Laboratory Selection Criteria for Prohibited Substance Testing

1. Purpose

This instruction outlines laboratory selection criteria for testing of agricultural inputs, cannabis waste, and cannabis that is to be sold, labeled, or represented as OCal. This instruction supports consistency in analytical approach and quality assurance practices that produce reliable testing data.

2. **OCal Regulations,** Title 3 California Code of Regulations (3 CCR)

3 CCR § 10105 Allowed and prohibited substances and methods in OCal production.

3 CCR § 10402 Application for accreditation.

3 CCR § 10711 Inspection, testing and reporting.

3. Policy

The OCal regulations specify sampling and testing requirements for agricultural inputs, cannabis waste, and cannabis that is to be sold, labeled, or represented as OCal.

Samples are to be collected by the registered certifying agent, inspector, or the department and will be tested to detect the presence of substances prohibited under § 10105 of the OCal regulations.

Certifying agents are required to submit to the OCal Program a copy of their procedures for sampling and testing as a condition of accreditation. National Organic Program (NOP) accredited certifying agents may also be asked to submit to the OCal Program a copy of their procedures for sampling and testing in circumstances such as an appeal by a certified operation of a certifying agent's notice of proposed revocation due to application of prohibited substances.

4. Procedures

4.1. Current Methods of Analysis

Analytical methods capable of determining multiple pesticide residues in a single analysis have been developed in recent years and sufficient policies and procedures must be in place to ensure that false positives and false negatives are not reported.

The QuEChERS method has been readily accepted by many pesticide residue analysts. Some modifications to the original method have been subsequently introduced to ensure efficient extraction of pH dependent compounds, to minimize degradation of susceptible compounds, expand the spectrum of matrices covered, and improve recoveries of pesticides not analyzed in the original reports.

Whatever method is used to detect pesticide residues, a laboratory should be able to test for analytes listed on OCal 2611-1, the required pesticide tests for substances prohibited for use on cannabis by California state law, and any additional analytes required by the certifying agent.

Guidance document OCal 2611-1 lists prohibited pesticides for residue testing. Laboratories employed by registered certifying agents should attempt to analyze as many compounds on the list as possible. The National Organic Program (NOP) created this list of prohibited pesticides by examining all pesticides/metabolites/environmental contaminants that have been detected in samples analyzed for the USDA Pesticide Data Program.

4.2. Laboratory Selection Requirements

a. Hold a current commercial cannabis laboratory license from the Bureau of Cannabis Control, or

b. Hold current accreditation to ISO/IEC 17025:2005, *General Requirements for the Competence of Testing and Calibration Laboratorie*s, or

c. Be approved on a case-by-case basis by OCal *and* hold current accreditation to an alternate standard pursuant to section 10711(f) of the OCal regulations.

d. Participate in an international proficiency testing program. A proficiency testing program is the determination of the calibration or testing performance of a laboratory by means of inter-laboratory comparison. A copy of the proficiency

test results from the most recent round of proficiency testing should be available from the laboratory together with any corrective actions taken if the laboratory has failed the proficiency test. Contact information for two international proficiency programs is provided in the references section.

e. Be capable of screening for the list of pesticides included in OCal 2611-1, analyzing the samples using gas chromatography (GC) and/or liquid chromatography coupled to a mass spectrometer (MS) or tandem mass spectrometers (MS/MS).

f. Provide evidence that their analytical method is appropriate for the submitted sample and that suitable validation data are available. Correspondence should be available to the certifying agent documenting that the method meets the laboratories' minimum internal quality assurance requirements.

4.3. The Registered Certifying Agent's Role

a. Request a copy of the lab's accreditation certificate prior to shipping samples and direct the laboratory to attach the accreditation certificate to the laboratory results when they are reported back to the certifying agent

b. Direct the laboratory to provide analytical results as follows:

If no residue is detected, then the result should be provided as not detected (ND). The limit of detection should be provided.

If some residue is detected below the limit of quantification (LOQ), then the result should be provided as "Trace" or "BQL" (below quantifiable level).

If residue is detected at or above the LOQ, then the result should be reported in parts per million (ppm). Parts per million (ppm) is equivalent to milligrams per kilogram (mg/kg).

4.4. Suggested Laboratory Practices

a. Use a unique identifier to track the sample throughout the handling and analysis.

b. Homogenization

1. Before homogenization, the sample may be stored at 4 degrees Celsius for

up to 72 hours, if fresh, or stored at ambient temperature in the case of samples normally stored at room temperature.

2. If a sample was previously frozen and shipped on ice packs, then it should be homogenized upon receipt at the laboratory.

3. The entire sample as received should be homogenized by the laboratory to obtain a suitable representative portion for analysis.

4. Homogenized samples should be stored at less than -20 degrees Celsius.

5. Violative sample homogenates should be retained (preferably stored at -80 degrees Celsius) until the contamination issue is resolved by the certifying agent. Samples should not normally be washed.

c. To the extent practicable, the laboratory test methods should be consistent with the guidelines found in Bureau of Cannabis Control (BCC) commercial cannabis licensing regulations for laboratories, title 16 of the California Code of Regulations § 5711, § 5712 and § 5719 and follow the AOAC International Official Methods of Analysis for Contaminant Testing, found in *Official Methods of Analysis*, 21st Edition (2019) and the *United States Pharmacopeia and the National Formulary Methods of Analysis* (2020).

5. References

OCal Handbook

OCal 2610. Sampling Procedures for OCal Cannabis Testing**.**

OCal 2611-1. Prohibited Pesticides for OCal Residue Testing**.**

DCC Regulations, Title 4 California Code of Regulations (4 CCR)

4 CCR § 15711. Laboratory Analyses Standard Operating Procedures.

4 CCR § 15712. Test Methods.

4 CCR § 15719. Residual Pesticides Testing.

National Organic Program Regulations, Title 7 Code of Federal Regulations (7 CFR part 205)

7 CFR § 205.600. Allowed and Prohibited Substances, Methods, and Ingredients in Organic Production and Handling.

United States. Department of Agriculture. Agricultural Marketing Service. *AMS Pesticide Data Program Standard Operating Procedures: SOP No: PDP QC*. Revision 1. Washington, DC: United States Department of Agriculture, 2009.

United States. Environmental Protection Agency. *OCSPP Harmonized Test Guidelines Series 860 - Residue Chemistry Test Guidelines*. United States Environmental Protection Agency, Aug. 1996. Web. 21 Dec. 2010.

ISO/IEC 17025:2005 - General requirements for the competence of testing and calibration laboratories." ISO - International Organization for Standardization. 21 Dec. 2010.

AOAC INTERNATIONAL Homepage. 21 Dec. 2010 <http://www.aoac.org/>.

FAPAS Proficiency testing schemes - Quality assurance for laboratories worldwide. 21 Dec. 2010 <http://www.fapas.com/>.

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