THE ESSENTIAL CANNABIS BOOK: A FIELD GUIDE FOR THE CURIOUS by Rob Mejia Acknowledgments So many people contributed to this book in ways great and small. The best parts of the book are theirs and I can never express my appreciation for all the love and support I've received. In particular, I'd like to thank: My six amazing sons, Chris, Grant, Nick, Myles, Maxx, and Dante. My parents, David and Ophelia, who made us all feel special though we grew up as an army of 13 kids! My siblings and their families: Mary, Dave, Annie, Theresa (whose sad passing started me on my cannabis journey), Patty, Margaret, Pauline, James, Louise, Shatta, Catherine, and Tom. The members and contributors to Our Community Harvest LLC, namely Andrea, our CBD expert; Robert, who was there in an advisory capacity every step of the way; and especially Dan, who drove every OCH project with zeal, intelligence, and creativity; his imprint is all over these pages. Irv Rosenfeld, who graciously wrote the foreword, contributed a sidebar, and was patient as I peppered him with question after question. Home cannacook Corinne Tobias, who contributed infusing knowledge, recipes, and a bunch of good humor. Her helpful, entertaining Web site is www.wakeandbake.co. In addition to Irv and Corinne, the sidebar contributors, listed below, put a human face and story on all things cannabis. Their stories are personal, important, and inspiring. I admire their courage and grit: Aspen Sheriff Joe DiSalvo; Dope Magazine co-founder, James Zachodni; Juliet Fillweber and Terri Leek, mothers and owners of Pure Hemp Collective; Mitch Meyers, a dispensary owner and CBD provider in Missouri; Anthony Dittmann (and Hez Blake), co-founders of Cannabis Grand Cru, an educational cannabis events company; Dr. Barney Warf, University of Kansas geography professor; Sister Kate, grower, CBD producer, healer, and head of the compassionate cannabis organization, Sisters of the Valley; Andrea Dow, CBD educator and patient; Courtney Moran, hemp attorney; Paula-Noel Macfie, Ph.D., researcher and founder of Back Door Medicine, specializing in the use of suppositories; Ashley Picillo, author of Breaking the Grass Ceiling (a collection of 21 profiles of women in cannabis) and founder and CEO of Point Seven Group; Robert Martinez, New Mexico medical patient and accomplished home grower; Dr. Tim Shu, veterinarian and owner of PETCBD; Skip Stone, co-founder of Stashlogix, products to keep cannabis safely stored from kids and pets; Ebele Ifedigbo, co-creator of The Hood Incubator, who helps people of color get a foothold in the cannabis business; Shatta Mejia, home cannacook and supportive brother; and Jessie Gill, the holistic nurse known as Marijuana Mommy. Other individuals who were gracious with their time and expertise include: Chef Laurie, Mary, and Bruce, who welcomed me into their home and who taught me how to cook with cannabis and to appreciate cannabis photography. Scott, Wanda, and Randy, who lent so much of their time and cooking/advocacy expertise as I was getting started in the industry. Ricardo, who has encyclopedic knowledge about cannabis and is one of the best journalists I know. Renae L., whose curiosity makes her a great cannabis conversationalist and also happens to be a master hair stylist. Bob, who has a strong understanding of state regulations regarding CBD and who answered many of my first questions. My anchors and friends: Chris and Meg, Mike and Emily, Brad and Karen, Brian, Chris and Stacy, Jeff and Heather, Gwen, Theresa and Bill, Peter and Traci, John and Pam, Patrick and Laura, John S. and Laura, Jim M., Lee L., Jessie and Susie, Tina, Michaela H., John G. and Suzanne, Matt and Jill P., John and Andrea C., John R., Rob F., Tim R., Annie, Jane M., Shannon, Marie G., Carrie B., Vanessa, Larry H. (who gave me a consulting job just when I needed it), Ted W., Jon K., and Kate M. My friends in the licensing business: Michael and Lindsay, James, Phil, Karen, Kim, Liz, Michael C., Greg and Bob, Nicholas and Linda, David B., Elise, Michael S., Juan, Darren, Jeff, and Andrew. My tennis friends and students, who literally keep me on my toes, and show great patience and insight when we talk about cannabis: Rob, Dr. Jeff A., Bob B., Jeff B., Kyle and Emilie, Alex, Peter C., Jo and Carol, Bruce, Tom F., Hy, Tom H., John C. H., Bill H., Kenny K., Bob and JoAnn K., Mark L., Holly M., Paul, Kim and Linda, Tom M., David M., Scott, Greg, Beth and Peter, Dianne N., Roberto, Sean, Ray P., Doug, Mike P., Billy P., Ronnie, Richie S., Modeste, Peter S. (whose expertise and opinions were timely), Bonnie W., Peter and Bridget, Richie W., Dave W., Duncan, my doubles partner Alan, Bob G., Norm, Dr. John C., and of course, my tennis students at Quest, whose lessons are equal parts laughter and technique. The remarkable staff at Spring House Press, who believed in this project from the beginning. It is such a pleasure to work with a publisher who supports, nurtures, and shares an author's vision. My sincere thanks go to: