

DAZED & CONFUSED: THE STATE OF ENFORCEMENT OF MARIJUANA OFFENSES AFTER THE TEXAS HEMP FARMING ACT

Ryan Golden*

INTRODUCTION

In June 2019, Texas Governor Greg Abbott signed the Texas Hemp Farming Act into law, effective immediately.¹ The Act amends the definition of hemp to include any parts of the plant *Cannabis sativa* L. that contain no more than a 0.3% concentration of tetrahydrocannabinol (THC), the psychoactive ingredient in marijuana that produces a “high.”² Similarly, marijuana is statutorily defined as the plant *Cannabis sativa* L., except the term does not include certain derivatives of the plant, including hemp.³ Thus, after the passage of the Act, marijuana is only those parts of the *Cannabis* plant that contain more than 0.3% THC. *Cannabis* below that level is now hemp.

Although marijuana remains illegal to possess in Texas, many prosecutors across the state have refused to continue prosecuting misdemeanor possession of marijuana offenses due to concerns about the ability of officers to constitutionally search and seize suspected marijuana as well as the ability of prosecutors to prove a substance is marijuana beyond a reasonable doubt at trial.⁴ This Comment aims to address these

*J.D. Candidate, 2021, Baylor University School of Law; B.A., 2017, Texas A&M University. A special thanks to Professor Brian Serr, for his guidance throughout this process; the Baylor Law Review staff, for making this publication possible; and Kevin Golden, for serving as my consultant on all things botany and science. As always, I am grateful for the love and support of my family and friends, who patiently listened while I talked about this topic at length, and my mom, my greatest encourager.

¹Texas Hemp Farming Act, 86th Leg., R.S., ch. 764, § 2, 2019 Tex. Gen. Laws 764, 764 (codified at TEX. AGRIC. CODE ANN. § 121.001).

²*Id.*

³*Id.*; see *infra* Part I.A.

⁴TEX. HEALTH & SAFETY CODE ANN. § 481.002(5), (26) (West 2019); See Jolie McCullough, *Hemp Law Has Most Big-City Prosecutors in Texas Stepping Back from Marijuana Charges. But Not in El Paso.*, TEX. TRIB. (July 16, 2019), <https://www.texastribune.org/2019/07/16/el-paso-marijuana-hemp-prosecution/>.

aforementioned evidentiary concerns and the viability of continued enforcement of marijuana laws in Texas. Part I of this Comment will lay the framework for these issues by exploring the botanical and linguistic differences between hemp and marijuana. It will also discuss the history of hemp regulation leading up to the Texas Hemp Farming Act, the Act itself, and the reactions garnered by the Act. Part II will address the Act's implications in the context of the Fourth Amendment, specifically the development of probable cause, while Part III will examine the feasibility of proving marijuana cases beyond a reasonable doubt at trial following the passage of the Act. It must be acknowledged that although the majority of states and the federal government have taken steps towards legalizing and regulating hemp, the implications of such changes in the law have not yet fully manifested, much less been resolved by the courts. Consequently, this Comment relies on better-developed case law in analogous legal issues, such as medical marijuana, to guide its evaluation.

Ultimately, this Comment concludes that the legalization of hemp under the Texas Hemp Farming Act does not preclude the continued enforcement of marijuana offenses, at least from a legal standpoint. Initially, law enforcement officers can still constitutionally search and seize suspected marijuana or other controlled substances notwithstanding the legalization of hemp. This Comment advocates for the use of an "odor-plus" standard, which is a totality-of-the-circumstances approach to the development of probable cause.⁵ That said, the legalization of hemp does have some effect on a prosecutor's burden to prove beyond a reasonable doubt that a substance is marijuana rather than hemp. Following the Act, conventional methods of proving a substance to be marijuana at trial are likely no longer sufficient because they fail to adequately distinguish between marijuana and hemp.⁶ Forensic testing will eventually be a viable solution, but until crime laboratories across the state are able to adapt to the change in the law, prosecutors may struggle to carry their burden in cases where a defendant challenges the character of the substance.⁷ Despite this difficulty, the legalization of hemp is far from a wholesale foreclosure on the continued prosecution of marijuana offenses. There may be other valid reasons why prosecutors decline to continue prosecuting misdemeanor marijuana offenses

⁵ See *infra* Part II.C.

⁶ See *infra* Part III.B.

⁷ See *infra* Part III.C.

in light of the legislation—such as budgetary limitations, caseload management, and policy considerations—but the Texas Hemp Farming Act does not preclude it. Instead, prosecutors should continue to evaluate new marijuana charges on a case-by-case basis and base the decision to prosecute—or not to prosecute—on the particular circumstances of the offense.

I. HEMP REGULATION IN THE UNITED STATES: A BOTANICAL AND HISTORICAL FRAMEWORK

A. *Hemp Versus Marijuana: Botanically Simple, Linguistically Complex*

Hemp is a plant “fraught with confusion and controversy,” largely due to a pattern of inconsistent language and terminology used in reference to it.⁸ Accordingly, some notes on terminology are warranted. Historically, the term “hemp” was used as a generic descriptor for any fibrous plant.⁹ But the term eventually came to be more commonly understood as referring to species of plants that fall under the genus *Cannabis*.¹⁰ However, the “botanical confusion” surrounding hemp “was compounded by the introduction of a new word to describe hemp—marihuana (now commonly written ‘marijuana’)” in the early 1900s.¹¹ For almost a century, marijuana has been the primary term used to describe all forms of *Cannabis*.¹²

The conflation of the words “hemp” and “marijuana” created a dichotomy between the two substances that pervades today.¹³ Critically, both “hemp” and “marijuana” refer taxonomically to the same plant: *Cannabis sativa* L.¹⁴

⁸David P. West, *Hemp and Marijuana: Myths and Realities*, N. AM. INDUS. HEMP COUNCIL (Feb. 27, 1998), https://web.archive.org/web/20161120132152/http://www.naihc.org/hemp_information/content/hemp.mj.html.

⁹*Id.*

¹⁰See *Classification Report*, U.S. DEP’T OF AGRIC., NAT. RES. CONSERVATION SERV., <https://plants.usda.gov/java/ClassificationServlet?source=display&classid=CASA3> (last visited Sept. 6, 2020).

¹¹See West, *supra* note 8.

¹²See *id.*

¹³See Aaron Roussell, *The Forensic Identification of Marijuana*, 22 ALB. L.J. SCI. & TECH. 103, 116 (2012) (“The difference between hemp and marijuana is a dichotomy based largely on social use rather than biology.”).

¹⁴*Id.*

Because they are derived from the same plant, hemp and marijuana are virtually indistinguishable by sight or smell alone.¹⁵ Given this, “[t]he differences between marijuana and hemp remain largely social and legal,” not scientific.¹⁶

Hemp and marijuana have been distinguished, at least for legal purposes, on the basis of biochemistry. Unique to the genus *Cannabis* is the production of molecules known as cannabinoids within the plant.¹⁷ One of these cannabinoids is delta-9-tetrahydrocannabinol (THC), the substance responsible for the psychoactive effects that result when *Cannabis* is ingested, inhaled, or otherwise introduced to the human body.¹⁸ The concentration of THC within the sections of the plant varies widely—the resin contains the greatest concentration of THC, but THC is also contained in the flowers, leaves, and stems.¹⁹ As it has been statutorily defined and colloquially understood, the term “marijuana” encompasses the parts of the *Cannabis* plant that contain a sufficient concentration of THC to produce these psychoactive effects.²⁰ A report made to Congress in 1971 cited that marijuana found in the United States contained, on average, a concentration of approximately 1% THC.²¹ Now, it is estimated that “nearly all marijuana prosecutions involve THC concentrations of 12% or higher.”²² Conversely,

¹⁵ See *id.* at 110; see also *United States v. Bignon*, No. 18-CR-783, 2019 U.S. Dist. LEXIS 25230, at *8 (S.D.N.Y. Feb. 15, 2019) (“Thus, it is fair to infer, and on that basis the Court finds, that the odor of burning marijuana and the odor of burning hemp are similar — or, more to the point, that one could reasonably mistake one odor for the other.”); Debra Cassens Weiss, *After Decriminalization, Pot Smell and Joint Didn’t Justify Search, Court Says; Hemp Laws Also Raise Issues*, A.B.A. J. (Aug. 14, 2019, 1:46 PM), <http://www.abajournal.com/news/article/after-decriminalization-pot-smell-and-joint-didnt-justify-search-court-says-hemp-laws-also-raise-issues>.

¹⁶ See Roussell, *supra* note 13, at 104.

¹⁷ See West, *supra* note 8.

¹⁸ See Roussell, *supra* note 13, at 107.

¹⁹ Nat’l Org. for Reform of Marijuana L. (NORML) v. Bell, 488 F. Supp. 123, 126 (D.C. 1980) (citing NAT’L COMM’N ON MARIHUANA AND DRUG ABUSE, MARIHUANA: A SIGNAL OF MISUNDERSTANDING 50–51 (1972)).

²⁰ DEP’T OF HEALTH, EDUC., AND WELFARE, MARIHUANA AND HEALTH: A REPORT TO THE CONGRESS FROM THE SECRETARY 13–14 (1971).

²¹ *Id.* at 54.

²² Jolie McCullough, *How Can Texas Fix Its Marijuana Problem After Legalizing Hemp? Forensic Experts Have a Plan.*, TEX. TRIB. (July 19, 2019), <https://www.texastribune.org/2019/07/19/texas-marijuana-hemp-testing-proposal/> (quoting Lynn Garcia, the director and general counsel for the Texas Forensics Science Commission).

“hemp plants . . . contain only a trace amount of the THC contained in marijuana varieties grown for psychoactive use.”²³ Importantly, this biochemical composition is the only basis for distinguishing hemp from marijuana.²⁴ And even this distinction is based on a “legal fiction that marijuana and hemp are . . . distinct” because, at least from a botanical standpoint, they are both *Cannabis sativa* L.²⁵

B. A Brief History of Hemp Regulation in the United States

Hemp—“a fibrous plant prized for its ease of cultivation and its versatility”²⁶—boasts a “longstanding history of cultivation and use for commercial purposes in the United States.”²⁷ Hemp cultivation was recorded as early as the Jamestown colony, and hemp quickly became a staple crop in many of the American colonies.²⁸ Throughout early American history, hemp was a legitimate commercial and agricultural commodity used to make a variety of products, including textiles, rope, and paper.²⁹ It was also traditionally used for medicinal purposes.³⁰

Despite these origins, public perception towards hemp shifted to negative in the early 1900s, largely due to the influence of prominent American industrialists like Harry Anslinger, William Randolph Hearst, Andrew Mellon, and the DuPont family, who perceived hemp as a threat to their business interests.³¹ Because of its hardiness and versatility, hemp had proven to be substantial competition for the cotton, timber, and chemical industries,

²³ *Hemp Indus. Ass’n v. Drug Enf’t Admin.*, 357 F.3d 1012, 1013 n.2 (9th Cir. 2004); *see also* *Cockrel v. Shelby Cty. Sch. Dist.*, 270 F.3d 1036, 1042 (6th Cir. 2001) (“Unlike marijuana, the industrial hemp plant is only comprised of between 0.1 and 0.4[%] THC, an insufficient amount to have any narcotic effect.”).

²⁴ *See* West, *supra* note 8.

²⁵ *See* Roussell, *supra* note 13, at 127.

²⁶ *Id.* at 108.

²⁷ Marc Adesso, *An Overview of Industrial Hemp Law in The United States*, 22 UDC/DCSL L. REV. 85, 85 (2019).

²⁸ RICHARD J. BONNIE & CHARLES H. WHITEBREAD, *THE MARIHUANA CONVICTION: A HISTORY OF MARIHUANA PROHIBITION IN THE UNITED STATES* 2–3 (1974).

²⁹ *Id.* at 1.

³⁰ *Id.* at 4 (describing hemp as a popular medical treatment in the mid-nineteenth century and noting that one of its primary uses was for legitimate medical purposes).

