Southgate OMRC

Public Advisory Committee

Minutes from PAC Meeting #24

LYSTEK SOUTHGATE ORGANIC MATERIALS RECOVERY CENTRE

Tuesday, May 24, 2016 **TIME**: 7 pm

LOCATION: Southgate OMRC Facility – Eco Park

ATTENDEES:

Steve Redmond (Chair), Glen Irwin, Karen Cheeseman,
Simon Meulendyk, Mike Dougherty – Lystek,
John Woodbury - Township of Southgate Councillor
Absent: David Hiscock

AGENDA TOPICS:

Item	Description	Action By
1.	**Welcome**	Steve
2.	**Review of previous meeting minutes** Steve provided a quick review of the minutes from the August PAC meeting.	Accepted by consent via email within two weeks of last meeting
3.	**Approval of Agenda**	Moved by Karen Cheeseman Seconded by Glen Irwin
4.	**Public and Media Attendance – Re: Question Period and Code of Conduct**	Steve
5.	**Operations Update** The incoming volumes have decreased due to regular seasonal fluctuations. As a result the facility has moved from three shifts to two until the fall when volumes are expected to increase again. A summary of incoming material can be found at the end of the minutes. The sources continue to be similar to other periods; however Scarborough, Arthur and Mono Township have also shipped material to the OMRC.	Simon Meulendyk

	Organizational Changes Mike Dougherty has been promoted to Director of Product Management for Canada and the U.S., while Simon Meulendyk has been promoted to Plant Manager. Shilah Lefeuvre has been moved into a full time position as a Lab Technician. There are currently eight full time employees. **Land Application:** Spring 2016 applications to land have been steady and 20,000 cubic metres have been applied to-date. **OSCIA Field:** Mike Dougherty supplied a copy of the final report of the 2015 field studies conducted by the Georgian Central Soil & Crop Improvement Association (GCSCIA). The six studies showed a 16.5 bushel per acre increase in corn yield when LysteGro was compared to commercial fertilizer. A full report of the 2015 study can be downloaded from the Lystek website and is attached to the meeting minutes. In 2016, Christine Brown – OMAFRA Nutrient Management Specialist – is replicating the LysteGro field studies at four locations. The study will also evaluate the 2015 field sites for crop growth in the 2nd year after application as the organic material in the LysteGro will continue to release nitrogen and other nutrients to the following crops. **OMAFRA / Soil Resource Group Study (SRG)** A new study will evaluate the effectiveness of side-dressing LysteGro into a standing corn crop to supplement the nitrogen required for good yields. Some farmers, with liquid manure, have been using this practice for several years. The study will compare LysteGro vs. Commercial Fertilizer vs. Digestate (produced in an on-farm anaerobic digester). Don King is the SRG researcher who will be coordinating the field study. The website for the company is: http://www.srgresearch.ca/	
6.	**Community Concerns** • An odour complaint was received on January 22th from a resident in Dundalk. A site walk around was completed and the source of the odour could not be detected. The MOECC was	Simon M.

	notified about this complaint. • On May 9th, Lystek received a call from Jim Bromely (MOECC Environmental Officer). A complaint was received by the MOECC on May 7th regarding "late" truck traffic leaving the OMRC. Lystek was able to inspect security camera footage from May 7th and determine that there were no trucks that left the site after the allowed time frame. It is possible that a truck left the neighbouring compost facility and a resident thought that the truck had left the OMRC. • On May 18th, the OMAFRA Environmental Specialist responsible for Grey & Dufferin counties received a call about a planned land application of LysteGro in Melancthon Township. The OMAFRA person discussed the land application with the complainant. The application was to occur on a neighbouring property to the complainant. No further communication was received on this matter. **Question from PAC member:** A member asked about the E.coli and Fecal Coliform levels in the processed material and whether these levels can increase in the stored material. Simon & Mike explained that the testing of the material has shown ***NO*** regrowth of the bacteria populations. The high ammonium concentrations in the stored material inhibit microbial growth.	
7.	**Monitoring Reports** The PAC reviewed the 2015 fourth quarter and 2016 1st quarter monitoring reports. The consistency of the material and constituent levels are similar to previous reports and are well below regulated limits in all monitored metals and pathogens. The 2015 - 4th quarter and 2016 – 1st quarter reports are attached.	Simon
8.	**Action Items:** 1. The PAC is considering a site visit to a hay field in mid-to-late June when an application of LysteGro is being applied after the 1st cut of hay.	Steve to communicate with Simon in mid-to-late June.

