



# Canada News

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**Welcome to our Fall Newsletter. As always, we hope you find the content informative and timely. We welcome any comments or suggestions for future issues. Thank you for your business and we wish you a safe and bountiful harvest.**

## Go Electronic - Save a Tree!


The majority of our customers are now receiving soil report data via PDF only. If you are still receiving a paper copy and want to do your part to help the environment and help us keep your costs down, please advise that you wish to go to "paperless" and soil information will be automatically emailed to you when released from our laboratory. [Click here](#) to send us an email with your account number and let us know that you want to go paperless.

Also, an increasing number of soil submissions are being made thru our DataWeb. These user-friendly and time saving on-line submissions eliminate the legibility issues that can accompany manual, hand-written forms. Call us today for a brief telephone tutorial that will introduce you to this process.

**A & L CANADA LABORATORIES, INC.**  
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**SOIL SAMPLE SUBMITTAL FORM**


Reference: 00047-7



FROM: Soil Stewardship Group

Grower Name: Jeff Smith  
Grower Code: 1244  
Farm: Home  
Field: East  
Address:  
Phone:

Fax To:  
E-mail To:  
Additional Information:

  
Page 1  
Printed at 29/SEP/2014

Sample ID	Lab Number (Office Use)	Requested Tests
1		S1B, S2, Zn, Mn
2		S1B, S2, Zn, Mn
3		S1B, S2, Zn, Mn
4		S1B, S2, Zn, Mn
5		S1B, S2, Zn, Mn
6		S1B, S2, Zn, Mn
7		S1B, S2, Zn, Mn
8		S1B, S2, Zn, Mn
9		S1B, S2, Zn, Mn
10		S1B, S2, Zn, Mn



## The Soil Sampling Season is Underway!

As was mentioned in the July letter, we expected an unprecedented number of soil submissions after wheat harvest for the following reasons:

