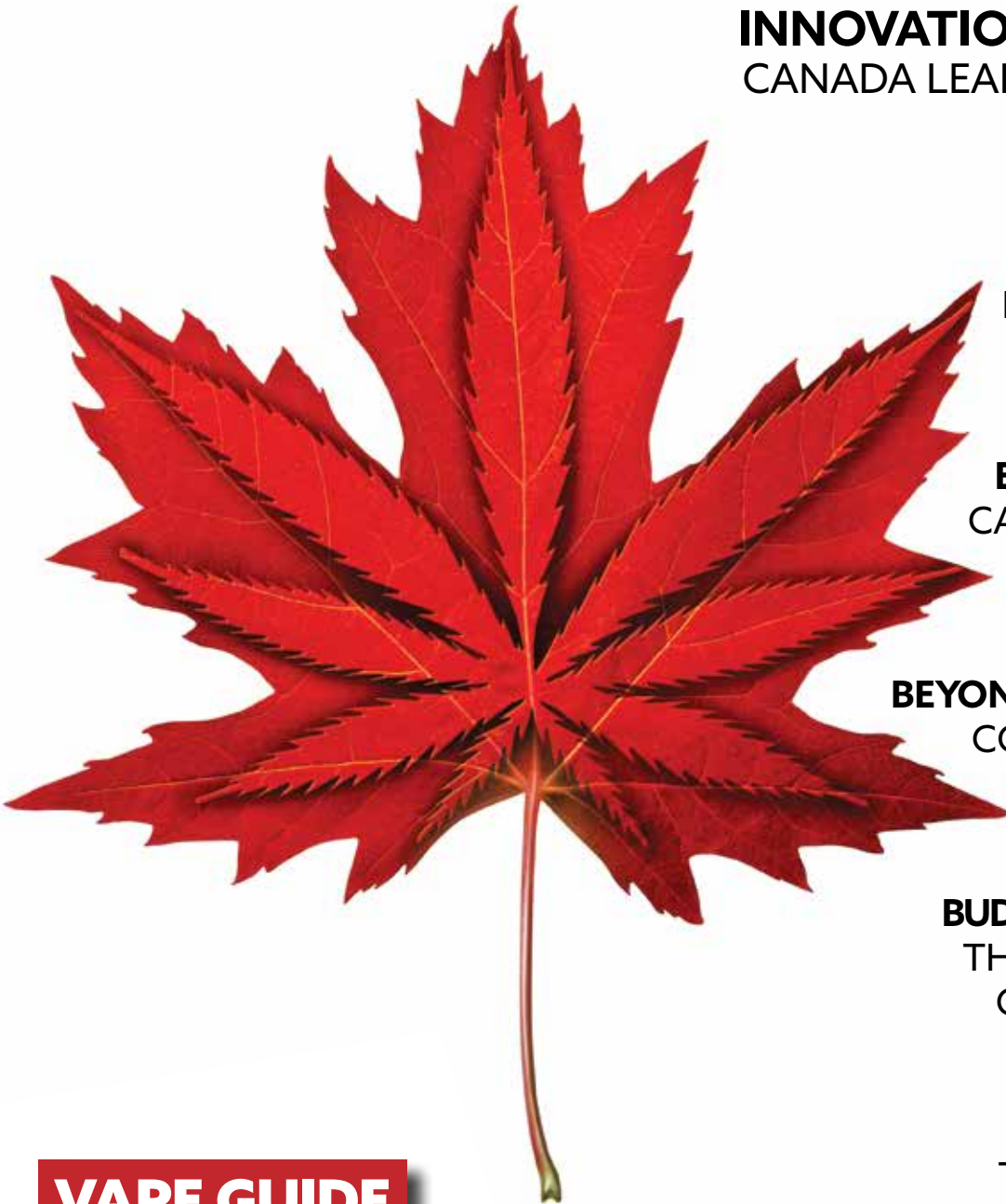


INAUGURAL ISSUE

CANNADA BLEND

CANNABIS 3.0 INNOVATION NATION CANADA LEADS THE PACK



FROM **STIGMA**
TO **HEALING**

ENDO - WHAT?
CANNABINOIDS
AND YOU

BEYOND BROWNIES
COOKING WITH
CANNABIS

BUDDING SCIENCE
THE LOWDOWN
ON CANNABIS

CRAFTING
THE ULTIMATE
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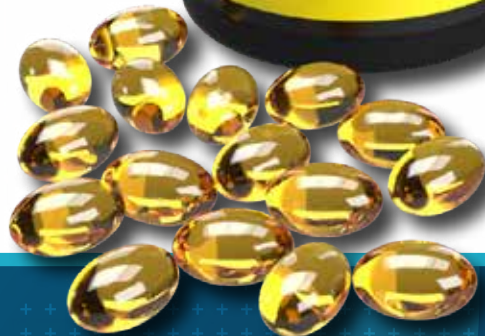
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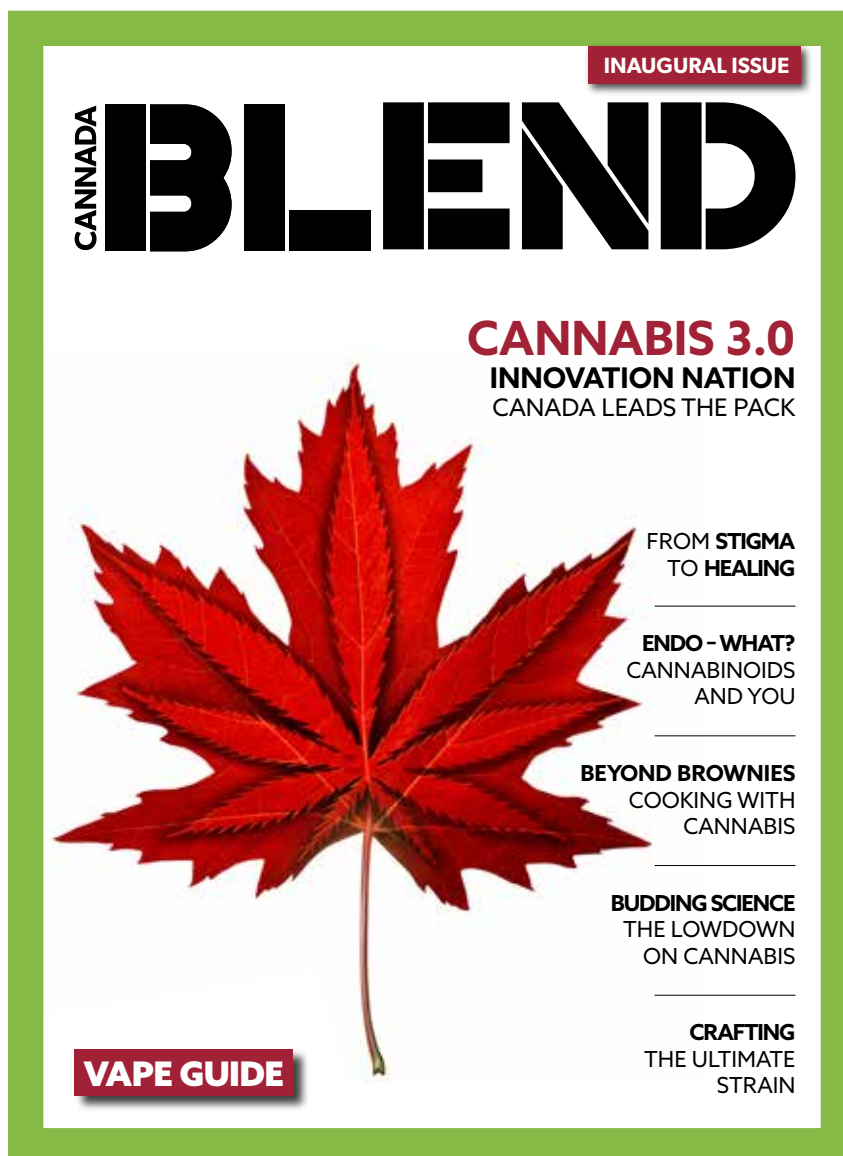
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Your endocannabinoid system is alive and well in your body even if you never consume cannabis. But what happens when you do?

By Julie Lawrence

WELCOME TO CANNADA BLEND

Whether you are brand new to the world of cannabis or an expert on all things green, we hope you'll find this magazine helpful.

The cannabis landscape can be confusing – vapes, oils, edibles – even for the most advanced cannabis enthusiasts. All the accessories and products coupled with the evolving legal framework makes navigating the world of cannabis tricky.

We'll outline the history of cannabis use and review legislation in Canada, from legalization to now, and focus in on trends for the near future. We'll break down how CBD and THC interact with your body's natural systems. We'll help you understand the craft cannabis sector and where your pot is coming from.

You'll get information on cannabis culture, science, innovation and products.

Our goal is to empower you to make the best decisions about cannabis and you, by providing relevant and timely information.

We believe that education is power. In these pages, we hope you will find everything you need to carve your own unique cannabis path. 🌱

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CANNABIS IN CANADA

WHAT YOU NEED TO KNOW

The *Cannabis Act* is designed to better protect the health and safety of Canadians, to keep cannabis out of the hands of youth, and to keep profits out of the hands of criminals and organized crime.

- To buy, possess or use cannabis and cannabis products, **you must be of legal age** (depending on your province or territory).
- The *Cannabis Act* includes **strict penalties** for selling or providing cannabis and cannabis products to youth under the legal age.
- You can possess **up to 30 grams** of legal dried cannabis, or equivalent in non-dried form, in public.

- **Legal cannabis products** (except products with less than 0.3% THC or no THC) have an **excise stamp** on the package in different colours for each province and territory.
- **It's illegal to take cannabis and cannabis products, including those with CBD, across the Canadian border**, whether you're leaving or coming to Canada. This applies to all countries, whether cannabis is legal there or not.
- In late 2019, **edible cannabis, cannabis extracts and cannabis topicals became available for legal purchase**. These products will be in addition to cannabis products already

available for purchase, such as dried cannabis and cannabis oil.

- If you choose to use cannabis, **know the health effects** and how to lower the risks to your health and safety. Like alcohol and tobacco, cannabis has risks, especially for youth and young adults.
- It can take up to **two hours** to begin to feel the effects of cannabis that you eat or drink, and up to **four hours** to feel the full effects, unlike the effects of smoking or vaping cannabis, which can be felt within minutes. Cannabis affects everyone differently. Even if its effects are delayed, you can still be impaired.
- **Don't drive high or work impaired**. Cannabis can impair your ability to operate vehicles or equipment safely. Driving while impaired by cannabis or any other drug is a serious criminal offence.
- If you possess cannabis, **store it away** from children, youth and pets. Be especially careful with edible cannabis, which can be mistaken for regular food or drink.
- Under the *Cannabis Act*, access to **cannabis for medical purposes** continues to be provided to those who are authorized by their healthcare practitioner. 🌿

To learn more about the *Cannabis Act* and the health effects of cannabis, visit: Canada.ca/Cannabis or call 1-800-O-Canada.

THE BUZZ

Check out what's new and cool in the world of cannabis.

BE A CANNABIS FOOD STAR



TV SHOWS

Cooking shows like *Bong Appetit* are bringing cooking with cannabis into the mainstream by demonstrating how to bring people together with cannabis-infused meals.

Netflix is getting in on the game with *Cooked with Cannabis*. Aimed at people that just want to have a good time, it takes a multicourse menu, adds a competitive element and a little instruction, and puts a clock on it.

COOKING CLASSES

The Toronto based *Cannabis Cooking Company* offers step-by-step classes to create chef-certified recipes. Participants are required to bring their own legal cannabis. Topics include the history of cannabis, decarboxylation, infusion, responsible dosing and even how to pair cannabis for your next dinner party.

CULINARY CERTIFICATION

It turns consumers into producers. Lots of people know how to cook with marijuana, and the certification gives these individuals a way to profit from their expertise. Cannabis is an unpredictable ingredient—its effects that vary from person to person. Eating THC and CBD create different experiences than smoking it.

Graduates of the certification have opportunities to work as private chefs at events, such as the one hosted by Hunter S. Thompson's widow in Colorado, prepared by Chris Lanter (the chef at Aspen's upscale *Cache Cache*).

THE PERFECT PAIRING

What's a great meal without the perfect glass of wine to match?

Not a drinker? Not a problem. No need to feel left out with a seltzer or diet Coke in hand while everyone else has stemmed glasses.

Viv & Oak is a brand whose goal is to provide the element of "luxury and social conviviality" for people who don't drink alcohol. Their target market is women between 35 and 65 years old.

Cannabis wine also gives you a high without the hangover.

EXPERIENCE ITALIAN DESSERTS FROM THE COMFORT OF HOME

Bitten by the travel bug but the pandemic has you grounded? Online and virtual travel tours can let you experience iconic sights, but now companies out of California are upping their game by creating cannabis-infused desserts inspired by classic Italian delicacies. 📍



IN THE SPOTLIGHT

LAUGH OUT LOUD

Houseplant, the cannabis brand co-founded by Evan Goldberg and the comedian, writer, and director Seth Rogen, in partnership with Canopy Growth Corporation, has introduced new product lines: pre-rolled joints and softgel capsules. The brand is now available in some Canadian provinces through select retailers.

SOURCE: *Forbes*



SNOOP DOGG APPROVES SEEDO

If Snoop Dogg likes it, it must be good.

The Seedo looks like a high-tech mini fridge. It has an automated growing process; everything from dosing and lighting, to mineral and oxygen enhancement is calculated for you. All you have to do is pick out your seeds.