Paul, Matthew, Kerri, Lindsay, and Jodie. This book is a fantastic guide to help you learn about the medical benefits of cannabis and how it can apply to everyone's life. I have read many books on this subject and this one is the most down-to-earth. I personally discovered the medical benefits of cannabis quite by accident in the fall of 1971. I wish there had been a book like this one available to have helped me with my struggles taking on Uncle Sam. I helped pioneer this movement so books like this one could be written to help educate more people. Rob has touched on most of the amazing aspects of this plant and how it can be ingested. So many people think that it has to be lit up and smoked to be effective. He explains other ways of taking this medicine and why it still works. So many books have been written by so-called experts in this field and all of them make some good points. However, so many writers make it very difficult to understand because they are experts. This book is written by people who are "living experts": people who have lived and experienced it, not simply studied it. Everyone who has made a difference in this worldwide movement has their own story to tell. I hope this book will pique your interest to read more about this unique plant and the people who have gotten us to where we are today. Cannabis is still a Schedule I drug in the U.S. as of 2018, with no accepted medical use. While today it is available in many states, patients are still being arrested for the use of a substance that the federal government has been giving me since 1982. We need more people to learn about this remarkable medicine and help educate more people so one day, all patients nationwide will have the same rights and easy access that I have. Learn from what Rob has put in the following pages. Realize you can make a difference on this important issue. It has been an honor to introduce this book to you. Thank you for your interest. Spread the word to all: Cannabis works! — Irvin Rosenfeld The longest surviving of the final two federal medical cannabis patients in the U.S. (read more on page 70). An Open Letter to Moms, Dads, Guardians, Friends, Etc. (of Cannabis Users) Dear Loved Ones: Your sons, daughters, nieces, nephews, uncles, aunts, grandparents, and friendly neighbors are smoking, eating, drinking, infusing their food, and using topical cannabis. Or they are very curious about doing so. But before you get too upset, it is my hope that you'll read this book, gain a little knowledge, and begin an informed conversation. I'm looking forward to it. Did you know that: Cannabis was legal in the U.S. until 1937 43% of all U.S. adults have tried cannabis (Gallup, Inc. 2016) Among adult users, 54% are parents (Marist Poll 2017) 80% of older adults support use of medical cannabis with a doctor's consent (Gabriel 2018) Sales of CBD products have increased at a rate of 100% per year from 2014 to 2017 and show no signs of slowing (BDS Analytics 2017) Cannabis may have been one of the first plants that humans domesticated/farmed Cannabis grows naturally in most parts of the world that are not too cold It is only legal to grow hemp in about two-thirds of the U.S. (plus a few states have started test or pilot programs), but we import a great deal of hemp and hemp seeds from China, Canada, Latin American countries like Chile and Uruguay, and France. As we learn more and more about this intriguing plant, you may want to consider how it could benefit you. If you have stress (ha! show me someone who has no stress), or perhaps your knees ache, or you have trouble sleeping, or you experience anxiety, you may be a good candidate for cannabis. There are ways to experience the benefits of cannabis, even if you don't want to get high. And, it is natural. But whatever you think of cannabis now, if I've done my job, by the time you finish reading this book, you will learn a few things about this magnificent plant and will understand—or at least become curious about—its booming popularity. Much love, Your Cannabis Sons, Daughters, Nieces, Nephews, Uncles, Aunts, Grandparents, and Friendly Neighbors P.S. Mom, last time we talked you said you like surprises. How did I do? INTRODUCTION If you had asked me several years ago what type of book I would be most likely to write, it would not have been a general introduction to cannabis. But then my world was shaken when my older sister Theresa got cancer. As her body deteriorated, she was put on more and more meds until she didn't know where or who she was. When family members visited in her final days, we talked a lot about care options and the use of medical cannabis came up again and again. The topic may have come up because a large part of my family still lives in Colorado—home of the first state to legalize recreational cannabis back in 2012. It was a that time my brothers and I began to not only see but start to explore the great possibilities and potential in cannabis. It was at that time I started my journey into the cannabis community. Cannabis legalization, whether medical or recreational, is growing, as is the research. In this emerging environment, reports on the medical possibilities of cannabis, especially as a natural alternative to traditional pain treatments, are increasing. Not only states but entire countries—hello Uruguay and Canada!