



A&L CANNABIS & HEMP NEWSLETTER **OCTOBER 2020**

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NEW Cannabinoid Testing Packages

THE NEW COMPREHENSIVE CANNABINOID PACKAGES ARE AVAILABLE:

Complete Cannabinoid Profile (16):

CBCA, CBC, CBL, CBD, CBDA, CBDV, CBDVA, CBG, CBGA, CBN, CBNA, Delta-8 THC, Delta-9 THC, Delta-9 THCA, THCV, THCVA

- *Includes - Moisture (Loss of Drying)*
- *Recommended for Potency & Terpenes tests for proper THC results*

Basic THC and CBD package:

Basic Cannabinoid Profile –Total CBD, Total THC (Non-Lot release + Hemp)

- *Includes - Moisture (Loss of Drying) Recommended for Potency & Terpenes tests for proper THC results*
- *Ideal for basic potency analysis for R&D projects, Hemp production, basic batch potency*

EXPANDED Terpenes Library *Reports Now Include Total Terpene Percentage*

THE LIST OF 38 TERPENES NOW AVAILABLE FOR ANALYSIS INCLUDES:

1. Valencene
2. trans-Nerolidol
3. alpha-Cederene
4. alpha-Phellandrene
5. Isoborneol
6. Camphene
7. Isopulegol
8. alpha-Humulene
9. beta-Pinene
10. Cedrol
11. Linalool
12. Fenchone
13. Caryophyllene oxide
14. delta-3-Carene
15. Menthol
16. NEROL
17. alpha-Terpineol
18. Camphor
19. Sabinene hydrate
20. beta-Ocimene
21. Sabinene
22. gamma-Terpinene
23. alpha-Bisabolol
24. Guaiol
25. beta-Caryophyllene
26. Fenchol
27. beta-Myrcene
28. Eucalyptol
29. p-Cymene
30. Geraniol
31. Pulegone
32. Borneol
33. Terpinolene
34. alpha-Terpinene
35. alpha-Pinene
36. cis-Nerolidol
37. Geranyl acetate
38. d-Limonene
Total 38+ Terpenes

A&L Canada Laboratories has further expanded the library of Terpenes available for testing. As the industry develops to further differentiate product based on quality parameters such as terpenes, this expanded capability supports clients in this effort to build out their product and brand profile.

If there are additional Terpenes which are of interest to clients, A&L is more than willing to include those for customized analysis

Example of Terpenes in Certificate of Analysis (COA) format on next page of newsletter

**NEW EXPANDED
Terpenes Library**

COA Reports Now Include
Total Terpene Percentage

A&L | **Soil2Oil™**
A&L CANNABIS LABS

www.alcannabislabs.com | @alcannabislabs | clientcarecannabis@alcanadalabs.com

EXAMPLE OF TERPENES IN COA FORMAT

REPORT NO. C20267-92
A & L Canada Laboratories Inc.
 ACCOUNT NUMBER 99972
 2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664

TO: CANNABIS R&D
 2136 JETSTREAM ROAD
 LONDON, ON N5V 3P5
 hereinafter the "Recipient"

ATTN: Cannabis Method Development and R&D
 Phone: 519-457-2575
 Fax: 519-457-2664

CERTIFICATE OF ANALYSIS PAGE: 2 / 34

CATEGORY: Potency
 PO#: dp
 LAB NUMBER: 267922
 SAMPLE ID:
 STRAIN:

SAMPLE MATRIX: Dried Cannabis
 DATE SAMPLED: 2020-09-19
 DATE RECEIVED: 2020-09-23
 DATE REPORTED: 2020-10-05
 DATE PRINTED: 2020-10-08

