

Exhibit B: Testing Protocol

Industrial Hemp Pre-Harvest Testing

(REV 8-25-17)

To be sufficient to meet the requirement for pre-harvest THC sampling and testing under OAR Chapter 603, Division 48, testing must be conducted as described in this Protocol.

A. Testing Requirements

1. Testing may only be performed by a laboratory licensed by the Oregon Liquor Control Commission (OLCC) under ORS 475B.560 and accredited by the Oregon Health Authority (OHA) pursuant to ORS 475B.565 to sample and test for tetrahydrocannabinol (THC) content (hereinafter, Laboratory).
2. All testing must be performed by personnel employed by a Laboratory and in accordance with OAR 603-048-0600 and this Protocol.
3. The Laboratory must follow chain of custody procedures consistent with TNI EL Standard VIM2 5.7 and 5.8 and be documented to record the collection, transport, and receipt of samples by the Laboratory.
4. Testing must be conducted in compliance with OAR 333-064-0100(3) – (7) except that the Laboratory need not test or report CBD values.
5. Until the Laboratory develops its own criteria, sample or matrix spike recovery must fall between 70-130 percent. The Laboratory must develop its own criteria after obtaining 30 data points and the sample or matrix spike recovery must fall between 70-130 percent or fall within more restrictive acceptance limits. Until the Laboratory develops its own criteria, the Relative Percent Difference, RPD, between duplicates must be $< \text{ or } = 20\%$. The Laboratory must develop its own criteria after obtaining 30 data points and the sample/sample duplicate RPD must $< \text{ or } = 20\%$ or fall within more restrictive acceptance limits. The Laboratory shall include at least one sample or matrix spike and one set of duplicates to assess accuracy and precision for each extraction batch.
6. The Laboratory must perform testing under their Quality Management system as defined by their ORELAP accreditation.
7. The Laboratory must perform testing in a manner that avoids contamination of the non-sampled material with sample containers that are free of analytes of interest and appropriate for the analyses requested.
8. The Laboratory's test method and preparation steps shall avoid decarboxylation of (-)-delta 9-trans-Tetrahydrocannabinolic acid (THCA).
9. The Laboratory must determine the percentage of THC in the sample on a dry weight basis.

B. Initiating a Testing Request

1. The Laboratory must receive a complete Industrial Hemp Sampling and Testing Request Form prior to testing. The Laboratory must receive a new and separate "Harvest Lot Sampling Request Description" for each Harvest Lot to be tested.

2. The Laboratory must receive a complete Industrial Hemp On-Site Sampling Form prior to testing. The Laboratory must receive a new and separate “Harvest Lot On-Site Sampling Description” for each Harvest Lot to be tested.
3. A “Harvest Lot” means:
 - a. Means a quantity of industrial hemp harvested in a distinct timeframe that is:
 - i. Grown in one contiguous field or growing area; or
 - ii. Grown in a portion or portions of one contiguous field or one growing area.
 - b. Does not include a quantity of industrial hemp comprised of industrial hemp grown in noncontiguous fields or noncontiguous growing areas.¹

C. Sample Preparation Requirements

1. The Laboratory shall dry all of the leaf and flower of the sample (not obvious stem and seeds) until brittle in a manner that does not exceed 70°C and maintains the THC level of sample (at temperatures greater than 70°C, decarboxylation of THCA to THC occurs).
2. After drying, the Laboratory shall pulverize and sieve the sample using mesh size 1 mm as described in United Nations Office on Drugs and Crime: Recommended Methods for the Identification and Analysis of Cannabis and Cannabis Products. ISBN 978-92-1-148242-3. The Laboratory shall blend and homogenize the sieved material.
3. The Laboratory shall determine the dry weight of the sieved material.
4. The Laboratory shall divide the sieved, blended and homogenized sample into two portions: the test portion and the retained file sample. The Laboratory shall store the retained file sample in a freezer until needed. The retained file sample must be of sufficient material to conduct any requested retest and any quality control performed by the testing Laboratory.

D. Retesting Requirements

1. The Laboratory shall retest a Harvest Lot upon receipt of a completed Request for Retest from a grower. Retest” or “Retesting” means the laboratory process of retesting a retained file sample for THC content after the sample failed initial testing for THC content. A retest does not include or permit taking a new sample from the harvest lot. OAR 603-048-0010(16).
2. The Laboratory shall forward the retained file sample to another Laboratory or to the ODA upon receipt of a completed Request for Retest from the grower requesting that the sample be forwarded. The Laboratory shall:
 - a. Use packaging appropriate for secure transport.
 - b. Protect the sample from moisture and temperature extremes.
 - c. Include all documentation with the sample.
 - d. Forward the sample by the most expedient, secure, and legal means to ensure that the sample continues to be representative of the harvest lot sampled and the chain of custody is accounted for to protect its integrity.

¹ OAR 603-048-0010(9).

E. Reporting and Recordkeeping Requirements

1. All documentation of sampling and testing must be retained by the Laboratory for at least three years and be provided to the Department upon request.
2. The Laboratory shall make Standard Operating Procedure (SOPs) readily accessible to all pertinent personnel and provided to ODA upon request.
3. All documents shall be controlled and retained in accordance with the TNI Environmental Laboratory standard as defined in 333-007-0310.
4. When testing or forwarding the sample, the Laboratory must create and use a Chain of Custody form with the information set out below. If any of the above information requested is unavailable, indicate "N/A" in the appropriate space. All testing report forms must be signed by the analyst.
 - a. Laboratory name
 - b. Analyst's name
 - c. Lab License Number
 - d. Field ID/Name and Harvest Lot Designation
 - e. Testing Date/Time
 - f. Mass and Location of increment samples
 - g. Final Mass of composite sample
 - h. Custody transfer signatures
 - i. Custody Transfer Dates/Times
5. The Laboratory shall determine the estimated measurement uncertainty (EMU) of the test for THC concentration of industrial hemp and make available to the ODA upon request.
6. The Laboratory shall provide to ODA upon request analytical data and any records associated with test results reported, including SOPs, chain of custody forms, quality checks, EMU determination, etc.
7. The Laboratory shall report percentage of THC in the sample on a dry weight basis to exactly two significant figures.
8. The Laboratory shall report all test results electronically to the Department at HempTestReports@oda.state.or.us using the forms provided by the Department, and include for each sample tested:
 - a. Grower's name and registration number;
 - b. Sample date;
 - c. Sample size by weight;
 - d. Testing date;
 - e. Total tetrahydrocannabinol percentage to exactly two significant figures;
 - f. The Laboratory's uncertainty level for tetrahydrocannabinol testing of industrial hemp;
 - g. Clear identification of the harvest lot that corresponds to the sample and the location of the corresponding harvest lot;
 - h. Copy of grower's sampling request form required in subsection and
 - i. Copy of the completed sampling form required in subsection
9. The Laboratory shall send any failed test report electronically to the Department at HempTestReports@oda.state.or.us using the forms provided by the Department **within 24 hours of the failed test.**

10. The Laboratory shall send completed copies of the Sampling and Request Form and the On-Site Sampling Form corresponding to the Harvest Lot with each test report.