

THE FAILURES OF THE STATES TO REGULATE MARIJUANA. STUDIES SHOW THAT MARIJUANA PRODUCTS HAVE HIGH LEVELS OF CONTAMINANTS INCLUDING PESTICIDES, FUNGUS, HEAVY METALS AND SOLVENTS

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Introduction

The marijuana industry referred to here are those who illegally, negligently or fraudulently produce, market, or distribute marijuana. The marijuana industry claims that the states should regulate “medical” and recreational marijuana. They desire this because they know that they will largely be unrestrained in making a profit. State regulation of marijuana has been a sorry spectacle especially in the states that have been at this for the longest time.

Many studies and news exposés show that marijuana products can contain high levels of chemical contamination, pesticides, heavy metals, mold and fungus. This is true even in “regulated” marijuana states such as Alaska, Colorado, California, Massachusetts, Michigan, Oregon and Washington. The states are not doing a good job of regulating “medical” marijuana that is sold to sick people. They are not doing any better with recreational marijuana. Here are some examples from studies and news stories.

Alaska

Alaska has had “medical” marijuana for about 20 years (1998) yet, in addition to selling moldy products, a new story reported that a marijuana manufacturer in Alaska was found to be selling untracked marijuana and selling more than 114,000 untested edibles. [1] That they were not even tested is a danger to public health.

California

California had to call out the troops to deal with 22 years of growing “medicine.” In 1996 California passed a “medical” marijuana law. They recently legalized recreational marijuana. They had over 22 years to get this under control. It is a disaster. Governor Gavin Newsom, an early backer of recreational marijuana use in the state, is now having to stamp out California’s black market. Newsom announced in February 2019 he would “boost the National Guard’s statewide Counterdrug Task Force by redeploying up north to go after illegal cannabis farms, many of which are run by cartels.” He said the illegal crops “are devastating our pristine forests, and are increasingly becoming fire hazards themselves.” “We still have an overwhelming, and what I would characterize as a, catastrophic illegal marijuana problem in Siskiyou County and really the region,” said Sheriff Jon Lopey of Siskiyou County, which borders Trinity and Humboldt counties. “So the black market hasn’t been curtailed, but it’s probably been accelerated.” [2]

California has had “medical” marijuana for about 22 years. They have been dispensing marijuana products under the following conditions:

The Journal of Toxicological Sciences published a study of marijuana concentrates available in

the California medical marijuana market. [3] They found that:

Fifty seven (57) concentrate samples were screened for cannabinoid content and the presence of residual solvents or pesticides. Considerable residual solvent and pesticide contamination were found in these concentrates. Over 80% of the concentrate samples were contaminated in some form.

A study by a news organization in California showed that there were pesticides in 93% of samples of marijuana from 15 marijuana dispensaries. "It's really like injecting that pesticide right into your bloodstream," said former USC Chemistry professor Dr. Jeff Raber. [4]

In an article reported by Anresco Laboratories, a laboratory that conducts testing of marijuana, they noted that their testing showed that much of the marijuana sold in California's 1,000-plus dispensaries every year is dirty. Some 80 percent of the products were tainted with mold, pesticides, and harmful solvents. "We've seen pesticide levels 1,000 times higher in concentrates than what we might normally find in foods," says Anresco's Kyle Borland. Cannabis grown without any pesticides can be dangerous if its water or the soil or its fertilizer is dirty. Heavy metals such as arsenic, lead, cadmium, and mercury occur naturally in water and soil and in high enough concentrations, cancer-causing compounds can build up over time. Anresco gave marijuana a failing grade for heavy metals. [5]

Unpermitted rat poisons used by illegal marijuana growers in California endanger owls and other wildlife. 70% of northern spotted owls and 40% of barred owls tested positive for rodenticides in northwest California in a study conducted by the University of California, Davis and the California Academy of Sciences. Northern spotted owls are threatened species under the federal and state endangered species laws. [6]

University of California at Davis physician researchers did a study of marijuana used as a medicine.

We found numerous Gram-negative bacilli and fungal pathogens contaminating medical marijuana. These pathogens potentially pose a grave risk to our patients, particularly the immunosuppressed. [7]

News stories report that many marijuana products are failing safety tests in California. Nearly 20 % of all the marijuana products tested in California for potency and purity have failed. California started testing on July 1, 2018. In the first two months, nearly 11,000 samples were checked and almost 2,000 failed. Testing has been especially tough on infused cookies and candies: about one-third have failed. Testing also found unacceptable levels of pesticides, solvents and bacteria, including E. coli and salmonella. [8]

A news story reports that poisonous marijuana was found in some Los Angeles-area stores. State regulations failed to stop sales of marijuana products that are loaded with banned toxic chemicals that could make people sick. Although the state put regulations into effect that banned a long list of toxic pesticides from marijuana sold by retail businesses, lab tests found those

pesticides continue to turn up in some products, in amounts that could make a user sick. When they're smoked or vaped they go directly into the bloodstream and may cause respiratory disease and cancer. Lab tests showed that products contained numerous banned pesticides, including myclobutanil, a pesticide that the manufacturer said become poisonous hydrogen cyanide when it's heated up, which is what happens when smoking or vaping the marijuana. [9]

News stories reported that a cancer patient in California may have been killed by a fungus in his "medical" marijuana [10] and a California woman caught meningitis from smoking medical marijuana contaminated with lethal fungus.[11]

A news story reported that a marijuana testing lab in California has admitted to falsifying hundreds of marijuana pesticide testing records that were submitted to the state. The fake data involved 22 out of the 66 pesticides for which marijuana is typically tested.[12]

Colorado

Colorado has had "medical" marijuana for about 19 years (2000) and the below is the best they can do.

