

Testimony Opposing LD 104 and LD 1847
Submitted to the Committee on Veterans and Legal Affairs
By Jackson McLeod, CEO, Atlantic Farms

Distinguished Chairs and Members of the Committee,

My name is Jackson McLeod. I am a resident of Somerville, Maine, and the CEO and Co-founder of Atlantic Farms—an employee-owned cannabis company serving both the Adult Use and Medical markets. My background is in mechanical engineering, and I've been a medical cannabis cardholder and caregiver since 2012.

In 2024, Atlantic Farms served 5,142 medical customers across 61,344 transactions and 4,443 adult use customers across 43,250 transactions. We grow cannabis in greenhouses and outdoor fields, following seasonal, sun-grown practices.

This hands-on experience has given me deep insight into the regulatory impacts on both markets. As a business leader, my responsibility is to build a sustainable, Maine-based company. That requires profitability. And in my experience, excessive regulation—especially when poorly targeted—directly undermines that goal.

In 2024, we spent \$5,970 on product testing for our medical operations, while our Adult Use operation incurred \$42,818 in testing costs—despite being similar in size. This massive disparity has not translated into a meaningful difference in product quality or consumer safety.

One of the main arguments advanced in support of LD 104 and LD 1847 is that medical cannabis products would not pass Adult Use testing standards for yeast and mold. Following OCP's testing initiative, news articles claimed that most medical samples failed AU compliance thresholds for total yeast and mold. In one of those articles, the OCP director cited the American Herbal Pharmacopoeia (AHP) as the basis for the 10,000 CFU/g threshold.

I purchased the AHP publication to better understand that claim. While the document does recommend a 10,000 CFU/g limit for immunocompromised individuals, the very next paragraph begins by stating:

“It is important to note that microbial and fungal values do not typically represent pass or fail criteria.”

The text further explains that these microbes are naturally occurring and generally harmless to healthy individuals. This aligns with my lived experience: full-term, outdoor cannabis flower often would not pass AU testing but has been safely consumed for generations.

This confirms my belief that the current testing standards are less about consumer safety and more about unnecessary regulatory control. Not only do these rules raise costs, but they may actually degrade product quality through remediation techniques like radiation. Furthermore, selectively citing studies to advance regulatory agendas erodes trust in the Office of Cannabis Policy.

The caregiver community's resistance to expanded testing and seed-to-sale tracking is not about avoiding accountability—it's about survival. The costs associated with these changes will force many small, local businesses to close.

Rather than replicate the burdens of the Adult Use framework in the Medical program, I urge this committee to consider improving the existing AU regulations and preserving the distinct, community-based model that the Medical market has sustained for years.

For these reasons, I respectfully oppose LD 104 and LD 1847.

Thank you for your time and consideration.

Respectfully,

Jackson McLeod

CEO & Co-founder, Atlantic Farms

Somerville, Maine

American Herbal Pharmacopoeia®

Editors and Technical Advisors

Roy Upton RH
American Herbal Pharmacopoeia®
Scotts Valley, CA

Lyle Craker PhD
University of Massachusetts
Amherst, MA

Mahmoud ElSohly PhD
University of Mississippi
University, MS

Aviva Romm MD CPM
American Herbal Pharmacopoeia®
Lennox, MA

Ethan Russo MD
GW Pharmaceuticals
Salisbury, UK

Michelle Sexton ND BS
Americans for Safe Access
Washington, DC
The Center for the Study of Cannabis
and Social Policy
Seattle, WA

Research Associates

Jahan Marcu PhD
Green Standard Diagnostics
Henderson, NV

Diana Swisher MA
American Herbal Pharmacopoeia®
Scotts Valley, CA

Cannabis Inflorescence *Cannabis* spp.

STANDARDS OF IDENTITY, ANALYSIS, AND
QUALITY CONTROL

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recommendations for botanical ingredients established by various national and international bodies. Tests can be performed according to standard pharmacopoeial instructions (e.g., European Pharmacopoeia, United States Pharmacopoeia, among others).

