



# ARKANSAS DEPARTMENT OF AGRICULTURE

## PLANT INDUSTRIES DIVISION

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### Arkansas Department of Agriculture Hemp Research Licensing Program

#### Procedures for Determining Hemp Material Compliance and Disposal

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#### I. Introduction & Purpose

Federal and state law charge the Arkansas Department of Agriculture (“Department”) with responsibility for managing the Arkansas Department of Agriculture Hemp Research Licensing Program. In 2014, Congress enacted legislation permitting state departments of agriculture to conduct research pilot programs with industrial hemp. Congress specifically limited its authorization of state-level industrial hemp research pilot programs as defined in 7 U.S.C. § 5940 (2014 Farm Bill). The 2018 Farm Bill removes hemp from the list of controlled substances and delegates the regulatory authority to the state departments of agriculture through a USDA-approved state plan.

To that end, the Department conducts a sampling and testing program to confirm compliance with state and federal law. A.C.A. § 2-15-403(5) defines industrial hemp as “all parts and varieties of the plant *Cannabis sativa L.*, cultivated or possessed by a licensed grower, whether growing or not, that contain a tetrahydrocannabinol concentration of no more than that adopted by federal law in the Controlled Substances Act, 21 U.S.C. § 32 804 et seq.”

A.C.A. § 2-15-401 et seq. and the Department’s Industrial Hemp Research Program Rules directs the Department to establish a sampling and testing program that will ensure that THC levels in industrial hemp produced by the Department’s license holders do not exceed the 0.3% delta-9-THC threshold set by Congress. The Department intends to inspect and sample 100% of hemp plots to be harvested. All varieties will be tested for compliance with the 0.3% delta-9-THC threshold set by Congress.

#### II. Definitions

- 1) “**Delta-9-THC**” means delta-9-tetrahydrocannabinol concentration (the primary intoxicating component of cannabis).
- 2) “**Industrial Hemp**” shall be used interchangeably with “Hemp” and have the same meaning. Hemp means *Cannabis sativa L.* and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salt of isomers, whether growing or not, with a delta-9-tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis, as defined in the Agricultural Improvement Act of 2018, 21 U.S.C. & 801 et seq. as it currently exists or as it may be subsequently amended.
- 3) “**Location ID**” means the unique identifier name established by the applicant or licensee for each unique set of GPS coordinates where industrial hemp will be grown, handled, stored, or processed, which may include a field name or building name.
- 4) “**Plot**” means a contiguous area in a field, greenhouse, or indoor growing structure containing the same variety or strain of hemp throughout the area.



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- 5) **“Post-Harvest Sample”** means a sample taken from the harvested industrial hemp material from a particular plot’s harvest in accordance with the procedures as defined in the policies developed under the program rules; the entire plot’s harvest must be in the same form (intact-plant, flowers, ground materials, etc.), homogenous, and not mixed with non-hemp materials or industrial hemp materials from another plot.
- 6) **“Pre-Harvest Sample”** means a composite, representative portion from plants in an industrial hemp plot collected prior to harvest in accordance with these procedures as defined in the policies developed under the program rules.
- 7) **“Program”** means the Arkansas Industrial Hemp Research Program as established by the Arkansas Industrial Hemp Act, A.C.A. 2-15-401 et seq. and the program rules.
- 8) **“Prohibited Variety”** means a variety or strain of cannabis excluded from the Department’s Industrial Hemp Research Program.
- 9) **“Total THC”** means the completion of the chemical reaction that converts THC-acid into delta-9-THC, the intoxicating component of cannabis. The decarboxylated value may also be calculated using a conversion formula that sums delta-9-THC and THC-acid.
- 10) **“Variety of Concern”** means any variety of hemp in the program that tests above 0.3% total delta-9-THC in one (1) or more pre-harvest samples from diverse locations and production conditions. A hemp variety designated as a “Variety of Concern” may be subject to restrictions and additional testing.

