



COMMONWEALTH of VIRGINIA

DEPARTMENT OF FORENSIC SCIENCE

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A Nationally Accredited Laboratory

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NOTICE REGARDING MARIJUANA FIELD TESTS AND CHANGES TO THE DEPARTMENT'S ANALYTICAL AND REPORTING SCHEME FOR MARIJUANA AND MARIJUANA BYPRODUCTS

To: All Agencies Serviced by the Department of Forensic Science (DFS) Laboratories

From: Linda C. Jackson, Director *Linda C. Jackson*

Date: May 23, 2019

RE: Marijuana Field Tests and Marijuana Analysis and Reporting

Recent changes in federal and state law regarding marijuana and industrial hemp require that DFS notify its customers and stakeholders regarding the impact of those changes on: (1) the use of marijuana field tests; and (2) DFS's analytical and reporting scheme for marijuana and its byproducts.

On March 21, 2019, Chapters 653 and 654 of the 2019 Virginia Acts of Assembly became effective, amending the Industrial Hemp Act (Virginia Code §§ 3.2-4112 *et seq.*), Virginia Code § 18.2-247, and the Drug Control Act (Virginia Code §§ 54.1-3400 *et seq.*). The legislation was enacted, in part, in response to the passage of the federal 2018 Farm Bill, which established a regulatory framework for the agricultural production of industrial hemp and removed industrial hemp from Schedule I of the federal Controlled Substances Act (21 U.S.C. §§ 801 *et seq.*).

Under federal law, industrial hemp is defined as any part of the *Cannabis sativa* plant, "including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis." The Virginia General Assembly adopted a parallel definition in Chapters 653 and 654 of the 2019 Acts of Assembly.

Virginia Code § 18.2-247(D) specifies that raw industrial hemp plant material is considered marijuana in the Commonwealth *unless* it is "possessed by a person registered pursuant to subsection A of 3.2-4115 [to grow, deal in, or process industrial hemp] or his agent . . ." Additionally, Virginia Code § 3.2-4113 creates an *affirmative defense* for registered growers, dealers and processors, and their agents, if they are in lawful possession of industrial hemp plant material and specifies that "the burden of proof [for the affirmative defense] . . . shall be on the defendant." Chapters 653 and 654 of the 2019 Acts of Assembly also legalize hemp products "containing a tetrahydrocannabinol concentration of no greater than 0.3 percent that is derived from industrial hemp . . . that is grown, dealt, or processed in compliance with state or federal law."

Marijuana Field Test

Marijuana and industrial hemp are different strains of the *Cannabis sativa* plant. The only mechanism to distinguish hemp plant material from marijuana plant material is to conduct a quantitative analysis to determine the tetrahydrocannabinol (THC) concentration of the plant material.

The current marijuana field tests (Duquenois-Levine) approved by DFS are only capable of presumptively identifying *Cannabis sativa* plant material; thus, the current marijuana field tests cannot distinguish marijuana from industrial hemp. DFS is in the process of validating a field test that has the potential to differentiate industrial hemp from marijuana. Once the field test is validated, DFS will expeditiously pursue the appropriate regulatory action to approve this field test for use by law enforcement agencies.

Changes to DFS's Analytical and Reporting Schemes for Marijuana and Its Byproducts

Plant Material

DFS's current analytical scheme for the testing of suspected marijuana plant material, which has been used by forensic laboratories across the country, does not include a quantitation of the amount of THC present. Since the passage of the federal Farm Bill, the federal Drug Enforcement Administration (DEA) has developed a semi-quantitative method for determining whether plant material has a THC concentration of greater than 1%. In the next few months, DFS anticipates implementing this method for the analysis of plant material submissions if the defendant has raised the industrial hemp affirmative defense pursuant to Virginia Code § 3.2-4113 or if any plant material is packaged and labeled as a "hemp product."

For offenses occurring on or after March 21, 2019, DFS will continue to identify *Cannabis sativa* plant material as marijuana, but the Certificate of Analysis will indicate "concentration of cannabinoid(s) not determined." If, after the 1% semi-quantitative method has been implemented, the defendant raises the affirmative defense and the prosecution requires such proof for the case, the plant material can be submitted to DFS for an analysis to determine if the THC concentration of the plant material exceeds 1%. On submission, the submitting law enforcement officer should include "affirmative defense raised and THC quant requested" on the Request for Laboratory Examination (RFLE).