TRAILER PARK BOYS

Trailer park boys does have a brand available for sale in Canada. It's called buds and is around most provinces. Last summer they had to rebrand their entire product line including a package recall after Health Canada told them the brand was in violation of the Cannabis Act. Used to be called Trailer Park Buds.

As well as the weed, Canadians can purchase branded paraphernalia like bong, rolling papers, and grinders.



**CANNABIS HAS
BEEN LEGAL FOR
PERSONAL USE
IN ALASKA SINCE
1975.**

**MORE THAN 200
SLANG TERMS
EXIST FOR
CANNABIS.**

TIME TO GET BEAUTIFUL

CANNABIS AND SKIN CARE

Cannabinoids are a group of active chemical compounds that stimulate balance and help the body to regenerate itself. They can be used safely in skincare because they don't produce a high.

Cannabinoids are used on common issues like dry skin and cold sores, as well as acne because it can help balance out the oil production in your skin. There are also antiviral and antibacterial benefits in cannabinoids.



BUSINESS NEWS

TWEED

The first licensed cannabis company in North America to be publicly traded and legally export cannabis. The *Tweed Visitor Centre* in Smith Falls, Ontario is a public education space. And if the weed won't draw you, the centre is housed in an abandoned Hersey's chocolate factory! *Hummingbird Chocolate* moved into the space to create Tweed's choc edibles.



THE SECOND CUP

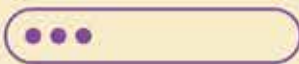
Coffee Chain Second Cup has partnered with National Access Cannabis Corp. (NAC) to develop and operate a network of recreational marijuana dispensaries across the country. Some Second Cup locations have been converted into coffee and cannabis shops to deliver "secure, safe and responsible access."



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BUDDING SCIENCE

The scientific lowdown on the cannabis plant, its origins and uses.

BY SARA ERICSSON

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The cannabis leaf, whether emblazoned onto jewelry, clothing, health guidelines or otherwise, has permeated our culture. Scientific research on the plant goes back more than a century. Since legalization in Canada in 2018, conversations around its benefits have intensified. There is much we know and even more to learn about this plant and its properties. Here is some of the little-known science behind the well-known plant.

ATHLETICS

Cannabis has been found to help professional adult athletes cope with the immense pressures that come with professional sport. Specifically, the 2019 *Athlete Pain, Exercise, and Cannabis Experience (PEACE)* survey found that usage of cannabis helped participating athletes manage physical and psychological pressures like the constant presence of chronic pain, which had been reported at a frequency of 61% before using cannabis. This pain, caused by intense exercise, was immediately reduced, and the athletes' anxiety and stress were also relieved.

This study also showed that cannabis helped these athletes to continue exercising as they managed their chronic pain. Despite long-held assumptions that cannabis makes people lazy, this study found the opposite. Of the cannabis-using athletes who participated in the *PEACE* study, 63% exercised five to seven days per week despite previously struggling with chronic pain.

Athletes can also consider cannabis as a natural antidote to muscle stiffness. The *PEACE* study found that cannabis naturally reduces spasticity, or muscle tightness.

SELF-CARE

Do you have oily or irritated skin? According to Ana Gotter (*Healthline 2019*), hemp oil products could be the way to go in remedying these issues, as this oil, made from hemp seeds, has been found to moderate oil production and smooth out irritation. Hemp oil can also be a potential solution for anyone concerned about wrinkles, as it's also been found to reduce fine lines and prevent other age signs from developing.

This same oil has also been found to help protect hair from damage. While limited research is available, proponents of materials like coconut oil — which coats hair and prevents damage — say hemp oil can help hair in the same way, according to Scott Frothingham (*Healthline 2019*). Hemp also contains both omega-3 and omega-6 fatty acids, which have also been found to promote hair health when taken orally.

CANNABIS IN NATURE

The bioactive substances in cannabis — Tetrahydrocannabinol (THC) and Cannabidiol (CBD) — appear to have been created through a viral fluke. A study reported in *Science Daily* (2019)



ATHLETICS

Cannabis has been found to help professional adult athletes cope with the immense pressures that come with professional sport.



SELF-CARE

Hemp oil has been found to moderate oil production and smooth out irritation in skin.



CANNABIS INDICA

Indica-dominant strains are shorter plants, with darker-green and broader leaves.



CANNABIS SATIVA

Sativa plants are taller, with thinner and paler leaves.

that these compounds were created when the plant's genome, or its genetic information, was taken over by ancient viruses, whose viral DNA copied and attached themselves to the plant's set of genes to create what we now know as THC and CBD. This virus also helped hemp and cannabis evolve into separate plant strains.

There are physical differences between the two main subspecies of the cannabis plant, *Cannabis indica* and *Cannabis sativa*, names which users may recognize as different strains of cannabis that can have different psychological effects. Indica-dominant strains are shorter plants, with darker-green, broader leaves and contain higher amounts of CBD, whereas sativa plants are taller, with thinner and paler leaves and a higher THC concentration.

SLEEP

Do you have nightmares that just won't go away? Cannabis can help, whether those nightmares are based on real life or not. A study on medical cannabis and mental health reported in *Clinical Psychology Review* (2011) found that cannabis can help reduce nightmares or night terrors, including PTSD-related symptoms for anyone reliving past traumas in their dreams.

Check with your doctor before using cannabis to reduce any nightmares you experience.

DIGESTION

Having a hard time with digestion? Researchers at the University of Massachusetts Medical School and the University of Bath in England performed experiments on mice and human cells and found that cannabinoids mimic a compound found in our bodies that reduces inflammation, and that the use of cannabis can help with inflammatory bowel disease (IBD).

MENSTRUAL CRAMPS

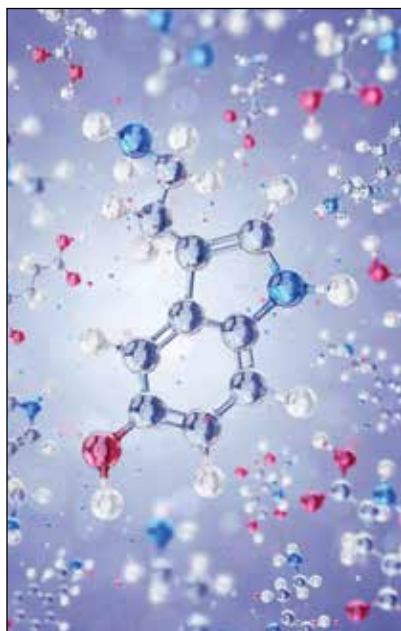
You're not alone if menstrual cramps make you cranky. These symptoms may be related to low levels of hormone prostaglandin E1 (PGE1). As hemp oil contains the gamma linolenic acid (GLA) that assists in the production of PGE1, it can help reduce these symptoms, according to a study reported in *Reproductive Health*.

MOTION SICKNESS

Does a car ride or time spent on the water make you nauseous? Both THC and CBD have been found to decrease vomiting and other nausea symptoms, so making some snacks with cannabutter — cannabis-infused-butter — to bring along can help ease nausea in these situations, according to Katey Davidson, writing in (*Healthline*, 2019). One thing to keep in mind: watch your dosage, and let someone else drive. Do not operate any vehicle, whether on the land or water, while impaired.

FOOD, APPETITE AND NUTRITION

More people than ever are looking for ways to control their blood sugar levels, whether they live with diabetes or not. Since a milestone study published in the *American Journal of Medicine* in 2013 the evidence has been building that cannabis compounds may help control blood sugar, reduce body mass index (BMI) measurements, and promote improved carbohydrate metabolism. 🌱



Always consult with a medical professional and any other relevant professionals before use of cannabis or any cannabis-related product that may impact your health.

Sara Ericsson, award-winning journalist and writer—writes stories that aim to connect local experience with larger world context, showing that this world is indeed a small one after all.



Cannabis is believed to originate in India, in a region north of the Himalaya mountain range.

Beyond THC, there are more than 100 different chemicals within the cannabis plant that are classified as cannabinoids. The most famous, of course, is THC.



Research has also established that usage of hemp fibres in textile creation became so popular that by 4,000 B.C., it had spread through trade to different parts of the globe.



Hemp is more environmentally friendly than fellow fibres like cotton, which producers cultivate with the aid of large quantities of pesticides and fertilizers. Because hemp is a weed, it doesn't require the same level of chemicals to cultivate. It can be grown simply by scattering seeds across the ground.

Items made from hemp are nothing new. An archeological excavation in Taiwan uncovered 10,000-year-old pottery fragments with an imprint of a twisted rope around their edges, which researchers have suggested could have been made from twisting a hemp rope around the pot's edges before its clay had dried.

Your personalized cannabis Journey

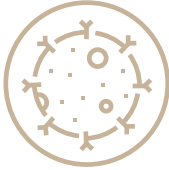
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Myrcene, Terpenolene,
Linalool



EndoMind 1:1
Linalool, Limonene
EndoMind CBD
Linalool, Limonene



EndoAttentive CBD
Pinene, Terpenolene,
Eucalyptol



EndoZen CBD
Linalool, Beta Carophyllene,
Pinene



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MY NOT-SO-SECRET: I'M ALWAYS A LITTLE BIT HIGH

Beyond stigma – how cannabis became the catalyst for profound healing and a dream job.

BY ASHLEY KEENAN

As long as I live, I will never forget the first time I got way too stoned. My heart was pounding, I was sweating profusely, and it felt like the walls of that tiny Toronto comic book store were closing in. Convinced I was having a heart attack, my husband joked that maybe I would be the first person ever to die from too much weed. That did not help – at all.

Too much of a good thing is not always a good thing. Of course, I was never in any danger but that’s the thing about being too high – it really feels like you are. Ingesting cannabis can be tricky and I had just become a patient, learning as I went how the plant affected my body. Patients aren’t exactly given a how-to when they start medical cannabis. It’s mostly trial and error.

I am a cannabis patient in Canada. For me, that means taking cannabinoids like THC and CBD on a daily basis to treat medical conditions. I use dried flower, extracts, oils, dissolvable powders, topicals, and edibles made from cannabis on a regular basis. Just like any other medication, my cannabis is doctor prescribed.

WHAT KIND OF ADULT OWNS A BONG?

The last thing I expected in my early thirties, as I was starting my second career, was to be unemployed and using cannabis daily. You are certainly not alone if that conjures a stereotypical

“

NOTHING QUITE PREPARES YOU FOR THAT MOMENT WHEN YOU REALIZE THAT YOU WILL NEVER HAVE A NORMAL LIFE.

”

“stoner” type in your mind’s eye. After a health crisis in 2015, years before recreational cannabis legalization, I pursued a medical marijuana authorization.

Nothing quite prepares you for that moment when you realize that you will never have a normal life. A decade of chronic health

issues mixed with a lifetime of an undiagnosed genetic disorder had rendered me disabled. Imagine having the debilitating pain and fatigue of the flu, only for years at a time. Conventional treatments had failed and I was unable to perform even the simplest tasks, let alone work a full-time job.



Cannabis has helped me to deal with my health concerns.



I am passionate about the industry.

The choice to pursue this line of treatment wasn't an easy one. I could accept being sick for the rest of my life, but what I couldn't accept was this barely functional version of myself I had become. In order to become a cannabis patient, I had to navigate a minefield of stigma and misinformation, as well as personal bias, about what kind of grown adult smokes weed. Despite being legally accessible to those with chronic health issues and disabilities for over a decade, medical cannabis was, and remains, highly stigmatized.

The science confused me but the real struggle was internal. Caught up in the perceived morality around cannabis, I had been taught that the only people who used the "devil's lettuce" were unmotivated and unproductive – lost individuals. I hid my prescription at first, medicating in secret, filled with guilt and shame, despite having the green light from my doctor.

The feeling was familiar to me, reminiscent of my early 20's when I started needing daily pharmaceuticals for an autoimmune disease. There was an



inherent shame around needing medication and being sick, regardless if that medication is plants or pills.

My road to medical cannabis was fairly easy, which is not the case for many patients. My doctor was on board, deeming it a smart decision and relieved that I wanted to avoid the opioids route. At first I feared my improvement was a placebo effect. As time passed, I needed less and less of my pharmaceutical medications, and with their lower doses came more mobility and a greater sense of personal control over my health.

Medical cannabis is often treated more like a punchline than a legitimate therapeutic treatment, conjuring the image of a burnout puffing on a joint while insisting "it's medicinal," as his buddies laugh. In reality, cannabis patients are just as diverse as the plant itself. While treatment for certain illnesses like cancer is widely accepted, there is a diverse array of conditions patients use cannabis for.

Medical use is authorized for a variety of reasons, including

chronic pain, insomnia, seizures, muscle spasms, inflammation, and regulating mood. There are mounting clinical studies, observational data, and compelling stories around the healing properties of cannabis. We have only scratched the surface in terms of research, as scientists continue to find new cannabinoids and their medicinal properties.

WHEN LIFE GIVES YOU LEMONS, YOU MAKE INFUSED LEMONADE.

Not only did cannabinoid treatment drastically improve my health, but it also allowed me to turn a “home hustle” into a full-time career when I was too sick to work a conventional job. I have worked in the cannabis industry as a journalist, consultant, and patient advocate for just over two years now. As a solopreneur, I get to do what I love, support myself financially, and manage the dynamic demands of my health.

Cannabis isn't regulated like any other medicine in Canada. You can't simply get a prescription from your doctor and take it to your pharmacy. Patients have to seek out a doctor that authorizes medical cannabis, submit that authorization to a license holder, and then order their products online for mail delivery. The onus is on the patients to educate themselves on where to find a doctor, which places to order from, and even what products to buy.