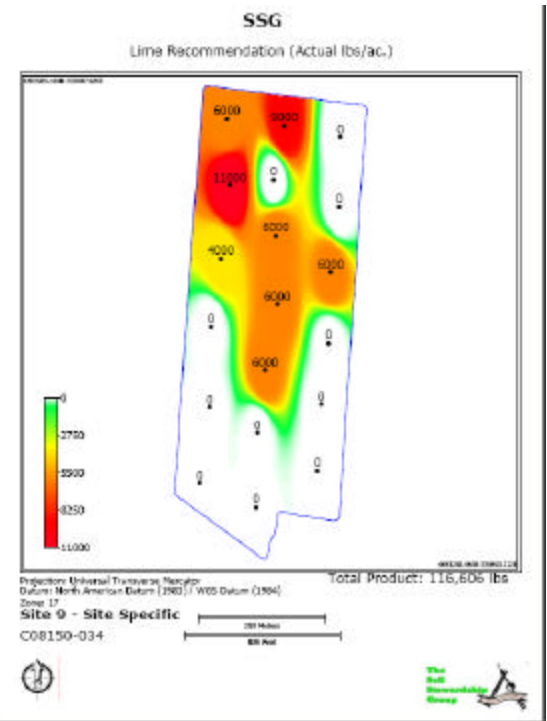
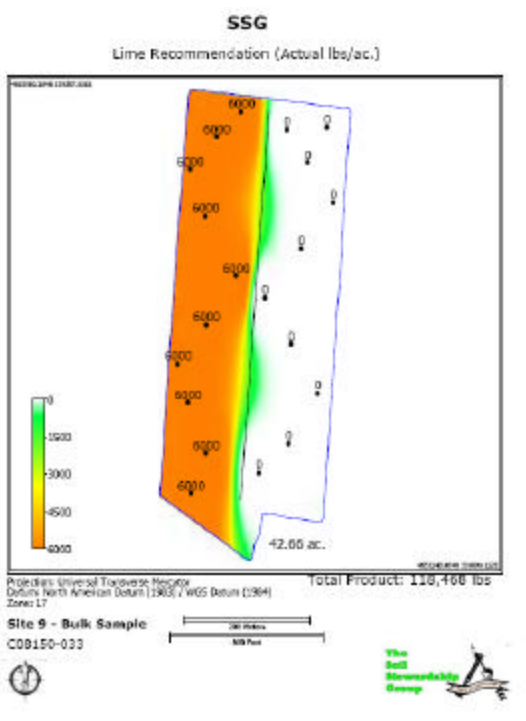
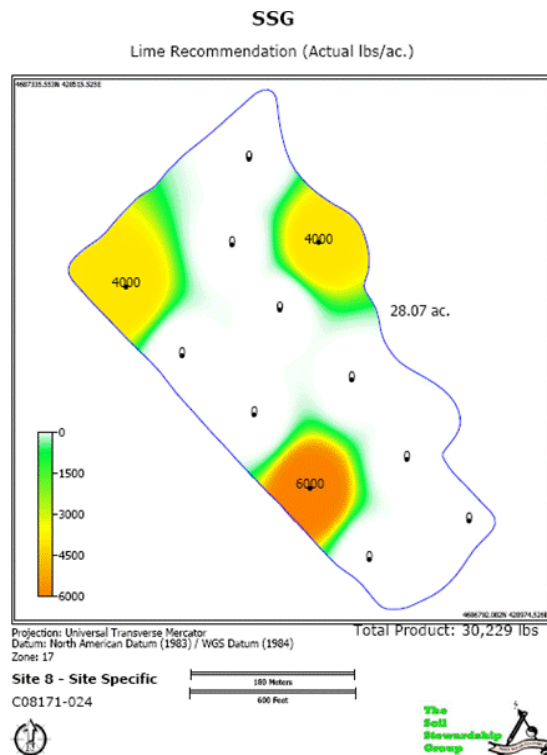
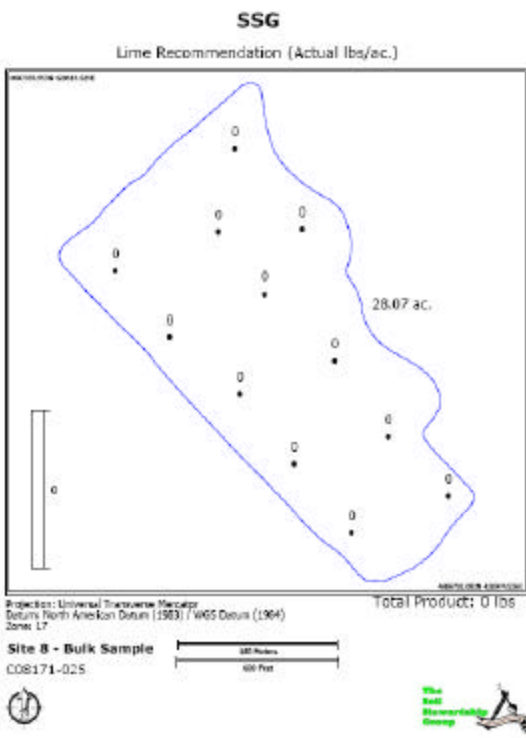
1. With the current strength in commodity markets, growers are optimistic and approachable.
2. There is the opportunity to capture previously unsampled acres that growers deferred in the recent past due to pessimism in the grain markets
3. With record commodity prices growers are aware they cannot afford to under-fertilize for optimum yield.
4. With record fertilizer prices growers understand they cannot afford to over-fertilize where it is not required.
5. The record # of wheat acres to be harvested provides an excellent opportunity to sample.

Soil submissions did indeed flow into the lab at a record pace and now, with soybean harvest underway, the sampling season begins in earnest. The economic climate we are experiencing provides an excellent opportunity for you to solidify your relationship with your customer. Advising your customers to "bring their soil history up to date" provides the basis for you to assist your growers to manage for optimum crop production. At A&L, we are ready to support you in any way we can to help you accomplish this. Please don't hesitate to contact us for any services or support we can provide.