—are legalizing and embracing recreational cannabis. Recently, Vermont became the first state to legalize cannabis via the legislature instead of popular vote; New Jersey and New Hampshire are expected to follow shortly. States are opening up hemp production for the first time in decades. Chefs are specializing in cooking with cannabis. There are even a number of studies saying that a compound found in cannabis, CBD (cannabidiol, pronounced can-na-bid-e-all) can be used to treat inflammation, anxiety, and other common conditions without getting the user high. And unlike recreational marijuana, CBD is legal across the U.S. and is available in many forms. Any way you look at it, there is a lot going on. Like you, I am curious. And thanks to a globally connected world, I have been able to feed my curiosity by speaking with an amazing community of people. My journey has been filled with remarkable characters, great stories, and incredible experiences. I have been able to apprentice with an accomplished cannabis chef in Oregon and experience a cannabis club in Uruguay. I have spoken with CBD-growing nuns in California, a pro-cannabis sheriff in Colorado, and a hemp attorney in Portland. I have met people for whom cannabis is a godsend—relieving pain, controlling seizures, mitigating tumors, and stimulating appetite where other treatments couldn't. But what surprised me the most was how many people around me shared my curiosity. From the guys I play tennis with to my friends with parents suffering from joint pain, my questions were their questions. This book is the offspring of my journey and our questions. Whether you are interested in recreational or medical use, getting high or not getting high, cooking with cannabis, or simply becoming more educated, my goal is to provide enough knowledge for you to be comfortable in this new pro-cannabis world and to give you the strategies to continue to learn. —Rob Mejia Chapter 1 THE HISTORY OF CANNABIS Cannabis is one of the most successful plants around. Like many plants used for nourishment, pain relief, and pleasure for eons, cannabis grows wild in many parts of the world. And it is big, big business. It is estimated that the legal market for cannabis in 2020 in the U.S. will surpass 44 billion dollars! These numbers are larger by driven by adult recreational (and to a lesser degree, medical) users and grew by 26% over the previous year. In 2017, Colorado, which was the first state to legalize recreational cannabis, exceeded 1.5 billion dollars in legal sales and gained about 300 million dollars in tax revenue. Other nations that grow an impressive amount of cannabis include Colombia and Mexico (which export a sizable percentage of their crops to the U.S.), India (but not much product is exported), Afghanistan (the single largest producer in the world), South Africa, the Netherlands, and Kazakhstan. Recent figures also show the UK has become a major medical cannabis producer. This is surprising, as the UK does not allow for recreational nor medical use. But as mentioned, cannabis is a diverse plant that grows wild in many different climates. I have witnessed this first hand; I have a friend in Costa Rica, and on his tree farm there are three cannabis plants (that he never planted) that are healthy, resiny, and well over 12 feet tall! I should make plans to visit him again soon. Cannabis has been around in the wild for centuries and was reportedly cultivated in China as early as 500 B.C. Many cultures, including the Rastafarians of Jamaica and the Hindus of India (who drink a special buttermilk-like cannabis drink, byang) have developed deep relationships with this plant over an extended period of time. Today, most cannabis cultivation is large-scale production mostly relegated to the indoors, where smart, passionate growers are continually improving upon and creating new strains, each designed for specific experiences. On a personal note, of everyone I met during my journey, the growers were probably the most learned, creative, sometimes slightly crazy members of the cannabis community. I am in awe of what they know and can do. They have honed their craft so well they can get the plant to bloom and bear fruit earlier, in remarkable quantities, and often with greater potency. But they are not just helping plants to grow healthier and stronger. Many growers and their elected representatives are also at the forefront of pushing on antiquated policies, such as banking laws and the discrepancies between state and federal legislation, to move the industry forward. Colorado House Representative Ed Perlmutter introduced a bill, twice, that proposed legitimate banking services for cannabis industries that run a