My quality of life is much improved.

For many, the road to medical cannabis is not linear. Pursuing cannabinoid treatment can be a costly and difficult expenditure for people already struggling with health issues. Unlike other medications, medical cannabis is taxed provincially and federally. Employee health benefits largely do not cover it; neither do social assistance programs that aid with other prescriptions. These barriers, and others, lead to a lack of clinical research and physician support. Cannabis is still a last resort in medicine, considered only once other treatments have failed.

Frankly, it shouldn't be this hard. The path to this medicine is riddled with issues of access, affordability, and regulations that

vary by province. That is why medical cannabis reform and patient advocacy are so important to me – and why I built my career around them.

My cannabis journey isn't a unique one, but that doesn't make it any less transformative. Like so many other patients with a disability or chronic illness, I found that medical cannabis gave me back my life. Some people ask me what my secret is and I tell them: the not-so secret is, I'm always a little bit high. 🌿

Ashley Keenan is a journalist, consultant, and patient advocate in the cannabis industry. Ashley uses her way with words to normalize cannabis and chronic illness through science and storytelling.



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THC
RANGE
20%-26%

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JUSTICE FOR ALL?

Yes, Canada has become an international leader in cannabis legislation. Its long history reflects the generations during which it evolved. While much has been attained, some of the prejudices of earlier days remain to be addressed.

BY HARRISON JORDAN



© SHUTTERSTOCK / EVERETT COLLECTION

The twentieth century was an era of protests: Women Suffragettes in 1920.

Emily Murphy is best known as one of the five Albertans who sparked a successful legal quest to obtain equal rights for women as “persons” in 1929. Murphy went on to become Canada’s first female judge and a figure celebrated in Canadian political circles. You can now find her memorialized as a statue on Parliament Hill.

Yet Murphy had another, lesser-known legacy on Canadian public policy. Her 1922 book *The Black Candle* included a sensational and, frankly, delirious thesis on drug importation and consumption, pinning the “problem” of its emergence on young men whose skin colour she didn’t share.

According to Murphy, men of colour (whose origins were African, Chinese, Middle-Eastern, and Greek) formed a transglobal drug-pushing conspiracy. Called “The Ring,” it hatched a plan to “corrupt the ‘purity’ of the white race.”

The Ring’s purported goal was to use drugs to penetrate the white race and produce a global drug crisis. For instance, Murphy pointed to a young woman who was allegedly paid a \$25 commission by the group for every person she was able to lure into drug use. Murphy detailed the supposed emerging drug habits of some white citizens as evidence of The Ring, and also suggested that drug peddlers face deportation.

The impacts of a relatively benign drug like cannabis were



Cannabis was part of the hip culture of the 1960's.

demonized. Murphy even quoted an American chief of police as claiming “persons using this narcotic, smoke the dried leaves of the (hemp) plant, which has the effect of driving them completely insane.”

Seems a bit crazy, right?

“THERE APPEARS TO BE A NEW DRUG.”

Perhaps in part due to Murphy’s influential book – though recent research suggests that Canadian government officials paid her little attention but did attend many international conventions – cannabis was sneaked in through an amendment to the anti-narcotics law. When it was added prior to third and final reading of the Act, the Speaker merely stated “there appears to be a new drug in the schedule.”

Still, authorities barely enforced the cannabis legislation of the 1920s; the first known cannabis charge in the nation didn’t come until 1937. There were fewer than 100 charges every year up until 1966, when enforcement ramped up. While the law had imposed the possibility of seven years’ imprisonment for those caught possessing cannabis, arrests and charges were rare.

Enforcement began to heat up in the 1960’s, when the counter-culture lifestyle began to form. Marijuana was common in particular circles, such as in Toronto’s Yorkville where cannabis smoke could often be smelled on sidewalks and on balconies.

In 1961, the federal government tried to nip the practice in the bud with an updated drug control law called the Narcotics Control

Canadian panel urges legalized marijuana

OTTAWA (AP) — A majority report by a Canadian inquiry into nonmedical drug use yesterday recommended legalization of simple possession of marijuana or hashish.

Three of the five commissioners, including Chairman Gerald Le Dain, recommended to Parliament repeal of the present prohibition against possession of cannabis, a term for marijuana or hashish.

Two others differed. Marie-Andree Bertrand, an associate professor of criminology at the University of Montreal, recommended a system of legal distribution comparable to the way alcohol now is sold.

Ian L. Campbell, dean of arts at Sir George Williams University, Montreal, recommended that possession of marijuana or hashish still be prohibited, with fines of \$25 for first offenders and \$100 for repeaters.

The Courier-Journal, Thursday, May 18, 1972.

Act, which raised the penalty for particular criminal activities from 14 years to life. More worryingly, it lumped marijuana in with heroin and other hard drugs — as “narcotics” — and increased penalties.

If any individual was undeterred by these laws, it was Robert Rowbotham. In 1968, as a

17-year-old living in Belleville Ontario, he was arrested for trafficking marijuana and spent 30 days in jail.

Shortly after he was released, he ran away to the newly formed Rochdale College in Toronto, a property with a rich counter-culture story in its own right. It was home to a “free school”

where students and teachers took drugs and discussed literature and philosophy. Rowbotham enjoyed the camaraderie of the scene, where everyone considered themselves “hippies” — and yes, there was a ton of pot being sold.

Meanwhile, in 1969 Pierre Trudeau’s Liberals decided to take the federal government’s first serious look at the harsh drug laws, establishing the Commission of Inquiry into the Non-Medical Use of Drugs, also referred to as the Le Dain Commission. Wrapping up in 1972, it suggested decriminalization of all narcotics: no jail time as well as a maximum fine of \$100 for simple possession of a drug. This recommendation was declined by Trudeau; in fact, his government never actually passed any legislation liberalizing cannabis laws.

Back at Rochdale, the environment around the building was starting to turn rough, the habitat of bikers as well as hippies. Rowbotham had become a big seller of cannabis. The unsavoury folks didn’t bother him and he continued to harbour a reputation as an honest guy with good product.

Then, in 1974, “Rosie,” as he was known, was charged with conspiracy to import and distribute a ton of hash. The prosecution sought life. He was eventually sentenced to 14 years. As far as I know, that’s the longest sentence someone has received for a pure cannabis offence.

MODERN TIMES

It's 2020. Cannabis has been legalized, the result of the Liberal government's plan to sort through the handful of proposed developments from a decade ago, most featuring minor modification of possession laws and enforcement issues.

Modern cannabis law in Canada can be said to have been kick-started in 2000, when Terry Parker challenged Canada's cannabis possession laws because it didn't allow him to obtain and possess medical cannabis for epilepsy. Parker won, sparking a government-led medical cannabis program that broadened its eligibility requirements after years of court battles.

In 2003, the Chretien Liberal Government presented Bill C-38, which was set to liberalize the laws for cannabis possession. The regulations would have established a graduated system of fines for possession of marijuana under 30 grams and cultivation of one to three plants. It failed to pass, even after being introduced a second time.

Conservative Stephen Harper, elected Prime Minister in 2006, was no fan of cannabis. In fact, during his tenure he amended drug control laws to raise fines and impose required minimums on particular drug-related acts, cannabis included.

In 2013, the Organization of the Chiefs of Police passed a resolution that urged the federal government to allow police officers the discretion to issue

“

...REMOVE MARIJUANA CONSUMPTION AND INCIDENTAL POSSESSION FROM THE CRIMINAL CODE.

”

fines similar to traffic tickets instead of laying criminal charges. Peter McKay, the Conservative Justice Minister at the time, confirmed that the government was considering the proposed change.

Still, the federal government made clear they were not interested in “legalizing” cannabis. That was the only time federal government appeared to be mulling any liberalization of cannabis laws. No surprise, given the anti-cannabis rhetoric of Prime Minister Stephen Harper.

It wasn't until the 2015 federal election that cannabis law reform took centre stage. Contrasting his party with Harper, who was running for his third mandate, Justin Trudeau and his Liberal Party pledged to “remove marijuana consumption and incidental possession from the Criminal Code.”

They would go on to win a majority government, and did in fact implement the proposed law, but the circumspect nature of the promise foreshadowed an imperfect law, which to this day



Medical cannabis is gradually gaining traction in Canada.

© ISTOCK / MADSCI



Politicians are taking a measured approach to cannabis legislation.

includes a number of criminal offences. However, the law did away with Harper's mandatory minimums and also removed simple possession of cannabis.

In fact, the law did not impose a (federal) limit on the amount of cannabis an individual 18 or older could possess at home, as long as it wasn't for an unlawful purpose such as distributing or selling. However, the law criminalized public possession of more than 30 grams of dried cannabis or its equivalent, as well as the possession of illicit cannabis in any amount.

While a ticketing regime now allows police to ticket individuals

for possession of up to 50 grams, instead of laying criminal charges, they can still charge individuals with possessing as little as a single gram. While it's extremely unusual, the cops can do it, and I have seen it happen once under the new cannabis law. (Selling any amount of cannabis can net you a maximum of 14 years. Remember that number?)

On the bright side, Canada has pioneered a burgeoning cannabis production market, with over 500 federally licensed cannabis manufacturers and medical marijuana sellers throughout the country.

ERRORS OF THE PAST

There's always more to the tale. In this case, I haven't touched on the rich history of medical growers and the attorneys who fought arbitrary restrictions on access to medical cannabis imposed by Health Canada that date from the days before Terry Parker won his lawsuit. And they need to be celebrated for what they've pushed hard for.

But I can't stop thinking about Murphy's insidious take on cannabis, whether or not she was a driving force in making the substance illegal in the country. It is evident to me, however, that racism continues in a more



University students deserve informed guidance on cannabis issues.

"I think we need to make an effort to strive for racial justice in this industry. At the very least the legal cannabis industry in Canada and its executive leadership should reflect the diversity of Canadian society."

modern guise. I look around the legal cannabis sector in Canada and observe a sea of white faces.

I recently proposed 10 amendments to the federal Cannabis Act and Regulations that I believe would ensure a more widespread adoption of the legal market by cannabis consumers. These include removing the 30 gram public possession and purchase limit on sealed and stamped cannabis products; increasing the potency limit on edibles; and allowing the sale of "moonrocks," popular products on the illicit market consisting of buds or joints that contain both dried cannabis and cannabis extract.

But there's one need I didn't mention in those recommendations. I think we need to make an effort to strive for racial justice in this industry. At the very least the legal cannabis industry in Canada and its executive leadership should reflect the diversity of Canadian

society. Is that too much to ask?

Health Canada operates a "Navigator" Program that provides assistance to federal cannabis applicants who identify as Indigenous and First Nations. Expanding the program to other communities would only make the legal cannabis industry a more welcoming place.

Emily Murphy no doubt had a lasting and powerful legacy on women's rights, and that should be celebrated, but the government should do everything it can to demonstrate that it is shunning her awful take on cannabis.

The Cannabis Act moved the country forward, but it's time for the government to come full circle and take meaningful steps to douse hate-filled anti-cannabis rhetoric from our country's past. 🌱

Harrison Jordan is a cannabis lawyer and a partner at Alan Aldous, the world's first psychedelics PR firm. The firm also provides digital marketing services to the legal cannabis sector.



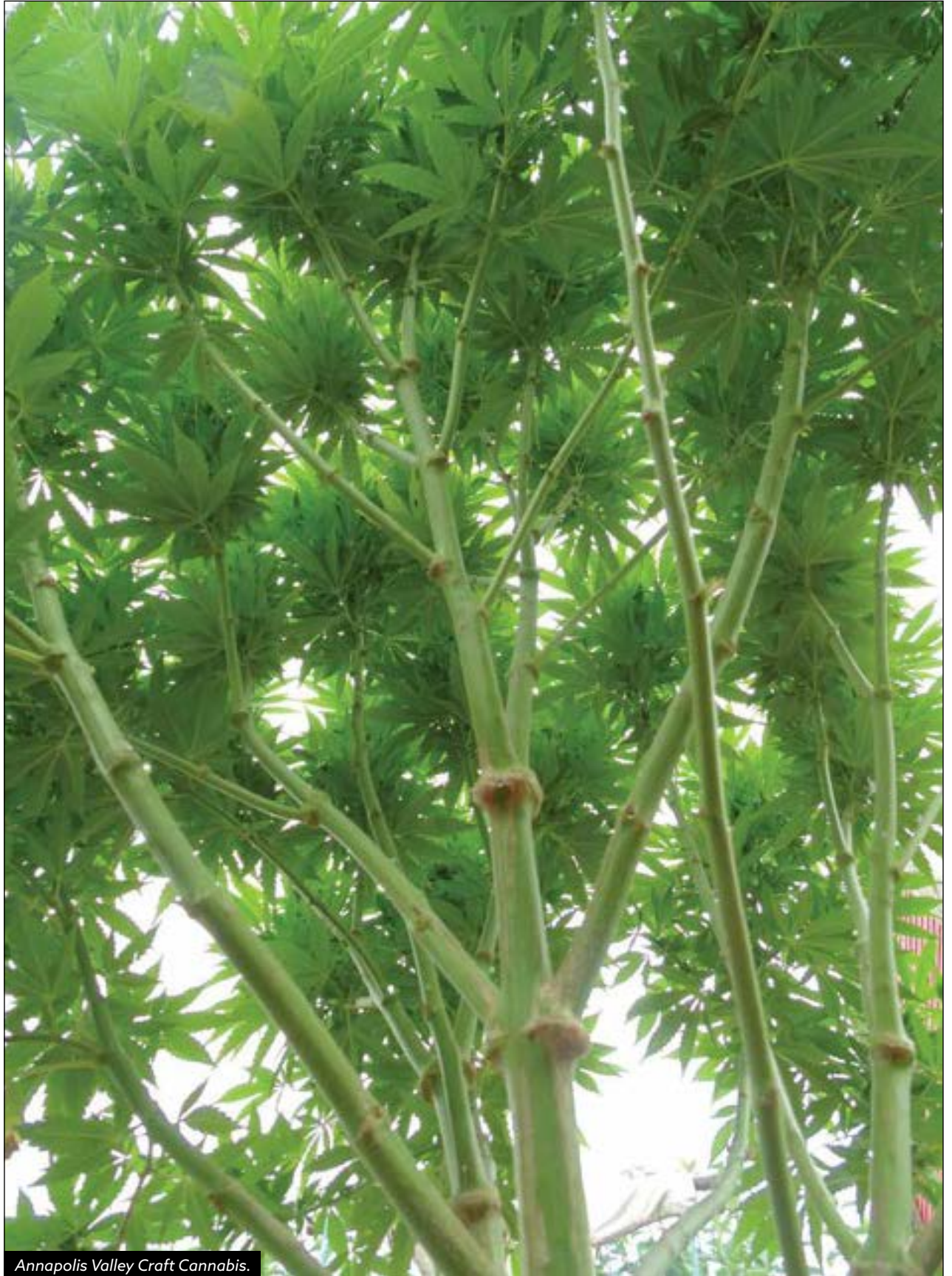


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WARNING: Frequent and prolonged use of cannabis containing THC can contribute to mental health problems over time. Daily or near-daily use increases the risk of dependence and may bring on or worsen disorders related to anxiety and depression.
MISE EN GARDE: La consommation fréquente et prolongée de cannabis contenant du THC peut entraîner des problèmes de santé mentale au fil du temps. L'utilisation quotidienne ou presque quotidienne augmente le risque de dépendance et peut entraîner ou aggraver des troubles liés à l'anxiété et à la dépression.

