

A&L Canada Laboratories Inc.

A STEP BEYOND TRADITIONAL LAB ANALYSIS

October 2021 NEWSLETTER



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1. Fall Soil Test Results - Key Trends

Soil samples tested by A&L Canada Laboratories from August 1st to September 30th showed the key nutrient deficiencies that are appearing which can be yield limiting.

Key Trends

Date Range: August 1st, 2021 – September 30th, 2021

Eastern Canada:

- 89% of samples low / very low levels of Sulphur
- 85% of samples low / very low levels of Boron
- 56% of samples low / very low Levels of Phosphorus
- 26% of samples low / very low levels of Magnesium
- 14% of samples low / very low levels of Potassium

Western Canada:

- 76% of samples low / very low levels of Sulphur
- 70% of samples low / very low of Boron
- 40% of samples low / very low of Phosphorus
- 20% of samples low / very low of Magnesium
- 20% of samples low / very low in Potassium

Northern US States:

- 67% of samples low / very low levels of Sulphur
- 94% of samples low / very low levels of Boron
- 39% of samples low / very low Levels of Phosphorus
- 21% of samples low / very low levels of Magnesium
- 19% of samples low / very low levels of Potassium

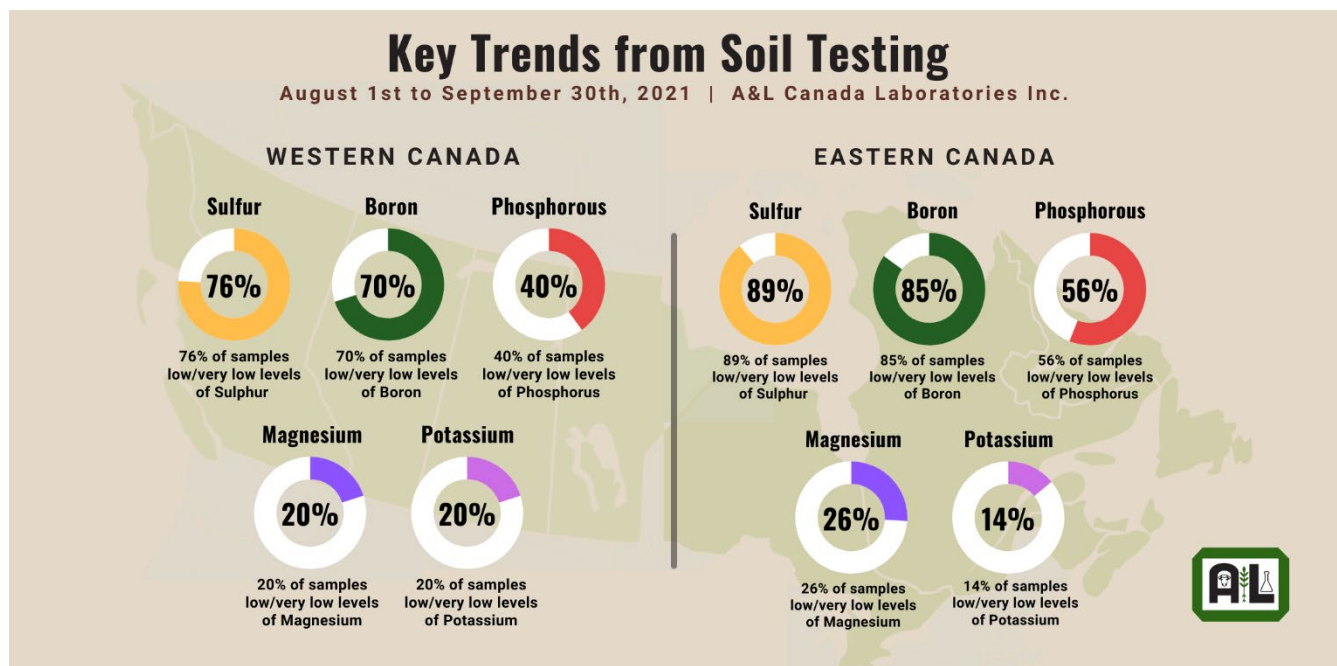
A&L Canada Laboratories Inc. suggests conducting a “Complete” soil test, which includes micro and macro nutrients, to fully understand your soil nutrient levels.