	Next meeting is planned for Tuesday, November 22nd ,2016 at 7 pm in the Southgate Organic Materials Recovery Centre boardroom.	
	Adjourn Meeting	Moved by Glen Irwin

Incoming Material Summary		
Type	Volume (trucks) per day	Municipality
Cake (solid)	3-5	Toronto, Halton, Guelph, Scarborough and Peterborough
Liquid	1-2	Orangeville, Durham, Owen Sound, Arthur, Mono and Tay Township

Attachments:

- Monitoring Reports for 4th quarter 2015 and 1st quarter 2016
- Georgian Central Soil & Crop Improvement Association 2015 Report: *"Meeting Corn Nutrient Needs with LysteGro Fertilizer"*

The Southgate OMRC PAC is a condition of the MOE's Environmental Compliance Approval to create an open flow of information to local residents about the biosolids processing centre in Dundalk.

Members of the PAC meet four times per year, or more often if deemed necessary. Currently, there are four volunteer community members and a chairperson on the committee. Members of the PAC include:

- *Glen Irwin, a local business person and former Southgate Twp. Councillor*
- *Karen Cheeseman, a local graphic artist*
- *David Hiscock, a resident of Dundalk*
- *John Woodbury, a Township of Southgate Councillor*
- *The committee is chaired by Stephen Redmond. He is a certified crop advisor, a former Environmental Specialist with OMAFRA and former resident of Dundalk.*

Processed Product Analysis Form
Quarter 4- 2014 Oct Nov Dec

Lystek Southgate Organic Materials Recovery Centre (OMRC)
191 Eco Park Way, Dundalk, Ontario

