Pesticide Sample Processing

1.0 Scope and Application

1.1 This method standard was adapted from the United States Department of Agriculture Pesticide Data Program.

1.2 These standards shall be followed by all laboratories conducting pesticide testing for cannabis and cannabis products, including support laboratories conducting stability or other types of studies that may impact the program.

1.3 To provide standard procedures for:

- The receipt, storage, archival, and disposal of cannabis samples and sample portions.
- The preparation of cannabis samples.
- The handling of sample homogenates that are shipped to another laboratory for analysis.

2.0 Outline of Procedures

3.0 Sample Processing, Storage, and Disposal

This Method Standard represents minimum WSDA requirements and is presented as a general guideline. Each laboratory shall have written procedures that provide specific details concerning how the procedure has been implemented in that laboratory. These instructions shall include specific practices for minimizing cross-contamination during preparation of multiple samples (e.g., cleaning of equipment and utensils between samples). Both this method and the laboratories' internal SOPs and work instructions will be used as the measure of compliance in the event of a laboratory review. Each sample shall be analyzed for identified compounds.

3.1 **Sample Receipt**

Laboratories must evaluate each sample received at the lab to assess acceptability.

3.1.1 Sample Inspection at Receipt

3.1.1.1 Record the person who received the sample and the date received in the sample

receipt log, LIMS, or other electronic records log.

3.1.1.2 Samples shall be inspected upon arrival to verify that the sample is suitable for analysis based on matrix requirements. Refer to WAC 314-55 sample requirements.

3.1.1.3 The laboratory shall establish procedures for ensuring the sample identification label information is retained (e.g., in a sample receipt logbook, LIS, etc.)

3.1.2 Sample Containers

If the sample container integrity is compromised or inadequate. The laboratory shall reject the sample.

3.1.3.1 Cannabis flower containers shall be inspected upon arrival for any deteriorating condition (e.g., leaking sample container) which would compromise sample integrity (e.g., cross contamination).

3.1.3 Sample Weight Acceptability Criteria

The sample is defined as the portion that the collector provides to the laboratory, samples shall be in adherence to requirements established in Chapter 314-55 WAC.

3.1.4 Sample Viability

For a sample to be considered viable, a minimum of 90% of the sample, by weight or count, should be available for analysis after any damaged/deteriorated portions (e.g., wilted, mushy, moldy, etc.) are discarded.

3.1.5 Documentation for Samples Not Analyzed

If sample condition upon arrival prevents analysis (e.g., entire sample mushy), the condition shall be documented.

3.1.6 Missing/Late/Unacceptable Samples

If a sample arrives without a corresponding manifest, the Chapter 314-55 WAC required information the lab shall reject the sample.

If the sample collection information contains an error that cannot be resolved, the sample shall be rejected.

3.1.7 Unique Laboratory Sample ID

Each sample shall be assigned a unique laboratory identification number. The identification number shall be recorded on or affixed to samples and sample aliquots in a manner to ensure its legibility during handling and storage. This number shall also be recorded on the accompanying paperwork and in the “Internal Lab ID” field in the RDE sample information.

3.1.8 Sample Receipt Log

Each laboratory shall maintain a log of samples received. Suggested methods are either in a bound notebook with ink or a computer log as long as the electronic storage of data follows acceptable practices. Minimum information recorded includes sample numbers, date and time received, and who received the sample. Other information may include commodity type, reference to analytical method, results, and date when results were reported.

3.2 Sample Storage Prior to Homogenization

3.2.1 All refrigerators and freezers used for regulatory samples shall have controlled access. Each laboratory shall have a system in place to monitor and document temperatures and sample traffic. The temperature checks shall be made each working day, or the laboratory may use automatic temperature recording devices. Checks shall be recorded.

3.2.2 Samples shall be stored in refrigerators and freezers separate from standards.

3.2.3 Cannabis samples still sealed in bags shall be refrigerated for a period not to exceed 120 hours from the time of arrival until the sample is homogenized.

