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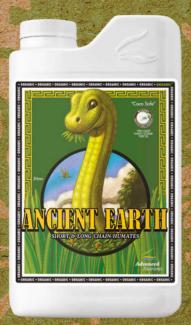


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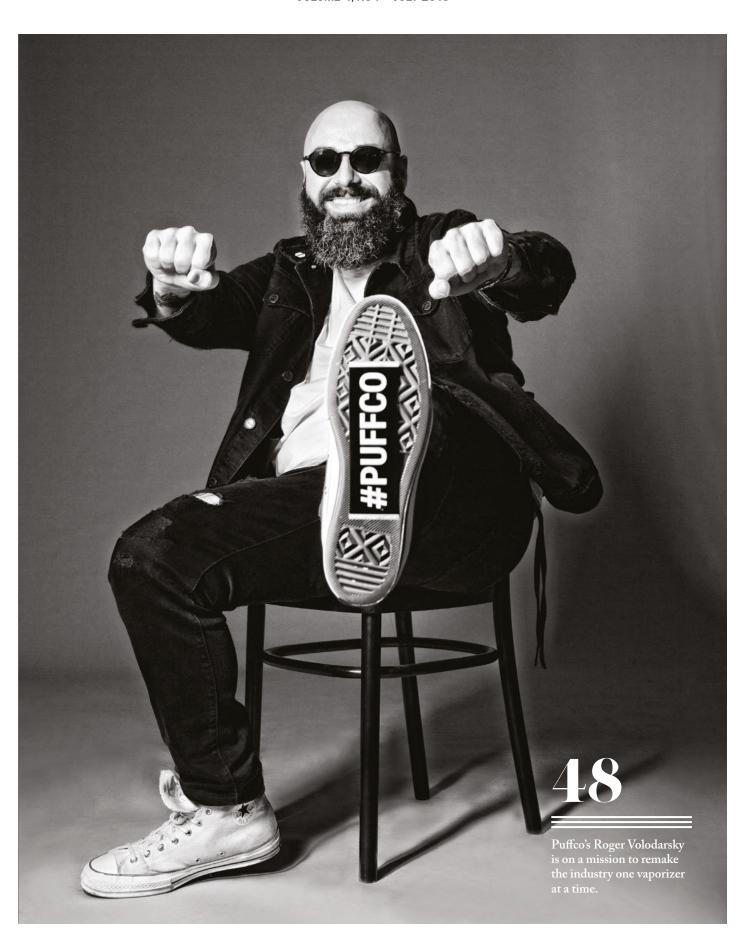






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**COVER ILLUSTRATION:** We are grateful for the opportunity to have collaborated with the very talented J.J. Kirby on this month's illustrated cover. Throughout his 20-year professional career, J.J. has worked with numerous companies including Marvel, Cartoon Network, DC, Visionscape, and Warner Bros.









### **HOBSON'S CHOICE:** THE ECONOMICS OF MEDICAL THERAPIES

THE BLUNT REALITY of California's cannabis taxes is coming home to roost in a very personal way, leading me to consider choices for myself that I would rather not have to contemplate. We make decisions based on cost every day, of course, especially when it comes to medical care, but the starkness of the options before me is a reminder that the economics of medical therapies is an ongoing dynamic this new industry cannot afford to ignore. I certainly cannot.

Spinal cord damage from a motorcycle accident a few years ago makes my hands go randomly numb, leaving me unable to sleep through the night. Irreversible, with no surgical option available, the only recommendation by the nerve specialist was a neuropathic pain drug commonly advertised on television that comes with a laundry list of horrifying sideeffects. But there is another legal drug available that lets me keep the most serious sleepdeprivation demons at bay with no side-effects at all: cannabis.

Unfortunately, the costs associated with these therapies could not be more different. The pharmaceutical is supported by insurance and taxed in the low single digits. Cannabis, on the other hand, is virtually invisible to insurers and taxed in the double digits. While I feel I can manage the core costs of cannabis, the taxes are a constant and unrelenting burden that can be mitigated only by supporting the black market. If I refuse to do that, which I generally do, I'm faced with a Hobson's choice: go sleepless or retreat to the waiting arms of Big Pharma.

Tom Hymes Tom@cannmg.com

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**CORRECTIONS:** The Spectrum King LED SK602 listing in June's Products section was incorrect. The image was of the SK602, but the text described the SK602GH. A typo in the article "Cannabis on a Global Scale" in the June issue misrepresented the number of Uruguayans who have registered for access to legal cannabis. The correct number at the time of printing was 220,000. mg apologizes for the confusion.

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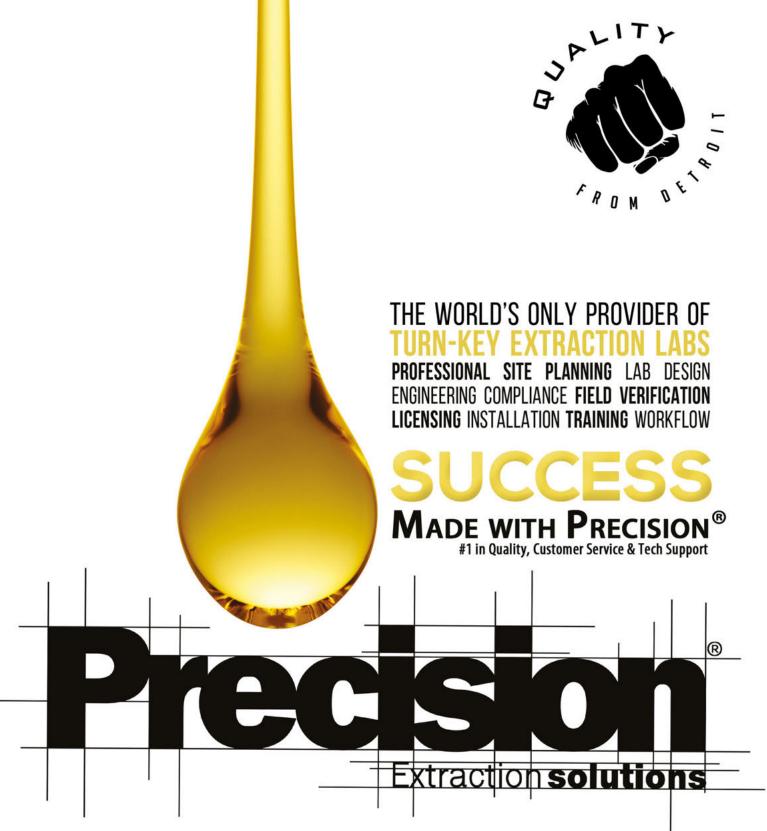
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# ALL THE NEWS THAT'S FIT TO SMOKE

### 9TH DISTRICT DENIES CHALLENGE TO NEW DEA HEMP RULE

PASADENA, Calif. — A federal appeals court denied a petition challenging the Drug Enforcement Administration's Final Rule that appears to define hemp-derived cannabidiol as a Schedule I narcotic under the Controlled Substances Act.

Hemp Industries Association, R.M.H. Holdings, and Centuria Natural Foods sued to overturn the January 2017 rule, "Establishment of New Drug Code for Marihuana Extract," claiming the federal agency incorrectly conflated non-psychoactive CBD with psychoactive THC, causing confusion among law enforcement agencies and ultimately leading to raids, arrests, and seizure of legal products. Twenty-nine members of Congress supported the plaintiffs' argument in an amicus brief.

The court's ruling did not address the legality of CBD. Instead, the panel of three judges for the U.S. Court of Appeals for the Ninth Circuit ruled on procedural grounds, saying invalidation of the rule was unnecessary. In their opinion, the judges noted the federal Farm Bill of 2014 exempts some components of the cannabis plant, thereby preempting the Controlled Substances Act and DEA's related authority.

Hoban Law Group managing partner Bob Hoban, who represented the plaintiffs, called the ruling "disappointing" because it did not address the language and substance of the rule.

"Given the pervasive confusion and irreconcilable conflicts of the law that have led to product seizures, arrests, and criminal charges against those involved in the lawful hemp industry, the petitioners believe the Final Rule must be invalidated, absent the court clarifying and further resolving these conflicts and their severe consequences," he said.

In April, Senate Majority Leader Mitch McConnell (R-Ky.) introduced the Hemp Farming Act of 2018, which would end any potential confusion about hemp-derived CBD. According to the bill, "The term 'hemp' means the plant Cannabis sativa L. and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dryweight basis."



of cannabis consumers drink alcohol. (Source: BDS Analytics)

### **TOP TRUMP ADMINISTRATION OFFICIAL: CANNABIS**

**'NOT SAFE** 

FORT WASHINGTON, Md.

A top official at the U.S. Department of Health and Human Services told a gathering of mental health professionals Americans have a right to know cannabis serves as a gateway to abuse of illicit narcotics.

"For too many years, we have simply heard a message from an industry that makes...billions of dollars...about how safe this drug is. I'm here to tell you this is not a safe drug," Dr. Elinore McCance-Katz, MD, PhD. told a town-hall-like audience during the National Council for Behavioral Health's annual conference in May. "Americans have a right to know that, and we should be telling them that."

A study published in the American Journal of Psychiatry, she said, indicated "marijuana use was associated with substantially increased risk of addiction and overdose for

McCance-Katz serves as Assistant Secretary of Health and Human Services for Mental Health and Substance Abuse. Prior to taking her post at SAMHSA, she designed physician programs for opioid addiction treatment.



### SBA POLICY CHANGE CHILLS LOANS FOR 'CANNABIS-RELATED' BUSINESSES

WASHINGTON, D.C. — A recent policy change at the Small Business Administration (SBA) prevents banks from issuing SBA-backed loans to any businesses associated with the cannabis industry, including businesses like hydroponic suppliers, web designers and IT professionals, testing labs, and hard goods manufacturers.

Because cannabis remains federally illegal, the SBA does not insure loans made to "direct marijuana businesses." The agency defines a "direct" business as one "that grows, produces, processes, distributes, or sells marijuana or marijuana products, edibles, or derivatives...even if the business is legal under state law."

An April policy memo to SBA partner banks expanded previous restrictions to "indirect marijuana businesses," which include any business that "derived any of its gross revenue for the previous year (or, if a start-up, projects to derive any of its gross revenue for the next year) from sales to direct marijuana businesses of products or services that could reasonably be determined to support the use, growth, enhancement, or other development of marijuana... In addition, businesses that sell smoking devices, pipes, bongs, inhalants, or other products that may be used in connection with marijuana..."

The policy also targets hemp businesses.



Legal recreational cannabis consumers use 27% LESS OVER-THE-COUNTER PAIN **MEDICATION** than consumers in non-legal states. (Source: High Yield Insights)



# **MICHIGAN TO AS MARIJUANA**

LANSING, Mich. — Note to Michigan consumers, dispensaries, and health products shops: marijuanaderived CBD oil, even if it contains no THC, is regulated like any other medical cannabis product, and hempderived CBD is prohibited. So said a notice distributed in mid-May by the state's Department of Licensing and Regulatory Affairs.

Michigan voters legalized medical cannabis in 2008, but the state's regulatory system is undergoing major revisions to bring it in line with a 2016 law. Under the new regulations, all cannabis products, psychoactive or not, must be obtained from licensed facilities.

Hemp and hemp derivatives are legal in Michigan only for research.



of cannabis users view recreational-use legalization as positive for their communities.

(Source: High Yield Insights)

### **CONGRESSIONAL BLACK CAUCUS PUSHES** MARIJUANA REFORM

WASHINGTON, D.C. — The Congressional Black Caucus wants to reform federal cannabis laws. Among other things, a 1,300-page omnibus bill the caucus submitted in mid-May seeks elimination of mandatory minimum sentences for drug offenses and federal decriminalization of marijuana. In addition, the Jobs and Justice Act of 2018 would establish a reinvestment fund for communities negatively impacted by the War on Drugs.

Though the Jobs and Justice Act is not expected to gain traction, a similar bill is gaining momentum. The Marijuana Justice Act, introduced by Sen. Cory Booker (D-NJ) and co-sponsored by senators Kirsten Gillibrand (D-NY), Bernie Sanders (I-Vt.) and Kamala Harris (D-Calif.), would end federal cannabis prohibition and penalize states with inequitable marijuana enforcement.



### RESEARCHERS RECEIVE \$4.7M TO STUDY CBD AND AUTISM







LA JOLLA, Calif. — The Center for Medicinal Cannabis Research at the University of California, San Diego, received a \$4.7 million grant to explore cannabidiol's potential effect on patients with severe autism. The grant is the largest private donation to date for cannabisrelated research in the United States.

According to researchers, the study is a product of anecdotal reports from parents who say CBD has had positive effects on their autistic children.

"The more severe manifestations of autism are difficult to treat, causing parents to look for non-traditional remedies," said Igor Grant, MD, professor of psychiatry and CMCR director. "There are unconfirmed reports that cannabidiol could be helpful, but there are no careful studies to document either its benefits or its safety. This gift will enable our researchers to develop and implement a translational program of research that pairs a clinical trial with detailed neurobehavioral observation, as well as basic science studies, to determine if cannabidiol holds therapeutic promise, and if so, via what mechanisms."



Projected drop (CAGR) in California medical cannabis sales through 2025

(Source: New Frontier Data)



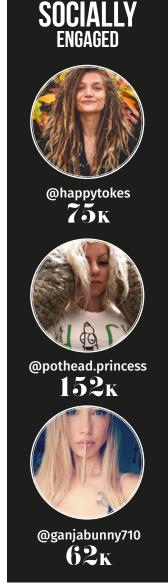
of consumers age 55 and older who tried pot when they were younger now use some form of cannabis.

(Source: High Yield Insights)



Projected rise (CAGR) in California adult-use cannabis sales through 2025.

(Source: New Frontier Data)



# Light + Fan control

### New



### Gavita Master controller ELF

Get enhanced control of your grow room with the second generation Gavita Master controllers. The Gavita Master ELF is the latest addition to our controller line-up. You get everything the upgraded second generation Master controllers offer, plus fan control. With the integrated fan controller, it can directly control your lights and fans for a stable temperature in your grow room.

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### LARGEST U.S. LIQUOR DISTRIBUTOR TO REP CANNABIS NATIONWIDE IN CANADA

MIAMI and TORONTO — Great North Distributors Inc., a wholly-owned Canadian subsidiary of Southern Glazer's Wine & Spirits established specifically to handle cannabis products, will distribute Aphria Inc.'s products throughout Canada once adult use is legalized. Nationwide retail sales of recreational cannabis are expected to begin by September 1.