Constituent	OCT 5 - 9	OCT 13 - 17	OCT 19 - 23	OCT 26 - 30	NOV 2 - 6	NOV 9 - 13	NOV 16 - 20	NOV 23 - 27	NOV 30 - DEC 4	DEC 7 - 11	DEC 14 - 18	DEC 21 - 25	29-Dec	DEC 28 - JAN 1	Quarterly Average	Maximum Allowable Metal Concentration[a]	Units
Metals																	
Arsenic	3.40	2.54	1.98	3.32	3.04	2.89	8.51	3.66	7.89	5.97	5.08	5.03			4.44	170	mg/kg
Cadmium	2.32	1.54	1.80	1.76	1.99	2.03	2.04	4.17	4.27	3.63	2.94	2.35			2.57	34	mg/kg
Cobalt	4.02	4.86	4.58	3.74	4.19	4.15	3.24	3.64	2.98	3.25	3.32	3.29			3.77	340	mg/kg
Chromium	67.25	57.00	69.20	72.60	105.50	75.65	84.30	85.55	74.35	100.55	73.85	84.60			79.20	2,800	mg/kg
Copper	781.20	682.80	702.00	714.60	745.50	655.00	506.50	738.60	499.20	453.55	636.60	547.50			638.59	1,700	mg/kg
Mercury	0.40	0.44	0.42	0.37	0.45	0.27	0.29	0.56	0.33	0.64	0.53	0.99			0.47	11	mg/kg
Molybdenum	9.80	8.40	10.10	10.60	11.60	10.20	10.20	10.37	10.10	10.20	12.50	12.40			10.54	94	mg/kg
Nickel	22.31	19.45	23.28	22.39	36.07	23.25	22.65	24.29	22.61	35.80	19.24	24.06			24.62	420	mg/kg
Lead	43.03	34.95	32.78	33.59	39.00	36.26	31.29	43.54	33.90	34.83	34.62	36.18			36.16	1,100	mg/kg
Selenium	4.76	BDL	3.06	3.83	4.69	4.00	3.83	5.17	BDL	2.09	5.18	4.39			4.10	34	mg/kg
Zinc	831.60	898.50	831.90	855.60	891.30	984.50	540.50	920.10	663.30	455.25	795.90	888.90			796.45	4,200	mg/kg
Nutrients and Physical Properties																	
Total Moisture	86.25	86.40	86.78	85.82	87.13	86.03	85.44	84.63	83.23	81.29	87.11	86.48			85.55	n/a	%
Total Organic Carbon	331,700	335,900	344,700	336,500	333,700	337,100	330,300	315,400	298,500	244,900	329,100	320,500			321,525	n/a	mg/kg
Total Kjeldahl Nitrogen	36,600	37,200	41,800	38,300	37,700	38,500	33,700	35,000	27,800	23,900	40,600	35,500			35,550	n/a	mg/kg
Ammonium - N	13,397.02	10,842.21	12,733.31	14,441.68	13,701.94	12,326.99	11,459.82	9,971.96	8,980.56	8,290.86	10,167.73	14,037.35			11,696	n/a	mg/kg
Nitrate and Nitrite-N	44.00	126.00	584.00	18.22	17.70	8.50	24.80	3.60	20.00	81.40	1.90	24.60			79.56	n/a	mg/kg
Total Potassium	18,800	15,000	15,900	17,700	21,100	15,900	18,800	15,700	11,700	11,700	24,700	15,900			16,908	n/a	mg/kg
Total Phosphorus	34,000	32,800	31,600	34,800	33,000	33,700	36,200	39,200	33,700	34,200	41,200	42,800			35,600	n/a	mg/kg
Pathogens																	
E.coli	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	n/a	n/a	MPN/g
Fecal Coliforms	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	n/a	1,000	MPN/g
Salmonella	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	n/a	<1	CFU/25g

[a] As per Section 14.2 of Environmental Compliance Approval No. 8850-8V6S7Z

NOTE: Analysis completed by A&L Canada Laboratories Inc.

NOTE: Each sample represens a composite of a minimum of 1 grab sample collected directly from the discharge point of the process reactor on a daily basis.

n/a - not available

NEG - negative

Processed Product Analysis Form
Quarter 1 - 2016

Lystek Southgate Organic Materials Recovery Centre (OMRC)
191 Eco Park Way, Dundalk, Ontario

