OK Sampling Compliance Checklist

1.
   - Print a copy of the Sampling SOP
   - Print a copy of the Sample Field Log
   - Print a copy of Sampling SOP Training Sign In Sheet
   - Put all three forms inside binder labeled “Lab Sampling”
2.
   - Have all Samplers Read Sampling SOP
   - Have all Samplers Sign the SOP Training Sign In Sheet
3.
   - Use the Sample Field Log when preparing samples to bring to the lab for testing and put them in your “Lab Sampling” binder

THE HIGHGRADE TESTING LAB

Standard Operating Procedure 301

Collecting Samples of Usable Marijuana

Ryan O Crist 02/02/2024

Approved by: Date

Laboratory Director,

Ryan Crist

Eric Wheeler 2/02/2024

Reviewed by: Date

Education – Outreach Specialist,

Eric Wheeler

1. INTRODUCTION

1.1 OVERVIEW

All medical marijuana products in Oklahoma must pass OMMA testing guidelines before going into the market. This SOP outlines how to collect samples from growers, processors, and dispensaries to get an accurate sample representing the entire batch of product.

1.2 SCOPE

This procedure is designed to standardize the collection of medical marijuana samples Highgrade staff or others.

1.3 REFERENCED DOCUMENTS

Osterbaur, N., S. Krepps, J. Sackett, C. Holladay, E. Wendt, D. Wells, S. Price, and J. Kristof. "Protocol for Collecting Samples of Usable Marijuana." Ed. S. Swantek, M. Moore, L. Garcia, C. Redman, and G. Ward. *Oregon Environmental Laboratory Accreditation Program* Rev. 2.0 ORELAP-SOP.001 (2016). *Oregon Health Authority*. Oregon Public Health Division, 21 June 2016. Web. July. 2016. <https://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Documents/sop-001.pdf>.

Standard Methods 20th Edition (1998); 1020 Quality Assurance

Protocol for Collecting Samples of Usable Marijuana ORELAP SOP-001 Revision 2.0

Protocol for Collecting Samples of Cannabis Concentrates and Extracts: ORELAP SOP-002 Revision 2.0

Protocol for Collecting Samples of Cannabinoid Products: ORELAP SOP-003 Revision 2.0

Standard Methods 20th Edition; 1020 B Quality Control, 11. QC Calculations, f. Duplicate Sample.

Standard Methods 20th Edition; 1020 B Quality Control, 11. QC Calculations, a. Initial Calibration.

Standard Methods 20th Edition; 9020 B, 8. & 9.

OMMA Definitions OAC 442:10-1-4. Definitions (current rules Sep. 2023)

1.4 DEFINITIONS

Harvest batch means a specifically identified quantity of usable medical marijuana, not to exceed harvest batch sizes allowable under OAC 442:10-8-1(b), that is uniform in strain, cultivated utilizing the same cultivation practices, harvested at the same time from the same location, and dried or cured under uniform conditions.

Production batch

means (A) Any amount of medical marijuana concentrate or nonliquid medical marijuana products, not to exceed production batch sizes allowable under OAC 442:10-8-1(b), of the same category and produced using the same extraction methods, standard operating procedures, and an identical group of harvest batch of medical marijuana; and (B) Any amount of finished medical marijuana product, not to exceed production batch sizes allowable under OAC 442:10-8-1(b), of the same exact type, produced using the same ingredients, standard operating procedures, and same production batch of medical marijuana concentrate or same harvest batch of medical marijuana.

Batch Number means a unique numeric or alphanumeric identifier assigned prior to any testing to allow for inventory tracking and traceability.

CBD
Cannabidiol

Chain of Custody
The chronological documentation showing the collection, custody, control, transfer, analysis, and disposition of a sample

Container
A sealed, hard or soft bodied receptacle in which a marijuana item is placed or a physical division of an extract or concentrate process lot for random sampling.

Deep Container
A Three-Dimensional receptacle containing marijuana items - length × width × height (i.e., bulk liquid in a bucket, packaged edibles, or bulk flower in a Tupperware bin)

Decision Unit (DU) or sampling unit
The material from which the primary sample(s) is collected and to which the inference(s) is made.

Equal Portions
+/- 20%.

Reserve Sample
Sample taken in an identical manner to primary sample, representative of the same marijuana items, that will be stored separately from the primary sample.

