



October 2018 Newsletter

New This Year!

VitTellus Soil Health Test from A&L Canada Laboratories

**VitTellus** is a Soil Health Test which assesses the chemical, physical and biological balance of the soil. This assessment then leads to agronomic strategies to improve soil health which drives greater nutrient utilization, higher crop yields and greater farm profitability

VitTellus comes from the Latin definition of “*Vitalitas*”, which means vigor or energy and “*Tellus*”, which means earth. Combined, VitTellus represents Vigor of the Earth which symbolizes what we are aiming to assess; the vigor of our soils to be healthy and produce food for a global population.

The VitTellus Soil Health index is a 0 – 60 relative scale which gives an indication of Soil Health ranging from low (0) to high (60). In soils with a low VitTellus Soil Health Index, plant and nutrient levels don’t support optimum microbiological levels resulting in lower nutrient utilization efficiency and lower yields.

Report Number: C18150-10003  
Account Number:

**A & L Canada Laboratories Inc.**

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To:

For:

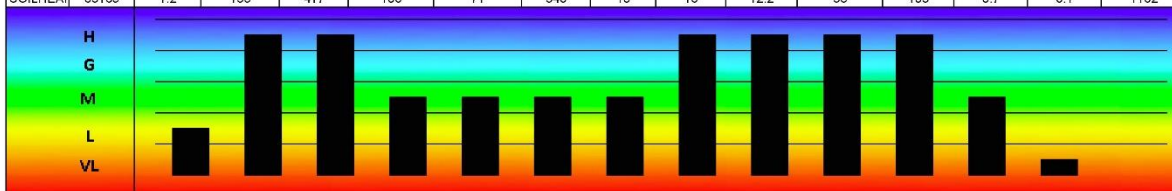
Farm:

Reported Date:2018-06-11  
Printed Date:2018-09-06

**VitTellus Soil Health Report**

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Sample ID	Lab Number	Organic Matter %	Phosphorous-P ppm Bicarb	Phosphorous-P ppm Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	Sodium Na ppm	Sulfur S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Aluminum Al ppm
SOILHEA	65169	1.2	135	417	106	71	540	10	16	12.2	58	103	0.7	0.1	1162



VL=Very Low, L=Low, M=Medium, G=Good, H=High

Parameter	Result	Optimum Level
CEC, meq/100g	4.8	
K/Mg Ratio	0.46	0.25-0.35
GFI	78	G
%K	5.7	4-6
%Mg	12.3	10-20
%Ca	56.3	65-72
%H	24.8	5-15
%Na	0.9	<1

Parameter	Result	Rating
pH	6	M
Buffer pH	6.9	M
EC, ms/cm	0.26	VL
Saturation %P	46	H
Saturation %Al	2.2	MT
Nitrate-N, ppm	13	M
Chloride, ppm	17	M
PMN, ppm	30	M

Parameter	Result	Rating
Solvia CO2-C, ppm	44	M
Reactive C, ppm	256	M
Soil Health Index	40	M

The results of this report relate to the sample submitted and analyzed. 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.scc.ca](http://www.scc.ca) and by the Canadian Association for Laboratory Accreditation as listed on [www.cala.ca](http://www.cala.ca)

Results Authorized By: Ian McLachlin, Vice President



In soils with a high VitTellus Soil Health Index, plant and nutrient levels support greater microbiological activity resulting in greater nutrient uptake efficiency and higher yields. A standard soil test measures the chemical profile of a given soil. VitTellus assesses this traditional aspect, but also the physical and biological balance of the soil resulting in an indexed score and recommendations specific to this test.

VitTellus provides a unique analysis and soil health index which is highly correlated to yield and the presence of a combination of disease suppressive and bio-stimulating organisms in the plant microbiome (root zone). 8 years of intensive research confirms VitTellus predicted yields as compared to actual yields with a correlation of 93%. This provides an actionable tool to change soil management practices for improved soil health, higher yields and greater farm profitability.

### **Soil Sampling Season is Here!**

As the 2018 season wraps up, it's time to think ahead to next year's crop and the condition of your soil. World famous engineer and mathematician W. Edwards Deming once said, *"Without data, you're just another person with an opinion"*. This is quite fitting as without a current and comprehensive soil test, your fertility requirements for the following season are merely a guesstimate at best. Given the significant investment of nutritional products needed to produce high yielding crops, a soil test is a small but critical step to optimize your overall crop input investment.

As you prepare to take soil samples this fall, here are a few useful tips to keep in mind:

#### **Sampling Tools**

When sampling various soils at different times of the season it is important to use the proper equipment. A soil probe, either a hand tube or hydraulic probe, can be used under most conditions. A small wooden rod may be helpful in removing the soil core from the tube. The soil auger is especially useful when sampling frozen ground or heavily compacted soil that a soil tube can't penetrate. If a spade is used for sampling, dig a V-shaped hole to sample depth; then cut a thin slice of soil from one side of the hole.

