




A&L Canada Laboratories

December 2019 Cannabis and Hemp Newsletter


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YOUR ANALYTICAL EXPERTS



**Cannabis
2.0**



- baked goods
- chocolate
- capsules
- gummies
- candy
- beverages
- snack foods
- beauty/skin care
- topicals
- cooking ingredients
- vape carts
- concentrated oil
- vape pens
- tinctures
- condiments
- honey
- concentrates
- vape oil



We're Ready!

Count on A&L for Edible Testing

As Cannabis 2.0 approaches, licensed producers (LPs) are preparing their edible products for market. That process begins with testing and analysis, and for those services, many LPs turn to A&L Labs, Canada's leading cannabis and hemp testing and analysis service.

A&L's edible testing track record goes back to 2017 when LPs were assessing edible product in their research and development pipeline, says Haifeng Song, Laboratory Director at A&L Canada. "We have been working with R&D samples for a long time," Song confirms. "Now we are working with what the LPs hope will be market-ready product. Before they go to market, they need to test so we're working closely with LPs to evaluate the properties of these products," he adds. "A lot of beverages have already been through A&L analysis. Now our focus is on sugar-based products such as chocolates, brownies and gummy bears." A&L Canada Labs has been certified as a Level II food testing lab by the Canadian Food Inspection Agency.

Why do these LPs depend on A&L Canada Labs? "We have deep experience in food testing and food safety," says A&L's Strategy and Business Development Manager for Food and Pharma Brian Coutts. "It comes back to A&L being a full-service lab. Not only can we help with preparing for indoor or outdoor grow, we can support the master grower in-season by testing plant tissue nutrient levels to keep the plants actively growing. We have the relationships and the experience to support 2.0 testing as well."

We are excited to share with you that we will soon have an announcement on a strategic alliance to benefit our valued customers -- we are currently in discussions with a company to provide extended services for analysis of food labels, allergens and stability testing. We envision a one-stop shopping experience for our customers in respect to delivering on all their cannabis 2.0 products. If you need assistance in this area, please contact Brian Coutts (bcoutts@alcanada.com).

As for edible testing at A&L, Haifeng Song says: "We have learned a lot about edibles and our testing method doesn't need to change since we have so much experience with cannabis flower. We're working very hard to validate these edible products with our current testing methods." A&L is also testing CBD products derived from hemp, another rapidly growing market segment.

A&L has state-of-the-art technology – the company recently acquired an UHPLC chromatograph to enhance cannabinoid and terpene analysis – but its turnaround time leads the market. "When you're doing R&D, you need to know the results right away," Song says. "Our clients really appreciate our fast turnaround time for most tests. Without quick turnaround, R&D teams at the LPs have to stop and wait for results." A&L Canada has a team of 65 lab and service personnel on staff to keep the wheels turning. If you're an LP with an R&D project contract, speak to A&L about turnaround times.

While speed is important, it's sector knowledge that sets A&L apart. "It's most important to know how to prepare the sample," Song adds. "The sample must be clean enough so we can obtain pure results from analysis. That's most critical. Anyone can purchase testing equipment," he adds. "It's A&L's knowledge that makes the difference."

"Clients tell us that our experience is what counts most," Brian Coutts confirms. "The LPs are after the right cannabinoids and terpenes for their products and their reliance on A&L starts with the plan to grow and moves through to finished product. A&L provides that grow to end product testing, so we have the knowledge and experience to assess the product, whether it's flower or edible."

Make sure you're using A&L Canada Labs to get the best analysis in the shortest time. To find out more, contact Brian Coutts at: bcoutts@alcanada.com.

#GROWUP19: Growing a Quality Crop in Soil

A&L Canada CEO and founder Greg Patterson joined a panel on soil-based production systems at the Grow Up Conference held in Niagara Falls earlier this year. According to Patterson: "A&L is all about crop quality and being able to enhance the nutraceutical qualities of any crop. Cannabis is a robust crop to grow but it still needs tender loving care to optimize terpenes and cannabinoids. Our other focus is to reduce the amount of disease and insect problems growers may have. Many of these challenges are a function of the plant not being fed optimally."