### III. Scope

Pre-Harvest and Post-Harvest Samples collected by Department inspectors are acceptable for submission to the Department’s Plant Industries Chemistry Lab for THC quantitation lab analysis. All sampled hemp “plots” (also referred to as “lots”) are hand-delivered to the Department’s Plant Industries Chemistry Lab from an authorized Department inspector. All representative samples for THC quantitation lab analysis for program-compliance become property of the Department and are non-returnable. The Department reserves the right to test all industrial hemp and other cannabis plant crops produced by any License Holder for THC compliance. The Department intends to inspect, sample, and test 100% of all industrial hemp and other cannabis lots to be harvested produced under the program.

### IV. Testing Procedures

- 1) Testing for compliant THC levels shall be administered by the Department’s Plant Industries Chemistry Lab.
- 2) Quantitative determination of Total delta-9-THC levels will be measured using High-Performance Liquid Chromatography with ultraviolet detection (HPLC-UV) as the primary regulatory lab analysis method. The Department reserves the right to conduct Total THC level testing using similar quantitative laboratory instruments and methods, including the use of gas chromatography with mass spectrometry detection (GC-MS), gas chromatography with flame ionization detection (GC-FID), or both.



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- 3) Test results shall be reported by Hemp Program Staff to License Holders as soon as reasonably practical, **via email**. Program Staff shall make every effort to report test results within two weeks of sample receipt, however, turnaround times will be affected by Program workload and laboratory sample load. Lab results shall be sent to the Licensed Grower’s business email on-file. It is the Licensed Grower’s responsibility to make sure this email is monitored, valid and current.
- 4) Test results and disposal of non-compliant plant lots may be reported to USDA and/or applicable state or federal law enforcement agencies.

### V. Post-Testing Actions

The total delta-9-THC content for hemp produced in Arkansas shall not exceed the 0.3% delta-9-THC threshold established by federal and state law. In the interest of furthering research efforts and in recognition of variances due to growing conditions, weather, and varieties, the Department shall report the details of the test results to at least two decimal places where reasonably practical. **Table 1** (below) provides a summary of the post-testing actions detailed in the following numbered points. **Table 1** (below) accounts for the Plant Industries Chemistry Lab’s “Measurement of Uncertainty” (MOU) value derived from 2019 hemp program laboratory data.

The calculated MOU for the 2020 growing season is: **± 0.06% THC**.

<b>Table 1: Post-Testing Action Summary, based on the Department’s MOU: ± 0.06%</b>			
<b>Pre-Harvest Test Results</b>	<b>Material allowed to market</b>	<b>Material not allowed to move - - triggers Post-Harvest Sampling and testing or verification of leaf and floral destruction</b>	<b>Material Destroyed</b>
	≤ 0.36% Total THC	≥ 0.37% — 0.99% Total THC	≥ 1.0% Total THC
<b>Post-Harvest Test Results</b>	<b>Material allowed to market</b>		<b>Material Destroyed</b>
	≤ 0.30% Total THC	≤ 0.36% Total THC	≥ 0.37% Total THC

\*Based on calculated measurement of uncertainty value from the “Guide to Expression of Uncertainty in Measurement (GUM)” (JCGM 100:2008, *Evaluation of Measurement Data*).

#### 1) **Pre-Harvest Test Results of less than or equal to 0.36% total delta-9-THC:**

- a. The Department will report results to grower via email.
- b. The Department designates the material as compliant and authorized for use or distribution in a manner consistent with the Arkansas Industrial Hemp Research Program Rules. To that end, The Program Rules and the Arkansas Industrial Hemp Act do not allow the sale of leaf and/or floral material in any form to unlicensed entities, including the public consumer or retail shops.
- c. Material allowed to market to licensed Hemp Growers or Hemp Processors that are licensed with either 1) a state’s department of agriculture, 2) USDA’s Hemp Production Program, or 3) a USDA-approved Hemp Program.