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Annapolis Valley Craft Cannabis.

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CANADIAN CRAFT CANNABIS IN THE SPOTLIGHT

Consumers are always on the hunt for the best product and according to some growers, craft may be it.

BY EMMA SPEARS

Two years after federal legalization introduced mass-produced cannabis to the Canadian market, craft cannabis is on the rise – with Health Canada issuing an increasing number of micro-licences from coast to coast.

Craft cannabis is weed cultivated by small growers that is produced with quality in mind. Craft cultivators hone their techniques in order to optimize their growing conditions in a manner that larger producers may be unable to replicate – and advocates claim that this, along with the close attention micro-growers are able to invest in each plant, results in a higher-quality, handcrafted product that appeals to budding beginners and cannabis connoisseurs alike.

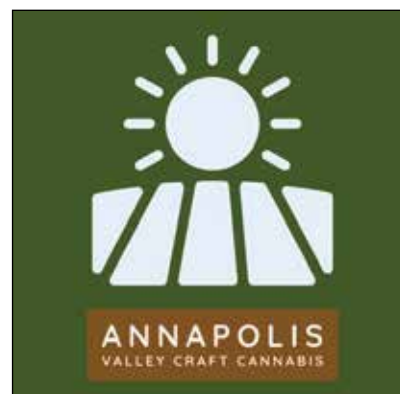
Although B.C.-grown bud seems to hog all the accolades, smaller-scale farmers across the country are producing small crops of quality cannabis that proponents say are distinctive, flavourful, and unlike any of the legal market's current offerings.

In light of the allegations of inconsistent quality, financial mismanagement, and endless PR snafus, many Canadian consumers have grown wary of products from the larger producers that dominated the market in the days immediately following legalization. These clients don't care about slick marketing, celebrity pseudo-endorsements, or shareholder relations – they just want high-quality weed.

And micro-producers are delivering.

Don and Adam Webster of Annapolis Valley Craft Cannabis, located on Nova Scotia's western peninsula, are two such producers. The father-and-son team grows cannabis outdoors on their farm alongside fruit, vegetables, and herbs.

Adam says that the farm's small crop size allows for more flexibility with regards to methods of cultivation compared to big-batch producers, citing their use of exclusively organic fertilizers, compost teas, and the Valley's naturally fertile soil.



ANNAPOLIS VALLEY CRAFT CANNABIS

The father-and-son team grows cannabis outdoors on their farm alongside fruit, vegetables, and herbs.



Annapolis Valley Craft Cannabis.

The downside? It can be challenging to turn a profit off a very small plot of pot. The solution – and the future of the craft industry – may lie in tourism.

But the road to creating that framework is mired in red tape.

Regulations regarding “farm gate” on-site product sales and facility tours drastically vary per province making it difficult for micro-producers to conduct these activities.

Kieley Beaudry, CEO of Parkland Flower in Acheson, Alberta, as well as Founder and President of the Alberta Cannabis Micro License Association, believes that canna-tourism may be on the horizon for Albertans.

“Right now we are working on the Alberta government to put a framework in place to allow for farm gate [sales],” says Beaudry.

“It’s going to require allowing for retail to happen at a licenced facility. So you would basically have two companies – your micro cultivation and then you’d have

your retail store. You would actually have to sell your weed to your retail store. And then you’d be able to sell your weed to consumers,” Beaudry explains.

In Nova Scotia, Adam Webster foresees an eventual evolution of current restrictions, drawing a parallel between craft cannabis producers and the many vineyards that dot the valley surrounding the farm.

“Wineries weren’t allowed to retail here [on the farm] at first, they could only retail through the Nova Scotia liquor commission. But over time, the legislation started to change,” says Adam. “We went from like two wineries 20 years ago to 20 now, maybe 25. There’s been incredible growth and we think it could absolutely be the same thing for micro cannabis. So it’s a logical step,” Adam says. “And I’m very much in favour, of course.”

If legal farmgate sales do become a reality, the possibilities are endless.

Tourists could not only see facilities but participate in trim classes, learn how to cure their

own cannabis, how to grow their own pot plant, sample different cultivars, and learn how certain products are made, or even stay at an adjoining Bud and Breakfast.

And in addition to providing a unique and memorable experience, canna-tourism creates an opportunity for cultivators to educate consumers with regards to consuming safely and maximizing enjoyment of their products.

In the meantime, however, cannabis consumers will likely be purchasing their pot from a more traditional retail setting, meaning consumers should be cognizant of the fact that not all “craft” cannabis is created equal – or is even craft.

A rare lack of regulation surrounding exactly how the term can be applied has led to more than one marketing team playing fast and loose with their labelling in an attempt to cash in on the cachet of craft.

Consumers wanting to sample small-batch cannabis should do their homework before heading

to the dispensary to ensure that the weed they're buying was cultivated by a bona fide micro-producer.

“The word ‘craft’ has been completely bastardised over the last year and a half,” Beaudry laments. “Everybody and their dog is putting ‘craft’ on every product now. It’s just a buzzword. It’s the new ‘premium.’”

Although it may seem like semantics, Beaudry says the overuse of the term could cost micro-producers in the long run.

“It’s kind of like how ‘organic’ products came about years ago. It could end up costing the craft industry to be certified craft.”

But despite the many challenges associated with micro-cultivation, Beaudry and the Websters agree that growing in small batches allows them to provide each individual plant with more attention, and the flexibility to make changes that may not be feasible to a larger grower.

Does that translate to a higher quality product? That’s for the consumer to decide, but Canadian micro-producers are increasingly confident that their products won’t disappoint – and consumers are catching on.

If 2019 was the year of Cannabis 2.0, then 2020 will almost certainly be recalled (by those who care about that sort of thing) as the year craft exploded onto the market.

The importance of creating a more diverse cannabis industry that is more accessible to legacy growers, racial minorities, and other groups that have often been

marginalized by the first wave of legalization – and consumers are becoming increasingly conscious with regards to the ethics surrounding the companies they choose to support and their level of inclusivity.

“Women in particular are really driving the micro space and the craft space, and there are a lot of really great women who are stepping up to the plate,” Beaudry notes. “I think that was lost in the first wave of legalisation.”

In Nova Scotia, Don Webster cites the need for continued advocacy if micro-producers are to survive and thrive in the long-term.

“We should have a craft cannabis association that can fight for some changes in the legislation, both provincially and federally so that we can get these changes in place sooner rather than drawing it out for five or six hundred years. I think that would probably be number one on the list,” he says.

Whether grown on the East or West coast (or anywhere in between), Canadian craft cannabis is on the rise. And if growers’ passion for the plant is any indication, it’s here to stay. 🌿

Emma Spears is a Toronto-born freelance journalist who has written for newspapers, magazines, and digital publications across Canada. She currently resides in Montreal with her poorly-behaved dog, several aquariums, and too many books.



PARKLAND FLOWER

Kieleigh Beaudry, CEO of Parkland Flower, believes that cannabis tourism may be on the horizon for Albertans.

In some provinces, such as Nova Scotia and Quebec, only government-run stores may legally sell cannabis, whereas provinces such as Ontario have adopted a hybrid model.



CANNABIS 3.0

PREPARING FOR THE 'GREEN RUSH'

In the years following legalization, products in Canada have evolved from dried flower to high-tech extractions and infusions. Whether someone is just canna-curious or a seasoned connoisseur, the variety of potential cannabis experiences continues to grow.

BY ASHLEY KEENAN & ANNIE MACEACHERN

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It is hard to believe it's been a little over two years since Canada federally legalized the sale of recreational cannabis. Sure, you're still likely to get the stink-eye from judgmental onlookers. But sparking up is no longer a crime — as long as you're following your provincial and local smoking by-laws, of course.

While we weren't entirely sure what the future would look like, one thing was for certain: Canadians wanted coast to coast access to that legal kush.

Globally, Canada is a leader in legal cannabis. All eyes are on Canada for lessons on legalization, product development, and insight into market trends and the cannabis consumer. Each passing year has brought more access and product innovation.

Walking into a cannabis retail store now can feel a lot like Christmas. Unlike the days of old, customers don't have to accept dried-out baggies filled with seeds and stems. There are countless varieties of dried flower available as well as extracts, edibles, beverages, and the ever popular vape pen.

And we are far from finished. The next wave is known as "cannabis 3.0." According to industry experts, we have only tapped the surface of future possibilities. Expect the third year of legalization to bring technological innovation and a host of improvements to cannabis products.

“

WALKING INTO A CANNABIS RETAIL STORE NOW CAN FEEL A LOT LIKE CHRISTMAS. UNLIKE THE DAYS OF OLD, CUSTOMERS DON'T HAVE TO ACCEPT DRIED-OUT BAGGIES FILLED WITH SEEDS AND STEMS.

”

THE PAST — CANNABIS 1.0

In 2018, a combination of private and provincial retailers from coast to coast were preparing for the Canadian "green rush." While Canada was not the first place in the world to legalize the sale of adult use cannabis, it was the first G7 country to take the step.

No one understands the ever-changing product market like cannabis retailers. Since the first year of legalization permitted only the sale of dried cannabis, there was little companies could do to distinguish themselves in the market. Product offerings for retailers were sparse, causing some provinces to ration weekly deliveries.

"The first year of legalization was akin to wandering around in the dark, trying to feel your way through," says Ryan Roch, Director of Alberta-based retailer Lake City Cannabis. "Customers

had some shaky experiences in the first few months: stock stability, quality, and the number one issue — price."

Cannabis in year one was often mediocre at best. For many consumers, one bad experience was all they needed to return to the illicit market. Retail prices were too high to entice new consumers or dissuade customers from illegal dispensaries.

"The first few months of the legal market came with challenges that many of us didn't anticipate," says Andy Palalas, Chief Revenue Officer, High Tide/Canna Cabana. "With such a limited variety of product, and at a level of quality that didn't meet customers' expectations, retailers had to adapt quickly to find their footing. Availability was scarce. There were a few dark months where our number-one product was a nondescript milled flower, because that's all we could get our hands on."



KAYLA BAPTISTE

Community and Key Lead at Tokyo Smoke, Queen W. location, Toronto Ontario.

THE PRESENT — CANNABIS 2.0

The second wave of legalization came the following year. The phrase “cannabis 2.0” is more than just marketing jargon. It refers to the time in 2019 when Health Canada updated the Cannabis Act.

The government purposefully spaced legalization and the release of cannabis extracts and ingestible products. One year post-legalization, a new set of regulations was added to allow producers to develop the product market as we see it today.

Cannabis 2.0 allowed the plant to be extracted, distilled, infused and ultimately turned into new formulations. It brought us edibles, beverages, concentrates, vapes, and pre-rolls.

“It’s night and day – the variety we have now is staggering,” says Palalas. “Prices have normalized, and we’ve seen defined value tiers emerge. The variety was warmly received by both customers and professionals. Consistency and quality have made strides since the first year of legalization.”

With dried flower, new strains and packaging methods for keeping the product fresh have greatly enhanced the quality.

“We’re seeing it getting better all the time, and this has sparked a genuine interest from consumers in trying new strains and brands,” he says.

The sky was the limit – as long as products adhered to Health Canada restrictions.

EMERGING TRENDS: THE CONSCIENTIOUS CONSUMER

There is no one kind of cannabis consumer. They are just as diverse as the products lining the shelves. As products have evolved, so has the average customer. Customers aren’t just looking for the best product, they are also looking for the story behind the green curtain.

Today’s cannabis consumer isn’t content to just take what they can get and not ask questions. In defiance of the stoner stereotype, the modern day cannabis aficionado wants to know how, where, and when their weed was grown.

