinerated.

All three of these primary management approaches are in a state of stress because a combination of technical, regulatory and financial considerations are rapidly changing the landscape. Land application of unprocessed bio-waste and seepage are under pressure due to environmental and health concerns. These concerns are leading regulators and policy makers to review the conditions and framework under which bio-waste is applied to land. Landfill disposal of bio-waste is an option in some jurisdictions but it is becoming increasingly more cost prohibitive and due to disappearing capacity is not considered sustainable either. Incineration is extremely capital cost intensive, there are concerns regarding GHG (Green House Gas) emissions and waste minimization and/or diversion goals are not necessarily furthered with this approach.

The good news is that industry experts and governing bodies also agree that these concerns can be addressed and resolved and that, over the next decade there will be a significant shift away from current disposal practices and toward advanced treatment solutions, solutions that are safe, cost efficient, and sustainable.

Lystek's advanced, award-winning processes address a wide range of existing concerns. We leverage a proprietary process to create a safe, Canadian Food Inspection Agency (CFIA) registered, fertilizer product at significantly reduced costs. One of the most important benefits of the process is found in the breakthrough discovery that produces a stable, high solid, low viscosity dust free, liquid fertilizer product. This makes it possible for land application of a sustainably generated and commercially valuable material to proceed with a sustainable solution that enhances land value and agricultural productivity. We look forward to working with the people of Southgate as we deliver these solutions to both the local and global community.

Rick Mosher, President

### Public Advisory Committee - Update

On January 31, 2012 the first Public Advisory Committee (PAC) was held at the Lystek Information Office in Dundas. All of the committee members identified in our previous newsletter attended the PAC with the exception of Luke Hicholuk, who was scheduled to be the interim chairperson. In place of Luke Hicholuk, we were very pleased to have Steve Redmond sit in as the interim Chair. Steve is a former resident of Pictou Township, Certified Crop Advisor (CCA CPE) and Professional Agronomist (PAG). He also has experience working with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) which includes the new regulatory framework for bio-waste and other Non-Agricultural Source Material (NASM). In addition to the PAC members, we were honored to be joined by Ian Mitchell, a district engineer from the Ministry of the Environment (MDEQ) who sat in as a special guest.

There were a number of topics discussed that are very important for the community to understand with the primary subjects being:

- What is the purpose of the PAC?
- What exactly is the Lystek process?
- How was the Centre location selected?
- What technology is in place to prevent odours from indoor feedstock, storage and processing?
- What type of trucks will transport feedstock material to the Centre?
- What transportation routes will be used?
- What is actually in the finished fertilizer product?
- Where is the finished fertilizer product stored and what storage controls are in place?
- How is application of the finished fertilizer product regulated?
- How can the PAC get factual information to the community in an easy to understand format?

The topics which were covered can be found, in the form of meeting minutes, on both [www.lystek.com](http://www.lystek.com) and [www.southgate-omrc.com](http://www.southgate-omrc.com). Meeting minutes are prepared on behalf of the PAC and circulated in draft format to all members for review and comment before they are finalized and made available to the public. It is very important to the PAC that all information published in the meeting minutes is factual and accurate as committee members live in, and represent, the community.



# Sponsorship



## 2011-12 Champions! Novice Storm Team Wins Regional Tournament

In case you haven't already heard, the Dundalk Novice Storm Hockey Team won the Kincardine Regional Silver Stick Tournament on December 30, 2011. Teams from all over the part of the province compete in this four-day tournament and the Dundalk team came out on top! The next step is an opportunity for these twelve local players to compete in the International Silver Stick Tournament in St. Clair Shores, Michigan on January 30-31, 2012. This is a once in a lifetime experience for these 11 year olds and Lystek is proud to have been chosen as the primary sponsor of the team for this event. Go Storm!



# Public Advisory Committee

## Lystek Southgate PAC Meeting

### Regulated Metal Information

### Permanent chair named

Stephen G. Redmond will be the permanent chair of the Southgate Organic Materials Recovery Centre (OMRC) Public Advisory Committee (PAC). He was elected unanimously at the committee's second meeting last week, according to a press release issued by Lystek.

Mr. Redmond, formerly an Environmental Management Specialist with the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA), recently left to pursue a full time interest in Redmond Agronomic Services, a professional Crop & Nutrient Management Consulting practice he has also operated since 1996.