legal, state-regulated business. But so far, the Rules Committee has blocked the legislation from even coming up for a vote. Perlmutter has now banded with Congressional Representatives from Alaska and Washington, and continues to push fair banking legislation for the cannabis industry (Permutter 2017). Although the U.S. is a relatively new nation, cannabis has been around from the beginning. We have a complicated history with marijuana, filled with love, then hate, then love again. But clearly the cannabis story didn't start with the birth of our nation. Older History of Cannabis The story of cannabis starts in China. The first reference to marijuana comes from China, where in 2737 B.C. Emperor Shen Nung mentions its promise as medicine; he writes that it aids gout, rheumatism, constipation, and other medical conditions (Joy and Mack 2001, 9). Ramses II and his contemporaries were apparently aware of the medicinal value of cannabis as well, because cannabis pollen dated 1213 B.C. was found on the entombed body of Ramses II. The Egyptians were ahead of their time because their uses for cannabis included the treatment of glaucoma, administering enemas, cooling the uterus, and controlling inflammation (Manniche 1989). Cannabis was apparently introduced to Europe by the Scythians (who came from present day Kazakhstan) around A.D. 500; a pot containing seeds and leaves was found near Berlin. Around that time, cannabis circulated all throughout Northern Europe. According to Martin Booth in his illustrative book titled Cannabis: A History: "During the Middle Ages, hemp was central to any herbalist's medicine cabinet. William Turner, the naturalist considered the first English botanist, praises it in his New Herball, published in 1538." Turner wrote simply that cannabis was a healing herb. Cannabis moved around the world from cultures who embraced the plant to new arrivals who saw its potential. For example, when Napoleon invaded Egypt in 1799, he brought along a group of scientists who discovered the Rosetta Stone. Guess what else they did? They took cannabis back home with them. Their investigation and study of cannabis led them to discover its pain-relieving and sedative properties. This was just one more step towards the acceptance of cannabis in Western medicine (National Commission on Marihuana and Drug Abuse 1972). The History of Cannabis in the United States In the U.S., cannabis has an equally fascinating history. The Spanish brought marijuana to the U.S. around 1545. Hemp, a sturdy plant that was easy to grow and extremely versatile, quickly became a popular crop (Booth 2005). It was more than popular; it was required. The Jamestown colonists were ordered by the British to grow hemp in 1619; each landowner had to cultivate 100 hemp plants for export. A decade later, Massachusetts and Connecticut landowners were required to grow hemp as well. Hemp is woven into the fabric of America, literally and figuratively. From colonial times to the 1800s, it was estimated that well over 70% of U.S. woven goods were made from hemp. A surprising number of products can be made from hemp, including building materials, industrial lubricants, paper, health and beauty aids, and all types of ropes and fabrics. In fact, if you drive a Bugatti Veyron, Jaguar, Bentley, BMW 3 or 5, or Mercedes A, C, or S Klasse, your driver's side panel door is constructed of hemp fiber, which is a strong and lightweight material. More about hemp is covered later in the chapter. Another milestone for cannabis is its listing in the prestigious publication U.S. Pharmacopoeia, a book whose goal was to standardize the uses of botanicals in medicine (Booth 2005, 659). From 1850 to 1937, marijuana was recognized as a remedy for numerous ailments. According to Richard Glen Boire, JD and Kevin Feeney, JD in their publication Medical Marijuana Law: "By 1850, marijuana had made its way into the U.S. Pharmacopeia [an official public standards-setting authority for all prescription and over-the-counter medicines], which listed marijuana as treatment for numerous afflictions, including: neuralgia, tetanus, typhus, cholera, rabies, dysentery, alcoholism, opiate addiction, anthrax, leprosy, incontinence, gout, convulsive disorders, tonsillitis, insanity, excessive menstrual bleeding, and uterine bleeding, among others." It is interesting to note that opioid addiction was listed as a condition that could benefit from cannabis because today there is a vigorous debate as to whether cannabis is a good and viable replacement for opioids; there is also evidence that some opioid users do benefit from cannabis use. This means that from 1850 to roughly 1937, medical cannabis was available in many forms. It was produced by large pharmaceutical companies like Eli Lilly, Parke-Davis, Brothers Smith, and Tildens. At that point, one of the most popular products were tinctures (or drops). Interestingly, the popular today, especially for people who would prefer not to smoke. Not surprisingly, after the Marijuana Act of 