"As the cannabis plant grows, it completely changes the rhizosphere," Patterson added. "Fed properly, the plants will kill off the 'bad guys' [microbes] in the rhizosphere and promote the 'good guys' derived from compost or the probiotics you're using from some 'bug-in-a-jug' company." Those 'good guys' [microbes] will continue to thrive in the soil as long as the plant is being fed optimally, according to Patterson.



The rhizosphere is like the gut of a plant, Patterson explained. "For humans, if we feed ourselves properly, we will nurture the right bacteria in our gut. The same goes for the plant. If we can optimize plant health, we can maintain its natural immunity so it can fight off insects and disease."

Patterson is a big believer in cover crops for outdoor production. "Cover crops feed those soil bugs to maintain a microbial population," he said. With healthy soil, Patterson says there's no reason you can't continuous crop in the same field.

"It's also important to inoculate constantly," Patterson added, and that's true for indoor and outdoor cultivation. "You can't do it once and forget it. If you don't inoculate regularly, you're starting all over again."

The panel was comprised of experts in soil-based grow operations so it's no surprise that these experts believe growing in soil is best and will ultimately outstrip hydroponic production. "Hydroponics can go bad very, very quickly," said Patterson. "Soil can support a lot of complexity. It's a natural buffer and very forgiving."

A&L Labs has introduced the Vitellus™ Soil Health test (www.VitTellus.com), a diagnostic tool that is quickly gaining traction with licensed producers. Patterson recommended growers analyze the medium they're working with and make soil amendments before planting. "Based on our Vitellus™ soil health index, you can control the 'good guys' you want in the rhizosphere," said Patterson. "We analyze 487 parameters in the Vitellus™ algorithm. It's a very useful test to maintain the microbe population in the rhizosphere."



Patterson also recommended A&L's Plant Monitoring Program (PMP) as an ongoing check on plant health. "With PMP, you can assess whether your nitrate levels are coming down as the crop approaches senescence," Patterson said. "Because if you have nitrates accumulating, that means the plants not maturing. You can flush nitrates from a plant in soil if you understand your plant's health status."

Sometimes there may be nitrogen present, but the plant can't use it, Patterson continued. "You need to maintain boron levels throughout the season for any crop you grow but particularly cannabis. When crops exhibit that late season green, we will sometimes recommend that growers go in with boron. Maintaining a tissue monitoring program with PMP will help to ensure your plants' nutrients are within the optimum range and that the plant is maturing properly."

Soil inoculants are the way of the future, Patterson concluded. "They will help us raise the bar and give us a head start, especially in transplants. If you inoculate a transplant and then take it out into the field, it takes that micro population with it. We have very good movement in these biologicals so if we know what we're doing we can start that process in a very young plant. But your plants still need a solid agronomic basis to thrive."

Maximize Grow Quality With A&L's Plant Monitoring Program (PMP)

Now that you understand how plant tissue analysis can identify nutrient challenges in-season, why not aim for maximum yield and optimum quality with A&L's Plant Monitoring Program (PMP)? Rather than one-off plant tissue tests, PMP can track your grow's nutrient status as it affects quality and yield. Getting started is easy. Select the grow you want to monitor and enroll in PMP. There's no cost to enroll – fees only apply to the tests you order. Track your cannabis and hemp through A&L's Plant Monitoring Program.



For more information, go to:

<https://www.alcanada.com/content/references/pdf-content?pid=Plant%20Monitoring%20Program>

#GROWUP19: A&L's ALCannTrace™ Software



The Grow Up Conference held in Niagara Falls earlier this fall also featured a demonstration stage where exhibitors and experts could showcase innovative products and services to support the cannabis industry.

