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# Testing Turmoil: The Legal and Business Implications of Inconsistent Cannabis Testing Standards

**WRITTEN BY**

Jean E. Smith-Gonnell | Cole White

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Cannabis businesses operating in state-legal markets face a patchwork of testing requirements that vary from one jurisdiction to another. In the absence of federal oversight, each state has developed its own testing rules, including for licensing labs, required contaminants to test for, sampling procedures, and allowable remediation of contaminated products.

This lack of uniformity not only complicates compliance for multistate operators, but also creates risks of inconsistent results, recalls, and financial losses for businesses playing by the rules. Every cannabis product offered for sale must be tested for quality.

This article explores the current landscape of cannabis testing standards across the U.S. as well as real-world challenges stemming from these inconsistencies. (For a comprehensive discussion and comparison of state-by-state cannabis testing standards and requirements, see Balducci, A., Krug, H., & Turcott, B. (n.d.). § 17:5 Cannabis Testing Requirements. In "Cannabis Law Deskbook" (2024-2025 ed.), Thomson Reuters.)

## The patchwork of state cannabis testing standards

### Licensing, accreditation, and standardized testing methods

In the U.S., any laboratory that tests cannabis must be authorized at the state level to do so, but states differ in how they license or certify testing labs. Most legalized states require labs to obtain a special cannabis testing **license or certification** from the state regulator. See e.g. Colo. Rev. Stat. Ann. §44-10-305(2)(a).

Separately, testing laboratories must also be **accredited**, meaning they have the necessary expertise, equipment, and processes to accurately test samples of cannabis. Lab accreditation requirements also vary by state, but many states require accreditation consistent with the International Organization for Standardization (ISO), while others allow or mandate state-equivalent alternatives to ISO accreditation.

Underpinning many of the inconsistencies discussed in this article is the fact that there are no universally accepted testing methods for cannabis. Unlike pharmaceuticals or food, which have federal standards and methods, cannabis testing has emerged ad hoc on a state-by-state basis. Labs in different states often develop their own in-house methods to meet the state's required tests.

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While these methods must be validated by the lab for accuracy and reliability, they might not be consistent from jurisdiction to jurisdiction. Without standard methods, results can vary and are hard to compare directly.

**Testing requirements**

Perhaps the most challenging inconsistencies lie in *what* labs must test for. Every legal-cannabis state requires quality assurance testing, but the panel of required tests and acceptable limits for contaminants vary. **Microbiological contaminants** (mold, bacteria, etc.) are a prime example. Some states set strict zero-tolerance policies for certain pathogens, while others allow up to a certain colony count.

Requirements for **chemical contaminants** also vary by state. Take **pesticides**: Some states have comprehensive pesticide screenings with zero tolerance for any detectable residue of banned pesticides, while others are less strict. Most states fall somewhere in between by mandating pesticide testing but allowing a passing result if pesticide traces are below certain thresholds, which can differ by the pesticide.

The same is true for **Heavy metal** testing. Nearly all major markets test for metals like arsenic, cadmium, lead, and mercury in cannabis, but some states also require labs to check for additional metals — including chromium and nickel.

Finally, Tetrahydrocannabinol **(THC) potency testing** is the most consistent across the U.S. — most, if not all legal markets require labs to measure the cannabinoid content, especially THC, of products for labeling. However, even here, nuanced differences exist.

States define and calculate “Total THC” differently and may require reporting of additional cannabinoids beyond THC and Cannabidiol (CBD). Most commonly, labs must report at least the levels of Delta-9 THC, THCA, CBD, and CBDA. Some states want more, including, for example, testing for Cannabinol (CBN) and Cannabigerol (CBG). See e.g., 4 Cal. Code Regs. §15724(a). In addition, some states are now explicitly targeting **THC isomers**, like Delta-8 THC.

Required testing also depends, in many cases, on the type of product. States often categorize cannabis into *usable flower*, *concentrates*, *edibles*, *topicals*, etc., and impose different tests or limits accordingly. Generally, cannabis flower (i.e. usable cannabis) faces the broadest array of tests (microbials, pesticides, heavy metals, moisture content, etc.), whereas extracts and infused products might have modified requirements. For example, highly processed products like concentrates could be subject to additional **residual solvent** testing to ensure no dangerous solvents remain from extraction.