"Mr. Redmond is a recognized professional that understands the importance of the role of the chair and the requirements for objectivity," the press release said. "He is well known in the local area as he was originally from Dundalk and

has family that still resides in the community. As such, he has been watching the various elements of the Lystek development very closely."

Mr. Redmond has a BSc in Agriculture from University of Guelph, is certified as a crop advisor in Ontario and is designated as a professional agronomist by the Ontario Institute of Agrologists. He has experience in monitoring construction of natural gas pipelines for farmers as well as experienced in chairing school council and finance committees. He is currently a board member of Ailsa Craig & Area Foodbank.

As previously announced PAC meetings take place on the last Tuesday of each month from 7-9 PM at Lystek's Community Information Office at 40 Main St., Dundalk, Ontario.



Stephen G. Redmond

is 9 yrs. at Lystek's Community Information Office at 40 Main St., Dundalk, Ontario.

Lystek International, founded in 2000 by leading researchers at the University of Waterloo, has patented processes for converting biosolids into an organic-based fertilizer product that meets the guidelines of the Ontario Ministry of Agriculture Food & Rural Affairs (OMAFRA) and the Canadian Food Inspection Agency (CFIA). Lystek is committed to environmental stewardship and contributing to the economic well-being of the communities in which it operates. The Southgate Organic Materials Recovery Centre will leverage Lystek's proven, technologically advanced process to convert organic waste into a safe, nutrient rich, organic-based fertilizer product that is approved for agricultural use by the Canadian Food Inspection Agency.

Where to register:  
7-9 PM: First Floor South Complex  
Sat. March 17 9 a.m. to 1 p.m.  
Wed. March 21 7 a.m. to 9 a.m.



Press Release

FOR IMMEDIATE RELEASE

February 29, 2012

**Public Advisory Committee elects former OMAFRA Environmental Management Specialist, Stephen G. Redmond as Permanent Chair**

**Dundalk, Ontario** – Lystek advises that a vote was taken last night at the second meeting of the Southgate Organic Materials Recovery Centre (OMRC) Public Advisory Committee (PAC) and, in a unanimous decision, Mr. Stephen G. Redmond, formerly an Environmental Management Specialist with the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) was elected as permanent Chair.

Mr. Redmond recently left OMAFRA to pursue a full time interest in Redmond Agronomic Services, a professional Crop & Nutrient Management Consulting practice he has also operated since 1996.

Mr. Redmond is a recognized professional that understands the importance of the role of the Chair and the requirements for objectivity. He is well known in the local area as he was originally from Dundalk and has family that still resides in the community. As such, he has been watching the various elements of the Lystek development very closely.

Here are some additional facts about Mr. Redmond that qualify him to act, as permanent Chair, for the PAC:

- Operated an agronomic consulting business since 1996
- BSc in Agriculture from University of Guelph
- Certified as a Crop Advisor in ON (CCA)
- Designated as a Professional Agrologist (P.Ag.) by the Ontario Institute of Agrologists
- Experience in monitoring construction of natural gas pipelines for farmers
- Experienced in chairing school council, finance committees
- Currently a board member of Ailsa Craig & Area Foodbank

As previously announced PAC meetings take place on the last Tuesday of each month from 7-9 PM at Lystek's Community Information Office at 40 Main St., Dundalk, Ontario.

For more information about this Release and/or the PAC, please contact Kevin Litwiller, Director of Business Development, at 1-888-501-6508 ext 106 or kevinl@lystek.com

*Lystek International is an award winning company founded in 2000 by leading researchers at the University of Waterloo. The company has patented processes for converting biosolids into an organic-based fertilizer product that meets the stringent guidelines of the Ontario Ministry of Agriculture Food & Rural Affairs (OMAFRA) and the Canadian Food Inspection Agency (CFIA). Lystek is committed to environmental stewardship and contributing to the economic well-being of the communities in which it operates. The Southgate Organic Materials Recovery Centre will leverage Lystek's proven, technologically advanced process to convert organic waste into a safe, nutrient rich, organic-based fertilizer product that is approved for agricultural use by the Canadian Food Inspection Agency.*



