

Little, Stephanie ENV:EX

From: Doug Macfarlane <dougmacf@shaw.ca>
Sent: Monday, August 11, 2014 7:26 AM
To: Little, Stephanie ENV:EX
Cc: Doug Macfarlane
Subject: H.S Jansen
Attachments: July soil test for 1st cut alfalfa.pdf; Manu-H S_JANSEN_AND_SONS-C14191-80000-1.pdf; Spring March 2014 Soil-JANSEN-HOME-106_HULLCAR-C14090-10024-1.pdf; Spring March 2014 Soil-JANSEN-HOME-103_DOUGS-C14090-10028-1.pdf

Good morning Stephanie,

Enclosed are the pre and post soil tests taken from the new seeding alfalfa field at the H.S. Jansen Farm and the liquid manure (effluent) analysis take just before application.

Soil test Nitrate Nitrogen results were at 25 ppm (0-6 inch), 14 ppm (6-12 inch) and 25 ppm (12 – 24 inch) Levels after first cut and before the manure application for a total available soil nitrate nitrogen content of 160 pounds per acre. Post manure application results are 48 ppm (0 – 6 inch), 14 ppm (6 – 12 inch) and 33 ppm (12 – 24 inch)Levels after application of 12,000 gallons manure for a total available soil nitrate nitrogen content of 230 pounds per acre.

The manure sample shows 8.1 pounds of Total nitrogen (nitrate N, NH₄-N and organic N) giving a total Manure Nitrogen application rate of 97.2 pounds per acre. With Non Flush Barn/ normal dairy liquid manure 50% of the nitrogen applied in the manure is considered available the first year and the rest released from the organic matter over the next 3-4 years. Being effluent from the flush barns with most of the solids removed (1.1% remaining verse 7% in normal manure) we should expect only about 15% of the nitrogen to be slow release and 85 % in a plant available form. This gives 83 pounds of available Nitrogen in the 12,000 gallons.

Soil test shows an increase in available Nitrogen of total 70 pounds so I would say the manure application went well and according to plan.

Also enclose in this email are the 2 soil samples taken this Spring. They show an average total soil Nitrate Nitrogen content of 104 pounds in the top 2 feet and an ENR (estimated nitrogen release) number of 120 pounds per acre. This goes a long way to explain why the 12-24 inch level is still maintaining a relatively high nitrogen content. It takes time for the roots to move down and pull a lot of nutrients up. First cut yielded just over the 1 ton per acre of hay. That removed all the starter fertilizer applied and some residual.

Second cut looks like a good 2 – 2.5 ton per acre crop and should remove substantially more nitrogen than what was applied in the manure application.

We will pull another soil sample from the field as soon as the crop is cut later this week to see where we are with the nitrogen.

The numbers follow along well with the idea that we are not over irrigating and flushing nitrogen down this season. That and the fact of the ENR factor from previous manure applications is why we are keeping good to high nitrogen levels in the soil.

The plan of a manure application after first and second cuts and nothing for the third cut in the fall so we can just use residual Nitrogen for that crop still makes good sense. It allows us to effectively use as much of the Jansen Liquid manure as possible when the crop is actively growing in season then have the plant rely on nitrogen present in the soil for the last crop. This should use up the extra available nitrogen in the soil and still not force the plant into starting its own nitrogen fixation.

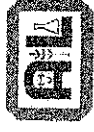
Immediate Timetable and Plan,

Week of August 11th. – Cut second cut alfalfa and soil sample field

Week of August 16th. – Bale second cut and apply liquid manure as originally planned. A current liquid sample is at the lab for analysis and will be complete by August 13th to give us current manure numbers. Approval for an application of 12,000 to 15,000 gallons per acre after second cut would be appreciated for later this week.

Week of Sept 22nd. - Fall soil sampling No manure applications. Soil samples used to produce 2015 Nutrient Management Plan.

