Wednesday, December 2, 2021


Record of Finding

The New Mexico Regulation and Licensing Department (“Department”) hereby submits the attached Temporary Emergency Rule 16.8.3 NMAC, Manufacturing and Testing of Edible and Topical Cannabis Products, for filing pursuant to NMSA 1978, Section 14-4-5.6. An emergency rule is necessary because the Department finds that in these particular circumstances the time required to comply with and complete the procedures of the State Rules Act would cause an imminent peril to the public health, safety or welfare.

1. Statutory Authority for Rule Promulgation:

Pursuant to §26-2C-3 NMSA 1978 of the Cannabis Regulation Act (“CRA”), the Cannabis Control Division (“Division”) of the Regulation and Licensing Department (“Department”) shall adopt and promulgate rules as provided in the State Rules Act, §14-4-1 NMSA 1978 et seq, which rules shall be “consistent with industry standards necessary for the division to carry out its duties” pursuant to the CRA.

For the purposes of adoption and promulgation of rules under the CRA, pursuant to §9-16-6 NMSA 1978 of the Regulation and Licensing Department Act, the Superintendent of the RLD “has every power expressly enumerated in the laws, whether granted to the superintendent or the department or any division of the department”.

The CRA requires the Department, in consultation with the New Mexico Environment Department (“NMED”), to adopt rules to establish health and safety standards applicable to the research, production, and manufacture of cannabis products, to establish standards for food and product safety applicable to cannabis products, and to establish which additives are approved for and prohibited from inclusion in cannabis products. NMSA 1978, § 26-2C-3(B)(11).

The CRA requires the Department, in consultation with NMED and the New Mexico Department of Agriculture (“NMDA”), to adopt rules to establish standards for quality control, inspection, and testing of cannabis products for potency and contaminants. NMSA 1978, § 26-2C-3(B)(12).

The CRA requires the Department to work with NMED to adopt rules to ensure the testing requirements are consistent with industry standards and that each manufacturing licensee tests its cannabis products prior to distribution and stores its products in a manner that prevents contamination or degradation. NMSA 1978, § 26-2C-18(B).

The CRA requires the Department, in consultation with NMDA, NMED, and the Office of the State Engineer, to adopt rules to establish environmental protections and protocols to ensure licensees’ compliance with state and local laws and ordinances governing food and product safety, occupational health and safety, environmental impacts, natural resource protection, water use and quality, water supply, hazardous materials, pesticide use, and wastewater discharge. NMSA 1978, § 26-2C-3(D).
The CRA requires the Department to work with NMED to ensure cannabis establishments comply with the rules promulgated by the Environmental Improvement Board for occupational health and safety pursuant to the Occupational Health and Safety Act, NMSA 1978, Sections 50-9-1 to -25 (1953, as amended through 1999). NMSA 1978, § 26-2C-18(D).

The Department will work with NMED to adopt rules to establish labeling and packaging requirements to ensure the packages for cannabis products are child-resistant and the labels of cannabis products provide a list of pharmacologically active ingredients, nutritional information, a warning if nuts or other known allergens are used, and potency and pesticide use. NMSA 1978, § 26-2C-17(B).

2. **Date of Rule Approval:**

   The emergency rule was approved by RLD Superintendent Linda Trujillo on December 2, 2021.

3. **Date of Publication of Adopted Rule in the New Mexico Register:**

   The adopted Rule will be published in Volume XXXII, Issue 23 of the New Mexico Register on December 14, 2021.

4. **Effective Date of Rule:**

   December 2, 2021

5. **Expiration of Rule:**

   May 31, 2022

6. **Reasons for Adopting Rule:**

   The CRA requires the following rules to be promulgated no later than January 1, 2022: NMSA 1978, § 26-2C-3(B)(11), NMSA 1978, § 26-2C-3(B)(12), NMSA 1978, § 26-2C-18(B), NMSA 1978, § 26-2C-3(D), NMSA 1978, § 26-2C-18(D), and NMSA 1978, § 26-2C-17(B).

   Following the requirements of the State Rules Act would require at least four months from the time the rulemaking process is initiated until a final rule becomes effective.

   The Department began accepting applications from individuals and businesses for a cannabis producer, cannabis producer microbusiness, or a medical cannabis producer license beginning on September 1, 2021. These types of producer licenses will allow individuals and businesses to cultivate cannabis for sale and consumption pursuant to 16.8.2 NMAC-Licensing and Operation Requirements for Cannabis Establishments.

   Upon information and belief, the Department has concluded that once these crops are harvested, individuals and businesses will begin post-harvest processing, extraction, and manufacturing of food products, topicals, and other cannabis products, regardless of whether rules are in place.

   Cannabis oil and other cannabis products will be used in the manufacture of many different food products and topicals pursuant to the Act, which may be consumed by anyone over the age of 21.
Without regulations from the Department in place by January 1, 2022, manufacturers of cannabis products intended for human consumption could not be permitted, and the Department would have no mechanism to ensure adherence by these manufacturers to any standards of sanitation or safe food handling practices.

Without regulations from the Department in place by January 1, 2022, manufacturers of cannabis products for human consumption would not be required to test final cannabis products for heavy metals, solvents, contaminants, pesticides, THC concentration, or unapproved additives, such as nicotine.

Without regulations from the Department in place by January 1, 2022, there would be no inspection requirements for cannabis manufacturing facilities, and no standards in place for the Department to enforce.

Without regulations in place by January 1, 2022, the chances are greatly increased that consumers will be exposed to food-borne pathogens, defective or contaminated products, or products produced or stored in unsanitary or otherwise unsafe conditions.

Without regulations in place by January 1, 2022, there would be no requirements to ensure cannabis manufacturers comply with state and local laws and ordinances governing food and product safety, occupational health and safety, environmental impacts, natural resource protection, water use and water quality, water supply, hazardous materials, pesticide use, and wastewater discharge.

The Department finds that there is an imminent threat to the public health, safety, or welfare from the unpermitted manufacture of cannabis products intended for human consumption, which necessitates the promulgation and adoption of temporary emergency rules to permit, inspect, and otherwise regulate the manufacturing and testing of cannabis products.
Food Safety Guidance for
Cannabis-Infused Products

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Visit: NEHA’s Online Cannabis Resources
I. Purpose

The purpose of this document is to provide a comprehensive compilation of research on food safety provisions that have been approved, implemented, or are in trial phases throughout various states that have legalized cannabis as of March 2018. This document seeks to provide a list of considerations for states implementing a food safety program for cannabis edibles and provide examples of states that have strong written legislation to support their regulations and ensure its success. This document will focus solely on the food safety of cannabis-infused products (CIPs) from “seed-to-sale.” Regulations and/or information regarding the safety of cannabis consumption, political perspectives on the cannabis industry and its legalization, and/or any topic not directly related to food safety lies outside the scope of this document and will not be discussed. This information is provided as a guidance document and is not intended to constitute legal advice and should not be relied upon in lieu of consultation with appropriate legal advisers in your jurisdiction.

Finally, for purposes of this document, food will be defined as “any raw, cooked, or processed edible substance, gum, ice, beverage, or ingredient used or intended for use or for sale in whole or in part for human consumption, including cannabis-infused products” (City and County of Denver, 2014). This definition includes all edible candies, gummies, baked goods, canned goods, chocolates, beverages, homemade goods, oils, capsules, extracts, concentrates, and tinctures. This definition does not include flowers or buds used for vaping or smoking, resins, topical creams, sprays, waxes, or shatter. Please note that the terms “cannabis-infused products” and “edibles” will be used interchangeably throughout the document. Additionally, cannabis and marijuana will be used interchangeably through the document. Finally, regulations are constantly changing. For this reason, this document is recent as of March 2018 and will be updated on an annual basis.
II. Introduction

Among the states and the District of Columbia that have legalized either medical and/or adult use cannabis, few measures have been implemented directly involving food safety. Many states have yet to decide how to regulate the various stages of cannabis edible production from seed-to-sale. With lack of federal oversight and standardization, it is imperative that states look to best practices to implement food safety standards for CIPs. This document seeks to compile food safety practices that states have implemented as a result of legalization. This document will discuss food health and safety in detail and serve as a guidance document for states seeking to implement a food safety program. Specifically, this document will examine how states have addressed regulating the following: growing, cultivation and testing practices, extraction, infusion, storage, distribution and tracking, packaging, transportation, food handling education, and labeling.

These types of food safety regulations are important for the following reasons: 1) immunocompromised individuals are the consumers of medical cannabis edibles; 2) cannabis edibles have a delayed effect, leading individuals to consume more than necessary in order to get a high, which calls for a better understand of dosing and need to ensure proper labeling of tetrahydrocannabinol (THC) and other cannabinoids, and 3) as states continue to legalize medical and/or recreational cannabis, it is important that they can readily seek recommendations and information for food safety regulations provided by states that have already implemented such regulations. This document includes research from academic peer-reviewed articles, information from public health officials, webinars, written position statements, and data collected from a focus groups at the Canna East Compliance Summit in Orlando, Florida, in January 2018. This document has been drafted for state public health officials, growers, distributors, producers, retailers, enforcement officers, and/or other regulating bodies of the medical and recreational cannabis food safety industry.

Acknowledgements: The completion of this document would not have been possible without the National Environmental Health Association’s (NEHA) Guidance Document Advisory Board and interns. Special thanks to Kelsi Sullivan for compiling the document. Further special thanks to the Advisory Board members—Melissa Bartsche, Camille Gourdet, Tim Gunther, Elizabeth Landeen, Kara Lavaux, Joe Lillis, Peggy Moore, Marc Nascarella, and Cindy Rice—for providing their expertise and guidance. The document would not have been completed without their revisions, edits, and support.
III. Background: Food Safety and Cannabis

Barrus and coauthors (2016) state that cannabis is the most widely used illicit drug in the U.S. As of January 2018, 29 states and the District of Columbia have legalized either medicinal and/or recreational use of cannabis, while several other states have legalized cannabidiol (CBD)-only or low-THC products (National Conference of State Legislatures, 2018). Please Figure 1 for a current map of cannabis legalization.

Figure 1: States That Have Legalized Medical and/or Recreational Cannabis

![29 States & DC with Legal Marijuana Laws](https://tgunthergroup.com/2017-cannabis-map/)

In 2015, 9.5% of adults and 23.7% of youth self-reported using cannabis at least once in the past year (Hasin et al., 2015). With the increased legalization of medicinal and recreational cannabis, the rates of adult and youth use across states are expected to increase (Hasin et al., 2015). Additionally, while public perception and cultural trends continue to evolve, the range of cannabis-infused products, in the form of edibles, has seen tremendous growth. In 2014, Colorado sold over 1.96 million units of medicinal edibles and 2.85 million units of recreational edibles, representing 45% of their total sales (Brohl, Kammerzell, & Koski, 2015).

Washington has also been very successful with cannabis edibles. Washington’s open source data demonstrates that total production of solid cannabis-infused edibles since market open in 2015 is 5.47 million units (Figure 2).
Finally, in general, cannabis sales in Colorado have risen every year since 2014 and the upward trend is expected to continue for 2018 (Figure 3) (Colorado Department of Revenue, 2018).

The expansion of CIPs has presented a unique challenge for policy makers and regulators due to the diverse range of products, coupled with little to no research evaluating its efficacy and safety to consumers (Barrus et al., 2016). The U.S. has federal agencies (e.g., Food and Drug Administration, U.S.
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Department of Agriculture, etc.) and regulations to help ensure that consumers across the country are being provided food choices that are safe, as well as minimize risk of foodborne illness. As a Schedule I controlled substance under the U.S. Drug Enforcement Administration, there is no overarching regulatory body that can recommend, oversee, and verify the health and safety of CIPs. For this reason, CIPs present a serious food safety concern and states must take initiative and implement food safety standards to protect consumers of CIPs. Most importantly, states must be attentive to contamination due to improper growing conditions, handling and storage, chemical residues on plants and edibles, pathogenic contamination from pests and improper food handling practices, and concentration levels of cannabinoids (Burton, 2018).

Improper growing conditions, handling, and storage can result in dangerous health problems for consumers. One example are aflatoxins that are produced by mold growth and can lead to liver problems (Burton, 2018). For this reason, it is important to monitor and record water activity and temperature during storage and transportation (Burton, 2018). When products arrive at a facility, they should be tested and all contaminated products should be rejected, segregated, and disposed of safely (Burton, 2018). Additionally, it is important to ensure adherence to good agricultural practices.