The Smithsonian reported that "medical" marijuana in Colorado is often laced with pesticides, heavy metals and fungus. [13]

In a series of Public Health and Safety Advisories after inspections of marijuana companies, the Colorado Department of Agriculture (CDA) warned the public that they found potentially unsafe pesticide residues on medical marijuana plant material and marijuana products produced by many marijuana companies. CDA confirmed the presence of off-label pesticides in the product samples tested. The pesticides they confirmed included:

Avermectin
Etoxazole
Imidacloprid
Myclobutanil
Propiconazole [15]

A lawsuit Complaint in a Colorado lawsuit alleged that a marijuana dispensary sprayed a dangerous fungicide on its marijuana plants. When heated, the fungicide ultimately breaks down to hydrogen cyanide, a well known poison. The marijuana was then sold to medical and recreational marijuana users without adequately apprising them of that fact. [16]

A 2016 presentation by the Denver Department of Environmental Health showed the following concerns: [17]

- Marijuana is inserted in food products. Marijuana businesses outside of Denver receive no food safety inspections. Marijuana products are not regulated as food by the State Department of Health.

- Marijuana plant-derived oils may have Clostridium botulinum (C. botulinum) spores. There are concerns about micro-environment supporting C. botulinum growth and toxin formation.
- In one case a marijuana ingredient was extracted in old domestic laundry machine.
- There is a concern that unapproved equipment is used.
- The marijuana industry lacks consumer safety expertise and Good Manufacturing Practices (GMP).
- There is a concern about hydrocarbon toxicity from improper ventilation during concentrate production. There has been reduced oxygen and increased CO2 in grows.
- Cross contamination between grows is a concern.
- There has been heavy metal absorption.
- There is a concern about off-label pesticide residues.
- Hash oil shelf-stability raises a botulism concern with ingestion.
- Unsafe equipment for food/smoking production is a concern.
- In August 2015 the Denver Post commissioned tests and found high levels of contamination in concentrates.
- There were no studies on health impact of mixing pesticides, concentrating, burning, and inhaling marijuana.
- Detectable residues can persist in products for many months.
- There were residues persisting in mature plants.
- Even if there are low residues this is still a concern, especially for concentrates.
- The cleaning of ventilation systems, grow rooms, and plant containers is needed.
- They were still seeing spiked residues indicating recent use in some investigations.
- Despite these concerns they continue to use marijuana as a medicine for children and those who are severely immunocompromised.

In 2018, the Governor of Colorado issued an executive order along with a health and safety advisory warning people not to use marijuana cultivated by a company because they allegedly used off-label pesticides called pyriproxyfen while cultivating marijuana. Affected products include marijuana flower, trim, concentrates, and infused products. [18]

In 2012, researchers from National Jewish Health entered 30 illegal grow operations in Colorado to evaluate them for potential hazards including mold, pesticides and fertilizers. They concluded that “airborne levels of mold spores that we found inside these structures may subject the occupants, emergency personnel and other individuals to significant health hazards, especially allergies, asthma, hypersensitivity pneumonitis and other respiratory diseases.”[19]

According a State of Colorado study, workers in marijuana production facilities can be exposed to a number of health hazards:

1. Biological hazards can arise from directly working with plants. Biological agents can include bacteria and fungi that have the ability to adversely affect human health in a variety of ways.

2. Mold - Marijuana production requires increased levels of humidity, which have been found to be as high as 70 percent. This increased humidity in the presence of organic material promotes the growth of mold.

3. Case reports in the medical literature have described episodes of allergic reactions, hypersensitivity, and anaphylaxis to marijuana. Skin contact through personal handling of plant material or occupational exposure has been associated with hives, itchy skin, and swollen or puffy eyes.

4. Chemical hazards pose a wide range of safety and health hazards such as exposure to:
Carbon dioxide (CO₂)
Carbon monoxide (CO)
Volatile organic compounds

5. Chemicals that pose health hazards include:
Pesticides - Pesticide poisoning - effect varies depending on the nature of the pesticide; nervous system effects, skin or eye irritation, endocrine disruption, and cancer
Insecticides
Fungicides
Disinfectants/cleaning chemicals [20]

Massachusetts

Massachusetts has had “medical” marijuana for about 11 years (2008) and they continue to permit contaminated marijuana to be dispensed. At one medical marijuana dispensary, according to a news story, there was a claim of the presence of mold as well as hydrogen peroxide used to clean affected cannabis. Said one source: “When I worked in cultivation everyone was getting red rashes. ... No ventilation in the room and certainly no one forcing us to wear a mask for safety.” [21]