³¹ *Id.*

as well as paper and textile manufacturers, such as the DuPont company.³² To eradicate this threat, the aforementioned industrialists and others instituted a mass propaganda campaign against *Cannabis*. In 1931, Andrew Mellon—the Secretary of the Treasury and the chief financial backer of the DuPont company—appointed Harry Anslinger as the first commissioner of the Federal Bureau of Narcotics.³³ Anslinger then led the crusade against *Cannabis* with fervor, characterizing its use as causing a violent psychosis he termed “reefer madness.”³⁴ The campaign also capitalized on existing public prejudice against minority communities by directly associating *Cannabis* with the influx of Mexican immigrants to the United States following the upheaval of the Mexican Revolution.³⁵ It was around this time that the word “marijuana” replaced previous terminology as a way to “directly associate the plant with the Mexican population.”³⁶ Ultimately, these efforts proved to be successful—by 1933, thirty-three states had passed laws restricting

³² See Allison L. Bergstrom, *Medical Use of Marijuana: A Look at Federal & State Responses to California’s Compassionate Use Act*, 2 DEPAUL J. HEALTH CARE L. 155, 158 (1997); Jesse J. Ransom, “Anslingerian” Politics: The History of Anti-Marijuana Sentiment in Federal Law and How Harry Anslinger’s Anti-Marijuana Politics Continue to Prevent the FDA and Other Medical Experts from Studying Marijuana’s Medical Utility 24 (1999) (Third-year paper, Harvard Law School), <http://nrs.harvard.edu/urn-3:HUL.InstRepos:8965561>.

³³ Ransom, *supra* note 32, at 24 n.111.

³⁴ See Kathleen Ferraiolo, *From Killer Weed to Popular Medicine: The Evolution of American Drug Control Policy*,

19 J. POL’Y. HIST. 147, 156 (2007); see, e.g., Eric Schlosser, *Reefer Madness*, ATLANTIC (Aug. 1994), <https://www.theatlantic.com/magazine/archive/1994/08/reefer-madness/303476> (describing how Texas police officers claimed that marijuana caused a lust for blood and incited violent crime while rumors also spread that Mexicans were distributing “killer weed” to American schoolchildren); Alex Halperin, *Marijuana: Is it Time to Stop using a Word with Racist Roots?*, GUARDIAN (Jan. 29, 2018), <https://www.theguardian.com/society/2018/jan/29/marijuana-name-cannabis-racism>; G&H Productions, *Reefer Madness (1936 Movie)*, YOUTUBE (Sept. 10, 2011), <https://www.youtube.com/watch?v=NJmfQAHGNrs> (depicting high school students going “mad” because of marijuana use).

³⁵ Michael Vitiello, *Proposition 215: De Facto Legalization of Pot and the Shortcomings of Direct Democracy*, 31 U. MICH. J.L. REFORM 707, 749 n.244 (1998).

³⁶ Jessica Assaf, *The History of Hemp*, PRIMA MAG., <https://www.prima.co/magazine/the-history-of-hemp/> (last visited Dec. 6, 2020); see also Matt Thompson, *The Mysterious History of ‘Marijuana,’* NAT’L PUB. RADIO: CODE SWITCH (July 22, 2013, 11:46 AM), <https://www.npr.org/sections/codeswitch/2013/07/14/201981025/the-mysterious-history-of-marijuana> (“Numerous accounts say that ‘marijuana’ came into popular usage in the U.S. in the early 20th century because anti-cannabis factions wanted to underscore the drug’s ‘Mexican-ness.’ It was meant to play off of anti-immigrant sentiments.”).

cultivation of *Cannabis*.³⁷ This trend was punctuated by the passage of the Marihuana Tax Act of 1937, which imposed “prohibitively expensive taxes” that effectively stopped the marijuana and hemp trade, even though it did not expressly make the substance illegal.³⁸

This era of anti-*Cannabis* sentiment ushered in by Anslinger et al. pervaded until the 1960s, when recreational use of *Cannabis* became prominent, especially among middle-class youth.³⁹ Then, in 1969, the Supreme Court held the Marihuana Tax Act of 1937 to be unconstitutional.⁴⁰ In response, Congress enacted the Drug Abuse Prevention and Control Act of 1970, which took the federal government’s anti-*Cannabis* position to a new level.⁴¹ The 1970 Act repealed the taxation approach of the 1937 Marihuana Tax Act and instead effectively made all *Cannabis* cultivation illegal.⁴² It also set forth the current federal drug enforcement regime—Title II, called the Controlled Substances Act (CSA), which establishes five schedules for classifying controlled substances according to specified criteria, including the potential for abuse and legitimate medical purpose.⁴³ The Controlled Substances Act categorizes “marijuana” as a Schedule I controlled substance, which places it among the most severely restricted substances.⁴⁴ The Controlled Substances Act also separately lists THC as a Schedule I controlled substance.⁴⁵ Because the Act does not make any express distinction between hemp and marijuana, hemp has likewise been subject to federal regulation under the Controlled Substances Act.⁴⁶

³⁷ See Bonnie & Whitebread, *supra* note 28, at 51.

³⁸ *Gonzales v. Raich*, 545 U.S. 1, 11 (2005).

³⁹ See Ransom, *supra* note 32, at 28.

⁴⁰ *Leary v. United States*, 395 U.S. 6, 53–54 (1969).

⁴¹ *Gonzales*, 545 U.S. at 12.

⁴² See West, *supra* note 8.

⁴³ See Drug Abuse Prevention and Control Act of 1970, Pub. L. No. 91-513, 84 Stat. 1236, 1247–48 (1970); see also Nat’l Org. for Reform of Marijuana L. (NORML) v. Bell, 488 F. Supp. 123, 126–27 (D.C. 1980).

⁴⁴ Schedule I substances are defined as having no accepted use for treatment and a high potential for abuse. See 21 U.S.C. § 812 (schedules of controlled substances); see also Zachary Ford, Comment, *Reefer Madness: The Constitutional Consequence of the Federal Government’s Inconsistent Marijuana Policy*, 6 TEX. A&M L. REV. 671, 675 (2019).

⁴⁵ 21 U.S.C. § 812, sched. I(c)(17).

⁴⁶ See *Monson v. Drug Enf’t Admin.*, 589 F.3d 952, 955–56, 965 (8th Cir. 2008); cf. *Hemp Indus. Ass’n v. Drug Enf’t Admin.*, 357 F.3d 1012, 1013–14 (9th Cir. 2004) (limiting the scope of government regulation of non-psychoactive hemp products).

In recent years, though, regulation of *Cannabis* at both the state and federal level has been in flux. While marijuana remains a controlled substance under federal law, an increasing number of states have begun moving away from the federal government's historically severe treatment of *Cannabis*.⁴⁷ As of 2019, fourteen states and territories have legalized marijuana for recreational use, and a total of thirty-three states and four U.S. territories have approved medical marijuana programs.⁴⁸ The legalization of hemp has become even more widespread. Congress's enactment of the 2018 Farm Bill marks a drastic shift in the federal government's treatment of hemp. The 2018 Farm Bill removed hemp and its derivatives from the Controlled Substances Act and delegates primary authority to the states to develop state plans to regulate the production and sale of hemp and hemp products.⁴⁹ As of 2019, forty-seven states have enacted legislation allowing some form of hemp production or possession.⁵⁰ These trends suggest we are in the midst of yet another shift in the public perception towards *Cannabis*.⁵¹

C. *The Texas Hemp Farming Act*

In 2019, Texas followed the federal government's suit and passed the Texas Hemp Farming Act, also known as H.B. 1325.⁵² The Act requires the Texas Department of Agriculture to develop a state plan to regulate hemp.⁵³ It also imposes various restrictions on the production and transportation of

⁴⁷ Lauren Males, *Current Trends in Marijuana Regulation*, 6 HLRE 185, 192–94 (2016).

⁴⁸ *State Medical Marijuana Laws*, NAT'L CONF. OF STATE LEGISLATURES (Mar. 10, 2020), <http://www.ncsl.org/research/health/statemedical-marijuana-laws.aspx>.

⁴⁹ See 7 U.S.C. § 1639p(a)(1).

⁵⁰ Mindy Bridges & Karmen Hanson, *Regulating Hemp and Cannabis-Base Products*, NAT'L CONF. OF STATE LEGISLATURES (Oct. 2017), <http://www.ncsl.org/research/agriculture-and-rural-development/state-industrial-hemp-statutes.aspx> (compiling list of current state laws permitting and regulating hemp production).

⁵¹ See Audrey McNamara, *These States Now Have Legal Weed, and Which States Could Follow Suit in 2020*, CBS NEWS (Jan. 1, 2020), <https://www.cbsnews.com/news/where-is-marijuana-legal-in-2020-illinois-joins-10-other-states-legalizing-recreational-pot-2020-01-01/> (“According to an end of the year CBS News Poll, support for legal pot hit a new high in 2019, with 65% of U.S. adults saying marijuana should be legal.”).

⁵² Texas Hemp Farming Act, 86th Leg., R.S., ch. 764, § 2, 2019 Tex. Gen. Laws 764 (codified at TEX. AGRIC. CODE ANN. § 121.001).

⁵³ *Id.*

hemp.⁵⁴ Governor Abbott signed the Act into law—effective immediately—on June 10, 2019.⁵⁵

Critically, the Act amends the definition of hemp, which in turn affects the statutory definition of marijuana. The Texas Health and Safety Code broadly defines marijuana as “the plant *Cannabis sativa* L., whether growing or not, the seeds of that plant, and every compound, manufacture, salt, derivative, mixture, or preparation of that plant or its seeds.”⁵⁶ However, the statute carves out certain exceptions to the definition of marijuana.⁵⁷ One such exemption is hemp, “as that term is defined by Section 121.001, Agriculture Code.”⁵⁸ The Hemp Farming Act amends that section, now defining hemp as “any part of the plant *Cannabis sativa* L. with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.”⁵⁹ Thus, after the passage of the Act, “marijuana” means parts of the plant *Cannabis sativa* L., except it does not include parts of *Cannabis sativa* L. that contain less than a 0.3% concentration of THC.

Because of its effect on the statutory definition of marijuana, the Act has garnered a variety of reactions from prosecutors across the state. Soon after the Act went into effect, the district attorneys serving Harris, Dallas, Bexar, and Tarrant Counties announced a policy of non-prosecution of misdemeanor marijuana offenses absent a laboratory report quantifying THC concentrations in suspected marijuana.⁶⁰ Waller and Fort Bend Counties, among others, have since joined this camp.⁶¹ While many of these counties

⁵⁴TEX. AGRIC. CODE ANN. § 121.003 (West 2019); *see, e.g., id.* §§ 122.055, .356.

⁵⁵TEX. DEP’T OF AGRIC., HEMP REGULATIONS (2020), <https://www.texasagriculture.gov/RegulatoryPrograms/Hemp.aspx>

⁵⁶TEX. HEALTH & SAFETY CODE ANN. § 481.002(26) (West 2019).

⁵⁷*Id.*

⁵⁸*Id.* § 481.002(26)(F).

⁵⁹Texas Hemp Farming Act, 86th Leg., R.S., ch. 764, § 2, 2019 Tex. Gen. Laws 764 (codified at TEX. AGRIC. CODE ANN. § 121.001).

⁶⁰Jolie McCullough, *Texas Leaders: Hemp Law Did Not Decriminalize Marijuana*, TEX. TRIB. (July 18, 2019), <https://www.texastribune.org/2019/07/18/greg-abbott-texas-leaders-hemp-marijuana-law/> [hereinafter McCullough, *Texas Leaders*]; Jolie McCullough, *Texas DPS Officers Told Not to Arrest in Low-Level Marijuana Cases After New Hemp Law*, TEX. TRIB. (August 1, 2019), <https://www.texastribune.org/2019/08/01/texas-dps-marijuana-cite-and-release-hemp/> [hereinafter McCullough, *Texas DPS*].