Flat Container
A Two-Dimensional surface containing marijuana items – length × width only (i.e. solids on a sheet, a single layer of flowers on a tray, or packaged edibles on a table).

Heterogeneity
The state or quality of being heterogeneous.

Heterogeneous
Non-uniform or consisting of dissimilar parts or components.

Homogeneous
Uniform in composition within recognized tolerances.

Label
A tag or other device attached to or written, stamped, or printed on any container or accompanying any batch in bulk stating all required batch information.

Marijuana item
Marijuana, Usable Marijuana, a cannabinoid product, or a cannabinoid

Primary Sample
A sample composed of sample increments and tested for the required and primary analysis methods.

Representative Sample
A sample obtained according to a sampling procedure designed to ensure that the different parts of a batch or lot or the different properties of a batch or lot are proportionally represented.

Sample
An amount of marijuana items collected by sampling personnel from a registrant or licensee and provided to a laboratory for testing.

Sample Increment
An amount of a marijuana item collected by laboratory personnel from a registrant or licensee that may be combined into a sample for purposes of testing, or in the case of a control study, is tested individually.

Sample Quality Criteria
A series of statements that clarify program technical and quality needs to support defensible decisions, including statements of the questions to be answered, definition of the decision unit, and the desired confidence in the inference.

Sealed
Secured to provide authenticity or integrity.

Sterilization
The removal of all microorganisms and other pathogens from a marijuana item by treating it with approved chemical or subjecting it to high heat.

Usable Marijuana
The dried and cured leaves and flowers of marijuana. Usable Marijuana does not include the

seeds, stalks and roots of marijuana or waste material that is a by-product of producing or processing marijuana.

2. QUALITY CONTROL

2.1 EQUIPMENT

2.1.1 Instrumentation

a) Field Balance
b) Thermometer

2.1.2 Supplies

a) Calibrated verification weights
b) Ice packs
c) Gloves
d) Transfer syringes
e) Mylar bags or other storage containers
f) Cooler
g) 70% ethanol or isopropyl alcohol (IPA not recommended for concentrate sampling)
h) Kim wipes

2.2 CONTROL SAMPLES

2.2.1 Reserve Sample

Reserve samples are recommended for any usable marijuana sampling event. Reserve samples must use the same procedure and contain the same number of sample increments as the primary sample. The reserve samples may serve as the retesting sample as required per OMMA.

2.3 QUALITY ASSURANCE MEASURES

Sampling plans must meet a 95% confidence level for representative sampling and limit fundamental sampling errors. The most common way to achieve this is by increasing the number of sample increments to compensate for normal batch heterogeneity. It is recommended that a minimum of 7 increments be taken for the sample to be considered representative.

The sampler must be prepared to collect adequate sample masses for all analyses requested by the grower or processor. This mass must adequately include sample masses for any quality-controlled samples required by the laboratory.

To prevent contamination, filed sampling tools must be cleaned prior to use. They may also be cleaned in the field between batches using the appropriate solvent and decontaminant to prevent cross-contamination. Any disposable sampling items used may be properly discarded.

3. PROCEDURE

A. Locate the batch to be sampled.
B. The sampler shall collect both a primary sample and a reserve sample from each harvest batch and/or production batch. The sample shall be clearly and conspicuously labeled, and the label shall include at least the following information:
    a. Whether the sample is the "Primary Sample" or "Reserve Sample"
    b. The name and license number of grower, processor, or dispensary from whom the sample was taken; and
    c. The batch number of the harvest batch or production batch from which the sample was taken.
C. The maximum batch size for flower is 15 pounds, or 50 pounds if the batch is being turned into concentrates. For concentrates, the maximum batch size is 4 liters for liquids and 9 pounds for non-liquids. Final infused products have a maximum batch size of 1000 grams of THC content. A minimum sample of 5 grams is required for flower tests, 2 grams for concentrates, and a retail package for infused goods. A reserve sample to be held for a minimum of 30 days by the lab is also required per OMMA guidelines. This means a total sample size of 10 grams for flower, 8 grams of concentrates or infused pre-rolls, and 2 retail packages of infused product.
D. Determine the minimum number of sample increments needed for sampling. At least 7 increments are recommended.
E. Determine the number of quadrants for sampling based on the container's size and shape. This number must be greater than or equal to the number of increments determined in D. See Appendix A for model of quadrants.
F. Use a random number generator or dice to randomly pick the starting quadrant.
G. Using a scale and sterile container, sample randomly from the starting quadrant and go to the next quadrant for each increment.
H. Visually inspect samples for uniformity. Note any irregularities.
I. Record the final weight of the primary and reserve samples as they are put into their labeled sample containers.
J. Fill out 2 copies of a sample field log. One copy is for your records, the other copy goes to the lab.