The deal makes parent company Southern Glazer's, the largest liquor distributor in the United States, the first beverage alcohol distributor to target the legal cannabis industry, but it is not the first company to attempt to combine cannabis and alcohol under one umbrella. In February, Edmonton, Alberta-based Aurora Cannabis took a 20-percent stake in Canadian retail chain Liquor Stores N.A. Ltd. The retailer recently changed its name to Alcanna to reflect its new dual focus. Last fall, international beer, wine, and spirits producer Constellation Brands invested C\$245 million in a 10-percent stake in Canopy Growth Corp. The two companies are developing cannabis-infused beverages.

In July 2017, Toronto-based startup Province Brands filed a provisional technology patent for the "world's first beers brewed from the cannabis plant." The company has received C\$300,000 in funding from the government of Ontario.

Canadian bank CIBC estimates Canada's legal cannabis market could reach C\$6.5 billion in sales by 2020.

SOUTHERNGLAZERS.COM; APHRIA.CA



### **PURATION ACQUIRES CANADIAN CANNABIS FARMERS CO-OP**

**DALLAS** — Puration Inc. in May completed acquisition of Canadian Cannabis Farmers Co-Op, a move the company intends to speed its access to the Canadian market ahead of the national recreational legalization expected this summer. The acquisition will add to Puration's existing cannabis cultivation strategy.

In conjunction with the acquisition, the company plans an expansion of its cannabis-infused beverage business with the introduction of THCSavor. ACICONGLOMERATED.COM

### **LOWELL HERB COMPANY** SEEKS PARDONED, NONVIO-**LENT OFFENDERS**

LOS ANGELES — Lowell Herb Company is offering jobs and other employment resources to recently pardoned, nonviolent offenders who are seeking careers in the cannabis industry. The company calls the undertaking the Social Equity and Reparative Justice Program.

"Finally, the laws in U.S at the state level are catching up with the fact that the people have spoken, with 64 percent in favor of marijuana legalization," said Chief Executive Officer David Elias. "The industry today exists, in large part, based on the fact that all of the early pioneers took risks in the gray market. The industry as a whole should be conscious of this and take actions to give people affected by cannabis prohibition a second chance."

Career opportunities at the company include package design, sales, marketing, distribution, shipping, and customer service. Most are located in Los Angeles, but positions are available in other parts of California, as well.

The program also provides internships at Lowell and its brand and retail partners.

LOWELLSMOKES.COM



### **SCOTTS MIRACLE-GRO ACQUIRES SUNLIGHT** SUPPLY CO.

MARYSVILLE, Ohio — Scotts Miracle-Gro, the venerable lawn and garden company established in 1868, acquired Sunlight Supply Company, the largest distributor of hydroponics in the United States, for \$425 million in cash and \$25 million in stock.

Sunlight will be incorporated into Scotts's cannabis-focused subsidiary The Hawthorne Gardening Company, which is based in New York, though some operations will be relocated to Sunlight's headquarters in Vancouver, Canada.

SCOTTSMIRACLEGRO.COM, SUNLIGHTSUPPLY.COM

# Movement in cannabis-sector investment between 2015 AND 2017

Cultivation and retail:

Biotech/ pharma:

Software and media:

**↑1.35**x

↑5.36x

Consumption devices:

Infused products and extracts:

Real estate: **↑5.57 x** 

Investment/mergers and acquisitions:

**↑3.47x** 

(Source: New Frontier Data)

Average projected deal size for November flower deliveries

IN CALIFORNIA, COLORADO, WASHINGTON, OREGON, AND ILLINOIS

Outdoor:

Greenhouse:

Indoor:

62lbs

**701bs** 

42lbs

(Source: Cannabis Benchmarks)



### CANNABIS POWERSCORE CAN HELP CULTIVATORS GET A HANDLE ON ENERGY EXPENSES

DENVER — Resource Innovation Institute (RII) launched Cannabis PowerScore, a benchmarking tool to track energy consumption data from cultivation facilities. The organization's goal is to educate industry leaders and stakeholders about the most reliable ways to increase energy efficiency and move toward a lower-cost and more sustainable cultivation model.

PowerScore participants submit data, which is anonymized to protect the privacy of each company. Participants receive a score that reflects where they rank in relation to other cultivators in their specific region. RII analyzes the submitted data to determine steps cannabis cultivators can take to make measurable changes and to develop industry-wide standards. More than 100 cultivators have participated in the program to date.

"Establishing baseline measurement data is key to the cannabis industry's efforts to reduce carbon emissions," said Derek Smith, executive director for the nonprofit organization. "RII's goal is to inform policy and utility incentive programs so producers can receive support for making investments in techniques and technologies that drive energy reductions while ensuring yield, consistency, and quality."

Cultivators may submit their data anonymously at CannabisPowerScore.org to get an immediate performance benchmark. RESOURCEINNOVATION.ORG, CANNABISPOWERSCORE.ORG

### **NUGGETS**



THERPET entered the equine health market with a new line of full-spectrum, hemp-derived CBD tinctures designed to promote horse health.

THERPET.COM



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VOYAGERESOURCES.COM



LENITIV SCIENTIFIC, in partnership with Cura Cannabis Solutions, debuted celebrity and multiple sclerosis patient Montel Williams's line of hemp-derived CBD products.

LENITIVPRODUCTS.COM;
CURACAN.COM



ADVANCED NUTRIENTS
CEO Michael "BigMike"
Straumietis launched a podcast series focused on using unconventional tactics to attain business goals.
ADVANCEDNUTRIENTS.COM

### | HARVEST: Charts & Numbers |

### TAXES ON ADULT-USE MARIJUANA SALES, BY STATE

(as of May 15, 2018)

STATE	YEAR OF ADULT USE LEGALIZATION	EXCISE / PRODUCER TAX	SALES / RETAIL Excise Tax	STATE Sales Tax	LOCAL Sales tax
Colorado	2014	15%	10%	2.9%	Up to 8%
Washington	2014	N/A	37%	6.5%	2-3%
Alaska	2015	\$50/oz.	N/A	N/A	N/A
Oregon	2015	N/A	17%	N/A	up to 3%
Nevada	2016	15%	10%	N/A	6-8%
California	2018	Leaves: \$2.25/oz. Flowers: \$9.25/oz.	15%	7.25%	7-10%
Massachusetts	2018	N/A	10.75%	6.25%	up to 3%

(Sources: CO, WA, AK, OR, and MA departments of revenue, NV Dept. of Taxation, CA Dept. of Tax and Fee Admin.)



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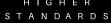
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### **AUGUST 2018 EVENTS SCHEDULE**

The following is a list of select industry events taking place during August & September 2018.

### INDO EXPO PORTLAND AUGUST 4-5

### PORTLAND EXPO CENTER, PORTLAND, OREGON

Expected to attract more than 300 exhibitors and 5,000 attendees, Indo Expo Portland will see decision-makers convene to source products showcased by hundreds of companies and brands representing equipment, lighting, nutrients, greenhouses, supplies, tools, lifestyle and ancillary companies and services such as legal, HVAC, IT, packaging, labeling, security and real estate firms, staffing, HR, brokers, consultants, and more. This year's event also includes a special section for industrial hemp.

INDOEXPO.COM

### MJBIZCON INT'L AUGUST 14-16

### METRO TORONTO CONVENTION CENTRE, TORONTO, CANADA

Join leaders from around the globe focusing on the role of the cannabis global marketplace. The event is expected to connect more than 2,000 attendees and more than 125 exhibitors from Canada and abroad.

MJBIZCONFERENCE.COM

### CANNABIS SCIENCE CONFERENCE AUGUST 27-29

### OREGON CONVENTION CENTER, PORTLAND, OREGON

Cannabis Science Conference pulls cannabis industry experts, instrument manufacturers, testing labs, research scientists, medical practitioners, policymakers, and interested novices to an annual event aimed at improving cannabis science. The conference includes keynotes, presentations, roundtable discussions, and exhibits.

CANNABISSCIENCECONFERENCE.COM

### GRIFFIN'S 2018 GROWER AND RETAILER EXPO AUGUST 28-29

### **DCU CENTER, MASSACHUSETTS**

Producers and buyers meet among discounts and deals, product knowledge, and technical advice.

New products, new varieties, and new vendors feature at each expo.

**GRIFFINS.COM** 



### GROWUP CONFERENCE AND EXPO SEPTEMBER 7-8

### SCOTIABANK CONVENTION CENTRE, NIAGARA FALLS, CANADA

Focused on the education, collaboration and growth of the cannabis growing industry. Meet licensed producers, suppliers, equipment manufacturers, investors, lawyers, government officials, and growing enthusiasts, all in one scenic location.

**GROWUPCONFERENCE.COM** 

### **CHAMPS KISSIMMEE SEPTEMBER 15-17**

### THE GAYLORD PALMS, ORLANDO, FLORIDA

Founded in 1999 and now one of the largest counterculture trade shows in the world, CHAMPS hosts premier exhibitors and draws buyers in the thousands from all over the world. Vendors offer glass pipes, vaporizers, cleaners, and extraction machines, among other stock.

**CHAMPSTRADESHOWS.COM** 

### GRIFFIN'S 2018 GROWER AND RETAILER EXPO SEPTEMBER 26-27

### LANCASTER COUNTY CONVENTION CENTER, LANCASTER, PENNSYLVANIA

Producers and buyers meet among discounts and deals, product knowledge, and technical advice. New products, new varieties, and new vendors feature at each expo.

**GRIFFINS.COM** 

### THE STATE OF CANNABIS SEPTEMBER 27-28

### THE GRAND EVENT CENTER, LONG BEACH, CALIFORNIA

A two-day conference allowing elected officials, regulators, scientists, and business leaders to learn from each other and affect policy in smarter ways. According to organizers, "'Higher learning' is our state of mind!"

STATEOFCANNABIS.ORG



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# THE CANNABIS INDUSTRY'S FUTURE DEPENDS ON THE **PUBLIC'S MEDIA** LITERACY



RICARDO BACA IS A VETERAN JOURNALIST, THOUGHT LEADER IN THE LEGAL CANNABIS SPACE, AND FOUNDER OF GRASSLANDS: A JOURNALISM-MINDED AGENCY THAT HANDLES PUBLIC RELATIONS, CONTENT MARKETING, SOCIAL MEDIA, EVENTS, AND THOUGHT LEADERSHIP FOR BRANDS AND EXECUTIVES IN LEGAL CANNABIS AND OTHER INDUSTRIES.

ONG BEFORE CANDIDATE Donald Trump deflected any and all criticism lobbed his way as "fake news"—hell, long before Trump was even a candidate for the American presidency—my colleagues and I noticed an alarming trend sweeping the cannabis media landscape.

Supposed media outlets were publishing news articles that had no basis in reality. While some outlets were copy-catting sites like The Onion, trying their hand (unsuccessfully) at satire, others were working hard to approximate the tone, style, and aesthetics of the mainstream media, a clear attempt to trick readers and spread misinformation.

When I first saw this actual fake news creeping on my beat, cannabis, I actually got angry at the made-up outlet peddling its poorly crafted satire—but also at the hundreds of thousands of people (many of my friends included) sharing the worthless garbage as fact.

Yes, this is a story about the importance of media literacy in the modern cannabis industry. But before I get too deep, here's how it all unfolded.

In late 2013, I was that newspaper marijuana editor you may have heard about. With the world's first-ever recreational marijuana sales on the near horizon, my colleagues and I at The Denver Post were working to cover the historic implementation of legal weed at Ground Zero—and we debuted the brand-new news vertical The Cannabist that December, a few days before those sales started.

January 1, 2014, a.k.a. Day No. 1, was the sixteen-hour workday blur you would have expected it to be. I woke early and worked from home, updating The Cannabist with the latest news from the night before. I met the film crew that would follow my team for the next year for a quick interview. Then, with camera in tow, they followed me from dispensary to dispensary where I interviewed excited consumers waiting in line—and where I was interviewed by ABC News and other national outlets that had traveled to Denver to document the historic day.

After a long day in the newsroom and a working dinner at home, my head hit the pillow and I was back at it a few hours later on January 2. But while most of the world was talking about the end of prohibition in Colorado, one viral story appeared under The Daily Currant's masthead and the headline "Marijuana overdoses kill 37 in Colorado on first day of legalization."

If you read mg, you already know how ridiculous that is. But this was four and a half years ago, and just think about the story's target demographic. The idea of legal cannabis was still brand new. The propaganda the American public had been fed was still fresh in many of our minds, and many still looked at pot as a dangerous, even deadly, drug that deserved its designation as a Schedule I substance. Legalization was so new that TV "journalists" were predicting massive legalization-inspired crime waves.

I immediately recognized the story as false. Because I didn't know the outlet, I clicked through to its About page, which clearly identified The Daily Currant as a satirical publication. I moved on with my day-until I noticed friends and family and hundreds of thousands of others were sharing the story on their social media accounts as if thirtyseven Coloradans had died from cannabis poisoning the previous day.

Even though it was Day No. 2 of legal cannabis sales in the world, I recognized our need to point out the bullshit for what it was. I quickly wrote and posted a factual response to the dumpster-fire of a story, pointing out the many cues readers should have picked up on (including multiple Lost and Breaking Bad references). I tagged my story "fake news" and ended the piece with the following admonition:

"If you read The Daily Currant's Jan. 2 online story called 'Marijuana overdoses kill 37 in Colorado on first day of legalization' and believed it, you are officially not the kind of reader who gets important news from established sources. We're all too discerning to believe everything we read online. But you read this and didn't check The Currant's About page or proven, local-to-Colorado

news sources before Facebooking it.

"Next time you see a major piece of news being reported by an unrecognized entity, you might think to question its content before spreading it as fact."

My primary frustration with the story was the misleading information. So much damage already had been done by government- and media-spread misinformation about marijuana over the previous eight decades, and pieces like this ran counter to my goal of spreading only quality, fact-based information.

More dangerous than this outlet's misinformation was the public's willingness to share the baseless story on their social media profiles. Because our media literacy has hardly improved since then, evidenced most obviously by gullible Americans buying into a Russian-engineered effort to help Donald Trump win the American presidency via strategically written fake news articles, my old site's "fake news" category keeps growing and growing, yielding headlines such as:

"No, Colorado McDonald's Are Not Converting PlayPlaces into Marijuana Lounges"

"If You Really Believed Colorado KFCs Were Selling Pot, Here's a Reality Check"

"No, Philip Morris Isn't Selling Marijuana Cigarettes"

This is why we need to be conscientious about the media we digest and share. Only read, follow, and subscribe to trustworthy outlets, and if you see something salacious or surprising on an unfamiliar site, spend at least thirty seconds on due diligence before sharing or forwarding the article.

Not only is cannabis a fragile, new industry still dealing with countless complex state-versus-federal conflicts, but it's also a highly regulated and often misunderstood space that fights every day to be treated like more traditional industries. Especially after nearly a century of being lied to about cannabis, the general public deserves a clearer understanding of the marijuana plant, its many benefits, and its actual risks.