Doing so will support sound nutrient recommendations which will help optimize crop production and support good 4R Nutrient Stewardship practices.

The graphic illustrates the 4R Principles of Nutrient Stewardship with four icons and their corresponding descriptions:

- RIGHT SOURCE:** Matches fertilizer type to crop needs.
- RIGHT RATE:** Matches amount of fertilizer to crop needs.
- RIGHT TIME:** Makes nutrients available when crops need them.
- RIGHT PLACE:** Keeps nutrients where crops can use them.

Test your soils now to optimize your fertility plans for the spring!



2. AGRONOMY CORNER: Crop Nutrient Removal

HOW MUCH DOES A CROP REMOVE [FACT SHEET 543]

Often, we get asked ‘How do we make a recommendation?’ and ‘What does a crop actually remove in the way of nutrients from the soil in a cropping year?’ A soil test measures the available nutrients in the soil over the growing season and the recommendations are guidelines for crop input based on the levels of available nutrients found and yield goal. Soil researchers and Plant Physiologists have extensively documented years of research in both the areas of optimum soil levels for plant growth and how much is removed by a crop in a production year.

A&L Canada’s system for making recommendations is based on world-wide soil calibration research information that has determined what is required to produce a unit of finished product. When A&L makes a recommendation, we use the latest information available to come up with a recommendation guide for the amount of plant food per acre that will be required to replace what the crop will remove. Plus, a build factor to bring the soil to optimum levels over time. By bringing the soil levels to optimum nutrient status the consistency of having a good production year after year will improve.

It is understood that the nutrient removed from a soil in production of any crop is in two areas. One area is in the grain or harvested portion of the crop that will be removed from the field and the other is the nutrients that are contained in the straw and residue that is returned to the field. However, this second portion is not immediately available after it is returned to the soil as it is tied up in the organic portion of the crop residue and needs to decompose before it is returned and made available to the plant. In some cases, such as straw, additional nutrients may be required to break down the portion returned. A proper soil test program will monitor the release of these nutrients and the rate of decomposition will vary depending on a number of factors.

Therefore, each year we need to account for all the nutrients that are required to grow the crop relying on a soil test to establish and track soils levels over time. The following tables and calculations will explain how recommendations are made.

Table #1 lists the amount of nutrients required to grow these crops each cropping year. As soybeans produce about 50% of their own N by rhizobia they only require a portion to be supplied from other sources. The other nutrients however must be replenished, or the crop will consequently continue to mine them from the soil and over time production and quality will suffer.

TABLE #1: Nutrient Removal in a 3 Year Rotation System

Nutrients Removed lbs/acre Crop Rotation	Yield	N	P	K	Mg	Ca	S
1 st Year Corn	120	180	72	156	24	25	19
2 nd Year Beans	50	275	60	120	23	85	23
3 rd Year Wheat	80	168	58	128	19	21	18

Table #2 is some of the optimum soil K levels that have been established by soil researchers across North America and are adopted by A&L as a reference when making a recommendation. As with all nutrients, if the soil levels are not at optimum, we recommend building these soils. If the soils are at optimum levels the recommendation program only requires that amount we are removing, or a maintenance amount.

TABLE #2:

		Optimum Soil K Levels PPM C.E.C.					
		<5	5.1-9.9	10-12.9	13-14.9	15-17.9	18-20.9
Corn	120 bu	133	149	160	166	174	184
Beans	50 bu	111	124	133	138	145	153
Wheat	80 bu	111	124	133	138	145	153
		Optimum P Levels PPM					
		<5	5.1-9.9	10-12.9	13-14.9	15-17.9	18-20.9
		80	70	60	40	35	30

Often, we hear people refer to the soils natural ability to replenish nutrients that are removed by crop production. This is the amount of nutrients contained in the soils that are not available to the plant. Each year a portion of these nutrients will become available as soils weather and every soil will have a base amount that its levels will never drop below due to its ability to replenish these resources. However, if a soil is at this base amount, it is at “ROCK BOTTOM” and will not provide nutrients to a growing crop consistently.