# Product Analysis - Metals

Metal (mg/kg)	Maximum allowable (ON)	Lystek Fertilizer
As	170	2.5
Cd	34	1.8
Cr	2800	127
Co	340	3
Cu	1700	700
Pb	1100	25
Hg	11	1
Mo	94	18
Ni	420	21
Se	34	5
Zn	4,200	1,183



# Product Analysis – Pathogens

Pathogens	MDL	Class A Criteria	Untreated dewatered biosolids	Lystek treated biosolids
Fecal coliforms (MPN/g dry wt)	1.8	< 1,000	> 1,600	< 1.8
<i>Escherichia coli</i> (MPN/g dry wt)	1.8	-	> 1,600	< 1.8
<i>Salmonella</i> (P-A / 25 g)	1	< 3 MPN/4g	POS	NEG
Polio virus (pfu / 4g)*	1	< 1	776	< 1
<i>Ascaris</i> eggs (per 4g)*	1	< 1	131	< 1



# Federal Registration Label

**LYSTEK PRODUCT LABEL**

Registration Number 2009017D Fertilizers Act

<b>BRAND</b>	LYSTEK
<b>FERTILIZER NAME</b>	LYSTEK PROCESSED BIOSOLIDS
<b>GRADE</b>	2-2-2
<b>MANUFACTURER</b>	CITY OF GUELPH WASTEWATER SERVICES, 50 CARMON STREET, GUELPH, ON N1H 5A1
<b>PRODUCT WEIGHT</b>	WEIGHT ON BILL OF LADING
<b>LOT NUMBER</b>	

**GUARANTEED MINIMUM ANALYSIS:**

Total Nitrogen (N)	2%
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	2%
Soluble Potash (K <sub>2</sub> O)	2%
Organic Matter	95%

**DIRECTIONS FOR USE:**  
Maximum application rates for Lystek product should not exceed 4 dry tonnes per hectare. Reference should be made to local Agricultural Guidelines regarding crop nutrient requirements prior to using Lystek Product.

**MATERIAL SAFETY DATA**

<b>PHYSICAL PROPERTIES</b>		<b>STORAGE</b>	Liquid storage tanks or drums
<b>FORM</b>	Semi-solid Liquid	<b>SPELLAGE</b>	Prevent from entering drains
<b>SOLUBILITY</b>	Soluble in water	<b>WASTE DISPOSAL</b>	In accordance with local regulations
<b>pH VALUE</b>	7 - 10	<b>PRODUCT CLASSIFICATION</b>	
<b>FIRE AND EXPLOSION DATA</b>		<b>CONVEYANCE</b>	Protect from leakage
<b>EXTINGUISHING MEDIA</b>	CO <sub>2</sub> , Dry powder, foam, water	<b>HAZARDS</b>	
<b>PRECAUTIONS IN USE</b>		<b>SKIN</b>	May cause irritation. Wash with water and soap
<b>EYE PROTECTION</b>	Safety Glasses	<b>EYES</b>	May cause irritation. Flush with water thoroughly. Seek medical advice if irritation persists
<b>HAND PROTECTION</b>	Rubber Gloves	<b>LUNGS</b>	May cause irritation. Remove patient to fresh air. Seek medical advice if irritation persists
<b>PROTECTIVE CLOTHING</b>	Overalls	<b>INGESTION</b>	May cause illness or upset stomach. Seek medical advice
<b>RESPIRATORY PROTECTION</b>	N/A		
<b>VENTILATION</b>	N/A		
<b>OTHER PRECAUTIONS</b>	Do not eat, drink or smoke while handling material		

KEEP AWAY FROM CHILDREN



# First Nations Consultations

From the desk of  
W. Barry Hill B. Eng, M. Eng, P. Eng (Ret'd)

## Media Release

Final

Monday July 23 | Ohsweken, Ontario | For immediate release

### Report Supportive of Lystek And Encourages Continued Dialogue

A report presented to the Haudenosaunee Development Institute (HDI) says that the processing technology designed by Lystek International is safe and is a significant step forward for the biosolids sector in Ontario.

"The product produced by the Lystek process is a fertilizer with a 3-3-3 equivalency," said report author, Barry Hill. He continued, "It will provide much needed organic matter to Ontario soils as well as micronutrients."

The report was commissioned by the HDI as part of their review process for the Lystek organic material recovery centre (OMRC) which the company is planning to build in the Eco Park located in the Township of Southgate. Lystek is a recognized leader in converting biosolids into a ready-to-use CFIA registered fertilizer. Its technology is being used successfully by the City of Guelph, The Town of St Marys and is under serious consideration by other municipalities.