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### 2) Pre-Harvest Test Results of greater than or equal to 0.37%, but less than 0.99% total delta-9-THC:

- a. The Department will report results to grower via email.
- b. The Department may report results to USDA and applicable state or federal law enforcement agencies.
- c. The License Holder shall not transfer an individual plot's harvest from the registered growing, storage/drying, or processing site. The harvest must remain segregated from other harvested hemp material plots until released in writing by the Department.
- d. License Holder is permitted to complete harvest activities, which may include drying, chopping, or grinding, in preparation for transfer to a processor or storage location.
- e. If harvesting leaf or floral material from the plot, the grower shall elect between (1) a post-harvest sample/retest OR (2) complete destruction of leaf and floral material. License Holder must complete harvest activities, which may include drying, chopping, or grinding, on the entire harvest before the material is eligible for post-harvest sample collection. License Holder shall be charged a lab sample fee for the post-harvest retest and resampling.
- f. If the License Holder wishes to voluntarily destroy the plot with no Post-Harvest retest, a "Destruction Request Form" shall be submitted to the Department. If the License Holder wishes to opt for a Post-Harvest retest, an additional "Harvest Request Form" shall be submitted to the Department, indicating "Post-Harvest Retest" under the "Expected Initial Harvest Date" column of the Harvest Request Form. The street address and Location IDs on the Harvest or Destruction Request Forms shall match the actual location where the out of tolerance plot is currently being stored.
- g. If harvesting only grain, seed or fiber from the plot, the Department shall verify the complete destruction of all leaf and floral material from the plot. The grain or seed must be processed and cannot remain as a viable seed for planting. Bare stalk for fiber that is free of leaf, seed, or floral material is eligible for processing.
- h. The hemp variety in question may become designated as a Variety of Concern and the Department may run additional tests on the samples collected from other lots of this variety.
- i. If more than 50% of Pre-Harvest Samples' test results for a given Variety of Concern are above 0.30%, then the variety may be designated as a Prohibited Variety and excluded from the program.
- j. If a variety is designated as a Prohibited Variety in the program, all material, including viable seed, live plants, stock plants, and all germplasm, shall be destroyed in the presence of a Department representative, law enforcement, or both.



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### 3) Pre-Harvest Test Results equal to or greater than 1.0% total delta-9-THC:

- a. The Department will report results to grower via email.
- b. The Department may report results to USDA and applicable state or federal law enforcement agencies.
- c. The License Holder must mandatorily destroy without compensation the entire harvest plot and any unharvested crop of this variety from the plot. License Holder must file a "Destruction Request Form" to document this destruction of out-of-tolerance hemp materials.
- d. Materials testing equal to or greater than 1.0% total delta-9-THC from a Pre-Harvest test result shall be destroyed in the presence of a Department representative, law enforcement, or both.
- e. The Department may collect samples of and test post-harvest material, but a Post-Harvest retest is not required.
- f. The variety may be labeled a Prohibited Variety and excluded from the program.
- g. The Department may initiate proceedings to suspend or revoke the License and exclude the License Holder from future participation with the Department's program.

### 4) Post-Harvest Test Results of less than or equal to 0.30% total delta-9-THC:

- a. The Department will report results to grower via email.
- b. The Department designates the material as compliant and authorized for use or distribution in a manner consistent with the Arkansas Industrial Hemp Research Program Rules. To that end, The Program Rules and the Arkansas Industrial Hemp Act do not allow the sale of leaf and/or floral material in any form to unlicensed entities, including the public consumer or retail shops.
- c. Material allowed to market to licensed Hemp Growers or Hemp Processors that are licensed with either 1) a state's department of agriculture, 2) USDA's Hemp Production Program, or 3) a USDA-approved Hemp Program.