Constituent	January 4, 2016	Jan 4 - 8	Jan 11 - 15	Jan 18 - 22	Jan 25 - 29	Feb 1 - 5	Feb 8 - 12	Feb 16 - 19	Feb 22 - 26	Feb 29 - Mar 4	Mar 7 - 11	Mar 14 - 18	Mar 21 - 25	Mar 28 - Apr 1	Quarterly Mean	Maximum Allowable Metal Concentration[a]	Units
Metals																	
Arsenic	3.31	3.28	2.87	2.36	1.74	2.88	2.60	3.72	1.99	1.85	2.20	1.83	2.52	2.56	2.55	170	mg/kg
Cadmium	3.60	2.51	2.36	1.61	2.52	1.81	1.49	2.71	2.13	2.23	2.32	2.11	1.95	2.24	2.26	34	mg/kg
Cobalt	3.56	3.97	3.38	3.52	4.14	3.90	3.82	4.38	3.76	3.73	3.72	3.56	4.02	3.84	3.81	340	mg/kg
Chromium	99.10	95.35	100.45	86.70	68.40	80.95	54.30	95.10	72.35	58.80	69.15	61.95	68.05	90.75	78.67	2,800	mg/kg
Copper	864.00	851.40	722.10	731.70	464.35	788.70	681.00	729.30	682.50	657.60	727.80	630.00	539.00	854.70	708.87	1,700	mg/kg
Mercury	0.43	0.59	0.38	0.18	0.40	0.59	0.50	0.64	0.31	0.66	0.41	0.36	0.58	0.67	0.48	11	mg/kg
Molybdenum	10.60	10.20	9.10	9.40	12.30	9.50	9.10	12.70	9.10	9.20	8.80	8.70	8.60	8.20	9.68	94	mg/kg
Nickel	33.06	36.23	35.64	27.87	19.91	29.17	20.00	31.64	22.28	20.87	18.31	18.60	19.56	20.69	25.27	420	mg/kg
Lead	32.68	35.05	34.29	33.18	39.93	39.09	50.85	48.06	51.55	68.85	59.55	58.90	49.42	38.01	45.67	1,100	mg/kg
Selenium	5.94	5.39	4.66	4.46	2.24	3.81	4.67	4.74	3.92	4.17	2.32	2.82	2.34	3.34	3.92	34	mg/kg
Zinc	948.30	1,015.80	815.40	851.10	922.20	848.40	755.10	940.80	844.20	835.50	899.70	809.10	888.30	950.10	880.29	4,200	mg/kg
Nutrients and Physical Properties																	
Ammonium - N	14,019.99	11,873.03	12,125.25	9,040.09	9,794.56	18,124.90	15,033.46	15,485.15	13,818.23	15,228.18	13,042.67	11,788.92	10,703.47	14,553.31	13,187.94	n/a	%
Total Moisture	85.74	85.43	85.23	85.93	88.05	87.79	87.30	88.15	87.33	89.32	86.83	85.56	85.59	84.45	86.62	n/a	mg/kg
Total Organic Carbon	344,300	345,200	350,200	346,500	341,400	342,100	344,400	307,000	341,000	344,800	349,400	345,300	338,600	338,800	341,357.14	n/a	mg/kg
Total Kjeldahl Nitrogen	41,500	42,500	42,400	38,200	39,500	57,600	46,500	28,000	39,500	53,200	40,400	38,100	36,000	37,600	41,500.00	n/a	mg/kg
Nitrate and Nitrite-N	103.60	13.14	10.96	10.46	33.60	25.80	52.20	6.66	36.20	23.40	28.00	19.06	31.40	7.00	28.68	n/a	mg/kg
Total Potassium	14,300	16,100	13,200	14,700	15,100	17,300	13,300	17,700	19,100	21,000	17,700	21,900	19,400	18,900	17,121.43	n/a	mg/kg
Total Phosphorus	45,000	37,100	30,700	31,100	26,200	31,500	34,100	36,600	30,800	32,900	30,900	29,500	31,300	26,400	32,435.71	n/a	mg/kg
Pathogens																	
E.coli	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	n/a	n/a	MPN/g
Fecal Coliforms	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	n/a	1,000	MPN/g
Salmonella	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	n/a	<1	CFU/25g

[a] As per Section 14.2 of Environmental Compliance Approval No. 8850-8V6S7Z
Note - Analysis completed by A&L Canada Laboratories Inc.
Note - Each sample represents a composite of a minimum of 5 grab samples collected directly from the discharge point of the process reactor on a daily basis.
BDL- Below Detectable Level
n/a - not available
NEG - negative

Meeting Corn Nutrient Needs with LysteGro™ Fertilizer

2015 Georgian Central Soil & Crop Improvement Association Project

Nothing wasted.
Everything to gain.

Third-Party Field Trials with LysteGro Biofertilizer Yields Amazing Results

In 2015, Lystek International Inc. participated in a trial with the Georgian Central Soil and Crop Improvement Association (GCSCIA) to evaluate the effectiveness of LysteGro, a registered fertilizer with the Canadian Food Inspection Agency (CFIA), in comparison to commercial fertilizer.