Media literacy is not the priority it should be in 2018, but for every individual who chooses to read and share articles from only trustworthy publications, the digital world becomes that much more legitimate, safe, and rooted in reality.

Just think about the alternative, because while most of us would have called BS on the aforementioned article immediately, I've overheard a couple people talking seriously about the "Colorado marijuana massacre" article in the past twelve months. Somehow, between Trump and his cannabis-hating Attorney General, the cry of "fake news" has become a lot less enjoyable in recent years.

Have an idea for our national cannabis columnist? Send your thoughts to Ricardo Baca via Twitter @bruvs or via email at ricardo@cannmg.com.

Be sure to start your subject line with "My ideas for mg's national cannabis columnist."





# **CALIFORNIA'S 'POT BANKS':** THE ANSWER FOR A BUDDING **INDUSTRY?**

Yaël Ossowski is a journalist and deputy director of Consumer Choice Center.

HEN CALIFORNIA VOTERS approved Proposition 64 in November 2016, the Golden State became effectively the largest jurisdiction in the world to legalize recreational sale and use of cannabis. On January 1 of this year, when recreational sales were legalized, politicians, tax collectors, and business owners already were seeing green. The state estimates it will collect \$600 million in taxes from cannabis sales. And it doesn't end there.

According to BDS Analytics, an independent research firm, California's cannabis market in 2018 will be \$3.7 billion. That's just shades short of the \$4.2 billion estimate for the whole of Canada given by the Canadian Parliament Budget Office in the run-up to its full legalization, expected to occur in July of this year.

An important difference between California and Canada, however, is all too evident: California is a state, and Canada is a country. Federal laws still prohibit the sale and possession of cannabis in states like California, Colorado, and Oregon, and thus still make it illegal for federally regulated banks to provide services to cannabis businesses. Canadian banking law, on the other hand, will allow banks to accept cannabis firms as partners immediately.

This U.S. situation is exacerbated by U.S. Attorney General Jeff Sessions, no friend of pot, who announced in January that federal prosecutors would have a green light to crack down on banks dealing with cannabis customers.

Because banks must comply with federal law to be eligible for Federal Deposit Insurance Corporation backing, to guarantee deposits and give security to investors, there is little incentive for a bank to agree to accept a cannabis dispensary as a client.

A solution, therefore, is surely needed. Business owners need to be assured they will be able to legally deposit their earnings at accredited banks and not keep piles of cash on hand, and banks need clarity that they can freely contract with these clients. The state needs banking solutions for the cannabis boom.

#### **PUBLIC OR PRIVATE FIX?**

Enter the crafty politicians in Sacramento. More specifically, State Treasurer John Chiang, a gubernatorial candidate for 2018. Late last year, he commissioned the Cannabis Banking Working Group to develop solutions that would please entrepreneurs and officials.

While some of the solutions offered were helpful and charted a way forward, others looked only to create a path to profit for the State of California's coffers. One proposal outlined how agents of the California tax authority would drive around in armored vehicles, personally collecting taxes and fee payments in cash from dispensaries. The optics of government agents collecting piles of cash from businesses need not be explained here. Another would have opened an online directory of each cannabis business, including expected tax payments and recommended methods of delivery, which state employees could access. That wouldn't have solved too much, either.

Last, and most atrociously, the working group recommended a public bank dedicated solely to cannabis interests, owned by the taxpayers and operated by state bureaucrats and politicians. From a consumer and taxpayer perspective, that sounds like a disaster waiting to happen, not only because of the state's notorious mismanagement of public funds, but also because of the ultimate risk to taxpayers. A toobig-to-fail public pot bank isn't something for which ordinary Californians should be on the hook.

Thankfully, the latest bill in the State Legislature, SB-930, omits most of these proposals and allows for private solutions.



# THERE IS LITTLE INCENTIVE FOR A BANK TO AGREE TO ACCEPT A CANNABIS DISPENSARY AS A CLIENT.

In its current form, the bill would allow the formation of private cannabis limited-charter banks and credit unions. These banks would be allowed to deal only with cannabis firms, allowing them to legally pay vendors, take out loans, and pay their tax bills at the end of the year. The banks would be licensed by the State of California and would give at least modest legal cover to entrepreneurs involved in the legal cannabis trade.

That is good news for business owners, consumers, and regulators. Having this level of clarity and infrastructure in place would alleviate many concerns and help set the foundation for easy replication in other states. Places like Washington and Colorado thus far have relied on local credit unions and community banks for their cannabis banking needs, but those institutions may discontinue their services if federal prosecutors begin kicking down dispensary doors.

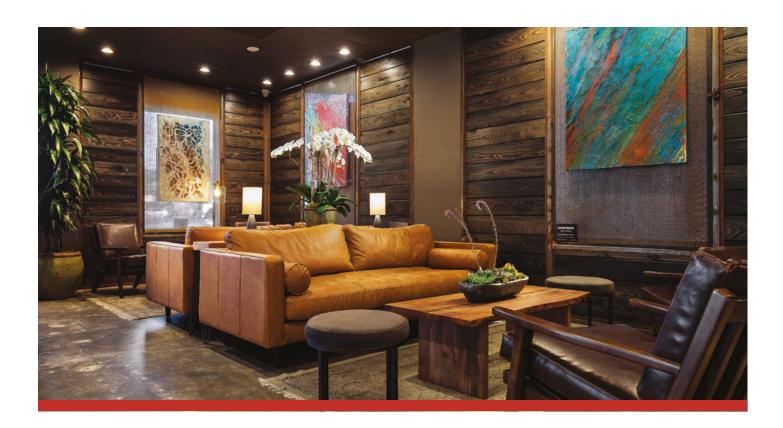
The California bill was expected to pass the Senate Appropriations Committee in May with little opposition. That would be a huge relief for ordinary Californians, whether they're a consumer, entrepreneur, or taxpayer.

But that isn't the end of the fight for legal cannabis commerce in California. Banking is just one concern. Under Prop. 64, local jurisdictions can implement their own regulations and prohibitions on cannabis. Some have floated extensive taxes at the county level and additional burdens that surely will create competition between jurisdictions.

What remains important overall is that a solution is presented that gives maximum maneuverability to entrepreneurs and consumers. There is no reason to restrict the legal market so much that cannabis purchasers once again must turn to the black market.

Let's hope legislators in California follow through with a modest proposal to offer legitimate banking services.

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# SMART BUSINESS AND SOUL **MEET IN BIG SUR**

Two friends tapped into their native roots to launch Big Sur Canna Botanicals.

HEN ARAM STONEY and John DeFloria teamed up to open Big Sur Canna Botanicals, neither had a background in retail. What they did have was experience as hobby growers and a desire to put their community roots to work helping locals achieve health and wellbeing.

At the time the idea saw its genesis, Stoney, 45, worked as a valet for Inn of the Spanish Bay at Pebble Beach. Everything changed when his wife showed him a magazine article about the "green rush" in Colorado.

"It really struck a nerve," Stoney said. "I took a closer look at what was happening with dispensaries in my own backyard, and there were only half a dozen delivery services in the area. I called up John [DeFloria], who has spent many years cultivating in Big Sur, and

convinced him to come along for the ride."

At the time, DeFloria worked for a plumbing contractor to support his family in Carmel Valley. "I had been growing medical cannabis with my Proposition 215 card on private property in Big Sur and Carmel Valley since 1996," he said.

He briefly toyed with the idea of moving to Humboldt County or Mendocino County—both hubs for cannabis farms—to grow full-time but felt such a big change would be too risky for his family. However, having grown up in the area, DeFloria believed the large agricultural infrastructure, along with residents' discerning taste in cannabis, was ready for a weed service business-if done right. Research showed a large increase in the number of medical cannabis delivery services from Santa Cruz that advertised in







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the Big Sur area, which led DeFloria to the conclusion a medical marijuana collective was overdue. So, he and Stoney put one together.

Ironically, not long after the collective's delivery service debuted, the City of Carmel-by-the-Sea enacted a moratorium on cannabis businesses. A bit of good luck and a lot of determination earned the collective an exemption to operate as a previously existing, nonconforming dispensary and grow.

"That eventually led to opening our retail operations," DeFloria said.

He admits none of the company's success would have been possible had he and Stoney not been "local boys" with a communityfocused agenda.

"We were some of the first local cultivators to emerge as a legal business entity and also as industry spokespersons, dedicated to education and representing our county's growers and local cannabis industry," he said.

The partners quickly became visible public advocates and joined several local associations such as the Coastal Growers Association and the Salinas Farm Bureau. One serves on the board of Monterey County Cannabis Industry Association.

"We believe we have several great appellations here and are excited to see cannabis producers and distributors take their place alongside vineyards, wineries, and other agricultural pursuits in the county," DeFloria said.

rounds out the offerings. When California legalized recreational use in January, Stoney and DeFloria decided the local cannabis community would be best served by a dispensary that offered both medical and adult-use products. Big Sur Canna Botanicals now holds both kinds of licenses. "Going from a medical market that only allowed us to cater to residents with a doctor's recommendation to being able to welcome all visitors 21 and over has been great," said DeFloria. Stoney added, "It's amazing how many people just didn't want to talk to their doctors or were afraid of being on a 'list."

Local consumers' wariness of cannabis stigma and storied desire for personal privacy influenced the dispensary's marketing tactics, as well. DeFloria and Stoney developed an instinctual, organic approach, relying mostly on referrals and word of mouth. They also sponsor local events, including the Monterey Beer Festival and the Hospice Symposium. In addition, they reach out to the community through their weekly "Canna Conversation" show on local radio station KRML 102.1. Every Friday at 4:20 p.m., Stoney and DeFloria broadcast cannabis news, education, and information and chat with guests. The pair believe the radio show contributed to Big Sur Canna Botanicals' recent win in the "Best New Business" category of the 2018 Monterey County Weekly Readers Poll.

"To me [the award] was a good indicator of not only the great job we are doing, but [also] how accepting the community is of what we stand for," DeFloria said of besting mainstream competitors for the title.



### WE WERE SOME OF THE FIRST LOCAL CULTIVATORS TO EMERGE AS A LEGAL BUSINESS ENTITY AND ALSO AS INDUSTRY SPOKESPERSONS DEDICATED TO EDUCATION AND REPRESENTING OUR COUNTY'S GROWERS AND LOCAL CANNABIS INDUSTRY."

- John DeFloria, co-founder, Big Sur Canna Botanicals

When it came to designing the shop, they went with a nod to the rugged, earthy beauty of Big Sur mixed with the artsy modernism of Carmel. "We wanted it to feel like an art gallery or spa," said Stoney. "And we wanted to start with a waiting room that you actually wanted to wait in."

First they scraped the paint off the concrete floors, creating a polished foundation. Plush leather couches and chairs offer a view out three huge bay windows that frame the redwoods and sea. Woodplank walls and washes of soft gray create a soothing effect. Outside the bud room, a gargantuan mural of the Bixby Bridge, the iconic gateway to Big Sur, adorns a wall. The handsome reception desk is a twelve-foot by three-and-one-half-foot slab of bay laurel wood from the Santa Cruz mountains, and paintings by local artist Paul Seftel add a bit of urban sophistication.

On an average day, sixteen employees serve more than 170 customers with a menu that includes sought-after flower like Super Lemon Haze along with harder-to-find Forbidden Fruit, Blueberry Haze, and Pink Lemonade. The extract section offers exotic CBD formulations and a curated selection of teas, mints, edibles, topicals, and pre-rolls. Gear

The marketing plan has worked well so far, DeFloria said, but only three other licensed dispensaries currently operate in the area. At least a dozen more are preparing to open, Stoney noted, so the dispensary may have to up its game.

That's not the only challenge facing Big Sur Canna Botanicals. Navigating the inevitable ebb and flow of state and local regulations, laws, and ordinance changes has been burdensome and timeconsuming. Nevertheless, the founders persevere, maintaining compliance and relevance in the rapidly changing environment.

But what really occupies their minds late at night is maintaining the soul of the plant while operating a successful business. For conquering that kind of mountain, Stoney offered one piece of advice: "If you're not ready to put your heart and soul into what you are doing and you expect everyone else to do it for you, then don't bother." -Rob Hill

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## **KEYS TO KEEPING** SUMMER SALES HOT

HILE THE OLD RETAIL ADAGE "as the temperatures rise, retail sales cool" may not be as grim for cannabis retail as mainstream brick-and-mortar shops, summer still can be challenging. BDS Analytics has studied sales in Colorado, Oregon, and Washington state for the past several years, and the firm's data reflects a sobering truth: Sales tend to peak in March, then dip during the summer, and rebound in late August and early September. Summer sales remain somewhat brisk in tourist-heavy states like Colorado due to hordes out-of-towners, but the long days, weddings, graduations, holidays, and heat all add up to a cooling environment in other places.

There are ways to keep sales strong during the dog days of summer. Here are some ideas to reel buyers back into your shop.

### TAKE THE EXPERIENCE OUTSIDE

99 High Tide in Malibu, California, catches eyes during the summer by sponsoring a oncea-month beach clean-up day. In the morning, the staff sets up brand display tables and food trucks in a parking lot in front of the shop on Pacific Coast Highway. From there, customers, brand managers, and employees head to the beach for a beach sweep. "This is a great way to help the community and engage with customers and vendors in a low-key and fun way," said owner Yvonne DeLaRosa Green.

### PARTNER WITH A LOCAL COMPANY

Las Vegas's Nuwu has one-upped the competition by partnering with the professional soccer team Las Vegas Lights FC, whose stadium is only two blocks from the dispensary. The sponsorship includes ads at the stadium as well as hosting players during special events at the store. "It's a match made in heaven," said Nuwu General Manager Jen McClaning. "You can come before or after the game." Smokin Gun Apothecary in Glendale, Colorado, didn't have to look far for a partner last summer: A gentlemen's cabaret is just across the street. Marketing Manager Nick Moscia said, "Punch a button and you'll get a ticket for what you want, which you then place in a Mason jar that can later be redeemed for a free, ice-cold beer at Shotgun Willie's strip club."

### **OFFER PERKS WITH PURCHASE**

This is particularly effective on really hot days, holidays, summer solstices, and full moons, according to Jeff Harris, co-founder and chief executive officer for springbig, a dispensary marketing engine. "Sports events are another way to incentivize your customers," he said. Evergreen Market in Renton, Washington, goes a step farther by offering elite members

exclusive pricing on select products, access to invitation-only events, and opportunities to participate in promotions. "Evergreen Elite members save 20 percent after ten visits, and it's free to join," noted co-founder Jeff Anderson.

### **GO WHERE THE CUSTOMERS ARE**

Most cities host summer festivals, markets, or events where local retailers can set up booths. For instance, Cannabliss Retreats does multi-day cannabis events, workshops, and seminars from the mountains to the deserts of California. "We worked with Malibu's 99 High Tide for our 4/20 event," said Cannabliss Retreats founder Sari Gabbay. During the event, attendees ordered from 99's menu, and a van picked up the goodies at the shop and delivered them to retreat attendees.