Therefore, we need to establish the optimum levels for these soils and build the nutrient reserves to these levels.

To calculate the amount of “K” to apply we use the following formula: (optimum K level – soil test value) x2 + maintenance factor = lbs/ac K to apply

In order to make a recommendation for “P” we will use the information provided from various research that it takes approximately 4- 10 pounds of P₂O₅ to raise a soil test level 1 ppm. This is only, provided that, there is no crop removing any P. If P is being removed, we must also consider that amount in our recommendation. Because all soils vary, we will use an average figure for P building of 5lbs P₂O₅ and depend on a soil test taken every 2-3 years to monitor building rates. Table #3 gives an optimum P level based on CEC that we will use to determine target values.

TABLE 3: Maintenance Factors		
	K	P
Corn	.25	.35
Beans	1.4	.9
Wheat	.5	.6

When making a recommendation for a crop under a rotation system it is a must we include a specific recommendation that will address the amount that each crop will remove. The following are examples of two different soils. Sample #1 would be considered at optimum levels and Sample #2 is a soil that requires some additional fertilizer nutrients to build it to optimum levels.

In these samples for example we will target the optimum “K” level at 166 for corn and 138 for the beans and wheat. The optimum level for “P” we will target as 35 moving the soil into a medium level of fertility of “P” over a three-year period.

Optimum Phosphorus Levels Based on C.E.C.				
C.E.C.	0-6	7-15	16-25	25+
Medium	26-55	24-43	19-33	14-23
Good	56-93	44-83	34-55	24-43

A soil test done every 2 to 3 years will monitor if the build program is sufficient for this soil type or will need to be modified.

Formula for Calculating Nitrogen

Corn 1.45 x Yield Goal - (10 x % O.M.) + or - Previous crop Nitrogen credit
 Winter Wheat 1.5 x Yield Goal - (5 x %O.M.) + or - Previous crop Nitrogen credit
 Previous crop Nitrogen credit; Corn + 20, Wheat + 20, Beans - 10

EXAMPLE #1:
 C.E.C. 15 and % Organic Matter 3.5
 All nutrient levels at optimum

	N	P	K
Corn 120 bu	159	40	30
Beans 50 bu	20	45	70
Wheat 80 bu	120	50	40

EXAMPLE #2:
 C.E.C. 15 and % Organic Matter 3.5
 P levels at 20 ppm

P build = (desired test - soil test) x 5
 (35-20) x 5 = 75 pounds P O over three years = 75/3 = 25 pounds of P O to be added each year for build

Removal = Yield Goal x Maintenance

P Recommendations: Build + Removal

Corn = 25 + 40 = 65 pounds P
 Beans = 25 + 45 = 70 pounds P
 Wheat = 25 + 48 = 73 pounds P

K Recommendations: For optimum soil K levels see Table 2

To calculate K recommendations use the following formula:
 (optimum K level - soil test value) x 2 maintenance factor = lbs/acre K to apply

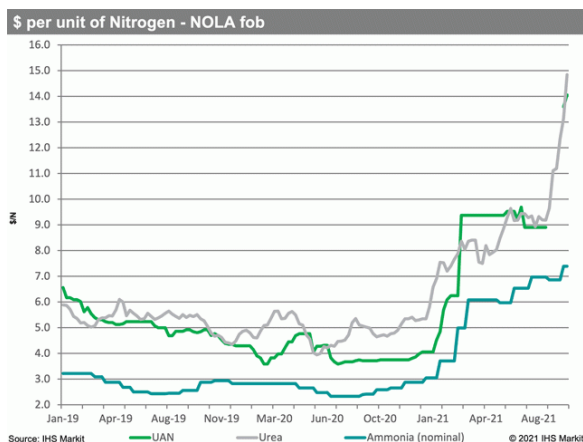
Corn = (166-120) x 2 + 30 = 122 lbs
 Beans = (138-120) x 2 + 70 = 106 lbs
 Wheat = (138-120) x 2 + 40 = 76 lbs

	N	P	K
Corn	159	65	122
Beans	20	70	106
Wheat	120	73	76

3. Fertilizer Market and Future Direction

Soil testing is probably one of the most effective & affordable things we can do to know exactly what we have in the soil.