The U.S. Environmental Protection Agency (U.S. EPA) has generated a list of pesticide residue tolerance levels on food based on their toxicity to humans. A current tolerance level search engine can be found at the National Pesticide Information Center’s Food and Drinking Water Limits for Pesticides website. While there are U.S. EPA guidelines for these pesticides, they do not include residue levels for cannabis. A few states have taken the initiative to provide guidance to growers, processors, and distributors, and/or ban certain pesticides. Oregon has also been a leader in this arena and has provided a list of commercially available products and ingredients that are not prohibited for use. Their guide list can be found on their Cannabis and Pesticides website. The guide list is regularly updated. Oregon also provides information on potentially harmful products and includes information on protection for agricultural workers. States must actively set pesticide residue limits and designate a regulating body to oversee its adherence to the policies.

Additionally, states must be concerned with contamination of etiologic agents associated with disease such as molds, mildew, and bacteria including Clostridium botulinum, Salmonella, and E. coli (Gourdet, Giombi, Kosa, Wiley, & Cates, 2017). Contamination can be minimized or eliminated with testing and basic food safety education and training. Testing a product before and after production is the best way to reduce the amount of contamination of etiologic agents in edibles to protect consumers. Moreover, proper food handling is an effective way of reducing contamination. It is important for growers, processors, and distributors to receive adequate training on proper hand washing techniques, sanitation standards, and food handling and storage.

Finally, THC and cannabidiol limits are another crucial part of food safety. Cannabis edibles have a delayed onset of an effect for users because it needs to be processed and digested by the liver. Inhalation and other methods of consumption act much faster and allow the consumer to feel an effect. For this reason, many consumers unknowingly consume more than one serving of an edible. Studies have found that individuals take a serving, feel no effect, and then take another serving. This process
leads to an incredibly strong and unexpected high for consumers and for some, it leads to an overdose. For this reason, many states have implemented mg/serving concentrations and set maximum serving sizes for each food item.

In consequence to such rapid legalization, many states retrospectively implemented food safety regulations for their CIPs leaving inconsistencies across state borders and many states lack governing jurisdictions that oversee these safety precautions. These inconsistencies have led to recalls due to pesticide contamination, an uptake in poison control visits by children due to unintentional consumption, an uptake in hospital visits for cannabis overdoses due to delayed effects, and high levels of heavy metals and other toxic contaminants found in lab testing results (Baca, 2018; Baca & Migoya, 2015; Hancock-Allen, Barker, VanDyke, & Holmes, 2015). These outcomes pose serious risks to all consumers and should encourage states to designate adequate agencies that can implement and oversee such regulations. This document seeks to compile the works of various states and provide food safety recommendations to states looking to legalize medical and/or recreational cannabis in the near future.
IV. Food Safety Considerations and State Examples

This section will focus on food safety policies and laws that have been implemented across different states. Due to the lack of any federal laws governing the cultivation, manufacturing, or sale of cannabis products, there is a great deal of variation in state laws that regulate CIPs. Therefore, this section is broken down into a list of topic areas that pertain to food safety. Under each topic area is a list of things to be considered when implementing regulations. These considerations are derived from specialists in food safety and from thorough analysis of legislation that has already been implemented by states that have legalized cannabis. Finally, under considerations, examples of comprehensive and strong state laws have been provided. No state has passed a perfect law that takes every food safety issue into consideration. It is our belief, however, that some state laws can serve as examples for other states. Please note that these laws are constantly changing. For this reason, these policies are current as of March 2018 and will be updated on an annual basis.

Food Safety Topic Areas

1. Storage and Sanitation
2. Collection and Testing
3. Laboratory Accreditation
4. Tracking, Transport, and Distribution
5. Serving Size and Homogeneity
6. Labeling and Packaging
7. Education and Training
8. Food Safety Plans
9. Waste Disposal
10. Regulatory Considerations

1. Storage

Storage refers to keeping products safely stored at any point of production, which can include storage at a cannabis kitchen facility, dispensary, during transportation, or during testing and sampling.

Considerations for Regulation

- Lighting, ventilation, temperature, humidity, space, and equipment
- Sanitation, clean and orderly space for storage, pest and rodent free space
- Space/storage area for all cannabis products that is damaged, contaminated, or has been tampered with
- Security precautions for all storage areas and access for individuals who have been trained in food safety and are 21 years or older
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- Require storage legislation for all stages of production including cultivation, production, distribution, testing, and sale
- Labeling requirements for varying stages of production and sale
- Contamination and storage during transport
- Storage separation for multiple deliveries
- Consider specific legislation for storage during production (i.e., sampling and testing), dispensary storage, and transport

### Examples of Strong State Regulations

**Massachusetts**

[Massachusetts drafted cannabis regulations](#) in December 2017 to ensure safe access to cannabis. These laws put into place various requirements pertaining to the safe and proper storage of cannabis products.

- “A marijuana establishment shall provide adequate lighting, ventilation, temperature, humidity, space, and equipment” (935 Mass. Code Regs. 500.105)
- “A registered marijuana dispensary (RMD) shall have separate areas for storage of marijuana that is outdated, damaged, deteriorated, mislabeled, or contaminated, or whose containers or packaging have been opened or breached, until such products are destroyed” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “RMD storage areas shall be maintained in a clean and orderly condition” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “RMD storage areas shall be free from infestation by insects, rodents, birds, and pests of any kind” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “RMD storage areas shall be maintained in accordance with the security requirements” (935 Mass. Code Regs. 500.105)

Other regulations that mention and pertain to storage include:

- “Mixed use business licensees must maintain a separate, locked storage area on its premises for marijuana products. Such separate, locked storage area shall be limited in access to only those employees who are 21 years of age or older and have completed a responsible vendor program training” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “Management and operations...shall submit...a detailed summary of operating policies and procedures for the marijuana establishment, which shall include, but not be limited to, provisions for storage” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “There shall be sufficient space for placement of equipment and storage of materials as is necessary for the maintenance of sanitary operations” (2018 Mass. Reg. Text 11143, Proposed Rule)
- “There shall be adequate safety lighting in all processing and storage areas, as well as areas
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where equipment or utensils are cleaned” (935 Mass. Code Regs. 500.105; 105 Mass Code Regs. 725.105)

- “Storage and transportation of finished products shall be under conditions that will protect
  them against physical, chemical, and microbial contamination as well as against deterioration
  of them or their container” (105 Mass Code Regs. 725.105)

Storage requirements for vehicles:

- Vehicles must be “equipped with functioning heating and air conditioning systems
  appropriate for maintaining correct temperatures for storage of marijuana and marijuana

- “Marijuana and marijuana products must be transported in a secure, locked storage
  compartment that is a part of the vehicle transporting the marijuana or marijuana products”

- “The storage compartment must be sufficiently secure that it cannot be easily removed” (935
  Mass. Code Regs. 500.105)

- “If a marijuana establishment, pursuant to a marijuana transporter license, or a marijuana
  transporter is transporting marijuana or marijuana products for more than one marijuana
  establishment at a time, the marijuana or marijuana products for each marijuana
  establishment shall be kept in a separate locked storage compartment during transportation
  and separate manifests shall be maintained for each marijuana establishment” (2018 Mass.
  Reg. Text 11143, Proposed Rule)

Oregon

In Oregon, the handling and testing of cannabis is overseen by three separate state agencies: the
Oregon Liquor Control Commission, Oregon Health Authority, and Oregon Department of Agriculture.

In regard to storage while sampling and testing cannabis, Oregon requires the following:

- “A producer must, within 45 days of harvesting a harvest lot, physically segregate the harvest
  lot from other harvest lots, place the harvest lot in a receptacle or multiple receptacles and
  assign a UID tag to each receptacle that is linked to each plant that was harvested” (OR
  Admin. R. 845-025-2080)

- “Following samples being taken from a harvest or process lot batch a grower or processing
  site must:

  (a) Label the batch with the following information:
      (A) The registrants registration number;
      (B) The harvest or process lot unique identification number;
      (C) The name and accreditation number of the laboratory that took samples
          and the name and accreditation number of the laboratory responsible for the
          testing, if different;
      (D) The test batch or sample unique identification numbers supplied by the
          laboratory personnel;
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(E) The date the samples were taken; and
(F) In bold, capital letters, no smaller than 12 point font, "PRODUCT NOT TESTED." (OR Admin. R. 333-007-0380)

- The grower or processing site must “[s]tore and secure the batch in a manner that prevents the product from being tampered with or transferred prior to test results being reported.” (OR Admin. R. 333-007-0380)
- The bath must “[b]e able to easily locate a batch stored and secured under section (1)(b) of this rule and provide that location to the authority or a laboratory upon request” (OR Admin. R. 333-007-0380)

Additionally,
- “Transfer Records: At the time a marijuana item is transferred to a dispensary the dispensary registrant must:
  (a) Document, on a form prescribed by the Authority, as applicable:
    (A) The weight in metric units of all usable marijuana received by the registered dispensary;
    (B) The number of seeds and immature plants received by the registered dispensary;
    (C) The amount of a medical cannabinoid product, concentrate, or extract received by the registered dispensary, including, as applicable, the weight in metric units, or the number of units;
    (D) The name of the marijuana item;
    (E) The date the marijuana item was received;
    (F) The harvest or process lot numbers, and batch numbers; and
    (G) The amount paid by the registered dispensary.” (OR Admin. R. 333-008-1230)

2. Collection and Testing

Collection and testing methods are essential to the food safety of CIPs. To ensure consumer safety, it is imperative that product is being collected to ensure a representative sample, testing methods are similar, and laboratories are testing for similar pesticides, solvents, and microbials.

Considerations for Regulation

- Uniform sampling and collection methods
- Ensuring sanitation in laboratories
- Determine if sampling is conducted by dispensary, state, or laboratory
- In-process testing: testing at various stages (i.e., flower, concentrate, end product)
- Testing completed by a third-party independent laboratory
Establish protocol for product that fails
Ensure laboratories are using similar methods for testing product, which will allow for final product comparison
Consider sampling standards beyond state recommendations
Consider validation requirements and establish uniform methods to determine accuracy of testing
Reporting results, which can be done through a certificate of analysis (COA)
Test for the following:

- **Potency**: Ensure methodologies are consistent to ensure accuracy across dispensary products. It will be important to allow for third-party proficiency testing as part of the process and set up random off the shelf testing. In the random testing it will be important to state that the random samples will be selected by a third-party tester not by the licensee.

- **Homogeneity**: An area that should be considered in CIPs. Homogeneity is meant to ensure that THC is distributed uniformly throughout a batch of a CIPs to provide users with the assurance of a consistently prepared edible.
  
  Example: “For testing whether the THC content is homogenous, the marijuana testing facility shall report the THC content of each single serving in a multi-unit package; the reported content must be within 20 percent of the manufacturer's target; for example, in a 25 milligrams total THC package with five servings, each serving must contain between four and six milligrams of THC” (3 Alaska Admin. Code § 306.645)

- **Residual Pesticides**: Consider organic growing standards. Studies indicate that the extraction process yield higher rates of pesticides (Voelker & Holmes, 2015). Long-term use or chronic exposure could result in serious human and environmental health issues. Alternatively, states can provide guidance for use and tolerance levels. A few states that have been active in this arena area are Oregon, Colorado, and California.

- **Cannabinoids**: THC, tetrahydrocannabinolic acid, CBD, cannabidiolic acid, and cannabinol.

- **Terpenoids**: Alpha-bisabolol, alpha-humulene, alpha-pinene, alpha-terpinolene, beta-caryophyllene, beta-myrcene, beta-pinene; caryophyllene oxide, limonene, and linalool.

- **Others**: Heavy metals, microbial impurities, mycotoxins, residual solvents and processing chemicals, moisture content and water activity, and homogeneity.
### Examples of Strong State Regulations

<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>California</strong></td>
<td>includes distributors into their sampling and testing model. All product is sent to a distributor. The laboratory goes to the distributor and chooses a sample. If any of the sample fails testing, all product is disposed. Recently, California developed a chart for required laboratory testing.</td>
</tr>
<tr>
<td><strong>Colorado</strong></td>
<td>In Colorado (pp. 125–127), a representative sample is required for collection and testing. Essentially, growers are asked to take a sample from their grow and send it to the laboratory. For more information, please see Colorado’s Marijuana Inspection: Validation Guidelines.</td>
</tr>
<tr>
<td><strong>Massachusetts</strong></td>
<td>In Massachusetts, as in Colorado, the grower chooses a sample to send to the laboratory. Massachusetts laboratories may send a representative sample to the grower and pick up the sample.</td>
</tr>
<tr>
<td><strong>Nevada</strong></td>
<td>Nevada laboratories go to the grower/processor to collect the sample. The laboratory chooses which sample to take.</td>
</tr>
</tbody>
</table>

Figure 4 (next page) is an example of a COA that a laboratory would produce for dry flower. Figure 5 is an example of a COA for concentrates. Some states require these to be provided to the retailers from the manufacturer or cultivation center.
Figure 4: Example of a Certificate of Analysis for a Dry Flower Cannabis Product
Figure 5: Example of a Certificate of Analysis for a Concentrate Cannabis Product

Disclaimer: These COA’s are to be used solely as examples for this guidance document. Other examples of COA’s have been made public and can be found on EVIO’s website. NEHA has no affiliation to EVIO Labs or any other marijuana testing laboratory.