Foreign Organic Matter (crude cannabis material): Not more than 5.0% of stems 3 mm or more in diameter; not more than 2.0% of other foreign matter.

Total Ash (crude cannabis material): Not more than 20.0%.

Acid-insoluble Ash (crude cannabis material): Not more than 4.0%.

Loss on Drying (crude cannabis material): Not more than 10.0% of its weight, determined on 1.000 g of the powdered drug by drying in an oven at 105 °C for 2 h (BMC 2010).

Moisture content of dry material (crude cannabis after packaging): Not more than 15% (BMC 2010).

Microbial and Fungal Limits

The presence of microbes is typical for all natural products. Unless carefully cultivated, illegal supplies may not meet the prescribed specifications. Conversely, reports in which a causal association between microbial exposure through cannabis use and infections has been established (e.g., Carod Artal 2003) appear to be rare considering the prevalence of use and exposure.

Tolerance limits for microbial and fungal contamination in cannabis and its products should be consistent with applicable state, federal, and international regulations,

whenever applicable. Recommended tolerance limits for cannabis products are provided in Table 9 and were based on a review of national and international recommendations for botanical products as well as discussion with a variety of stakeholders (e.g., Washington State). Additional guidance for botanical products is provided in national and international compendia based on oral consumption of finished botanical products. Additionally, more restrictive limits may be adopted for medical use of cannabis, most notably when used by immune compromised individuals. Microbes such as *Aspergillus* spp., for example, can be transmitted through inhalation and are of specific concern in those with specific medical conditions (e.g. chronic granulomatous disease and cystic fibrosis) and when employing specific medical treatments (e.g., immunosuppressive therapies). Reducing total microbial risk may require specific microbial reduction treatment to the greatest level possible without compromising the putative medicinal activity. Appropriate methods for testing microbial loads can be found in the *Bacteriological Analytical Manual* (FDA 2013a).

It is important to note that microbial and fungal values do not typically represent pass or fail criteria. Rather they are recommended levels when plants are produced under normal circumstances and growing conditions. Individual herbs, such as mints (*Mentha* spp.), which have a high concentration of trichomes, are prone to higher levels of molds than crops with fewer trichomes. As cannabis also possesses high concentrations of trichomes, this may be a factor and recommended limits may require adjustment over time. Higher levels of molds can also occur in seasons of heavy rain without undue damage to the crop and may justify a material exceeding the proposed limits as long as there is no visible damage to the plant and other qualitative specifications are met. Limits must also be appropriately applied to the various preparations being made. Typical microbial and fungal limits may not be relevant to materials that are to

Table 9 Microbial and fungal limits recommended for orally consumed botanical products in the US (CFU/g)

	Total viable aerobic bacteria	Total yeast and mold	Total coliforms	Bile-tolerant gram-negative bacteria	<i>E. coli</i> (pathogenic strains) and <i>Salmonella</i> spp.
Unprocessed materials*	10 ⁵	10 ⁴	10 ³	10 ³	Not detected in 1 g
Processed materials*	10 ⁵	10 ⁴	10 ³	10 ³	Not detected in 1 g
CO₂ and solvent-based extracts	10 ⁴	10 ³	10 ²	10 ²	Not detected in 1 g

* Unprocessed materials include minimally processed crude cannabis preparations such as inflorescences, accumulated resin glands (kief), and compressed resin gland (hashish). Processed materials include various solid or liquid infused edible preparation, oils, topical preparations, and water-processed resin glands ("bubble hash"). Significant microbial contamination can occur during post-harvesting handling.