The rising cost of fertilizer is an added incentive to analyze your soil. Fertilizer prices currently are at high levels, substantially higher from a year ago. Fertilizer prices this year are 60% to 85% higher, depending on the product (DTN Sept 2020). Analysts predict that fertilizer costs for 2022 likely will be well above average.



Urea and UAN price hikes in September sharply increased nitrogen costs for growers, while ammonia remains relatively cheap on a per-unit-nitrogen basis. Prices on all products -- including ammonia -- are expected to continue rising given bullish fundamentals in Europe with lower production and higher demand expected internationally.


(Chart: Fertecon, Agribusiness Intelligence, IHS Markit <https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/10/11/wholesale-fertilizer-prices-expected>)


4. ⚠ Warning of Herbicide Carryover – need for Group 2 Testing

Growers have been notified that a high degree of risk of injury for sensitive crops in 2022, such as canola, durum wheat and canary seed, due to possible herbicide carryover caused by this year’s drought in western Canada. A&L offers Pesticide Testing in Soil (including Group 2 Testing).

FAQs	PESTICIDE TESTING IN SOIL (including Group 2 Testing)
How do I take a sample?	<ul style="list-style-type: none"> Rake 10 to 20 soil cores or shovel scoops from a depth of 0-6 inches and mix in a plastic bucket Empty bucket into A&L provided soil bag and fill to sample line (or Ziplock bag) Label bag with desired sample name or ID Send to the lab for analysis as soon as possible For more information, please refer to the technical bulletin, FACT SHEET 574, on our website: https://www.alcanada.com/pdf/Tech_Bulletins/Pesticides/574-Testing_For_Herbicides-Soil.pdf
How much sample do I need?	<ul style="list-style-type: none"> Minimum 50 grams of soil is required
How do I send a sample?	<ul style="list-style-type: none"> Include paperwork with all samples – with client information The Pesticide Submission Form can be found on the A&L website here: https://www.alcanada.com/pdf/Submission/CHAIN_OF_CUSTODY_A&L_PESTICIDE.pdf Samples can be shipped via courier to: A&L Canada Laboratories, 2136 Jetstream Road, London, ON. N5V 3P5 [519-457-2575] Fee Code for Group 2 Herbicide Screen is PG1GROP2 (19 analytes) Cost: <ul style="list-style-type: none"> \$300 CAD per sample plus \$20 preparation cost NOTE: Cost for 1 analyte is \$200 per sample plus \$20 preparation cost
How long will it take to get my results?	<ul style="list-style-type: none"> Soil tests are completed within 5 business days of the lab receiving the samples.
What else should I know?	<ul style="list-style-type: none"> Test results are only based on samples submitted and analyzed. A&L Canada Laboratories Inc. provides no warranty or recommendation related to these results.

5. Shipping Samples to the Lab – Helpful Tips






Soil Testing Update


Fall has arrived and the lab is operating within our daily capacity. However, due to the increased interest in soil testing we are experiencing a large increase in samples arriving at the lab. Clients may see a slight delay in receiving results so we ask for your patience as we work through your samples.