3. Laboratory Accreditation

Currently, laboratory accreditation is the only way to ensure testing standardization across different laboratories. Many states have relied on International Organization for Standardization (ISO)-17025 laboratory accreditation. ISO-17025 ensures that methods are being done properly, but it does not determine whether results are accurate. Additionally, ISO accreditation is required for each sector of testing and many laboratories get accredited for only one, but test for various sectors. For instance, a laboratory can be ISO accredited for pesticide testing but not for microbial testing. Often times laboratories will still conduct microbial testing despite not having the proper ISO accreditation for that specific test. This topic is still heavily debated in the cannabis industry and we are unsure how this situation will change and evolve as the industry grows. There are groups like ASTM International that have put together committees to develop national cannabis standards. The D37 Cannabis Committee is focused on developing laboratory standards specific to cannabis.
Considerations for Regulation

- Define testing facility
- Require all laboratories that test cannabis to be accredited by ISO-17025 (give the licensee up to 12 months to obtain certification)
- Require all laboratories that test cannabis to have the same accreditation
- Require accrediting body to validate results
- Require accreditation via a third-party accrediting body with no financial tie to dispensary or cannabis industry
- Define educational requirements for laboratory director
- Future considerations: Require laboratories to publish all the testing information through a COA, which will allow academics and consumers to validate their work

Examples of Strong State Regulations

Colorado

- “Medical marijuana testing facility” means a public or private laboratory licensed and certified, or approved by the Division, to conduct testing and research on medical marijuana, medical marijuana concentrate, and medical marijuana-infused product” (1 CO Code Regs. § 212-1)
  - The laboratory director is responsible for the overall analytical operation and quality of the results reported by the medical marijuana testing facility, including the employment of personnel who are competent to perform test procedures, and record and report test results promptly, accurately, and proficiently and for assuring compliance with the standards set forth in this Rule. The laboratory director must be a) a medical doctor (MD) licensed to practice medicine in Colorado and have at least three years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body; b) the laboratory director must hold a doctoral degree in one of the natural sciences and have at least three years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body; or c) the laboratory director must hold a master’s degree in one of the natural sciences and have at least five years of full-time laboratory experience in a regulated laboratory environment performing analytical scientific testing in which the testing methods were recognized by an accrediting body” (1 CO Code Regs. § 212-1)
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Massachusetts

- “All testing must be conducted by an independent laboratory that is:
  1. Accredited to ISO-17025 by a third party accrediting body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement; or
  2. Certified, registered, or accredited by an organization approved by the Department” (105 MA Code Regs. 725.105)

4. Tracking, Transport, and Distribution

Tracking and transport are important food safety issues and are therefore required in many states to trace and track cannabis from seed-to-sale, which often requires manufacturers to identify each plant, track it through the extraction and infusion process into finished products, and track it during transportation and distribution.

Considerations for Regulation

- Implement trace and track system before allowing a cannabis facility to operate
- Require training for personnel to operate and oversee trace and track system
- Include all phases and movement of cannabis in trace and track system, which may include packaging, sale, transport, receipt, return, laboratory results, etc.
- Provide definition of transport
- Consider vehicle alarms, security, refrigeration/temperature controls, and licensed personnel

Examples of Strong State Regulations

California

California requires a track-and-trace system that is a state approved system used to track commercial cannabis activity and movement. Every retailer must be registered for state mandated training for the track-and-trace system. The system was created to ensure that cannabis waste is identified, weighed, and tracked while on the licensed premises and disposed of in accordance to California law. It is essential for any movement of cannabis to be documented in the track-and-trace system.

Below are some examples of regulation; the full regulation can be found on page 34 of the Emergency Regulations proposed by California in January 2017.

- “A licensee shall create and maintain an active and functional account within the track and trace system prior to engaging in any commercial cannabis activity, including the purchase,
sale, test, packaging, transfer, transport, return, destruction, or disposal, of any cannabis goods” (CA Code Regs. Tit. 16, § 5048)

● “A licensee shall monitor all compliance notifications from the track and trace system, and timely resolve the issues detailed in the compliance notification” (CA Code Regs. Tit. 16, § 5048)

● “A licensee shall record in the track and trace system all commercial cannabis activity, including:
  ○ Packaging of cannabis goods
  ○ Sale of cannabis goods
  ○ Transportation of cannabis goods to a licensee
  ○ Receipt of cannabis goods
  ○ Return of cannabis goods
  ○ Destruction and disposal of cannabis goods
  ○ Laboratory testing and results
  ○ Any other activity as required pursuant to this division, or by any other licensing authority” (CA Code Regs. Tit. 16, § 5049)

● “The following information shall be recorded for each activity entered in the track and trace system:
  ○ Name and type of the cannabis goods
  ○ Unique identifier of the cannabis goods
  ○ Amount of the cannabis goods, by weight or count
  ○ Date and time of the activity or transaction
  ○ Name and license number of other licensees involved in the activity or transaction
  ○ If the cannabis goods are being transported” (CA Code Regs. Tit. 16, § 5049)

Colorado

In the Code of Colorado Regulations, there is a list of tracking requirements for all cannabis retail stores. Colorado requires the use of an inventory tracking system to ensure that all cannabis inventories are identified and tracked from cultivation to sale, a testing facility, or disposal.

Some examples of the regulation are listed below.

● “The retail marijuana store must have the ability to reconcile its inventory records with the inventory tracking system and the associated transaction history and sale receipts” (1 CO Code Regs. § 212-2)

● “A retail marijuana store is prohibited from accepting any retail marijuana or retail marijuana product from a retail marijuana cultivation facility or retail marijuana products manufacturing facility without receiving a valid transport manifest generated from the inventory tracking system” (1 CO Code Regs. § 212-2)

● “A retail marijuana store must immediately input all retail marijuana and retail marijuana product delivered to the licensed premises, accounting for all RFID tags, into the inventory
tracking system at the time of delivery to the retail store” (1 CO Code Regs. § 212-2)
- “All delivered retail marijuana must be weighed and the scale used shall be tested and approved in accordance with measurement standards established” (1 CO Code Regs. § 212-2)
- “A retail marijuana store must reconcile transactions from their point of sale processes and on-hand inventory to the inventory tracking system at the close of business each day” (1 CO Code Regs. § 212-2)

5. Serving Size and Homogeneity

Edible products typically have a delayed onset of effect. To avoid over consumption and to protect recreational consumers, some states now require producers to label serving sizes, individually mark serving size, and limit THC mg/serving size and package. Additionally, producers have found that ensuring homogeneity throughout an edible product is difficult. Moreover, states have set different homogeneity requirements. Some states now require a uniform distribution of THC throughout the edible product to ensure that not all the THC is concentrated in one area of the edible and to ensure that consumers are consuming only the amount of THC that is labeled on the serving size.

Considerations for Regulation

- Individually marked or delineated servings
- Limit THC per serving (generally 10 mg [MA] or to 5 mg [OR])
- Limit THC per package (generally 100 mg, which can differ for medicinal users)
- Require labeling for serving size and suggestions for use (also under Section 6: Labeling and Packaging)
- Consider testing for homogeneity
- Consider variance requirement for potency of products (i.e., +/- 10–20%)

Examples of Strong State Regulations

California

California’s emergency draft regulations, developed by the Bureau of Cannabis Control, includes comprehensive regulations on serving size and homogeneity.

Serving Size

- “Beginning January 1, 2018, licensees shall not transport or sell any edible cannabis product that exceeds 10 mg of tetrahydrocannabinol (THC) per serving” (CA Code Regs. 16, § 5029)
- “An M-licensee may transport or sell medicinal edible cannabis products that are 10 mg of
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THC or less per serving regardless of the THC amount in the package” (CA Code Regs. 16, § 5029)

Homogeneity: § 5716. Homogeneity Testing of Edible Cannabis Products

● “A sample of edible cannabis product shall be deemed to have passed homogeneity testing if
the relative standard deviation of THC concentration between the samples collected does not
exceed plus or minus 10%” (CA Code Regs. 16, § 5716)
● “If a sample fails homogeneity testing, or the laboratory fails to perform homogeneity
testing...the batch from which the sample was collected fails homogeneity testing and may
not be released for retail sale” (CA. Code Regs. 16, § 5716)

Colorado

Colorado has new permanent rules for retail marijuana and medical marijuana that went into effect in
February 2018. The regulations have clear guidelines for serving size and homogeneity. Here, only
retail marijuana is shown as an example.

Serving Size for Retail Marijuana

● “Multiple-serving edible retail marijuana product” means a unit for sale to consumers
containing more than 10 mg of active THC and no more than 100 mg of active THC” (1 CO
Code Regs. 212-2)
● “Single-serving edible retail marijuana product” means an edible retail marijuana product unit
for sale to consumers containing no more than 10 mg of active THC”. (1 CO Code Regs. 212-2)
● THC content container restriction: “Each individually packaged edible retail marijuana
product, even if comprised of multiple servings, may include no more than a total of 100 mg
of active THC” (1 CO Code Regs. 212-2)
● Multiple-serving edible retail marijuana product:
  ○ “A retail marijuana products manufacturing facility must ensure that each single
standardized serving of marijuana of a multiple-serving edible retail marijuana
product is physically demarked in a way that enables a reasonable person to
intuitively determine how much of the product constitutes a single serving of active
THC
  ○ Each demarked standardized serving of marijuana must be easily separable in order
to allow an average person 21 years and older to physically separate, with minimal
effort, individual servings of the product
  ○ Each single standardized serving of marijuana contained in a multiple-serving edible
retail marijuana product shall be marked, stamped, or otherwise imprinted with the
universal symbol directly on the product in a manner to cause the universal symbol to
be distinguishable and easily recognizable” (1 CO Code Regs. 212-2)

Homogeneity for Retail Marijuana:
● “If the THC content of a retail marijuana product is determined through testing not to be homogenous, then it shall be considered to have failed potency testing” (1 CO Code Regs. 212-2)
● “A potency variance of no more than plus or minus 15% is allowed” (1 CO Code Regs. 212-2)
● “A retail marijuana product shall be considered to not be homogenous if 10% of the infused portion of the retail marijuana product contains more than 20% of the total THC contained within entire retail marijuana product” (1 CO Code Regs. 212-2)
● “Homogeneity of edible retail marijuana product: A retail marijuana products manufacturing facility must ensure that its manufacturing processes are designed so that the cannabinoid content of any edible retail marijuana product is homogenous” (1 CO Code Regs. 212-2)
● Retail marijuana product ongoing potency and homogeneity testing: After successfully obtaining process validation, once per quarter a retail marijuana products manufacturing facility shall subject at least one production batch of each type of retail marijuana product that it produces to potency and homogeneity testing required by paragraph (D) of this rule. If during any quarter a retail marijuana products manufacturing facility does not possess a production batch that is ready for testing, the retail marijuana products manufacturing facility must subject its first production batch that is ready for testing to the required potency and homogeneity testing prior to transfer or processing of the retail marijuana” (1 CO Code Regs. 212-2)

Washington

Washington has made all of their cannabis legislation available for public use online at its State Legislature website. These regulations are set in place for recreational cannabis use. Medicinal serving sizes differ.

Serving Size
● “A single serving of a marijuana-infused product must not exceed 10 mg active THC, or Delta 9” (WA Admin. Code § 314-55-095)
● “The maximum number of servings in any one single unit of marijuana-infused product meant to be eaten or swallowed is ten servings or 100 mg of active THC, or Delta 9. A single unit of marijuana concentrate cannot exceed 1 g” (WA Admin. Code § 314-55-095)

Homogeneity (no specific potency limit is specified in the regulations)
● “Products must be homogenized to ensure uniform disbursement of cannabinoids throughout the product” (WA Admin. Code § 314-55-077)
● “Liquid edibles must be homogenized to ensure uniform disbursement of cannabinoids throughout the product” (WA Admin. Code § 314-55-077)
6. Labeling and Packaging

Labeling and packaging are key facets of any food product in terms of compliance, safety, and quality management. Labeling refers to ensuring that important food safety information is properly labeled and available to consumers. Packaging refers to ensuring that packages are properly secured.

Considerations for Regulation

- Disclosure of product, name of strain, universal symbol for THC, serving size, amount of THC per serving/per package
- Ingredient list, pesticide use, allergen list, nutrition facts
- Restricting the use of the word “organic” or suggesting any “cures or natural remedies”
- Statement product was tested, name of laboratory in which it was tested, when it was tested
- Date of cultivation, manufacture date, date of expiration
- Warning labels: intoxicating/delayed effects, keep away from children/animals, do not consume if pregnant, health risks
- If medical, patient name
- Net weight, concentration
- Instructions for use, dosing information (i.e., serving size)
- Specifications for font size
- Child/tamper proof, water resistant
- Resealable packaging if contains more than one serving
- Individually demarcate servings (See Section 5: Serving Size and Homogeneity)
- Individually label servings with universal symbol (See Section 5: Serving Size and Homogeneity)

Examples of Strong State Regulations

California

California built a robust labeling program that is available on the California Department of Public Health (CPDH) website. There are two categories for labeling: primary panel requirements and informational panel requirements.