### **DEALS ON SUMMER-FRIENDLY ITEMS**

Smokin Gun Apothecary offers deals on items that are summer-related, like cold drinks, swag, and travel-friendly vape cartridges. Marketing Manager Moscia said, "We do a buy one Keef Cola and get another one for ten cents. We also offer a free battery if you purchase The Clear." Nuwu also attracts customers through myriad deals, raffles, and contests. According to McClaning, late this summer the shop will give a five-foot bong to someone who spent more than \$100. "We'll also be doing 40 percent off of Hive one-gram concentrates and 30 percent off all oral sprays by Hope."

### HOST A FUNCTION

The opportunities are limitless for creative midsummer festivities. Host classes about cultivating or cooking, or throw a Fourth of July pizza party like MNR in Woodland Hills, California, does. Vendor days also are a cost-effective way to introduce new products to customers. The+Source in Las Vegas draws big audiences when Dr. Troutt, the in-house physician and a respected practitioner, holds two-hour patient education classes. The+Source's chief executive officer, Andrew Jolley, said Troutt's appeal is twofold. "He's a resource for the staff and for the community-and he's on call throughout the week for those burning, need-to-know questions."

-Rob Hill

















# FORMULATING SUCCESS

Consistency and high-tech genetics research make ebbu an industry stalwart.

ICTURE COMPLETE CONFIDENCE about feeling exactly the same effect, every time, from any form of medical cannabis or being able to anticipate a particular sensation before consuming. That's Evergreen, Colorado-based ebbu's objective.

Jon Cooper, the company's chief executive officer, has had an onagain, off-again relationship with the plant since high school but, when he turned 30 and settled down with a wife and kids, the idea of ingesting a psychoactive substance that produced unpredictable effects worried him. So, he put his experience as a technologist and scientist to work in an effort to change the cannabis industry.

Cooper incorporated ebbu in 2013 and set out on a mission, reasoning that meeting consumers' desire for consistency and transparency would increase product confidence and help the industry thrive. He describes ebbu as "a multi-platform cannabinoid technology company that is redefining cannabis cultivation [by] transforming the supply line and designing lab-tested medicinal and adult-use product formulations."

the beginning, Cooper suspected consumers—and consequently, those creating and selling products-would demand both recreational and medical products contain a precise combination of cannabinoids and terpenes in order to produce a consistently safe experience. To address the issues, he hired experienced lab technicians and scientists for the research team. Chief Science Officer Dr. Brian Reid, an eighteen-year veteran of pharmacology research, oversees the company's chemistry, chromatography, cellular pharmacology, human pharmacology, and genetics investigations. Andrew Schedain serves as chief innovations officer and patent attorney, and Rob Rosko manages the genetics lab.

"Rob is basically reinventing how we see and use the plant,"

Director of Clinical Pharmacology Dr. Jon Martin directs cellular research. Together, the team has created more than forty cannabis-related patents representing more than 1,500 inventions.

#### CELLULAR PHARMACOLOGY, GENETICS, DELIVERY SYSTEMS

A stickler for details, Cooper meets often with lab personnel. He said he looks forward to briefings about the latest findings and frequently is beguiled by the effects cannabinoids and terpenes have on receptor cells. Late at night, his mind races with the nearly endless potential for developing new combinations.

"We're always analyzing and perfecting which formulations create specific reactions," he said.

ebbu recently began growing human receptors "to test pharmacological and polypharmacological reactions to many different cannabinoid and terpene blends," Cooper revealed. The tests are vital to hone custom formulas for clients. So far, ebbu has concentrated on conditions such as anxiety, insomnia, and pain. To ensure "trust," the company performs double-blind studies.

Always looking for competitive advantages, Cooper insisted ebbu heavily invest in families of patented genetics that boost cannabinoid power and the delivery technology to implement the process. "Our lab-tested, water-soluble cannabinoid technology is uniquely made to produce fast, consistent, and specific sensations energy, chill, bliss, creative, alive-every time," he said.

#### **GETTING IN THE HEMP GAME**

In April, Cooper made a strategic decision to branch out into the hemp field, a sector he feels is on the verge of massive growth. After many months of research, he came to the conclusion 70 to 80 percent of cannabinoids for medical and adult uses likely will come from hemp in the future. "You still have to get THC from marijuana plants," he said, "but that's only one of dozens of active compounds. All the rest we can get from hemp. There will still be premium marijuana products, but the supply side will become mainly a commodities marketplace."

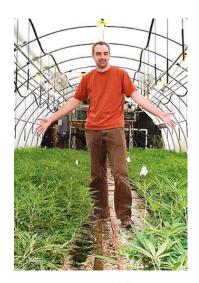
Determined to get cutting-edge hemp and CBD genetics into the marketplace quickly, ebbu partnered with Colorado Cultivars, the largest hemp farm in the state with more than 2,000 acres of crops. Cooper was attracted not only by the farm's size, but also by its history of organic, sustainable farming. Under the partnership, Colorado Cultivars will grow up to 400,000 cannabinoid-rich hemp plants on 250 acres. The first crop will comprise two specific genetic strains. One produces large amounts of CBD, and the other produces cannabigerol (CBG), a lesser-known but powerful cannabinoid.

"From the hemp, we will extract the cannabinoids we need to make our patented formulations to sell to other companies," Cooper said. "Colorado Cultivars is well known as a processor, so we'll rely on them to process and distribute while ebbu supplies the technology platform."



WE ARE AT THE EPICENTER OF **UNDERSTANDING** PHARMACOLOGICALLY HOW THIS STUFF WORKS. AND WE'RE ONLY AT THE TIP OF THE ICEBERG. THAT'S EXCITING.

-Jon Cooper, CEO





ebbu will provide inoculated plants known as "mothers" to Colorado Cultivars, which will plant, grow, and process clones under the guidance of ebbu's scientists.

While Cooper is bullish on CBD, which he suspects may become bigger than the THC market, he doesn't expect a large market for CBG-only products. He pointed out that CBD and CBG are simply ingredients, like sugar or eggs in baking: Having access to more ingredients exponentially increases the number and variety of cookies one can make. As a standalone ingredient CBG's growth may be limited, but as an added one it could prove to be a powerhouse.

"CBG could potentially end up in over 50 percent of formulations that will be on the market," Cooper noted.

#### TRUST THE TERPENES

Having been in and around the tech business most of his life, Cooper knows machines are just tools that come and go. For him, the great value is understanding how the parts of the cannabis plant work together. From that foundation, he can move on to other questions. What genetics and new technologies will best suit the consumer experience? On which ailments should ebbu focus? How can products meet consumer demands every time? The answers require tireless research and trust-two things Cooper knows a lot about, having staked his business's survival on them.

"Consumers are trying to sort through CBD and THC products; trying to figure out what's safe and reliable and what claims are legitimate," he said. "Our goal is to become the symbol for safe, consistent experiences and a symbol of trust for the industry."

Earning trust leaves little room for error. While it's not a mantra at the company, everyone is mindful of the saying "trust takes a lifetime to gain and a second to lose."

Cooper is eager to be part of helping consumers take back their health back from Big Pharma. He's enthusiastic about creating high-tech medicine from an ancient plant. "We're at the epicenter of understanding pharmacologically how this stuff works," he said. "And we're only at the tip of the iceberg. That's exciting." ● —Rob Hill



# The Great CANNABIS CONCENTRATE Inevitable

Could concentrates represent the future for markets overgrown with weed?

BY JOANNE CACHAPERO

Merriam-Webster Dictionary defines the word "commodity" as follows: "An economic good, such as a) a product of agriculture or mining," [like corn or copper], b) an article of commerce especially when delivered for shipment, c) a mass-produced unspecialized product." The definition also includes "something useful or valued," as in "that valuable commodity."



Oregrown's co-founder and chief executive officer Aviv Hadar.

More importantly, the dictionary goes further in its definition of a commodity, adding "a good whose wide availability typically leads to smaller profit margins and diminishes the importance of factors (such as brand name) other than price... or, one that is subject to ready exchange or exploitation within a market."

The italics are ours, for emphasis, and the quote is incomplete, but it serves a purpose: Though MW's expertise is the English language, the old book makes a salient point about basic economics. When any commodity is produced to industrial scale and becomes plentiful, prices drop. That rule is especially at play when there is a *surplus* of a commodity. Oh, and there's an added layer of risk for perishable goods or raw materials, like agricultural crops... like marijuana.

A broad, robust, year-round or even seasonal market for crops obviously is ideal in order for producers to adequately supply manufacturers or go straight to consumers through various distribution channels. Eventually, supply should accurately meet demand in markets that behave conventionally.

Now, if you're a copper baron, you probably could afford to wait out a bearish market when you aren't selling or prices are flat or fluctuating. But under surplus market conditions, cannabis barons with a glut of perishable raw material are forced to find ways to maintain the value of holdings while also minimizing any losses incurred by spoilage.

Converting perishable materials into products with more stable shelf life is one obvious tactic. Processing raw materials into compounds for use in additional

#### Cannabis Refined

THE GOAL OF CONCENTRATES THUS FAR has been to refine and intensify levels of tetrahydrocannabinol (THC)—the psychoactive compound in cannabis—and more recently cannabidiol (CBD) into forms that can be utilized and enjoyed by patients, aficionados, and consumers who want the convenience of vaporizer cartridges or the potency of dabs.

THC and CBD are only two of the hundreds of plant compounds that can be derived from whole-plant cannabis. As research increases globally, terpenes are emerging as another area of interest for concentrate producers and consumers. Connoisseurs tout the benefits of "the entourage effect" attributed to blending plant compounds to create fine "vintage" formulations, so to speak. Chemists seek to refine individual compounds down to the purest form that will produce non-variable, specific effects for use in pharmaceutical

Discovery of potential benefits in other cannabis compounds is inevitable and, at this point, evident with new buzz around compounds like THCa and cannabigerol (CBG). But humans have recognized for thousands of years the power of the plant is contained in its very essence, or essential oils.

Simply, the trichomes collected from cannabis flower, typically through a dry-sift process that separates the

resinous crystals into a powdery fluff by filtering them through a screen or sieve. The process has a long history, especially in Morocco, where kief is pressed



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Joseph Nielsen, Oregrown's head extraction engineer, examines a vessel of Delta 8.

industrial or commercial product applications is another channel, which also can extend sales into broader markets (note "ready exchange or exploitation" above).

For cannabis, that's where concentrates come in and eventually, inevitably dominate.

Just ask the guys at Bend, Oregon-based Oregrown Industries. Hipster retailers in the front, cultivators and chemistry lab in the back, the company is a vertically integrated business that obviously acknowledges wholeplant cannabis. That said, Oregrown concentrates on concentrates.

"We have a nationally, if not internationally, leading revenue-generating retail dispensary," Oregrown's cofounder and chief executive officer Aviv Hadar said. "The entire market is moving away from flower and into concentrates, both of dab-able form and vape form.

"You're talking to a group that knows what the consumer wants better than 99 percent of people in the world," Hadar continued boldly and unapologetically. "I'm telling you this right now: Cannabis is a commodity, and high-end flower is going to go the way of hemp and bulk-produced agriculture. Groups like Oregrown will always have a need to grow certain strains and have them on our shelves, but the general marketplace for flower-wholesaling it, selling itthat's gonna go bye-bye.

"This is going to become a global-industry-traded product that is going to be used for a variety of purposes, and it's two seconds away from a commodity," he went on. "So, down there in California—it's simply because

into hashish as well as used in traditional cannabisinfused recipes and as a psychoactive supplement for pipe tobacco.



#### HASH

Hashish, the first compressed form of extracted cannabis resin, was the primary form of cannabis extract available before

the development of modern extraction techniques. Like other concentrates, hash requires a higher ignition temperature than whole plant material and typically is mixed with cannabis flower for smoking.



#### **TINCTURES**

In the early 1900s, cannabis and other substances now labeled narcotics were readily available in the U.S. as tinctures

and herbal remedies. Cannabis tincture continued to appear in the United States Pharmacopeia as a legal drug until 1942 and remained legal in the United Kingdom and Australia until the 1970s. Tinctures of all varieties declined in popularity with the emergence of more modern drug alternatives.



#### **RICK SIMPSON OIL**

Also known as RSO, this homemade preparation, developed by cancer patient Rick Simpson, is used to treat basal cell

carcinoma. Simpson was diagnosed with BCC in 2003 and has said he cured the disease with the oil, which he claims is best derived from a combination of indica flowers. Since curing himself, he has become a medical cannabis advocate, helping other cancer patients by making the recipe and treatment protocol for RSO available for home use.



#### BH<sub>0</sub>

Manufactured using a "closed-loop" solvent-based process that utilizes industrial extraction equipment in a

regulated setting, butane hash oil is processed into dabbing concentrates. Debates between BHO- and CO2-extraction enthusiasts have become a source of constant controversy for concentrate fans. Though residual chemicals created in the extraction process include potentially carcinogenic hydrocarbons, solventbased concentrates remain popular for their potency, higher levels of terpenes, and ability to capture the essence of specific cannabis strains. Solvent-based processing is considered less environmentally friendly than other processes because it uses petroleumbased solvents.

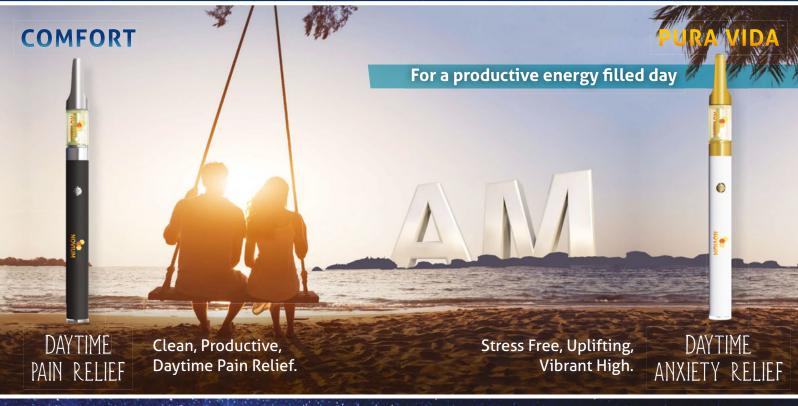


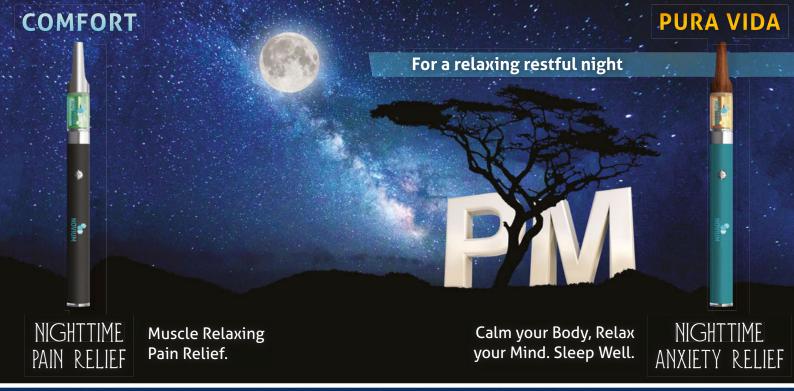
#### SUPERCRITICAL CO2-**EXTRACTED OIL**

This popular industrial-scale extraction process produces cannabis oil with a

honey-like consistency. CO2 concentrate is what fills vape pens. Processing cannabis with CO2 essentially strips compounds from the plant material using high pressure. While many prefer CO2 extraction because it









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you guys are sixteen, eighteen months away from Proposition 64 [the Adult Use of Marijuana Act] being actually rolled out and all the new regulations. Then, the flower needs to get tested-for-pesticide regulations. Then, all your growers down there are screwed. So, it's going to do a big flip-around."