## Sampling Strategies

Grower recognition that they cannot afford to over or under-fertilize their crops has prompted a resurgence and renewed interest in the economic benefit of Site Specific Sampling and Variable Rate Application. For your review, the following lime recommendation is a comparison of Site Specific vs. Bulk/ Composite sampling and analysis of the same fields. You will note the significant differences and variability identified by the Site Specific approach that Bulk/ Composite sampling did not capture. As a result, placement of nutrients between the two sampling strategies bear little resemblance. Current commodity and fertilizer pricing definitely supports "the right product, in the right place" approach to nutrient application and management.

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We can also normalize yield data and layer other sources of data for zone identification. Give us a call if we can be of assistance!

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## Record Keeping Software

We have been over-whelmed by your interest and acceptance of Record+, our mapping and record-keeping software. For those of you who haven't yet seen this program, Record + :

1. - can import geo-referenced aerial images to identify and measure farm and field acreages
  2. - can import soil type, yield, and other over-lay information to identify management zones
  3. - provides GPS boundary, point mapping, and Record Keeping capabilities within one program
  - 4.-enables user friendly entry of field and management data
  - 5.- is NMAN compatible for Nutrient Management Plan preparation
- Please contact our office if you would like more information or a demonstration of Record+



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# Manure Testing

In response to the surge in fertilizer prices, many producers are re-evaluating their manure management practices to ensure maximum nutrient utilization. To assist in this, our manure report now features an available nitrogen calculation as determined under normal temperature and normal moisture conditions. In addition, specific calculations to “fine tune” for application in a wet or dry, warm or cool environment. Can still be found on the reverse side of our report.



REPORT NO. ACCIDENT NO. **A & L CANADA LABORATORIES INC.** 2139 Jetstream Road, London, ON, N6V 3P5 (519) 457-2575 (519) 457-2854

TO: FOR: ATTN: **MANURE ANALYSIS**

LAB NUMBER: DATE RECEIVED: 4/22/2008  
 SAMPLE ID: DATE REPORTED: 8/27/2008 Page: 4

PARAMETER	ANALYSIS RESULT	FOUND PER 100 GML	ESTIMATED FERTILISER PER 100 GML
Sulfur	111.8 ppm		
Dry Matter	11.3 %		
Nitrogen (Total)	0.71 %	70.8	
NH <sub>4</sub> -N	0.44 %	44.4	
Phosphorus (Total)	0.24 %		
Phosphate (P as P <sub>2</sub> O <sub>5</sub> ) **	0.45 %	47.9	19.2
Potassium (Total)	0.47 %		
Potash (K as K <sub>2</sub> O) **	0.95 %	59.2	50.6
Organic Matter *	8.9 %		

Available Nitrogen - ppm (1000 g/ml)	Nitrogen incorporated 1 Day	Nitrogen incorporated 2 Day	Nitrogen incorporated 3 Day	Nitrogen incorporated 4 Day	Nitrogen incorporated 5 Day	Ammonia	Nitrogenous	Base Soil	Crop Residue	Standing Crop	Lake Fat Applied
1000	38.87	34.31	37.28	31.85	29.64	49.92	23.52	27.42	39.88	38.52	38.52
2000	77.04	71.60	73.15	61.72	58.78	99.24	46.94	54.85	79.76	77.04	77.04
3000	115.56	106.50	109.24	92.58	88.98	148.86	70.36	82.27	119.64	115.56	115.56
4000	154.08	142.00	146.32	123.45	118.67	198.47	93.78	106.69	159.52	154.08	154.08
5000	192.60	177.00	181.76	157.81	151.21	248.09	121.98	137.12	199.41	192.60	192.60

