

MICHIGAN DEPARTMENT OF AGRICULTURE
& RURAL DEVELOPMENT

PESTICIDE AND PLANT PEST MANAGEMENT DIVISION
&
LABORATORY DIVISION

MEASURING TETRAHYDROCANNABINOL (THC) CONCENTRATION IN INDUSTRIAL
HEMP

EMERGENCY RULES

Filed with the Secretary of State on August 15, 2019

These rules take effect upon filing with the Secretary of State and shall remain in effect for 6 months.

By authority conferred on the department of agriculture and rural development by sections 14(4) and 18 of the industrial hemp research and development act, 2014 PA 547, MCL 286.854 and 286.858.

FINDING OF EMERGENCY

These emergency rules are promulgated by the department of agriculture and rural development to establish proper sampling and analytical testing methods for measuring the concentration of Tetrahydrocannabinol (THC) in *Cannabis sativa* L., specifically, Industrial Hemp.

Cannabis Overview

Cannabis is a genus of flowering plants in the Cannabaceae family, which consists of 3 primary species: *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis*.

Cannabis sativa is an important herbaceous species originating from Central Asia.

This plant species has multiple varieties that are grown for different purposes including industrial use (fiber, biodegradable plastic, textiles, etc.), oil seed use (grain, seeds, oil), medicinal use (medical marijuana), and recreational use (adult use marijuana).

August 1, 2019

Although regularly referred to as “species” or “strains” of *Cannabis sativa*, “hemp” and “marijuana” are actually broad classifications of plants derived from different varieties of the Cannabis plant. Because of its controversial reputation, as well as recently shifting legalities, it is important to understand the Cannabis plant, what the terms hemp and marijuana mean, and what the key differences are between each.

Marijuana is a term used to classify varieties of Cannabis that contain more than 0.3% tetrahydrocannabinol (THC) by dry weight. THC is a powerful psychoactive agent that induces the mind-altering, euphoric effects referred to as being “high.” In addition to its recreational use, studies have revealed marijuana’s potential medicinal and therapeutic benefits for certain patients.

Hemp, on the other hand, is a term used to classify varieties of Cannabis that contain 0.3% or less THC content (by dry weight). Hemp is the strongest natural fiber in the world and is known to have over 50,000 different uses, including clothing, handbags, shoes, ropes, canvas, tarps, carpeting, molded parts, paper, insulation, fiberboard, hempcrete, printing inks, acrylics, fiberglass substitute, hemp seed hearts, hemp seed oil, hemp protein powder, soaps, shampoos, lotions, and cosmetics to name a few.

As varieties of the same plant species, hemp and marijuana share many similarities and can even appear exactly alike. With contrasting legal regulations and very different effects, usages, and safety considerations, it is imperative that the key differences between hemp and marijuana be understood and distinguishable.

Hemp vs. Marijuana

The defining characteristic between hemp and marijuana is the chemical composition contained within each plant. Both can produce high amounts of Cannabidiol (CBD), a non-intoxicating chemical compound; however, THC is produced at very different levels. While hemp can contain no more than 0.3% THC by dry weight, marijuana can contain up to 30% THC. Chemical analysis must be performed to ascertain THC levels.

Michigan Public Act 641 of 2018 and the 2018 Ag Improvement Act

The industrial hemp research and development act, 2014 PA 547, MCL 286.841 to 286.859, (the “act”) authorizes the growing and cultivating of industrial hemp for research and development purposes and provides for the registration and licensing of certain persons engaged in the

growing, processing, and handling of industrial hemp. The act was amended by 2018 PA 641, expanding the program in a number of areas including direction to the department to issue rules. Among other things, the act requires growers who intend to harvest or destroy an industrial hemp crop, to schedule a test of a sample of the crop to measure the THC concentration.

In order to qualify as industrial hemp under the act, cannabis must be tested for delta 9 ($\Delta 9$) THC concentrations to ensure that it does not exceed 0.3% on a dry weight basis. Exceeding this level essentially qualifies industrial hemp as marijuana creating significant legal consequences and the potential for adverse health and safety concerns. Furthermore, analytical testing of industrial hemp involves several considerations, all of which can impact the results. These considerations include, but are not limited to, the specific testing method, when the testing should occur, what part of the cannabis plant should be tested, the sample size, and the scope of the test.

Aside from the minimal testing requirements described in section 14(1) to (3) of the act, MCL 286.854, there are no regulatory requirements, standards or guidelines for industrial hemp growers to follow regarding industrial hemp sample collection. And, as stated previously, because different hemp testing methods can produce different results, it is imperative rules be established to ensure proper sampling techniques and analytical testing methods are established to ensure compliance with the act and to protect the residents of the state from hemp products that have THC concentrations that exceed the prescribed legal limit.

Depending on the variety of hemp grown and the type of growing operation, i.e., indoors or outdoors, hemp harvest will begin in Michigan this late summer/fall. It is imperative standards for testing be established before harvest begins to ensure public health and safety. Therefore, the department of agriculture and rural development believes emergency criteria has been met for the promulgation of emergency rules as provided in section 48 of the administrative procedures act of 1969 (APA), 1969 PA 306, MCL 24.248, without following the notice and participation procedures required by sections 41 and 42 of the APA, MCL 24.241 and 24.242.

