



# Soil Test Report


Department of Agriculture  
 Laboratory Services  
 PO Box 890  
 Harlow Institute  
 Truro, NS B2N 5G6

<http://www.gov.ns.ca/agri/qe/labserv/>  
 Tel: 902-893-6565  
 Fax: 902-893-4193

JOHNSTON VINEYARDS  
 C/O DON JOHNSTON  
 7770 SECOND PENINSULA RD, RR #3  
 LUNENBURG, NS  
 B0J 2C0

Client ID: C15915  
 Order ID: 1507686  
 Samples Reported: 04-Nov-15  
 Samples Received: 22-Oct-15  
 # of Samples Received: 20

Lab #	1507686-001		1507686-002		1507686-003		1507686-004		
Sample ID	B1 - 1A		B1 - 1B		B1 - 2A		B1 - 2B		
Crop to be Grown	Unknown		Unknown		Unknown		Unknown		
Parameter	Analysis	Rating	Analysis	Rating	Analysis	Rating	Analysis	Rating	
pH (pH Units)	5.48		5.94		5.70		5.67		
Buffer pH (pH Units)	7.48		7.51		7.64		7.58		
Organic Matter (%)	4.1		3.9		3.6		3.8		
P2O5 (kg/ha)	210		136		175		141		
K2O (kg/ha)	205		259		163		201		
Calcium (kg/ha)	2164		2811		1977		2202		
Magnesium (kg/ha)	385		411		341		340		
Sodium (kg/ha)	35		34		28		30		
Sulfur (kg/ha)	28		30		23		29		
Aluminum (ppm)	1099		1041		945		1010		
Boron (ppm)	< 0.50		< 0.50		< 0.50		< 0.50		
Copper (ppm)	11.08		6.45		16.93		7.82		
Iron (ppm)	294		229		267		248		
Manganese (ppm)	58		139		61		117		
Zinc (ppm)	1.82		1.68		1.72		1.72		
CEC (meq/100 g)	11.5		13.0		9.5		10.6		
Base sat. K (%)	1.9		2.1		1.8		2.0		
Base sat. Ca (%)	47.2		54.0		52.2		52.1		
Base sat. Mg (%)	14.0		13.2		15.0		13.4		
Base sat. Na (%)	0.7		0.6		0.6		0.6		
Base sat. H (%)	36.3		30.1		30.4		31.8		
LR CaCO3 (t/ha to pH 6.5)	6		4		3		4		
Required Nutrient (kg/ha)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O

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Lab #	1507686-005		1507686-006		1507686-007		1507686-008		
Sample ID	B1 - 3A		B1 - 3B		B1 - 4A		B1 - 4B		
Crop to be Grown	Unknown		Unknown		Unknown		Unknown		
Parameter	Analysis	Rating	Analysis	Rating	Analysis	Rating	Analysis	Rating	
pH (pH Units)	5.49		5.65		6.16		5.76		
Buffer pH (pH Units)	7.59		7.53		7.68		7.59		
Organic Matter (%)	3.6		4.2		3.8		3.7		
P2O5 (kg/ha)	159		188		160		145		
K2O (kg/ha)	168		219		278		259		
Calcium (kg/ha)	1930		2453		2341		2365		
Magnesium (kg/ha)	337		391		336		425		
Sodium (kg/ha)	28		40		32		36		
Sulfur (kg/ha)	24		28		24		25		
Aluminum (ppm)	1000		1033		963		1022		
Boron (ppm)	< 0.50		< 0.50		< 0.50		< 0.50		
Copper (ppm)	20.10		12.85		8.93		8.89		
Iron (ppm)	278		234		233		262		
Manganese (ppm)	51		76		84		87		
Zinc (ppm)	1.92		1.52		1.85		1.61		
CEC (meq/100 g)	9.7		11.8		10.2		11.3		
Base sat. K (%)	1.8		2.0		2.9		2.4		
Base sat. Ca (%)	49.5		51.8		57.5		52.2		
Base sat. Mg (%)	14.4		13.8		13.8		15.7		
Base sat. Na (%)	0.6		0.7		0.7		0.7		
Base sat. H (%)	33.6		31.8		25.2		29.0		
LR CaCO3 (t/ha to pH 6.5)	4		5		2		4		
Required Nutrient (kg/ha)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O

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Lab #	1507686-009		1507686-010		1507686-011		1507686-012		
Sample ID	B1 - 5A		B1 - 5B		B1 - 6A		B1 - 6B		
Crop to be Grown	Unknown		Unknown		Unknown		Unknown		
Parameter	Analysis	Rating	Analysis	Rating	Analysis	Rating	Analysis	Rating	
pH (pH Units)	6.37		6.27		6.32		6.79		
Buffer pH (pH Units)	7.63		7.65		7.69		7.71		
Organic Matter (%)	4.2		3.7		3.8		3.8		
P2O5 (kg/ha)	144		145		159		123		
K2O (kg/ha)	292		240		222		242		
Calcium (kg/ha)	2890		2526		2515		3326		
Magnesium (kg/ha)	426		424		402		497		
Sodium (kg/ha)	33		40		26		29		
Sulfur (kg/ha)	31		24		23		23		
Aluminum (ppm)	1093		982		896		912		
Boron (ppm)	< 0.50		< 0.50		< 0.50		< 0.50		
Copper (ppm)	6.11		6.56		4.22		2.61		
Iron (ppm)	204		267		228		197		
Manganese (ppm)	109		78		74		98		
Zinc (ppm)	1.73		1.42		1.49		1.44		
CEC (meq/100 g)	12.3		11.2		10.7		13.0		
Base sat. K (%)	2.5		2.3		2.2		2.0		
Base sat. Ca (%)	58.5		56.3		58.6		63.8		
Base sat. Mg (%)	14.4		15.7		15.6		15.9		
Base sat. Na (%)	0.6		0.8		0.5		0.5		
Base sat. H (%)	24.0		24.9		23.1		17.8		
LR CaCO3 (t/ha to pH 6.5)	1		1		1				
Required Nutrient (kg/ha)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O