1937 effectively stopped production and marginalization of cannabis, it was made even more official when cannabis was then removed from the U.S. Pharmacopeia in 1942. As mentioned, the Marijuana Tax Act of 1937 nearly dealt recreational and medical cannabis and hemp a death blow, effectively stopping production by putting penalties in place for both users and growers. And like so many ill-advised policies, this one started with cultural misunderstanding and racism. Beginning in 1910, there was a huge influx of Mexican immigrants looking for work or fleeing political violence during and after the Mexican Revolution. There evolution. They used marijuana after a day's work for medicine and relaxation. And even though cannabis was present in many American medicines at the time, "marijuana"—a new, foreign, dangerous word and product—alarmed many and an active campaign to ban marihuana/marijuana began. These attitudes were exacerbated by a "jazz culture" in many urban cities where musicians were known to partake as well. Propaganda, in the form of sensationalistic movies such as Reefer Madness, fueled the fire of mistrust. There are also suggestions that Dupont lobbied for a ban on marijuana in order to cripple the hemp trade. As the story goes, Dupont had developed synthetic fibers, including nylon, and the ban was one opportunistic way to gain market share. In 1970, Congress, acting under then-President Richard Nixon passed the Controlled Substances Act (CSA) as a component of the Comprehensive Drug Abuse Prevention and Control Act. Five schedules were created, and cannabis was placed in a list of Schedule I drugs along with heroin and LSD. Schedule I drugs have "no currently accepted medical use" and have a high potential for abuse methadone, cocaine, and OxyContin are not listed as Schedule I drugs, but as Schedule II drugs (DEA, "Drug Scheduling"). Schedule I: Drugs with no currently accepted medical use and a high potential for abuse. They are the most dangerous drugs of all the schedules with potentially severe psychological or physical dependence. Schedule II: Drugs with a high potential for abuse, with use potentially leading to severe psychological or physical dependence. These drugs are also considered dangerous. Schedule III: Drugs with a moderate to low potential for physical and psychological dependence. Schedule III drugs' abuse potential is less than Schedule I and Schedule II drugs, but more than Schedule IV. Schedule IV: Drugs with a low potential for abuse and low risk of dependence. Schedule V: Drugs with lower potential than Schedule IV and consist of preparations containing limited quantities of certain narcotics. Schedule V drugs are generally used for antidiarrheal, antitussive, and analgesic purposes (DEA "A Tradition" and "Drug Scheduling"). In 1972, following on the heels of the creation of the CSA, Nixon commissioned a report on Marijuana and Drug Abuse known as the Shafer Commission. Former Republican Governor Raymond Shafer headed the committee, and after extensive study, the commission determined that the use of cannabis should be decriminalized, and penalties levied on non-violent drug offenders should be reviewed. This was not at all what Nixon expected; he was livid with the findings and simply ignored the report and its recommendations (Frontline 1998). I'm sure many of you remember the ubiquitous 1980s anti-drug slogan "Just Say No" (to drugs) and the famous commercial of an egg frying in a pan with an ominous announcer saying, "this is your brain on drugs." This sentiment—which contributed to the demonization of cannabis—was furthered by the Comprehensive Crime Control Act of 1984 and the Anti-Drug Abuse Act of 1986. The Comprehensive Crime Control Act eased federal penalties for simple possession and dealing and the Anti-Drug Abuse Act instituted mandatory sentencing and a requirement that three offenses meant a life sentence for repeat drug offenders and the death penalty for "drug kingpins" (Frontline 1998). Why are attitudes toward cannabis changing? In the U.S., medical marijuana became legal for the first time in late 1996 in California via Proposition 215. Under this provision, if a California citizen obtained a physician's recommendation, the patient could possess and grow cannabis as long as they were receiving treatment for cancer, anorexia, AIDS, chronic pain, spasticity, glaucoma, arthritis, migraine, or any other illness for which cannabis was recommended by their doctor (Joy and Mack 2001). Medical cannabis legalization in California was the beginning of a major shift in public attitudes, as shortly thereafter—in 1998—the states of Alaska, Oregon, and Washington legalized medical marijuana as well. To demonstrate this point more fully, an AARP poll in 2018 found that 80% of seniors support cannabis with a doctor's recommendation and 62% believe health insurance should cover medical cannabis. This poll also revealed that roughly 30% of respondents had tried cannabis at some point in their lives. The, in a