⁶¹Robert Arnold, *Texas Hemp Law Prompts Some DAs to Dismiss Cases*, CLICK 2 HOUS. (July 2, 2019), <https://www.click2houston.com/news/2019/07/03/texas-hemp-law-prompts-some-das-to-dismiss-cases/>.

are continuing to prosecute felony marijuana offenses on a case-by-case basis,⁶² this approach has resulted in the dismissals of hundreds of misdemeanor marijuana offenses across multiple counties.⁶³ Conversely, the Galveston, Montgomery, and El Paso District Attorney's Offices have said they will continue to prosecute marijuana cases notwithstanding the change in the law following the Texas Hemp Farming Act.⁶⁴ Despite this effort, the Act has certainly impacted the enforcement of marijuana offenses in Texas. Since the Act went into effect in June 2019, the number of misdemeanor marijuana cases "has been slashed by more than half."⁶⁵ In November 2019, less than 2,000 new cases were filed, compared to the average 5,900 new misdemeanor marijuana cases filed each month in 2018.⁶⁶

The discretionary enforcement policy adopted by many county and district attorneys came under fire from Governor Abbott and other state officials. In a letter dated July 18, 2019, Governor Abbott directly addressed Texas district and county attorneys and criticized the non-enforcement approach taken by many offices.⁶⁷ In Governor Abbott's view, the offices adopting such an approach have erroneously interpreted the effects of the Act.⁶⁸ Governor Abbott admonished prosecutors that the Act did not decriminalize marijuana, which means prosecutors remain duty-bound to enforce the law and continue prosecuting marijuana offenses.⁶⁹ Yet this conflicts with the prosecutors' ethical duty to seek justice, according to at

⁶² *Id.*

⁶³ *Id.*

⁶⁴ Juan Lonzano, *DAs In Four Texas Counties Say They'll No Longer Prosecute Misdemeanor Marijuana Cases*, KUT 90.5 (July 3, 2019), <https://www.kut.org/post/das-four-texas-counties-say-theyll-no-longer-prosecute-misdemeanor-marijuana-cases>; see McCullough, *supra* note 4; Catherine Dominguez, *Montgomery County District Attorney to Continue Prosecution of Marijuana Cases in Light of New Hemp Bill Loop Hole*, COURIER OF MONTGOMERY CNTY. (July 3, 2019), <https://www.yourconroenews.com/neighborhood/moco/news/article/Montgomery-County-District-Attorney-to-continue-14067191.php>.

⁶⁵ Jolie McCullough, *Marijuana Prosecutions in Texas Have Dropped by More than Half Since Lawmakers Legalized Hemp*, TEX. TRIB. (Jan. 3, 2020), <https://www.texastribune.org/2020/01/03/texas-marijuana-prosecution-drop-testing-hemp/>.

⁶⁶ *Id.*

⁶⁷ See Letter from Greg Abbott, Governor of Tex., to Tex. Dist. & Cnty. Att'ys (July 18, 2019) (on file with the Texas District & County Attorneys Association) [hereinafter Letter from Greg Abbott].

⁶⁸ *Id.*

⁶⁹ *Id.*

2020]

DAZED AND CONFUSED

747

least two district attorneys.⁷⁰ Harris County District Attorney Kim Ogg has stated: “Prosecutors have an ethical duty to be able to prove beyond a reasonable doubt, and laboratory confirmation in drug cases has long been required . . . When a person’s liberty is at stake, juries demand nothing less.”⁷¹ Dallas County District Attorney John Creuzot agrees that a lab report quantifying THC concentration is necessary to establish guilt: “I have the responsibility to protect the rights of our citizens and ensure that people are not prosecuted for possessing substances that are legal.”⁷²

Apart from this, the Texas Department of Public Safety (DPS) has continued to enforce marijuana offenses notwithstanding a particular county’s policy of non-prosecution. In a memorandum dated July 10, 2019, DPS announced the following policy: “Even in jurisdictions where the local prosecutor will not accept marijuana cases without a quantitative lab report, DPS will continue to enforce the law through available statutory means, including cite and release as an alternative to putting people in jail.”⁷³ Given this policy, law enforcement will likely continue to search and seize suspected contraband and charge those believed to be in possession with an offense. As a result, new cases will continue to be presented to prosecutors. Accordingly, the evidentiary issues analyzed in the remainder of this Comment remain a relevant, pressing concern for law enforcement, prosecutors, and criminal defense attorneys in Texas.

II. PROBABLE CAUSE TO SEARCH AND SEIZE SUSPECTED MARIJUANA UNDER THE FOURTH AMENDMENT

A. *Constitutional Standards for Government Searches and Seizures*

The Fourth Amendment to the U.S. Constitution and Article 1, Section 9 of the Texas Constitution protect individuals against unreasonable searches and seizures.⁷⁴ Generally, warrantless searches conducted without prior

⁷⁰McCullough, *Texas Leaders*, *supra* note 60.

⁷¹*Id.*

⁷²*Id.*

⁷³McCullough, *Texas DPS*, *supra* note 60; *accord* Interoffice Memorandum from Randall Prince, Deputy Dir., Dep’t of Pub. Safety to All Commissioned Pers. (July 10, 2019), https://static.texastribune.org/media/files/6bb887232ae43ab238d88d50d18b196f/DPS-citerelease2019.pdf?_ga=2.195825770.71356253.1573879284-18357255.1567546147.

⁷⁴U.S. CONST. amend. IV; TEX. CONST. art. I, § 9.

judicial approval are “per se unreasonable under the Fourth Amendment—subject only to a few specifically established and well-delineated exceptions.”⁷⁵ However, less rigorous warrant requirements govern vehicles because the expectation of privacy with respect to one’s automobile is significantly less than that relating to one’s home.⁷⁶ Accordingly, a law enforcement officer “may conduct a warrantless search of a vehicle if it is readily mobile and there is probable cause to believe that it contains contraband.”⁷⁷ If the search is fruitful, the officer may also seize the suspected contraband and seize the person in possession of the contraband by making an arrest.⁷⁸ In the context of an automobile, then, a search and seizure may be constitutionally permitted based solely on a law enforcement officer’s determination that probable cause exists, without the requirement of advance judicial approval. The probable cause standard is thus especially critical in this context. Accordingly, this Comment contemplates the development of probable cause in the context of a warrantless search of a vehicle or a person, rather than a search of a home, and a subsequent seizure of the person or contraband as a result of the search.

Probable cause is foundational to the Fourth Amendment, yet the Supreme Court has declined to precisely define the standard, instead describing it as “incapable of precise definition or quantification into percentages.”⁷⁹ That said, the Supreme Court and the Texas Court of Criminal Appeals have provided some guidance in applying the standard. The Texas Court of Criminal Appeals, relying on Supreme Court precedent, has articulated the standard as follows: “Probable cause to search exists when reasonably trustworthy facts and circumstances within the knowledge of the officer on the scene would lead a man of reasonable prudence to believe that

⁷⁵ *Katz v. United States*, 389 U.S. 347, 357 (1967) (footnote omitted); *accord McGee v. State*, 105 S.W.3d 609, 615 (Tex. Crim. App. 2003).

⁷⁶ *South Dakota v. Opperman*, 428 U.S. 364, 367 (1976); *see also Robertson v. State*, 541 S.W.2d 608, 610 (Tex. Crim. App. 1976).

⁷⁷ *Keehn v. State*, 279 S.W.3d 330, 335 (Tex. Crim. App. 2009) (first citing *California v. Carney*, 471 U.S. 386, 393 (1985); and then citing *Pennsylvania v. Labron*, 518 U.S. 938, 940 (1996)); *accord Wiede v. State*, 214 S.W.3d 17, 24 (Tex. Crim. App. 2007) (“A warrantless search of a vehicle is reasonable if law enforcement officials have probable cause to believe that the vehicle contains contraband.”).

⁷⁸ *See United States v. Watson*, 423 U.S. 411, 411 (1976).

⁷⁹ *Maryland v. Pringle*, 540 U.S. 366, 371 (2003).

the instrumentality of a crime or evidence of a crime will be found.”⁸⁰ Stated another way, probable cause to search exists when there is a fair probability of finding inculpatory evidence.⁸¹ In further defining the scope of probable cause, Texas courts have explained that “[a] finding of probable cause requires more than bare suspicion, but less than would justify conviction.”⁸² And, in order to stop a person solely for the purpose of a drug investigation, an officer needs a “‘particularized and objective basis’ for suspecting” that the person has drugs—a “mere ‘hunch’ is insufficient.”⁸³ These articulations of probable cause reveal a flexible standard that is tied to the unique facts and circumstances of a particular search or seizure.

B. The Viability of Common Methods of Establishing Probable Cause After the Texas Hemp Farming Act

1. Sensory Observations

Before the Act, determinations of probable cause in the context of suspected marijuana offenses were based predominately on sight or smell, either by officers or their canine counterparts.⁸⁴ The Texas Court of Criminal Appeals and intermediate courts of appeals have consistently concluded that the smell of marijuana emanating from a person or a vehicle provides probable cause for a search of the person or vehicle.⁸⁵ The Texas Court of Criminal Appeals has also held that a dog alerting to the presence of narcotics

⁸⁰*Estrada v. State*, 154 S.W.3d 604, 609 (Tex. Crim. App. 2005); *accord McGee*, 105 S.W.3d at 614.

⁸¹*Wiede*, 214 S.W.3d at 24 n.29 (citing *Illinois v. Gates*, 462 U.S. 213, 238 (1983)).

⁸²*Dansby v. State*, 530 S.W.3d 213, 221 (Tex. App.—Tyler 2017, pet. ref’d) (citing *Amador v. State*, 275 S.W.3d 872, 878 (Tex. Crim. App. 2009)).

⁸³*United States v. Arvizu*, 534 U.S. 266, 273–74 (2002) (first quoting *United States v. Cortez*, 449 U.S. 411, 417–18 (1981); and then quoting *Terry v. Ohio*, 392 U.S. 1, 27 (1968)).

⁸⁴*See Deleon v. State*, 530 S.W.3d 207, 211 (Tex. App.—Eastland 2017, pet. ref’d); *Marsh v. State*, 684 S.W.2d 676, 679 (Tex. Crim. App. 1984); *Razo v. State*, 577 S.W.2d 709, 711 (Tex. Crim. App. [Panel Op.] 1979); *Parker v. State*, 182 S.W.3d 923, 924 (Tex. Crim. App. 2006).

⁸⁵*Deleon*, 530 S.W.3d at 211 (“[M]arihuana odor alone can provide sufficient probable cause for a warrantless search of one’s person or vehicle.”); *see also Marsh*, 684 S.W.2d at 679 (holding that an officer who smelled marijuana as occupants stepped out of vehicle had probable cause to search vehicle); *Razo*, 577 S.W.2d at 711 (concluding that odor of marijuana provided probable cause to search appellant’s vehicle).

in a vehicle is sufficient to establish probable cause to search a vehicle.⁸⁶ However, the odor of marijuana alone does not permit officers to conduct a warrantless search of a residence.⁸⁷

The passage of the Hemp Farming Act has cast some doubt on the continued viability of developing probable cause using these same methods. Because marijuana and hemp are indistinguishable by sight or smell,⁸⁸ these sensory observations alone arguably do not give rise to probable cause since the smell of marijuana may instead be attributable to legally possessed hemp.

Such a situation is somewhat analogous to the issue in establishing probable cause presented in states that have legalized medical marijuana. In states that permit the use of marijuana for medical purposes, the possession of marijuana is no longer illegal *per se*.⁸⁹ Like hemp, medical marijuana requires state-sanctioned certification and approval to legitimize the possession of a substance that would otherwise be contraband.⁹⁰ This characteristic of ‘circumstantial legality’ shared by medical marijuana and hemp provides some basis to draw inferences from other states’ treatment of the issue, given the current lack of case law regarding hemp. Similarly, the smell of marijuana alone does not indicate to a sufficient degree of certainty that an offense has been committed, since the smell is fairly attributable to legally-possessed medical marijuana. Accordingly, many courts in states that provide for medical marijuana have concluded that the smell of marijuana alone no longer gives rise to probable cause.⁹¹

The veracity of drug dog detections has been equally criticized. A drug dog that is trained to alert to the scent of marijuana could very well alert to

⁸⁶ See *Parker*, 182 S.W.3d at 924.

⁸⁷ See *Pineda v. City of Houston*, 124 F. Supp. 2d 1057, 1075 (S.D. Tex. 2000) (“[T]he court is not persuaded by the [c]ity’s argument that the smell of burning narcotics establishes both the probable cause and the exigent circumstances needed to justify the warrantless entry and search of a private residence.”), *aff’d*, 291 F.3d 325 (5th Cir. 2002), *cert. denied*, 537 U.S. 1110 (2003).

⁸⁸ See *supra* note 15.

⁸⁹ *State v. Sisco*, 359 P.3d 1, 7 (Ariz. Ct. App. 2015), *vacated*, 373 P.3d 549 (Ariz. 2016).

⁹⁰ See *Bridges & Hanson*, *supra* note 50.