Hadar likely is not too far off the mark(et). His statements are based on the experiences of growers in Oregon and other recreationally legal states. In April, officials in Oregon estimated a statewide surplus of cannabis flower, with available supplies at around three times the actual demand. Retail price for premium cannabis flower in Oregon in mid-May idled between \$4 and \$5 a gram.

Regional online weekly Willamette Week asked readers for comment on the major bud overload. One, who called himself Kooosh, said, "Even at \$4 a gram, it's still 2,000 times more expensive than a banana. Cannabis should be cheap. It's not called weed for nothing."

Eventually, markets in each legal state will level out, according to the many complex factors that contribute to regulating supply and demand. But it is likely highend flower will be narrowed to a niche category for cannabis purists who prefer the experience of wholeplant medicine, just like some wine consumers prefer fine, rare, sought-after vintages or gourmets prefer caviar from wild sturgeon that swim in the Caspian Sea. There are also concentrate connoisseurs, to be sure, but that's the specialty niche right now.

"The market is heading toward tourists, and the more successful retail stores are catering to those tourists," Hadar insisted. "Unfortunately, a lot of those tourists don't have dab rigs and all the necessary components that are essential to dabbing on the go. More portable vaping units, such as the Puffco Peak, are making it a lot more accessible."

Extraction techniques, processes, and technologies also continue to advance at a rapid pace, creating more product categories for consumer markets and beyond. Oregrown does its consumer research and development, so to speak, on its social media channels, including Instagram and YouTube. That data sends the team back to the lab to concoct more dab-able creations.

"Our goal is to capture the essence, the true smells and flavors of the cannabis plant. That's the goal," said Joseph Nielsen, Oregrown's head extraction engineer. "When we create a concentrate, we want it to resemble that strain as much as possible. While doing that, we often come across different techniques-doing something colder, doing something longer, maybe and it results in a potentially more flavorful product."



Jake Jones, Oregrown's senior director of extractions, checks the status of a Delta 8 extraction.

avoids using solvents, the technique also strips away most of the terpenes. Critics note this is why many cannabis oil cartridges lack flavor and the benefits of compounds lost in processing. In addition, CO2extracted oils typically are not as potent as dabbing concentrates. Safer than extraction with flammable chemicals like butane, CO2 extraction is also costlier than solvent-based methods.



#### SHATTER

Concentrate forms typically are named for their consistency. As the name suggests, shatter is hash oil dried to a

brittle, crystalline consistency and is said to shatter like glass when dropped. Extraction intensifies the level of cannabinoids in all concentrates—which is the whole point—so THC can reach levels of more than 80 percent (as compared to potent whole-plant cannabis, which might have THC levels at 25 percent to 30 percent).



#### WAX, CRUMBLE, BUDDER

Like shatter, these terms describe the consistency of various forms of BHO (butane honey/hash oil) concentrate.

The different consistencies offer consumers a number of cannabinoid and terpene profiles and potencies in full-melt, dab-able forms. Color, texture, and flavor vary due to a wide variety of factors including raw material and processing methods. A general rule of thumb is that lighter-colored concentrates are considered to be more highly refined and produce products that are better tasting with a high level of potency.



#### ROSIN

Derived from cannabis through a low-heat press process, rosin is lauded for being

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"Then we'll get feedback from people that we've given [the test product] to, and we'll take that feedback into consideration when trying to make a larger product," Nielsen continued. "We're certainly looking at all sorts of data from the market—sales data and other types of analytics—and we'll use that as a way to navigate what we're trying to do next."

Take Oregrown's latest Delta 8 concentrate, for instance. Company literature explains the sciencefiction-sounding derivative delta-8 THC "is an analogue (double bond isomer) of the more traditional delta-9 THC."

Also noted in the literature: "According to a 1995 abstract published in the international journal Life Sciences titled 'An Efficient New Cannabinoid Antiemetic in Pediatric Oncology,' Dr. Raphael Mechoulam, along with other researchers, noted that 480 treatments had been successfully administered for chemotherapy-related nausea using delta-8 THC-it had completely prevented vomiting."

Dr. Mechoulam, Oregrown's brass noted, is the pioneering, award-winning researcher who first isolated and synthesized THC in the 1970s, identifying the chemical as the main psychoactive component of cannabis. So, it's more than YouTube likes that guide Oregrown's development of advanced concentrate applications.

"We would like to say we're trendsetters, in a sense," Nielsen said. "We certainly create product based on our analytics and what we feel is something we should do. Sure enough, oftentimes the product becomes something that the industry sees and replicates. So, to a degree, we're definitely pioneering a lot of these processes when it comes to making these concentrates."

Future projects for the company may include food applications—not cannabis edibles in the traditional sense, but non-psychoactive compounds and terpenes used as flavor ingredients for, say, craft-brewed beers. Hops plants and cannabis contain many similar compounds, said Jake Jones, Oregrown's senior director of extractions.

"Especially here in Bend, there's a lot of different breweries that make beer from different kinds of hops and things like that," Jones said. "Hops and cannabis share a lot of the same flavonoids and terpenes, so what we're about to see, I think, is a mixture of the two: a beer company that would want some specific terpenes, like linalool or limonene or all the other terpenes, kind of infused together in the beer. So, cannabis terpenes infused into beer. That really hasn't been done much, and I think we're on the brink of seeing that done."

solvent-free. It's also a safer mechanical technique than extraction methods that use combustible solvents. Rosin experts say premium, contaminant-free, wholeplant flower is used in this method of processing, as opposed to trim or less-potent plant strains that can be used in other extraction techniques. Rosin also does not contain residual chemicals that may be present in concentrates derived with solvent-based extraction methods, making it an appealing alternative for health-conscious consumers. Rosin can be produced at home using simple tools like a hair-styling flat iron and parchment paper.



#### **LIVE RESIN**

Also called "sauce," this butaneprocessed concentrate differs from similar BHO products because it uses

whole-plant flower that is frozen in its live state instead of raw material that was dried and cured first. This technique creates higher terpene levels, resulting in complex flavors and aromas preferred by concentrate connoisseurs.



#### DISTILLATE

The process of distillation has been around since the beginning of civilization. As it applies to cannabis, "distillation"

means taking an already concentrated productcannabis oil—and further refining it to remove impurities that were not eliminated during the initial extraction. Using a still to heat concentrates to specific temperatures (also called thermal separation) "boils off" any unwanted residual pesticides, plant waxes, fats, and chlorophyll. What remains is an ultra-purified, clear concentrate that should be devoid of cloudiness and most color. Distilled products lack terpenes unless they are added back in to create a blended formulation. Think of distillates as analogous to gin, a refined, clear liquor distinguished by its infusion with the essence of juniper berries and other herbal flavors.



#### **ISOLATE**

As the name implies, isolate is the "cleanest" form of individual plant compounds, reaching levels of more than

99-percent pure. Typically in crystalline or powdered form, isolates of all sorts are used in pharmaceutical applications because they can be precisely dosed. That will be no different for cannabis derivatives when U.S. prohibition ends and cannabis compounds are used to formulate legal pharmaceutical drugs



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#### WITH HIS BIG BEARD

and stoic countenance, Roger Volodarsky has the air of an educated Russian revolutionary. At 35, he's also young (i.e., tech-smart) enough to be able to disrupt the universe. So, it makes sense the Brooklyn, New York, native founded Puffco, a company on a mission to create the cannabis industry of the future one vaporizer at a time. Volodarskly already has made his mark on the concentrates universe as a designer and manufacturer of high-quality devices. But to know him even a little is to understand when he says he is "obsessed," he means it. It's as though he cannot escape a recurring nightmare: "I want to make something, and I know it's possible, and I can't do it." But he and his team keep doing it, one hit at a time, driven by the guiding principle to make only what is best for them. As Volodasrsky the Romantic put it in mid-May, "I wake up thinking about what I love and lose sleep thinking about what I love."

#### **BROOKLYN BORN**

Volodarsky founded Puffco in 2013 in the basement of his mother's New Jersey apartment, where he lived while the company was getting on its feet. Puffco was and continues to be a self-funded venture that literally was jump-started by Volodarsky's mom. "I was thinking about names, like Dabco, even before I was incorporated," he said. "Then I looked to see if Puffco.com was available, and it was, for \$1,300. I asked my mom if I could borrow the money. Once I bought [the domain name] I incorporated [in Brooklyn], and the race was on. I spent my first year developing a product called the Puffco Classic."

Developing vaporizers for cannabis concentrates was not Volodarsky's lifelong dream. Born and raised in Brooklyn and New Jersey, fate intervened when his dad left the family around 2002, forcing Volodarsky to become the breadwinner for his mother and two brothers. He fell into mortage finance. The market was good at the time, and he was good at selling. With good mentoring, he soon was successful enough to open his own firm and hire a few friends. Taking a page out of Wolf of Wall Street, the business skyrocketed. "I was making more money than any 21-year-old should," he recalled. Like any other self-respecting New Yorker,

he supported the family and blew the rest. By 2008, the Great Recession had blown a hole in the real estate market, wiping him out. "It put me into a bit of a depression," he said. He questioned whether he had ever been good at sales and what his future might be.

Supported by a wealthier side of the family, Volodarsky went to college to study business management. "I was doing well, but after a year it wasn't as fun as being an entrepreneur," he said. "I felt like I was doing things not directly applicable to what I wanted to do. Then the prize at the end of the day would be more hours doing something I didn't want to do, just to make money."

After dropping out, he moved from job to job. He had a taste for success, a sense of what he was good at, and the drive to succeed—"I was always reaching and pushing"—but he needed something to wrap his talents around. Naturally, cannabis became that component; weed had been a part of his life for years.

#### **BLOWING VAPOR**

"I first smoked cannabis at 13, but it was something I hid," said Volodarsky, who went to high school in New Jersey and still has an instinctive fear of being busted. "It's weird to be in a place where—forget about the stigma of cannabis—there is a real fear of the repercussions for consuming. It's still a very new feeling for me to be out here in California, where, if someone steals your weed, you feel like you can complain to the police. That doesn't happen back East."

The idea to create a professional life in cannabis was understandably a long time coming. "I remember walking around the neighborhood, smoking with my friend and having the random thought, 'Could you imagine owning just 1 percent of cannabis use? Give people something they could use to consume—just 1 percent? You'd probably be worth a billion dollars," said Volodarsky. "That was the first time I had the thought, 'What if money can be made in cannabis?"

That was 2009. Fast forward to 2012, which Volodarsky calls "one of the most disruptive years in my life, but in a good way." His liberation came in the form of a G Pen, made by Grenco Science.

"I credit the owner of G Pen all the time," he said. "They were the first company that inspired me."

The quality of the early pens was poor, but irrelevant. "The quality of the first generation of pens is not the point," said Volodarsky. "Now I could go to the Met and blow vapor and no one had any idea. Now I was a liberated cannabis user."

Now he also discovered his purpose. "I'm going to all my friends, trying to get them to use the G Pen. They're firstgeneration [pens] and made of plastic, but I'm still turning all my friends on to them."

In fact, the cosmic ledger for Black Friday 2012 will show a \$700 order for G Pens. "They were doing a 40-percent-off sale, and I figured I would sell them to all my friends so we could all go to the Met," said Volodarsky. "I'd make \$20, and they'd save \$20."

Suddenly, he's in the business. "I started working with another company, as an 'unofficial advocate," he said. "We have customers now who do that for our company."

It did not take long for him to notice a void in the young marketplace. "Other than the G Pen, there was nothing for concentrates," he said. "Everything was for herbal." Herbal means flower, buds, weed, not the various forms of concentrates derived from the cannabis plant, which is precisely the product category Volodarsky set out to conquer, device-wise.

"I drove everywhere, including to a shop at the end of New Jersey to see this device, but it worked like shit," he said. "So, all there was, was this one device—the G Pen—and no point of reference how it could be improved.

"I jumped on a plane to San Francisco and went straight to Haight Ashbury to visit all the head shops," he added. "They had a bunch of vaporizers. Now I was able to start understanding how they worked and what they had in common. They all had a battery and a tiny chip. What does that chip do? What is the wire made of? Why do some [devices] make my nose burn and others don't? That's how I started learning, and after asking all these questions, I said to myself, 'I need to make a product that people will want to use more than our predecessors'."

#### **ROCKET TO THE MOON**

In 2013, Volodarsky began to undertake his goal in earnest, reverse-engineering the devices already on the market. "Yes, that is something I did," he said, "though it sounds fancier than just taking a bunch of things apart and dreaming up what would make them better. This was all me sourcing products from China. I took the sum of all the different parts and combined them in such a way to make [the device] more resilient, not made of plastic.

"The Puffco Classic was released in January 2014," he added. "I did one order, and when I got it, I tried it and thought, 'This is better than the company that came before me, but it's not going to change the industry.' I would say that probably none of today's customers have [a Puffco Classic]. Maybe there are a few of them out there."

He only placed one order. "It had a fibrous wick, which was used at the time. It had a low-capacity chamber. It didn't have a temperature control function. It was just very basic," he said. "I set out to make something disruptive so that everyone who uses wax pens would want to use ours instead. My opinion, regardless what people thought—because people loved it—was that it did not meet that mission.

"I stopped everything and started re-engineering [the device] from there," he said. "I found a guy who does 3D modeling and started working on the Puffco Pro, which is the first product people know us for."

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Roger Volodarsky looks over early blueprints for the Peak. Photo courtesy of Puffco

Volodarsky revised his tactics with the Puffco Pro. "I had learned my lesson and failed so hard the first time, but this time I had my mission and it needed to happen," he said. He hired a U.S. firm to help coordinate his work in China. But he still was not quite sure what he was doing.