WHAT IS LYSTEGRO?

Lystek utilizes its innovative technology to process biosolids and other organics to produce a high quality, pathogen free, nutrient rich, fertilizer product called LysteGro. The product is registered at the federal level (CFIA) in Canada and is also recognized as a Class A (EQ) biofertilizer by the US EPA. It is currently utilized by farmers throughout Ontario as a commercial fertilizer replacement and/or supplement. LysteGro has proven to be extremely popular due to the high concentrations of Nitrogen (N), Phosphorus (P_2O_5) and Potassium (K_2O) (5.5 – 8 – 2.5 on a dry weight basis OR 65 – 100 – 30 lbs/1,000 imperial gallons), while also providing considerable concentrations of other valuable macro and micro-nutrients (including Sulphur, Calcium, Magnesium, Zinc and several others) and organic matter.

Approximately 75% of the total N within LysteGro is in the organic form, which is released slowly through mineralization and transformed into plant available inorganic forms throughout the season as the crop progressively needs it. Assuming 40% of the organic N becomes available in the first year following application (as per the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) recommendations), approximately 35 of the total 65 lbs of N in every 1,000 imperial gallons is available to the crop in the first growing season. Similarly, approximately 40% of the total P will become available during the first growing season,

resulting in approximately 40 lbs of P_2O_5/1,000 imperial gallons applied, being available during the first year following application. It can be assumed that all of the K applied with LysteGro will be available to the crop during the first growing season. The residual N and P not released and available to the crop in the first growing season will become available in subsequent years. The slow release characteristics of the N and P in LysteGro can be, and is, leveraged by the farmer to increase N mineralization and P soil concentrations in their soil over the long-term.

WHO IS THE GEORGIAN CENTRAL SOIL AND CROP IMPROVEMENT ASSOCIATION?

The GCSCIA is an alliance of Soil and Crop Improvement Associations of Bruce, Grey, Dufferin, South Simcoe and North Simcoe in Western Ontario. The Ontario Soil and Crop Improvement Association (OSCIA), founded in 1939, is a unique non-profit farm organization made up of 53 counties across the province that has a dedicated membership which represents all commodity groups across the province. The association works at the grass roots level, hosting field days, crop tours and locally organized workshops to introduce new methods of crop and soil management. Additionally, the OSCIA, at the provincial and county levels, facilitate and participate in trials related to new practices, products and other areas of interest to the local agricultural community. This crop trial is a direct result of this initiative by the GCSCIA.

THE TRIAL

The project evaluated yield, grain protein content and late season stalk nitrate content of corn fertilized with 2 rates of LysteGro fertilizer (3,000 and 4,500 imperial gallons/acre) injected pre-plant compared to commercial fertilizer in a field scale replicated trial. Commercial fertilizer rates were based on OMAFRA recommendations for 160 bushel/acre corn and the LysteGro application rates were chosen to represent a range the upper and lower application rates utilized for corn fertilization (depending on yield goals and soil characteristics). The trial was undertaken at 5 separate sites within the counties of the GCSCIA (Note: one field was in Wellington County, outside of the GCSCIA boundaries). As detailed in Table 1, each site varied in soil type, preceding crops, corn variety grown and fertilizer utilized in the commercial fertilizer control treatments (NOTE: no starter fertilizer was used in the LysteGro treatments).