⁹¹ *Pacheco v. State*, 214 A.3d 505, 517 (Md. 2019); *Commonwealth v. Cruz*, 945 N.E.2d 899, 910 (Mass. 2011) (“Given our conclusion that [MASS. GEN. LAWS ch. 94C §§ 32L–32N (2019)] has changed the status of possessing one ounce or less of marijuana from a crime to a civil violation, without at least some other additional fact to bolster a reasonable suspicion of actual *criminal* activity, the odor of burnt marijuana alone cannot reasonably provide suspicion of criminal activity.”); *Commonwealth v. Canning*, 28 N.E.3d 1156, 1165 (Mass. 2015); see also *Weiss*, *supra* note 15.

the scent of legal hemp in a vehicle because hemp and marijuana cannot be distinguished by scent.⁹² The Colorado Supreme Court recently held that a drug dog trained to alert to the scents of various drugs, including marijuana, that alerts on a vehicle does not give law enforcement probable cause to search that vehicle because the dog could be alerting to the scent of marijuana, which is now legal in the state of Colorado.⁹³ Although marijuana is not decriminalized—much less legalized—in Texas, Colorado’s approach remains relevant because a person must still comply with certain conditions to possess marijuana legally in Colorado. For example, it is only legal to possess up to six marijuana plants or one ounce of marijuana at a time in Colorado, and only licensed retailers are legally authorized to sell marijuana.⁹⁴ Thus, there are scenarios where the possession of marijuana may still be a criminal offense, notwithstanding Colorado’s legalization of marijuana.⁹⁵ A review of the better-developed case law in these analogous situations seems to suggest the sight and smell method will likewise be rendered inadequate in the wake of hemp legalization.

2. Field Testing

Once officers have located suspected contraband, officers often field test the substances to bolster their determinations of probable cause to arrest the person in possession of the suspected contraband. Generally, a field test does not implicate a person’s rights under the Fourth Amendment because the test *only* detects the presence of contraband.⁹⁶ That said, Texas courts have still considered positive field tests in concluding that probable cause existed to

⁹²Mark D. Wilson, *Law and Odor: Police Hazy on How to Use Drug-Sniffing Dogs Under Texas Hemp Law*, STATESMAN (July 12, 2019), <https://www.statesman.com/news/20190712/law-and-odor-police-hazy-on-how-to-use-drug-sniffing-dogs-undertexas-hemp-law>.

⁹³People v. McKnight, 446 P.3d 397, 414 (Colo. 2019).

⁹⁴COLO. CONST. art. XVIII, § 16(3)(a–b), (4)(b).

⁹⁵See COLO. REV. STAT. ANN. § 18-18-406 (West 2016).

⁹⁶See United States v. Jacobsen, 466 U.S. 109, 123–25 (1984) (holding that a “chemical test that merely discloses whether or not a particular substance is cocaine does not compromise any legitimate interest in privacy” and that “the ‘seizure’ could, at most, have only a *de minimis* impact on any protected property interest”).

justify a particular search or seizure.⁹⁷ It must also be acknowledged that field tests are merely presumptive and require confirmation by laboratory testing.⁹⁸

The problem presented with this method of developing probable cause is that the currently-available field-testing equipment is not capable of quantifying the concentration of THC, which is necessary to distinguish marijuana from hemp.⁹⁹ Instead, the field-testing kits that are currently available to law enforcement merely detect the presence of *Cannabis* or THC.¹⁰⁰ For example, the Duquenois-Levine Reagent test, the most common method of field-testing suspected contraband, emits a certain color depending on whether THC is detected in the substance.¹⁰¹ Such a test is unhelpful because a low concentration of THC will likely still be present in legal hemp and would thus produce a positive test.¹⁰² Accordingly, field tests, at least in their current forms, are no longer a workable method for determining probable cause following the Act.

⁹⁷See, e.g., *Quang Tran v. State*, No. 01-11-00141-CR, 2012 Tex. App. LEXIS 6524, at *8 (Tex. App.—Houston [1st Dist.] Aug. 2, 2012, pet. ref'd) (mem. op., not designated for publication); *Jones v. State*, 1996 Tex. App. LEXIS 833, at *3 (Tex. App.—Houston [14th Dist.] Feb. 29, 1996, no pet.) (not designated for publication); *Morgan v. State*, 2018 Tex. App. LEXIS 4921, at *1, *5 (Tex. App.—Amarillo June 29, 2018, no pet.) (mem. op., not designated for publication).

⁹⁸See Justin J. McShane, *The Myth of Specific Identification of Marijuana in Criminal Court Part 4: What Is the Modified Duquenois-Levine Test? Is It a "Good" Test?*, THE TRUTH ABOUT FORENSIC SCIENCE (Jan. 19, 2012), <https://thetruthaboutforensicscience.com/the-myth-of-specific-identification-of-marijuana-in-criminal-court-part-4/>; see also *NARK II Duquenois-Levine Reagent*, SIRCHIE, https://www.sirchie.com/nark-ii-duquenois-levine-reagent-marijuana-hashish-hash-oil-thc-10-tests.html#.XdAhwy_Mzow (last visited Sept. 12, 2020).

⁹⁹SIRCHIE, *supra* note 98; see also Katie Leslie et al., *Popular Police Field Tests Can't Tell the Difference Between CBD and Marijuana*, NBC WASH. (May 23, 2019), <https://www.nbcwashington.com/investigations/Popular-Police-Field-Tests-Cant-Tell-the-Difference-Between-CBD-and-Marijuana-510335641.html>.

¹⁰⁰Leslie, *supra* note 99.

¹⁰¹SIRCHIE, *supra* note 98.

¹⁰²*Id.* The product's website contains the following disclaimer: "In states where the sale of . . . hemp is legal, this test should NOT BE USED as everything tested will be positive. . . . Duquenois-Levine Reagent is a qualitative test, not quantitative. It does not distinguish between 3% or 20% THC. It only establishes that, presumptively, THC is present." *Id.*

2020]

DAZED AND CONFUSED

753

C. Probable cause may still be established notwithstanding the legalization of hemp.

Despite these criticisms, probable cause to search for and seize suspected marijuana may still be developed notwithstanding the legalization of hemp. First, hemp is legal only if it complies with the Hemp Farming Act, which imposes documentation requirements in addition to other restrictions. Second, probable cause does not require that officers be certain that the substance is hemp and not marijuana. Third, a totality of circumstances approach remains a viable method of determining probable cause and would continue to allow for consideration of relevant factors, including the odor of marijuana.

1. Non-compliance with the regulations established by the Texas Hemp Farming Act gives rise to probable cause.

The Hemp Farming Act provides guidance to law enforcement in the continued enforcement of both hemp and marijuana laws. Initially, the Act expressly states that it “does not limit or restrict a peace officer from enforcing to the fullest extent the laws of this state regulating marihuana and controlled substances, as defined by Section 481.002, Health and Safety Code.”¹⁰³ Under the Act, “an officer may not seize plant material that is hemp or arrest the person transporting it, *unless the officer has probable cause to believe that the plant material is marijuana.*”¹⁰⁴ However, an officer is authorized to detain any hemp in transit and request documentation as required under Section 122.356 of the Texas Agricultural Code, which requires a person transporting hemp to “furnish the documentation required by this section to the department or any peace officer on request.”¹⁰⁵ Moreover, the Act also expressly authorizes peace officers to seize and impound any *Cannabis* product for which there is probable cause to believe that it is marijuana or “any other illegal substance”—such as hemp that does not meet various other regulations required or adopted under the Act.¹⁰⁶ These provisions evidence the legislature’s clear intent that law enforcement continue to enforce Texas law by searching and, if necessary, seizing

¹⁰³TEX. AGRIC. CODE ANN. § 122.358(d) (West 2019).

¹⁰⁴*Id.* § 122.358(a) (emphasis added).

¹⁰⁵*Id.* §§ 122.356(b), 122.358(b).

¹⁰⁶*Id.* § 122.358(c).

suspected illegal substances, including marijuana. In line with constitutional demands, the legislature predicated this exercise of authority on the existence of probable cause.¹⁰⁷

The Act also imposes various regulations with respect to production, transportation, and possession of hemp and hemp products. To be legal, hemp must be properly documented at all times,¹⁰⁸ cannot be transported with non-hemp products,¹⁰⁹ and cannot be manufactured or produced for the purposes of smoking or vaping.¹¹⁰ Accordingly, any *Cannabis* plant material found without those documents or in a form meant for smoking or vaping would likely provide probable cause for an officer to believe the substance is not legal hemp and, consequently, that the person possessing the illegal hemp has violated Texas law.¹¹¹

2. The probable cause standard allows for reasonable mistakes in identifying suspected contraband.

The probable cause standard does not require that officers be absolutely certain that plant material is marijuana and not hemp. Rather, the probable cause standard “requires only a probability or substantial chance of criminal activity, not an actual showing of such activity.”¹¹² It “does not require certainty.”¹¹³ In *Brinegar v. United States*, the Supreme Court stated that, “[i]n dealing with probable cause, . . . as the very name implies, we deal with probabilities. These are not technical; they are the factual and practical considerations of everyday life on which reasonable and prudent men, not legal technicians, act.”¹¹⁴ Probable cause is not a rigid, unforgiving standard. Instead, as the Seventh Circuit has described the standard, “probable

¹⁰⁷ *See id.*; U.S. CONST. amend. IV.

¹⁰⁸ The Act requires documentation that confirms the product in transport is legally compliant hemp. TEX. AGRIC. CODE § 122.055, 122.356(a)(2). Failure to have the required certificate is a misdemeanor and also carries the possibility of civil penalties. *Id.* § 122.359, 122.360.

¹⁰⁹ Hemp may not be transported concurrently with any other cargo that is not hemp under Section 122.356(b)(1) of the Texas Agricultural Code.

¹¹⁰ Section 122.301(b) of the Texas Agricultural Code and Section 443.204(4) of the Texas Health and Safety Code prohibit hemp being in the form for smoking or vaping.

¹¹¹ *Interim Update: Hemp*, TEX. DIST. & CNTY. ATT’YS ASS’N (June 24, 2019), <https://www.tdcaa.com/legislative/interm-update-hemp/>.

¹¹² *Illinois v. Gates*, 462 U.S. 213, 231 n.13 (1983).

¹¹³ *United States v. Buchanan*, 70 F.3d 818, 826 (5th Cir. 1995).

¹¹⁴ 338 U.S. 160, 175 (1949).

2020]

DAZED AND CONFUSED

755

cause—the area between bare suspicion and virtual certainty—describes not a point but a zone,’ within which reasonable mistakes will be excused.”¹¹⁵

Accordingly, probable cause may still have existed at the time of a search or seizure, even if it subsequently turns out that an officer was mistaken regarding the nature of the suspected controlled substance. When a person is arrested for possession of a controlled substance such as marijuana, probable cause “merely requires that the facts available to the officer would ‘warrant a man of reasonable caution in the belief’ that certain items may be contraband . . . it does not demand any showing that such a belief be correct or more likely true than false.”¹¹⁶ Thus, a law enforcement officer may have probable cause to seize what appears to be a controlled substance that is later determined to be something else.¹¹⁷ And the fact that a substance is not what the officer originally believed it to be does not automatically, retroactively divest the search or seizure of probable cause or mean that a constitutional violation has occurred.¹¹⁸ Probable cause is not judged in hindsight.¹¹⁹ Accordingly, in the context of hemp legalization, an officer need not test suspected marijuana to positively ensure that it is not hemp before constitutionally seizing the contraband or the person in possession of it.¹²⁰ So long as the officer reasonably believes the substance to be contraband at the time of the search or seizure, the fact that the suspected marijuana later turns

¹¹⁵Sheik-Abdi v. McClellan, 37 F.3d 1240, 1246 (7th Cir. 1994) (quoting Llaguno v. Mingey, 763 F.2d 1560, 1565 (7th Cir. 1985)), cert. denied, 513 U.S. 1128 (1995).

¹¹⁶Texas v. Brown, 460 U.S. 730, 742 (1983) (plurality opinion) (citation omitted) (quoting Carroll v. United States, 267 U.S. 132, 162 (1925)).

¹¹⁷See Waltman v. Payne, 535 F.3d 342, 347–48 (5th Cir. 2008) (concluding a sheriff had probable cause to believe plants were marijuana even though they later were determined to be legal kenaf, a plant that closely resembles marijuana); see also Ochana v. Flores, 347 F.3d 266, 271–72 (7th Cir. 2003) (concluding that officers had not violated the Fourth Amendment by seizing an unmarked bag of white powder that later tested negative for controlled substances); New v. Denver, 787 F.3d 895, 901–02 (8th Cir. 2015) (concluding an officer who arrested the defendant after a consensual search of the defendant’s car yielded two leaves, which the officer believed to be marijuana but a subsequent lab report determined the leaves did not contain THC, had not violated the defendant’s Fourth Amendment rights).