\* Organic Matter is reported on an as a basis  
 Only a portion of nitrogen will be available the year of application.  
 Calculator is based on average level of moisture content. Detailed Available nitrogen calculation (including poultry and bovine) on reverse side.  
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# Feed Analysis

At A&L, we are pleased to announce the addition of new generation, state of the art NIR equipment. We have long been recognized in the feed industry for the accuracy and rapid turn around time of our wet chemistry testing. The NIR up-grade allows us to expand our analysis offering, including digestible NDF. Below is a listing of our standard feed pack-

<b>A &amp; L CANADA</b>		
<b>FEED PACKAGES</b>		
<b>Wet Chemistry</b>		
<b>1</b>	Moisture, Crude Protein	
<b>2</b>	DM, Crude Protein, SP, ADF-CP, UIP, ADF, NDF, Ca, P, Mg, K, Na, S, Cu, Mn, Zn, Fe, TDN, NEL, NEG, RFV	
<b>3</b>	DM, Crude Protein, Ca, P, Mg, K, Na, S, Cu, Mn, Zn, Fe	
<b>NIR Packages</b>		
<b>4</b>	DM, Crude Protein, SP, ADF-CP, UIP, ADF, NDF, Ca, P, K, Mg, TDN, NEL, NEG, NEM, RFV, NFC, Starch*, Fat, Ash, Chloride * on corn silage, corn & high moisture corn * includes lignin on haylage, hay, and corn silage	
<b>5</b>	same as Package 4 but DM, Ca, P, K, Mg, Na by Wet Chemistry	
<b>6</b>	same as Package 4 but DM, Ca, P, K, Mg, Na, Cu, Zn, Mn, S by Wet Chemistry	
<b>Options</b>		
24,30 or 48 hr Digestibility (Forage Only)	T2	
Fat	Ph	
Ash	Selenium	
Lignin	Nitrates	
Vomifoxin		
Zearalenone	24,30 &/or 48 hr NDF Digestibility (Via NIR - Forage Only)	
Aflatoxin		

ages. Custom analysis is available upon request.



## Can We Afford to Cut Back?

As fertilizer prices soar and availability of some materials becomes a challenge producers begin to wonder where can they cut back. Although prices of inputs have increased substantially, so has the return on these investments with the increase in grain prices and world demand for grain. The question should not be how much should I cut back but how much should I use and what is the right amount of each nutrient and proper placement to maximize nutrient availability.

Plant nutrition and plant to soil interaction is a complex mechanism with a number of environmental and external conditions effecting the process. There are 16 elements involved in plant nutrition, three that are supplied naturally that we have little control over and 13 that are supplied by soil and or fertilizer application.

Therefore it is important when interpreting soil analysis and designing a fertility program, to keep balanced nutrition and proper placement of these nutrients in mind.

In production Agriculture today there is a lot of controversy over recommendations and how they are made. I often say that if you put two agronomists in a room together that they will come up with 3 recommendations. Understand that all three are likely correct but are made with different philosophy or intentions.

When designing a recommendation we must keep in mind that we are not feeding the plant. The soil will feed the plant, our inputs are to feed the soil that will in turn feed the plant. Application of different elements accomplishes different things. From the nitrogen that we apply, provided that we do an excellent job using Best Management Practices, we can expect the plant to get approximately 75% of that product in the production year. The rest of this nitrogen will be lost to the atmosphere, leached, tied up in the organic component etc. Other nutrients on the other hand such as Phosphorus and Potassium are not as efficient in plant uptake in the production year. In the application year the plant will only take up 15 to 20% of the applied phosphorus and potassium, the rest of the plants requirements will come from soil reserves.