The Massachusetts Department of Public Health inspections of medical marijuana facilities were made public through a public records request. A news story reported that the inspections found

many violations of state laws with most reports showing multiple violations including contaminants in marijuana flower and pre-rolled joints.[22]

In a 2018 news report, the pesticide bifenthrin was found in “medical” marijuana in a “regulated” dispensary in Massachusetts. [23]

A TV Station in Massachusetts investigated the purity of medical marijuana working with a patient to independently test samples bought off the shelves. They found marijuana that not only should never have been sold, but uncovered gaping holes in the state regulations that are designed to keep medical marijuana safe and contaminant-free. [24]

A 2018 news report stated that Massachusetts health officials shut down a medical marijuana dispensary and quarantined their product over concerns about pesticide use. [25]

According to another news report, compliance officers in Massachusetts made an unannounced inspection of a marijuana provider and “identified operations that violate the medical use of marijuana regulations and were determined to pose an immediate or serious threat to the public health, safety, and welfare.” [26]

Michigan

Michigan has had “medical” marijuana for about 11 years (2008) and they are permitting untested marijuana to be sold.

In 2019, the Michigan Department of Licensing and Regulatory Affairs issued a health and safety advisory due to the release of non-laboratory tested marijuana products supplied to provisioning centers by Choice Labs, LLC. Since marijuana patients may be immunocompromised these steps were taken. [27]

A February 26, 2019 news article noted that in Michigan, medical marijuana is again being recalled from a licensed provisioning center after it failed to meet state testing standards. This is the eighth recall of medical marijuana in a span of two months. Marijuana grown by medical caregivers was still being sold untested to medical patients at provisioning centers medical marijuana tainted with substances from chemical residue, arsenic, cadmium, E. coli, and mold. Testing labs have asked officials to change their minds in the name of patient safety. [28]

A February 1, 2019 news article from Michigan noted that medical marijuana failed to meet state standards when tested - and some of the strains were contaminated with the heavy metals cadmium and arsenic, according to the Bureau of Marijuana Regulation. A business coalition claims selling untested marijuana poses a serious safety risk to patients. Michigan’s most vulnerable patients are buying purported medical marijuana products that could legitimately harm them.[29]

Oregon

Oregon has been at this since 1998 - about 21 years. They have done poorly. In January 2019, the Oregon Secretary of State published an audit of Oregon’s framework for regulating

marijuana. The auditors concluded that regulators failed to meet even basic promises. Just 3 % of recreational marijuana retailers had been inspected and only about a third of growers. The state's medical marijuana program, long a source of black market diversion both in the state and nationally, has "structural weaknesses" that "greatly increase the risk of diversion." The "tracking of Oregon's marijuana supply and inspections is lacking" and "data errors in the state tracking system hamper the agency's ability to use the information to identify potential black market leakage." While all recreational marijuana in Oregon must be tested for pesticides and solvents, the state does not require testing of most medical marijuana, putting these vulnerable users at risk. The state still does not have a mechanism to verify test results and has not assured consistent practices among licensed labs to confirm products are reasonably safe. Limited authority, inadequate staffing, and inefficient processes reduce the program's ability to ensure labs consistently operate under accreditation standards. [30]

Utah

Utah passed a limited "medical" marijuana law in 2014. The Centers for Disease Control and Prevention found that synthetic products falsely labeled as cannabidiol, or CBD, sickened as many as 52 people in Utah from October 2017 through January 2018. [31]

On December 8, 2017, the Utah Poison Control Center (UPCC) notified the Utah Department of Health (UDOH) of reports of emergency department visits associated with reported exposure to products labeled as CBD (cannabidiol), a nonpsychoactive compound derived from Cannabis sativa, the marijuana plant. Patients experienced adverse reactions, including altered mental status, seizures, confusion, loss of consciousness, and hallucinations. These reactions prompted concern for potential adulteration with a synthetic cannabinoid. Sale of CBD is currently illegal in Utah, although CBD is readily available online and in shops. This investigation highlights the hazards of consuming unregulated products labeled as CBD. [32]

Washington State

Washington has had "medical" marijuana for nearly two decades (1998). The Huffington Post reports that marijuana pesticide contamination is widespread and in some cases pesticide residue levels are 1,600 times greater than the legal desirable amount. [33]

A news report stated that a complaint submitted to regulators at the Washington State Liquor and Cannabis Board (WSLCB) by a group of industry members accuses Peak Analytics, the state's largest cannabis testing lab, of consistent and large-scale inaccuracies. This made marijuana batches appear cleaner and more potent than they actually are. [34]

Conclusion

Microbiological and chemical contaminants pose a potential threat to marijuana users. Bacteria and fungi can cause opportunistic infections in immunocompromized individuals and even dead organisms may trigger allergies and asthma. Marijuana bioaccumulates heavy metals in its tissues, so avidly that hemp crops have been used for bioremediation of radiation. Heavy metals can cause a myriad of human diseases, so their presence in crops destined for human use must be minimized. The use of illegal pesticides is a rising crisis, and a breakdown in ethics and public health. The states cannot be trusted to manage this. [35].

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