



*CHOOSING THE RIGHT*

# **CANNABIS PROFICIENCY TESTING PROVIDER**

*FOR YOUR LABORATORY*



This guide was developed to help you choose the right proficiency testing provider. Understanding and navigating the services of a proficiency testing provider can enable you to choose the one that best suits your needs.

## Introduction

**It is well known that routine participation in an appropriate proficiency testing scheme is an important part of any laboratory's quality assurance program. This is even more important in developing fields of testing such as cannabis testing.**

By participating in proficiency testing, you are allowing your laboratory's performance to be evaluated by an independent 3<sup>rd</sup> party. In doing so, you are voluntarily comparing your test results against other laboratories nation-wide that are participating in the same program. Proficiency testing supports a laboratory's drive for continuous improvement in the testing environment and procedures by identifying weaknesses and potential areas for improvement. Favourable proficiency testing results will build confidence in your cannabis testing laboratory and will instill confidence with the clients who use this information to make strategic decisions about bringing their cannabis products to market.

**If you have any questions about proficiency testing for cannabis laboratories, please call us at 613-233-5464 or email us at [communications@ptcanada.org](mailto:communications@ptcanada.org).**





## What to Look for in a Proficiency Testing Provider for Your Cannabis Laboratory

### Number of Samples Provided per Round and Number of Rounds per Year

When evaluating proficiency testing (PT) providers, you should consider the number of samples the PT provider offers per round, and how often these rounds are conducted. This can range from one or more samples per round, once or twice per year. Multiple samples covering a range of concentrations is a better quality assurance tool than a single sample. As well, the more frequently a proficiency test is run, the less time a method may be out of control before it is identified and corrected. Fitness-for-purpose, value for cost and regulatory/customer expectations are key factors to making this determination.

### Format of the Samples

As with other types of proficiency testing, the formulation of samples from one PT provider to another will often differ due to regulatory restrictions, production costs and sample stability among other factors.

In order of decreasing value as a quality assurance tool to the laboratory, types of cannabis PT formulations available include:

1. natural matrices that can be analysed as-is;
2. natural matrices that have to be spiked with the target analytes before analysis;
3. surrogate matrices that can be analysed as-is; or,
4. surrogate matrices that must be spiked with the target analytes before analysis.

**By far the best PT formulation is one that uses natural matrices containing analytes in either natural concentration levels (e.g., potency) or regulatory action levels (e.g., pesticides).**



With respect to cannabis PT, the surrogate matrix is usually hemp or other vegetable matter that often present significantly different analytical characteristics from cannabis. This is especially evident when analysing for potency or pesticides.

By far the best PT formulation is one that uses natural matrices containing analytes in either natural concentration levels (e.g., potency) or regulatory action levels (e.g., pesticides). However, due to analyte stability and cost of production, this is not always feasible. When surrogate matrices are used they should be restricted to testing that is not significantly affected by the matrix. Conversely, when spiking prior to analysis is required, this should be limited to analytes that are inherently not stable for the duration of the PT study.

#### **Accompanying Instructions**

Clear and concise instructions by the PT provider are key foundational elements for participation. Look for documented explanations that cover storage requirements, data entry, reporting results and sample analysis.

Safety instructions should also be included, particularly with any potentially harmful materials. The PT provider needs to provide a clear process to follow to enable quality results.

#### **Turnaround Times**

You should make sure to review schedules. Specifically, consider the time from the moment the study opens, the duration of the study and when reports are issued back to the laboratory. Too short a study duration could cause problems due to processing times in the laboratory, and too long a study duration can result in analytical problems not being identified in a timely fashion. A laboratory will want to understand the timeline for the full duration of the study, as well as any expectations for preliminary and final reports.

## How Results are Reported

As a participant in proficiency testing, review carefully how you will need to report your results. There are generally two options for this process; either through a password protected web portal or by facsimile transmission.

Both options are open to a degree of risk, consider which best fits your needs. If the laboratory takes responsibility to enter results online, there is no risk of the PT provider making a transcription error. However, it does place the onus on the laboratory to ensure that they report the results without any transcription errors.

**PT Reports that are both timely and accurate are the desired end result of proficiency testing participation.**



## Reports

PT Reports that are both timely and accurate are the desired end result of proficiency testing participation. For some laboratories this is necessary for regulatory compliance or to maintain their accreditation to the ISO/IEC 17025 standard.

Overall, the reports allow cannabis testing laboratories to make adjustments and take corrective action if required. The laboratory should consider not just the kind of report but also the timing of the reports. Are preliminary reports something you are interested in, or are you comfortable with only a final report?

There are typically two types of final PT reports that PT providers may use. The first, and most common, is a laboratory specific PT report that includes confidential information and PT evaluations for the specific laboratory. This report does not provide details on data distribution or the performance of other laboratories. These reports typically provide basic summary statistics like reported result, target value and acceptance limits, as well as an objective evaluation (eg., Acceptable or Unacceptable).

The second type is a comprehensive report containing all reported results for all participants, evaluations, summary statistics and graphical representations. Privacy is maintained through the use of laboratory codes unique to each laboratory but unknown to others.

There are also some PT providers that use a combination of these two reports. This gives the laboratory a snapshot of their own laboratory's performance, yet allows them to review the more comprehensive data should they have questionable performance for one or more analyte.

**Cannabis cannot be sent beyond Canadian borders as not all countries have legalized cannabis at a federal level.**



Some laboratories may wish to have their reporting limit (RDL) accounted for in the evaluation of their results. If this is the case, the PT provider should offer this option.

Also, question how formats are communicated to the laboratory. Some proficiency testing providers email reports directly to participants, while others make them available for download by the participant.

### **Locations Served by Proficiency Testing**

If you are a laboratory with international presence, you may want to consider any restrictions that the proficiency testing provider has on shipping. In general, this can include international shipments. But in the case of cannabis, this material cannot be sent beyond Canadian borders as not all countries have legalized cannabis at a federal level.

If a proficiency testing provider is implying that shipping beyond Canadian borders is possible, you may want to question the sample materials to ensure it is authentic cannabis and not a hemp or other surrogate. Additionally, by Canadian federal law, cannabis samples can only be shipped to a Health Canada licensed laboratory, or a government laboratory exempt from licencing. If you are not yet licensed by Health Canada, this may be another indication that the materials being shipped are not specifically cannabis samples.

### **Confidentiality**

All laboratories participating in proficiency testing should be guaranteed confidentiality of test results.





## About Proficiency Testing Canada

Since 1991, Proficiency Testing Canada (PTC) has been providing proficiency testing for laboratories as part of CALA (the Canadian Association for Laboratory Accreditation). In 2019, PTC was established as an independent body solely focused on providing superior proficiency testing services.

PTC is the only Canadian provider of real cannabis samples for potency and pesticide testing. By using authentic cannabis instead of spiked hemp, you have increased confidence in the results because the matrices more accurately reflect real world samples.

Learn more about us and proficiency testing for cannabis at: [www.PTCanada.org](http://www.PTCanada.org).

## Conclusion

Proficiency Testing Canada supports the adoption of proficiency testing as a critical quality assurance tool for laboratories. As recreational cannabis use increases, consumer safety and confidence are even more pronounced. Proficiency testing can identify testing and measurement problems, allowing for corrective action by the laboratory, thereby reducing the risk of any unintended consequences. A laboratory that voluntarily participates in proficiency testing is demonstrating their desire to improve the quality of their service. This translates into increased confidence in the laboratory and for the clients of the laboratory who are using this data as they bring their product to market.

If you have any other questions about proficiency testing or PTC's services, we'd be happy to answer them.

Please send an email to  
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