"My mission was to address the things I hated with the Puffco Classic," he said. "It tastes like shit because it has a cotton wick, so what if we go with something ceramic? What if we triple the size of the atomizer? Some oils taste better at different temperatures, so what if we put in three different modes so people could select the one they want to use? Nobody had done it, but I knew it was possible because it was being done with e-cigarettes.

"So, I took all these ideas and my designs and brought them to a factory. I bring them all this random stuff, but I don't know how it all fits together, and I was told it was unbuildable."

But it was buildable. "Make it first and then figure everything else out afterward. That's the story of the Puffco Pro," said Volodarsky. "I gave them all these designs using this U.S. firm doing all the things I didn't have the experience to do and was actually able to make the product I had dreamed of making. This crazy dream. The Puffco Pro was released in October 2014."

Marketing and distribution was overseen by Chelsea, his first employee, who also set up their first Instagram account. "Chelsea would go to New York every day from New Jersey," said Volodarsky. "We started by going everywhere in New York, and then quickly went to Colorado when it went recreational in 2014. In February 2015, we went to Denver and drove through Colorado to visit every shop we could find. Then we took a flight to Seattle and drove from Seattle to San Diego and stopped at every shop on the way down. Out of all the shops, we might have sold to three stores. Most were like, 'Okay, you have another wax pen. What makes yours better?' We told them ceramic, no glue, a larger atomizer. 'Okay, that sounds interesting. How much is it?' We told them, and they were, like, 'Get the fuck out of here."

The pen cost only about \$80 retail, but the unknown Puffco Pro was competing with devices promoted by Snoop Dog or "cheap shit" out of China.

In April 2015, all that changed when the phone rang. "It was one of the best calls ever," recalled Volodarsky. "It was Jen Bernstein from High Times. 'Roger, you're the 2015 vaporizer of the year."

#### FROM PRO TO PLUS

With the success of the Puffco Pro came new challenges for the young company with a handful of employees. "When this happened, there was me, Chelsea, one other employee, and Daniel, for shipping, who works here now," said Volodarsky. "We also had just gotten into our Bushwick, Brooklyn, office smaller than this conference room. Things were going great, but a few months down the line we started seeing copies coming out. They were even using my name: 'Just like the Puffco Pro."



Another calamity occurred a few months later when Puffco lost its supply chain. "The factory decided they only wanted to make their own stuff," said Volodarsky. "We were given one months' notice. The last order we received was for 13,000 units, which sold in a month. Now I have the most popular product in the industry—the vaporizer of the year, being copied to death and I have nothing to sell people."

Alarmingly, the U.S. firm employed by Puffco had failed to retain all the designs for the device. "I fired them and went immediately to China. Tom, our operations guy, also went and spent three months looking for the right factory. We finally found one and launched the Puffco Plus in May 2016."

True to form, the Plus exists to improve upon the Pro, which was not in production when the Plus was released. At the time, the company was trying to decide whether to continue making the Pro at a new factory. "The Plus was the first coilless vaporizer with no oil touching the metal," said Volodarsky. "It's the best flavored vape pen ever. It was something that we really hit with, so I said, 'Screw it. Let's just make the Plus.' It's my new dream product, totally coil-less, and it works better than anything else out there."

That was a decision true to the Puffco ethic, but it led to the company's first crisis. "Once we released it, there were still people out there who said they missed the original Pro," said Volodarsky. "And they wouldn't shut up about it. While people recognized how innovative the Plus was and we had our most successful months ever, for every person who loved the new product there was someone who missed the old one. We decided to give the people what they wanted and gave them the Pro 2. It was one of the biggest mistakes I ever made."

Volodarsky is not exaggerating. He is convinced the episode represented an existential threat to the company. "[The Pro 2] was a hit and made a lot of money, and still does, but it was the first time we made something for people who were not us, and it put a cancer in the company that almost killed us. I went through a huge depression and started coming in at 3 p.m. I didn't want to do anything. I wasn't making my dream product anymore, but something only because people wanted me to.

"It's like making an earlier version of an iPhone because people miss it," he added. "It's anti-mission, even if it's a great form of revenue. We had innovated beyond the pen and were now taking a step back. Once you're making products that people are asking you to make, you are no longer steering the vision for the company."

The situation got so dire there was an intervention of sorts. "Avi [Bajpai], our lead engineer, was one of many people who pulled me aside," said Volodarsky. "It starts with you,' he said. 'Your mood and emotions are what people follow here, and if you want us all to be positive, this is what you have to do.' It was a real awakening that I had to get back to being positive and quickly back to making the things I love."

#### THE PEAK

The wholly unique Puffco Peak debuted at the Consumer Electronics Show in January of this year to immediate acclaim. Dubbed a "smart rig" by Puffco, its space-age design and conspicuously small size may have been what caught people's eyes, but the device's groundbreaking functionality caused reviewers to express practically universal appreciation. Engadget. com, for one, called it "a quick hit of concentrated genius."

Because the Peak is the first of its kind, the rollout has not been flawless. Early on, production was not able to keep up with demand, and defective devices made their way to consumers. In fact, mg's first device for review was defective and had to be returned, but the replacement worked flawlessly. Some reviewers also commented on the lack of an interchangeable battery or extra atomizers and the inclusion of only ceramic cups.

Volodarsky takes it all with complete equanimity, confident not only in the Peak but also in the company's determination to stand behind the product. "One of the things you're paying for with the Peak (\$379.99 retail) is a warranty," he said. "If something breaks, we have your back. If your base breaks, swap it out for a new one. If there is a flaw in your glass, send it back and get a new one that is flawless. That is not something that you get [from other companies]. Interchangeable batteries is something the hobbyist market loves. They love putting atomizers to use oil with on big box mods and always say how much cheaper they can get the same stuff for. That is not our user. I am an iPhone user. I don't believe I need an interchangeable battery.

"We're also upping the resilience of our atomizers," he said, adding the company will replace all atomizers that break even if caused by user error. "That's just for right now. The reason we are doing it now is because we feel that as we learn how people are breaking our products, it's on us to make them more resilient. We're going to make it so that if you can break it, it had to be a malicious act."

Volodarsky will say little about the next version of the Peak other than that it is expected to release next year and will be "less iPhone 7 to iPhone 8 and more iPhone 8 to iPhone 8+. We want to improve upon the things people love about it and eliminate any frustrations they have."

#### **DESIGNING THE FUTURE**

The Peak was invented, in large part, to meet the need of a growing market and increase the number of people who consume cannabis concentrates via dabbing. "It's the best way to consume and still live your life regularly," said Volodarsky, who sees his mission as both vital and time-sensitive. "I love concentrates and feel like the concentrates market is shrinking. I'm starting to see some of my favorite companies sell more prefilled vape pens than they are concentrates. If we want to see interest in concentrates, there needs to be more people using them. The reason there aren't more people using them is because the means are too rigintense.

"I want regular cannabis users to be interested in the product," he added. "Once they have one, concentrates will become their favorite product. I want to see normal people, not the people walking around with ten grams of hash in their pocket, but the person who gets two grams and smokes them over two weeks, and it's their preferred method of consumption."

He wants non-tradish celebs, too. "Justin Bieber, Whoopi Goldberg, and Madonna," he said. "Those are people who aren't dabbers, but that's exactly the point. We are offering them the best form of cannabis consumption ever. I want to see the celebrities who microdose or use conventional means to jump on this new train and grow this section of the market."

An internal debate rages within the company about whether to include an herbal option for the Peak, even though no one at the company would use the option. "The reason we are considering it is that we want to show people who consume with herbal what the experience can truly be," explained Volodarsky. "The dream is that we sell the Peak 2 and it continues to be the best experience other than the Peak 1. We would also make it the best herbal vaporizer in the world, so that if you use it and it also has the concentrate option, you'll think it is so much better you don't want to use the herbal option."

Growth is required to make those dreams come true, and Puffco is in expansion mode. "We expect to double the number of employees by the end of the year, from nineteen to about forty," said Volodarsky. "I don't like to talk about units sold, but I can say we are projected to do more this year than in the past five years combined."

The company is taking global ambitions one step at a time. "International is coming," said Volodarsky, "but right now we want to make enough units to satisfy the U.S., which should happen in the next sixty days."

Thereafter, expect Puffco to continue scaling new peaks, always aiming for a better, purer high. "We're seeing new types of concentrates every year—distillates, rosin, live resin, sauce—because we're finding ways of getting more out of the plant," said Volodarsky. "I expect it to continue as long as there are easy ways to use those products. Our goal is to make sure there is an easy way to consume them."

Volodarsky, favorite Peak in hand, intends to personally ensure the truth of that claim for many years to come. "I want to be sixty years old taking a dab, and I want it to be with amazing concentrates in whatever consistency exists then," he said. "That is our mentality: to create the products and trends that will give us what we want when we retire. It is how we treat the industry and how we hope other people treat it.

"The quick buck will come through commoditization," he added, "and that doesn't equal good cannabis."



How a Grass Valley farm turned a debilitating raid into an empowering, pivotal experience.

BY ROB HILL

N LATE NOVEMBER 2017, just as Brian Chaplin was scooping up the last bits of an apple tart in a downtown Nevada City, California, restaurant, he received a text message from an employee at the Medicine Box farm in Grass Valley: "We've just been fu@#-ing robbed!" Chaplin recalls freezing for thirty to forty seconds as a flurry of questions raced through his head. Who would do this? Is everyone okay? What does this mean for my business? My home? Should I call 911; go the legal route and risk whatever comes with that? Or should I stay silent, take

the hit, play it safe?

He decided to make the call. And down the rabbit hole he went.





NAVIGATING THE WRECKAGE AFTER THE RAID, WHILE SIMULTANEOUSLY BUILDING A COMPANY AND DEALING WITH ALL THE NEW REGULATIONS WITH A SCARCE BUDGET, WAS LIKE GOING TO BATTLE WITHOUT ARMOR.

-Brian Chaplin

#### **ONSET OF SYMPTOMS**

The day started with a hot, dry Indian Summer morning that gave way to a cool, breezy evening. Chaplin spent the day harvesting on Medicine Box's farm and was tired but excited by his bounty. To recharge and relax, he and his partner stepped out on the town.

Little did he know a cops-and-robbers thriller was playing out back on the ranch: A group of men in full tactical gear, carrying AR15s and masquerading as a task force, had broken into one of Medicine Box's 2,500-square-foot greenhouses and stolen the entire harvest, almost 100 pounds, plus \$10,000-worth of equipment. After blindfolding and tying up the employees, at one point planting a mud-smeared boot on the face of a trimmer, they disappeared into the night.

A short time later, while the employees were still blindfolded, a sheriff's narcotics team arrived brandishing a search warrant. The officers weren't there to dust for fingerprints, ask for video camera footage, or question witnesses. They had come to confiscate the remaining harvest. When Chaplin informed the cops Medicine Box was part of legal collective Caladrius Network, even producing paperwork, they ignored him.

Not ready to deal with the kicked-in doors, busted windows, and debris, he spent the next morning raking leaves, watering, and chasing chickens. He didn't feel sorry for himself or think about quitting, but he did feel violated. "I was growing legally through a collective," Chaplin said. "I had all the paperwork; was totally legit.

None of that seemed to matter to [the officers]. I don't think they cared about me."

Earlier in the week Chaplin had attended his usual community advisory group meeting. The who's who at the meetings is like straight out of central casting: old-time business and homestead owners, sunburned cannabis cultivators, suffering patients standing up for their medicine, advocates, police, media, and a few mean-looking prohibitionists. He'd been attending for more than a year but had never spoken. Acting on an urge to extend an olive branch and clear the air between the factions after several run-ins between law enforcement and cultivators, he rose and spoke at the end of the meeting.

"My name is Brian Chaplin," he recalls saying. "I'm a property owner, cultivator, taxpayer, community member, and alliance board member. We [cultivators] are seeking a path forward and want all of us to work together and educate one another."

He received a smattering of applause, but mostly the proverbial stink eye. Thirty-six hours later, a sheriff's deputy arrived at Medicine Box's front gate. The deputy informed Chaplin he was responding to neighbors' complaints about a bad smell coming from the property. Chaplin was perplexed. He knew all his neighbors, and it seemed unlikely they would complain about cannabis odors. Plus, he had all the legal collective paperwork. Then, he recognized the deputy as one of a handful of anti-cannabis crusaders who reportedly had been giving cultivators a hard time. After chatting for a few minutes, the deputy said he'd send a patrol back on Monday morning to take a full report.

#### DIAGNOSIS

The more Chaplin reflected on the peculiar timing of the events, the more troubled he became. On Tuesday, he gave a speech at the local meeting. Thirty-six hours later, a sheriff's officer arrived at his gate. A day and a half later, gun-wielding, masked, boot-stomping thugs robbed Medicine Box, and fewer than two days after that, additional deputies.

Something unsavory was afoot, he decided, and he needed to secure the part of the harvest the robbers had overlooked.

He called in the crew on Saturday and all of them worked tirelessly, like a team of ants, to move the second harvest to a secret location. Then, after a Monday morning meditation, he drove to meet the sheriff at Medicine Box's gate. The sheriff didn't show.

During the first few weeks following the raid, Chaplin kept a strict schedule: Wake at dawn, meditate, and play his guitar before vanishing into the endless trails





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Brian Chaplin. Photo: CheriSugalPhotography.com

that snake through Grass Valley's quartz- and pinefilled canyons. He surrounded himself with friends and family, always mindful that he needed to keep moving forward "one stone to the next." Most importantly, he said, he realized that to be a true advocate and warrior for the plant, he needed to tell his story.

Shortly after the raid, Chaplin took a risk and agreed to an interview with Rolling Stone, possibly the most high-profile, pro-cannabis publication in mainstream media. Although the article was not lengthy, Chaplin felt he'd planted a seed. The organizers of a 4/20 cannabis retreat invited him to be a special guest. All the while, he was spending an inordinate amount of time and money speaking with his attorney about, among other things, suing the county for property damage and recovery of lost income.

At times when the unavoidable weight of the process threatened to smother him, he'd drive to the misty forests of Mendocino County and visit his mentor, a 72-year-old registered nurse and former craniosacral therapist turned plant-medicine man and cannabis breeder. On one visit, the mentor presented Chaplin with a gift: samples of an unprecedented 34:1 high-CBD strain and encouragement to develop products that would "shake up the industry."

In addition, Chaplin's mentor offered advice: "It's time to get back to your brand."

#### PATIENT HISTORY

Chaplin has the amiable affect and quiet intensity of a spiritual guide or advisor: direct eye contact and

slow, measured sentences punctuated with experiential anecdotes delivered with a quiet, everything-willbe-all-right vibe. He sees himself as an activist, advocate, patient, farmer, and businessman. To live the full potential of his self-concept, though, Chaplin determined he could not surrender to pity and victimhood. "What's the point, right?" he said.

