

NUTRIENT TESTING LABORATORIES

This factsheet aims to support farmers in identifying analytical laboratories that provide agricultural testing services for producers in British Columbia, in particular for nutrient management. Knowing your soil fertility, crop/tissue quality, manure or compost composition, and soil health enhances your fertilization program. Your farm may be required to have soil fertility results (soil test phosphorus and post-harvest nitrate) at least once every 3 years to be compliant with **the Code of Practice for Agricultural Environmental Management**.

It is recommended to reach out to your preferred laboratory in advance for soil handling, storage and shipping conditions, and minimum sample quantities required for analysis. Most laboratories often supply free sampling bags, labels, and analysis request submission forms.

The following are common types of sample analyses offered by different laboratories.

- Soil fertility
- Crop or tissue quality
- Manure or compost nutrients
- Water quality
- Soil health/soil biology

Note: This list is not meant to be exhaustive and does not endorse any laboratory. Laboratories may offer additional services not listed in this factsheet. If other services are required, contact the laboratories directly.

LABORATORIES IN BRITISH COLUMBIA

MB Laboratories Ltd.

4-2062 W Henry Ave, Sidney, BC, V8L 5Y1

Phone: 250-656-1334

Email: info@mblabs.com

Website: mblabs.com

- Service offered: S, C, M, W, & SH[†]
- Provide service to interpret soil test result

Ministry of Environment Analytical Chemistry Services Laboratory (NRL)

2071 Malaview Ave W, Sidney, BC, V8L 5X6

Email: nrlab@gov.bc.ca

- Service offered: S, C, M, W, & SH

Frind Lab Services

3725 Boucherie Rd, West Kelowna, BC, V4T 0A8

Phone: 778-754-8051

Email: lab@frindwinery.com

Website: www.frindwinery.com

- Service offered: S, C, & W

Bureau Veritas Canada Inc.

4606 Canada Way, Burnaby, BC, V5G 1K5

Phone: 604-734-7276

Email: customersolutionswest@bureauveritas.com

Website: www.bvna.com/environmental-laboratories

- Service offered: S, C, M, W, & SH

Pacific Soil Analysis Inc.

5-11720 Voyageur Way, Richmond BC, V6X 3G9

Phone: 604 273-8226

Email: cedora19@telus.net

- Service offered: S & C

Element

19575 55 A Ave #104, Surrey, BC, V3S 8P8

Phone: 604-514-3322

Email: Info.vancouver@element.com

Website: www.element.com

- Service offered: S, C, M W, & SH

LABORATORIES OUTSIDE BRITISH COLUMBIA

Down to Earth Labs

3510 6 Ave North, Lethbridge, AB, T1H 5C3

Phone: 403-328-1133

Email: info@downtoearthlabs.com

Website: www.downtoearthlabs.com

- Service offered: S, C, M, & W
- Provide service to interpret soil test result

Brookside Laboratories, Inc.

200 White Mountain Dr. New Bremen, OH, 45869

Phone: 419-977-2766

Email: info@blinc.com

Website: www.blinc.com

- Service offered: S, C, M, W, & SH

ALS Laboratory Group

819 58th Street East, Saskatoon, SK, S7K 6X5

Phone: 306-668-8370

Website: www.alsglobal.com

- Service offered: S, W, & SH

A&L Canada Laboratories Inc.

2136 Jetstream Rd London, ON, N5V 3P5

Phone: 519-457-2575

Email: aginfo@alcanada.com

Website: www.alcanada.com

- Service offered: S, C, M, W, & SH
- Provide recommendations on soil test reports

AGAT Laboratories Ltd.

2910-12th Street NE, Calgary, AB, T2E 7P7

Phone 403-735-2005

Email: info@agatlabs.com

Website: www.agatlabs.com

- Service offered: S, C*, M, W, & SH

[†] S, soil fertility; C, crop/tissue analysis, M, manure/compost; W, water quality; SH, soil health/soil biology.

* Analysis performed in another location.

KNOW YOUR SOIL TEST METHODS

Different laboratories use different methods to determine soil nutrient concentrations. Soil test values for a soil sample may vary from one laboratory method to another. Soil nitrogen methods are an exception; the choice of the laboratory method should have a minimal effect on nitrogen soil test values.

In conventional soil fertility testing, several factors are considered in selecting the appropriate method. A main factor is the **extractant** (the chemical solution added to a given soil to remove what should reflect the ‘available’ portion of a nutrient from that soil). For each laboratory that provides soil testing services, the default extractants and their chemical compositions used for soil phosphorus and potassium are listed in Table 1 and Table 2, respectively. When no specific method has been requested, these extractants will likely be used.

Knowing the extractant for your soil test will help with interpreting soil test values. The **Kelowna extractant** is recommended for measuring available phosphorus and potassium in BC soils. You can use our conversion worksheet to **convert soil phosphorus and potassium test results to ‘Kelowna-equivalent’ results**.

Table 1. Default methods (extractants) for available soil phosphorus and potassium tests of nutrient testing laboratories. Laboratories may offer additional methods upon request.

Laboratory	Phosphorus extractant	Potassium extractant
AGAT Laboratories Ltd	Modified Bray P1	Ammonium acetate
Pacific Soil Analysis Inc.	Bray P1	Ammonium acetate
MB Laboratories Ltd.	Modified Kelowna 94 [†]	Modified Kelowna 94
Ministry of Environment Analytical Chemistry Services Laboratory (NRL)	Bray P1, Kelowna & Mehlich 3	Ammonium acetate, Kelowna & Mehlich 3
ALS Laboratory Group	Modified Kelowna 94 & Olsen P (bicarbonate)	Modified Kelowna 94
Brookside Laboratories, Inc.	Bray P1, Mehlich 3, Modified Kelowna 94 & Olsen P (bicarbonate)	Ammonium acetate, Mehlich 3, H3-A
Down to Earth Labs	Modified Kelowna 94	Ammonium acetate
Bureau Veritas Canada Inc.	Modified Kelowna 94	Modified Kelowna 94
Frind Lab Services	Bray P1 & Olsen P (bicarbonate)	Ammonium acetate
A&L Canada Laboratories Inc.	Bray P1 & Olsen P (bicarbonate)	Ammonium acetate

[†] The Modified Kelowna 94 and Modified Kelowna 95 are based on the propositions of Qian et al. (1994) and Ashworth & Mrazek (1995), respectively.

Table 2: Chemical Composition of common soil test phosphorus and potassium extractants.

Extractant	Chemical Composition
Ammonium acetate	1.0 M CH ₃ COONH ₄ at pH 7.0
Bray P1	0.03 M NH ₄ F+ 0.025 M HCl
Modified Bray P1	0.03 M NH ₄ F+ 0.03 M H ₂ SO ₄
Mehlich 3	0.015 M NH ₄ F + 0.2 M CH ₃ COOH + 0.013 M HNO ₃ + 0.25 M NH ₄ NO ₃ + 0.001 M EDTA
Kelowna	0.015 M NH ₄ F + 0.25 M CH ₃ COOH
Modified Kelowna 94	0.015 M NH ₄ F + 0.025 M CH ₃ COOH + 0.25 M CH ₃ COONH ₄
Olsen P (bicarbonate)	0.5 M NaHCO ₃ at pH 8.5

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