3.1 Sample Transportation

A. Transport the sample to Highgrade Labs following OMMA license transportation regulations. Note: Shipping samples to Highgrade Labs is not permitted under any circumstance.
B. Protect the samples from moisture and temperature extremes. When outdoor temperatures are greater than 15°C, the use of an insulated cooler and ice packs is necessary.

3.2 Preventing Cross-contamination between Samples

A. If multiple batches are being sampled, sample each batch individually. Use a separate container for each batch, labeled correctly as stated above. To orevent cross-contamination, gloves should be switched out in between each sample.
B. In order to prevent cross-contamination, any tools or scales used during sampling should be thoroughly cleaned with either an isopropanol or ethanol solution in between batches. The alcohol solution should be at least 70% alcohol to maintain sterility.

3.3 Samples Other than Flower or Concentrate

A. Highgrade Labs can test a variety of medical-marijuana products and medical-marijuana derived products. This includes:
    - Bath bombs and other detergent based products (minimum primary sample size of 1 bath bomb, or at least 25 grams, plus a reserve sample)
    - Topicals/salves (minimum sample size of 1 jar, or at least 25 grams, plus a reserve sample)
    - Edibles of any nature (minimum sample size of 1 package, or at least 25 grams, plus a reserve sample)
    - pre-rolls
        i. single harvest batch (minimum sample size of 2 grams, plus a reserve sample)
        ii. pre-rolls multi harvest batch (minimum sample size of 5 grams, plus a reserve sample)
        iii. Infused pre-rolls (minimum sample size of 4 grams, plus a reserve sample)
B. Because most of these products have been homogenized during the production of the product, increments and quadrants are not necessary for sampling these products. For example, 1 bath bomb should already be representative of the entire batch of bath bombs made from one extract.