The primary panel should be the one that will be displayed to the consumer and should include:
- Identity of a product
- Amount of THC/CBD in the package
- Universal symbol a state has required
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- Net weight or volume
- Amount of THC/CBD per serving. (2017 CA S.B. 94)

The informational panel can be located somewhere else on the package and should include:

- Manufacturer name and contact information (website or phone number)
- Date the product was manufactured
- Government warning statement (if applicable)
- Ingredient list
- Instructions for use
- Unique ID/batch number
- Allergen information, a list of artificial food colorings, and basic nutritional information (amount of sodium, sugar, carbohydrates, and fat per serving). Medicinal products must be labeled "For Medicinal Use Only"

CDPH published the Proposed Medical Cannabis Manufacturing Regulations that

- Prohibits packaging from resembling traditionally available food packages
- Requires packaging to be resealable if it includes more than one serving
- Requires edible products to be packaged in opaque packages. CDPH is also proposing to require all manufactured products to be packaged in their final form prior to release to a distributor.

Nevada

Nevada has extensive written requirements for the labeling and packaging of cannabis edibles, which can be found at Production Forms, Packaging, and Labeling of Marijuana and Marijuana Products. Some examples of Nevada legislation are:

- “Each retail marijuana store and marijuana product manufacturing facility shall, in consultation with the department, cooperate to ensure that all marijuana products offered for sale:
  a. Are labeled clearly and unambiguously:
     1. As marijuana with the words “THIS IS A MARIJUANA PRODUCT” in bold type” (2017 NV Rev. 539)
- “Not packaged and labeled in a manner which is modeled after a brand of products primarily consumed by or marketed to children” (2017 NV Rev. 539)
- “A cultivation facility or facility for the production of edible marijuana products or marijuana-infused products shall not label usable marijuana, edible marijuana products or marijuana-infused products as "organic" unless the marijuana plants used are produced, processed, and certified in a manner that is consistent with the national organic standards established by the U.S. Department of Agriculture in accordance with the Organic Foods Production Act of 1990” (NV Admin. Code § 453A.504)
- Marijuana-infused products must be “labeled in a manner which indicates the amount of THC in the product, measured in milligrams, and includes a statement that the product contains"
marijuana and its potency was tested with an allowable variance of the amount determined by the division by regulation” (NV Rev. Stat. Ann. § 453A.360)

Nevada provides visual examples for labeling.

**Figure 6: Nevada Visual Example for Labeling**

![Label Example](image)

**Figure 7: Oregon Generic Example**

![Label Example](image)
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Figure 8: Product Label in Store

This product contains marijuana and was produced without regulatory oversight for health, safety, or efficacy and there may be health risks associated with the consumption of the product. There may be additional health risks associated with the consumption of this product for women who are pregnant, breastfeeding, or planning on becoming pregnant.

The Marijuana Infused-Product contained within this package has been tested for contaminants. This product may be unlawful outside of the State of Nevada. This container is child-resistant.

INGREDIENTS:
- CO₂ Extracted Cannabis Oil, Propylene Glycol
- CO₂ Extracted Cannabis Distillate Oil
- CO₂ Extracted Cannabis Oil

Figure 9: State Examples of Universal Symbols

<table>
<thead>
<tr>
<th>California</th>
<th>Colorado</th>
<th>Michigan</th>
<th>Oregon</th>
<th>Washington</th>
</tr>
</thead>
</table>
7. Education and Training

Food safety education and training is essential for growers, distributors, processors, laboratory workers, and dispensary personnel. Some states have gone to great lengths to ensure that these individuals receive training or require someone on staff to have food safety training or a certification.

Considerations for Regulation

- Require food handling certification or some other form of education/training
- Require training for an array of industry workers (e.g., owners, licensees, distributors, and processors)
- Include emergency procedures in training such as sewer, flood, and fire emergencies

Examples of Strong State Regulations

Colorado

Colorado’s regulations devote an entire section of its Health and Safety Regulations to the training and education of all marijuana industry workers.

Training

- “Prior to engaging in the manufacture of any edible retail marijuana product each owner or occupational licensee must:
  - a. Have a currently valid ServSafe Food Handler Certificate obtained through the successful completion of an online assessment or print exam; or
  - b. Take a food safety course that includes basic food handling training
  - Any course taken pursuant to this rule must last at least two hours and cover the following subjects:
    - i. Causes of foodborne illness, highly susceptible populations, and worker illness;
    - ii. Personal hygiene and food handling practices
    - iii. Approved sources of food;
    - iv. Potentially hazardous foods and food temperatures;
    - v. Sanitization and chemical use; and
    - vi. Emergency procedures (fire, flood, sewer backup)” (1 CO Code Regs. § 212-2)
Oregon

Oregon has passed a law requiring training for cannabis industry workers when applying for and renewing permits and licenses. Specifically, Chapter 475B outlines these requirements under “Issuing and Renewing Permits and Licenses.”

- “The commission may require an individual applying for a permit under this section to successfully complete a course, made available by or through the commission, through which the individual receives training on:
  - Handling marijuana items;
  - If applicable, producing and propagating marijuana;
  - If applicable, processing marijuana;
  - Any matter deemed necessary by the commission to protect the public health and safety” (OR Rev. Stat. § 475B.218)

8. Food Safety Plans

For the production and sale of cannabis edibles, it is important to include food safety plans into legislation. For many states, this includes a hazard analysis critical control point (HACCP) plan, general standard operating procedures (SOPs), inspections requirements, and recall plans.

Considerations for Regulation

- Requiring facilities to have a HACCP plan
- Requirements for SOPs
- Requirements for inspections
- Recall plans by state versus recall plans by dispensary or manufacturer
- General sanitary requirements
- Restricting the use of additives or providing guidance to restrict use of additives
- Health and sanitary audits
- How to rectify violations
- Guidance on how to determine when to suspend operations for food safety violations
Arizona

In January 2017, a voluntary recall of medical cannabis edibles (medibles) took place in Arizona. During a routine food inspection, the Coconino County Public Health Services District found a medical dispensary was selling shelf stable products that had been processed and bottled incorrectly, making them potentially dangerous to consumers (Gaither et al., 2018). The dispensary kitchen included four new food items ('marynara' sauce, ketchup, hot sauce, and honey mustard) to their menu without informing the health district. No guidelines had been developed for embargoing/recalling medibles. Therefore, the city sought out guidance from the Food and Drug Administration, which could not aid in the recall but could provide guidelines to implement a voluntary recall with the assistance and support of the dispensary owner. The health district recalled over 400 bottles of four different products and there were no foodborne-related illnesses reported or attributed to the consumption of any of the products.

Product Recalls
In general, the Coconino Public Health Department took the following steps:

1. Coordinate with special licensing
   a. Draft consumer service announcement.
   b. Instruct purchasers (medical consumers should be in database with contact information) what to do with the implicated food products and instructed purchasers not to consume those products.*

2. Coordinate with dispensary owner
   a. The dispensary owner voluntarily requested to recall all implicated food products.
   b. The health district assisted the dispensary in creating a list of all implicated items, what stores received those items, and provided all the stores with a consumer announcement to alert them of the recall.

3. Create product destruction list
   a. Once the products were recalled, the dispensary provided a list of all products that were collected and from where they were collected.
   b. The dispensary provided detailed information and pictures on how the product was destroyed and cross referenced it with the original list to ensure that all products were accounted for (Gaither et al., 2018).

*This step will have to be approached differently with recreational consumers.
In its Code of Colorado Regulations, Colorado has detailed guidance for food safety procedures. Colorado has broken food safety regulations into various sections including general standards, SOPs, sanitary guidelines, etc.

Below are examples of some of Colorado’s regulations.

**General Standards**

a. “A retail marijuana products manufacturing facility may be subject to inspection by the local fire department, building inspector, or code enforcement officer to confirm that no health or safety concerns are present” (1 CO Code Regs. § 212-2)

b. “A retail marijuana products manufacturing facility that manufacturers edible retail marijuana product shall comply with all kitchen-related health and safety standards of the relevant local jurisdiction and...safety regulations applicable to retail food establishments” (1 CO Code Regs. § 212-2)

**Standard Operating Procedures**

a. “A retail marijuana products manufacturing facility must have written standard operating procedures for each category of retail marijuana concentrate and type of retail marijuana product that it produces” (1 CO Code Regs. § 212-2)

b. “If a manufacturing facility makes a material change to its standard...production process, it must document the change and revise its standard operating procedures accordingly” (1 CO Code Regs. § 212-2)

**General Sanitary Requirements**

a. The licensee shall take all reasonable measures and precautions to ensure the following:

   i. “Any person who...is shown to have, or appears to have, an illness; open lesion including boils, sores, or infected wounds; or any other abnormal source of microbial contamination for whom there is a reasonable possibility of contact with preparation surfaces for retail marijuana or retail marijuana product shall be excluded from any operations”

   ii. “Hand washing facilities shall be adequate and convenient and be furnished with running water at a suitable temperature”

   iii. “All persons working in direct contact with preparation of retail marijuana or retail marijuana product shall conform to hygienic practices while on duty, including but not limited to:

     1. Maintaining adequate personal cleanliness
     2. Washing hands thoroughly in an adequate hand washing area(s) before starting work, prior to engaging in the production of a retail marijuana concentrate or manufacture of a retail marijuana product and at any other time when the hands may have become soiled or contaminated”
iv. “Litter and waste are properly removed and the operating systems for waste disposal are maintained in an adequate manner so that they do not constitute a source of contamination”

v. “Floors, walls, and ceilings are constructed in such a manner that they may be adequately cleaned and kept clean and kept in good repair”

vi. “There is adequate safety-type lighting in all areas where retail marijuana or retail marijuana product are processed or stored and where equipment or utensils are cleaned”

vii. “The licensed premise provides adequate screening or other protection against the entry of pests”

viii. “Any buildings, fixtures, and other facilities are maintained in a sanitary condition”

ix. “All contact surfaces, including utensils and equipment used for the preparation of retail marijuana, retail marijuana concentrate, or retail marijuana product, shall be cleaned and sanitized as frequently as necessary to protect against contamination. Equipment and utensils shall be so designed and of such material and workmanship as to be adequately cleanable, and shall be properly maintained”

x. “Only sanitizers and disinfectants registered with the U.S. Environmental Protection Agency shall be used in a retail marijuana products manufacturing facility and used in accordance with labeled instructions” (1 CO Code Regs. § 212-2)

9. Waste Disposal

Proper waste disposal is important for two reasons: 1) bad batches must be destroyed and not make it into the food system and 2) cannabis that is disposed of must be unrecognizable to ensure that passerby do not collect waste and try to consume it.

Considerations for Regulation

- Safe disposal of waste materials and storage of waste
- Properly destroying bad batches
- Waste disposal operating systems maintenance
- Waste disposal record keeping
- Liquid versus solid waste
Examples of Strong State Regulations

Massachusetts

Massachusetts has drafted very comprehensive legislation for waste disposal of cannabis products. For complete legislation, please see page 56, section (L) Waste Disposal in the Massachusetts Draft Regulations.

Waste Disposal

- “All recyclables and waste, including organic waste composed of or containing finished marijuana and marijuana products, shall be stored, secured, and managed in accordance with applicable state and local statutes, ordinances, and regulations
- Liquid waste containing marijuana or byproducts of marijuana processing shall be disposed of in compliance with all applicable state and federal requirements, including but not limited to, for discharge of pollutants into surface water or groundwater (MA Clean Waters Act, M.G.L. c. 21 §§ 26 through 53; 314 CMR 3.00: Surface Water Discharge Permit Program; 314 CMR 5.00: Groundwater Discharge Program; 314 CMR 12.00: Operation Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers; Federal Clean Water Act, 33 U.S.C. 1251 et seq.; National Pollutant Discharge Elimination System Permit Regulations at 40 CFR Part 122; 314 CMR 7.00: Sewer System Extension and Connection Permit Program); or stored pending disposal in an industrial wastewater holding tank in accordance with 314 CMR 18.00: Industrial Wastewater Holding Tanks and Containers” (935 MA Code Regs. 500.105)

10. Regulatory Oversight

As states continue to legalize cannabis, they have had to find regulatory bodies to oversee the cannabis industry. The regulatory agency includes people who oversee dispensary inspections, operations, taxation, etc. States have implemented different approaches and it is important to remember that cities, counties, and municipalities might have their own regulations that can be more restrictive than ones imposed by states. See Table 1 for examples of different state regulatory bodies.
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Considerations for Regulation

- Who will oversee the legalization and implementation of regulations of cannabis?
  - Regulatory agency versus various regulatory agencies
- How will the regulatory department be funded?
  - Consideration should be to use part of the annual licensing fee toward the regulating department
- How will you develop the qualification and rating selection process of potential licensees?
- How frequently will dispensaries and manufacturers be inspected?
- Who is responsible for seizures and closures?
- Will regulatory oversight be left to the state, a local regulatory body, or a cannabis commission?