Please follow these helpful tips when sending soil samples to the lab:




1

Ensure soil samples are in a proper sample bag (we can send you some)




2

Include all paperwork with the samples in legible form




3

Use appropriate box or package size so samples fit well and do not move around in transit




4

Be sure that packages weigh less than 50 lbs for ease of handling and avoid splitting of boxes in transit



5

Make sure there is sufficient soil submitted to conduct the test with enough left over to facilitate a rerun if necessary



Website: www.alcanada.com To order A&L Sample Bags: Email alcanadalabs@alcanada.com

6. Impact of Drought on Feed Quality

- Plant stressors, such as drought, are associated with increased levels of nitrate in plants. Soils high in nitrogen readily supply nitrate to plants. Additionally, factors such as acidic soils, sulfur or phosphorus deficiencies, low molybdenum and low temperatures are known to increase nitrate uptake by plants
- The severe drought conditions this season can cause higher than desired nitrate levels to accumulate due to lack of plant activity and utilization of plant nutrients.
- Nitrite poisoning of livestock is usually associated with animals ingesting forage or feed with high nitrate content.

NITRATE TOXICITY

- Nitrate in itself is not toxic to animals, but at elevated levels it causes a disease called nitrate poisoning.
- Nitrates normally found in forages are converted by the digestion process to nitrite (NO₂), and in turn the nitrite is converted to ammonia (NH₃). The ammonia then is converted to protein by bacteria in the rumen. If cattle ingest plants that contain high levels of nitrate, nitrite will accumulate in the rumen. Nitrite is 10 times as toxic to cattle as nitrate.
- Nitrate toxicity may be chronic or acute. In chronic cases, a sublethal dose may result in abortion, weight loss, reduced milk production and other animal performance issues. In acute cases, nitrite is absorbed into red blood cells and combines with hemoglobin (oxygen-carrying molecule) to form methemoglobin
- Methemoglobin cannot transport oxygen in the body, ultimately causing the animal to suffocate and die.

CLINICAL SIGNS

- Clinical signs of nitrate poisoning are related to the lack of oxygen in the blood. Acute poisoning usually occurs from a half hour to 4 hours after consuming toxic levels of nitrate.
- The onset of symptoms is rapid, and the symptoms include:
 - bluish/chocolate brown mucous membranes
 - rapid/difficult breathing
 - noisy breathing
 - rapid pulse (150+/minute)
 - salivation, bloat, tremors, staggering
 - weakness, coma, death
 - dark “chocolate-colored” blood
 - Pregnant females that survive nitrate poisoning may abort due to a lack of oxygen to the fetus. Abortions generally occur approximately 10 to 14 days following exposure to nitrates.



A&L RECOMMENDED FEED PACKAGES

- FN1WM + Nitrates for Beef Cattle
- FN2WM + Nitrates for Dairy

FN1WM Basic with Wet Chemistry Minerals	By NIR: Dry Matter, Protein, ADF, NDF, Sol Protein, UIP Est, ADF-CP, NDF-Cp, Lignin, Fat, Ash, Starch, Cl
	Wet Chemistry: Ca, P, K, Mg, Na, S, Cu, Fe, Mn, Zn
	Calculations: RFV, TDN, NFC, NEL, NEM, NEG, WNEL, WNEM, WNEG
FN2WM Complete with Wet Chemistry Minerals	By NIR: Dry Matter, Protein, ADF, NDF, Sol Protein, UIP Est, ADF-CP, NDF-CP, Lignin, Fat, Ash, Starch, Cl, Lysine, Methionine, NDFD 24hr, NDFD 48hr
	Wet Chemistry: Ca, P, K, Mg, Na, S, Cu, Fe, Mn, Zn
	Calculations: RFV, TDN, NFC, NEL, NEM, NEG, WNEL, WNEM, WNEG, RFQ, NDF Disappearance Rate
Nitrates	Nitrate Test – Added to FN1WM or FN2WM
	Stand Alone Nitrate Test (not done with FN1WM or FN2WN)

A&L Feed Report - Certificate of Analysis (COA):



- A comprehensive report will be sent both via email and the A&L Client Portal
- Standard reports include all relevant parameters tested and expressed in percent (%), parts per million (ppm) and Mcal/Kg for the energies
- Custom reports are available using different conversions and units at no extra charge