Table 10 Pesticides commonly used in cannabis cultivation

Pesticide	Use	Residue Analytical Methods (RAM) Environmental Protection Agency (EPA) ¹ or Literature ²
Abamectin (Avermectins B1a and B1b)	Insecticide/acaricide	LC-FLD ¹ ; LC-MS/MS ²
Acequinocyl	Insecticide/acaricide	LC/MS/MS ¹
Bifenazate	Acaricide	LC ¹ ; LC-MS/MS ²
Bifenthrin (synthetic pyrethroid)	Insecticide	GC-ECD ¹ ; GC-MS/MS ²
Chlormequat chloride	Plant growth regulator (PGR)	IC, LC-MS/MS ²
Cyfluthrin (synthetic pyrethroid)	Insecticide	LC ² (WHO 2004); GC-MS/MS ²
Daminozide (Alar)	Plant growth regulator (PGR)	UV Spectroscopy ¹ ; LC-MS/MS ²
Etoxazole	Acaricide	GC-MS/MS ¹
Fenoxycarb	Insecticide	LC/UV ¹ ; LC-MS/MS ²
Imazalil	Fungicide	GC-ECD ¹ ; LC-MS/MS ²
Imidacloprid	Insecticide	LC-MS/MS ²
Myclobutanil	Fungicide	GC-ECD; GC-NPD ¹ ; GC-MS/MS ² ; LC-MS/MS ²
Paclobutrazol	Plant growth regulator (PGR); fungicide	LC-MS/MS ²
Pyrethrins*	Insecticide	GC-ECD ¹
Spinosad	Insecticide	LC-MS/MS; immunoassay ¹
Spiromesifen	Insecticide	GC-MS ¹ ; LC-MS/MS ²
Spirotetramat	Insecticide	LC/LC-MS/MS ²
Trifloxystrobin	Fungicide	GC-NPD ¹ ; GC-MS/MS ² ; LC-MS/MS ²

ECD = Electron capture detector; FLD = Fluorescence detector; GC = Gas chromatography; LC = Liquid chromatography; IR = Infrared spectroscopy; MS = Mass spectrometry; NMR = Nuclear magnetic resonance; NPD = Nitrogen phosphorous detector.

* Natural pyrethrins are tolerance exempt; synthetic pyrethrins are not.

be subjected to processing, such as infusing, decocting, or extracting with heat, alcohol, or other processes that introduce a microbial reduction step prior to consumption.

Metal Limits

When grown in contaminated soil, cannabis accumulates heavy metals to the extent that it has been proposed as a candidate for bioremediation of toxic waste sites (Shi and Cai 2009). Siegel et al. (1988) measured 440 ng mercury per gram of cannabis in Hawaii, whose volcanic soil contains naturally high levels of mercury. Siegel notes that mercury is absorbed 10 times more efficiently by the lungs than by the gut. He calculated that smoking 100 g of volcanic cannabis per week could lead to mercury poisoning. The American Herbal Products Association (AHPA) provides manufacturers of herbal products with general recommendations for maximum heavy metals levels in herbal products, based on the daily product intake amount (Table 11). The most appropriate method for quantification of metals in medicinal products is an inductively coupled plasma-mass spectrometry (ICP-MS) method of the US Food and Drug Administration (FDA), which analyzes arsenic, cadmium,

chromium, lead, and mercury (FDA 2011). The cannabis monograph of the Netherlands BMC (2010) considers the risk of metal contamination of cannabis grown under controlled conditions to be low.

Pesticide Limits

In the US, pesticides are regulated by the Environmental Protection Agency (EPA), which registers or licenses pesticides for use in the United States, and by individual states (usually, by that state's department of agriculture), which may regulate pesticides more stringently than EPA. Pesticide tolerances are approved on an individual or crop group basis, so that the approval of a pesticide for use on one commodity does not confer the approval of its use on another. Where no limits are specifically established for a specific crop or class of crops, the limit is zero (0), generally considered as < 0.01 ppm or 10 ppb according to analytical methods set forth in the *Pesticide Analytical Manual* (PAM; available from the US Food and Drug Administration) (FDA 2013b).

To date, there are no pesticides specifically approved for use on cannabis in North America on the federal level. However, some pesticides with tolerance exempt ingredi-

jackson mcLeod
Somerville
LD 104

I respectfully oppose LD 104. Please see my attached written testimony.