A soil that has a well-balanced fertility will be able to supply nutrients to a crop in all kinds of conditions and will remain a strong field or consistent producer. A field that is limited in fertility will not be a strong producer or consistent in all environmental extremes. In early stages of growth a plant requires 3 pounds of potassium for every pound of nitrogen it takes up. By mid season the plant requires 1 pound of potassium for every pounds of nitrogen. Since applied nitrogen is fairly available to the plant in the application year, nitrogen placement and availability is not as critical as potassium. Potassium on the other had is less available in the application year and therefore more potassium needs to be supplied from soil reserves. Potassium means yield. Potassium is required by plants to assimilate CO<sub>2</sub> during photosynthesis. The higher the available potassium the more efficient the plant is at converting sunshine into grain.

In any case however there is a much greater efficiency in uptake of phosphorus and potassium if these materials are banded due to the concentration effect and percentage of uptake by the plant. Generally a broadcast application of phosphorus and potassium will not be effective in the application year and will become available in subsequent years as the soil releases these materials through diffusion to the root. Broadcast treatments usually consist of a greater quantity of fertilizer and should be looked upon as more of a soil maintenance and building program whereas the band program is designed for quicker availability due to concentration and placement Band treatments however, should be limited in amount due to competition in the band with other elements (ie. phosphorus and Zinc) and also the problems with excessive salt concentration that can cause root injury. This is often the case as we tend to overdue band placement with seed.



A&L recommendations are based on soil calibration work that has been in existence since 1945 and the latest work from Fisher et al. 1974 where he included C.E.C. in the interpretation to distinguish the differences in soil type.

We can all agree that sands and clays are different and for that matter they will respond differently in their ability to provide nutrients to a crop. Therefore when making a fertilizer recommendation we treat them differently.

A&L recommendations are a two-part recommendation. The first part and the most significant part of the recommendation in amount of fertilizer is the soil-building portion. The second part of the recommendation is the soil maintenance or crop removal portion of the recommendation.

Most agronomists do not disagree with this part of the recommendation because it is well documented on how much a crop removed from the soil. The first part of the recommendation however is where there begins to be some disagreement.

The differences here come from two factors A) what is the target nutrient level or optimum level for that soil, and B) how fast can I afford to build that soil to get to that optimum level.

When designing a fertilizer program from a soil report you must decide on how much fertilizer investment will go to soil build. If the economics at that time does not support soil building to a great degree then back down the build portion or pro-rate it over more years. However, do not skimp on the band application and the quality of the materials placed in the band. A well-developed planter mix is where your yield and performance comes from. Understand however that at some time it is beneficial to invest in building the soil to optimum nutrient levels as these soils will perform on a more consistent basis in extreme conditions.

Over use of fertilizer is as bad as under use, and with prices of inputs where they are today, we need to know how much is the right amount. Accurate, complete soil tests are the place to begin. Understanding how nutrients impact each other on availability is also critical. Adequate levels of phosphorus, potassium, magnesium and calcium increase the plants ability to use nitrogen. Therefore it is important when interpreting soil analysis and designing fertilizer programs to keep balance nutrition and placement in mind. The recommendations that are on the A&L soil report build soil from one level to the next over a three to five year period. Using more or less in the building portion of your recommendations will only reduce the length of time or increase the length of time reaching these levels.

The following chart compares grain to fertilizer prices for a medium soil test value, August 1998 vs August 2008. As the table shows, even with the increase in fertilizer prices, it is still a good investment.

Crop	Wheat 100bu		Corn 150bu		Beans 50bu	
	1998	2008	1998	2008	1998	2008
Price/bu	3.62	5.75	2.99	5.88	7.56	13.98
Gross/ac	362.00	575.00	448.50	882.00	378.00	697.50
Fertilizer \$	54.26	181.75	87.54	298.77	40.36	136.39
Return/ac	307.74	393.25	360.96	583.23	337.64	561.11
Difference	85.51		222.27		135.00	

In the

next decade, with the use of GPS and soil audits, yield monitors, and custom VRT equipment, I believe every grower will establish the optimum level for his soil and farming system. The grower will establish what the most economical nutrient level is in a field and in turn determine how fast he wants to get to that point.

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