FAQs	FEED SAMPLES
How do I take a sample?	<ul style="list-style-type: none"> • Wet forages stored in bunkers, silos or piles-sample entire face or surface. This is achieved most effectively if done as new feed ration is being prepared • Wet or dry forages stored in bales or plastic tubes-using a core sampler, extract 10-20 cores and combine to make one sample • Grains, corn, HM Corn-most easily done as storage structure is being filled by sampling from several loads during offloading
How much sample do I need?	<ul style="list-style-type: none"> • 200-300 grams of wet forages & grains, and 50-100 grams of dry forage (core samples preferred)
How do I send a sample?	<ul style="list-style-type: none"> • Most samples can be sent in zip lock bags by courier • Dry samples can be mailed
Do I need to do anything special to the sample for shipping?	For all samples: <ul style="list-style-type: none"> • Label all bags and containers with farm or ranch information, sample identification and client identification • A feed analysis submission form should be included with all samples • Submission paperwork can be found on alcanada.com • Samples can be dropped off anytime the lab is open - Monday to Friday 8 am to 5 pm - and in the sample shed located between buildings
How long will it take to get my results?	<ul style="list-style-type: none"> • Results are available in 3 business days • Mycotoxins are usually next day • Yeast and mold counts require a five-day incubation period
How can I access my previous tests?	<ul style="list-style-type: none"> • Results are available from the A&L Dataweb which is accessed by client's username and password

7. Mycotoxin Screening

- In Ontario and Quebec, due to the dynamic environmental conditions this year, there may be risk for increased mycotoxin levels in this year's corn crop
- A reminder that A&L provides full service Mycotoxin testing to help clients confirm crop quality

A&L Canada Laboratories

MYCOTOXIN SCREENING

A QUICKER & MORE AFFORDABLE MYCOTOXIN ANALYSIS



MYCOTOXIN SCREENING

TAT
2 to 3 days

PRICE
\$75.00

SUBMISSION CODE
MYC07

SUBMISSION FORM
https://www.alcanada.com/pdf/Submission/A&L-F016_Feed_Submittal.pdf

Assays Provided	LOD SD* (ppb)	LOD ML* (ppb)	Compound	Specificity (%CR)
Aflatoxin B1	0.25	3.125	Aflatoxin B1	100
			Aflatoxin B2	30
			Aflatoxin G1	17
			Aflatoxin G2	4
Aflatoxin G1	0.5	6.25	Aflatoxin G1	100
			Aflatoxin G2	56
			Aflatoxin B1	9
			Aflatoxin B2	4
Deoxynivalenol	100	1250	DON	100
			3-acetyl-DON	844
			15-acetyl_DON	10
Fumonisin	10	125	Fumonisin B1	100
			Fumonisin B2	70
			Fumonisin B3	70
Ochratoxin A	0.25	3.125	Ochratoxin A	100
			Ochratoxin B	2
T2 toxin	5	62.5	T2 toxin	100
			HT2 toxin	37
			T2 triol	3
Zearalenone	2.5	31.25	Zearalenone	100
			α-Zearalenol	112
			β-Zearalenol	64
			Zearalanone	59
			α-Zearalanol	45
			β-Zearalanol	47

*SD = Sensitive Detection Method *ML = Monitory Level Method

To learn more, contact us at:

A&L Canada Laboratories Inc.
1-855-837-8347 • alcanadalabs@alcanada.com
www.alcanada.com

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8. Tree Fruit Analysis + VIDEO: Tree Fruit Agronomy

A&L's Fruitlet Program has been developed based on research by variety to manage the quality in season.

Apple Wood Analysis is used in addition to traditional agricultural analysis methods such as soil, tissue, fruitlet and harvest fruit analysis to manage the crop. Soil analyses are essential before planting and can be repeated every 5 years in order to estimate soil changes. An extensive site-specific sampling of the proposed orchard should be done prior to planting to make amendments prior to planting trees.

A&L Canada Laboratories has an extensive database of leaf and fruit testing for monitoring the in-season development of the crop for finish and quality. Early leaf testing allows a good picture of the early season nutrient load for supplemental application based on fruit load and variety.