Table 1: Different State Regulatory Bodies for Legalized Cannabis

<table>
<thead>
<tr>
<th>State</th>
<th>Regulator Body</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Bureau of Cannabis Control: Responsible for licensing retailers, distributors, testing laboratories, and microbusinesses</td>
<td><a href="http://www.bcc.ca.gov/">http://www.bcc.ca.gov/</a></td>
</tr>
<tr>
<td></td>
<td>CalCannabis California Department of Food and Agriculture: Responsible for commercial cannabis cultivators</td>
<td><a href="http://calcannabis.cdfa.ca.gov/">http://calcannabis.cdfa.ca.gov/</a></td>
</tr>
<tr>
<td></td>
<td>California Department of Public Health, Manufactured Cannabis Safety Branch: Responsible for regulation of all commercial cannabis manufacturing</td>
<td>[<a href="https://www.cdph.ca.gov/Programs/CEH/DFDCS/MC">https://www.cdph.ca.gov/Programs/CEH/DFDCS/MC</a> SB/Pages/MCSB.aspx](<a href="https://www.cdph.ca.gov/Programs/CEH/DFDCS/MC">https://www.cdph.ca.gov/Programs/CEH/DFDCS/MC</a> SB/Pages/MCSB.aspx)</td>
</tr>
<tr>
<td>Colorado</td>
<td>Colorado Department of Revenue, Marijuana Enforcement Division: Responsible for all licensees in the state</td>
<td><a href="https://www.colorado.gov/pacific/enforcement/marijuanaenforcement">https://www.colorado.gov/pacific/enforcement/marijuanaenforcement</a></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Massachusetts Cannabis Control Commission: Responsible for all licensees in the state</td>
<td><a href="https://mass-cannabis-control.com/">https://mass-cannabis-control.com/</a></td>
</tr>
<tr>
<td>Nevada</td>
<td>Nevada Department of Taxation: Responsible for all licensees in the state</td>
<td><a href="http://marijuana.nv.gov/">http://marijuana.nv.gov/</a></td>
</tr>
<tr>
<td>State</td>
<td>Agency</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Oregon</td>
<td><strong>Oregon Liquor Control Commission</strong>: Responsible for licensing, tracking, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Oregon Health Authority</strong>: Responsible for testing and labeling</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Oregon Department of Revenue</strong>: Responsible for taxation</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td><strong>Washington Liquor and Cannabis Control Board</strong>: Responsible for all licensees in the state</td>
<td></td>
</tr>
</tbody>
</table>

**NEHA Food Safety Guidance for Cannabis-Infused Products**
V. Special Considerations

Below is a list of special items to consider when thinking about the legalization of recreational cannabis in your state. While some of these considerations are primarily focused on food safety, others are general considerations for overall consumer health and safety.

1. Banking and the Sessions and Finance Crimes Enforcement Network Memorandums

Due to lack of federal legalization of medical and recreational cannabis, federal banks are unable to house cannabis industry profits. On January 4, 2018, Attorney General Jeff Sessions issued a memo that rescinds the Cole Memorandum and directs U.S. attorneys to enforce and prioritize previously established laws on federal cannabis enforcement policy. The U.S. Department of Justice states that its mission is to “enforce the laws of the United States, and the previous issuance of guidance undermines the rule of law and the ability of our local, state, tribal, and federal law enforcement partners to carry out this mission” (U.S. Department of Justice, 2018).

The U.S. Department of Treasury Financial Crimes Enforcement Network (FINCEN) released a memo in February 2014, BSA Expectations Regarding Marijuana-Related Businesses, that is still active. This memo allows financial institutions to service marijuana related businesses (MRBs) by requiring a very stringent compliance program that verifies state legalization, business licenses, etc. FINCEN has issued a quarterly report (last published September 2017), Marijuana Banking Update, that demonstrates business being received by banks and credit unions from MRBs.

While it is still uncertain how these memorandums will play out under the current administration, banks that are federally backed should be more hesitant to accept funds from the cannabis industry. During early legalization, lack of banking was a massive security issue. Without a banking system, cannabis industry stakeholders are required to rely on cash transactions or trading. Due to such high cash flows, multiple instances of theft have been recorded. Colorado and California are looking into banking systems such as state cannabis credit unions that will house the cannabis industry's high-volume cash flow, and hopefully, will protect industry stakeholders. As cannabis continues to become legal at the state level, it will be important for stakeholders to determine a safe way to bank.

2. Data Collection and Software

Data collection is imperative for two reasons: 1) seed-to-sale tracking ensures consistency and safety of cannabis products and 2) it ensures that states are being transparent with the data they collect. Washington provides open data on its programs. Figure 10 provides more information on seed-to-sale tracking software.

Figure 10: State Seed-to-sale Tracking Vendors
3. Health Impact Assessment

In light of legalization, Vermont conducted a health impact assessment (HIA). The assessment compiled data to analyze the potential health and societal effects of legalizing cannabis in Vermont. The HIA found that the legalization of cannabis in Vermont has increased the odds of motor vehicle accidents, poor academic performance among youth, a slight increase in emergency room visits, and a slight increase in mental health issues such as anxiety. While the analysis is thorough, it is not the entire picture. It simply provides the state with foreseen issues that result from legalization.

States can use this information to foresee negative consequences of legalization, implement prevention programs, and provide recommendations to other states. Vermont’s HIA recommends the following:

- “Do not allow infused products on the regulated market. Do not include retail sales of products infused with marijuana for nonmedical purposes.”
- “Never allow infused products that could appeal to children. Mandate that should future legislation ever allow for infused/edible products, they are never allowed in a format that could be attractive to youth (e.g., gummy bears, cookies, brownies, etc.). Before any future regulation regarding edibles is implemented, ensure that full testing and regulatory bodies are in place. This includes development, implementation, and full funding for comprehensive food inspection.”

4. Home Delivery

Home delivery has been outlawed in many states in order to protect consumers and ensure that medical product is being consumed by its intended recipient. As recreational cannabis becomes more easily accessible to consumers, however, some states have implemented regulations that allow delivery with certain restrictions. Nevada is an excellent example. In Nevada’s Revised Proposed Regulation of the Department of Taxation issued on December 13, 2017, a cannabis delivery may be made to a consumer. The delivery may not be made by a third party, must be delivered to the intended recipient, may not include any products other than the one contracted by the distributor, must be delivered during the distributor’s operational hours, and must be within state lines. A full description of the law can be found in the Revised Regulation under Section 150.

5. Home-Grow

Nearly every state has different regulation in regard to cannabis home-grow. Food safety precautions should be provided for home growers. Most states focus solely on the growth of the plant. Below is an example of regulation from Massachusetts:

- Allowed to cultivate or process up to six marijuana plants for requirements and restrictions.
Personal use so long as not more than 12 plants are cultivated on the premises at once.

Allowed to possess any marijuana produced by marijuana plants cultivated on the premises.

Marijuana cannot be visible from a public place without the use of binoculars, aircraft, or other optical aids, and must be in an area equipped with a lock or other security device. A violation is a civil penalty of up to $300.

6. Liability

While cannabis continues to become legal at the state level, it is imperative that industry stakeholders are cautious with recordkeeping requirements they set for licensees. Just as licensed traditional food processing companies are susceptible to regulations (local, state, and federal) and lawsuits, so are cannabis licensees. From a liability standpoint, recordkeeping by the cannabis industry helps document good practices and can help if a legal issue should arise. Regulators should have industry licensees involved in infused product manufacturing to incorporate basic food safety training for their employees. Additionally, recordkeeping must be included in any HACCP/food safety plan to ensure safe food handling practices from seed-to-sale.

7. Special Events

Marketing or selling cannabis or CIPs at special events is a concern for food safety and consumer safety in general. States differ in the events that they allow marijuana to be sold or marketed. A special event may include, but is not limited to, a parade, pop-up markets, festivals, concerts, etc. Massachusetts requires “licenses that authorize the consumption of marijuana at special events in limited areas and for a limited time” (Chapter 334, Section 4b.[1]). This type of legislation varies by state but should be discussed when thinking about consumer safety in public spaces.

8. Topicals

While topicals are not ingested, and therefore not digested by the liver, there is significantly less regulation concerning topical ointments of CIPs. As all infused items begin from the same source and the extracts are converted into various products, it is imperative to maintain the highest safety standards when possible. This process might include requiring laboratory testing on the product for metal residues, residual solvents, metals, etc. In Section 222 of the Nevada Revised Proposed Regulation, a topical product must be tested for potency analysis and terpene analysis. Additionally, Nevada requires that a cannabis product sold as a topical must not contain a concentration of more than 6% THC, or more than 800 mg of THC per package.
VI. Definitions

**Cannabidiol (CBD):** The second most commonly used cannabinoid found in the cannabis plant. CBD is an antagonist to THC and is nonpsychoactive as it blocks the formation of 11-OH-THC and mitigates the psychoactive effects of THC. CBD has become popular for its therapeutic effects in autism, epilepsy, and nerve problems.

**Cannabinoid:** Chemicals that influence cell receptors in the brain and body and can change how those cells behave.

**Cannabinoid profile:** The amount of all cannabinoids in the cannabis plant, expressed as dry-weight percentages.

**Cannabinol:** Comes from the *Cannabis sativa* plant and contains only a minimal amount of THC.

**Cannabis:** Genus of flowered plants indigenous to Central Asia and the Indian subcontinent. Also known as marijuana, ganja, pot, bud, and Mary Jane.

**Concentrate (or extract):** Refers to any material created by refining cannabis flowers, such as hash, dry sieve, and hash oils. Concentrates or extracts have much higher potency.

**Cultivator:** An entity licensed to cultivate, process, and package cannabis, to deliver cannabis to cannabis establishments, and to transfer cannabis to other cannabis establishments, but not to consumers.

**Edible:** Cannabis products that are orally consumed. These products can contain THC, CBD, or a combination of both. Common edible products include cookies, brownies, candies, gummies, chocolates, beverages, or homemade goods.

**Homogeneity:** Refers to how evenly distributed the cannabis extract is through a product. For example, if 10% of the infused portion of the cannabis product contains less than 20% of the total THC contained in the product, it is homogenous. Homogeneity allows users assurance that they are consuming a consistently prepared edible.

**ISO 17025:** General requirements specified by the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) for the competence of testing and calibration laboratories.

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1Taken from Cannabis 101: Glossary of Related Terms, National Environmental Health Association, 2018.
**Medical use of cannabis**: The acquisition, cultivation, possession, processing (including development of related products such as food, tinctures, aerosols, oils, or ointments), transfer, transportation, sale, distribution, dispensing, or administration of cannabis for the benefit of qualifying patients in the treatment of debilitating medical conditions or the symptoms thereof.

**Mycotoxin**: A secondary metabolite of a microfungus that is capable of causing death or illness in humans and other animals. They include aflatoxin B1, aflatoxin B2, aflatoxin G1, aflatoxin G2, and ochratoxin A.

**Packaging**: Any container or wrapper that might be used for enclosing or containing any cannabis goods for final retail sale. “Package” and “packaging” do not include a shipping container or outer wrapping used solely for the transport of cannabis goods in bulk quantity to a licensee.

**Pesticide**: Chemical or organic substances that might be used on cannabis plants to protect against insects and/or fungus. Due to the Schedule I status of cannabis, as well as the lack of research and understanding, there are no federal regulations on the application of pesticides on cannabis. Some pesticides commonly used on cannabis can be highly toxic. There have been numerous recalls of cannabis products due to pesticides. The most commonly found pesticides during these recalls in Colorado in 2015 (Baca, 2015) include:
- **Myclobutanil**: A fungicide known to be slightly hazardous by the World Health Organization.
- **Imidacloprid**: An insecticide known to be moderately hazardous if ingested or inhaled.
- **Abamectin**: A harmful insecticides if inhaled.
- **Etoxazole**: Primarily used in landscaping.
- **Spiromesifen**: An insecticide.

**Processing**: To harvest, dry, cure, trim and separate parts of the marijuana plant by manual or mechanical means

**Retailer**: An entity licensed to purchase and deliver cannabis and cannabis products from cannabis establishments and to deliver, sell, or otherwise transfer cannabis and cannabis products to cannabis establishments and consumers.