“More and more people have become aware of how quality happens,” says Palalas. “Is it flash cured? Or given time to cure naturally? Is it hung to dry? Hand trimmed? These questions are becoming more prominent.”

Seed to harvest isn’t just for foodies. Folks want to know what’s in their weed. As beer lovers are fascinated with how craft beer is made, many cannabis consumers want to be in on the behind-the-scenes process.

An informed customer is an empowered consumer. One of the most interesting evolutions since legalization is that of the cannabis user. As people warmed up to cannabis as a legal social lubricant, the conscientious consumer began to emerge.



Finding the right gear: Politicians are taking a measured approach to cannabis legislation.

“People aren’t just looking to get stoned anymore,” says Kayla Baptiste, Community and Key Lead at Tokyo Smoke on Queen W. in Toronto. “Customers want a more nuanced experience and are willing to try different products until they find it.”

This can mean learning to speak a new language. For those new to cannabis, terms like THC, CBD, terpenes, and cannabinoid may be unfamiliar. Customers find themselves navigating a market where it is hard to distinguish brands, and even unaware of the right questions to ask.

“Our core strategy is to provide consumers with a differentiation between products and brands,” says Palalas. “We want to see clearer positioning so we can

empower the consumer with the proper knowledge and detail surrounding those benefits.”

Customers in cannabis 1.0 weren’t as engaged as they are now. According to our retail experts, today’s cannabis consumer wants to be educated. In the early days customers were only curious about THC potency. Now consumers are learning the terminology and which cannabis product does what.

Still, THC still is the number one ask from customers. “Terpenes have also become far more of interest, but still, those have no comparison to THC potency,” says Roch.

Baptiste often has to explain that high THC isn’t the only kind of cannabis. Would you go into the

“People aren’t just looking to get stoned anymore. Customers want a more nuanced experience.”



Canna Cabana Store, Banff Alberta.

store and ask for a product based solely on the percentage of alcohol? As consumers learn and grow, so does demand for more refined experiences.

EDIBLES, TOPICALS, AND BEVERAGES - OH MY!

By far the most revolutionary products of cannabis 2.0 were vapes, topicals, edibles, and beverages.

“As 2.0 kicked off, we quickly

launched vapes and edibles with some of the similar headaches of the experience with flower,” says Roch. “Quality and competition have also levelled out the pricing issues, and most growers have implemented measures to keep things fresh. The knowledge curve at our store alone has been tremendous in accommodating the changes.”

A notable instance of growing pains was the summer of 2.0. Complaints about melted chocolate, fat blooms, and other

quality-control issues flooded social media. Many producers were dragged through the court of public opinion for failing to anticipate obvious pitfalls.

The buzz around beverages fell as flat as the sparkling CBD water. Before the restrictions were released, like potency limits and banning certain flavours, infused beverages were forecast to overtake the alcohol market. Yet consumers agree that the current market for beverages doesn’t meet their interests at a

reasonable cost.

After a rocky start, edibles and beverages are in high demand, offering an accessible entry point to new consumers. “They continue to do well, but are somewhat limited today,” says Palalas. “We won’t really understand the true potential of those categories until Health Canada lifts the 10mg/unit limit.”

Cannabis topicals didn’t pick up momentum in 2.0, despite expert predictions and skincare potential. While cannabis lotions, creams, and salves are common in the illicit cannabis market, the legal market has been slow to close the gap. Despite the strong demand for skincare and beauty products, only a handful of topicals are available.

LIVING THAT VAPE LIFE

Alongside ingestible products, vape pens have been a big player in cannabis 2.0. The small, battery-operated devices heat cannabis distillate to the point of vaporization and provide a discreet, portable, smoke-free experience.

New vape technology helps provide consistent dosing and reliable outcomes. Some vapes vibrate to control dosing or stop heating after a set time to avoid burning the oil. This may be helpful for those learning how their bodies tolerate THC. Vape pens are more subtle when it comes to lingering aromas. Exhaled product is vapour not smoke, and therefore less obtrusive in a public setting.

Access to legal market vapes has helped transition people from buying them illegally, according to Palalas. “The introduction of vapes and edibles has allowed retail to reach more consumers, both new and previously black-market. Price points on vapes have begun to normalize, and their producers have started to dive into the flavour profiles that customers are looking for.”

Vape pens offer a more compact and convenient option for consumers, especially those on the go. Vape cartridges or pods are available in sizes from 0.25g to 1.0g, with prices ranging from \$19.95 to \$125. This delivery method is customizable for consumers, from the size of vape to the potency of the product.

“Consumers seem to enjoy the convenience of vape pens and cartridges,” says Baptiste. “They can change carts and not be limited to one product.

Consumers say it’s great for on-the-go and they like the low-odour option for discretion.”

Vapes, like 510 cartridges and PAX pods, tend to be the most popular of the 2.0 products. For now, vape products are mostly disposable pens, universal 510 cartridges, and brand-specific pods like PAX. They allow customers to play with new flavours and scents that aren’t naturally occurring in cannabis.

Federal regulations prevent producers from making and promoting any cannabis products with a flavour likely appealing to youth, like bubble gum or maple candy. Still, the cannabis distillate



VAPE PEN

The small, battery-operated devices heat cannabis distillate to the point of vaporization and provide a discreet, portable, smoke-free experience.



EDIBLES

Even more to learn: Cannabis edibles are now legal in Canada.

in vape carts and pods can have specially curated botanical terpene profiles to create an aromatic and robust experience.

“Unlike in dried flower or concentrates, where customers enjoy cannabis’s natural aromas, flavours, and terpenes, we’ve seen the opposite in vapes,” says Palalas. “Instead, customers appear to prefer juicy, citrus, or dessert-esque flavours that are popular in non-cannabis confectionary and beverage consumer packaged goods.”

THE POSSIBILITY OF CANNABIS 3.0

The next wave of cannabis products will likely be born of innovation rather than legislation. Unlike 2.0, industry experts aren’t expecting a big change in the law that will revolutionize the product market. Instead, the lessons of 2.0 will drive the future of cannabis products.

With two years of legalization behind us, cannabis consumers have refined their tastes and are asking for more: a wider selection, competitive prices and higher quality products.

Producers have learned from the past and are exploring the possibilities for new and innovative cannabis products. According to our industry experts, the innovation phase is just beginning.

“Arguably, 3.0 is the renaissance itself in the findings from 1.0 and 2.0,” says Roch. “The hunt for better results or different genetics is already in high gear. Also, the

push for lifestyle items like bath salts, lotions, sexual health products – the possibilities are endless.”

PRACTICE MAKES PERFECT

“First, we expect to see the edible and beverage category evolve,” says Palalas. “With it so highly competitive, we expect to see a surge in new brands and formats, similar to the breadth of products available in flower and vapes.”

The next generation of cannabis products will likely be an improvement on 2.0 classics. The current market lacks range in potency – both lower and higher doses are requested by customers on a regular basis.

“Edibles are going to be potent but without the sacrifice of taste,” says Roch. “There is work on the horizon for quick onset of experience, so you’re not waiting the standard one to two hours. Vapes are getting cleaner and easier to produce.”

Potency isn’t the only important aspect. Flavour is another area in which people want to see improvements. The edibles market is mostly sweet items, and beverages are predominantly sparkling waters. Consumers have raised concerns about the amount of added sugars in edible products.

Retailers predict that the beverage and edible markets will continue to grow. Aside from vaping, ingesting cannabis is one of the most popular approaches for new consumers. Health



Canada is seeing new applications for more options in savoury edibles and customizable beverages.

THE WELLNESS WAVE: DOES MY FACE MASK NEED WEED IN IT? PERHAPS.

The wellness wave of products will incorporate cannabis and self-care. Recently, producers have been testing the cannabis-infused waters, so to speak. For the first time since cannabis 2.0, there are products like bath soaks, bath bombs, and more

enjoyable and effective lotions and salves.

It is not surprising to see this evolution of product offerings. According to a 2018 report by Deloitte, women over the age of 30 are most likely purchasing cannabis products for relaxation, help with sleep, and to reduce stress and anxiety. Women, too, are also the biggest spenders on wellness and lifestyle products

Demand for quality and effective infused skincare products is driving the development of topical cannabis infusions and other beauty products. No, rubbing CBD oil on your entire

body won't give you flawless skin. The research in this area is still pretty sparse, but there is growing evidence that CBD, THC, and other cannabinoids may positively affect the skin.

But more research is needed since a 2014 study published in the *Journal of Clinical Investigation* that showed CBD might be beneficial on skin. It also showed that CBD applied topically to cystic acne reduced inflammation and quickened the healing process.

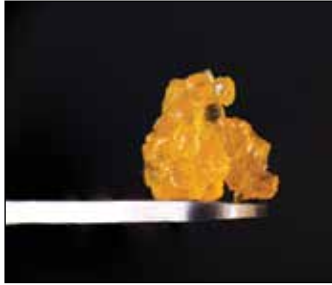
It is important to note that CBD and cannabis are regulated substances in Canada and therefore only available through licensed providers. This means that those trendy drugstore lotions covered in cannabis leaves don't actually have any weed in them – or if they do, they're selling it illegally!

They are able to say things like “cannabis sativa oil” and “cannabis seed oil” only because the product contains hemp seed oil. Popular in skincare products, this oil is extracted from the seeds of the hemp plant. It is impossible for cannabinoids like CBD to be present in over-the-counter hemp products.

This category might not have taken off yet, but if the US is any indication, the potential for cannabis-infused skin and beauty products is boundless.

CONCENTRATES AND CRAFT CULTURE

While cannabis concentrates are favourites for their high potency



RESIN CONCENTRATE

Represent north of 10% of sales in many US states, but represent less than 2% in Canadian cannabis retail today.



RYAN ROCH

Director of Alberta based retailer Lake City Cannabis.

potential and preserved terpene profiles, there is more to the story. You know that wine aficionado who is always detecting notes of musk and oak in your pinot? Cannabis enthusiasts all have that one friend with intense opinions about live resin and brings their own dab rig.

Cannabis 2.0 did see the beginning of the rise of concentrates, but they were one of the slowest to reach the market and remain at a high price point.

Concentrates like shatter, live resin, rosin, budder, terp sauce, and hash are not easy to make. The process is tech heavy and highly personal to the producer. Craft culture and dab culture go hand in hand. Both Palalas and Roch estimate this market will grow in the future.

“Concentrates like resin and rosin represent north of 10% of sales in many US states, but represent less than 2% in Canadian cannabis retail today,” says Palalas. “Concentrate consumers are experienced, and remain predominantly in the black market as it stands right now. We expect to see this change as potent, and high-quality concentrates continue to roll out with competitive prices.”

Roch believes that concentrates hold the potential to eliminate, or drastically reduce, the last edge the illicit market has over legal. “The legal market in concentrates has yet to catch up,” he says. “If the regulated market is looking to take a bite out of the unregulated market, that opportunity is concentrates.”

Most users are legacy users and really need a good reason to move, he says. “Very few products have met their expectations and prices. Dab or 710 culture likes quality over anything else, but that does not mean that they will just pay whatever.”

Producers are key to leveling the playing field in the concentrate game, says Roch. Larger operations have the capacity to influence pricing and availability. Regardless, in the future quality will reign.

“Quality, quality, quality!” he says. “Everything is moving in the direction of making sure you get the best quality and the best price. Production and processing methods have greatly improved. The beverage market is slowly taking off with new nano technologies.”

“We want to spark everyone’s interest in cannabis, whether that’s through storytelling, detail, or by sharing our passion for the plant,” says Palalas. “The quality of legal cannabis has skyrocketed – there’s no doubt in my mind that legally grown cannabis is now the best in Canada.” 🌱

Ashley Keenan is a journalist, consultant, and patient advocate in the cannabis industry. Ashley uses her way with words to normalize cannabis and chronic illness through science and storytelling.

Annie MacEachern is a medical cannabis patient, advocate, and educator. She uses her education and experience to share information about cannabis, destigmatize use, and support others in the community.

CANNADA BLEND

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"My What?!"



Get On Top Of Topicals



Oils, Edibles, And Herbs - Oh My!



TERPENES 101

These strong-smelling compounds attract us to plants that are good for us. Like the wine connoisseur, the cannabis consumer soon learns to recognize their favourite strains.

BY DAVID HOLT

A rose by any other name would smell as sweet, wrote Shakespeare. This powerful scent, it turns out, comes from terpenes. This same class of compounds attracts us to many plant-based foods. It is also emitted by pine and spruce trees, which is one reason you feel so good while walking in a conifer forest.

In nature, if something smells good and tastes good, it is probably healthy for you. This is evolution at work. Indeed, many of our favourite smells come from terpenes. In cannabis, terpenes are made in the trichomes of the plant, the sticky crystals that cover the leaves and buds. They act as a defense mechanism, protecting the plant from predators, or

attracting pollinators.

Terpenes and their cousins, terpenoids, are the main ingredients of the essential oils of many types of plants and flowers. Both have strong, often pleasant odours. The number of terpenes and terpenoids is estimated at 55,000 and counting.

There are over 100 different terpenes in the cannabis plant alone. For consumers, they have been classified into four broad categories – sweet, sour, spicy, or bitter. Each category is broken further into more specific smells. These smells are identified with certain strains, which in turn correlate with effects of that plant.

Like wine tasting, when we smell terpenes we can make inferences about the strain of cannabis. We

may associate this with physiological and psychological effects. Marketers come up with names that match the smells. A flower may have a strong lemon scent, which may be correlated with strains like “lemon skunk” or “lemon haze.”