Rule 1. (1) As used in these rules:

- (a) “Act” means the industrial hemp research and development act, 2014 PA 547, MCL 286.841 to 286.859.
- (b) “ASTM International” means the scientific and technical organization founded for the development of standards and located at 100 Barr Harbor Drive, W. Conshohocken, PA 19428-2959.
- (c) “Compliant plot” means plants that have testing results indicating less than or equal to 0.3% THC concentration by dry weight.

- (d) "Decarboxylation" means the removal of the extra carboxyl ring (COOH) from THCA to convert to THC.
- (e) "Harvest" means to gather or reap industrial hemp from the grow locations.
- (f) "Non-compliant plot" means plants that have testing results indicating more than 0.3% THC concentration by dry weight.
- (g) "Pistillate inflorescences" means the female flowers or groups of female flowers on the plant.
- (h) "Representative sample" means a random subset of a population that seeks to accurately reflect the characteristics of the larger group, as prescribed by the department in Rule 3.
- (i) "THCA" means tetrahydrocannabinolic acid.

(2) The terms defined in the act have the same meanings when used in these rules.

Rule 2. These rules apply to all persons registered and licensed under the act.

Rule 3. (1) A grower that intends to harvest or destroy an industrial hemp plot shall schedule a test of a sample of the plot by a testing facility.

(2) A grower shall submit a representative sample of their plot for testing which must include leaves and pistillate inflorescences.

(3) The department must prescribe sampling procedures and publish the sampling procedures on the following website: <https://www.michigan.gov/industrialhemp>.

(4) The testing facility shall test the sample not less than 15 days before the intended harvest or destruction date.

(5) All samples become the property of the department.

Rule 4. (1) Testing of industrial hemp must be completed by the department or by a testing facility.

(2) Samples must be tested in accordance with ASTM International or other nationally or internationally recognized test methods, or any other validated method approved by the department.

(3) All tests must be performed post-decarboxylation.

(4) Testing performed by a testing facility, at a minimum, must include quantitative laboratory determination of the delta-9 THC concentration on a dry weight basis.

Rule 5. (1) A registrant or licensee may conduct additional testing on their industrial hemp, including;

- (a) Cannabidiol and cannabidiol acid levels.
- (b) Foreign matter inspection.
- (c) Microbial and mycotoxin screening.
- (d) Pesticides.
- (e) Chemical residue.
- (f) Fungicides.
- (g) Insecticides.
- (h) Metals screening.
- (i) Residual solvents levels.
- (j) Terpene analysis.
- (k) Water activity content.

(2) The department may conduct any of the tests identified in subrule (1) of this rule on industrial hemp samples it obtains pursuant to its inspection authority.

Rule 6. (1) The testing facility shall provide to the grower and to the department a certified report stating the results.

(2) Certified reports stating the registrant's license number, company name, business address, growing location, and results must be emailed to the department at MDARD-IndustrialHempSamples@michigan.gov by the testing facility.

(3) A grower shall harvest their compliant plot within 15 days of receiving the final test results, including any retests. Non-compliant plots must be destroyed pursuant to the destruction order issued by the department.

Rule 7. (1) If the department determines, based on a certified report, that a plot or product is non-compliant, the department shall issue a destruction order.

(2) The department shall identify in the destruction order the plot to be destroyed and the date by which the destruction must occur.

(3) The destruction order may require a method of destruction and may require department oversight of the destruction.

(4) A grower shall comply with a destruction order issued by the department.

Rule 8. (1) All registrants and licensees are subject to inspection and sampling by the department at reasonable times to ensure compliance with the act. All of the following provisions apply to inspection and sampling:

- (a) Failure to comply with an inspection may result in the initiation of enforcement proceedings.
- (b) Either the registrant or licensee or an agent of the registrant or licensee shall be present for the inspection and sampling and shall provide the department with unrestricted access to all industrial hemp, including all buildings and other structures used for the cultivation, storage, or processing of industrial hemp and all documents pertaining to the registrant's/licensee's industrial hemp cultivation and business.
- (c) All cannabis material is subject to sampling and testing to verify that the delta-9 THC concentration does not exceed 0.3% on a dry weight basis.

(2) The department may collect and test individual or composite samples of each variety of cannabis from the registrant's or licensee's land area, including indoor cultivation sites, at any reasonable time.

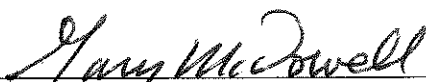
(3) All samples taken by the department must be representative samples.

Rule 9. (1) The actual cost of the testing must be paid by the registrant or licensee.

(2) The department may annually adjust the fees for testing to provide that the fee charged is sufficient to cover the cost of the activities and that the aggregate of fees collected is sufficient to pay for all salaries and other expenses connected with the activities described in this rule.

(3) The department shall deny any registration or license application or renewal application for any registrant or licensee who has not paid all the fees it is assessed by the department under this rule.

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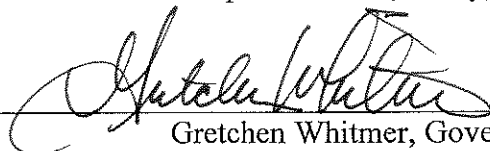


Gary McDowell, Director



Date

Pursuant to Section 48(1) of 1969 PA 306, as amended, MCL 24.248(1), I hereby concur in the finding of the Michigan Department of Agriculture & Rural Development that the circumstances creating an emergency have occurred and the promulgation of the above rules is required for the preservation of the public health, safety, and welfare.



Gretchen Whitmer, Governor



Date