Larry Kropf, Director of Marketing for ALink Computer Systems Inc., a subsidiary of A&L Labs, demonstrated the company's ALCannTrace™ software program (www.ALCannTrace.com). ALink has its roots in agricultural crops, where it first developed Ag Trace Manager data recording and analysis software to compensate for the shortcomings of off-the-shelf software programs.

“When A&L was approved by Health Canada to test cannabis, it wasn’t long before licensed producers started asking about data analysis and cultivation software solutions,” Kropf explained. “The challenge was to provide solutions to growers, each of whom were growing the crop differently. How do you create a software solution that captures the minute but significant differences of each of the grower’s processes?”

On a macro scale, the variability of cannabis production was new to many software companies. “A&L cannabis customers wanted a detailed growth management program as well as activity planning and non-product inventory control planning,” Kropf said. To provide that, A&L adapted its Ag Trace program to cannabis. “That wasn’t a big stretch for us,” he added. “We already understood the unique needs of the cannabis industry.”

Rather than build one system for the industry and hope it works well enough, ALink creates a unique program for each individual grow operation, including document management, quality reporting and point of sale solutions.



Seed-to-Harvest Platform for the Cannabis Industry

Improving Data Driven Decisions & Productivity
 ALCannTrace™ is a complete seed-to-harvest secure cloud-based software solution for cannabis producers - growth & cultivation, crop management, lab reports, inventory, quality compliance. One software system for management, quality assurance & grow teams use together for increased traceability of all day-to-day processes.

 <p>Monitor, Track & Manage ALL-IN-ONE crop production and traceability management in one solution.</p>	 <p>Flexible and Customizable CUSTOMIZABLE to meet the needs of your growing operation.</p>
 <p>Trusted Partner and Support HANDS-ON support from a leading technology services partner with cannabis industry experience and proven capabilities.</p>	 <p>Companies We Work With braingrid woodmind FTGR Canada's #1 Hemp Grower A&L</p>

www.ALCannTrace.com @ALCannTrace

According to Kropf, “We arrived at a modular system that allowed clients to pick and choose what they need for their operation, one that harmonized with the software systems they were already using.” All ALCannTrace™ software is written with open source text to allow data sharing between existing programs. Existing hardware will be used whenever possible to minimize implementation costs to clients.

“We also have a vision for the future for areas like remote sensing and precision agriculture capabilities,” Kropf added. ALCannTrace™ can upload data directly from UV-screening drones and/or robots to identify differences in temperature within a grow room. “Our expertise is

immense in the cannabis market and using that knowledge to create a predictive model for disease and yield would be extremely beneficial,” he noted.

ALCannTrace™ software is available as a subscription service. For more information about how ALCannTrace™ could fit your production and data management needs, contact Brian Coutts at: bcoutts@alcanada.com

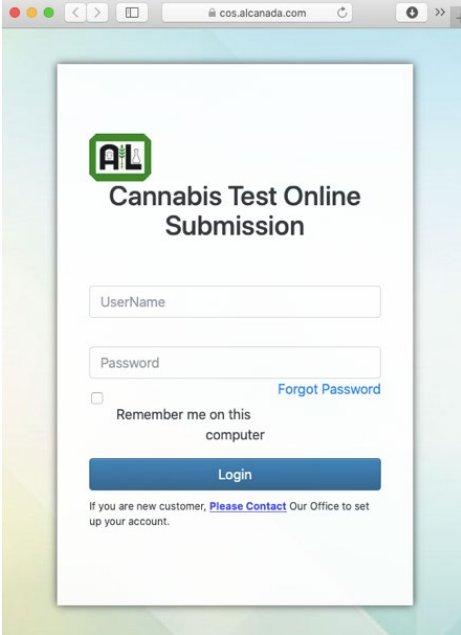
Avoid Unnecessary Paperwork With A&L’s Cannabis Online Submission (COS)

Convenience, speed and accuracy count for a lot in the cannabis and hemp sector. That’s why A&L Canada Labs offers fast and accurate online submission through its Cannabis Online Submission (COS) program. “COS is definitely faster and less prone to error than a hand-written entry,” confirms A&L’s Brian Coutts. “LPs tell us it’s good to have an online record of previous tests.” Once your requested tests are complete, the data gets uploaded immediately so that the information is available to the client as soon as possible.”