¹¹⁸See Waltman, 353 F.3d at 348; Ochana, 347 F.3d at 271–72; New, 787 F.3d at 901–02.

¹¹⁹State v. Steelman, 93 S.W.3d 102, 115 (Tex. Crim. App. 2002) (Keasler, J., dissenting).

¹²⁰See New, 787 F.3d at 901–02 (discussing how a police officer had probable cause to arrest and subsequently have the leaves tested for THC).

out to only have a THC concentration of .2%—thus making it legal hemp—does not make the earlier search unconstitutional.¹²¹

3. An “odor-plus” standard is a workable approach to developing probable cause that comports with Texas law.

A viable approach to developing probable cause in marijuana offenses following the Act is a totality-of-the-circumstances approach. Under a so-called “odor-plus” standard, the odor of marijuana is just one factor that can be used in determining probable cause.¹²² This standard requires law enforcement officers to obtain circumstantial evidence beyond the mere scent of marijuana in order to establish probable cause for a search of a vehicle.¹²³ The “plus” may be satisfied by facts likely already presented in most warrantless searches for marijuana before the Act: an admission of possession of contraband, conflicting statements, furtive movements, signs of impairment, drug paraphernalia, and any other concurrent illegal activity, among others.¹²⁴

Existing Texas law supports the approach of using the smell of marijuana as one of the circumstances taken into consideration by an officer when determining whether probable cause exists. Fundamentally, both the U.S. Constitution and the Texas Constitution only prohibit *unreasonable* searches and seizures—a reasonable search or seizure passes constitutional muster.¹²⁵ And under Texas case law, reasonableness is measured by examining the totality of the circumstances.¹²⁶ The Texas Court of Criminal Appeals has explained:

The odor of contraband is certainly an important fact which may (or may not) be dispositive, given a specific context, in assessing whether probable cause exists. But probable cause

¹²¹ *Id.*

¹²² Weiss, *supra* note 15.

¹²³ See *Florida’s Hemp Law*, BOGLE LAW (July 26, 2019) at <https://www.tboglelaw.com/blog/2019/july/floridas-hemp-law/>.

¹²⁴ *Id.*; see also *State v. Sisco*, 359 P.3d 1, 9–10 (Ariz. Ct. App. 2015) (concluding that requiring additional evidence of criminality did not unreasonably burden law enforcement, as officers were trained to “identify and skillfully investigate circumstances that would readily support a reasonable belief that marijuana is not likely to be lawfully possessed”), *vacated*, 373 P.3d 549 (Ariz. 2016).

¹²⁵ See U.S. CONST. amend. IV; TEX. CONST. art. I, § 9.

¹²⁶ *Kothe v. State*, 152 S.W.3d 54, 63 (Tex. Crim. App. 2004).

does not depend upon the accumulation of only those facts which show overtly criminal conduct. Instead, probable cause is the accumulation of facts which, when viewed in their totality, would lead a reasonable police officer to conclude, with a fair probability, that a crime has been committed or is being committed by someone.¹²⁷

Accordingly, a totality-of-the-circumstances approach, such as the odor-plus standard, comports with existing Texas law.

Case law from other jurisdictions also provides some support for this approach. For example, the Supreme Court of Colorado has held that “the odor of marijuana is relevant to the totality of the circumstances test and can contribute to a probable cause determination,” even in light of the legalization of recreational use in Colorado.¹²⁸ Additionally, an Arizona appellate court has expressly adopted an odor-plus standard, explaining that “demanding some circumstantial evidence of criminal activity beyond the mere scent of marijuana strikes [a] reasonable balance” between the individual privacy interest and the public interest, which is the touchstone of the Fourth Amendment.¹²⁹ The Florida Highway Patrol has also directed troopers to follow an odor-plus standard to establish probable cause to search following Florida’s legalization of hemp.¹³⁰

Moreover, courts in many of the states that have legalized marijuana for medical use have continued to conclude that the smell of marijuana, standing alone, remains sufficient to establish probable cause.¹³¹ These decisions focus on the fact that marijuana is only legal to possess if certain conditions are met—a characteristic that makes medical marijuana comparable to hemp.¹³²

¹²⁷Parker v. State, 206 S.W.3d 593, 599 (Tex. Crim. App. 2006).

¹²⁸People v. Zuniga, 372 P.3d 1052, 1054 (Colo. 2016).

¹²⁹Sisco, 359 P.3d at 9.

¹³⁰See BOGLE LAW, *supra* note 123.

¹³¹See People v. Strasburg, 56 Cal. Rptr. 3d 306, 311 (Cal. Ct. App. 2007) (finding “[p]robable cause was created by the odor and presence of marijuana in a parked car occupied by the two persons”); State v. Fry, 228 P.3d 1, 3–4, 7 (Wash. 2010) (finding probable cause where officers were informed that marijuana was being grown at a certain residence and subsequently smelled marijuana upon arriving at that residence).

¹³²See State v. Sisco, 373 P.3d 549, 553 (Ariz. 2016) (explaining that Arizona’s medical marijuana law “did not decriminalize the possession or use of marijuana generally” and instead “makes marijuana legal in only limited circumstances”); see also People v. Brown, 825 N.W.2d 91,

Given this, the probability of illegal marijuana possession remains significant enough that the smell of marijuana still gives rise to probable cause to believe a crime has been committed.¹³³ Along these same lines, one proponent of the odor-plus standard posits that statistics can provide the “plus” component in the context of medical marijuana because “the odds are in favor of illegal use.”¹³⁴ However, this approach admittedly has its limits: as the number of medical cardholders continues to grow in these states, statistics alone may no longer be suitable to satisfy the “plus” prong of the test.¹³⁵

These justifications apply in equal force to hemp because no licenses have yet been issued at the time of the writing of this Comment. The Texas Department of Agriculture opened the hemp growing license and permit application process on March 16, 2020.¹³⁶ But just days later, the emerging Covid-19 pandemic was declared to be a public health disaster in Texas, and Texas Governor Greg Abbott issued executive orders limiting societal functioning to essential services only.¹³⁷ As a result, the Texas Department of Agriculture has been “operating on a Skeleton Crew” since the shutdown, which could likely impact the issuance of licenses.¹³⁸ Regardless, even after

94 (Mich. Ct. App. 2012) (noting that the state’s medical marijuana law was a “very limited, highly restricted exception to the statutory proscription against the manufacture and use of marijuana”); *State v. Myers*, 122 A.3d 994, 1002–03 (N.J. Super. Ct. App. Div. 2015) (reasoning that “the possession, consumption, and sale of marijuana remains illegal except in the instance of a registered qualifying patient”).

¹³³ See *Sisco*, 373 P.3d at 553–54; see also *Brown*, 825 N.W.2d at 94–95; *Myers*, 122 A.3d at 1002–03; *State v. Senna*, 79 A.3d 45, 50 (Vt. 2013) (finding the odds that the “odor of fresh marijuana” may be coming from legally possessed medical marijuana to be a “small possibility,” insufficient to “negate the State’s probable cause to search”); *Strasburg*, 56 Cal. Rptr. 3d at 311 (finding probable cause for the search even though the defendant had a medical marijuana recommendation on the grounds that marijuana possession remains illegal for those who do not meet the requirements of California’s medical marijuana laws and so “the officer is entitled to continue to search and investigate, and determine whether the subject of the investigation is in fact possessing the marijuana for personal medical needs”).

¹³⁴ Matthew P. Hoxsie, Note, *Probable Cause: Is The “Plain-Smell” Doctrine Still Valid In Arizona After The AMMA?*, 57 ARIZ. L. REV. 1139, 1152 (2015).

¹³⁵ *Id.* at 1153.

¹³⁶ TEX. DEP’T OF AGRIC., HEMP REGULATIONS (2020), <https://www.texasagriculture.gov/RegulatoryPrograms/Hemp.aspx>.

¹³⁷ TEX. DEP’T OF HEALTH & HUMAN SERVS., TEXAS EXECUTIVE ORDERS & PUBLIC HEALTH DISASTER DECLARATION (2020), <https://www.dshs.texas.gov/coronavirus/execorders.aspx>.

¹³⁸ TEX. DEP’T OF AGRIC., COVID-19 CORONAVIRUS UPDATES (2020), <https://www.texasagriculture.gov/NewsEvents/COVID19CoronavirusResponsePage.aspx>.

2020]

DAZED AND CONFUSED

759

the Department begins issuing licenses, the likelihood that a substance claimed to be hemp is properly licensed and legal is remote in comparison to the much greater probability of illegal possession of hemp or marijuana. Like in the medical marijuana context, this statistic may change over time. But the odor-plus standard is adaptable, and reliance on statistics to provide the “plus” may become less realistic as time progresses.

In sum, given its compatibility with existing Texas law and its application in comparable contexts, a totality-of-the-circumstances approach such as an odor-plus standard presents a viable method of determining probable cause after the Act. The legalization of hemp thus does not preclude law enforcement from establishing probable cause exists to search for and seize suspected marijuana.

III. PROOF BEYOND A REASONABLE DOUBT AT TRIAL

The Hemp Farming Act has also called into question the continued ability of prosecutors to prove that a substance is marijuana beyond a reasonable doubt at trial. Following passage of the Act, a defendant may raise the defensive argument that the possessed substance was hemp, not marijuana.¹³⁹ Consequently, in order to prove beyond a reasonable doubt that the defendant has actually committed a criminal offense, prosecutors arguably would have to prove that the substance had more than a 0.3% concentration of THC. Importantly, though, the defendant seems to bear the initial burden to produce evidence that the substances alleged by the State to be marijuana contained material excluded by the statute under Section 481.184(a) of the Texas Health and Safety Code.¹⁴⁰

Further compounding the issue, traditional methods of proving a substance to be marijuana at trial cannot sufficiently distinguish between hemp and marijuana. Like the issue presented with probable cause, officer testimony identifying a substance as marijuana is no longer sufficient because hemp and marijuana are indistinguishable by sight or smell.¹⁴¹ Moreover, the forensic testing methods currently used in crime laboratories across the state are not able to quantify the concentrations of THC in a substance, which is

¹³⁹See Julia Naftulin, *A Man Was Arrested on Charges of Transporting 6,701 Pounds of Marijuana that His Company Claims Was Hemp. Here's the Difference Between Them.*, INSIDER (Feb. 7, 2019), <https://www.insider.com/how-is-hemp-different-from-weed-marijuana-2019-1>.

¹⁴⁰See *infra* Part III.A.

¹⁴¹See *infra* Part III.B.1.

crucial to distinguishing marijuana from hemp.¹⁴² A method of forensic testing that quantifies THC concentrations does in fact exist; however, the equipment necessary to perform this test is much more complex and expensive than the forensic methods used to prove a substance was marijuana before the Act.¹⁴³ To be sure, Texas crime laboratories will eventually obtain the equipment necessary to distinguish hemp from marijuana. But, at least in the meantime, there are valid concerns about prosecutors' ability to prove a substance is marijuana beyond a reasonable doubt should the defense challenge the character of the substance at trial.

A. The defendant bears the initial burden to produce evidence that a substance alleged by the State to be marijuana contains material excluded from the statutory definition of marijuana.

A critical threshold question in this context is whether the State or the defense would bear the burden of proving a substance is or is not hemp. Clearly, the State has the burden to prove each element of the offense alleged beyond a reasonable doubt.¹⁴⁴ This means that the State generally must prove that a substance is contraband in order to prosecute the unlawful possession of that substance. However, under certain circumstances, the burden may shift to some degree to a criminal defendant, such as the situation where a defendant asserts one or more defenses to the prosecution. The Texas Penal Code recognizes two kinds of defenses.¹⁴⁵ A “defense” to a prosecution requires the defendant to meet a burden of production only—although the defendant must meet the burden to produce evidence of the “defense,” the prosecution retains the burden of persuasion.¹⁴⁶ Conversely, an “affirmative defense” shifts both the burden of production and the burden of persuasion to the defendant, and the defendant must then prove the defense by a preponderance of the evidence.¹⁴⁷

¹⁴² See *infra* Part III.B.2.

¹⁴³ See *infra* Part III.C.

¹⁴⁴ TEX. PENAL CODE ANN. § 2.01 (West 2019); TEX. CODE CRIM. PROC. ANN. art. 38.03 (West 2019).

¹⁴⁵ *Alford v. State*, 806 S.W.2d 581, 584 (Tex. App.—Dallas 1991, pet. granted), *aff'd*, 866 S.W.2d 619 (Tex. Crim. App. 1993).

¹⁴⁶ See TEX. PENAL CODE ANN. § 2.03 (West 2019).