Chaplin grew up in the bucolic, woodsy wonderland of the Lakes Region of New Hampshire ("Live Free or Die"). He often accompanied his father, a housepainter, to work. On weekends, he set up a veggie stand and sold the produce his mother grew in their backyard. At night, his dad read him the Lord of the Rings books, stirring his imagination for adventure, nature, and being part of "the light."

Although he was diagnosed with attention deficit disorder, his mother declined to give him medication. As a teenager, Chaplin turned to self-medicating with booze and cocaine. By the time he reached adulthood, he'd developed a daily routine: beer during the day, wine for dinner, a few snorts, then tequila, whiskey, port, or whatever other intoxicating beverage was available. As for cannabis, maybe only a few hits from a joint at parties. (Sober since September 2012, he now uses only Medicine Box's Equanimity, a 300mg THC blend with organic herbs, to treat his ADD and occasional anxiety.)

It wasn't until 2009, when some friends took him to a warehouse space in Oakland and proposed they begin cultivating weed, that Chaplin discovered the medicinal alchemy of cannabis. Over time, he learned

he had a talent for growing and making money...and, like the hobbits in the Tolkien books of his youth, a mission to bring light—medicine—to the afflicted.

"I realized I liked farming and wanted to learn more," he said. "I was hooked. I wanted to grow big plants; bring superior medicine to the market through a trusted brand."

In 2016, Chaplin cashed out his savings and founded Medicine Box.

The company's first product was the Equanimity tincture. Made with Chaplin's homegrown, CO2-extracted Gold Country indica Afgoo oil, fractionated coconut oil, and herbs like valerian root, licorice, damiana, skullcap, chamomile, oat straw, and hawthorn berry, the tincture addressed sleep, serenity, focus, and relaxation. The first sample convinced Chaplin the combination was a winner. Other tinctures followed, targeting digestion, inflammation, allergies, and menstrual cycle pain relief. His partner, "the smartest and toughest person I know," suggested edibles with a twist: square, gluten-free truffles doused with coconut and Afgoo oil, crafted with limited sweeteners in uncommon flavor combinations like caramelized strawberry, coconut goji berry, lemon blueberry, mint

espresso, and peanut butter banana. The medicine bars became the company's answer to what the pair considered saccharine treats flooding dispensary shelves. "They are fun to add as bites on salads, soups, and yogurt," Chaplin said.

Dispensary owners in San Francisco and Los Angeles took notice of the unique herb blends in Medicine Box's tinctures and edibles, as well as the company's smart, modern packaging. Patients appreciated Equanimity's consistent and serene effects and taste. "After meeting with retail buyers and hearing the customer feedback, I made a strategic decision to lead with [Equanimity] as our signature product," Chaplin said.

#### TREATMENT PLAN

For Chaplin, the most difficult consequence of the raid is that 80 percent of the flower seized was biomass destined for extraction into oil for infusion. With adultuse retail looming, at the time of the November raid he had a very short period to comply with California regulators' order that existing stock be inventoried by manufacturers and distributors before January 1. Selling the products he no longer could make because the raw materials had been seized had been essential to





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Medicine Box's survival. "We had a solid two months for this very important move," said Chaplin, "but plans fell apart when the seizure happened."

As it turned out, plans were just beginning. With an eye to the future and concern for the workers who depended upon his company, Chaplin continued to pay his employees while Medicine Box languished in limbo. He also launched Operation Save the Brand. The first order of business: Enter the "yes vortex."

"Basically, I just said yes to everything: lunches, investor meetings, engagements, even marrying two of my friends," Chaplin said. "I've also been best man for four grooms." He paused, "Not sure what that has to do with [Operation Save the Brand], but..."

Chaplin spent the morning of 4/20 multitasking in his hotel room in Malibu, California. Between phone calls with his website designer in Italy and his programmer in Brazil, he filled Equanimity tinctures to sell later that day. He'd been invited to emcee a panel discussion at Cannabliss Retreats' four-day 4/20 event and knew the appearance could be an important step in Medicine Box's re-emergence, so he wanted to make sure the website, messaging, and products were aligned.

Seated in a garden filled with cannabis travelers, professionals, insiders, and acolytes, Chaplin felt right at home on the panel, especially when the discussion became emotional. Holding back tears, a British celebrity shared how cannabis has ameliorated her lifelong seizures. A former National Football League lineman spoke about cannabis lifting his depression and myriad aches and pains. Chaplin shared intimate details, too.

The next morning, he met with buyers at a clutch of Southern California dispensaries. After listening to Chaplin explain the particulars of Equanimity and a bit about the Medicine Box brand, the buyer for Malibu Community Directive inquired, "What's your minimum order?" Without hesitation, Chaplin answered, "Whatever you want. I am more about creating positive relationships and getting the products to patients."

He envisions Medicine Box fundamentally changing people's lives by helping them heal and stay spiritually grounded. Although he is firmly convinced Equanimity works and could be a game-changer, he's in no particular rush to impose that notion on the rest of the world. Nor is he in a rush to accept outside capital. For the past two years he's heard the same question from potential investors: "How fast can you scale?" He'd rather they ask, "How fast can we collaborate to help people heal?" When the synergy is right, someone will, he said.

"I get approached all the time by investors," he revealed. "A few weeks ago two guys wanted to throw millions at the company, but it smelled like a pumpand-dump scheme riddled with shell company after shell company."

#### RECOVERY AND REHABILITATION

A few days after Chaplin returned to Grass Valley, he experienced an epiphany about the raid. "The biggest thing I learned was that what we do in the face of adversity can be our most powerful skill," he said. "I finally gave myself a pat on the back for being able



WITH AN EYE
TO THE FUTURE
AND CONCERN
FOR THE
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BOX LANGUISHED
IN LIMBO.

to possess the 'equanimity' needed to keep moving forward, no matter what."

He also realized losing the harvest—and almost his business—made him a more mindful grower and boss. "You get real creative when you are running on financial fumes," he said with a smile.

In the broader world much work remains to be done, he said. As his experience indicated with frightening clarity, the plant still isn't widely accepted, even in California. He hopes "the Medicine Box incident" will encourage more education, adaptability, perseverance, and persuasion.

The journey hasn't been easy, but Chaplin said the shock of the raid is receding and he is happy to be part of a working cannabis farm again, raking, planting, watering, and getting dirty. "Navigating the wreckage after the raid, while simultaneously building a company and dealing with all the new regulations with a scarce budget, was like going to battle without armor," he said.

Instead of letting lingering trauma rule him, though, he is using the raid as inspiration to make Medicine Box bigger and better. Also inspirational? His mother's assessment after the raid. "Honey, ever since you were a little kid, anything you put your mind to you figured out and accomplished," she told him. "You'll come back stronger."





## **LAUREN RUDICK:** FIGHTING THE **GOOD FIGHT**

A prominent attorney leading the lawsuit against Jeff Sessions sees the battle as both ideological and practical.

EW PEOPLE HAVE THE DRIVE and bandwidth to grow their own company and strive for meaningful change at the same time. Lauren Rudick is one. An attorney, partner, and founder at Hiller PC, a law firm based in New York, she was among the architects of the recent federal cannabis lawsuit against U.S. Attorney General Jeff Sessions and the Drug Enforcement Administration. The lawsuit was dismissed, but Rudick filed an appeal in May.

In addition to her legal work, Rudick is a regular contributor to Marijuana Venture magazine and a frequent speaker at national and local cannabis events. She also provides pro bono legal and advocacy services to the Drug Policy Alliance, Compassionate Care New York, and the Cannabis Cultural Association.

A self-proclaimed "recovering litigator," Rudick for ten years represented clients in a wide variety of business, intellectual property, and internet/media disputes while contributing to the firm's land-use and zoning practice. She also developed a niche in salvaging deals that turned south, mitigating legal exposure, and identifying and remedying abuse or misuse of corporate power and form.

Then came her segue into the cannabis sector, which started as a passion project in patient rights during a brief residency in California. She is now one of the preeminent cannabis attorneys in the United States. With her diverse background in corporate law, litigation, and land-use and zoning, she provides clients with the most up-to-date information necessary to operate and invest in successful cannabis and ancillary businesses.

#### HOW DOES REPRESENTING CANNABIS COMPANIES AND ORGANIZATIONS COMPARE TO REPRESENTING THOSE OUTSIDE THE INDUSTRY?

We aren't just representing clients; we are representing causes that have reached a critical mass. Each of my clients was drawn to the cannabis industry to address some sort of injustice, typically patient advocacy or social justice reform. There's a personal urgency underlying their work, and I find myself humbled and honored to support them through it. And, of course, we are all operating in open violation of federal law. So, while in ordinary industries business risks would lie predominantly with the client, in the cannabis industry we share in the risk of federal prosecution. In that connection, I find myself referring to the ethical rules of professional conduct more frequently than with non-cannabis matters and have to constantly remind my clients that the repercussions associated with "mistakes" far transcend loss of one's investment. No matter how "normalized" the industry seems to become, we can still go to jail, and we still risk civil asset forfeiture.

#### WHAT IS THE STATUS OF THE FEDERAL **CANNABIS LAWSUIT?**

In May, we filed our appeal to the Second Circuit Court of Appeals. As many are aware, the case was dismissed by United States Federal Court for the Southern District of New York on a procedural technicality: failure to exhaust administrative remedies. In other words, the district court opined the plaintiffs should have, prior to seeking relief in court, attempted to petition the DEA to reschedule cannabis. In our appeal we will argue, among other things, that the doctrine of "administrative exhaustion" does not apply to our plaintiffs because the decisionmaker with respect to any rescheduling petition would be Attorney General Jeff Sessions, who is biased and openly condemns cannabis and the people who use it, and the petitioning process to reschedule would be futile. Prior petitions have taken an average of nine years, and each petition was systematically denied. Our plaintiffs rely upon medical cannabis to live; they cannot wait nine years for a ruling on a rescheduling petition. Both a biased decision-maker and futility constitute known exceptions to the doctrine of administrative exhaustion, as a matter of law.

In addition, we are optimistic the Second Circuit will feel less constrained by prior precedent than the Southern District. Never before has anyone challenged federal cannabis policy in light of the "evidence" we put forth, including:

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EDUARDO PROVENCIO General Counsel, Mary's Brands

Looking Beyond the License: Cannabis Product Risk Management



JASMINE L. TYLER
Advocacy Director,
US Programs,
Human Rights Watch

The State of the Industry: Overview of U.S. Cannabis Policy and Next Steps



CHRISTIE STRONG
Marketing
Communications Manager,

Kiva Confections

Keep Calm and
Spin It: How to Protect
Your Business
and Your Reputation
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DR. JONATHAN VAUGHT CEO and Founder,

Front Range Biosciences
Cannabis Tissue Culture:
Preemptive Action to
Reduce Disease
Incidence, Pesticide Use,
and Crop Loss



ANDREA UNSWORTH Owner,

Tulip & Oak Consulting State of the

State of the Cannabis Real Estate Markets: California to Colorado

- The federal government feels so strongly states can safely regulate cannabis that they stripped the Department of Justice of any funding to investigate or prosecute state-compliant medical cannabis organizations. The Rohrabacher-Blumenauer funding rider enjoys broad bipartisan support and consistently has been extended.
- Through Financial Crimes Enforcement Network (FinCEN) guidance, the federal government actively encourages and advises financial institutions how to bank cannabis businesses legally which, arguably, could be considered money-laundering or conspiracy to violate the CSA.
- The federal government has, for decades, been manufacturing and distributing medical cannabis to patients all over the country through the Investigational New Drug program.
- Medical literature now confirms the safety and medical efficacy of cannabis, reiterating the findings of an administrative law judge on a prior failed effort to reschedule cannabis.

#### WHY IS THIS CASE SO IMPORTANT?

Cannabis is safe, medically effective, and saving lives. It could save many more, particularly preventing opioid-related deaths and veteran suicides, if it were legalized. The current illegality of cannabis

has destroyed communities and perpetuated racism.

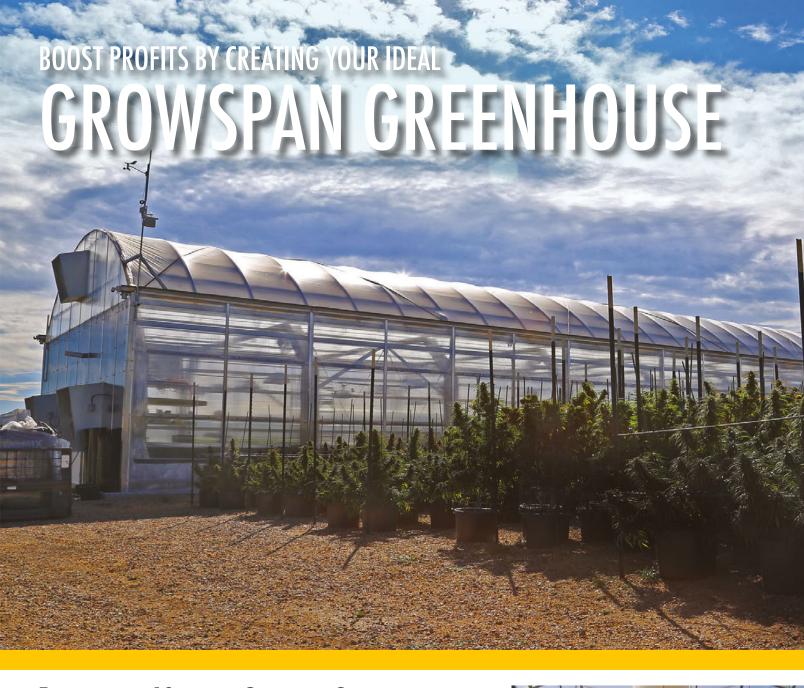
The scheduling of drugs under the CSA should be based upon medical evidence, not racism or suppression of constitutional rights. People of color should have access to federal seed funding to start cannabis businesses. That funding would be available to them in any other "legitimate" industry. Further, nobody should have to sacrifice one fundamental right—such as the right to live, preserve your own life, travel, and engage in free speech-while risking federal prosecution and arrest. Cannabis has never killed anyone.

#### SO. YOU'RE FIGHTING A BATTLE OVER MORE THAN A CONSUMER COMMODITY.

Before we think about consumerism, we need to address the issues surrounding patient advocacy and social justice reform. Patients deserve research and access to medication, and reputations and communities destroyed by the failed war on drugs must be restored. But, of course, if cannabis were to be de-scheduled, we would usher in one of the fastest growing and largest industries on the planet. If we include hemp in our analysis, we have the opportunity to literally save the planet from deforestation and promote clean energy, sustainability, etc. Let's just hope that by then, the United States hasn't fallen too far behind Canada and the other countries that are way ahead of the U.S. with respect to cannabis policy. 💩

—Leah Maurer





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### CANNABIS COMPLIANCE FOR NON-CANNABIS COMPANIES

BY SAHAR AYINEHSAZIAN, VICENTE SEDERBERG, AND BHARAT VASAN, PAX LABS, INC.