EXAMPLES

Myrcene: earthy aroma. May be relaxing. Also found in mango and lemongrass.

Linalool: floral, citrus aroma. May provide anxiety relief. Also found in lavender.

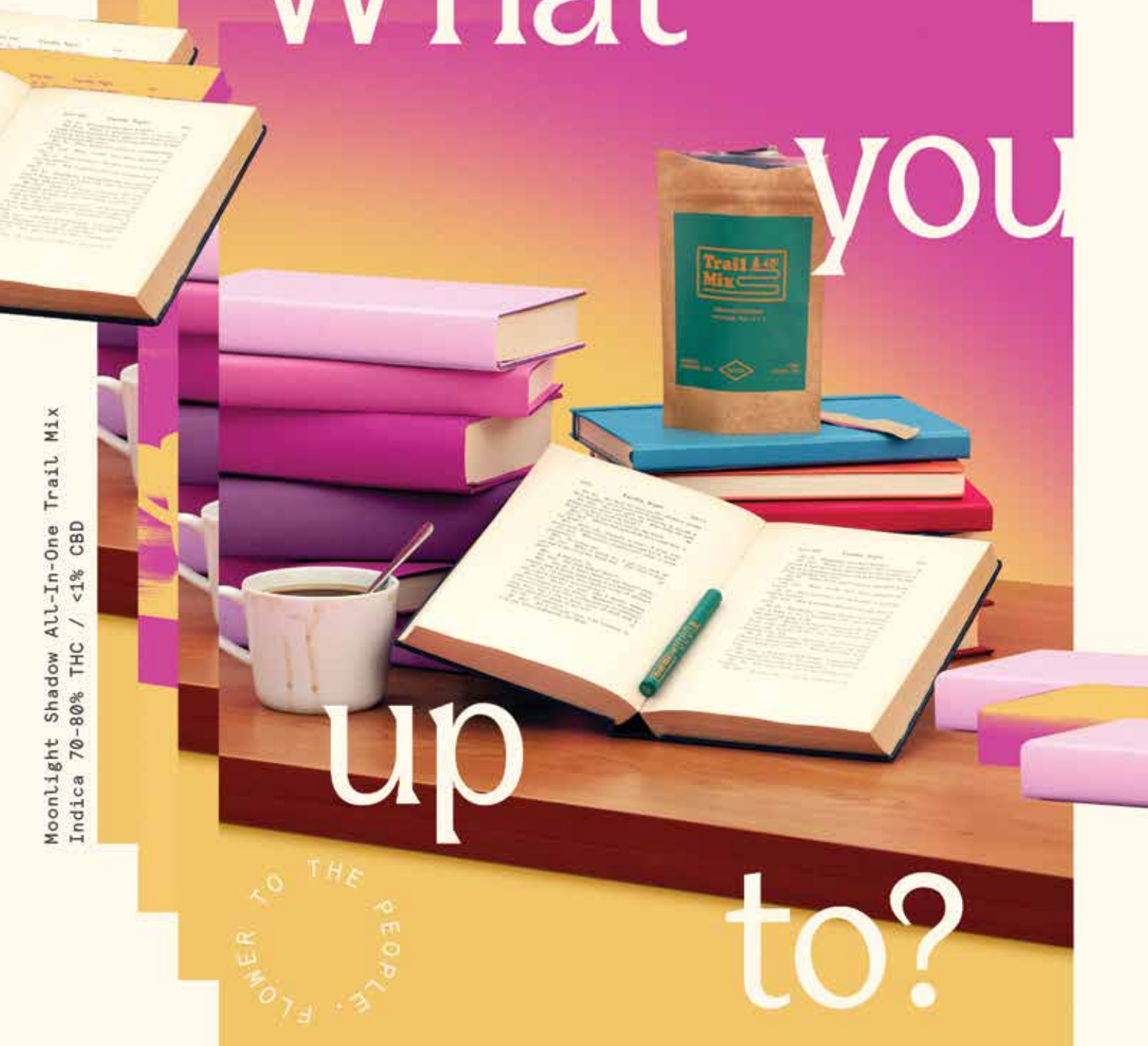
Limonene: Citrus aroma. May provide stress relief. Also found in citrus fruits.

SOURCES: CannalInsider, Wikipedia.

THE SMELL'S THE THING

TERPENE	ODOUR
P-CYMENE	CITRUSY AND SWEET
ALPHA-PINENE	FRESH, PINEY
BETA-MYRCENE	FRUITY AND CLOVE-LIKE
CAMPHENE	PUNGENT, CAMPHOR-LIKE
DELTA-3-CARENE	SWEET, PINY, WOODSY, AND PUNGENT
GAMMA-TER-PINENE	HERBACEOUS AND CITRUSY
D-LIMONENE	CITRUSY AND BITTER
OCIMENE	SWEET, HERBACEOUS, AND WOODY
TERPINOLENE	SMOKY AND WOODY
ALPHA-TERPINENE	SMOKY AND WOODY
BORNEOL	CAMPHOR-LIKE, MINTY, SPICY, AND EARTHY
BETA-PINENE	FRESH AND EARTHY

What you



Moonlight Shadow All-In-One Trail Mix
Indica 70-80% THC / <1% CBD

up

to?

FLOWER TO THE PEOPLE.

48^N

We've got you covered.

MY WHAT?!

Your **endocannabinoid system** is alive and well in your body even if you never consume cannabis. But what happens when you do?

BY JULIE LAWRENCE



© ISOCK/WUTTIKIT

The endocannabinoid system. Let's face it – it sounds confusing and a bit scary. But understanding how and why this system functions in your body can help you make the best decisions about cannabis and you.

So, it's time to dust off the far regions of your brain that helped you through high school biology and settle in.

WHAT EXACTLY IS THE ENDOCANNABINOID SYSTEM?

The endocannabinoid system (ECS) is a molecular system responsible for regulating and balancing many processes in the body, including immune response, communication between cells, appetite and metabolism, memory, and more.

Enter cannabis.

The ECS is a network of cell receptors that respond to key molecules found in cannabis, known as cannabinoids. The system was first discovered in the early 1990s by researchers who were exploring THC – a well-known cannabinoid found in cannabis.

The ECS involves two core components: endocannabinoids and receptors.

Endocannabinoids are similar to cannabinoids, except that they are made naturally by your body. They help keep your body running smoothly. But because your body

produces them on an as-needed basis, it's difficult to establish levels of endocannabinoids in your system at any given time.

Receptors are found throughout your body. When endocannabinoids bind together, it tells your ECS that it needs to take action.

There are two main endocannabinoid receptors in your body:

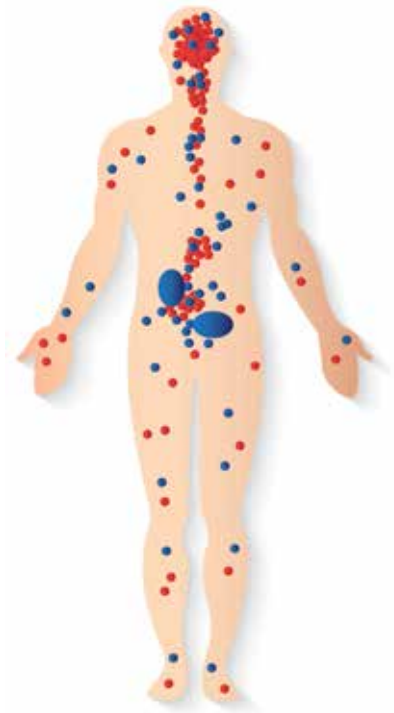
- CB1 receptors found in your brain and nervous system
- CB2 receptors found in the peripheral nervous system and organs

Like a lock and key, endocannabinoids and cannabinoids are both able to bind CB1 and CB2 receptors, but the resulting effects vary depending on where the receptor is located.

Let's say, for example, you suffer chronic pain. Endocannabinoids might target the CB1 receptors in your spinal cord to relieve pain. Or if you have an autoimmune disorder, the endocannabinoids might target your CB2 receptors to decrease inflammation.

Michael Backes, author of *Cannabis Pharmacy: The Practical Guide to Medical Marijuana*, explains that endocannabinoids appear to be profoundly connected with the concept of homeostasis (maintaining physiological stability), helping redress specific imbalances presented by disease or by injury.

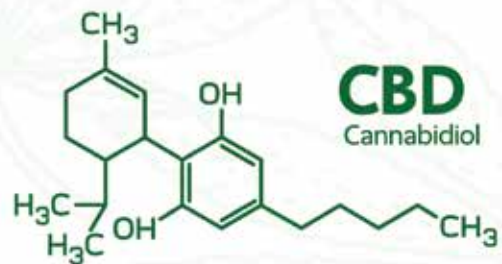
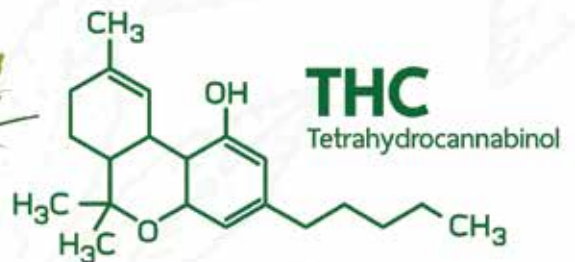
Endocannabinoids' role in pain signaling has led to the hypothesis that endocannabinoid levels may



CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.



CB2 receptors are mostly in the peripheral organs, especially in cells associated with the immune system.



be responsible for the baseline of pain throughout the body, which is why cannabinoid-based medicines may be useful in treating some conditions, like fibromyalgia.

WHAT DOES ALL OF THIS HAVE TO DO WITH CANNABIS?

Cannabis contains hundreds of natural chemical compounds – many of which possess psychoactive and therapeutic properties. There are over a hundred known cannabinoids in

the plant and scientists are working to understand how they impact human health.

When these compounds make their way into your bloodstream, they interact with the ECS to produce effects that can support healing, wellness and symptom relief.

Which brings us to THC and CBD – the two most well-known cannabinoids in cannabis. They both interact with your body’s endocannabinoid system though they can produce very different results.

THC

When you think of the traditional use of cannabis – “getting high” – you’re thinking about the effects created by THC.

THC (tetrahydrocannabinol) is the main psychoactive compound in cannabis that produces that high sensation. It can be consumed by smoking, but is also available in oils, edibles, tinctures, capsules, and more.

Once THC enters your bloodstream, it starts to behave like your naturally-occurring endocannabinoids. It’s especially

powerful because it can bind with both CB1 and CB2 receptors.

This allows it to have a wide range of effects on your body, some that you might like, and some you might not. It may help reduce pain, but it can also cause anxiety in some cases.

THC is intoxicating and can produce a variety of intended effects but consuming too much or choosing a product with a high potency potential can produce undesired effects, like anxiety and paranoia.

So, you want to be careful with how and when you consume THC products and understand exactly what the product packages mean.

An important term to get familiar with is “THC Potency.” This will help you understand the amount of THC in each cannabis product based on how it is labeled in the packaging.

Potency is the amount of THC contained in a cannabis product.

THC content is expressed in milligrams per gram (mg/g) or as a percentage of milligrams per gram of cannabis. For example, if a product is labelled 15% THC and 150 mg/g, it has 150 milligrams of THC per gram of cannabis.

Everyone is different and every product is different, so finding the right one for you may require some trial and error. Just make sure you’re testing the products safely and responsibly.

A word of warning: even the same products can vary between lots of the same strain.

Check labels carefully to verify the actual THC content in the product you selected.

CBD

Even if you aren’t familiar with the world of cannabis, you’ve probably heard the term CBD in relation to its health and wellness value. It’s a very trendy product at the moment.

There’s no question it’s “hot,” but what is it exactly?

CBD, short for cannabidiol is a cannabinoid found in the cannabis sativa, cannabis indica, and hemp plants.

It’s a naturally occurring substance that’s used in products like oils and edibles to impart a feeling of relaxation and calm. CBD oil is made by extracting CBD from the cannabis plant, then diluting it with a carrier oil like coconut or hemp seed oil.

Research on how CBD interacts with the endocannabinoid system is not nearly as developed as that of THC. But we do know that CBD does not bind to the CB1 and CB2 receptors the way that THC does.

According to Junella Chin, DK, an osteopathic physician and medical expert in cannabis, CBD is the non-psychoactive portion of the plant, so what that means is you won’t have any effects like euphoria. You won’t feel sedated or altered in any way.

But let’s be careful with the word “psychoactive.” Technically speaking, anything that alters your brain is considered psychoactive. CBD is

CBD

A naturally occurring substance that’s used in products like oils and edibles to impart a feeling of relaxation and calm. CBD oil is made by extracting CBD from the cannabis plant, then diluting it with a carrier oil like coconut or hemp seed oil.

WHY IS IT IMPORTANT TO UNDERSTAND YOUR ECS?

Because knowledge is power, especially when making choices about what you want to put into your body.

psychoactive, just not in the same manner as THC. It doesn't produce the high associated with THC, but it is shown to help with anxiety, depression, and seizures.

This quality makes CBD an appealing option for those who are looking for relief from inflammation and other symptoms without the mind-altering effects of marijuana or certain pharmaceutical drugs.

But, some people just react differently to CBD than other people. It's impossible to tell you each person will react, so it's best to experiment safely.

There is a flurry of health benefit claims for CBD – everything from pain management to anxiety. It's touted as a “wonder drug.” While CBD may have therapeutic effects, if you want to use cannabis for a medical condition it is always best to talk to your doctor.