¹⁴⁷ *Id.* § 2.04.

2020]

DAZED AND CONFUSED

761

Under Texas law, a criminal defendant seeking to take advantage of the hemp exemption from the definition of marijuana bears some burden of proof in raising that defense.¹⁴⁸ Section 481.184 of the Texas Health and Safety Code provides:

The state is not required to negate an exemption or exception provided by this chapter in a complaint, information, indictment, or other pleading or in any trial, hearing, or other proceeding under this chapter. A person claiming the benefit of an exemption or exception has the burden of going forward with the evidence with respect to the exemption or exception.¹⁴⁹

The Texas Court of Criminal Appeals interpreted this provision in *Threlkeld v. State*.¹⁵⁰ In *Threlkeld*, the defendant sought to avail himself of the “prescription exception” found in Section 481.115 of the Texas Health and Safety Code.¹⁵¹ The court held that the State was not required to allege in the indictment that the defendant possessed a controlled substance without a valid prescription or doctor’s order.¹⁵² The Texas Court of Criminal Appeals in a subsequent case further explained the *Threlkeld* holding:

In *Threlkeld*, we acknowledged the common law rule . . . that where a penal statute embraces an exception which is part of the statute itself, or the exception appears within the enacting clause of the law, it is necessary for the state to negate such exceptions in the indictment. It was this Court’s holding, however, that the common law rule was rendered inapplicable by the enactment of [Section 481.184(a) of the Texas Health and Safety Code], which expressly removed the burden of negating in an indictment any exemptions or exceptions under the act and placed the burden of going

¹⁴⁸TEX. HEALTH & SAFETY CODE ANN. § 481.184(a) (West 2019).

¹⁴⁹*Id.*

¹⁵⁰558 S.W.2d 472, 473 (Tex. Crim. App. 1977).

¹⁵¹*Id.* Section 481.115 provides: “[A] person commits an offense if the person knowingly or intentionally possesses a controlled substance listed in Penalty Group 1, *unless the person obtained the substance directly from or under a valid prescription or order of a practitioner acting in the course of professional practice.*” TEX. HEALTH & SAFETY CODE ANN. § 481.115 (West 2019) (emphasis added).

¹⁵²*Threlkeld*, 558 S.W.2d at 473.

forward with the evidence with respect to such exemptions or exceptions upon the defendant.¹⁵³

Accordingly, Section 481.184(a) of the Texas Health and Safety Code shifts the burden in some capacity from the State to the defendant.

Texas courts have also applied this rule to the exceptions to the statutory definition of marijuana. In *Doggett v. State*, the Texas Court of Criminal Appeals held that the provisions excluding “certain materials from the definition of marihuana are in the nature of exceptions and that the burden of going forward with the evidence pertaining thereto rests upon the person claiming their benefit.”¹⁵⁴ Texas courts have not yet directly applied this provision to hemp, but to other parts of the *Cannabis* plant similarly-excepted from the statutory definition of marijuana.¹⁵⁵ That said, there is no reason to expect that hemp would be treated differently from the other statutory exceptions appearing in Section 481.002(26). Thus, it appears that Section 481.184(a) of the Texas Health and Safety Code is implicated where a criminal defendant raises the defense that a substance is not illegal marijuana, but legal hemp.

That said, there remains some room for debate on whether such an argument would constitute a defense or an affirmative defense—and, consequently, whether the State or the defense bears the critical burden of persuasion. Earlier cases strongly suggest that this is *not* an affirmative defense—rather, the defendant only bears the burden of production to raise the defense.¹⁵⁶ However, treatment of this provision in more recent cases

¹⁵³*Rodriquez v. State*, 561 S.W.2d 4, 4 (Tex. Crim. App. [Panel Op.] 1978); *accord* *Mendoza v. State*, 636 S.W.2d 198, 200 (Tex. Crim. App. 1982); *Thompson v. State*, 495 S.W.2d 221, 222 (Tex. Crim. App. 1973); *Dowden v. State*, 455 S.W.3d 252, 255 (Tex. App.—Fort Worth Jan. 8, 2015, no pet.).

¹⁵⁴530 S.W.2d 552, 555 (Tex. Crim. App. 1975).

¹⁵⁵*See* *Nowling v. State*, 801 S.W.2d 182, 184–85 (Tex. App.—Houston [14th Dist.] 1990, pet. ref’d).

¹⁵⁶*See* *Elkins v. State*, 543 S.W.2d 648, 650 (Tex. Crim. App. 1976) (“The holding in *Doggett* . . . does not have the effect of shifting the burden of proof or burden of persuasion from the State to the accused. The burden of proof does not change simply because the accused has the burden of producing evidence to establish a defensive plea In the instant case, appellant produced no evidence to show that the substance identified as marihuana contained any parts excluded by the statutory definition.”); *Marroquin v. State*, 746 S.W.2d 747, 749 (Tex. Crim. App. 1988) (holding that the burden of proof did not change simply because the accused had the burden of producing evidence to establish a defensive plea).

suggests the burden may be more than a mere burden of production. One court of appeals discussed the application of Section 481.184 as follows:

To claim the . . . [seeds and stems exception] . . . [defendant] had the burden [under Section 481.184(a)], to show [that] the stalks were mature or the seeds were sterilized seeds that [were] incapable of beginning germination. [The defense expert] testified only that there were seeds and stems lying around, but did not provide any testimony related to the maturity of the stalks, the sterilized nature of the seeds, or their incapacity to begin germination.¹⁵⁷

This seems to suggest that merely raising the defensive argument is insufficient, and a defendant must present evidence to prove a substance falls within one of the exceptions. Applying this perspective, absent proper certification or documentation that the substance is hemp, a defendant would necessarily have to produce forensic testing reports to prove that a substance was hemp rather than marijuana, since THC concentration is the only reliable means of distinguishing between hemp and marijuana.¹⁵⁸ That said, despite the more-recent, ambiguous application of Section 481.184, the burden shifted to the defendant is most likely one of mere production—not persuasion—given the Texas Court of Criminal Appeals’ authority on the matter and the constitutional implications if the standard were otherwise.

Assuming, then, that the defendant bears only a burden of production to raise the defense, a defendant who meets this burden may request a jury instruction regarding the exclusion of hemp from the statutory definition of marijuana.¹⁵⁹ Generally, a trial court is required to instruct the jury on each statutory definition that affects the meaning of an element of the offense.¹⁶⁰ Marijuana “has a statutory definition, and whether a particular substance is marihuana is an integral element of the offense of possession of

¹⁵⁷Wooten v. State, No. 12-10-00111-CR, 2011 Tex. App. LEXIS 4323, at *4 (Tex. App.—Tyler June 8, 2011, pet. ref’d) (mem. op., not designated for publication) (citations omitted).

¹⁵⁸Catie Wightman, Comment, *Hemp Legalization’s Impact on Low Level Marijuana Offenses*, 97 DENV. L. REV. FORUM 210, 213–14 (2019).

¹⁵⁹Pena v. State, No. 04-13-00358, 2014 Tex. App. LEXIS 11127, at *4 (Tex. App.—San Antonio 2014) (not designated for publication).

¹⁶⁰Villarreal v. State, 286 S.W.3d 321, 329 (Tex. Crim. App. 2009); Watson v. State, 548 S.W.2d 676, 679 n.3 (Tex. Crim. App. 1977) (“The court should include and use the statutory definition for any term that is statutorily defined.”).

marihuana.”¹⁶¹ But a criminal defendant is entitled to a special instruction on any exclusions from the statutory definition of marijuana only if the defendant has carried his or her burden: “Before a defendant may request an instruction that certain materials are not included in the definition of marihuana, she must put on evidence that the substances alleged by the State to be marihuana contained material excluded by the statute.”¹⁶² Precedent makes clear, however, that this is not an extraordinarily high burden:

It is well-settled that as a general rule an accused has the right to an instruction on any defensive issue raised by the evidence, whether such evidence is strong or weak, unimpeached or contradicted, and regardless of what the trial court may or may not think about the credibility of this evidence.¹⁶³

Despite the low hurdle a defendant would likely have to clear to obtain an instruction on hemp, the burden-shifting provision in Section 481.184(a) still means that a prosecutor realistically may not be required to produce a quantitative laboratory report in every case. Rather, the requirement for the prosecution to distinguish marijuana from hemp may be implicated only when a defendant raises the issue and produces some evidence to support his or her claim.

¹⁶¹McDaniel v. State, No. 05-15-00638-CR, 2016 Tex. App. LEXIS 8797, at *12 (Tex. App.—Dallas Aug. 11, 2016, pet. ref’d) (not designated for publication).

¹⁶²*Pena*, 2014 Tex. App. LEXIS 11127, at *4; *see also* Johnjock v. State, 763 S.W.2d 918, 920 (Tex. App.—Texarkana 1989, pet. ref’d) (concluding defendant was not entitled to a special instruction for the jury to exclude any mature stalks, stems, or seeds from its determination of its weight because he did not present any evidence on the weight of the marijuana minus the excludable material); *McDaniel*, 2016 Tex. App. LEXIS 8797, at *4 (concluding the trial court did not err in omitting an instruction on the statutory exclusions from the definition of marijuana when the defendant did not present any evidence that the marijuana found in his apartment contained any material excluded from the definition of marijuana).

¹⁶³*Miller v. State*, 815 S.W.2d 582, 585 (Tex. Crim. App. 1991).

2020]

DAZED AND CONFUSED

765

B. The methods used to prove a substance was marijuana before the Act are no longer sufficient to distinguish hemp from marijuana.

1. Officer Testimony

Before the Act, officer testimony was frequently used to prove a substance was marijuana. The Texas Court of Criminal Appeals has previously held that an experienced officer may be qualified to testify that a certain green leafy plant substance is marijuana.¹⁶⁴ Moreover, law enforcement officers do not have to be experts in identifying marijuana in order to testify that the substance found was marijuana.¹⁶⁵ Unlike cocaine, marijuana is easily identifiable; it does not take an expert to identify its odor.¹⁶⁶ Accordingly, the Texas Court of Criminal Appeals has held that marijuana is a substance that both officers and common lay witnesses can identify through simple use of their senses.¹⁶⁷

That said, forensic testing is generally required to identify controlled substances other than marijuana. Since most controlled substances are identified by their chemistry, officer testimony is largely inadequate to prove the identity of a particular substance beyond a reasonable doubt.¹⁶⁸ The Texas Supreme Court has explained the rationale for such a distinction:

This Court has held that an experienced officer may be qualified to testify that a certain green leafy plant substance is marihuana. However, we are unwilling to say that an experienced officer can look at a white or brown powdered substance and testify that it is heroin since morphine, codeine, paregoric, other opiates, other controlled substances, and noncontrolled substances also appear in white or brown powdered form. A green leafy plant

¹⁶⁴ See *Boothe v. State*, 474 S.W.2d 219, 221 (Tex. Crim. App. 1971); *Jordan v. State*, 486 S.W.2d 784, 785 (Tex. Crim. App. 1972).

¹⁶⁵ *Osbourm v. State*, 92 S.W.3d 531, 537 (Tex. Crim. App. 2002).

¹⁶⁶ *Id.* at 538.

¹⁶⁷ *Id.* at 537–38; see also *Kemner v. State*, 589 S.W.2d 403, 407 (Tex. Crim. App. [Panel Op.] 1979) (noting airline employee recognized smell of marijuana coming from appellant's suitcase and informed DEA); *Sorensen v. State*, 478 S.W.2d 532, 533 (Tex. Crim. App. 1972) (stating appellant's mother testified that she recognized the odor of marijuana when she found it in her son's room).

¹⁶⁸ See *Bright v. State*, 556 S.W.2d 317, 321 (Tex. Crim. App. 1977); *Duran v. State*, 552 S.W.2d 840, 843 (Tex. Crim. App. 1977).

substance which is marihuana has different characteristics from other green leafy plant substances; an expert can determine the difference. The evidence here does not show that even the experienced expert can distinguish one white or brownish powdered substance from another and determine which is heroin.¹⁶⁹

This same reasoning applies to the ability of an officer to distinguish between marijuana and hemp. Following the legalization of hemp, officer testimony alone will no longer be sufficient to prove a substance is marijuana as opposed to hemp because the two substances cannot be distinguished by sensory observation.¹⁷⁰ The only way to separate hemp from marijuana is to identify the levels of THC present in the substance, and the concentration of THC cannot be determined without forensic testing.¹⁷¹

2. Forensic Testing Methods

Requests for testing of substances suspected to be marijuana provide crime laboratories with “a significant portion of their annual workload,”¹⁷² yet the development of scientific literature relating to the identification of *Cannabis* is “still in its infancy.”¹⁷³ The uncertainty caused by the Hemp Farming Act is a testament to this lag—Texas crime laboratories simply lack a current ability to quantitatively analyze a sample of *Cannabis* to

¹⁶⁹Curtis v. State, 548 S.W.2d 57, 59 (Tex. 1977) (citations omitted).