highly publicized TV event, Dr. Sanjay Gupta, who has become an outspoken proponent of the use of medical cannabis, apologized on CNN for his lack of support for medical cannabis. In his own words, "I mistakenly believed the Drug Enforcement Agency listed marijuana as a Schedule I substance because of sound scientific proof. Surely, they must have quality reasoning as to why marijuana is in the category of dangerous drugs that have 'no accepted medicinal use and a high potential for abuse.' They didn't have the science to support that claim, and I now know that when it comes to marijuana, neither of those things are true. It doesn't have a high potential for abuse, and there are very legitimate medical applications...We have been terribly and systematically misled for nearly 70 years in the United States, and I apologize for my own role in that" (Gupta 2013). Thirty states plus the District of Columbia have medical cannabis programs: Alaska, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, Washington D.C., and West Virginia. Nine states plus the District of Columbia have legal recreational cannabis programs: Alaska, California, Colorado, Maine, Massachusetts, Nevada, Oregon, Vermont, Washington, and Washington D.C. But it isn't just the medical benefits that are changing attitudes. There are serious social justice and financial issues that are forcing another look at our policies. One factor that should definitely not be overlooked when viewing our sorry history with cannabis is the human toll it has taken by imprisoning thousands of non-violent drug offenders, feeding the ever-hungry private prison system. Another shameful note is that people of color have been arrested, charged, and imprisoned at a rate of well over three times that of white Americans. Yet, usage rates between races is comparable. Furthermore, the amount of money devoted to drug enforcement is mind-boggling. In a June 2014 ACLU report, it was estimated that law enforcement spends over 3.6 billion dollars per year for marijuana possession alone! The report went on to say that someone is arrested for possession in the U.S. every 51 seconds (Wing 2016). The lucrative private prison system is also to blame for massive incarceration of cannabis users. Did you know that although the U.S. has about 5% of the world's population, that we house about 25% of the prison population (Gorman 2014)? Compared with other developed nations, such as the UK and Spain, we incarcerate more than seven times as many prisoners. Even compared with Russia, the U.S. incarcerates 75% more inmates. Clearly, our prison system churns out income and marijuana users are simple targets to fill beds and coffers. In 2015, according to an organization called Human Rights Watch, law enforcement made more than 500,000 arrests for simple cannabis possession for personal use. The number of arrests for cannabis is nearly 15% higher than all arrests for violent crimes, including murder, rape, and serious assaults. Because the private prison system needs inmates to be profitable, as cannabis is legalized or decriminalized, the private prison system faces serious losses. Legislation Worldwide Of course, the U.S. is not the only nation figuring out how cannabis fits into the international landscape. A number of countries have already been experimenting with new legislation and innovative ideas. Let's look at a few of them. Uruguay Uruguay became the first nation to legalize cannabis in 2014. Popular leader Pepe Mujica spearheaded the efforts to legalize cannabis because Mujica wanted to stop the black market and because he believed in cannabis for health issues. The plan was to have adult citizens over the age of 18 register with a national registry. Once they registered, they could visit participating pharmacies and could purchase up to 40 grams of cannabis per month. 40 grams is roughly 1 1/2 ounces, which is a lot of cannabis for most users to consume in a month. And this amount of cannabis was being sold at the bargain price of $1.30 per gram! For comparison's sake, if you were to walk into a Colorado dispensary, comparable product would cost six times as much (on sale). This bargain price was intentional, as it was thought this would cut out the black market. After Mujica left office, it was left to Tabare Vasquez—an oncologist by trade—to institute the program. While there was widespread support among the population to put the program in place as soon as possible, Vasquez was dragging his feet because the idea of smoking cannabis challenged his training as an oncologist. But in the end, he relented, and a few pharmacies joined the program to popular delight. In addition to being able to purchase cheap cannabis at pharmacies, Uruguayan citizens are also allowed to join cannabis-growing clubs that can grow up to 99 plants per year. Cannabis clubs are private "citizen only" entities that one pays an admission charge to join. The clubs grow cannabis together, split their harvest amongst members (and reportedly have great dinner