

 <p>Express Toxicology Services</p>	<p><i>Sampling Standard Operating Procedure: Client Guide</i></p>	<p>Issue Date: <i>November 09, 2020</i></p>	<p>Rev.: <i>0</i></p>
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Express Toxicology Services
Sampling Standard Operating Procedure: Client Guide

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Approval Authority

1. PURPOSE:

The purpose of the Sampling standard operating procedure (SOP) is to outline a best practices procedure for the sampling of marijuana flower products for analysis by certified testing facilities.

2. TERMINOLOGY AND ACRONYMS


Aliquot – (To take) a portion or subsample from a larger sample

METRC – Marijuana Enforcement Tracking Reporting Compliance

Sample – Any item collected from a Marijuana Establishment or Marijuana Business provided to a Marijuana Testing Facility for testing. The following is a non-exhaustive list of types of Samples: Marijuana, Marijuana Concentrate, Marijuana Product, soil, growing medium, water, solvent or swab of a counter or equipment.

Sampler - means a person who is employed by or is an owner of a licensed laboratory, grower, or processor and is authorized by that employer to collect samples in accordance with the testing laboratory's standard operating procedures and these Rules.

Test batch – A group of Samples from a specifically identified quantity of processed medical marijuana that is uniform in strain, cultivated utilizing the same pesticides and other agricultural chemicals and harvested at the same time. The combined subset of Samples is collectively submitted for a licensed testing facility for testing purposes.

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3. EQUIPMENT AND SUPPLIES

3.1. Equipment (items used repeatedly)

Metal/Disposable Spatulas Forceps (sterile disposable)
 Isopropyl Alcohol ($\geq 70\%$)
 METRC Manifest
 Chain of Custody Labels
 Security tamper evident tape
 Marijuana Flower Sampling Procedure
 Custody seals
 Sample labels
 Ziploc bags
 Cooler
 Permanent ink pen
 Equipment Logbook
 Analytical balance or scale

3.2. Supplies (items used only once)

Sterile nitrile/latex/rubber gloves
 Ice/cold packs
 Deionized Water


4. CONTROLS AND FREQUENCY

4.1. Sampling Frequency

Sampling shall be completed for each harvest batch or production batch.

4.2. Sample Amount

4.2.1. 5 grams of flower for Primary and 5 grams of flower for Reserve samples are required for testing.

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- 4.2.2. 3 grams of concentrate for Primary and 3 grams of concentrate for Reserve samples are required for testing.
- 4.2.3. 7 grams of Ingestibles/Other are required for Primary samples and 7 grams for Reserve samples for testing.

4.3. Sampler Requirements

- 4.3.1. Samples must be collected by an internal employee or designee of the Marijuana Business Licensee, that has been sufficiently trained in these Standard Operating Procedures issued by the Testing Laboratory (Express Toxicology Services) or done by Laboratory Personnel trained in Field Sampling.
- 4.3.2. The sampler shall collect both a primary sample and a reserve sample from each harvest batch and/or production batch.
- 4.3.3. The primary sample and reserve sample shall be stored and analyzed separately. The reserve sample is used for quality control purposes only.

4.4. Sample Collection Data

- 4.4.1. The sampler shall use a sample field log to record the following information for each sampled batch:
 - 4.4.1.1. (A) Laboratory's name, address, and license number;
 - (B) Sampler's name(s) and title(s) and the names of others onsite;
 - (C) Date and time sampling started and ended;
 - (D) Grower's or processor's name, address, and license number;
 - (E) Batch number of the batch from which the sample was obtained;
 - (F) Sample matrix;
 - (G) Total batch size, by weight or unit count;
 - (H) Total weight or unit count of the primary sample;
 - (I) Total weight or unit count of the reserve sample;
 - (J) The unique sample identification number for each sample;

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- (K) Name, business address, and license number of the person who transports the samples to the laboratory;
- (L) Requested analyses;
- (M) Sampling conditions, including temperature;
- (N) Problems encountered and corrective actions taken during the sampling process, if any; and
- (O) Any other observations from sampling, including major inconsistencies in the medical marijuana color, size, or smell.

4.4.2. A witness shall review the labeled samples to the METRC(transport) manifest prior to the samples leaving the facility for each shipping event. The witness shall initial the manifest indicating the labels and manifest are accurate. The witness must be an independent person not involved in the initial sampling.


