

Cannabis Testing Self-Sampling Guidance

The Cannabis Control Division of the New Mexico Regulation and Licensing Department is providing this guidance for any cannabis establishment collecting its own samples for mandatory testing (“self-sampling”). The guidance is based on the Maine Office of Marijuana Policy’s *Best Practice Guide for Sample Collection*, Version 3 (September 2020). The self-sampling establishment shall follow this guidance and any additional instructions provided by the cannabis testing laboratory to perform required actions. Each time an employee designated to collect samples (“self-sampler”) performs this task, another employee is required to witness the collection of samples and sealing of sample containers.

Planning

Each sampling event must be preceded by a discussion between the establishment and the cannabis testing laboratory(ies) performing analyses to ensure that the documentation is appropriately completed and necessary guidance from the cannabis testing laboratory is followed.

Sample Collection Records

An establishment shall use chain of custody forms complying with NMAC § 16.8.2.12 and is responsible for contacting the cannabis testing laboratory and ensuring that all information required by NMAC § 16.8.2.48(B) is recorded in required sample collection records.

The self-sampler shall sign a statement attesting that the individual:

- Collected all samples in accordance with this guidance and any instructions provided by the cannabis testing laboratory conducting the mandatory analyses;
- Collected all sample increments randomly and did not intentionally enrich, alter, tamper with, degrade or otherwise alter the sample increments collected;
- Was not asked by, nor allowed, another person to enrich, alter, tamper with, degrade or otherwise alter the sample increments collected;
- Sealed the sample collection containers with tamper evident seals in the presence of the witness countersigning the attestation; and
- Acknowledges that any intentional misrepresentation in the sample collection records or any attempt at tampering with the samples collected is grounds for revocation, suspension, or limitation of the establishment’s license.

The employee acting as a witness shall sign a statement that the individual:

- Was present for the sealing of the sample containers;
- Did not witness the sample collector enrich, alter, tamper with, degrade or otherwise alter the sample increments when affixing the tamper evident seals to the sample containers;
- Did not enrich, alter, tamper with, degrade or otherwise alter the sample increments; and
- Acknowledges that any intentional misrepresentation by the witness is grounds for revocation, suspension or limitation of the establishment’s license.

Equipment and Supplies

Appendix B of this guide provides pictures and descriptions of the equipment and tools listed below. The minimum equipment and supplies for sample collection for mandatory testing are listed in this guide; however, the cannabis testing laboratory must advise an establishment of the appropriate sample collection equipment necessary to take a consistent representative sample of the matrices for which mandatory testing is requested.

A self-sampler may use single use, disposable, or reusable tools and equipment, as appropriate, but must use sterile equipment and tools for the collection of samples for microbiological testing and must have procedures for decontaminating any tools and equipment that are not disposable. The decontamination procedures must effectively eliminate carryover by removing any analyte of interest, regardless of the concentration of the analyte. The decontamination procedure must ensure no cross contamination between cannabis, cannabis concentrate, or cannabis products occurs. This decontamination procedure must be validated any time there is evidence of contamination in samples, as indicated by the cannabis testing laboratory conducting mandatory analyses. A cannabis testing laboratory will notify the self-sampler to discuss the process for validating decontamination procedures if the cannabis testing laboratory finds evidence that a sample is contaminated by the use of reusable sample collection tools.

Equipment (items used repeatedly; must be clean and sterile where applicable)

- Reusable scoops or spatulas, as directed by the cannabis testing laboratory;
- Forceps and/or scissors/shears;
- Field balance (capable of 0.01g measurements, capable of measuring sample weight in collection container, tare weight; semi-annual calibration verified by certificate of calibration);
- Calibrated verification weights appropriate to verify accuracy of field balance;
- NIST-traceable thermometer or infrared thermometer gun calibrated every 6 months;
- Cooler or other appropriate refrigeration to maintain collected samples for analysis as applicable to ensure sample integrity; and
- Equipment logbook.