3.3 Preparation and Homogenization of Cannabis Samples

For all commodities, the entire sample for pesticide analysis shall be prepared for homogenization according to the commodity-specific instructions in this section. If the entire sample does not fit into the homogenizer/chopper at one time, then the sample may be homogenized in portions. All portions shall be mixed together in a clean container to ensure an evenly mixed sample.

3.3.1 Flower

Cannabis flower shall not be dry weight corrected (neither physically or theoretically). Stems larger than 3 mm in diameter may be removed before homogenizing the sample. Samples should be homogenized to a particle size averaging less than 3 mm.

3.3.2 Concentrates

Cannabis concentrates should be homogenized prior to lab receipt. However, if the sample appears to be not homogenous, care should be taken to homogenize the sample without applying excess heat.

3.3.3 Edibles

Cannabis edibles can vary greatly in composition; thus lab discretion is necessary. The entire edible sample or subsample used for analysis should be homogenized in a manner that won’t impart deleterious effects on any pesticide being analyzed.

3.3.4 Other

Labs should use expert discretion and record any preparation and homogenization techniques used.

3.4 Weighing of Analytical Portion

The laboratory internal SOP shall define the weight required for the analytical portion.

3.5 Shipment of Homogenate Subsamples

Specific details not addressed here may be worked out between the shipping laboratory and the testing laboratory.

3.5.1 The testing laboratory designates the analytical portion size (e.g., by weight, volume, etc.) and the number of replicates necessary to perform their testing. The laboratories shall agree upon suitable containers and paperwork that needs to accompany the shipment. The shipping laboratory shall ensure that adequate analytical portions are provided to the testing laboratory by verifying that the agreed upon containers and fill volumes provide the minimum quantity needed for analysis.

3.5.2 At the time of sample homogenization, the specified analytical portion is placed into the sample container and the container is labeled with the internal laboratory identification number. This information shall be recorded in permanent non-smearing ink or on waterproof, freezer-proof stickers.

3.5.3 At a minimum, all samples shall be identified with both the sample identification number and the internal laboratory identification number either directly (on the sample container) or indirectly (e.g., logsheets/worksheets). Appropriate chain-of- custody forms and sample identification logsheets/worksheets (if used) shall be placed in a resealable plastic bag and included with the samples.

3.5.4 Homogenates shall be transported so that they arrive at the testing laboratory on a workday unless a weekend delivery has been agreed upon by the laboratory and Scientific Director. The shipping laboratory shall notify the testing laboratory of the shipment. The shipping laboratory bears the cost of shipping. If the shipping laboratory requests the return of empty shipping coolers, the testing laboratory bears the cost of return.

3.6 Storage of Homogenate Subsamples

3.6.1 If it is not possible to extract the sample after homogenization, then the homogenized samples may be held for a period not to exceed 72 hours at approximately - 20 °C or lower, or the homogenized sample may be held for longer periods of time at approximately -30 °C or lower, though the 90 days.

3.6.2 One or more adequate portions of homogenized sample shall be held in reserve for reanalysis and/or confirmation as needed. The laboratory internal SOP shall define "adequate portion" and the distribution.

3.7 Storage of Extracts

Extracts shall be stored in appropriate containers (e.g., bottles, tubes, injection vials, etc.) and at appropriate temperature (recommend 4 °C or lower) for a period(s) as specified in the laboratory's internal SOP to protect them from degradation and solvent evaporation.

Note: Vials held in active autosampler trays during instrumental analysis do not require refrigeration.

3.8 Disposal of Reserve Samples

The reserve sample may be discarded after time period(s) as specified in the laboratory's internal SOP have elapsed. Each laboratory shall establish the proper procedures for disposal of its reserve samples in an internal SOP.

3.9 Disposal of Extracts

The extracts may be discarded after time period(s) specified in the laboratory's internal SOP have elapsed. Each laboratory shall establish the proper procedures for disposal (e.g., disposal by a licensed contractor) of its extracts in an internal SOP.

4.0 References

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5.0 Acknowledgements

The above method was adapted from the United States Department of Agriculture Pesticide Data Program by the Cannabis Laboratory Analysis Standards Program to meet the recommendations of the Cannabis Science Task Force as procedures for determining pesticide residues for accredited cannabis laboratories in Washington state.