

Legal Medical Marijuana in Ohio Should Lead to Better Environmental Practices



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Just as it has in 28 other states, legal medical marijuana has arrived in Ohio. This year, 24 companies will grow and sell their initial medical marijuana crops to 40 companies that will process those crops into products such as capsules, patches, tinctures, balms, ointments, edibles and oils for vaping.

In turn, these processors will sell their pre-packaged products to 60 dispensaries for ultimate sale to registered patients with a doctor's recommendation. The Ohio medical marijuana program is set to be operational by September of 2018.

According to numerous national polls, a clear majority of Americans support the legalization of marijuana. As to medical marijuana, the pro-legalization numbers exceed 90 percent. Roughly 60 percent of the U.S. population now lives in states that have some form of legal marijuana, medical and/or

recreational. The economic and tax benefits projected from legalizing the marijuana industry nationally are easily in the tens of billions of dollars. However, often overlooked in all the discussion of the medical benefit to patients and the billions of dollars in economic growth is the positive environmental impact that legalization can bring about.

Energy consumption of cannabis production can be significant and vary widely between different methods of growing operations. Electricity consumption can vary from below 1 kilowatt hour per square foot of canopy for outdoor solar powered facilities to more than 140 kilowatt hours per square foot for completely indoor grows.¹ Furthermore, at least one scientific review determined that a mature

cannabis plant can consume up to 22.7 liters of water per day in the 150 day growing season. By comparison, a wine grape plant uses approximately 12.64 liters of water per day.² Legal marijuana production also involves the use of fertilizers and pesticides and the need to dispose of marijuana waste products. Nevertheless, from an environmental perspective, a regulated marijuana industry is better than the unregulated and illegal black market.

In touting its "Domestic Cannabis Eradication Program," the Drug Enforcement Agency (DEA) states that "marijuana is the only major drug of abuse grown within the U.S. borders." Statistics on illegal activities are hard to obtain. However, in 2016 the DEA reported

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the eradication of 1,483 outdoor and 634 indoor grow sites in California. The numbers for Ohio were 518 outdoor and 20 indoor grow sites for a total of nearly 20,000 plants. The DEA eradicated illegal marijuana sites in nearly every state. A 2016 report by Arcview Market Research, a cannabis industry company, and BDS Analytics found that black market sales of marijuana accounted for 87 percent of all marijuana sales across North America. Despite the DEA's eradication program, much, if not most, black-market marijuana sold in the U.S. is grown domestically in illegal outdoor and indoor operations. Numerous journalists and the U.S. Forest Service have reported on the environmental impact of illegal grow operations on national forest lands. In August 2017, the U.S. Forest Service reported that in California alone more than 400 illegal grow sites have been identified in national forests. According to the same report, illegal grow sites have been identified in most states.

Illegal grow operations are responsible for dumping tons of banned pesticides and fertilizers, as well as trash, which are, according to the U.S. Forest Service,



poisoning waters and lands and killing animals, aquatic life and vegetation in unprecedented numbers. One U.S. Forest Service employee is quoted as saying that "some of the pesticide is so concentrated [that] animals die in a matter of minutes if not seconds." Moreover, because many illegal outdoor grow sites are in remote locations, eradication and environmental remediation can be difficult.

The growing number of "legal" states has not killed the marijuana black market. To the contrary, some argue that state legalization has increased the black market by making marijuana more acceptable. Marijuana consumers balance many factors when making buying choices, even in legal states. For example, legal marijuana is generally more expensive because of high state taxes. Moreover, in medical marijuana states like Ohio, patients will have to register with a state agency. The act of registration could endanger jobs, reputations and even rights, such as those related to gun ownership and permits. Nevertheless, the industry expects that more states will legalize marijuana and the federal government will follow in due course. Once that occurs, the legal market will flourish, flooding consumers with highly unique and innovative marijuana products not readily available to the black market. More importantly, the market will educate consumers on the benefits of ingesting products manufactured to strict safety and environmental guidelines, as opposed to unregulated, illegal products that may be marginally cheaper but carry a risk of contamination.

To those ends, Ohio's Medical Marijuana Control Program (MMCP) emphasizes safety, environmentally sound practices and transparency. For example, cultivators are required to establish and implement detailed and verifiable:

1. Standards and guidelines for cultivating, propagating, vegetating, flowering and harvesting medical marijuana, including safety protocols and equipment
2. Policies and procedures for the intended use of pesticides, fertilizers and other agricultural products
3. Standards for the disposal of medical marijuana waste and other wastes.³

The Ohio Department of Commerce plans to maintain a list of permitted pesticides, fertilizers and other chemicals, and will require all pesticides and fertilizers to be registered with the Ohio Department of Agriculture, meet EPA guidelines and be authorized for use on plants intended for human consumption. Strict record keeping and adherence to regulations applies to the use of pesticides, fertilizers and other chemicals.⁴

Similar regulations apply to processors who must:



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1. Implement standards and guidelines for processing marijuana plants, refining medical marijuana extracts and manufacturing medical marijuana products
2. Establish policies and procedures for the intended use and sourcing of extraction equipment, solvents and all non-marijuana ingredients
3. Establish standards for the disposal of medical marijuana waste and other wastes.

In Ohio, medical marijuana cultivation will occur indoors. Growing facilities will be equipped with sophisticated lighting, HVAC and irrigation systems. HVAC systems capable of purifying indoor air, drying product, dehumidifying and maintaining ideal temperature are common for legal growers. To address energy and water consumption, the MMCP has encouraged cultivators and processors to adopt energy and water conservation plans that minimize the carbon footprint. Legal cultivators will combine energy-efficient lighting systems that emit less heat and require less energy to cool air temperatures with sophisticated HVAC systems to save energy. Automated close-water systems minimize water use, reduce evaporation and eliminate waste with computerized watering cycles. Similar conservation plans are to be implemented that reduce energy and water consumption, and reduce CO2 emissions when processing medical marijuana and transporting it throughout the supply chain.

The production of legal medical marijuana products has an environmental impact because of increased energy and water use, the application of pesticides and fertilizers, and the need to dispose of the resulting waste. Nevertheless, when compared to the environmental evils of black market production, the regulated medical marijuana industry is much friendlier to the planet.

¹ State of Oregon, Task Force on Cannabis Environmental Best Practices, Working Document, 08-16-2016
² State of Oregon, Task Force on Cannabis Environmental Best Practices, Working Document, 08-16-2016
³ O.A.C. § 3796:2-1-02.
⁴ O.A.C. § 3796:2-2-01.

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