PARAMETER	RESULT		LOQ		METHOD REFERENCE
	% w/w	mg/g	% w/w	mg/g	
Terpenes Scan					
#Total Terpenes	1.994	19.94	0.005	0.05	Calculation
alpha-Bisabolol	0.071	0.71	0.005	0.05	GC/FID
alpha-Cederene	0.446	4.46	0.005	0.05	GC/FID
alpha-Humulene	0.154	1.54	0.005	0.05	GC/FID
alpha-Phellandrene	<LOQ	<LOQ	0.005	0.05	GC/FID
alpha-Pinene	0.018	0.18	0.005	0.05	GC/FID
alpha-Terpinene	<LOQ	<LOQ	0.005	0.05	GC/FID
alpha-Terpineol	0.056	0.56	0.005	0.05	GC/FID
beta-Caryophyllene	0.523	5.23	0.005	0.05	GC/FID
beta-Myrcene	0.206	2.06	0.005	0.05	GC/FID
beta-Ocimene	<LOQ	<LOQ	0.005	0.05	GC/FID
beta-Pinene	0.028	0.28	0.005	0.05	GC/FID
Borneol	0.009	0.09	0.005	0.05	GC/FID
Camphene	0.006	0.06	0.005	0.05	GC/FID
Camphor	<LOQ	<LOQ	0.005	0.05	GC/FID
Caryophyllene oxide	0.008	0.08	0.005	0.05	GC/FID
Cedrol	<LOQ	<LOQ	0.005	0.05	GC/FID
cis-Nerolidol	<LOQ	<LOQ	0.005	0.05	GC/FID
d-Limonene	0.130	1.30	0.005	0.05	GC/FID
delta-3-Carene	<LOQ	<LOQ	0.005	0.05	GC/FID
Eucalyptol	<LOQ	<LOQ	0.005	0.05	GC/FID
Fenchol	0.055	0.55	0.005	0.05	GC/FID
Fenchone	<LOQ	<LOQ	0.005	0.05	GC/FID
gamma-Terpinene	<LOQ	<LOQ	0.005	0.05	GC/FID
Geraniol	<LOQ	<LOQ	0.005	0.05	GC/FID
Geranyl acetate	<LOQ	<LOQ	0.005	0.05	GC/FID

LOQ - Limit of Quantification
 The results of this report relate to the sample submitted and analyzed.
 Results Authorized By: *[Signature]*
 Haifeng Song, Ph.D., C.Chem.
 Lab Director

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

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PARAMETER	RESULT		LOQ		METHOD REFERENCE
	% w/w	mg/g	% w/w	mg/g	
Terpenes Scan					
Guaiol	<LOQ	<LOQ	0.005	0.05	GC/FID
Isoborneol	<LOQ	<LOQ	0.005	0.05	GC/FID
Isopulegol	<LOQ	<LOQ	0.005	0.05	GC/FID
Linalool	0.135	1.35	0.005	0.05	GC/FID
Menthol	<LOQ	<LOQ	0.005	0.05	GC/FID
NEROL	<LOQ	<LOQ	0.005	0.05	GC/FID
p-Cymene	<LOQ	<LOQ	0.005	0.05	GC/FID
Pulegone	<LOQ	<LOQ	0.005	0.05	GC/FID
Sabinene	<LOQ	<LOQ	0.005	0.05	GC/FID
Sabinene hydrate	<LOQ	<LOQ	0.005	0.05	GC/FID
Terpinolene	0.006	0.06	0.005	0.05	GC/FID
trans-Nerolidol	0.064	0.64	0.005	0.05	GC/FID
Valencene	0.072	0.72	0.005	0.05	GC/FID

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DISEASE DIAGNOSTICS: Hop Latent Viroid (HLVd) Testing

A&L Canada Laboratories has added Hop Latent Viroid (HLVd) testing to their Cannabis Disease Diagnostics Services (<https://www.pdd.alcanada.com/disease-diagnostics-cannabis>). We understand how important it is to get quality results back quickly and results are available in 3 days.

“Hop Latent Viroid in cannabis is a very serious and costly issue causing stunting, malformation or chlorosis of leaves, brittle stems, and reduction in yields. Additionally, cuttings taken from symptomatic plants for clonal propagation is cause for reduced rooting success rate.” said Dr. Keri Wang, Microbiology Laboratories Director, Senior Scientist, A&L Canada Laboratories Inc. HLVd is primarily spread through mechanical transmission, meaning it can be easily controlled when using best practices for cleanliness in your grow rooms.

A&L Canada Laboratories has been providing Plant Disease Diagnostics (PDD) for over thirty years in row, horticultural and greenhouse crops. A&L offers complete pest diagnosis and services for the detection of plant pathogens including fungi, bacteria, viruses, and nematodes in association with plant tissues, soils, composts and water. Complete diagnostic service using many different technologies for our customers to meet their rigorous testing requirements are provided.

A&L's Disease Diagnostics team works closely with each customer, from researchers to diagnosticians and growers both in the greenhouse and field, to provide their results in the most cost effective and rapid way while maintaining customer confidentiality.

A&L is significantly scaling its cannabis analytical services and research and will be expanding its laboratory footprint this Fall on completion of renovations to a recently purchased building adjacent to the existing two laboratories.