**Seed-to-sale**: Everything that happens to an individual cannabis plant from seed and cultivation, through growth, harvest, and preparation of cannabis-infused products, if any, to final sale of finished products. In many states, there are laws that require tracking and documentation of every movement along the seed-to-sale lifespan.

**Tetrahydrocannabinol (or delta-9-tetrahydrocannabinol) (THC)**: The most common cannabinoid found within the cannabis plant. THC accounts for most of the psychoactive effects as the 11-OH-THC metabolite, formed after first pass metabolism, is 4 times more psychoactive than THC.
VII. References


Cannabis-Infused Edible Products in Colorado: Food Safety and Public Health Implications

Alice E White 1, Christine Van Tubbergen 1, Brianna Raymes 1, Alexandra Elyse Contreras 1, Elaine J Scallon Walter 1

Affiliations

PMID: 32298168   PMCID: PMC7204451 (available on 2022-06-01)   DOI: 10.2105/AJPH.2020.305601

Abstract

Cannabis-infused "edibles" are a popular means of cannabis use, and the variety of edible food products available to consumers continues to grow. Although there has been much discussion on dose standardization, childproof packaging, and the prevention of overconsumption, the important topic of food safety has received less attention. We discuss potential food safety hazards associated with cannabis-infused edible food products, drawing on examples from Colorado, and describe edible-associated foodborne illness outbreaks and other contamination events. It is important for public health agencies, particularly environmental health and enteric disease programs, to be familiar with the cannabis industry, including regulatory partners, signs and symptoms of cannabis ingestion, the scope of edible products sold and consumed, and the food safety risks unique to cannabis products.

LinkOut - more resources

Full Text Sources

Atypon
Ovid Technologies, Inc.

Medical
MedlinePlus Health Information

How four U.S. states are regulating recreational marijuana edibles

Camille Gourdet 1, Kristen C Giombi 2, Katherine Kosa 2, Jenny Wiley 2, Sheryl Cates 2

Affiliations
PMID: 28343113  DOI: 10.1016/j.drugpo.2017.01.018

Abstract

Background: Sales of edible marijuana products have been strong in Colorado and Washington State since the legalization of recreational marijuana. Initially, these states did not have comprehensive labelling or packaging requirements in place. In response to increases in marijuana-related emergency room visits and poison control centre calls, additional regulations were implemented. Currently, Alaska, Colorado, Oregon, and Washington each have passed into law various labelling and packaging requirements for edibles.

Methods: This article presents the primary legal research findings of relevant statutes and regulations for edibles in Alaska, Colorado, Oregon, and Washington. These laws were identified by using Boolean terms and connectors searches in these states’ legal databases in LexisNexis.

Results: Alaska, Colorado, Oregon, and Washington vary greatly in how they regulate labelling and packaging. Colorado, Oregon and Washington require a Universal Symbol to be affixed to edibles, but only Oregon and Washington require that the use of pesticides be disclosed on the label. Only Colorado and Oregon require that the packaging for edibles bear a Nutrition Facts Panel on the label. Δ9-Tetrahydrocannabinol (THC) in a single serving or single edible product as Alaska and Oregon. All four states prohibit the manufacture or packaging of edibles that appeal to youth.

Conclusion: State laws governing recreational marijuana edibles have evolved since the first recreational edible products were available for sale. Alaska, Colorado, Oregon, and Washington now require edible product labels to disclose a variety of product information, including risk factors associated with consumption. However, there still remain concerns about the regulatory gaps that exist in each of these states, inherent difficulties in enforcing laws around the labelling, packaging, and manufacturing of edibles, and the outstanding question of whether these edible laws are actually informing consumers and keeping the public safe.

Keywords: Cannabis policy; Drug policy; Edible; Labelling and packaging; Marijuana laws.

Related information
PubChem Compound (MeSH Keyword)

LinkOut - more resources
Full Text Sources
ClinicalKey
Elsevier Science
Other Literature Sources
scite Smart Citations
Medical
MedlinePlus Health Information
Complaints filed about mold in marijuana gummies with 1 sick; recall underway

By News Desk on February 2, 2021

For the second time in less than a month consumer complaints have spurred a recall of edible marijuana products, this time for more than 330,000 packages.

The new Canadian recall involves all lots of Haven St. Rise No.570 Wild Berry THC Infused Gummy and Haven St. Drift No. 470 Sour Watermelon THC Infused Gummy, according to a notice posted by the Public Health Agency of Canada. The gummies are believed to be contaminated with mold.
“To date, TerrAscend Canada has received 10 complaints regarding the recalled lots, none of which involved an adverse reaction. Health Canada has not received any complaints or reports of adverse reactions related to the recalled lot,” according to the government’s recall notice.

“The affected product may contain mold. In certain individuals, exposure may result in allergic symptom such as sneezing, coughing, wheezing, runny nose or nasal congestion, and watery or itchy eyes.”

Authorized retailers in Ontario, British Columbia, Alberta, Prince Edward Island, New Brunswick, Saskatchewan, Manitoba and Newfoundland sold the recalled products.

There is concern that consumers may have the recalled products in their homes because of their long shelf life. The implicated products were sold from September 2020 through January 2021.

Consumers can determine whether they have the affected gummies by checking for the codes listed below.

“Consumers should immediately stop using this product and return unopened product to the retailer where the product was purchased. Open product should be discarded securely, and out of reach of children and young persons,” according to the recall notice.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Lot Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haven St.Rise No.570 Wild Berry THC Infused Gummy</td>
<td>2002172, 2002228, 2002291, 2002307, 2002308, 2002364, 2002366, 2002372, 2002374, 2002381, 2002591, 2002593, 2002670, 2002672, 2002674, 2002774, 2002794</td>
</tr>
<tr>
<td>Haven St. Drift No. 470 Sour Watermelon THC Infused Gummy</td>
<td>2002230, 2002232, 2002289, 2002311, 2002313, 2002339, 2002341, 2002368, 2002370, 2002595, 2002597, 2002599, 2002601, 2002738, 2002740, 2002742</td>
</tr>
</tbody>
</table>

Companies involved in recalling the products, including distributors, include:

- TerrAscend Canada
  Ontario
  **Tel: 1-855-837-7295**

• Ontario Cannabis Store
  Ontario
  Tel: 1-844-627-1112

• British Columbia Liquor Distribution Branch
  British Columbia
  Tel: 604-252-7400

• Alberta Gaming, Liquor & Cannabis
  Alberta
  Tel: 1-800-272-8876

• P.E.I Cannabis
  Prince Edward Island
  Tel: 902-368-5551

• Cannabis NB
  New Brunswick
  Tel: 1-833-821-2195

• Liquor, Gaming and Cannabis Authority of Manitoba
  Manitoba
  Tel: 1-800-782-0363

• Cannabis NL
  Newfoundland and Labrador
  Tel: 1-844-757-5986

• Retailers in Saskatchewan
  Saskatchewan

Previous recall
Complaints of mold in another kind of edible cannabis product caused another company to launch a recall in mid-January. This recall involves one lot of Agro-Greens Natural Products Ltd.’s North 40 Black Cherry Punch dried cannabis, which was sold through provincially authorized retailers in Saskatchewan and to clients registered for medical purposes.

The recalled product has a packaging date code of “20-P88 Nov 30, 2020.”
“To date, Agro-Greens Natural Products Ltd. has received four complaints regarding the recalled lot, including one adverse reaction. Health Canada has not received any complaints or reports of adverse reactions related to the recalled lot,” according to the recall notice.

The company reports he recalled product was sold from Dec. 4 through 23, 2020. Consumers should return unopened product to the store. Opened product should be thrown away in a secure manner.

As of the posting of the Jan. 7 recall notice the following retailers sold the affected product:

- 5 Buds Cannabis, Yorkto, Saskatchewan
- 5 Buds Cannabis, Warman, Saskatchewan
- Delta 9 Cannabis Store Inc., Lloydminster, Saskatchewan
- The Bakery, Regina, Saskatchewan
- Tweed, Regina, Saskatchewan

(To sign up for a free subscription to Food Safety News, click here.)
Food safety concerns at cannabis production facilities continue

By News Desk on February 15, 2018

The legalization of cannabis in a growing number of U.S. states and Canadian provinces continues to raise concerns about a variety of food safety hazards, including pathogens such as Salmonella and E. coli.

“There are many food safety hazards associated with cannabis production and distribution that could put the public at risk, but are not yet adequately controlled,” Steven Burton of Icicle Technologies Inc. said earlier this month.

For example, pests in production areas can cause pathogenic contamination of cannabis products. But, cannabis operations often are not subject to federal pest control regulations that cover food and pharmaceutical operations.

Each week the FDA makes public warning letters that have been sent to food and drug manufacturers that have violated food safety procedures and controls, including
the preparation, packaging, or holding conditions of products. However, because marijuana products are not legal under federal law, those regulations are not applied.

Another hazard involves the issue of product contamination from the employees during the various stages of the production process. The stakes for cross-contamination are the highest when employees are handling the product, making proper employee training and personnel hygiene policies should be in place at all marijuana growing and production facilities, Burton contends.

Unless cannabis products such as edibles can be treated the same as other food products and have a comprehensive food safety program including plans, procedures, training, monitoring and verification, hazards can be expected, according to Burton.

Food Safety News

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Food Safety Concerns Divide Pot Growers From Consumers

By Dan Flynn on April 17, 2015

With tax revenue down 42 percent from the governor’s early rosy projections — just $68 million, down from the projected first-year tally of $118 million — and difficulties making marijuana edibles easily identifiable, the “Colorado model” for legally selling pot has hit some rough road. Those who grow and sell pot were pretty much on the same side as those who buy and use the product from the 2012 campaign to pass Amendment 64 until very recently. But it appears that may have changed with the industry and consumers splitting over some basic food safety concerns.

![Image of marijuana plant]

Colorado still is not requiring that all marijuana be subjected to basic microbial testing for pesticides and contaminants such as mold and mildew. The state voter initiative that made pot legal for recreational uses beginning 16 months ago does require such testing, but that provision does not apply to medical marijuana sales. Consumers are now voicing their concerns about the loophole. Colorado medical marijuana sales — to only a few thousand people registered with “prescriptions” for pot to treat various ailments — date back to 2001. The product for these medical uses was never routinely subjected to laboratory testing for basic food safety purposes. Marijuana for recreational use is subjected to lab testing for microbial contaminants. Testing results, however, are not disclosed to the public because the state Marijuana Enforcement Division considers the data “proprietary.” That difference in how pot
for medicine and pot for recreation is treated has resulted in legislative action. In a 5-0 vote on
Wednesday, the Colorado Senate’s State, Veterans, & Military Affairs Committee approved
**Senate Bill 260** to require medical marijuana product testing. The bill was sent to the Senate
Finance Committee, which could send the measure on for a floor vote. But with less than three
weeks to go, the Colorado Legislature has so far pretty much let the existing pot laws stand.
Testing for contaminants — with public testing results — might happen because cannabis
consumers are demanding it. The Denver-based Cannabis Consumers Coalition came out in
support of SB 260 at the Senate hearing on Wednesday. On Tuesday, the same group
announced it had been successful in getting the Denver Department of Environmental Health
to release test results for recreational pot that state agencies were keeping secret. That
**announcement**, in part, states: “Pesticide violations were issued to the following recreational
marijuana grow facilities: Mindful, Green Solutions, Evolutionary Holdings, Green Cross
Colorado, MMJ America, Organic Greens, Altitude East Treatments, RINO, and Sweet Leaf. All
violators were using Eagle 20EW, and petroleum based fungicide that is harmful to humans and
animals. Altitude East Treatments was also using Mallet and Avid, both also harmful to humans
and animals. Green Cross Denver was also using Mallet. Many of these violators are well
known. Mindful, formerly Gaia Plant Based Medicines, is owned by Meg Sanders who was the
only industry appointee to Governor John Hickenlooper’s Amendment 64 Task Force. “This is
dangerous to public safety, and we need better testing policies that put consumer safety first.
Retail cannabis is supposed to be tested for harmful pesticides, and there already exists a list of
acceptable pesticides. This is at best gross negligence on behalf of the offending businesses
that shows more concern for money than for safety. “How many other violators are out there
that haven’t gotten caught?” asks Larisa Boliver, the Cannabis Consumers Coalition’s executive
director. At the legislative hearing, a spokesman for the Marijuana Industry Group claimed
there is a shortage of test facilities, high costs, and too many inaccurate test results. Testing of
medical marijuana would not begin until July 2016 under SB 260. Another consumer group, the
Cannabis Patients Alliance, also endorsed the bill, with their spokesman urging lawmakers to,
“Stop the delays, stop the excuses.” A month ago, Denver ordered eight commercial pot
growers to quarantine hundreds of plants for pesticide use, including possible use of pesticides
not fit for human consumption. Marijuana plants now fill the space once used as warehouses,
especially in the immediate Denver area. Colorado currently has 19 licensed labs for marijuana
testing, but only three for the microbial contaminants.
Food Safety News

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Marijuana edibles on a rocky road to food safety assurances

By Cookson Beecher on May 4, 2018

They call her “The Weed Whacker.”