¹⁷⁰See Roussell, *supra* note 13, at 110.

¹⁷¹*Id.* at 128; McCullough, *supra* note 22.

¹⁷²Roussell, *supra* note 13, at 105; *see also* JOSEPH L. PETERSON & MATTHEW J. HICKMAN, U.S. DEP’T OF JUST., BULL. NO. NCJ 207205, CENSUS OF PUBLICLY FUNDED FORENSIC CRIME LABORATORIES, 2002 (2005) (stating that forty-eight percent of forensic laboratories’ work requests nationwide are for the identification and analysis of controlled substances, including marijuana); MATTHEW R. DUROSE, U.S. DEP’T OF JUST., BULL. NO. NCJ 222181, CENSUS OF PUBLICLY FUNDED FORENSIC CRIME LABORATORIES, 2005 (2008) (noting that in 2005, controlled substance analysis and identification was the most backlogged request in forensic laboratories).

¹⁷³Allegra Leghissa, *New Methods for Discovery, Fingerprinting, and Analysis of Cannabis Sativa Natural Products* (Aug. 2018) (Ph.D. dissertation, University of Texas at Arlington) (on file with the University of Texas Arlington Library) (attributing the delay to the characterization of cannabis as a Schedule I drug, “despite the plant having been utilized by humans for nearly 30,000 years and it being now the most widely used drug world-wide”).

differentiate whether it is illegal marijuana or legal hemp.¹⁷⁴ Soon after the Act was signed into law, the Texas Department of Public Safety (DPS) issued a statement addressing its capabilities as of July 23, 2019: “Currently, Texas Department of Public Safety laboratories can identify whether a substance is *Cannabis sativa* L. and contains THC, but we are currently developing the procedures necessary to test the THC concentration level.”¹⁷⁵ This current inability to quantify THC concentrations seems to be the driving force behind many prosecutors’ decisions to suspend the prosecution of lower-level marijuana offenses.¹⁷⁶

Other factors combine to further complicate the issue of distinguishing between hemp and marijuana from a forensic science standpoint. Notably, the Texas Hemp Farming Act took immediate effect when Governor Abbott signed it into law on June 10, 2019, rather than becoming effective on September 1, 2019 like the majority of new laws.¹⁷⁷ Consequently, crime laboratories have not been afforded the time or the resources needed to properly equip laboratories with the equipment and staff needed to distinguish legal hemp from illegal marijuana.¹⁷⁸ This strain is exacerbated by the already-existing backlog of requests awaiting testing, not to mention the burden that will be added by the influx of additional requests for testing in marijuana cases.

The forensic methods commonly used to identify marijuana as of the passage of the Act include: (1) Microscope analysis; (2) the Duquenois-Levine chemical test; and (3) Thin Layer Chromatography. In sum, the Duquenois-Levine chemical test and thin layer chromatography attempt to determine the presence of THC, while microscopic analysis attempts to determine the species of the sample through observation of certain taxonomic characteristics.¹⁷⁹ Because “[l]ab technicians are supposed to use various

¹⁷⁴ See, e.g., Mitch Mitchell, *Most Texas Labs Cannot Test for Marijuana, Hemp Under New Laws, Jeopardizing Arrests*, FORT WORTH STAR TELEGRAM (June 26, 2019, 2:47 PM), <https://www.star-telegram.com/news/local/crime/article231917148.html>.

¹⁷⁵ TEX. DEP’T OF PUB. SAFETY, STATEMENT REGARDING DPS CRIME LABORATORY CURRENT CAPABILITIES FOR TESTING MARIJUANA AND THC (July 23, 2019).

¹⁷⁶ See Lonzano, *supra* note 64.

¹⁷⁷ See Texas Hemp Farming Act, 86th Leg., R.S., ch. 764, § 2, 2019 Tex. Gen. Laws 764 (codified at TEX. AGRIC. CODE ANN. § 121.001).

¹⁷⁸ McCullough, *supra* note 22.

¹⁷⁹ See Roussell, *supra* note 13, at 110.

tests to reinforce one another,” these methods are often used in combination together.¹⁸⁰

The problem with each of these methods again is that marijuana and hemp are both *Cannabis sativa* L. and are thus “scientifically analogous.”¹⁸¹ As one researcher lamented, “The judicial process has created a legal fiction, that not only are [hemp and marijuana] different, but that we can tell them apart forensically.”¹⁸² The aforementioned methods of “[f]orensic testing depend[] mainly on the ability to detect THC and identify cannabis,” both of which would be true for either hemp or marijuana.¹⁸³ Because none of these methods quantify the concentration of THC in a substance, these methods will not be sufficient to prove beyond a reasonable doubt that a substance is marijuana and not hemp.

a. Microscope Analysis

Microscopic analysis is a common method used to identify marijuana. This method involves the analyst’s observations of cystolithic “bear claw” hairs that are characteristic of *Cannabis sativa* L. to confirm that the sample is marijuana.¹⁸⁴ However, because these hairs are not unique to *Cannabis* alone, this method carries a fairly high potential of false identification.¹⁸⁵ For example, George Nakamura, an expert in marijuana identification, recorded an error rate of about fourteen percent for a handpicked sample.¹⁸⁶ As one researcher explained, “Physical observation, even microscopically enhanced, presents problems familiar to the criminal justice system—simply put, it is difficult to make a positive and unique identification by observation

¹⁸⁰*Id.*; see CHARLES TINDALL ET AL., HANDBOOK OF FORENSIC DRUG ANALYSIS 43–44 (Frederick P. Smith ed., 2005) (discussing the need for both quantitative and qualitative analysis of samples which implies the differences between botanical and toxicological identification) (“In keeping with good laboratory practice, a positive identification should be based on at least two positive test results from two different test methodologies . . .”).

¹⁸¹ See Roussell, *supra* note 13, at 115.

¹⁸² *Id.* at 128.

¹⁸³ *Id.* at 106.

¹⁸⁴ See George R. Nakamura, *Forensic Aspects of Cystolith Hairs of Cannabis and Other Plants*, 52 J. ASS’N OFFICIAL ANALYTICAL CHEMISTS 1, 5, 7–8 (1969); Frederic Whitehurst, *Forensic Analysis of Marijuana and the Kurzman Mystery: A Case Study of Flawed Logic in Determination of Guilt*, 41 TEX. TECH L. REV. 117, 123 (2008).

¹⁸⁵ See Roussell, *supra* note 13, at 110–11.

¹⁸⁶ Nakamura, *supra* note 184, at 5.

alone.”¹⁸⁷ Because this method does not produce any quantitative analysis of the THC concentration, it would not differentiate between hemp and marijuana. Moreover, because both hemp and marijuana refer to the *Cannabis* plant, these hairs would be present in a sample of either substance. Thus, microscopic analysis is no longer an adequate forensic testing method.

b. Duquenois-Levine Chemical Test

Another common method is the Duquenois-Levine chemical test. This test involves a chemical reaction between the test and the substance that produces an identifiable color, which in turn identifies the nature of the substance.¹⁸⁸ The presence of “THC yields a particular shade of deep purple or blue, which may change over the course of an hour from indigo to violet to ‘intense violet.’”¹⁸⁹ Different strains may yield different color variations and strengths.¹⁹⁰ The test is interpretive by nature—lab technicians observe the color and the progression of the color over time and use this to determine the nature of the substance.¹⁹¹ Because of the nature of the test, this method is subject to producing false positives.¹⁹² For example, the color that indicates the presence of THC has also been observed when testing the leaves of at least six other plants, including coffee, as well as other parts of additional plants like ginger, sandalwood, liquorice, and nutmeg, among others.¹⁹³ These “color” tests are usually referred to as “presumptive,” and additional forensic tests should be performed to confirm the initial determination.¹⁹⁴ Moreover, this method does not quantify the concentration of THC and thus is not sufficient to distinguish between marijuana and hemp.

¹⁸⁷ See Roussell, *supra* note 13, at 110.

¹⁸⁸ See Justin J. McShane, *The Myth of Specific Identification of Marijuana in Criminal Court Part 4: What Is the Modified Duquenois-Levine Test? Is It a “Good” Test?*, THE TRUTH ABOUT FORENSIC SCI. (Jan. 19, 2012), <https://thetruthaboutforensicscience.com/the-myth-of-specific-identification-of-marijuana-in-criminal-court-part-4/>.

¹⁸⁹ See Roussell, *supra* note 13, at 112 (quoting Keith Bailey, *The Value of the Duquenois Test for Cannabis—A Survey*, 24 J. FORENSIC SCI. 817, 818 (1979)).

¹⁹⁰ See J.I. Thornton & G.R. Nakamura, *The Identification of Marijuana*, 12 J. FORENSIC SCI. SOC’Y 461, 479–80 (1972).

¹⁹¹ See Roussell, *supra* note 13, at 111–12.

¹⁹² Leghissa, *supra* note 173, at 24.

¹⁹³ McShane, *supra* note 188.

¹⁹⁴ See Leghissa, *supra* note 173, at 24.

c. Thin Layer Chromatography

Thin Layer Chromatography is another forensic method used to identify marijuana. This test is likewise performed by visually comparing the reactions of a sample of suspected marijuana with a controlled sample.¹⁹⁵ It is typically used when “‘marijuana cannot be morphologically delineated’—that is, when the results are inconclusive, rather than for the purposes of retesting a potential false positive or negative.”¹⁹⁶ Similar to the Duquenois-Levine chemical test, “there are well-known and discovered false positives, including coffee, basil and even tobacco products.”¹⁹⁷ Because this test also does not perform any THC analysis, it likewise cannot distinguish between hemp and marijuana.¹⁹⁸

C. Potentially workable methods for proving a substance is marijuana beyond a reasonable doubt at trial following the Act.

1. Gas Chromatography with Mass Spectrometer

Despite the failings of traditional methodologies, marijuana can be properly distinguished from hemp using forensic testing. One forensic testing method known as Gas Chromatography with Mass Spectrometry (GC/MS) does provide for quantitative analysis of the THC concentration present in a sample.¹⁹⁹ As indicated by its name, the test involves two components: (1) Gas Chromatography; and (2) Mass Spectrometry. Gas chromatography is used in the following situations:

Gas Chromatography (GC) is employed in analytical chemistry for analyzing and separating compounds that can be vaporized without decomposition. A Gas

¹⁹⁵ Justin J. McShane, *The Myth of Specific Identification of Marijuana in Criminal Court Part 5: What Is Thin Layer Chromatography? Is It A “Good” Test?*, THE TRUTH ABOUT FORENSIC SCIENCE (Jan. 24, 2012), <https://thetruthaboutforensicscience.com/the-myth-of-specific-identification-of-marijuana-in-criminal-court-part-5-what-is-thin-layer-chromatography-is-it-a-good-test/>.

¹⁹⁶ Roussell, *supra* note 13, at 112–13 (quoting Thornton & Nakamura, *supra* note 190, at 461).

¹⁹⁷ See McShane, *supra* note 188.

¹⁹⁸ See *id.*

¹⁹⁹ See Leghissa, *supra* note 173, at 85; see also *Gas Chromatography - Mass Spectrometry (GC-MS)*, EAG LAB’YS [hereinafter *Gas Chromatography*], <https://www.eag.com/techniques/mas-s-spec/gas-chromatography-mass-spectrometry-gc-ms/> (last visited Sept. 12, 2020).