4.5. Homogenization

- 4.5.1. To obtain a representative sample of a harvest batch, a total of 0.5% of the batch is collected from different areas of the batch following these steps:
 Collect samples from different parts of the plant.
 Top, middle, bottom as well as different plants of the same batch.
- 4.5.2. The Primary sample and Reserve sample will be taken out of this 0.5% of the whole.

5. Procedure

5.1. This procedure is designed to ensure that all sampling of the harvest batch are representative of the harvest batch as a whole.

5.2. Sampling Plan

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5.2.1. A sampling plan generated by the person(s) responsible for the sampling event will be reviewed by the sampling team. This plan should include, at a minimum, the following information:


- 5.2.1.1. Client/Affiliation Responsible & Contact Information (if different from those collecting the samples)
- 5.2.1.2. Harvest batch size
- 5.2.1.3. Sample Strain(s) to be sampled
- 5.2.1.4. Sample procedure to be followed (ETS Laboratory Sample Procedure)
- 5.2.1.5. Sampling locations to be collected (ie. middle of jar, bottom of jar, top of turkey bag, etc)
- 5.2.1.6. Testing facility performing the analyses
- 5.2.1.7. Any other additional information necessary to guide the sample team through event-to-project specifications

5.2.2. The sampling plan shall ensure that samples are collected from the maximum number (all, if possible) of the harvest batch's storage containers. The sampling plan shall document the total number of storage containers that exist for a harvest batch and the number of containers utilized for sampling.

5.3. Pre-Sampling Procedures

5.3.1. Equipment Preparation


- 5.3.1.1. Sampling equipment shall be collected and organized into the area where the sampling shall occur and inspected prior to use. All spatulas/forceps shall be washed, isopropyl alcohol rinsed, and dried prior to sampling each batch.
- 5.3.1.2. Sample containers shall be new and inspected to be clean and dry prior to the sampling event. The appropriate amount of containers, defined by the marijuana testing facility and/or OMMA, shall be collected for the sampling event and packaged appropriately.

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5.3.1.3. All required paperwork shall be pre-populated with pertinent information, as much as possible, prior to the sampling event.