"We were pleased to read the report from Mr. Hill," said Kevin Litwiler, Director of Business Development for Lystek. "Having someone with his professional credentials and agricultural experience get to know our technology is very important for us. This report supports what our clients, the general marketplace and our team already knows: our process is good for everyone involved."

As part of his research for the report, Mr. Hill attended a tour of a Lystek installation along with other members of the Southgate community. Mr. Hill commented, "I am glad to know that my report can be a part of the continued positive conversations between our community and Lystek. As a proud farmer and member of Six Nations of the Grand River, I think there is an opportunity here for long-term partnership."

1



**Accommodation**  
815-445-2281  
(519) 445-4181

**Economic Development**  
(519) 553-1988  
(519) 708-0768

**Health Services**  
445-2431  
(519) 445-4563

**Housing**  
445-2137  
(519) 445-2775

**Human Resources**  
445-2223  
(519) 445-1286

**Laboratory Services**  
418-8635  
(519) 445-2775

**Land & Resources**  
815-755-0665  
(519) 755-0665

**Police & Correction**  
445-4551  
(519) 445-4411

**Public Works**  
445-0242  
(519) 445-4563

**Social Services**  
445-4532  
(519) 445-1783

**Welfare**  
445-3985  
(519) 445-4533

July 10, 2012

Kevin Litwiler  
Director of Business Development  
Lystek International Inc.  
1425 Bishop St. N.  
Unit 16  
Cambridge, ON  
N1R 6J9

Dear Mr. Litwiler:

#### Re: Proposed Organic Materials Recovery Centre Near The Town of Dundalk

This letter is intended to confirm that Lystek International Inc. is currently engaged in consultation with myself and other appointed members of the elected leadership of Six Nations of the Grand River regarding their plans to develop and commission an Organic Materials Recovery Centre at a proposed site located in the Northeast area of the Haldimand Tract, near the town called Dundalk. The proposed area is also known as the "Eco Industrial Park" as designated by the Municipal Township of Southgate, Ontario.

Although we've been advised that a letter regarding this project was originally issued by the Ministry of the Environment to the attention of Chief Bill Montour on January 24, 2012, our first personal meeting with representatives of Lystek took place on April 20, 2012 when they came to meet with us to introduce us to their company and explain their technology and overall plans for this development. Since that time, Lystek has continued to be proactive in reaching out to our staff and leadership to provide additional information regarding the proposed project. All the information requested by Six Nations of the Grand River has been openly and freely shared by Lystek as well as discussed through various means including PowerPoint presentations, telephone and email collaborations. Additionally, a personally guided tour of one of the facilities where their technology has been successfully installed and in full operation for several years was arranged for us by Lystek.

In short, I am generally pleased with the professional approach that Lystek has taken in this matter. We note that progress has been made in the consultation process, although it is not yet complete. Based on the information provided by Lystek, and feedback from my staff and colleagues, at this time the Six Nations of the Grand

P.O. BOX 5006

OSHSWEKEN, ONTARIO

CANADA N0A1B9



# Third Party Research

## Bioassays of Biosolids Land Application in Ontario

Lynda McCarthy  
Ryerson University, Toronto  
May 22, 2011



Soil, water organisms give their verdict on biosolids ; Ryerson researchers devise some elaborate ways to see the impact of sewage sludge spreading on the environment

Ontario Farmer  
Tue Jan 24 2012  
Page: B1  
Section: Production  
Byline: BY PETER RESCHKE, ONTARIO FARMER

London -She may be a researcher in the chemistry faculty of **Ryerson University**, but Dr. Lynda McCarthy understands there are limitations to what chemical analysis can reveal -especially when it comes to assessing the effects of chemicals on living organisms.

Chemical analysis tends to look at different chemical compounds in isolation, she told the recent Ontario Certified Crop Advisors Conference. But in the real world, chemicals rarely appear on their own. Sometimes you're not even sure if the compounds you're evaluating are even bio-available.

So when you're trying to determine whether municipal sewage sludge applied to farmland is harmful to soil or water organisms the best way is to ask the creatures that are affected, she says.