Residues

DFS has no scientific method available to quantify the THC concentration of a residue (typically found in submitted paraphernalia). If the residue only contains naturally occurring cannabinoids, DFS will report it as marijuana and will indicate "concentration of cannabinoid(s) not determined." If non-naturally occurring cannabinoids are present, the cannabinoids identified will be reported. Because DFS is not able to determine whether the cannabinoids identified in residues are hemp-derived or marijuana-derived, and the THC concentration cannot be scientifically determined, no schedule will be listed on the Certificate.

Edibles

DFS does not have a validated method to quantify the THC concentration of edibles. However, in light of the legalization of hemp products in Virginia, DFS is working to validate the DEA's 1% semi-quantitative method for the various edibles submitted for analysis. Until DFS has validated this method, DFS will analyze any edible and report the cannabinoids identified. The Certificate of Analysis will indicate "concentration of cannabinoid(s) not determined." The Certificate will further state that DFS currently does not have a validated method to quantify the concentration of cannabinoid(s) in food products.

Once validation of the semi-quantitative method is complete, DFS will notify its customers and stakeholders. This notification will also include the reporting language DFS will use for these items.

Oils

DFS currently has a method to quantify the THC concentration in oils, including vaporizer (vape pen) cartridges. If the THC concentration is equal to or greater than 12%, DFS will report that the substance is hashish oil (Schedule I) with the THC concentration. If the THC concentration is less than 12%, and there are only naturally occurring cannabinoids present, DFS will report the oil as marijuana with the THC concentration.

If the THC concentration is less than 12%, and there are non-naturally occurring cannabinoids present, DFS will report the identified compounds on the Certificate of Analysis. If DFS is only able to identify non-naturally occurring cannabinoids in the oil, those identified compounds will be reported on the Certificate of Analysis. Because DFS is not able to determine whether the cannabinoids identified in oils are hemp-derived or marijuana-derived, no schedule will be listed on the Certificate.

The chart below summarizes how DFS will report results for cases with offense dates on or after March 21, 2019:

Plant Material	<ul style="list-style-type: none"> Reported as marijuana with statement indicating "concentration of cannabinoid(s) not determined." If labeled as a "hemp product", the sample will be screened for THC concentration once the 1% semi-quantitative method is implemented.
Residues	<ul style="list-style-type: none"> If residue only contains naturally occurring cannabinoids, reported as marijuana with statement indicating "concentration of cannabinoid(s) not determined." If non-naturally occurring cannabinoids are present, cannabinoids identified will be reported (no schedule provided).
Edibles	<ul style="list-style-type: none"> Cannabinoids identified will be reported (no schedule provided). Certificate will include statement that "The Department of Forensic Science does not currently have a validated method to quantify delta-9 Tetrahydrocannabinol in food products."
Oils	<ul style="list-style-type: none"> If THC concentration is equal to or greater than 12%, reported as hashish oil (Schedule I) with the THC concentration. If THC concentration is less than 12% with naturally occurring cannabinoids present, reported as marijuana with THC concentration. If THC concentration is less than 12% with non-naturally occurring cannabinoids present, cannabinoids identified will be reported (no schedule provided). If only non-naturally occurring cannabinoids present, cannabinoids identified will be reported (no schedule provided).

Continuing Notifications

Once DFS is able to approve any new field test(s) and implement the new 1% semi-quantitative method for THC concentration, we will inform our customers and stakeholders. It is anticipated that the 1% semi-quantitative method will be implemented in approximately two months.

Should you have any questions regarding a particular analysis, please contact the Forensic Scientist who conducted the examination at the telephone number located on the upper right corner of the Certificate of Analysis.

Although DFS cannot provide legal advice, for other questions related to DFS's marijuana analysis and reporting, please contact the Controlled Substances Section Supervisor at the DFS Laboratory that provides service to your agency:

- Central (Richmond) – John Przybylski (804) 588-4154
- Eastern (Norfolk) – Brian Meinweiser (757) 355-5958
- Northern (Manassas) – Jeana Rodenas (703) 334-9736
- Western (Roanoke) – Chris Bryant (540) 283-5927