Doug Macfarlane, CCA
Emerald Bay Ag Services



A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5
Telephone: (519) 457-2575 Fax: (519) 457-2664

For: JANSEN

Grower Code: 05219066
Farm: HOME
Field: 106 HULLCAR

Attn: DOUG MACFARLANE
250-546-3847

To: EMERALD BAY AG SERVICES
10 MARYS EMERALD BAY ROAD
VERNON, BC V1H 2A7

05219-N509

SOIL TEST REPORT

Report Date: 2014-07-22 Print Date: 2014-08-11

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Sample Number	Legal Land Descript:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Potassium Bray-P1	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1061A		6	15711									
1061B		12	15712									
1061C		24	15713									

Sample Number	Sulfur ppm S lbs/ac	Nitrate Nitrogen ppm NO3-N lbs/ac	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts ms/cm	Saturation %P	Aluminum Al ppm	Chloride Cl ppm	Sodium Molybdenum Na ppm Mo ppm
1061A	0	48 VH	86									
1061B	0	14 M	25									
1061C	0	33 H	119									

OE VL = VERY LOW L = LOW M = MEDIUM H = HIGH VH = VERY HIGH * G = GOOD, M = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

Crop yield is influenced by a number of factors in addition to soil fertility. No guarantee or warranty concerning crop performance is made by A & L.



C14202-10018

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A & L Canada Laboratories Inc.

Report Number: C14199-10028
Account Number: 05219

To: EMERALD BAY AG SERVICES
10 MARYS EMERALD BAY ROAD
VERNON, BC V1H 2A7

Grower Code: 05219066
Farm: HOME
Field: 106 HULLCAR

05219-N508

SOIL TEST REPORT

Report Date: 2014-07-19 Print Date: 2014-08-11

Page: 1

Sample Number	Legal Land Descript:	Depth	Organic Matter	Phosphorus - P ppm	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1061A		6	15648	Bray-P1						
1061B		12	15649							
1061C		24	15650							

Sample Number	Sulfur ppm S lbs/ac	Nitrate Nitrogen ppm NO3-N lbs/ac	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts ms/cm	Saturation %P	Aluminum Al ppm	Chloride Cl ppm	Sodium Na ppm	Molybdenum Mo ppm
1061A	0	25 H									
1061B	0	14 M									
1061C	0	25 H									

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SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P205	K20	Mg	Ca	S	Zn	Mn	Fe	Cu	B

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C14199-10028

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REPORT NO. C14191-80000
ACCOUNT NO. 05219

A&L CANADA LABORATORIES INC.

2136 Jetstream Rd, London, ON, N5V 3P5 Tel (519) 457-2575 Fax: (519) 457-2664

TO: EMERALD BAY AG SERVICES
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VERNON, BC V1H 2A7
CANADA

FOR: H.S JANSEN AND SONS

ATTN: DOUG MACFARLANE

PAGE: 1

LAB NUMBER: 1918001
SAMPLE ID: MANURE 1

MANURE ANALYSIS

DATE RECEIVED: 2014-07-10
DATE REPORTED: 2014-07-14
DATE PRINTED: 2014-07-14

PARAMETER	ANALYSIS RESULT	POUNDS PER 1,000 GAL	ESTIMATED AVAILABILITY PER 1,000 GAL
Dry Matter	1.1 %		
Nitrogen (Total)	0.08 %	8.1	
NH4-N	538 ppm	5.4	
Phosphorus (Total)	0.02 %		
Phosphate (P as P2O5) **	0.05 %	3.7	1.5
Potassium (Total)	0.19 %		
Potash (K as K2O) **	0.23 %	23.0	20.7
Organic Matter *	0.6 %		
Carbon:Nitrogen Ratio (C:N)	4 : 1		
Calcium	0.07 %	6.8	
Magnesium	0.03 %	2.9	

* All Parameters are reported on an as is basis.