McCarthy told the group that the application of biosolids is "a very controversial subject...there is so much erroneous information out there...the farmer and the public don't know (all the facts)."

While chemical analysis is fairly straightforward, doing bioassays is extremely complex. "The criteria are very important," she says. It has to follow sound, scientific and statistical protocol and also has to be cheap and easy to replicate if municipalities want to run their own tests in order to make regulatory decisions.

It takes substantial knowledge of the organisms that you're studying because the impacts of the chemicals may not be simply life or death. There could be sub-lethal impacts that show up in behavioural changes, long-term damage, or even reproductive problems, she explained. You have to be able to recognize these changes in the organisms.

Often that means going back to the existing literature for clues that will help in making assessment. McCarthy told of one instance where a student discovered an off-hand observation in a 1758 description of a water flea. The author wrote that the usually



# Media Releases



## Media Release

Final | October 1, 2012

### Six Nations of the Grand River Consultation Team Tours Lystek Site - All Parties Proud of Growing Relationship

Attention: Environmental and agricultural reporters/editors

October 1, 2012 - Cambridge ON - For Immediate Release | After a joint tour of the Lystek facilities under construction in the Southgate Eco Park, officials from Six Nations of the Grand River Consultation and Accommodation Process (CAP) team and Lystek are proud of the growing and positive relationship between their organizations.

"Touring the actual Lystek site and facility and learning about their process first hand has been very helpful and informative," commented Lonny Bomberry, Director of Lands & Resources. "Clearly, there has been a lot of inaccurate information and rumours circulating about this development", he said. "We now have an even stronger understanding of the positive impact that Lystek technology can have for all communities and the environment."

The tour was a part of the evolving relationship between Six Nations of the Grand River and Lystek. Conversations over the year have included discussions about project development, site design, water management and protection, product storage and the efforts that have gone into ensuring there will be no negative impact on the surrounding environment.

The Lystek process is recognized in the industry as being one of most advanced biosolid management solutions in the world. The safety and environmental integrity of the Lystek technology is paramount for the Six Nations Community. Therefore, as part of their continued research into the project, the Six Nations CAP team has also commissioned the services of external expertise to perform an independent, third-party peer review of the technical and environmental merits of the Lystek process. Lystek welcomes this external review. "As we have said from the outset, Lystek is happy to provide any information required to help the community of Six Nations better understand and feel comfortable with our project" said President of Lystek, Rick Mosher.

"The biosolids conversation can sometimes include misconceptions," observed Southgate Mayor Brian Milne, who was also on the tour. "The tour was an opportunity to clarify that the Lystek closed-loop system is going to have no impact on the local water tables and is the perfect tenant for the Southgate Eco Park. We are very pleased to be working with leadership from Six Nations and Lystek to make this park a part of our common economic and environmental future."

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Lystek International Inc. is an organic materials recovery firm that is helping reduce waste and green house gas emissions through the re-use of organic biosolid materials. Lystek technology transforms biosolids traditionally sent to landfills or incinerated into nutrient rich fertilizer. For more information please contact Kevin Litviller, Director of Business Development: Office: 226.444.0186 x 106 or by email at: kevlit@lystek.com

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## Media Release

FINAL

### Ministry of Environment Issues Approval for Lystek Centre in Southgate Eco Park

Attention: Environmental and agricultural reporters/editors

October 9, 2012 - Cambridge ON - For Immediate Release | Lystek has been notified by the Ministry of the Environment (MoE) that all three of its Environmental Compliance Approvals (ECA's) for waste, air and storm/surface water have been approved. This marks the final milestones required for the company to complete construction of its Organic Material Recovery Centre (OMRC) located in the Township of Southgate's Eco Park.

"This is a very rewarding day for the team at Lystek," commented Rick Mosher, President. "We had complete confidence these approvals would be issued. Ministry consent for this project is especially satisfying as we have invested a great deal of time and effort educating and working with the local community to ensure the economic and environmental benefits of this initiative were and are, clearly understood. We are ecstatic about this opportunity to continue building on our proven history of success while growing our business and serving new markets and customers."

The MoE approvals are confirmation that the Lystek OMRC meets the province's stringent environmental regulations and operational conditions. This is the culmination of a process that lasted for over a year including in-depth evaluation of the planning, construction, operations and environmental monitoring for the centre. It also involved extensive conversations with First Nations communities and the community-at-large. These discussions will be on-going through the local municipality and the Public Advisory Committee that Lystek established in early 2012.