On the other hand, because the extraction process can mitigate some contaminants, a few states relax microbial testing for concentrates. The rationale is that certain contaminants (like bacteria and molds) are less likely in products that have been distilled or processed, whereas chemical contaminants (like pesticides or solvents) might be more concentrated.

For edibles, beverages, and topicals (all products made by infusing cannabis extracts into foods, drinks, lotions, etc.), states again diverge. Some states reason that if the cannabis oil used in an edible passed all required testing, the final product does not need to be re-tested, but other states disagree. **Homogeneity testing** is another

common requirement, which ensures that THC (and other cannabinoids) are evenly distributed in infused products so that each bite or serving has a consistent dose. Methods and standards for homogeneity testing, of course, also vary by state.

**Sampling, lab shopping, and decontamination and remediation protocols**

Inconsistent standards are not limited to licensing and accreditation, or which tests are run — they also extend to how samples are collected and what can be done if a batch fails testing. **Sampling** is the process of taking a representative portion of a batch of cannabis or cannabis product to send to the lab for testing. Some states rely on the licensee to collect and submit samples, while others insist that the lab (or a neutral third party) collect the sample to prevent any tampering. See e.g. Wash. Rev. Code Ann. §69.50.348(1); 8 Ill. Admin. Code §1300.700.

There are also differences in **sample size**: some states specify that a certain percentage of the batch's weight must be sampled for testing, while other states have tiered sampling guidelines (e.g. X grams per pound up to a maximum, etc.). See e.g., Mich. Admin. Code r. 420.304(2)(b); Wash. Admin. Code 314-55-101(3).

These varied approaches mean that the integrity and representativeness of samples can differ drastically between jurisdictions. In addition, some operators engage in what is commonly referred to as **lab shopping**, where they seek out testing labs that will yield favorable results, potentially including overlooking contaminants or inflating THC levels.

If a batch fails required testing, what happens next is also state-dependent. In some states, a failed batch might have to be destroyed or recalled outright, especially for certain contaminants like banned pesticides. However, some states allow various forms of decontamination and/or remediation — attempts to cleanse or process the product to eliminate the contaminants — followed by re-testing.

**Why it matters: business challenges stemming from inconsistent testing standards**

For cannabis businesses operating in good faith, the inconsistent testing landscape isn't just an academic headache — it can translate into severe operational and financial challenges. Companies can incur massive financial losses from recalls or halted operations, face lawsuits or regulatory penalties, and suffer damage to their brand when a safety issue arises, even if that issue is partly due to differing standards or lab practices outside the company's control. The result is that, in states across the U.S., product recalls have become common — a symptom of the trial-and-error nature of evolving regulations.

Perhaps the starkest example came out of Michigan in late 2021, when state regulators issued what was then the state's largest ever cannabis product recall. The Michigan Marijuana Regulatory Agency (now renamed as the Cannabis Regulatory Agency) suddenly recalled all products tested over a three-month period by a major lab, questioning the reliability of its results. Over 400 retail locations were affected and an estimated $229 million worth of cannabis had to be taken off the shelves. Businesses that had already cleared those products through required testing were blindsided — they had followed the rules yet now faced millions in losses and disruption.

The lab in question (Viridis Laboratories) vehemently disputed the recall and sued the state, arguing the science didn't justify such a broad action. As of January 2024, most of those lawsuits had been dismissed. See Burns,

“Judge tosses lawsuits stemming from Michigan’s largest-ever marijuana recall,” MLive.com (Jan. 16, 2024).

Cannabis is at a regulatory crossroads — businesses and consumers cannot afford to wait for full federal legalization to see improvements in testing consistency. The time is ripe for state regulators, industry leaders, and standards bodies to implement a more unified framework. Such a framework should include a set of minimum testing requirements every state agrees to enforce, covering key safety tests for contaminants with science-based limits, standardized method recommendations, and reciprocity in accepting test data for multi-state operations.

Ultimately, greater uniformity in testing standards benefits everyone: Regulators can more easily trust results, labs can operate with clearer benchmarks, businesses have more predictability and less waste, and consumers get a more consistent level of safety and quality assurance.

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