Supplies (items used only once; must be clean and sterile, where applicable)

- Mylar bags, amber jars, borosilicate volatile organic analysis (VOA) vials, Whirl-Pak bags or equivalent sample collection containers, as directed by the cannabis testing laboratory;
- Disposable or reusable syringes or pipettes (for liquid transfer);
- Disposable scoops, dippers, sampling spoons, spatulas, other appropriate tools for collecting a sample from a batch;
- Nitrile, latex, or rubber gloves;
- Teri-Wipes, or equivalent;
- Decontamination supplies, as determined by decontamination procedures – bleach, 70%+ isopropyl alcohol, 70%+ ethanol, etc.;
- Deionized water;
- Chain of custody labels;
- Security tamper evident tape or custody seals, as applicable; and
- Sample labels.

Sample Collection

Equipment Preparation

Prior to sample collection, equipment must be decontaminated (and sterile, as applicable) and inspected for damage, then collected and organized into the designated area where the sample collection will occur. All work areas, contact surfaces, utensils, and equipment shall be washed with isopropyl alcohol (70%+), denatured alcohol (70%+), bleach (10%+), or equivalent as directed by the cannabis testing laboratory; rinsed with filtered water; and dried completely prior to sampling

The self-sampler must ensure that all equipment to be used is appropriately calibrated and otherwise verify that all equipment used is appropriately prepared to eliminate cross contamination and ensure that samples are reliable for analytic purposes. The preparation area must include:

- Gloves to be worn, to avoid sample contamination;
- Decontaminated tool(s), including stainless steel spatulas, knives and/or disposable or reusable pipettes and syringes;
- Decontaminated surfaces for sample processing;
- Labels and pens with indelible ink;
- Necessary supplies for thoroughly decontaminating and drying sample preparation tools and equipment between samples.

Sample containers shall be decontaminated (and sterile, when applicable) and dry prior to the sample collection event. The number of containers, depending on the batch size, and the proper sample size, shall be collected and packaged appropriately.

All paperwork shall be populated with pertinent information prior to the end of the sample collection event.

General Guidelines for Sample Collection

The individual collecting samples for mandatory testing must:

- Survey the entire batch from which the samples are to be collected and ensure that the cannabis or cannabis product is appropriately labeled and tracked in the track and trace system. Self-samplers may not collect samples from any batch of cannabis or cannabis product that is not labeled with an appropriate label containing information generated by the track and trace system and accompanied by a transport manifest generated by the track and trace system.
- Use appropriate sample collection equipment and consistently follow this guidance.
- Take equal quantities of the cannabis, cannabis concentrate or cannabis product for each sample increment.
- Obtain the required number of sample increments, based on batch size, as required by NMAC § 16.8.2.48(B).
- Record all observations and procedures used while collecting the sample increments in sample collection records.

Representative Sample

The person collecting samples for mandatory testing shall check for any signs of non-uniformity, including:

- Different types or sizes of containers;
- Variations in marks and labels;
- Mixed batch numbers; or
- Differences in in color, shape, size, or other characteristics.

Variations in the product may indicate nonuniformity in the batch, meaning that any sample collected may not

be representative for testing. Samples from batches appearing nonuniform may be collected and used for mandatory testing, provided that anomalies are recorded in the sample collection records and indicated in the certificate of analysis.

If a batch appears to be contaminated with a potentially transmissible agent that could affect the environmental integrity of the cannabis testing laboratory, the establishment shall contact the cannabis testing laboratory, which may advise the establishment on how to proceed, including providing additional instructions for transportation or delivery of such samples. If the cannabis testing laboratory determines that the risk of contamination is too great for sample collection to proceed, the cannabis testing laboratory must immediately contact the division to apprise it of the circumstances.

Random Sampling

Sample increments must be randomly selected from different locations within a container or set of containers which hold the batch to be tested to ensure the representativeness of the samples for mandatory testing based upon matrix-type, using the following method:

1. Assign consecutive numbers to each possible location from which a sample increment can be collected;
2. Using a random number generator or other similar means to determine from which numbered locations random sample increments shall be collected:
 - Assign divisions based on the type of container in the site-specific sample collection plan.
 - Use a random number generator with the higher number equal to the number of divisions for the container (for multiple containers, use existing or arbitrary order of containers to assign numbers to the total of “divisions multiplied by total number of containers” to determine the total number of random increments within a container and record in the chain of custody form).
3. Document in the sample collection field log where each sample increment was collected and the volume collected from each sample collection location.

Examples of random sampling by matrix type are included in Appendix A of this Guide.