parties). Although it looks like the overall program is rolling out smoothly—albeit slowly—a recent challenge is banking, which has caused pharmacies to slow enrollment in the program. We'll see how it all evolves, but it appears that Uruguay will continue to be a cannabis trailblazer. Other Countries of Latin America Several Latin American countries, including Mexico, Brazil, Argentina, Chile, Colombia, and, most recently, Peru (CBD only) have legalized the use of medical cannabis; other countries in this region may follow suit soon. Mexico has also floated the idea of legalizing cannabis at resorts to induce tourism and to cut down on the illegal cannabis trade. Canada As expected, Canada legalized recreational and medical cannabis for adult citizens (age 18 or 19 depending on the province) in summer 2018. The official date for the rollout of legal cannabis is October 17, 2018 and the world watches with great interest. This is a cannabis game changer, as Canada becomes the second country in the world (Uruguay was first) and the first member of the G-7 to legalize cannabis. Along with Australia, Canada has one of the highest cannabis consumption rates in the world. When Justin Trudeau became Prime Minister, one of his announcements was that Canada planned to legalize both recreational and medical marijuana across all provinces. Initially, it was suggested that implementation could take place in summer 2018, but several law enforcement groups have asked to delay the program so they can better train their officers to handle issues such as citizens driving under the influence of cannabis. These voices were considered, but the momentum for legalization was too great to tolerate any major delays. As they roll out legalization, they realize that this means big business and a unique opportunity to carve out business opportunities for small, specialized producers and services. Through an innovative system of "micro-licensing," the following businesses will be given an opportunity to flourish: Small-scale growers Growers of starter materials, such as nurseries, that offer seeds, clones, and seedlings (starter plants) Industrial hemp growers Small scale micro-processors Several of their larger cannabis companies are making deals to cross borders and are positioning their growers to export large quantities of product. If they continue at this pace, Canada is likely to become a market leader in the cannabis world. Europe Germany already allows for medical cannabis and it is likely they will legalize cannabis soon. It is also notable that it looks like Germany will require insurance companies to pay for the medicine. Also, for users who do not have a medical prescription for medical cannabis, it is considered "self-harm" to use cannabis recreationally rather than a crime. Switzerland has taken a purely economic approach; they are legalizing and taxing all THC products, regardless of potency. It is said that Austria may be inspired by this approach as well. Spain has decriminalized the possession and use of marijuana, but it cannot be consumed in public. Because of a legal loophole, hundreds of private cannabis clubs have sprung up; these clubs must be non-profit and only serve adults. In part, because of their cannabis clubs, Spain is becoming a popular cannabis tourist destination. Italy was slow to engage in the conversation about cannabis, but in an interesting twist, they have involved their military in the growth of medical cannabis. They want to stop the flow of cannabis from other nations and focus on growing high-CBD plants versus plants high in THC. Holland allows for consumption of cannabis and hash (which is concentrated, pasty, high-THC cannabis) in "coffee shops" and currently possession of 5 grams or under has been decriminalized. This system has been in place since the '70s, but recently there has been a crackdown on public consumption (especially involving tourists) in border cities, such as Hague. Offenders are subject to a fine. It will also come as no surprise that some of the most knowledgeable underground growers have set up shop in Holland and some of the best seeds and cuttings are available here. This has happened because, strangely, although consumption is acknowledged and tolerated, it is technically illegal to grow cannabis in Holland. This is called their "backdoor problem"; some local mayors have allowed and encouraged small grow operations to supply product to "coffee shops." On a national level, there is pending legislation to allow for growers, but it is likely to take years before it passes. Portugal has taken the novel approach of decriminalizing all drugs and they treat drug use as a medical/health issue and not a crime. If anyone is caught with a 10-day supply of any drug (or less), they are referred to a treatment team who determines whether the user should go to treatment. The treatment team is composed of three people, namely a social worker, a psychiatrist, and an attorney. This small group, in consultation with the