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Lab #	1507686-013		1507686-014		1507686-015		1507686-016		
Sample ID	B2 - A		B2 - B		B2 - C		B2 - D		
Crop to be Grown	Unknown		Unknown		Unknown		Unknown		
Parameter	Analysis	Rating	Analysis	Rating	Analysis	Rating	Analysis	Rating	
pH (pH Units)	5.43		5.41		5.16		5.35		
Buffer pH (pH Units)	7.62		7.59		7.47		7.50		
Organic Matter (%)	4.0		4.1		4.0		4.8		
P2O5 (kg/ha)	67		65		54		88		
K2O (kg/ha)	130		134		171		195		
Calcium (kg/ha)	2284		2340		1854		2761		
Magnesium (kg/ha)	396		388		384		422		
Sodium (kg/ha)	43		39		47		41		
Sulfur (kg/ha)	18		17		15		27		
Aluminum (ppm)	908		944		1083		1047		
Boron (ppm)	< 0.50		< 0.50		< 0.50		< 0.50		
Copper (ppm)	4.88		2.64		2.10		2.75		
Iron (ppm)	274		252		235		198		
Manganese (ppm)	92		84		74		85		
Zinc (ppm)	1.54		1.18		1.23		1.67		
CEC (meq/100 g)	10.6		11.0		10.8		13.0		
Base sat. K (%)	1.3		1.3		1.7		1.6		
Base sat. Ca (%)	53.7		53.3		43.1		53.3		
Base sat. Mg (%)	15.5		14.7		14.9		13.6		
Base sat. Na (%)	0.9		0.8		0.9		0.7		
Base sat. H (%)	28.6		29.9		39.4		30.9		
LR CaCO3 (t/ha to pH 6.5)	4		5		7		6		
Required Nutrient (kg/ha)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O

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Lab #	1507686-017		1507686-018		1507686-019		1507686-020		
Sample ID	B3 - A		B3 - B		B3 - C		B3 - D		
Crop to be Grown	Unknown		Unknown		Unknown		Unknown		
Parameter	Analysis	Rating	Analysis	Rating	Analysis	Rating	Analysis	Rating	
pH (pH Units)	5.76		5.71		5.67		5.70		
Buffer pH (pH Units)	7.72		7.66		7.73		7.69		
Organic Matter (%)	4.4		4.7		4.8		4.5		
P2O5 (kg/ha)	58		61		65		63		
K2O (kg/ha)	127		142		124		122		
Calcium (kg/ha)	2778		2694		2576		2583		
Magnesium (kg/ha)	685		731		697		642		
Sodium (kg/ha)	48		55		48		42		
Sulfur (kg/ha)	18		19		17		16		
Aluminum (ppm)	668		711		688		758		
Boron (ppm)	0.53		< 0.50		< 0.50		< 0.50		
Copper (ppm)	2.41		2.66		2.23		2.33		
Iron (ppm)	227		217		212		212		
Manganese (ppm)	51		54		57		62		
Zinc (ppm)	1.75		1.56		1.53		1.44		
CEC (meq/100 g)	12.3		12.8		11.7		11.8		
Base sat. K (%)	1.1		1.2		1.1		1.1		
Base sat. Ca (%)	56.6		52.7		54.9		54.6		
Base sat. Mg (%)	23.2		23.8		24.7		22.6		
Base sat. Na (%)	0.8		0.9		0.9		0.8		
Base sat. H (%)	18.2		21.3		18.4		21.0		
LR CaCO3 (t/ha to pH 6.5)	3		3		3		3		
Required Nutrient (kg/ha)	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O

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## Additional Information

This report shall not be reproduced, except in full, without written approval of Laboratory Services

**Bold** indicates analysis accredited to ISO/IES 17025:2005 standard

**[S]** Sample sent to an accredited lab for analysis

**LA** indicates Lab Accident and the analysis was not able to be completed

**LR** Lime Requirement

Result(s) relate only to sample(s) tested

### Conversions:

1 kg/ha = 0.89 lb/ac

1 tonne/ha = 0.45 ton/ac = 10 kg/100m<sup>2</sup>

1 kg/ha/100 = 1 kg/100m<sup>2</sup>

to convert kg/ha to ppm divide by 2

### Ratings:

L = Low M = Medium H = High E = Excessive

### Method References for Accredited Methods

Determination of Mehlich III Extractable Major and Trace Metal Ions in Soil by ICP-OES (Modified Mehlich III, Commun. Soil. Sci. Plant Anal. 15(12): 1409-1416)

Determination fo Soils Buffer pH by Adams-Evans Lime Buffer (Modified Soil and Plant Analysis Council Reference Methods for soils analysis)

**The following Soil Related Factsheets are availabe on our website (<http://novascotia.ca/agri/programs-and-services/lab-services/analytical-lab/>):**

- How to take Field Soil Samples
- Understanding the Soils Test Report