TABLE 1 – SITE CHARACTERISTICS AND FERTILIZATION QUANTITIES

Site	Wiley	Bowman	Pridham	Blydorp	Musselman
Soil Type	Loam	Silt Loam	Silt Clay Loam	Loam	Loam
Previous Crop	Wheat	Old sod	Wheat	Soybeans	Wheat
Planting Date	May 2, 2015	May 6, 2015	May 6, 2015	May 6, 2015	May 15, 2015
Variety	DK 36 (3650 CHU)	DKC33-78 (2500 CHU)	DK38-03IB (2675 CHU)	DKC33-78 (2500 CHU)	P9188 (2675 CHU)
Fertilizer (starter)	135 lbs 8-32-16	19-34-22-6S–7Z	5-26-15	180 lbs 15-42-42-8S	No starter
Approximate Nutrients Applied (lbs/ac)					
Fertilizer check	131-43-22	154-106-94	~130-70-50	~160-76-76	~160-0-0
3,000 gal/ac	102-111-93	174-111-93	102-111-93	102-111-93	102-111-93
4,500 gal/ac	153-166-139	225-166-139	153-166-139	153-166-139	153-166-139

Yield was measured using a weigh wagon for each replicate individually to determine a mean yield for each treatment at each site. Additionally, in an effort to evaluate the effect of the organic N inherent in LysteGro versus commercial fertilizer, stalk nitrate and grain protein content were also measured as part of the trial. During harvest a total of 20 stalk and 5 grain corn grab samples from each replicate were collected and wholly combined to create one representative composite sample for each material. These samples were sent to an accredited laboratory for analysis.

RESULTS

Overall the results indicate that LysteGro at both application rates provided the nutrients required by the corn crop. At all but one site LysteGro out-yielded the commercial fertilizer treatments by an average of 16.5 bushels/acre (range -6 to 32), as seen in Table 2 and Figure 1. Field conditions varied across the sites as evidenced by the wide range of yields. Of note, the corn variety used at the Bowman site performed poorly throughout the entire field (not only the plot sections) and several other locations throughout Southern Ontario. The results of the Pridham site were poor overall and unlike the other four trial locations, the commercial fertilizer treatments performed better than the LysteGro treatments, on average. The reason for this is not known, but could be due to poor drainage, compaction, applicator error or other unknown factors.

Another interesting observation was that at the Bowman site, which had very low P soil levels, the corn fertilized with LysteGro (where no starter fertilizer was used) demonstrated severe P deficiency during the initial growth stages until approximately the 5 leaf stage. It is believed that as LysteGro is injected in 24" strips, the root system was not able to access the P provided by LysteGro until the 5-leaf stage. Nevertheless, as evidenced by the yield results, the corn in the LysteGro plots were able to recover and overall performed much better than the treatments fertilized with commercial fertilizer. It is recommended that for soils with low P concentrations that a starter be utilized with the seed in order ensure adequate P availability during the initial growth stages.

TABLE 2 – YIELD RESULTS

Site	Yield (bu/ac)			Yield Δ (LysteGro vs fertilizer)
	LysteGro Application		Commercial Fertilizer	
	4,500 gal/ac	3,000 gal/ac	N-P-K Equivalent	
Blydorp	175.6	161.6	160.3	8
Bowman	135.3	135.4	103.0	32
Musselman	196.7	193.5	175.2	20
Wiley	220.5	218.1	191.6	28
Pridham	102.6	105.9	110.0	(-6)
Average	166.1	162.9	148.0	16.5

Corn grain protein content, an important factor in feed quality, can provide an indication of late season N availability. As seen in Table 3, four of the five sites demonstrated that corn grown in the LysteGro plots had a higher grain protein content than that of the commercial fertilizer control plots, which implies that the LysteGro treatments provided higher soil nitrate concentrations than the commercial fertilizer treatments during the important late season growth stages.