user, decides on small fines or free treatment options. Many users are simply fined and sent on their way. The UK currently prohibits the use, growing, sale, or possession of cannabis. Law enforcement has leeway to issue a warning—generally if the user has 1 ounce or less—but if larger amounts are involved, fines and prison sentences are common. On the medical front, the UK is receiving pressure from patients, such as those afflicted with epilepsy, to be allowed to use cannabis. These grassroot pleas are being taken seriously, so we'll see if the UK changes policies regarding medical cannabis. Eastern Bloc Most countries in the Eastern Bloc have been slow to allow medical or recreational cannabis, though citizen's groups in favor of allowing medical marijuana are gaining traction. However, the Czech Republic and Poland now allow for the use of medical cannabis (but in the Czech Republic, cannabis is expensive and often has to be imported). On a more progressive note, Croatia and Macedonia have recently allowed cannabis for therapeutic uses and product is available in pharmacies. Serbia and Slovenia have recently legalized select cannabis products as well. The Caribbean The use and possession of cannabis in Puerto Rico and the U.S. Virgin Islands remains illegal (although in the Virgin Islands, possession of up to 1 ounce is decriminalized). In Jamaica, many visitors are surprised to learn that cannabis—though a major part of Jamaican culture and the Rastafarian religion—is technically illegal (but in practical terms, possession of small amounts is overlooked or taken care of with an official or "unofficial" fine). It is also likely that Jamaica and surrounding nations with strong tourist economies will legalize cannabis soon, as they are eyeing cannabis tourism to kick-start their economy. Other more conservative Caribbean nations, including Cuba, Barbados, and Dominica, simply consider cannabis to be illegal. Australia/New Zealand Australia has one of the highest rates of cannabis use in the world. It is estimated that over a third of adults 21 and older have used cannabis; Australia's native population has even higher use rates. In 2016, medical cannabis was legalized, and there is great momentum to legalize and regulate recreational cannabis as well; this movement is spearheaded by a large number of Australian cannabist activist groups. Individual states and territories enact and enforce their own unique regulations, which are largely focused on rendering small fines and recommending treatment options or simply taking a "live and let live" approach. In New Zealand only synthetic cannabis formulated with THC and CBD by an approved pharmaceutical company is allowed for medical patients. But New Zealanders overwhelmingly support legalizing cannabis for adults and major change is expected in the short term. Asia Asia continues to have strict, even draconian, laws regarding cannabis. Except for Cambodia (where cannabis is becoming more and more popular with their youth to the point where it is consumed publicly) and India (where deep cultural traditions of various methods of consumption, such as the revered drink byang), enforcement of existing laws has become nearly impossible and certainly impractical. Africa South Africa is one of the largest cannabis growers in the world because the climate is well-suited to the plant. Only recently have South African government studies been commissioned to determine if cannabis should be partially legalized for medical issues. An important personal possession case in the courts was filed in March 2017, which could pave the way for private, personal use. The case was upheld, but still needs confirmed by the Constitutional Court and then an additional 24 months must pass in order for Parliament to enact legislation; but it looks like change is imminent. Other African nations have declared cannabis illegal, but some don't truly pursue enforcement. However, a few interesting developments include: Lesotho, which borders South Africa, has long been a major grower and clandestine exporter to South Africa, but the government is looking to legitimize and regulate growers. In Morocco, cannabis remains illegal, but because such a large amount of hash is produced there, the government is exploring legalization and turns a blind eye to growing and modest consumption. Malawi's three main exports are fish, tea, and cannabis (also known as chamba) and the government takes a largely hands-off approach. A world-renowned high-sativa strain called Malawi Gold originates here and has become so popular that underground cannabis tourism is growing. In addition, Malawi is embarking on a pilot hemp-growing program. Ghana boasts a large number of users and public support for legalization, but governmental and religious agencies are offering stiff opposition. Swaziland has commissioned a government agency to study legalization. This has happened several times before, so it is uncertain if any changes will occur. Antarctica Antarctica technically