### 5) Post-Harvest Test Results of greater than 0.30%, but less than 0.36% total delta-9-THC:

- a. The Department will report results to grower via email.
- b. Material allowed to market in a manner consistent with the Program Rules and the Arkansas Industrial Hemp Act. To that end, The Program Rules and the Arkansas Industrial Hemp Act do not allow the sale of leaf and/or floral material in any form to unlicensed entities, including the public consumer or retail shops. Material is allowed to be marketed to licensed Hemp Growers or Hemp Processors that are licensed with either 1) a state's department of agriculture, 2) USDA's Hemp Production Program, or 3) a USDA-approved Hemp Program.
- c. Any marketing of materials testing between 0.30% and 0.36% is at the License Holder's risk.



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### 6) Post-Harvest Test Results equal to or greater than 0.37% total delta-9-THC:

- a. The Department will report results to grower via email.
- b. The Department may report results to USDA and applicable state or federal law enforcement agencies.
- c. The License Holder shall mandatorily destroy without compensation the entire harvest plot and any unharvested crop of this variety from the plot. License Holder must file a "Destruction Request Form" to document this destruction of out-of-tolerance hemp materials.
- d. Materials testing equal to or greater than 0.37% total delta-9-THC from a Post-Harvest test result shall be destroyed in the presence of a Department representative, law enforcement, or both.
- e. The Department reserves the right to run additional tests on post-harvest samples of that variety from the plot in the interest of furthering research efforts.
- f. Variety may be labeled a Prohibited Variety and excluded from the program.
- g. The Department may initiate proceedings to suspend or revoke the License and exclude the License Holder from future participation with the Department's program.

### 7) Varieties determined to be a Prohibited Variety:

- a. Based on lab data from previous seasons, the Department may develop a list of hemp varieties prohibited to plant, grow, harvest or market under the Program.
- b. The Department may report the existence of a Prohibited Variety to relevant state and federal law enforcement agencies.
- c. If a variety is designated as a Prohibited Variety in the program, all material, including viable seed, live plants, stock plants, and all germplasm, shall be destroyed in the presence of a Department representative, law enforcement, or both.

### 8) Destruction of Hemp Materials:

- a. A "Destruction Request Form" shall be submitted to the Department by the License Holder fifteen (15) days prior to the proposed destruction date, whether the destruction is voluntary or mandatory after receipt of non-compliant lab results.
- b. No destruction of hemp materials are permitted without a Department representative or Law Enforcement Officer witness present, or without approval in-writing from the Department. A "Destruction Request Form" must be filed and submitted by the License Holder.
- c. The Department reserves the right to deny a License Holder's proposed method of destruction. **Table 2** (Page 7 of these procedures) illustrates approved methods of destruction from USDA.
- d. Pictures as proof of destruction is required for all destroyed hemp materials produced under the Department's program.



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Table 2: Approved Methods of Disposal/Destruction Activities from USDA, rendering materials non-retrievable or non-ingestible			
Photo Example	Ag Production Activity	Compliant Outcome	Photo Example
	<p><b>Plowing Under:</b> Curved plow blades rotate subsoil to surface and bury crop below</p>	<p><b>Plowing Under:</b> - “Green Manure” - Amends soil directly from crop</p>	
	<p><b>Mulching / Composting:</b> Fields crops cut and blended with manure or other biomass material</p>	<p><b>Mulching / Composting:</b> - “Green Manure” - Mulch mixed with manure or other biomass</p>	
	<p><b>Disking:</b> Leveling of field using tow-behind disk implement</p>	<p><b>Disking:</b> - “Green Manure” - Amends soil directly from crop while leveling field</p>	
	<p><b>Bush Mower / Chopper:</b> Commercial lawn mower used to shred and mix thick vegetation</p>	<p><b>Bush Mower / Chopper:</b> - “Green Manure” - Shredded biomass decomposes into soil</p>	
	<p><b>Deep Burial:</b> Fields are trenched, surface soil is buried at depth of at least 12”</p>	<p><b>Deep Burial:</b> - Field biomass buried in trenches and covered with soil</p>	
	<p><b>Burning:</b> Setting fire to specific production fields or biomatter piled on the field</p>	<p><b>Burning:</b> - Fields are cleared of all plant material</p>	