As the first marijuana specialist for the Denver Department of Public Health and Environment — and therefore the first marijuana specialist for a public health authority in the entire nation — she disposed of $28 million dollars of cannabis products in 2016 alone. Why? Because she found them out of compliance with her health department’s regulations and requirements.

On the other side of the coin, she’s known for saving companies millions of dollars in potential losses by pointing out where they’re not in compliance. This, in turn, allows them to fix the problems, get their house in order, and sell their smokable and edible products.

She is Kimberly Stuck and she is all about food safety. As a public health investigator for the Denver health department for more than three years, she worked as a food safety specialist. In that job, she inspected restaurants, grocery stores, hospitals, festivals, farmers markets, and...
dispensaries. A certified Professional of Food Safety, she is also **HACCP certified** and **ServeSafe Certified**.

From there, she went on to become a marijuana specialist for the department. In that job, she inspected cultivation operations, marijuana-infused product facilities, and dispensaries. She also conducted contaminated marijuana product investigations, which she says took up most of her days. Court appearances, product testing for pesticide contamination, recalls and product destruction were all part of the job.

“It is very exciting to work as a marijuana investigator,” she said in a LinkedIn post. “In an industry that has never existed before, I am constantly finding new challenges and learning something new.”

One thing she learned as a marijuana specialist for Denver is that there is a great deal of confusion and a huge need for expertise in the industry. Convinced that she could save cannabis companies millions of dollars by informing them of preventative measures they could take, which in the end would also protect consumers, she went out on her own and launched Allay Cannabis Consulting.

Allay’s goal “is to help the cannabis industry thrive on a global scale,” according to the company’s website.

According to stats from Arcview’s midyear update to its fifth edition of “The State of Legal Marijuana Markets, the spending on legal cannabis in North America was $7.3 billion in 2016 and will post 33 percent growth in 2017 to $9.7 billion. Analysts expect it to then grow at a 28 percent compound annual rate to reach $24.5 billion in 2021.

Currently, nine states allow the sale of recreational marijuana and 29 allow the sale of medical marijuana. Proposals are being floated in other states as legislatures are keen to capture tax revenues from this booming industry.

**Mass confusion defines laws for edibles**

Each state has different regulations for recreational and medical marijuana, some of which are still being crafted. For example, Kansas, Idaho and South Dakota do not allow edibles, either for recreational or medical reasons. In Washington state, adults 21 and over can buy medical and
recreational edibles and concentrates. California and Colorado also allow recreational and medical edibles.

In all of this, what concerns Stuck the most is that many health departments aren’t regulating edible marijuana the way they should be — or at all.

In Denver, she said, as soon as recreational marijuana became legal in Colorado, the city’s health department ”got on it right away.” But the state's health department isn’t looking at edibles as food, so except in Denver, very few local or county health departments have signed off on regulating marijuana edibles for food safety.

Stuck is concerned about food safety issues, especially in edible medical marijuana products. Many health conditions include suppression of the immune system, making pathogens such as viruses, bacteria, and molds particularly dangerous to people who consume medical marijuana in edible forms.

Medical marijuana is now legal in more than half of the 50 states, but there were virtually no regulations about controlling pathogens when the trend began. Some states have made advances in tightening up their regulations. But, others still don’t have regulations.

“It was happening in states like California, Oregon, Nevada, and Hawaii,” Stuck said. “It’s the Wild West out here. It’s crazy.”

Stuck said that food safety standards should cover everything from employee hygiene, to food handling, to temperature control requirements, and all other steps of producing, packaging,
holding and selling. While some counties have regular health department inspections, others are still working toward that.

As a consultant, she urges manufacturers to take a proactive approach, pointing out that upgrading to good food safety standards now can reduce the risk of outbreaks, hefty fines, or even closure.

**Looking into the future**

“Edible cannabis products are here to stay,” Stuck said, pointing out that they could eventually become legalized on the federal level. When that happens, the Food and Drug Administration will adopt regulations across the board, which in turn would clear up the confusion that comes with different regulations in each state.

Though U.S. Attorney General Jeff Sessions has said he wants the Department of Justice to return to aggressive prosecutions under the federal marijuana prohibition, other current and former federal officials think a different approach is in the public’s best interest.

Former U.S. Speaker of the House John Boehner, R-Ohio, who told Bloomberg news in 2009 that he was “unalterably opposed” to the legalization of marijuana, tweeted on April 18 that he has a new view and a new job. He’s now on the board of the multi-state cannabis company Acergage Holdings. Boehner was Speaker from 2011 until he resigned from his seat in the House in 2015.

Republican John Boehner, left, and Democrat Charles Schumer, right, have developed similar views on the legalization of marijuana.
“I’m joining the board of #AcreageHoldings because my thinking on cannabis has evolved,” Boehner tweeted. “I’m convinced de-scheduling the drug is needed so we can do research, help our veterans, and reverse the opioid epidemic ravaging our communities.”

Boehner has also said he has seen the difference medical marijuana made for a friend suffering from back pain.

Also in April, President Donald Trump told a top Senate Republican that he would support efforts in Congress to protect states that have legalized marijuana. He also told him that he would support a legislative solution to fix this states’ rights issue once and for all.

Then, on April 19, Senate Minority Leader Charles E. Schumer, D-NY, announced that he’s introducing legislation to decriminalize marijuana.

“My thinking — as well as the general population’s views — on the issue has evolved,” Schumer said, “and so I believe there’s no better time than the present to get this done. It’s simply the right thing to do.”

With those changing views, a new day may be dawning for marijuana. But Stuck said just because marijuana edibles and medicinals are legal only in some states, it doesn’t mean there isn’t a need for some regulatory oversight to make sure they’re safe.

In current conditions, she said, it’s a real struggle for many growers, manufacturers, and retailers to know exactly what they need to know and do to be in compliance with their own state’s laws. And they’re often confused about where they can find the right information.

“It’s scary to me,” she said. “But some companies are reaching out to get educated. And more health departments are coming online.”

In this climate, Stuck said it’s no wonder consumers aren’t quite sure what edibles or oils are safe.

Imagine this, if you will
You live in one of the states that allow the sale of recreational or medical marijuana. The stores selling it have ads on billboards and in newspapers. You go to one of them and buy what looks
like some nice brownies, cookies or candy. The people selling you the marijuana edibles give their hearty endorsements of how good they are.

You go home and share them with your family and friends, although definitely not with your kids or your friends’ kids. In fact, you make it a point to secure any that haven’t been eaten to make sure the kids don’t have access to them.

You feel totally safe in doing all of this because your state is allowing the sale of these edible products. Surely everything’s being tested — after all, it is food.

But wait. Before they got to the store where you bought them, what sort of inspections were required? How do you know whether or not they contain foodborne pathogens such as E. coli, Listeria, Salmonella or pesticides or mold mycotoxins or toxic metals?

Or maybe you live in one of the 29 states that allow medical marijuana edible items or oils. Surely you can have absolute faith in them, after all, they’re being prescribed by doctors and used as medicine.

But there’s a fly in the marijuana ointment. Because the federal government identifies marijuana as an illegal, controlled substance, the U.S. Food and Drug Administration is not involved in setting standards as would be the case in many foods and medicines.

That leaves the ball in the states’ courts.

**Marijuana 101**

Marijuana often referred to as weed, pot, grass and other slang terms is a greenish-gray mixture of the dried flowers, or “buds,” of Cannabis. It is the most commonly used illicit drug, according to the 2015 National Survey on Drug Use and Health.
This character in the film "Reefer Madness" displays maniacal behavior after smoking marijuana. *Public domain image*

In the past, the federal government used an arsenal of propaganda that led people to believe that marijuana would turn someone into a drug-crazed person. "Women cry for it, men die for it," proclaimed the film “Reefer Madness.” “If you smoke it, you will kill people,” said another.

Then came medical marijuana. It got its toe into the door and eventually pried it open. People learned that it had many benefits, among them relieving pain, insomnia, anxiety, spasticity, and treating potentially life-threatening seizures associated with conditions such as epilepsy. All without physical addiction.

According to Harvard Health Publishing, about 85 percent of Americans support legalizing medical marijuana.

Generally, consumers are advised to keep medical marijuana oils refrigerated unless they’re told it’s not necessary. Refrigeration keeps any bacteria that might be in the oils from multiplying to dangerous levels.

**What are THC and CBD levels all about?**
To begin with, they’re about how potent marijuana or marijuana edibles are.

THC, or tetrahydrocannabinol, is the chemical responsible for most of marijuana’s psychological effects. It’s the ingredient in the cannabis plant that gets people high. In some cases, THC levels are on the package labeling. In some states, a package of edibles is limited to 100 mg with each piece containing 10 mg.
In medical marijuana, the main ingredient, CBD, or cannabidiol, has little, if any, intoxicating properties. Because CBD-rich cannabis is non-psychoactive or far less psychoactive than THC-dominant strains, it is the choice for a wide range of patients.

Medical marijuana comes in various forms, among them liquid tinctures, capsules, oil for use in vaporizers, and sprays that can be inhaled or sprayed under the tongue. In addition, there are topical CBD creams that are prescribed for muscle pain.

However, because CBD reduces the speed at which the body metabolizes the blood thinner warfarin, it’s best to confer with your doctor about this.

**Buyer beware**

California is a good example of how much confusion there can be when it comes to marijuana edibles and medical marijuana. Recreational marijuana became legal in the Golden State on Jan. 1 this year.

Betsy Gribble of the Sequoia Analytical Lab told KSRO in Sonoma County, CA, that even though California state officials are cracking down on marijuana regulations, only a fraction of the edible marijuana currently on the shelves is being properly tested. That’s because retailers with temporary licenses can sell inventory they had in stock before 2018. For consumers, that means they might be buying products that haven’t gone through testing.

Gribble says her lab checks for a variety of contaminants ranging from E. coli to heavy metals. But soon it will start looking for more. Beginning in July, marijuana in California must be tested
for foreign materials such as bugs or hair. And next year, tests will include searching for lead, mercury, arsenic, and mold.

Mold is serious stuff. It produces mycotoxins, which can cause disease and even death in humans and animals. And even if a moldy product is treated to remove the mold, the toxin can still remain. The problem here is if a contaminated flower is turned into a concentrate, the percentage of mycotoxin can skyrocket. The same thing happens with pesticides.

Chris Schutz, operations manager for Sequoia Analytical Lab, said pesticides and residual solvents in the concentrated oils is the biggest concern, especially since some producers use dangerous solvents.

“They build up in a person’s body over time,” he said. “You might not feel the effects of this for 5 or 10 years.”

“If you’re putting things in your body, you should know what your putting there and be assured it’s not going to kill you,” said Gribble in the KSRO interview.

The California Department of Public Health’s Manufactured Cannabis Safety branch is one of three state licensing authorities charged with licensing and regulating commercial cannabis activity in California. As such, it is responsible for regulation of all commercial cannabis manufacturing in California.

“We strive to protect public health and safety by ensuring commercial cannabis manufacturers operate safe, sanitary workplaces and follow good manufacturing practices to produce products that are free of contaminants, meet product guidelines and are properly packaged and labeled,” says the Public Health Department’s website.

Department spokesman Ronald Owens said that the state’s Department of Public Health does not have historical data on instances of foodborne illnesses resulting from consuming marijuana edibles in his state.

**Treat edibles like food**
The CEO and founder of Icicle Technologies, which focuses on food safety, Steven Burton said that edible marijuana products are not all that different from other food products.
“There are many food safety hazards associated with cannabis production and distribution that could put the public at risk but are not yet adequately controlled,” he said.

He said the top four food-safety hazards for the cannabis industry are:

- Aflatoxins on cannabis buds. As in any other agricultural product, improper growing conditions, handling, and storage can trigger mold growth.
- Chemical residues on cannabis plants. These can be introduced at several points during production and storage.
- Pathogenic contamination from pest infestations. This would include insects, rodents, birds and other pests that spread disease.
- Pathogenic contamination due to improper employee handling. Burton said that employee training is key for any food facility.

Other food-safety experts also list E. coli, salmonella, listeria and norovirus as “the usual culprits” when it comes to foodborne pathogens.

Stuck said that she’s found that most food safety violations are usually due to people. That’s why she takes employee training so seriously.

“A lot of small business owners don’t know anything about food safety,” she said. “They were making brownies in their kitchen and growing pot in their basement. It’s a real struggle for them. And it’s confusing where to find information.”
To get up to speed as they get larger — and a lot of these places have become really large — they’ll hire a chef with experience in food safety. Stuck said she’s found that a lot of the young people going into the business are eager to learn.