The full A&L ORCHARD PROGRAM including procedures and sampling protocols are available in the A&L ORCHARD MANAGEMENT GUIDE

Please contact the Agronomy and Business Development Representative in your area to learn more about A&L's Fruitlet Program and Orchard Program: <https://www.alcanada.com/content/contact/our-team>

VIDEO: Tree Fruit Agronomy

Greg Patterson, Lead Agronomist and Founder of A&L Canada Laboratories covers Site Specific Soil Sampling (orchards), Leaf Testing, Fruit and Fruitlet testing, Apple Wood Analysis; Orchard Mapping, and NDVI images on-farm followed by a Question-and-Answer session.

View Video Online:

https://us06web.zoom.us/rec/play/e8T162jNmlqz9M3sDS6tfz6IP617M7k-GbNRSQutLOU3QSjI7X9pSqVGLizqFgEkDg-T2G7ex6LU9BO2.1CIMmLuTuY-6c_UX?continueMode=true& x_zm_rtaid=8G6JiV5QRjSIWpln-970UA.1633529453012.1cd834d4eb6b333723ce8127a9c2de68& x_zm_rhtaid=426

9. VIDEO: Understanding Your Soil Test Report

Chris Meier, Agronomy and Business Development Representative for Central and Eastern Ontario, presented on "How to Interpret Your Soil Test Report" at A&L's 2021 Soil Management Webinar in September.

If you missed the Webinar or would like to view again, you can watch Chris' presentation on YouTube:

https://www.youtube.com/playlist?list=PLWe5uTuDtzM9_QOImEL-HZcSJXTEc4Xq2



SOLVITA CO2 TEST

10. CO2 Release Test Can Help Assess Soil Health

Article originally appeared on *Producer.com* By Robert Arnason, September 16, 2021

Soil health tests could become more common as governments and private industry try to reduce agricultural emissions

American scientists have identified an accurate method to assess soil health.

They found that the amount of carbon dioxide released, after wetting a sample of dry soil and letting it sit for one day, is an excellent measuring stick for soil health.

“Because of its stronger relationship with soil properties and crop yields... (it) can be used as a simple, rapid, reliable, and inexpensive indicator of measuring soil health in dryland cropping systems,” the researchers wrote in a paper published in the *Soil Science Society of America* journal.



American scientists have found that measuring the amount of carbon dioxide that is released after wetting a sample of dry soil and letting it sit for one day is a good way to determine soil health. | File photo

In the last few years, food companies, producers and researchers have taken a keen interest in soil health tests, which is connected to the increased focus on regenerative farming.

Companies like PepsiCo, General Mills, Cargill and others have made commitments to increase adoption of regenerative agriculture, a system where farmers use cover crops, diverse rotations, livestock and other means to build healthy soils and reduce crop inputs like fertilizer and pesticides.

PepsiCo, for instance, has committed to boost regenerative agriculture practices by seven million acres. But without data, soil health becomes subjective. It's one person saying the soil from one field is healthy and a nearby field is unhealthy.

Hence the need for a simple and reliable test.

“Farmers, producers, and managers... want to use soil health assessments to measure the level of desired properties in their soil, like soil aggregation, microbial activity, nutrient cycling, salinity, acidity and organic matter,” the United States Department of Agriculture said in a news release. “Generally, producers have to use several methods and indicators to measure many soil properties, and testing can become expensive.”

USDA scientists in Montana evaluated two ways of carrying out a carbon dioxide test, where water is added to a sample of dry soil and then incubated in a jar. A soil that releases more carbon dioxide indicates more microbial activity and a healthier soil.

The researchers compared a test where soil was kept in the jar for four days, versus a method where it remained in the jar for one day.

After collecting the soil samples from sites in Montana and doing the tests, the scientists then compared the results to 54 physical, chemical and biological soil properties. They also correlated the tests to crop yields at the Montana sites.

The results showed that the one-day test was a better indicator of soil health.

“(The) one-day incubation method was not only faster, but also accurate because it is connected to more soil properties and had a better relationship with crop production than the four-day method,” said USDA soil scientist Upendra Sainju, one of the researchers who worked on the project. “The shorter time required for incubation and mixing soil with water without the use of chemicals also make it more practical and cheaper for producers.”