APPENDIX A: VISUAL SAMPLING QUADRANT MODEL

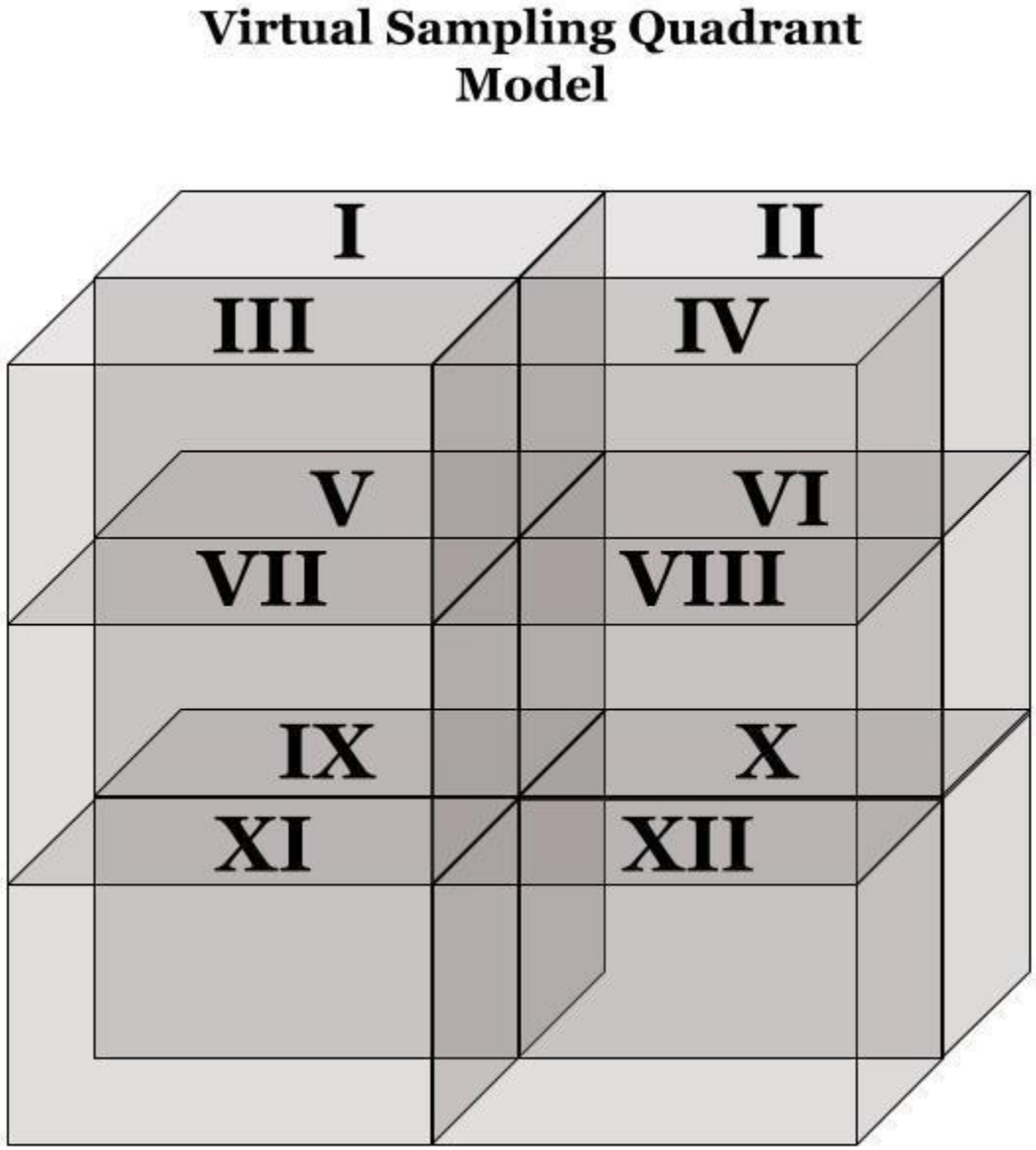

Figure 1: Visual sampling quadrant model

Standard Revision History

Version	Action	Date (MM/DD/YY)
1.0	Initial Version	09/03/19
1.1	Changed format to match other SOP's, removed Oregon specific laws and simplified language. Abigail Crutchmer, Lab Director	01/02/20
2.0	Updated SOP to reflect OMMA guidelines published in emergency rules on 10/15/20. Abigail Burkhart, Lab Director	11/11/20
2.1	Removed Producer and Registrant definitions. Added quadrant model to appendix A. Abigail Burkhart, Lab Director	02/12/21
2.2	Removed definitions for RSD and RPD, removed tamper proof tape on list of materials, changed chemicals required to 70% Isopropyl OR ethanol, removed "certified clean" from last paragraph in 2.3, changed batch sizes to reflect current OMMA rules in section 3, deleted blank page before Appendix A. Abigail Burkhart, Lab Director.	01/11/22
2.3	Removed definitions for random words not used elsewhere in the SOP, changed sample size for concentrates from 2 g to 4 g, and clarified the sampling procedure. Ryan Crist, Laboratory Director	02/02/24

Sampling Field Log

Registered Licensee Name:		**Highgrade Labs** **2200 S Prospect Ave** **Oklahoma City, OK 73129** **(405) 930-6200** **highgradelabs.com** **Lic# LAAA-NKSE-J8CM**	use an"x" for either
Registered Address:			
License #:			Compliance R&D
Sampler/s Name and Title:	**Names/Titles of Others Onsite:**		
Personnel Assigned for Transportation:	**Transportation Agent ID:**	**Transportation Address:**	**Sampling Conditions** (location, temperature, and relative humidity)
Notes (Problems encountered and corrective actions taken during the sampling process, if any; and any other observations from sampling, including major inconsistencies in the medical cannabis color, size, or smell.)			

Batch #	Lot #	Sample Name/Unique Sample ID or metrc tag#	**Matrix:** Flower, Concentrate, etc.	**Classification:** Hybrid, indica, sativa, etc.	**Production:** Butane, Alcohol, CO_2, Etc.	Total Batch Size	Harvest Date	Primary Mass/Units	Reserve Mass/Units		

TO BE USED IN CONJUNCTION WITH SAMPLING SOP 301
COMPLIANT WITH OAC 310:681-8-3. Sampling requirements and procedures

	Date	**Time**
Start:		Start:
Finish:		Finish:

Sampling SOP Training Sign In Sheet

	Sampler's Printed Name	Sampler's Signature	Date	Time
1				
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