T IS NO SECRET that in the past few years, cannabis has emerged from hushed conversations among friends into boardrooms filled with savvy investors. Cannabis's evolution from contraband to capital is, in large part, a result of comprehensive state regulations that have legalized medicinal and/or adult-use cannabis in a majority of the United States.

Though reviewing these highly detailed and complex regulations can feel like wading through murky water, it is strikingly clear that regardless a cannabis business's state or locality, compliance is the key to success and longevity. This principle holds true for both cannabis businesses and the ancillary companies that work with them but do not touch the plant. Though ancillary companies generally are not required to adhere to all the same regulations cannabis licensees must observe, they should, nonetheless, ensure the cannabis businesses with which they work meticulously comply with all applicable laws, regulations, and ordinances.

Because the cannabis industry is so highly regulated, working with non-compliant operators can lead to hefty fines and, in severe cases, company closures.

Furthermore, cannabis-related revenues from noncompliant operators often intimidate banks and credit unions due to concerns they could be handling proceeds of illegal drug transactions. Working with compliant cannabis operators is a key way an ancillary company can demonstrate its cannabis-related revenues come solely from state-legal transactions. Thus, for ancillary companies, linking cannabis-related revenue to statelegal transactions is of paramount importance.

#### DO YOUR RESEARCH

Shaped by factors like time, money, and the type of goods or services provided, the level of due diligence used to evaluate potential and existing cannabis clients is an internal decision for every ancillary company. While comprehensive procedures may present slightly higher upfront expenditure of time and money, the long-term payoffs, including bankability for both the ancillary company and its cannabis clients, are priceless.

The first step to ensuring a cannabis business's compliance is verifying the business's licensure status. It is highly inadvisable for an ancillary company to work with or provide services to an unlicensed cannabis

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Cannabis cultivation and alternative energy compliment each other perfectly. They both ultimately emphasize restoration, preservation and health. These energy systems are the more intelligent approach to supporting the uninterrupted production of plant based medicinals to the market – without damaging the place we all call home."

—Viyda Schatz ,Founder OG Spaces Foundation

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business. Most states with a robust licensing framework publish lists of the state's licensees online, making licensure verification quick and simple. Ancillary companies also can require cannabis businesses to provide copies of their business licenses and, when applicable, license renewals. A cannabis business's refusal to cooperate with an ancillary company's due diligence efforts, especially after receiving an explanation of the policies behind such efforts, is a red flag that should make an ancillary company reevaluate its relationship with the cannabis business. Ancillary companies regularly should reconfirm their cannabis clients' licensure statuses and keep clear records of such reconfirmation. It is also prudent practice for an ancillary company to require its cannabis clients to immediately notify the company of any enforcement actions or changes to licensure status.

Ancillary companies also should pay close attention to the owners of their cannabis clients. While every state has a slightly different definition of an owner for a cannabis licensee, the designation generally centers around an individual's control over or position or equity interest in the licensed entity. Ancillary companies should collect basic identifying information about those listed as owners of a cannabis licensee and verify that such individuals 1) have not previously been denied a cannabis license or had one revoked and 2) do not have previous criminal convictions related to issues like fraud, gun violence, or drug transactions involving minors. It is also prudent practice for an ancillary company to require its cannabis clients to immediately notify the company of any owner arrests or convictions that may affect a cannabis client's licensure status.

Success in highly regulated industries like the cannabis industry also requires thorough operational and sales records, as the records greatly help to demonstrate a licensee is operating compliantly and its revenues are derived solely from state-legal transactions. Consequently, an ancillary company should ensure its cannabis clients keep meticulous records for every batch of cannabis or cannabis product they produce, as well as every business transaction in which they participate. It is also prudent for ancillary companies to require their cannabis clients to, upon request, provide access to certain categories of business records.

One of the best ways an ancillary company can continuously verify its cannabis clients' compliance is to require such clients to perform periodic compliance audits using a platform tailored for the cannabis industry, such as Simplifya. Ancillary companies should analyze the results of the audits to ensure their cannabis clients closely follow all applicable laws, regulations, and ordinances and correct any minor compliance issues. It is also prudent for ancillary companies to keep records of such audit results for all cannabis clients.

#### OTHER CONSIDERATIONS

In addition to ensuring the cannabis businesses with which they work are fully compliant, ancillary companies also should strive to add to the industry's rich diversity. For PAX Labs, an ancillary company that does not itself touch cannabis but works with a limited number of licensed and meticulously compliant operators throughout the country, this tenet is expressed in its incorporation of the cannabis industry's culture of diversity into its practices. In fact, one of PAX's main considerations in filling open leadership positions within the company is to create an open, collegial culture that features smart, strategic male and female leaders from diverse racial and cultural backgrounds.

#### FINAL THOUGHTS

The compliance measures suggested above are only one variation of the many available to companies that work with cannabis businesses. While an ancillary company may implement measures that are more or less firm, ensuring the ongoing compliance of cannabis clients should be an ancillary company's highest priority.

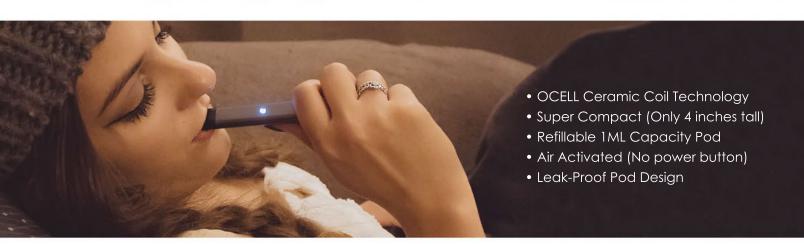
SAHAR AYINEHSAZIAN is an attorney at Vicente Sederberg's California Practice Group, where she specializes in cannabis banking, intellectual property, and regulatory compliance. She also serves as the chief advisor for banking policy for the California Growers Association. BHARAT VASAN is the chief executive officer of PAX Labs, Inc., where he is committed to scaling the company in a smart and sustainable way while also helping advance the legal, responsible adult use of cannabis.



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# **HORTICULTURE & GROWING**

#### CANNABIS ANALYZER FOR POTENCY

A comprehensive package integrating instrument hardware, analytical workflows, and supplies, including an analytical column, guard columns, mobile phase, and a CRM standard mixture. After one day of installation and testing, users are equipped with everything they need to obtain cannabis potency results.

### **LOWPRO VEG**

Only three inches tall, the LowPro Veg is a full-spectrum LED grow light specifically made for vertical and small-space commercial gardens. The device may be as close to plants as nine inches and covers a 4' x 4' area. Made in the USA from aluminum coated with antimicrobial powder.

SPECTRUMKINGLED.COM

#### FLUXSCALE LED LIGHTING SYSTEM

A connected, fully tunable, broad-spectrum horticultural lighting platform with patent-pending Precision PAR technology. The fixture is capable of delivering flowering and vegetative PAR spectrums at full power in one device, offering control and efficiency for cannabis growing, seed production, and greenhouse cultivation.

GROWFLUX.COM

#### FIGHT-ALL

A 100-percent organic, essential-oil-based pesticide and fungicide, Fight-All is highly effective on aphids, thrips, mites, powdery mildew, and other pathogens. The product is recommended as a preventative and/or curative integrated pest-management product.

VITALGARDENPRODUCTS.COM

#### PRO-MIX BX BIOFUNGICIDE + MYCORRHIZAE

A solution for growers who want the nutrient retention ability of vermiculite combined with perlite for limited but proper drainage. Formulated with high-quality fibrous peat moss, the general-purpose medium creates a well-balanced growing environment.

PTHORTICULTURE.COM



& GrowFlux







# MILLS PAYS THE BILLS





# **PSYCHOACTIVE**

#### **CHILL CHOCOLATES**

Handmade from the highest quality, ethically sourced ingredients, Chill Chocolates offer a consistent, safe, delicious experience. THC, CBD, and blended infusions in dark, milk, and white chocolate with peppermint, acai berry, caramel, and cookie jar flavors. Available in CA.

#### POMEGRANATE MATCHA TEA

Chock full of antioxidants, this beverage reportedly revitalizes the body and heightens the spirits by combining sweet-and-tart pomegranates with the deep, earthy flavors of matcha green tea. Available in AZ, CA, and OR in various dosages compliant with state regulations. GANJAGRINDZ.COM

#### **LEGION LIVE RESIN**

Created from small-batch, single-origin genetics grown naturally in Northern California. Extracted from whole cannabis plants instead of decarboxylated or dried material, Legion Live Resin is similar to wax or shatter, with a more robust terpene expression than other extracts. Available in CA. THELEGIONOFBLOOM.COM

#### KEEF SPARKLING INFUSED BEVERAGES

Keef Sparkling provides a naturally flavored, zero-calorie infused beverage experience. Designed to be the go-to social option for people looking for a sugar-free alternative to alcoholic beverages and sugary cannabis-infused edibles. In lemon and blood orange flavors; 10mg THC per bottle. Available in AZ, CA, and CO. KEEFBRANDS.COM

#### TOPICAL RESERVOIR PATCHES

Hypoallergenic and water-resistant, these patent-pending skin-tone patches deliver CBD-only or blended CBD/THC formulations for up to 96 hours. No chemical enhancer or adhesive touches the reservoir formula, and the round design minimizes chances the patch will peel off. Allnatural; additive-free. Available in AZ and CA. PURERATIOS.COM

# **NON-PSYCHOACTIVE**

#### PAIN RELIEF SALVE

This topical, crafted from a proprietary blend of essential oils, butters, and waxes that are touted for their pain relieving, anti-inflammatory, and antifungal properties, reportedly alleviates a wide variety of conditions and has "changed peoples' lives." Available in 100mg, 300mg, and 600mg. TRUINFUSION.COM

#### HEMPSMART FULL SPECTRUM PET DROPS

Specially formulated with naturally occurring CBD from hemp seed oil, ingredients include full-spectrum hemp extract grown without herbicides or pesticides, fractionated coconut oil, and a rich bacon flavor pets can't resist. Promotes healthy energy levels and quality of life. HEMPSMART.COM

An all-natural, experiential, niche fragrance blended with real cannabis terpenes and a proprietary blend of natural essential oils. Musky, herbaceous base notes of cedar and sandalwood open to reveal heart notes of fresh coastal fog and vegetation. Elegant custom glass with a redwood top. FOGANDTREE.COM

#### DISPOSABLE CBD VAPE PENS

The medical benefits of CBD, essential oils, and natural extracts in three custom blends: Relax, Focus, and Revive. Relax features calming lavender extract. Focus is formulated with refreshing peppermint extract. Revive contains rejuvenating grapefruit extract. Flower sourced from organic farmers. SELECTOIL.COM

#### KUSH HIGH VOLUME MASCARA

Conditioning CBD-rich cannabis oil fuses heart-shaped fibers to lashes for thickness. The hydrating formula fills hollow fibers for a double dose of volume, and has a creamy texture that aids in conditioning and allows for smoother application and easier removal. MILKMAKEUP.COM



## | HASHTAG |

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# YOUR BUDS DESERVE BALANCE.

The smart solution for optimal curing + extended storage



# YOUR PRODUCT. YOUR WAY.

Regulate humidity at 55% or 62% R.H.

Tear & Spill Resistant Biodegradable Non-Toxic

# STOP PLAYING THE GUESSING GAME.

Know when to replace and enjoy hands-free monitoring with an included Replacement Indicator.

Say goodbye to dry, crispy flowers and forget the worry of mold. At Integra, we know that preserving potency, aroma and flavor comes down to balance—which is why we've got your goldilocks moment in one tiny, expertly engineered package. Because your flowers deserve nothing less than just right.

PATENTED 2-WAY HUMIDITY REGULATOR SALT-FREE SOLUTION PREVENT MOLD & OVER-DRYING MAINTAIN FLAVORS, POTENCY & AROMA FDA-COMPLIANT



# CBD

UnCanny Wellness (UncannyWellness. com) makes fantastic water-soluble, full-spectrum hemp extract drink blends in four categories: Balance, Relief, Calm, and Protect. You can add the extract to pretty much whatever you're drinking. What makes the product so appealing? It's easily dose-able; you are in control to choose how much you want with the measured scooper that's included. They also make capsules and powder.

#### Dispensaries

I live in Venice, California, and I love my neighborhood spot, the Rose Collective (RoseCollective.com). I'm also a big fan of Smokey's (Smokeys420.com) in Fort Collins, Colorado; Moss Crossing (MossCrossing.com) in Eugene, Oregon; and Hashtag Cannabis (SeattleHashtag.com) in Seattle.

#### Brands

Flow Kana (FlowKana.com)—hands down. They were the first sustainable, sungrown cannabis brand to represent two of California's most special micro-climates and their small-farmer ecosystems. The industry needs more companies like Flow Kana that support small cannabis farms. On that note, I want to give a shout-out to all the co-ops and collectives out there working to help small cannabis farms succeed in the age of legalization.

### App

Leafly (Leafly.com). It's the easiest and most reliable way to research dispensaries on the go. The company also has grown into a reputable industry news outlet, which I check every day.

SANA PACKAGING designs and develops differentiated, sustainable, and compliant packaging solutions for the cannabis industry using 100-percent plant-based hemp plastic. Sana was founded on the conviction packaging should be regenerative and help heal the environment throughout its lifecycle. SANAPACKAGING.COM

JAMES EICHNER,

co-founder of Sana Packaging, recommends...

#### Flower

Flower is all about the grower, and I like mine sustainably produced and sun-grown. Some of my favorites include the Royal Kush grown by **Earthworks Farm** in Mendocino County (part of the Flow Kana cooperative: FlowKana.com/farms), Super Fruit grown by **Huckleberry Hill Farms** (HuckleberryHillFarms.com) in southern Humboldt County, and Amnesia Haze grown by the **Burnside Garden Collective** in Portland, Oregon.

#### Edibles

This goes to Alpine Infusions by Alpine Wellness (AlpineWellness.co) in Telluride, Colorado. Alpine Wellness is the longest running dispensary in the area, and their Ganjala—scrumptious flavored caramels—is what put their edibles brand on the map. Ganjala has been affectionately dubbed "pleasantly potent" due to its particular dosing. Everything Alpine makes is tasty and dosed properly, because they only use infused butter for baking.

## Vaporizer

I don't always vape, but when I do I prefer the **Firefly 2** (*TheFirefly.com*). This handsome device uses convection instead of conduction and heats across a wide range of temperatures with each hit, resulting in superior terpene profiles. You can also control the temperature from your phone.

## **Topical**

My go-to is **Papa & Barkley**'s Releaf Balm (*PapaAndBarkley.com*). I use the 1:3 THC:CBD formulation after running, and it always does the trick. I also like **Farmhouse Hemp**'s Lavender Lemongrass