Chromatography test is commonly used to separate the various components of a mixture, to test the purity of a specific substance or to help identify a particular compound.²⁰⁰

Mass Spectrometry (MS) is “a technique that analytically categorizes the ions based on their mass to charge ratio, and ionizes atoms, molecules, ions, molecular fragments and other chemical species.”²⁰¹ A mass spectrum measures the masses of a given sample.²⁰² Gas Chromatography with Mass Spectrometry analysis can be performed on liquids, gases, or solids.²⁰³

GC/MS is likely the most reliable method of detecting THC; however, it relies on complicated and expensive equipment that requires comparatively more training than other techniques.²⁰⁴ The public crime laboratories in Texas so far lack the equipment and funds necessary to implement this method of forensic testing.²⁰⁵ The most glaring prohibitive factor is the estimated expense: “Initially, crime labs said testing equipment would cost up to \$500,000 per machine. One lab director estimated more than [twenty] labs would need the equipment to cover the state caseload.”²⁰⁶ President and CEO of the Houston Forensic Science Center, Dr. Peter Stout, similarly estimated the cost to be between \$500,000 and \$600,000 for a crime laboratory to purchase the equipment needed to test concentration levels.²⁰⁷ On the other hand, these costs could go down as the market evolves to address this need. As Governor Abbott pointed out in his letter to prosecutors: “Even before the passage of H.B. 1325, companies and labs were already developing THC

²⁰⁰ GC/MS, CONFIRM BIOSCIENCES, <https://www.confirmbiosciences.com/knowledge/terminology/gems/> (last visited Sept. 12, 2020).

²⁰¹ *Id.*

²⁰² *Id.*

²⁰³ *Gas Chromatography*, *supra* note 199.

²⁰⁴ See Roussell, *supra* note 13, at 113; David Rosenthal & Dolores Brine, *Quantitative Determination of [DELTA] 9 - Tetrahydrocannabinol in Cadaver Blood*, 24 J. FORENSIC SCI. 282, 288–89 (1979) (stating that while analysis using GC/MS techniques is highly accurate, it requires complex and sophisticated equipment); RODGER L. FOLTZ ET AL., NAT'L INST. ON DRUG ABUSE, GC/MS ASSAYS FOR ABUSED DRUGS IN BODY FLUIDS, 1, 67 (Robert C. Petersen & Eleanor W. Waldrop eds., 1980) (identifying reasons GC/MS testing is not more commonly employed, including the expenses involved and the high level of training needed to perform it).

²⁰⁵ McCullough, *supra* note 22.

²⁰⁶ *Id.*

²⁰⁷ Arnold, *supra* note 61.

concentration tests. As more companies enter the testing marketplace, the costs of the tests will certainly decline.”²⁰⁸

But even if the cost of the equipment is driven down, DPS may still not have the resources to meet the demand for testing. The controlled substances divisions of the DPS crime labs are already the most backlogged discipline,²⁰⁹ and the addition of numerous new marijuana cases is likely to overwhelm the labs even further.²¹⁰ As of February 2020, DPS Director Steve McCraw notified Texas law enforcement agencies that the labs simply lack the capacity to do testing in misdemeanor marijuana possession cases, given the lack of funding provided by the Texas Legislature.²¹¹

There is also an issue with timing. Even once a laboratory is able to secure adequate funding—since the Act provided none—and purchase the necessary equipment, the laboratory would then need to undergo the accreditation process. The Texas Code of Criminal Procedure requires forensic analysis to be conducted by an accredited laboratory in order for the analysis and the related expert testimony to be admissible in a criminal proceeding in Texas.²¹² Laboratories obtain accreditation through the Texas Forensic Science Commission, and accreditation is a potentially lengthy process.²¹³ Houston Forensic Science Center President, Dr. Stout, estimated that it would take between nine and twelve months before a laboratory is certified to test for THC concentration levels.²¹⁴ Another report estimated that it would “be four to [twelve] months before labs can purchase equipment, adopt protocols

²⁰⁸Letter from Greg Abbott, *supra* note 67, at 3.

²⁰⁹McCullough, *supra* note 22 (quoting Sarah Kerrigan, chair of the forensic science department at Sam Houston State University); *see also* MATTHEW R. DUROSE, U.S. DEP’T OF JUST., BULL. NO. NCJ 222181, CENSUS OF PUBLICLY FUNDED FORENSIC CRIME LABORATORIES, 2005 (2008) (noting that in 2005, controlled substance analysis and identification was the most backlogged request in forensic laboratories).

²¹⁰*See* JOSEPH L. PETERSON & MATTHEW J. HICKMAN, U.S. DEP’T OF JUST., BULL. NO. NCJ 207205, CENSUS OF PUBLICLY FUNDED FORENSIC CRIME LABORATORIES, 2002 (2005) (stating that 48% of forensic laboratories’ work requests nationwide are for the identification and analysis of controlled substances, including marijuana).

²¹¹Jolie McCullough, *Texas State Crime Labs Won’t Test Suspected Marijuana in Low-Level Cases*, TEX. TRIB. (Feb. 26, 2020), <https://www.texastribune.org/2020/02/26/texas-marijuana-misdemeanor-cases-wont-go-to-dps-crime-labs/>.

²¹²TEX. CODE CRIM. PROC. ANN. art. 38.35 § (d)(1) (West 2019).

²¹³McCullough, *supra* note 22.

²¹⁴Arnold, *supra* note 61.

2020]

DAZED AND CONFUSED

773

and provide the evidence needed to prosecute a marijuana case at trial.”²¹⁵ Given these factors, a fair assessment of the situation is that prosecutors face a current, albeit temporary, inability to obtain forensic testing that will distinguish between hemp and marijuana.

2. A 1% THC threshold test is also being developed.

Another potential solution might be on the horizon. The Texas Forensic Science Commission reportedly has been working with the federal Drug Enforcement Agency (DEA) to come up with a new method of testing that could be available to prosecutors relatively sooner.²¹⁶ The DEA’s laboratories have apparently validated a method that distinguishes a substance as marijuana if it exhibits greater than a 1% concentration of THC,²¹⁷ though the precise forensic method used to achieve this result has not been widely reported. Though this test would not identify samples of marijuana containing more than .3% THC but less than 1% THC, such a gap carries fairly minor consequences since most marijuana samples involve much higher THC concentrations of 12% or higher.²¹⁸ This method of testing may solve many of the practical problems raised thus far: (1) This method is estimated to take an hour to perform, as compared to the one to two days needed to perform other tests; and (2) Texas labs already have the equipment needed to perform these tests, which cuts down on expected costs and implementation time.²¹⁹ That said, adding a large new caseload of suspected marijuana samples to already backlogged crime labs would still create a need for more employees and equipment.²²⁰ But the cost of replacing the current equipment is estimated at \$75,000 each, compared to the estimated \$500,000 equipment needed to implement other methods of testing.²²¹ Given these factors, this alternate method may prove to be more feasible than the GC/MS method.

²¹⁵ Mitchell, *supra* note 174.

²¹⁶ Ryan Poppe, *If Approved, New Texas Test Will Determine Marijuana Is Illegal With 1% THC Levels*, KERA NEWS (Aug. 14, 2019, 4:17 PM), <https://www.keranews.org/post/if-approved-new-texas-test-will-determine-marijuana-illegal-1-thc-levels>.

²¹⁷ *Id.*

²¹⁸ McCullough, *supra* note 22 (quoting Lynn Garcia, director and general counsel for the Texas Forensics Science Commission).

²¹⁹ *Id.*

²²⁰ *Id.* (quoting Peter Stout, president of the Houston Forensic Science Center).

²²¹ *Id.*

3. In the Absence of Forensic Testing

Governor Abbott and other state leaders have posited that it is possible to prove a substance is marijuana beyond a reasonable doubt without testing, notwithstanding the legalization of hemp.²²² Governor Abbott's letter contained the following explanation: "Criminal cases may be prosecuted with lab tests or with the tried and true use of circumstantial evidence In short, lab tests are not always needed, and they are not as costly as some initial reporting indicated."²²³ Regardless of whether this would ring true in all cases, there are certainly some cases in which the State would be able to proceed with prosecution of marijuana offenses without a laboratory report.

Initially, the concern about proving a substance is marijuana rather than legal hemp may well have been premature because, until fairly recently, there was no such thing as legal hemp. The Act requires hemp be accompanied by proper documentation in order to be legal.²²⁴ But the Texas Department of Agriculture (TDA) and Department of State Health Services (DSHS) did not set the rules and regulations until January 27, 2020.²²⁵ As of the writing of this Comment, these agencies have not yet begun issuing certificates, but the TDA has opened the application process as of March 16, 2020.²²⁶ Given this, from June 2019 until late January of 2020, there has been no state-approved hemp plan, and there is still no approved certificate for transportation.²²⁷ These facts significantly limit the number of cases in which it may be credibly argued that the substance suspected to be marijuana is actually legal hemp.

Moreover, the Act provides criminal penalties for failing to comply with the documentation requirements.²²⁸ In his letter, Governor Abbott urged prosecutors to keep these considerations in mind:

In addition to the marijuana laws that remain in effect, H.B. 1325 gave your offices a new simple prosecution tool. You have more tools now, not less, because you can prosecute a

²²² See Letter from Greg Abbott, *supra* note 67, at 3.

²²³ *Id.*

²²⁴ TEX. AGRIC. CODE ANN. § 122.356 (West 2019).

²²⁵ TEX. DEP'T OF AGRIC., HEMP REGULATIONS (2020), <https://www.texasagriculture.gov/RegulatoryPrograms/Hemp.aspx>.

²²⁶ *Id.*

²²⁷ See Letter from Greg Abbott, *supra* note 67, at 2.

²²⁸ TEX. AGRIC. CODE ANN. § 122.360 (West 2019) (creating a misdemeanor offense punishable by up to a \$1,000 fine).

2020]

DAZED AND CONFUSED

775

misdemeanor for failure to have a proper hemp certificate. If a person is transporting hemp but has no certificate, you may now prosecute that person for the offense of failing to have a hemp certificate. This certificate is required of any person transporting hemp plant material in Texas. If they have a certificate, which the Department has yet to promulgate, then it's a fake—which is a felony.²²⁹

Once the possibility of legal hemp possession becomes concrete with the issuance of certificates, law enforcement and prosecutors will have to face head-on the issue of distinguishing between hemp and marijuana at trial. But the interim period should have allowed time for counties across the state to obtain the necessary testing equipment and begin the accreditation process so that prosecutors will be able to prove a substance is marijuana in the cases necessitating forensic testing.

Of course, a marijuana offense could be prosecuted without laboratory testing under certain circumstances.²³⁰ As previously discussed, the defendant bears the burden of raising the argument that the substance is legal hemp rather than marijuana.²³¹ Thus, if a defendant does not raise the issue or agrees to stipulate to the identity of the substance, prosecution of the case will not be precluded by a lack of forensic resources.

IV. CONCLUSION

The Texas Hemp Farming Act may have obfuscated the state of Texas marijuana law and certainly complicated prosecutors' ability to enforce said laws, but it did not effectively decriminalize marijuana possession in Texas. The legalization of hemp in Texas does not prevent law enforcement officers from investigating suspected marijuana possession, and officers may still constitutionally search for and seize suspected marijuana based upon the existence of probable cause.²³² Though hemp legalization potentially lessens an officer's ability to rely on sensory observations alone in establishing probable cause, an "odor-plus" standard or any totality-of-the-circumstances approach is a workable solution that comports with established Fourth

²²⁹ See Letter from Greg Abbot, *supra* note 67, at 2–3 (citations omitted).

²³⁰ See *supra* Part III.A.

²³¹ See *supra* Part III.A.

²³² See *supra* Part II.C.3.

Amendment case law and may be molded to fit this still-evolving area of the law.

Moreover, the legalization of hemp in Texas also does not preclude prosecution of misdemeanor marijuana offenses. The inadequacy of most conventional methods of proof certainly poses a challenge to proving a substance is marijuana, and not hemp, beyond a reasonable doubt at trial. However, the burden to negate a statutory exemption—in this context, to prove a substance is not hemp—is only implicated once a defendant raises the issue and produces some evidence to support his or her claim.²³³ In such cases, a prosecutor has at least the following strategic options: (1) obtain a lab report quantifying THC concentration from a private or public crime lab, depending on the availability of resources and development of testing methods; (2) use the tools provided by the Act and point to a lack of proper certification or other violation of the Act's regulations; or (3) dismiss the case if unable to negate the hemp exception, based on the particular facts of that case.

Of course, the fact that prosecution is not legally prevented does not necessarily mean that prosecution would be beneficial or prudent. Clearly, a county or district attorney's deliberations on whether to continue prosecuting marijuana offenses after the Texas Hemp Farming Act implicates a number of practical, ethical, and even constitutional considerations. However, the Texas Hemp Farming Act does not operate as a wholesale foreclosure on the continued enforcement of marijuana-related offenses as far as the law is concerned. Instead, prosecutors should continue to make the determination of whether or not a marijuana case should or should not be prosecuted based on the particular circumstances of the case.

²³³ See *supra* Part III.A.