Measuring the release of carbon dioxide isn’t a new way to test for soil health.

The Solvita test is a well-known method to measure carbon dioxide respiration.



On its website, Solvita stated there are a number of reasons why carbon dioxide is reflective of soil health:

- The amount of CO₂ released is an indicator of biological activity.
- CO₂ respiration is a measure of nutrient mineralization, or how the soil releases nutrients like phosphorus and nitrogen.
- It’s an indicator of carbon sequestration — “the greater the release of CO₂ the greater the reservoir in the soil”.

Soil health tests could soon become more common in agriculture because governments and private industry are determined to reduce greenhouse gas emissions in farming. Food companies may use test results as a metric to ensure that farmers in their supply chain are maintaining healthy soil and growing crops in a climate-friendly manner.

“We know we have to do even more to create truly systemic change,” said Jim Andrew, PepsiCo chief sustainability officer. “By focusing on regenerative agriculture practices at the local level to build soil health, we can build a stronger foundation for our products and help make the entire food system more sustainable.”

A&L Biologicals offers Solvita Technology for testing soil health assays, which offer the field of biological respiration testing, combining it with a perspective on gaseous emissions to provide a truly practical and realistic indicator of the behavior and properties of composts, soils and feedstuffs as they affect end use.

<https://www.alcanada.com/content/products/solvita-store>



Solvita Soil CO₂-Burst Test - BULK LAB PAK

A laboratory package containing 96 soil test probes for performing the CO₂-Burst procedure.

Order required filters, beakers and jars separately.

11. Upcoming Events

A&L Canada appreciates the opportunity to speak with growers and crop consultants about the crop production challenges they face and how A&L can help

Canadian Hemp Conference 2021 – Virtual

November 16 - 18, 2021

<https://www.hemptrade.ca>



Agribition – Saskatoon, SK

November 22 - 27, 2021

www.agribition.com



FORAGE FOCUS 2021 - Virtual

November 30 – December 2, 2021

<https://onforagenetwork.ca/ontario-forage-council/forage-focus/>



Coming Soon
Registration January 2022



www.alcanada.com/workshops

Find A&L at these 2022 Farm Shows & Events

JAN 5-6	Ontario Agriculture Conference (A combined event of Southwest Ag Conference, Golden Horseshoe & Heartland SCIA's and Eastern Ontario Crop)	www.southwestagconference.ca	Ridgetown, ON
JAN 18-20	Landscape Ontario Congress VIRTUAL	www.locongress.com	ONLINE
JAN 10-13	Crop Production Show	www.cropproductiononline.com	Saskatoon, SK
JAN 12 - 13	CCA Conference	www.ccaontario.com/home	London, ON
JAN 18-20	Manitoba Ag Days	www.agdays.com	Brandon, MB
JAN 25-26	FarmTech™ 2022	www.farmtechconference.com	Edmonton, ON
JAN 26-27	Farms.com Precision Agriculture Conference - East	www.farms.com/precision-agriculture/conferences/	London, ON
JAN 27-29	Pacific Agriculture Show	www.agricultureshow.net	Abbotsford, BC
FEB/MARCH	A&L Canada Laboratories Soil Fertility Workshops	Details coming in January www.alcanada.com/workshops	VIRTUAL
FEB 16-17	CropConnect Conference 2020	www.cropconnectconference.ca	Winnipeg, MB
FEB 23-24	Ontario Fruit & Vegetable Conference	www.ofvc.ca	Niagara Falls, ON
TBD	Innovative Farmers Conference	www.ifao.com	London, ON
MAR 9-11	London Farm Show	www.londonfarmshow.com	London, ON
MAR 15-17	Ottawa Valley Farm Show	www.ottawafarmshow.com	Ottawa, ON
MARCH 22	2022 March Classic	https://gfo.ca/about/march-classic-2022/	London, ON

Everyone at A&L appreciates your business and is committed to continue bringing the excellent type of customer service you expect and deserve!



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