To learn more about plant disease diagnostics, visit the A&L Plant Disease Diagnostics website at www.pdd.alcanada.com.

OUTDOOR PRODUCTION: Soil Test This Fall to Start Right Next Spring

Fall is a great time to take soil tests so you can amend your soils for the 2021 crop

Chances are you're already in the midst of harvesting this year's grow. Does that mean you're all done for the season? A&L recommends post-harvest soil testing as the ideal way to set yourself up for success next year. Without a current soil test, you'll just be guessing what shape your soil is in for next year's crop.

You might also conclude that since you're satisfied with this year's crop yield and quality, there's no reason to test. But even a good stand could be masking key nutrient deficiencies in your soil.

To improve your prospects for success in 2020, consider an intensive soil sampling program such as site-specific soil sampling or a soil audit. Site-specific sampling will clearly show the variability within fields, data that can be used to address those field differences for optimal input applications.

Once you have the results of your fall soil test, you can start to plan your fertility program that considers balanced nutrition, source, timing and proper placement of crop nutrients.



A&L CANNABIS LABS FAQs

GETTING STARTED	TESTS	SAMPLES	REPORTS
<p>1. How do I set up an account?</p> <p>2. How do I pay?</p> <p>3. If you don't have an account or you have a COD account...</p>	<p>4. What type of testing does A&L provide?</p> <p>5. How many Cannabinoids do you test for?</p> <p>6. How many Terpenes do you test for?</p> <p>7. How long does it take before I get my results?</p>	<p>8. How do I submit samples & fill out the submission paperwork?</p> <p>9. How much sample do I send?</p> <p>10. How do I package samples?</p> <p>11. How do I ship samples to the lab?</p>	<p>12. How do I receive my results and access my data?</p> <p>13. What happens if the Lab reports one of Health Canada's 96 pesticides</p>

KEY: HC = Health Canada; LP = Licensed Producer; COC = Chain of Custody; COS = Cannabis Online Submission; COA = Certificate of Analysis; LOQ = Limits of Qualification; LIMS = Library Information Management System; COD = Collect on Delivery

A&L CANNABIS LABS FAQs: GETTING STARTED

1. How do I setup an account?	Please contact clientcarecannabis@alcanada.com and a representative will get you the proper paperwork to initiate account setup
2. How do I pay?	<ul style="list-style-type: none"> • Clients with account & credit applications are invoiced weekly • Clients can also choose to pay once samples arrive via credit card or E-Transfer Clients can also apply credit to their accounts in advanced. <i>NOTE: Report results are held until payment is made if credit is not approved</i>
3. IF you don't have an account or have a COD account	<ul style="list-style-type: none"> • Once samples are submitted, an invoice will be sent out for payment once samples arrive via credit card or E-Transfer <i>NOTE: If you have an account and credit you will be invoiced</i>

A&L CANNABIS LABS FAQs: TESTS

4. What type of testing does A&L provide?	A&L provides comprehensive testing and production services for the cannabis industry. This includes cannabis lot release, plant disease diagnostics and DNA testing, plant nutrient leaf analysis, fertilizer nutrient solutions, media/soil testing. For more information visit our website: www.alcannabislabs.com
5. How many Cannabinoids do you test for?	A&L has recently expanded its Cannabinoid profile to 16 Cannabinoids. A&L also has a basic THC/CBD option for preharvest checks or R&D for less cost.
6. How many Terpenes do you test for?	A&L has recently expanded their Terpene profile to 38 commonly found Terpenes. We are actively consulting with clients and industry on other common abundant Terpenes to expand this profile. We also include total Terpene %.
7. How long does it take before I get my results?	A&L has some of the best turnaround time for results in the industry. A&L reports Cannabinoid Profiles in 3 business days from the time we receive the samples in the lab. Some other tests take longer & cannot be expedited like standard USP/EP microbial methods which can take 3-5 business days depending on the parameters.