Post Sample Collection Procedure

Sample Collection Review

All samples collected shall be verified to the manifest generated by the track and trace system and the sample collection form prior to sealing and labeling all sample collection containers.

Equipment and Sample Collection Area Decontamination

The area where the sample collection occurs shall be decontaminated and/or sterilized and dried between each batch sampled. Forceps and any additional sample collection equipment shall be decontaminated, sterilized, and dried between each batch sampled.

Sample Storage and Retention

Following sample collection and during transport to the cannabis testing laboratory performing the mandatory analyses, appropriate storage and retention methods must be employed to ensure the sample continues to be representative of the sampled batch.

- Upon collection, samples must be stored at the same temperature and under the same environmental conditions from which the samples were collected.
- Samples shall be stored in a manner to prevent unauthorized access to samples and must be sealed with

- a tamper evident seal that is intact upon receipt by the cannabis testing laboratory.
- The cannabis testing laboratory must provide guidance to the self-sampler or sample collector to ensure sample integrity during transport to the cannabis testing laboratory.
 - Containers for sample transport shall be designed to prevent damage, contamination, spillage, or commingling of the samples during transport. The required container for sample collection must be appropriate for the sample matrix and the tests required.

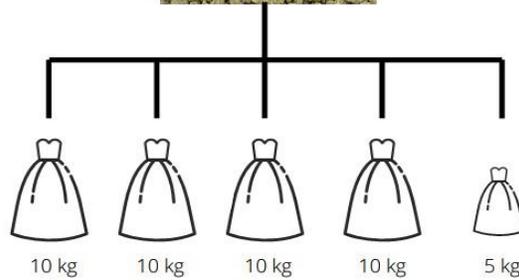
Appendix A. Sampling Techniques, by Matrix and Container

The methods demonstrated below were developed by the Maine Center for Disease Control and Prevention. They are provided for reference purposes and should not be construed to be the only acceptable method for collecting samples from each matrix type.

Sampling example for marijuana plant material

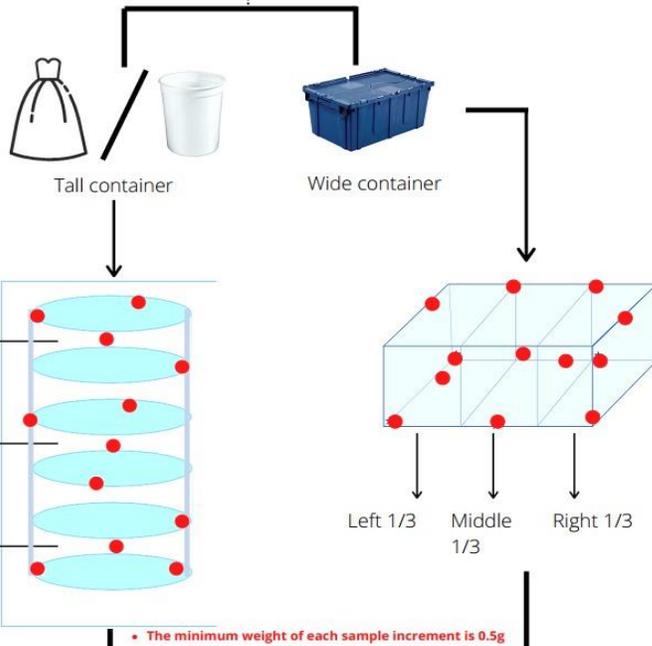


Harvest batch: 45kg



1. Locate the batch to be sampled and review container label information. Harvest batch need to be separated into production batches before sample.

Production batch container types



• The minimum weight of each sample increment is 0.5g



2. Determine the number of production batch(es) and potential sample increments of each production batch. Assign random numeric sampling location in each level or area within the production batch.

- The maximum weight of each production batch is **10kg**;
- For Minimum sample amount, please refer to section Sample Amount, or Table 5.5-A. Required Sample Size Based Upon Matrix Type and Batch Size of *The State of Maine Rules for The Certification of Marijuana Testing Facilities*.

3. **a.** From the example presented in the graphic, use a spatula or a pair of forceps to randomly obtain at least **22** increments from each of the **10kg** production batch. **b.** For the **5kg** production batch, a minimum of **19** increments must be obtained.