** Available nutrients are reported as total available. Only a portion of these nutrients will be available the year of application. For information on nitrogen availability, see reverse side of page.

More information available: http://www.alcanada.com/files/Manure_Analysis.pdf



C14191-80000



A & L Canada Laboratories Inc.



C14090-10024

Report Number: C14090-10024
Account Number: 05219

To: EMERALD BAY AG SERVICES
507 PINERIDGE ROAD
ARMSTRONG, BC V0E 1B6

For: JANSEN

Farm: HOME
Field: 106 HULLCAR

Attn: DOUG MACFARLANE
250-546-3847

Grower Code: 05219066

Reported Date: 2014-04-02 Printed Date: 2014-04-02

SOIL TEST REPORT

Page: 1

Sample Number	Lab Number	Organic Matter	Zinc ppm	Sulfur ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts ms/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	Nitrate Nitrogen NO3-N ppm	K/Mg Ratio	ENR	Field ID	Chloride Cl ppm
1061A	31666	3.4	13.6 VH	10 VL	50 VH	81 VH	2.7 H	0.5 L	0.2 VL	28 H	622	0.1 G	1 VL	0.53	46		17 M
1061B	31667	3.4	50 G	18 VL	115 H					26 H	557	0.1 G	20 H	0.32	46		
1061C	31668	1.8	36 G	16 VL	66 G					12 H	715	0.1 G	30 H	0.29	30		

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SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P205	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1061A	Corn Silage Western	26 tons	0.0	173	20	20	0	0	30	0.0	0	0	0	0.5
1061A	Corn Silage West Bid	26 tons	0.0	173	55	150	0	0	30	0.0	0	0	0	0.5

The results of this report relate to the sample submitted and analyzed.

* Crop yield is influenced by a number of factors in addition to soil fertility.

No guarantee or warranty concerning crop performance is made by A & L.

A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.sec.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By:

Ian McLachlin, Vice President



A & L Canada Laboratories Inc.



C14090-10028

Report Number: C14090-10028
Account Number: 05219

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To: EMERALD BAY AG SERVICES
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ARMSTRONG, BC V0E 1B6

For: JANSEN

Farm: HOME
Field: 103 DOUGS

Attn: DOUG MACFARLANE
250-546-3847

Grower Code: 05219066

SOIL TEST REPORT

Reported Date: 2014-04-02 Printed Date: 2014-04-02

Page: 1

Sample Number	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	pH	pH Buffer	CEC meq/100g	% K	% Mg	% Ca	% H	% Na
1031A	31678	4.1	53 G	142 H	731 VH	285 H	2010 M	25 M	7.5	14.4	14.4	13.0	16.5	69.9	0.8	
1031B	31679	4.3	50 G	128 H	557 VH	280 H	2100 M	35 H	7.6	14.4	14.4	9.9	16.2	73.0	1.1	
1031C	31680	2.4	34 M	75 M	357 VH	300 H	2150 M	56 H	7.3	14.4	14.4	6.4	17.4	74.8	1.7	

Sample Number	Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts ms/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	Nitrate Nitrogen NO3-N ppm	K/Mg Ratio	ENR	Field ID	Chloride Cl ppm
1031A	9 VL	13.3 VH	52 VH	81 VH	2.7 H	0.5 L	0.2 VL	32 H	571	0.0 G	1 VL	0.79	53		16 M
1031B	11 VL							28 H	595	0.0 G	2 VL	0.61	55		
1031C	17 VL							13 H	731	0.1 G	10 M	0.37	36		

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SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1031A	Corn Silage Western	28 tons	0.0	301	20	20	0	0	25	0.0	0	0	0	0.5
1031A	Corn Silage West Bl	28 tons	0.0	301	55	150	0	0	25	0.0	0	0	0	0.5

The results of this report relate to the sample submitted and analyzed.
* Crop yield is influenced by a number of factors in addition to soil fertility.
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Results Authorized By:

Ian McLachlin, Vice President