A&L CANNABIS LABS FAQs: SAMPLES

<p>8. How do I submit and fill out Submission paperwork?</p>	<ul style="list-style-type: none"> If you have an account set up, you can use the Cannabis Online Submission (COS) Portal (https://cos.alcanada.com/login) - the COS makes submission easy and clean as well as let you track your submission progress. <i>Video: How to Use COS</i> https://www.youtube.com/watch?v=uV8jNn03y00 The other option, A&L has a PDF fillable Chain of Custody (COC) that can be filled out and submitted with samples. LINK to fillable COC: CLICK HERE
<p>9. How much sample do I send?</p>	<p>For Dried Cannabis full lot release testing the lab requires approximately a 40g of sample</p>
<p>10. How do I package samples?</p>	<ol style="list-style-type: none"> Samples need to be packaged depending on the matrix and test: <ul style="list-style-type: none"> Most dried samples can be packaged in clean plastic containers / bags Most Fresh Material should be in paper bags, this is to adsorb moisture Liquids, semi-solids, oils should be in leakproof vials, tubes, syringes For Plant Disease Diagnostics place in a Ziploc bag Next, package samples securely together in a shipping container, box, or envelope. Please ensure Submission paperwork accompanies the samples for laboratory sample reception. DO NOT forget this requirement.
<p>11. How do I ship samples to the lab?</p>	<p>We recommend express couriers. Our preferred courier is Purolator because of their proximity and early scheduled drop offs to the laboratory. However, most couriers will provide good service to the laboratory. <i>NOTE: Canada Post will often cause shipping delays.</i></p> <ul style="list-style-type: none"> We do not require to be notified of your deliver and we do not manage these email notifications The faster the shipping method the faster results come back to clients Personal drop offs at a lab are an option if you are local Please track your own packages, A&L is not responsible for tracking LP packages

A&L CANNABIS LABS FAQs: REPORTS

<p>12. How do I received my results and access my data?</p>	<p>EMAIL:</p> <ul style="list-style-type: none"> Reports/COA's are emailed to clients using the emails used to setup in their accounts If client does not have an account A&L will use the email supplied on the COC/ Submission Form. <p>ONLINE:</p> <ul style="list-style-type: none"> A&L's Online Reporting Portal (https://services.alcanada.com/dataweb2018/login) - clients with accounts can retrieve their COA's at any time. There are many advantages and functions in the online portal including separating Lots and test results and it is also important for holding records for audits. A&L utilizes a LIMS (Laboratory Information Management System) which sends out and managers' report/COA release and distribution.
<p>13. What happens if the Lab reports one of Health Canada's 96 Pesticides?</p>	<ul style="list-style-type: none"> IF you are a LP, you must test the cultivated product before transport, export, or processing. <u>All reported Pesticides on the COA must be reported to Health Canada by the LP.</u> While HC has required reporting limits for the laboratories to meet for testing & reporting, most labs have lower reporting limits/ Limits of Quantification (LOQ) based on their statistics of their methods. The LP must report pesticides reported above the Lab's LOQ. Should be noted, low level pesticide contamination can be common in some, mostly due previous or local agriculture operations. It does not necessarily mean the product is unusable.

Upcoming Events

This is our most up-to-date list of industry events:



[Canadian Hemp Trade Alliance](#) Nov 12-13, 2020 – Online



[MJBizCon 2020](#) Dec 2-4, 2020 - Virtual Conference



[Montreal Cannabis Expo](#) February 2-3 2021 – Montreal, PQ



[Ontario Fruit & Vegetable Conference General Meeting](#)

February 23, 2021 - Virtual



[Lift & Co](#) May 27-31, 2021 – Toronto, ON



[C-45 Quality Virtual Summit](#) May 17, 18, & 19th, 2021



[GrowUp Conference](#) May 31-June 2, 2021 – Victoria, BC

[GrowUp Conference](#) Sept 1-3 2021 – Niagara, ON

A&L Cannabis Labs Contact Information

For Cannabis or Hemp related questions, please email: clientcarecannabis@alcanada.com

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A&L Cannabis Labs Social Media

Twitter @ALCannabisLabs <https://twitter.com/alcannabislabs>

Instagram @ALCannabisLabs <https://www.instagram.com/alcannabislabs/>

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A&L Canada Laboratories Main Website: www.alcanada.com

A&L Cannabis Website: www.alcannabislabs.com



Soil2Oil™
A&L CANNABIS LABS

SIMPLE STEPS TO COA

1
NEW
CUSTOMER
SET UP



Contact
BRIAN COUTTS
A&L Cannabis Labs
bcoutts@alcanada.com
for account set up

2
FILL
OUT
FORMS



Fill out sample
information and
**CHAIN OF
CUSTODY**
form stating your
product is either
CANNABIS or **HEMP**

3
SHIP
SAMPLES



Use your
preferred way to
ship samples

4
PAY
INVOICE



We require
payment before
releasing results
*Once we receive
sample, we email
invoice and receive
payment*

5
RECEIVE
COA



Receive your
Certificate of Analysis (COA)
in 3-5 business days
depending on
your test
*Via email & online
client portal*

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