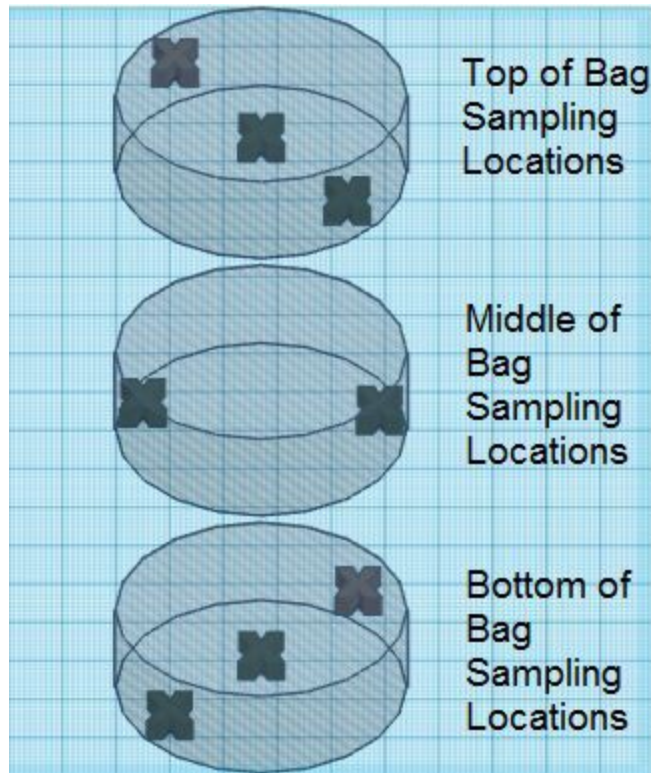
5.4. Sample Collection

- 5.4.1. To obtain a representative sample of a processed batch that is well mixed or homogeneous by its nature, obtain an amount sufficient to be aliquoted into a primary sample and a reserve sample, which shall be equal in amounts. If the batch is of not homogeneous or is of unknown homogeneity, then 0.5% of the batch shall be collected from different portions of the batch following the laboratory's approved protocol. The sample is then homogenized and aliquoted into a primary sample and reserve sample, which shall be equal in amounts. The primary sample and reserve sample shall be in the amounts of 7 grams for flower, 3 grams for concentrate, and one full packaged product for ingestibles weighing at least 7 grams per batch (weighing not greater than 10lbs per batch). Any amounts left over after aliquoting may be returned to the harvest or production batch.
- 5.4.2. Samples must be collected in accordance with OAC 310:681-8-3(c).
- 5.4.3. All samples shall be collected in their final, ready-for-sale form.
- 5.4.4. The sampler shall wear sterile nitrile, latex, or equivalent gloves during sample collection. The gloves shall be changed between each harvest or production batch to help in minimizing potential cross contamination.
- 5.4.5. The product collected for each sample shall be placed into the corresponding sample container using forceps(Tweezers/Tongs/Chop Sticks).
- 5.4.6. Seal and label container with tamper evident tape.
- 5.4.7. All samples should be stored at room temperature, with the exception of fresh frozen samples, which should be kept frozen with dry ice.
- 5.4.8. All transport containers shall be locked and accompanied with a Chain of Custody and a METRC Manifest.

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5.5. Harvest Batch Sample Randomization

5.5.1. For harvest batches where the harvest batch is picked flower stored in storage containers such as plastic tubs or turkey bags, the harvest batch containers shall be sampled in a spatial pattern to ensure that each region of the container has been sampled. This will ensure that each container has been sampled representatively. Represented in the figure below:



5.5.2.

(Image courtesy of Colorado Department of Public Health and Environment Lab Service Department Marijuana Flower Sampling Procedure)

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- 5.5.3. Using this same method, you may pick samples for production batches of concentrate, ingestibles, topicals, etc, and will ensure a homogenous sample that is representative of the batch as a whole.

6. Post-Sampling Procedure

6.1. Sample Collection Review

- 6.1.1. All samples collected shall be reviewed to the METRC manifest and/or the chain of custody for transporting the samples to the testing facility. A trained sampler shall perform the review prior to sample submittal to the testing facility.

6.2. Equipment and Sampling Area Cleanup


- 6.2.1. The area where the harvest batch sampling occurs shall be cleaned, isopropyl alcohol rinsed, and dried between sampling harvests/batches.
- 6.2.2. Forceps and any additional sampling equipment (i.e., balances) shall be cleaned, isopropyl alcohol rinsed, and dried in between batches.

6.3. Sample Storage, Transportation, and Retention

- 6.3.1. Samples should be stored and transported at or below room temperature.
- 6.3.2. Samples should be stored and transported in a manner to prevent diversion or degradation and chain of custody kept up to date with Name, Location, Time, Date, and signatures.


7. Quality Records

- 7.1. The following are the list of copies of reviewed documents to be retained for each harvest batch:
- 7.1.1. METRC sample manifest
- 7.1.2. Transport documentation
- 7.1.3. Acknowledgement of the testing facility sample receipt

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8. Laboratory Drop-Off Procedure

- 8.1. All samples must be dropped off in a Primary and Reserve sample form. Labeled individually with: Sample Name Primary/Reserve, Batch #, Lot #, and Weight.
- 8.2. A transport manifest is required to be completely filled out at the time of drop-off.
- 8.3. Once the sample has been dropped off to the lab, the Primary and Reserve will be homogenized together and then separated again into a Primary and Reserve Sample. This step is to ensure that the Primary and Reserve Samples are accurately representative of the batch as a whole.

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1. References

OMMA. (2020, June 23). *OMMA Regulations*. Retrieved from OMMA Regulations:
https://omma.ok.gov/sites/g/files/gmc736/f/osdh_681_2020_emergency_rules_for_website.pdf

Colorado.gov (Marijuana Flower Sampling Procedure):
<https://www.colorado.gov/pacific/cdphe/marijuana-sampling-procedures>

2. Approval Authority

Quality Manager: _____ Date: _____

Technical Director: _____ Date: _____

Revision History			
Date	Revision No.	Revised By	Description
11/9/2020	1	Johnny Mason	Updated Laboratory Drop-Off Procedure and released