“They really want to do things right,” she said. “They don’t want black marks on the industry. I feel that once they understand how much it affects their companies and people lives, they become committed to doing things right.”

Schutz of Sequoia Analytic Labs said that consumers should definitely care about food safety practices when it comes to legalized marijuana products.

“The fact you can unknowingly harm yourself is why you should care,” he said.

In Washington state, the state’s Agriculture Department’s Food Safety Program already regulates, inspects and provides technical assistance to food processors pertaining to safety issues. But now it will conduct similar activities with marijuana-infused edible processors. These activities include assessing facility construction, equipment, cleaning and sanitizing practices, allowable products and carrying out enforcement and recalls when necessary.

Spokesman Hector Castro said the agriculture department will also be involved in increasing outreach and education.

“Some businesses didn’t have a background in food production,” he said. “Some didn’t know about food-safety requirements. Yet they’re producing something that’s consumed by people.” Castro said it’s all about protecting the consumer: “Food safety is one of our responsibilities. Consumers expect it.”

Jeff Kraus, owner of Smuggler Brothers in Sedro-Woolley, WA, said that even though he’s against overregulation, the agriculture department’s new role sounds reasonable.

“If a company is producing food, it should be regulated like any other food producer so people can be assured that what they’re buying is safe,” he said.

**Time for a public outcry**

“There should be a public outcry about this,” said Stuck, referring to health departments that have not implemented food safety regulations for edibles.
“Why aren’t they out there regulating this? It’s food. It’s medicine. People are trusting that the government is protecting them. It’s unfair to the consumer. They should be able to trust that what they’re buying is safe.”

Icicle Technologies CEO Steve Burton agrees. “... the question of regulatory oversight has become a pressing issue,” he said.

Consumers who want to find out what’s happening in their counties and states should contact local health departments and ask if they conduct regular inspections at edible marijuana manufacturers’ locations.

(To sign up for a free subscription to Food Safety News, click here.)
Four children sick after eating cannabis-laced sweets

By News Desk on May 4, 2021

Four children needed hospital treatment in England after eating sweets thought to have contained cannabis.

A 12-year-old boy was discharged on May 1 and the other three were expected to be released from hospital in Surrey after being kept in overnight for monitoring and observation.

Two 12-year-olds, one girl and a boy, and a 13-year-old boy were taken to hospital after suffering a violent reaction from eating jelly sweets. Three of the children were vomiting uncontrollably and falling in and out of consciousness.

Searching for the source
Surrey Police said they are not thought to have suffered any long term ill-effects and officers...

are still investigating where in Epsom the children got the edibles. A recent similar report in the local area involved jelly apple rings which appear as green jelly circles.

Detective Sgt. Lisa Betchley said police are looking for any information that may help them identify the source of the sweets.

“These children were incredibly lucky that they were not more seriously affected by whatever it was that they ate — and this is thanks, in great part, to the prompt actions of two medical students who happened to be nearby and assisted in the early stages; as well as the South East Coast Ambulance Service and hospital staff for their rapid response and treatment,” she said.

“These types of products, which may be marketed as cannabis infused or THC infused are illegal, and therefore otherwise unregulated, in the UK. They sometimes appear to be commercial products with professional packaging, but this should not be taken as a sign that they are safe or legal.

“I’d also ask anyone who has these types of products to think about how they store them and who could access them — consider the impact should these sweets come into the possession of younger children who have no knowledge of their contents.”

In March, the Metropolitan Police warned that a number of pupils in Sutton, South London, needed hospital treatment after eating gummy sweets containing cannabis.

**Irish alert**

In late April, the Food Safety Authority of Ireland (FSAI) issued a warning about the danger associated with eating so-called edible marijuana products, such as jelly sweets, containing cannabis.

The agency said there had been a “number of recent incidents” whereby edible products with significant levels of the psychotropic cannabis component tetrahydrocannabinol (THC) were intercepted by An Garda Síochána (Irish Police) and Revenue’s Customs Service.

In one incident, sweets containing cannabis oil were consumed by a group of teenagers, one of whom suffered serious health effects requiring hospitalization. These sweets were bought online with the packaging warning to eat them cautiously and that a significant concentration of THC was present.
THC is a controlled substance in Ireland with no tolerance level set in legislation. In food, it is considered a contaminant, with no permitted threshold in Europe.

Pamela Byrne, FSAI chief executive, said sweets containing cannabis components are being sold online.

“They are dangerous, particularly for young people and those with prior health conditions who may consume them unwittingly. People should only ever buy food from reputable sources and be sure they check the food labels,” she said.

“This new development is a sinister attempt to sell narcotics in the form of sweets and those involved are obviously not concerned about the consequences of these products getting into the hands of vulnerable people like children who could consume these products unwittingly to the detriment of their health.”

(To sign up for a free subscription to Food Safety News, click here.)
Is the edible marijuana industry doomed to become a pot full o’ pathogens?

By Francine L. Shaw on August 12, 2018

It seems like edible cannabis is available everywhere these days. Dispensaries are popping up around the country, and people can easily purchase edible marijuana online, including on popular e-retail sites like Etsy and Amazon. It’s available in a variety of forms, including capsules, lollipops, gummy bears, cookies, chocolate bars and brownies. All you have to do is place an order and, in many states, the marijuana can be delivered right to your mailbox, quickly and conveniently.

Edible marijuana products are being marketed for recreational use, as well as for medicinal purposes, such as treating chronic pain, relieving epilepsy symptoms, improving nausea from...
chemotherapy, etc. Cannabidiol (CBD) infused edibles seem to be more “socially acceptable” than smoking marijuana because they sidestep some of the stigmas of “smoking weed,” such as the odor. This makes them appealing to a wider audience.

Since edibles are widely available — even on Amazon — and marketed to improve health conditions, we can assume these products are safe for consumption, right? Actually, no — they’re not necessarily safe. In fact, there’s no federal regulatory safety standards for edible marijuana products. Most consumers who are purchasing edibles have no idea that this is the case. It is, quite simply, a “buy at your own risk” market.

As a food safety expert, this concerns me. People are buying and ingesting consumable products with no regulatory safety standards, which means they could get foodborne illnesses and become extremely ill or even die. While the Food and Drug Administration (FDA) is responsible for the safety of many foods sold in the United States, they don’t oversee or manage the safety of cannabis edibles.

Because there’s no oversight or regulations, some of the edibles being sold in the U.S. aren’t manufactured from food-grade ingredients. A document from the Denver Department of Public Health and Environment recently noted that some cannabis products being sold in the U.S. are coming from unregulated, unsafe and unsanitary manufacturing facilities. Further, some of these edibles contain unapproved ingredients, have been produced in unsafe conditions, and had unsubstantiated health claims on their labels.

In many cases, the edibles being sold and consumed in the U.S. may:

- Not have the desired effect that consumers are seeking.
- Be dangerous for consumption, due to inappropriate levels of CBD.
- Contain ingredients that are not food-grade and are, therefore, unsafe to ingest.
- Be hazardous due to cross-contamination or cross-contact issues.
- Transmit foodborne illnesses due to poor sanitation and hygiene in the facilities where they were produced.

Since these products (and the cannabis industry in general) are not regulated, many in the edibles business have not had even the most basic food safety training. Numerous production
facilities overlook the most basic food safety rules:

- They don’t wash their hands – and may not even have hot water in their facilities.
- They don’t prevent cross-contamination or cross-contact.
- They don’t pay attention to critical items like time and temperature control or proper chemical storage.
- They don’t have clean, sanitized facilities or equipment.
- They have problems with insects, rodents and/or mold in their facilities.

Yet, they are still preparing consumable products and selling them to the public, who believe the edibles are safe.

Would you purchase and consume a product if you knew if had been manufactured in a dirty, rusty, moldy washing machine? Apparently, utilizing a filthy washing machine to produce marijuana edibles isn’t out of the norm. That’s exactly what happened in Advanced Medical Alternatives’ licensed facility in Denver. Their brand, At Home Baked, made a variety of edible cannabis products, including brownie mixes, blondie mixes, Rice Krispie treats, and Stixx candy, all in a rusted, eroding, moldy washing machine.

Fortunately, Denver is one of just a few jurisdictions that conducts inspections on cannabis facilities, and their inspectors caught the problem and issued a recall before any illnesses were reported. Keep in mind that since there are no federal safety standards around cannabis facilities, it means there are plenty of jurisdictions that aren’t monitoring cannabis facilities or dispensaries for safety or cleanliness. In many cases, people are unknowingly buying edibles
that were manufactured in dirty, unsanitary conditions – and they could get very sick as a result.

Because there’s no federal regulation, lab testing varies among each state that permits the use of medical and recreational marijuana. Unfortunately, that means there aren’t consistent safety standards in the cannabis industry, as there are in the food service industry.

The U.S. has implemented a national hazard analysis and critical control points (HACCP) plan around the food manufacturing and food service industries. As a result, food businesses will take great strides to only sell food that is safe for consumption, and will not cause injury or illness. As the cannabis industry continues to produce cannabis-infused edibles and other products, people in the business can learn from the existing food safety protocols and procedures. Particularly, they should look to maintain compliance with food safety regulations and take all necessary steps to ensure a safe product for consumers (e.g., clean facilities, food-grade ingredients, no cross-contamination, proper labeling, etc.)

Luckily, there are a growing number of CBD producers that are hiring food safety and cannabis experts to help them elevate their safety standards before the FDA starts to regulate. As with all industries, there are many companies that are ready, willing and trying to do the right thing.

As cannabis edibles continue to grow in popularity, it’s becoming increasingly important to buy from reputable companies that follow proper safety protocols. Cannabis companies should heed the same rules as other food businesses adhere to: clean and sanitary facilities, no cross-contamination, holding products at proper temperatures, using food-grade ingredients from reputable sources, etc. Just as you wouldn’t eat dinner at a filthy, pest-infested restaurant, don’t buy cannabis edibles from companies that don’t follow critical food safety procedures.

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**Food Safety News**
Rocky Mountain High: Marijuana Industry Push Back on More Rules

By Dan Flynn on August 14, 2015

The powerful Colorado Cannabis Chamber of Commerce “[has] not and will not” endorse the latest proposed changes to the state’s edible marijuana regulations that call for the placement of a “THC Stop Sign” on each pot-infused package and marijuana serving. A Cannabis Chamber spokesman told Food Safety News the marijuana industry group cannot go along with the “stop sign logo as we believe it is sending a political message to stop THC.” Almost two years ago, when Colorado became the first state to make recreational marijuana use legal, it led to the birth of a booming new industry that infuses food and beverages with marijuana. The state currently has 134 manufacturers licensed to make “infused” food and beverage products.

Those products account for about half of all legal retail marijuana sales. Those sales just topped $50 million for June, but they’ve also turned out to be something of a Rubik’s cube for state marijuana regulators. Since marijuana prohibition ended, state lawmakers have kept the pressure on regulations to make edibles easily identifiable — even outside their packaging. Last year’s idea called for using the familiar marijuana weed symbol to mark the packaging and all the servings. Parents said the weed symbol would make edibles too attractive for children. THC, or tetrahydrocannabinol, is one of more than 60 active ingredients in cannabis, but it is

https://www.foodsafetynews.com/2015/08/rocky-mountain-high-marijuana-industry-push-back-on-more-rules/
the one responsible for the high that gets “baked” into all those food and beverage products. That’s why the “THC Stop Sign” is a non-starter with industry. Other potential new rules being floated by the Marijuana Enforcement Division (MED) in the state’s Department of Revenue include prohibiting edibles from being labeled as “candy,” requiring edibles to be “made from scratch,” and implementing standard measurement procedures. The stop sign markings would be required on individual pieces or servings, not just the outside packaging. Beverages would be limited to single servings with 10 milligrams of THC each. Diane Carlson, spokesperson for the parent group known as Smart Colorado, praised the proposals, saying they would allow children and teenagers “to know when and if marijuana is in a food, candy or soda.” Smart Colorado wants “the state to implement the proposed rules as quickly as possible,” according to Carlson. The MED has set aside both Aug. 31 and Sept. 1 as public hearing time to take testimony on permanent marijuana rules. Last year, the Colorado Department of Public Health and Environment (CDPHE) said product packaging labeling, child-resistant packaging and the ability to protect edibles in production, storage and transportation from foodborne pathogens all had to be addressed. The initiative that made marijuana legal in Colorado limits its regulation to the Department of Revenue. CDPHE is one of about 20 “stakeholders” that the MED has invited to participate in the marijuana rule-making. Johnny Green, Oregon marijuana activist and author of The Weed Blog, wrote Thursday about the push-back by the Cannabis Chamber “against a culture of dangerous potential overregulation of legal cannabis edibles in Colorado.” (To sign up for a free subscription to Food Safety News, click here.)