TABLE 3 – GRAIN PROTEIN AND STALK NITRATE ANALYSIS SUMMARY

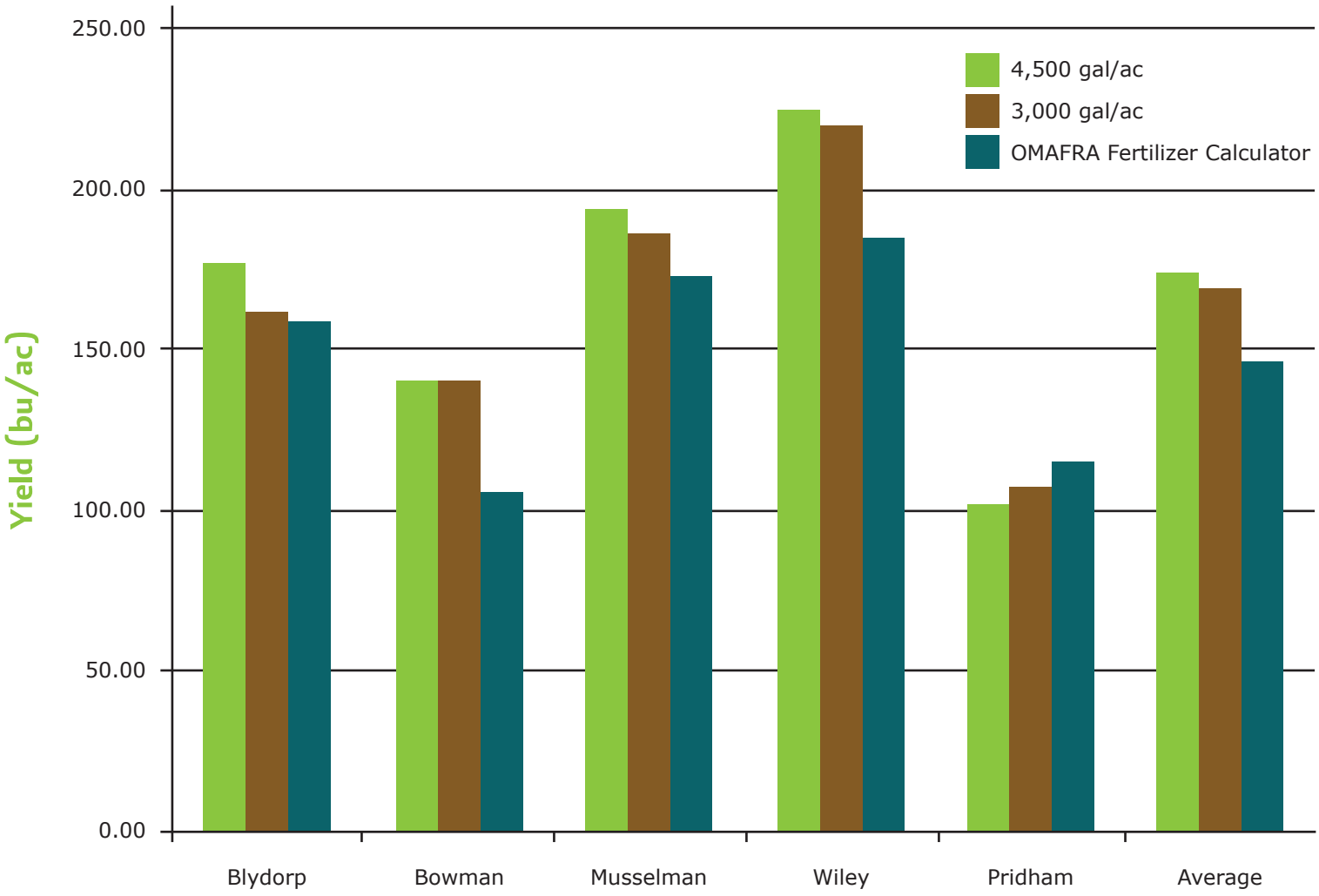
Site	Protein %			Stalk Nitrate (ppm)		
	LysteGro Application		Commercial Fertilizer	LysteGro Application		Commercial Fertilizer
	4,500 gal/ac	3,000 gal/ac	N-P-K Equivalent	4,500 gal/ac	3,000 gal/ac	N-P-K Equivalent
Blydorp	7.7	7.3	4.6	1,750	684	18
Bowman	7.7	7.4	7.3	2,750	2,070	982
Musselman	6.5	6.3	5.8	665	420	2
Wiley	7.8	7.7	6.6	120	109	4
Pridham	5.9	6.1	6.4	14	8	533
Average	7.1	7.0	6.1	1060	658	308