Maybe the best news is that CBD is very unlikely to be habit forming or addictive. In fact, the World Health Organization has formally said that in humans, CBD exhibits no effects indicative of any abuse or dependence potential. To date, there is no evidence of public health related problems associated with the use of pure CBD.

PUTTING IT ALL TOGETHER!

Your ECS is involved in regulating your health, including blood pressure, immunity, inflammation, stress, neurotoxicity and digestion.

It has two main receptor areas for endocannabinoids, which are produced naturally by your body as needed. The compounds in cannabis enter your bloodstream and attach to these receptors – they act like endocannabinoids – but they produce varying effects.

Why is it important to understand your ECS? Because knowledge is power, especially when making choices about what you want to put into your body. Knowing how CBD and THC interact with the ECS and the effects they produce is paramount to the decision-making process.

For example, while both THC and CBD may be helpful with pain management, research suggests that CBD may be better for inflammation and neuropathic pain, while THC may excel with spasticity and cramp-related pain. Or, because of the impact on your mental state, you may choose to use CBD in the daytime when you need to be alert and save THC for weekend and evening use.

There are many factors to take into consideration when using CBD, THC or a combination of the two. Understanding how they interact with your ECS will help you ask the right questions about cannabis and your body. 🌱

Julie Lawrence is a communications specialist and journalist from Halifax, Nova Scotia. She is the associate editor for HUM@Nmedia – Canada's largest health and wellness media company.



INNOVATION SPACE

Cannabis is an ancient plant—a treasure trove of compounds that mimic the human nervous system. It's the basis for research that creates cutting-edge products and services for the modern consumer.

BY DAVID HOLT



ANIL JAIN
CEO of Emprise Canada



A PERFECT MATCH
EMPRISE CANADA CREATES PRODUCTS THAT ALIGN WITH THE GENETICS OF CONSUMERS.

Anil Jain leads many lives. Born into an ancient culture in India, he still meditates every day. A long-term resident of Canada, he is a leader in scientific research who is equally at home in the high-stakes world of executive leadership, finance and risk management.

“In India they practice meditation and yoga,” he says. “The Western world is just realizing how helpful this is for mental health and reducing stress, versus pain killers and antidepressants. Now the Eastern approach has been proven by science.”

Today Jain is the CEO of Emprise Canada, a high-tech cannabis company based in Calgary, Alberta.

Armed with a PhD in chemical engineering from the University of Waterloo, he obtained patents under his own name while working in the corporate world. After careers in the oil sector, then pharmaceuticals and nutraceuticals, he retired in his early fifties.

“Then I asked myself, what do I want to do with the rest of my life?” he says. The answer: to return to India and start a hospital in the village where he was born. Two years later he returned to Canada, having built a primary care centre that serves 20,000 patients a year.

“India may have poverty, but it also has a spiritual foundation,” he says. “The human element is important.”

Today, Jain’s passion for research and his concern for humankind have led him to a new sector. “Now I want to be transformative in the cannabis sector as well,” he says.

While Emprise works with partners, the focus is on the technologies that it owns. “There is a lot of cultivation needed, but I’m not a farmer,” says Jain. “My focus is to introduce innovative products.”

Emprise started with a small operation, purchasing just enough cannabis to do R&D. Today they produce advanced “nano emulsions” that are added to liquid like a drop of oil. The key to the puzzle is to optimize “bioavailability,” the amount of the substance that is processed by the body.

As the cannabis sector evolves, consumers and researchers alike seek products that enhance experience (think THC) or minimize problems such as pain and inflammation (think CBD.)

“The Emprise products go into the system immediately so that even a small dose is very effective,” says Jain. “If you take a cannabis product in food at first it seems that nothing happens, so then you take too much. In our case it is quickly absorbed. You can add two drops of our product glass of water and see the effects in 15 minutes.

Emprise is first in the market with this product. You won’t need

to have it in a beverage like cannabis beer. Buy a tiny bottle of 30 mL and get 40 to 50 doses. “It eliminates the issue that you need to keep taking the substance because you are seeking the effect,” says Jain.

Cannabis gives Emprise an opportunity to be among the first companies to offer personalized nutrition, where the substance consumed is matched to the genetic profile of the individual.

Emprise licenses the current state of knowledge and buys products from companies that are advanced in cannabis science. Once the company has secured Health Canada approval, it can begin manufacturing.

“You can take a swab with a gene test like 23andme and get a report that will tell you about your vulnerabilities and what product might work best for you,” says Jain. “This is the future of medicine. We are on the leading edge in Canada.

This field has a lot of synergy with Jain’s background in nutraceuticals, where he has studied other natural ingredients. People use CBD and curcumin turmeric for pain management and inflammation, he points out.

You can use CBD and curcumin foundation and other compounds to increase the bioavailability to the body. For example, CBD and melatonin together can improve sleep. “These products don’t yet exist in the market, but people are asking for them,” he says.

Emprise is working with a genetics researcher in Alberta who has studied viruses and

cancer and now specializes in cannabis. He speculates that new products could potentially reduce the potency of viruses like COVID-19 and give the body time to prepare for the vaccine.

Another compound modulates the body’s immune response, when the body attacks its own organs. Research with high doses of cannabis compounds have been tested on human lung tissues. As new compounds are synthesized in the lab, they are purified and combined in specific ratios. The research is expensive, but may one day pay off with licensed technology.

“It is a fact in creative work that many ideas fail,” he says. “We kept doing our trials and stability testing to make sure the product stayed intact for three to four months,” he says. “We kept improving.”

He sounds a cautionary note: Not all medicines work for everybody. Everyone is different. The goal of Emprise and its partners is to advance the science so you can tell ahead of time which products may work better for you.

“This work is a stepping stone,” says Jain, who is always looking ahead. 🌱

ENTER THE FOREST

In creative work, there is always a bit of chaos, he says. “If a field is all cultivated straight lines, don’t expect creativity. When you look for something new, you have to go into the forest where nature is allowed to flourish creatively. You have to give ‘free range’ people a chance to think and give them a free hand.”



GERRY TISSENBAUM
Head of International Sales,
Jupiter Research



HEAT THIS WAY

JUPITER RESEARCH IS A LEADING PROVIDER OF WHOLESALE VAPORIZER CARTRIDGES AND POWER SUPPLIES. IT PARTNERS WITH MORE THAN 800 BRANDS AROUND THE WORLD.

What do the smartphone and a vape pen have in common? As industry sectors, they both started small and, as demand increased, moved quickly up the growth curve.

Just ask Gerry Tissenbaum. After a stint as a researcher in genetics at McGill University, he worked in electronics and finance during the early stages of the internet boom.

Now he sees the same pattern in the high-growth cannabis industry. After participating in several international deals, he joined Jupiter Research. The US company, a global leader in inhalation technology, helped establish vapes in the Canadian marketplace. Tissenbaum signed on and is now head of international sales.

Mark Scatterday and Bob Crompton founded Jupiter Research in 2015 to develop a vapourizer for high-viscosity plant extracts. In 2019, under “cannabis 2.0,” Canada added beverages, lotions, edibles, apparel and vapourizers to the slate of legal products.

“Vapes make up 20% of the demand for cannabis,” says Tissenbaum. “It is the quickest and most direct method to

process. It’s safer than smoking. There are no carcinogens. With vapes you are in control of your session.”

Jupiter Research, which partners with more than 800 brands around the world, is a leading provider of wholesale vaporizer cartridges and power supplies. It develops and manufactures hardware for plant-derived oil producers and extractors. Its products include cartridges, power supplies, and all-in-one vapourizers.

First, a definition: license holders (LPs) are cannabis cultivators, processors and sellers that hold a licence issued by Health Canada.

LPs in Canada purchase cartridges from the Jupiter Research. They are loaded onto trays and filled by machine. Jupiter Research distributes CCELL products to the top LPs across Canada.

CCELL heating technology consists of a 360° heating coil embedded in porous ceramic with that produces uniform heating – no burning. CCELL is a brand of the Chinese company Shenzhen Smoore Technology, the largest supplier of e-cigarettes and vapes, cartridges and power supplies.

In his years in the industry, Tissenbaum has watched as cannabis products become mainstream. It is a virtuous cycle of increasing demand paired with improving quality, technology and accessibility for the consumer.

On a personal note, he mentions several close relatives with issues

of inflammation and pain who benefited from prescribed CBD. He himself takes CBD for his knee.

“I suspect cannabis will be used like Aspirin and Tylenol in the next few years,” he suggests. “CBD is an all-natural Aspirin for the future. Cannabis is part of our evolution to a more natural way of life.”

Cannabis has been legal in Colorado and California for years, he notes. Now Canada and Uruguay are the only two countries with national legalization. “Canada is doing a great job in some areas,” he says. “But without continuous innovation, our lead will be gone.”

Back in the day he worked for a Japanese company selling to RIM, the Canadian company that designed the industry-leading BlackBerry. “It was like cannabis now,” he says “Our industry was overbuilt. Now expectations are more realistic. Smartphones became a multitrillion dollar market, but it took 20 years.” 🌱

Cannabis has been legal in Colorado and California for years, he notes. Now Canada and Uruguay are the only two countries with national legalization.

BACK TO SCHOOL

PAX CANADA SELLS DRY FLOWER AND OIL EXTRACT VAPES AND CONCENTRATE. FIRST, IT HAS TO HELP CANADIAN CONSUMERS UNDERSTAND THE SUITE OF PRODUCTS AND WHAT MIGHT BE RIGHT FOR THEM.

Shawn King has served international clients and hobnobbed at Cannes, but he still calls Nova Scotia home. Today he is head of marketing for PAX Labs Canada, which includes international markets. PAX Labs is both a cannabis company and a tech company.

Parent company PAX Labs is based in San Francisco. It produces dry flower and oil extract vapourizing devices. In a proprietary closed-loop system, clients purchase pods from us, fill the pens, and sell to LPs like Organigram.”

In his three years in the industry, he has seen it mature in fits and starts. “The sector can’t keep up with itself,” he says. “Like a newborn baby, it’s not born walking and talking. It’s still going through adolescence. In Canada, the sector is still finding its balance. It started out overzealous, opened too many manufacturing plants.”

At the same time, the people working in the new sector had a lot to learn, no matter what their background, he says. “The business people didn’t know about the cannabis world. And the weed people realized their





SHAWN KING
Head of Marketing for PAX Labs Canada.

knowledge doesn't mean anything if you can't operate a business. The models are working themselves out, finding a balance that gets the right people in the right jobs."

Vapourizer technology has been around for 10 years or so in US, but it has been legal in the cannabis sector in Canada only since 2019. PAX Canada specializes in sales, marketing, and data. The GM of PAX Canada is Tim Pellerin, ex COO of NSLC. PAX products are manufactured in China.

"Consumer 2.0 still has a lot to learn: how to read labels, how the product works for you," says King. "They are exposed to new categories like chocolates and drinks, but still aren't used to normal cannabis. Now they are being asked to try edibles that last four times longer. There is a need for consumer education – for easy-to-digest information."

Canada is the largest country that is legalized federally. When the industry is legal across the US, it will change dramatically, King predicts. "Five or six years from now cannabis will be normalized – find its sweet spot."

Along with the products, cannabis media are regulated by Health Canada. Material must be age gated and paid promotions can't encourage – or discourage – consumption; with no lifestyle content or inducements. News, journalism, reports are allowed, if not paid.

Cannabis companies are very limited in terms of what they're aloud to market. King says his team uses puns and wit to make a point indirectly, but everything is run by the company's lawyers who are versed in the regulations.

"Health Canada won't say a particular ad or promotion is compliant or not," he says. "Just that it is high risk or low risk." 🌿



MISSION CRITICAL

ENDODNA IS A PIONEER IN 'ENDOCOMPATABILITY.' THE FIRST PRINCIPLE: DO NO HARM.

Len May has a super power. His brain likes to show him multiple movies at the same time, he says. There is a downside. It takes a lot of processing power. It's tiring. Yet, ironically perhaps, this has given him a cause – something to focus on. The cause is cannabis.

Today May is the CEO of Endodna. Based in Los Angeles, its mission is to match the individual with a cannabis strain that is appropriate to them. It's part of a larger movement to bring cannabis into the mainstream. "My mission is to prove to people the therapeutic benefits of cannabis," he says.

May was born in Lithuania and came to the US at age six. He lived in Philadelphia and then LA. In school he found it hard to concentrate and was diagnosed with ADD. Then in the eighth grade he smoked a cigarette, which turned out to be a joint. "The windows in my head slowed down, I could focus," he says.

He tried prescription drugs but they didn't work well for him. His parents condemned his marijuana use and kicked him out of the house when he was 18.

In the 1990s, May attended university and worked for Tower records. "Music is my passion," he says. He attended the HORDE Music Festival, where he saw Blues Traveller and Ziggy

Marley. Pot was part of the scene.

Joining the Cannabis Action Network, he registered people to vote. He was an activist in Philadelphia, where the US Constitution was written in 1787. Early drafts were written on hemp, the most common paper of the day, he says.

May was also moved by a talk by Elvy Musikka, who smoked cannabis to lessen the effects of her glaucoma. She saw herself as a crusader for glaucoma victims who were denied legal use of the drug that reduces the eye pressure caused by the disease.

Over the years, May has been motivated by one key insight. It's not just "cannabis, good or bad, yes or no," which has been the focus of the debate as the plant was made illegal in many jurisdictions over the course of the 20th century. Before that, it was routinely used in many places for medical, recreational and spiritual reasons. Over the same period, opioids and related drugs have become the preferred medication for pain.

To complicate the issue, not only are there many varieties of cannabis, which have different effects, but the effects vary from person to person. "Give two people the same cannabis, and they will have two different experiences," says May. "One may multitask and the other hyper focus."