- The production batch container shall be sampled in a spatial pattern to ensure each region of the container has been sampled.
- A random number generator shall be used for each region to identify the sample location,
- Each sample increment contain minimum of **0.5g** of materials.

"●" indicated the sampling pattern and positions that can be numerically designated.)



(If it is large size flower strain, sample increments should be taken from these parts of the flowers:

- top 1/3,
- middle 1/3,
- bottom 1/3

4. Combine all sample increments, as applicable, to form the composite sample.

Sampling example for solid or semi solid marijuana products



Product batch: 1500 units

1. Divide the total number of product units from the same production process by 3.

2. Determine the quantity of sample units.

- Unpackaged retail units sample increment: **Per serving**
- Pre-packaged retail units sample increment: **Per packaged unit**
- *(Minimum sample amount please refer to Table 5.5-A. Required Sample Size Based Upon Matrix Type and Batch Size of the State of Maine Rules for the Certification of Marijuana Testing Facility.)*



Section 1: 500 units



Section 2: 500 units



Section 3: 500 units



Section 1



Section 2



Section 3

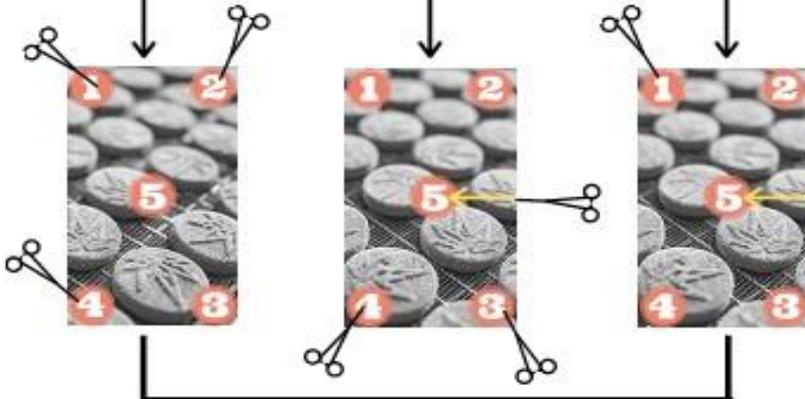
3. Assign random numeric sampling location in each section.

4. Determine the amount of sample increments from each section. Each sample increment should contain **1 unit** or **1 serving** of the product.

- According to the State of Maine Rules for the Certification of Marijuana Testing facility, in this example, a total product batch of 1500 units will need at least total of 13 sample increments. 4 samples shall be taken from the beginning third, 4 samples from the middle third, and 5 samples from the end third.

4A. Randomly select sample increments from each section. A random number generator shall be used to identify the location of each sample increment.

5. Combine all sample increments, as applicable, to form the composite sample.



Sampling example for marijuana extracts

A. Sampling liquid from a container



1 kg of marijuana oil



1. Let oil or tincture come to room temperature.

2. Invert the oil or tincture at least 3 times. The oil or tincture shall flow to the cap of the container and back to the base 3 times.

3. Mix the oil or tincture thoroughly.

4. Determine the amount of sample increments from each level of depth. Each sample increment should contain 0.5g of the product.

- (Minimum sample amount please refer to Table 5.5-A. Required Sample Size Based Upon Matrix Type and Batch Size the State of Maine Rules for the Certification of Marijuana Testing Facility.)
 - For example: For 1 kg of oil, it requires 8 g of sample.)

5. Use a pipette or appropriate equipment depends on the consistency of the liquid to randomly collect sample increments from top 1/3, middle 1/3, and bottom 1/3 of the bottle to ensure sample representative.

- Example: For 1 kg of oil, 16 sample increment with 0.5 g each is required.
- Product should be sample in a spacial pattern as indicated as "•"

6. Combine all sample increments, as applicable, to form the composite sample.

B. Sampling shatter / wax / slab



1 kg slab



1. Divide the production batch in 3 thickness level.



2. Determine the amount of sample increments from each section. Each sample increment should contain 0.5g of the product. Randomly collect same amount of sample increments from each thickness level. Sample increments shall be collected in a spacial pattern as indicated in "●"

- With 1 kg slab, 8 g of sample is needed which is at least 16 sample increments with 0.5g each.
- To collect same amount of sample increment in every zone, you will be collecting 18 sample increment in total (6 increment from each zone).