These trials demonstrate that LysteGro provides the full suite of nutrients required by a corn crop

Another indicator of late season nitrate availability for crop uptake is stalk nitrate concentration. As shown in Table 3, with the exception of the Pridham site, there is an obvious correlation between the LysteGro application rate and stalk nitrate concentrations. As per Christine Brown, the Nutrient Management Field Crops Program Lead for OMAFRA, "corn plants that do not have adequate N available will remove N from the corn stalks. A value under 200 ppm suggests more N may have helped the crop yield or that there was significant losses (i.e. denitrification from saturated soils) while a value over 2,000 ppm indicates more N was available at the end of the season compared to crop needs."

The corn grain protein content and stalk nitrate tests clearly demonstrate that there was more nitrate available later in the year in the LysteGro treatments in comparison to the commercial fertilizer treatments. This is an indication that the organic N portion of LysteGro is providing a slow release source of N, later in the growing year when the crop requires it. This is likely a major contributing factor to the increased average yields seen during the trial.

FIGURE 1 – LYSTEK YIELD DATA
4,500 and 3,000 gal/ac vs Fertilizer



CONCLUSIONS AND NEXT STEPS

As Christine Brown discusses in her report on the project, "these results demonstrate that LysteGro can function as a commercial fertilizer replacement for corn in Western Ontario. The corn grain protein and stalk nitrate content results also indicate, as expected, that one likely reason for the success of LysteGro is the organic N component (75% of the N in LysteGro is in the organic form), which mineralizes and releases available inorganic forms of N throughout the growing season, when the crop actually needs it. Because the useable N is released later in the year, when corn has its largest demand for the nutrient, the crop benefits as the yield potential is less likely to be limited by N availability, as can be the case with crops fertilized with conventional fertilizer"

Christine also concludes that "In addition to the positive effects of the organic N within LysteGro, these trials by proxy also demonstrate that LysteGro provides the full suite of nutrients required by a corn crop, while also adding valuable organic matter and micronutrients that commercial fertilizer typically do not contain."

Lystek is currently planning on continuing to participate with OMAFRA to quantify the benefits of LysteGro in 2016 where trials will be implemented to evaluate LysteGro injected during side dress time for corn as well as prior to cover crop establishment following winter wheat harvest in the late summer.

ACKNOWLEDGEMENTS

All data, tables and graphs were taken directly from the trial report prepared by Christine Brown of OMAFRA. This report is available upon request.

In addition to Christine Brown, Lystek would like to thank the GCSCIA, the cooperators, Brian Hall (formerly of OMAFRA who initiated and oversaw establishment of the trials), Andrew Barrie (OMAFRA Environmental Specialist) who oversaw the completion of the trials after Brian's retirement and Derek Hutchinson (OMAFRA summer student) who assisted with trial set-up and data collection for undertaking and completing this trial.

QUESTIONS REGARDING THIS TRIAL OR THE LYSTEGRO PRODUCT? CONTACT:

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Email: mdougherty@lystek.com
Twitter: @Lystek_MikeD

About Lystek

Lystek International Inc. is an organic materials recovery firm that is helping municipalities and other generators reduce waste, costs, odors and greenhouse gas emissions through its innovative approach to biosolids and organics management. The multi-use Lystek system can be leveraged to optimize digesters and biological nutrient removal systems while also contributing to landfill diversion and agricultural sustainability. This is achieved by transforming non-hazardous, organic materials into nutrient-rich, federally-registered fertilizers and other, multi-purpose products. **www.lystek.com**