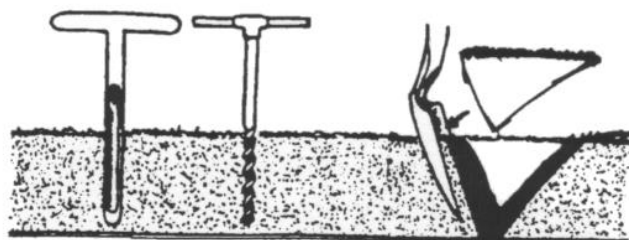
If using a pail to collect the soil, it should be plastic to avoid any contamination from trace metals. For instance, soil will pick up zinc from a galvanized pail.

When sampling wet soils, vegetable oil or mineral oil may be used to lubricate the probe to minimize soil pushing ahead of the probe.



## Sample Preparation

Mix cores or slices together in a clean plastic container and take enough subsample to fill the special soil sample bag provided by A & L Laboratories. There is no need to process the sample further before shipment. At A & L Laboratories, the sample received is dried, ground, and sieved by experienced technicians. Send a separate bag if the Nematode Test is needed in addition to the Basic Tests.



## Sampling Depth

When sampling, scrape away plant residue and sample to 6 inches; or if primary tillage is deeper, sample to tillage depth. This is the depth which can be altered with fertilizers or soil amendments. Eighty to ninety percent of the nutrients taken up by the plant come from this tillage depth. Plants also obtain nutrients from a lower depth. Subsoils can provide significant information regarding nitrate-nitrogen, copper and sulphur.

## Understanding Field Variability

To have good information by which to plan your future fertility programs, an intensive soil sampling program such as site-specific sampling or soil audit is highly recommended. The more intensive your soil sampling regimen is, the better equipped you will be with information to make an informed business decision. Site specific sampling will clearly highlight the fact that all fields have great variability and can be managed to address those field differences for optimal input applications.

## Sampling Reduced Tillage & No-Till

No till and reduced tillage has different meanings to various people. When referred to here we mean any tillage that doesn't incorporate soil much more than 3 inches. Remember most disks, chisel plows or vertical tillage equipment, if run 3-6 inches deep, are only incorporating to one-half that depth.

To get a representative soil sample under these conditions, soil samples can be taken from two depths. Take one from the surface 2 inches and one from the 0-6-inch depth. The 0-6-inch depth should be used for general fertilizer recommendations. The 0-2-inch sample should be used to adjust the fertilizer program placement and to provide for accurate herbicide programs. Generally, at the surface you will find higher fertility, higher organic matter content, and lower pH, all of which affect the fertility and herbicide programs.



Usually a basic test is adequate for the 0-2 inch depth. However, a more complete test should be run in some situations. Zinc deficiencies have been seen under reduced tillage, even though the 0-6-inch sample showed adequate levels.

### Understanding Soil Tests

Soil tests are a valuable agronomic resource if they are fully used and properly understood.

Plant nutrition and plant to soil interactions are complex mechanism with several environmental and external conditions affecting the process. There are many elements involved in plant nutrition, some of which are supplied naturally that we have little control over such as temperature and moisture, and many that are supplied by soil and or by fertilizer applications such as the major macro nutrients.

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

## A&L Soil Stewardship Group



The Soil Stewardship Group (SSG) has been offering leading edge soil sampling and technical services to growers and dealerships across Canada for over 15 years. With the latest GPS and mapping software our staff can sample your field the way you want and give you a visual representation of your field that is easy to understand and can help to identify problem areas. GPS soil sampling, incorporated into your management strategy, has proven to help growers save money and improve crop performance/consistency.

SSG has a wide variety of GPS soil sampling packages to suit your needs. Whether you need a general idea of field conditions, or a comprehensive analysis of your entire field with a variable rate fertilizer prescription, we have a service for you.



### **GPS Information**

To meet the increasing demand for precision ag services, A&L Canada maintains a full-service GIS/geo-processing center. Utilizing state of the art data collection and mapping software, A&L Canada possesses the ability to collect in-field information necessary to generate geo-referenced field boundary, sampling point, nutrient, and elevation maps. Also, in this era of nutrient management, the precise location of sensitive water features, Hicken bottoms, wells, slopes and grassed buffer strips can be identified and documented. Yield monitor harvest data can be processed, and management zones determined via the resulting information and/or remote sensed data. These management zones or information obtained from site-specific sampling procedures enable variable rate prescriptions to be written for the precise application of lime and other nutrients.