A&L’s COS system can track many of the analyses the company provides, including:

- Regulated Heavy Metals
- Cannabinoid Profile
- Microbiological Scan
- Aflatoxins
- Pesticide Residues
- Extraneous Foreign Matter

Contact your A&L Canada Labs representative to find out how to move your account to the COS system.



The image shows a screenshot of a web browser displaying the login page for the Cannabis Test Online Submission (COS) system. The page features the A&L logo at the top left, followed by the title "Cannabis Test Online Submission". Below the title are two input fields for "UserName" and "Password". To the right of the password field is a link for "Forgot Password". Below these fields is a checkbox labeled "Remember me on this computer". A blue "Login" button is positioned below the checkbox. At the bottom of the page, there is a note: "If you are new customer, [Please Contact](#) Our Office to set up your account."

A&L News

A&L's Soil Health Symposium Videos are Now Online

A&L's Soil Health Symposium Series was held in November in both Grand Rapids, Michigan, USA and London, Ontario, Canada. Thank you to everyone who joined us!



You can watch the presentations from the London Soil Health Symposium event here: https://www.youtube.com/watch?v=qBq_hHJOWy4&list=PLWe5uTuDtzM-FCjSL7GTnBTJM8S1YMs3z



A&L Canada Laboratories announces facilities and staffing expansions

A&L opening new laboratory and have expanded facilities providing new capacity for increased customer service

and future growth <https://www.alcanada.com/content/eservices/news/2019/10-21/40/index>

NEW HIRE: Brandon Yott Joins A&L Canada Laboratories as Strategy & Business Development Manager, Precision Agriculture Technologies



Mr. Yott will lead the growing business with new innovations such as A&L's TerraSiteRx™ Analytics Platform and TerraSiteRx™ Algorithms, tools to help with crop decision making.

Brandon has:

- over 20 years of experience of project management & marketing in the agricultural industry
- worked for the Agromart Group as the Product Development & Marketing Manager; responsible for the Precision Ag strategy
- work experience with Syngenta in the Crop Protection Division
- a Bachelor of Science in Agriculture with a major in Environmental Biology from the University of Guelph

• Read more:

<https://www.alcanada.com/content/eservices/news/2019/10-08/39/index>

Questions about A&L's Cannabis and Hemp Services? **Contact Brian Coutts**



Brian Coutts

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Or, find him on Twitter and Instagram: @ALCannabisLabs



A&L Canada Laboratories

Tues, Dec 24 **OPEN** 8 am-12 pm (Noon)
Wed, Dec 25 **CLOSED** Christmas Day
Thurs, Dec 26 **CLOSED** Boxing Day
Fri, Dec 27 **OPEN** 9 am-2 pm
Mon, Dec 30 **OPEN** 9 am-2 pm
Tues, Dec 31 **OPEN** 8 am-12 pm (Noon)
Wed, Jan 1 **CLOSED** New Year's Day 2020
Thurs, Jan 2 **OPEN** Back to regular hours!

www.ALCanada.com



Join A&L Canada Labs at these Upcoming Events

Lift & Co

January 9 - 11th, 2020
Vancouver, B.C.



Pacific Agriculture Show - CannaTech Show

January 31 - February 1st, 2020
Abbotsford, B.C.



O'Cannabiz Conference & Expo

April 23 - 25th, 2020
Toronto, Ontario



C45 Quality Summit

May 12 - 14th, 2020
Fredericton, New Brunswick