Lystek plans to complete construction of the centre, including installation and testing of its patented technology, over the next two months. The company anticipates being ready for operations early in the New Year. The Lystek process is recognized as one of the most advanced biosolids processing technologies in the world.

"I want to congratulate Lystek on this important accomplishment," said Southgate Mayor Brian Milne. "We welcome Lystek's presence in the Eco Park and look forward to seeing their centre fully operational. Lystek brings tax revenue, jobs and environmental leadership to Southgate. We hope this will encourage many more progressive green tech companies to choose to make a home here."

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Lystek International Inc. is an organic materials recovery firm that is helping companies and municipalities reduce waste and green house gas emissions through the re-use of organic materials. Lystek technology transforms biosolids that were traditionally sent to landfills or incinerated into a nutrient-rich, agricultural fertilizer. For more information please contact Kevin Litviller, Director of Business Development: Cell: 519.584.5437 | Office: 226.444.0186 x 106 | kevlit@lystek.com

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# Agricultural Tours



June 6, 2012  
 Mr. Singh & Staff:  
 On behalf of the Grey County Federation of Agriculture, we want to thank you for an excellent & very informative tour at the City of Shulph Waste Treatment Plant. Our tour participants were very impressed. I think you have 23 new supporters of your treatment process. Thank you for also accommodating our altered timelines.

Shirley Fullerton



## Georgian Soil and Crop Summer Tour Wednesday, August 14, 2013 10:00 A.M. - 3:15 P.M. TOUR STARTS AT THE GREY DUFFERIN COMMUNITY PASTURE FARM



BBQ at the  
 Grey Dufferin  
 Community Pasture  
 Farm at noon.

BBQ Rain Location:  
 Farm of Mike Swidersky.  
 Directions will be provided that  
 day if needed.

BBQ Sponsored By:



### Tour the Grey Dufferin Community Pasture Farm

Southgate Road 12, across from fire # 126521

- Learn about the current research that will document the effect of rotational grazing on pasture yield and forage quality

Directions from Dundalk: Take Grey Road 89 west of Dundalk. Turn south/left on Grey Road 88. Turn west/right on Southgate Road 12. The farm is the first set of buildings on the left side. (There isn't a five number at the farm, but across the road it is # 126521)

### Tour Lystek's OMRC Plant in the Municipality of Southgate

191 Eco Parkway, Southgate

- The patented, proven and innovative Lystek process that you will see during this exciting tour of their new plant in Dundalk, transforms non-hazardous, organic materials into a safe, pathogen-free, nutrient-rich fertilizer product, called LysteGro. This unique, CFIA registered fertilizer product is high in organic matter content and it features predictable (NPK) values. Therefore, it is ideally suited to help reduce costs and improve soil performance for agriculture as well as situations where reclamation or remediation is required. Come see this remarkable process in action and find out more! Closed and shoes required!

Directions from the Pasture Farm: Turn left/north onto Grey Rd 88. Turn east/right onto Grey Road 89. Turn right onto the W Back Line (also known as Ida Street S/2nd Line SW). Turn left onto Eco Parkway. Drive to the end of the street, 191 Eco Parkway, on the left.



**No Admission  
 Charge to the  
 Farming Community**

There will be a bus departing  
 from Alliston for this tour.  
 For more info, please contact  
 Martha Patton, 705-434-9906



Sponsored by Georgian Central, Initiated by South Simcoe Soil and Crop Improvement Association, in Partnership with the Huronia Branch of Ontario Institute of Agrologists. For further information, call Grey Ag Services at 519-986-3756, email [info@greyservices.ca](mailto:info@greyservices.ca), or check out our website at [www.greyservices.ca](http://www.greyservices.ca). Pre-registration is strongly encouraged so that we can plan appropriately for the BBQ, however, it is not mandatory.

# Crop Trials – University of Guelph



No Fertilizer



Lystek Fertilizer



Chemical Fertilizer



# Awards

WEAO AWARD - APRIL 2013



Rick Mosher, President of Lystek, is presented with the Technology Development award from Gary Burrows, President of the Water Environment Association of Ontario (WEAO) – April 2013



# Thank You



**Nothing wasted.  
Everything to gain.**

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