3. Combine all sample increments, as applicable, to form the composite sample.

Appendix B. Sample Collection Equipment and Containers.

Sampling Equipment

Sampling Tools

Tool Type	Tool Description
 <p data-bbox="354 1104 483 1142">Spatula</p>	<p data-bbox="678 831 1252 989">The micro spatula can be used to sample, transfer or process small amounts of chemicals, powders, granulates, pastes, creams or liquids.</p>
 <p data-bbox="358 1675 492 1713">Forceps</p>	<p data-bbox="683 1371 1252 1612">Forceps are used when fingers are too large to grasp small objects or when many objects need to be held at one time while the hands are used to perform a task. These are also referred to as tweezers, tongs, pliers, clips or clamps.</p>



Field Balance

Field balance is used to measure an object's mass to a degree of precision. It's easy to transfer for field visits.



**Calibrated
Verification Weight**

Precise, stable reference standard weights are used for checking the calibration of the balance during site visits and before each use.



**NIST Traceable
Thermometer**

NIST traceable calibration is an assurance program that certifies that equipment is traceable to National Institute of Standards and Technology (NIST) standards and that any products offered by that manufacturer will match those NIST-maintained measurement standards. This traceability for thermometer gives greater confidence that the temperature readings are accurate.



NIST Traceable Infrared Thermometer Gun

An **infrared thermometer** is a thermometer which infers temperature from a portion of the thermal radiation emitted by the object being measured. These need to be NIST traceable as well.



Pipette

Pipettes may be constructed out of glass or plastic and are used to transfer a measurable amount of liquid. They are designed either to contain or to deliver a specific volume and will be stamped as such by the manufacturer.



Syringe

Syringe functions as a pipette or liquid transfer device.

Sample Collection Containers

Container Type	Container Description
 <p data-bbox="293 842 570 919">Whirl-Pak Sterile Sample Bag</p>	<p data-bbox="699 491 1276 716">Whirl-Pak sterile sample bags are disposable, transparent bags for liquid or solid samples. These are made of polyethylene and have a sealed top that tears open easily along perforations. The mouth is reinforced by a wired band with an integrated loop tab which serve as a handle to allow for easy filling.</p> <p data-bbox="699 753 870 779">Suitable analyses:</p> <ul data-bbox="699 783 1235 884" style="list-style-type: none">• Filth and foreign materials• Microbiological Impurities (Bacteria, Yeasts and Mold)• Metals• Water Activity & Moisture Content
 <p data-bbox="318 1402 553 1480">Certified Clean Amber Jars</p>	<p data-bbox="675 993 1292 1218">Amber glass jars (amber glass bottles; amber glass Boston Rounds; amber glass wide mouth packers), which should be certified clean, protect contents from UV rays and are ideal for light sensitive products. These general use bottles are perfect for liquids. These environmentally sensitive bottles help eliminate waste and help to ensure product integrity for long term storage.</p> <p data-bbox="675 1257 846 1283">Suitable analyses:</p> <ul data-bbox="675 1287 1024 1488" style="list-style-type: none">• Homogeneity• Cannabinoid Profile• Pesticides• Water Activity & Moisture Content• Metals• Filth and Foreign Materials• Aflatoxins and Ochratoxins



**Borosilicate VOA Vial
with PTFE/Silicone
or Rubber Septa**

These **vials** are made of chemically inert clear Type I borosilicate 33 expansion glass, or for light sensitive samples, of amber 51 expansion glass.

Silicone/PTFE is the most widely used material combination for septa used in vial closures (caps and seals). Both types of silicone and butyl rubber septa have a PTFE barrier layer which faces the sample, thereby reducing contact between the sample and the silicone or butyl rubber which is preferable for samples being analyzed for solvents.

Suitable analyses:

- Residual solvents



**Centrifuge
Tubes**

Centrifuge tubes are typically used in laboratory centrifuges, machines that spin samples in order to separate solids out of liquid chemical solutions; however, these can be used for sample collection as well.

Suitable analyses:

- Metals,
- Filth and Foreign Material
- Water Activity & Moisture Content