With a business background that includes working in finance and real estate, May also spent time with medical companies and scientists who were exploring the



LEN MAY
CEO of Endodna



The company is positioned to personalize information with AI and deep learning. “My goal as CEO is to create an end-to-end solution, at protocols, to look at epigenetics at cellular level. We may eventually look at vaccines tailored to the genetics of the individual or group.”

genetic components of cannabis. He helped develop a cannabis cultivar library.

The connections he made led May to found Endodna. The key product is a DNA test kit powered by a special genomics chip. Take a swab, get your genetic sequence from 23andMe or Ancestry.com. Send the results to Endodna.

Then the chip “assesses DNA SNPs (Single Nucleotide Polymorphisms, pronounced “SNIPS”) associated with the endocannabinoid system. These SNPs exhibit genetic variations which have been shown in academic research to be associated with specific medical conditions, mental wellness, and physical health.”

From there, the company provides suggestions about cannabis formulations that match what’s called an individual’s “endo-compatibility.”

“This is an intersection between your unique genetic code and the properties of cannabis plants,” says May. “Each cultivar (strain) has a distinct ratio of CBD to THC along with a host of other cannabinoids and terpenes, each interacting with your body in a unique way.”

“The EndoDNA platform uses AI and deep learning to look at SNIPs,” says May. “first, the goal is to prevent or mitigate any adverse reactions.”

The company has filed patents on seven cannabis formulations, based on genotype patterns, for conditions like stress, anxiety, and inflammation. It licensed

formulations for sale and also white labels certain ones. The formulations are based on 20 ingredients such as cannabinoids, terpenes, and essential oils.

“We are a personalization biotech company concerned with your overall health and wellness,” says May. “The endocannabinoid system is a modulating system for the body, a puppet master that helps to create balance – homeostasis.”

The company is positioned to personalize information with AI and deep learning. “My goal as CEO is to create an end-to-end solution, at protocols, to look at epigenetics at cellular level. We may eventually look at vaccines tailored to the genetics of the individual or group.”

Emprise Canada licenses the Endodna kit in Canada and licenses its formulations, based on your genetics.

Besides cannabis and growing a business, May has a philosophical side. He mentions *Man’s Search for Meaning*, the book by psychiatrist who survived a Nazi death camp. It reveals how hope can spring from the worst of circumstances.

“Half my family died in the holocaust,” he says. “My grandmother was a Polish partisan. She was tough. She survived. The mind is a powerful thing. We can think ourselves into disease — or wellness.” 🌱

INDUSTRY Q&A WITH DUSTIN KOFFLER, CEO OF GREENTANK TECHNOLOGIES:



**DUSTIN
KOFFLER**
CEO of
Greentank
Technologies

MY BEST FRIEND'S WEDDING

A CHANCE ENCOUNTER LED TO GREENTANK TECHNOLOGIES, THE FIRST VAPE HARDWARE MANUFACTURER IN THE WORLD TO RECEIVE A CANNABIS RESEARCH & DEVELOPMENT LICENSE.

Q: HOW DID YOU GET INTO THE CANNABIS SPACE?

A: I was operating an electronic cigarette brand called eShish, which was one of the first disposable, non-nicotine based products in Canada. We were selling into nightclubs and live event spaces. It launched just after they outlawed smoking indoors and on patios. The appeal of a non-addictive alternative option, such as vaping, was at its peak. My background in this industry led me to found Greentank Technologies a few years later.

Q: WHAT DREW YOU TO THE COMPANY?

A: It was all happenstance. I was at my best friend's wedding in Aspen, Colorado, just after cannabis became recreationally legal. I was shocked at how many people were vaping. I walked up to a guest and asked to see their vape pen. As soon as I saw the hardware I knew that this wick-based system

was not right for vaping high-viscosity cannabis oil. I knew I could build something specific for the type of oil he was trying to vape.

Q: WHERE DID THE NAME COME FROM?

A: I went through the entrepreneur standard: in my bed, staring at my ceiling, thinking of names. The name Greentank came to mind. Green for our industry and tank for the oil. It made sense. GoDaddy had an available URL, and the rest is history!

Q: WHAT ARE THE COMPANY'S KEY DIFFERENTIATORS?

A: Greentank is a Canadian, business-to-business technology company that specializes in the design, development and manufacturing of high-performance cannabis vapourization hardware. We work with over 200 brands across Canada and the United States.

Our product team consists of 15 of the brightest engineering and science talent in the world. Our chief engineer is from Dyson and our CTO was one of the key material scientists who contributed to the Chinese space program.

We have opened two Device Labs in Toronto and a new facility in Shenzhen, China and just received our cannabis R&D license from Health Canada. We are developing new vaping technology, focused around safety, that we believe will become the new standard for the vape industry.

Q: WHO ARE SOME KEY PARTNERS?

A: We manufacture hardware

for some of the largest cannabis companies, including Aphria, Redecan and GTI.

Q: HOW DOES THE COMPANY INNOVATE?

A: It has been our goal from Day 1 to change the way people vape cannabis. Remember, this entire vertical was originally built off the backbone of electronic cigarettes. We have done a tremendous job modifying the hardware and adding new key materials specific to cannabis oil.

The vaping world is hungry for change. This type of delivery system needs to be safer, cleaner and thoughtfully designed for the end-user. Our cannabis R&D license will allow us to further set the industry standard for vape safety, design, and performance.

Q: HOW DO VAPES FIT INTO THE OVERALL CANNABIS MARKET IN CANADA?

A: The second-largest cannabis product segment, vape has continued to grow since launching in January 2019. Vape pens, as a category, are increasing in popularity among younger, legal-age demographics as their delivery system of choice. This bodes well for our sector of the industry.

Q: HOW IS CANADA DOING IN BUILDING OUT THIS NEW SECTOR?

A: The Canadian cannabis sector has experienced its share of challenges and lessons learned. It's a resilient young industry filled with bright minds, passion and a collective desire to learn and improve. 🇨🇦

TYPES OF VAPES

510 THREAD VAPE AND PROPRIETARY VAPES

Vapes can be handheld or pen-shaped. They may be disposable or refillable, meant for cartridges prefilled with cannabis extracts (concentrates). There are also vaporizers designed for vapourizing dried flower or small amounts of extracts by using the provided insert. Some handheld vapes are adjustable, allowing you to select your desired temperature. They often come in kits that include cleaning tools, rechargeable batteries and a charger.



VAPOURIZER GUIDE

What is a “vape”? How many kinds are there? How do they work? So many questions. Here are some answers.

In the cannabis world, a vapourizer (“vape”) is a device that heats a substance so its vapour, including cannabinoids such as THC and CBD, can be inhaled. It consists of a mouthpiece, tank or reservoir, heating element, and battery.

Prefilled cartridges that contain cannabis extracts can be used

exclusively with a “vape pen.” Other concentrates such as hash, shatter, resin, and rosin are consumed through combustion or via a device that heats them to a precise temperature.

For the consumer, understanding potency is key. If you choose extracts such as hash, shatter, resin, rosin, be aware of the potency and how it may affect

your body. Start with a small amount, especially if you are trying a new product.

Pens are easy to use and portable, but the refillable type must be recharged. Although vape devices produce little visible vapour compared to smoking “dry flower,” they can’t be used in places where smoking is prohibited.

Whether cannabis is inhaled through vaping or from smoking a joint, THC is absorbed by the blood in the lungs and moves to the brain, producing an almost immediate effect.

BUY LEGAL

Products available on the illegal market have not been tested for contaminants, nor for safety. Certified retailers sell only cannabis vaping substances and cartridges, such as dried flower and concentrates, which are produced by a processor with a licence from Health Canada.

These vaping systems undergo stringent testing for mineralogical composition and approval of these materials by governing boards. They are made of high-grade stainless steel (SS) or ceramic cores that ensure no leaching of heavy metals during the heating or combustion process. Most follow the California standard for mineralogical testing. That’s why it’s important to research the brand you are buying and what materials their systems use.

Vape systems that have not been certified can be harmful. In a study of hard-metal pneumoconiosis, published in the *European Respiratory Journal*, researchers tested the patient’s e-cigarette, which used cannabis, and found toxic metals in the vapour. Metal-induced toxicity can result in long-term scarring of the lungs.

Vapes in Canada do not contain Vitamin E acetate, a substance used to dilute the oil and as a thickening agent. This is not necessary and a cheap way to fool the customer to think they are getting a 1g Cart of cannabis.

There is no testing requirements for vapes that are not purchased from a legal source. You may be buying 20% to 30% cannabis oil cut with Vitamin E to look like 100% cannabis oil.

Save yourself the “lung ache” and find a local retailer or local provincial channel with dozens of safe options to choose from. 🌿

SOURCES: Ontario Cannabis Store; Vitamin E Acetate as a Plausible Cause of Acute Vaping-related Illness, F. Brian Boudi, et al, Cureus, Dec. 2019.

VAPE VOCABULARY

- DRY HERB
- DISTILLATES
- CONCENTRATES
- DISPOSABLES: all in one
- PROPRIETARY SYSTEMS: PAX, Dose IT, TVape, Jupiter

PRE-FILLED CARTRIDGES

Vape battery units (either 510 thread or closed loop) can be reused by attaching a new cartridge onto the battery. Most batteries are labelled “510-thread,” which means they have a special insert that is compatible with a 510-thread cartridge.

Some vape cartridges can be used only with batteries specific to the brand. Some have optimal settings built into the batteries and carts for optimal performance when using like-branded systems.

DISPOSABLE VAPES

Disposable vape pens are not refillable and are not meant to be separated from their battery. These offer a convenient, usually lower-cost, option of “maintenance” and a “worry free” approach to sharing. Disposable vapes usually have a lower cannabis-fill quantity therefore lower price point so users can try different strains and brands and choose one they would want to invest in for a .5g or 1g cart.



GET COOKING WITH CANNABIS

When you think about consuming cannabis, it's time to look beyond brownies.

BY JULIE LAWRENCE

© ISTOCK / SABRINA BRACHER



Cannabis is actually a very diverse herb with a broad spectrum of aromas and flavours. Over 100 different terpenes (aromatic compounds found in high concentration in cannabis) have been identified so far, giving each strain its own unique characteristics. With so many options, it should come as no surprise that chefs are creating custom menus that highlight herbal products in their signature dishes.

But you don't need to be a professional chef to start experimenting with cannabis in the kitchen.

This trend is continuing to grow amongst home cooking enthusiasts. Whether planning an infused backyard BBQ with pals or a low-key dinner at home for two, foodies are experimenting in the kitchen and creating pleasurable results.

If you are new to cannabis, cooking with it might seem intimidating at first, but fear not! We've developed some simple steps that will help you incorporate cannabis into your cooking.

HERE ARE SOME TIPS TO GET YOU STARTED.

1

Choose a recipe that includes butter, olive oil or coconut oil. Cannabinoids are drawn to fats and oils which allows the THC and other compounds to become active. Since most recipes already contain these ingredients, your options are pretty much endless.

2

Select a strain that enhances the flavour of your meal but will also produce the desired outcome. If you want a high-energy barbeque, pick a Sativa. If you want a relaxing dinner for two, pick an Indica. Your local dispensary will be able to help guide you, but it always helps to do some research first.

3

Pay attention to costs. Trim or shake are more cost effective than purchasing the whole flower. Plus, purchasing the flower already broken up will save you on prep time in the kitchen.

4

Set your schedule accordingly as some strains take up to two hours to take full effect. You want to allow enough time to prepare, cook, eat and digest.

5

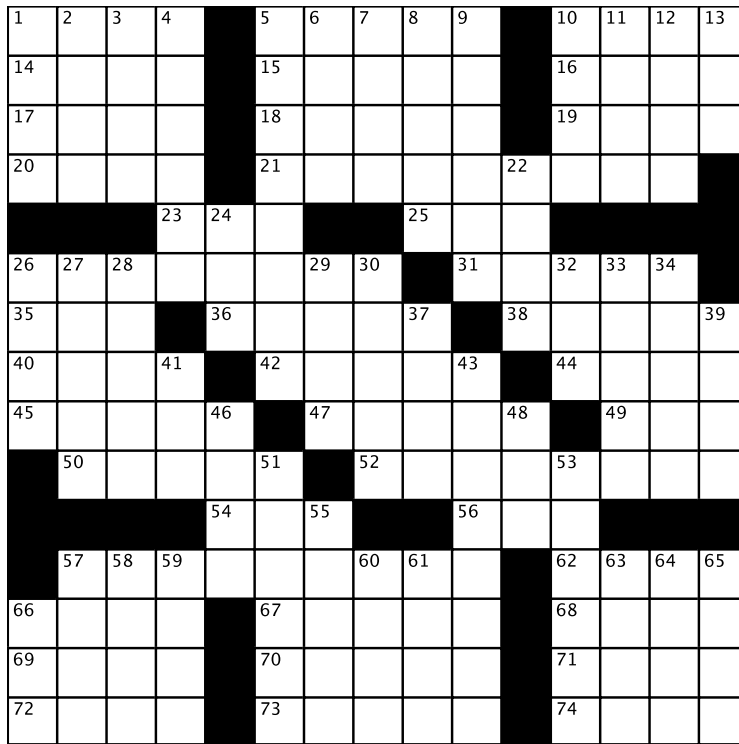
Go with high quality products to infuse with your herb of choice. The better the quality of food product, the better the infusion will be.

Whether you want to give your lungs a break or just want to start to dabble in edibles, get into the kitchen and start cooking! 🌱

TERPENES

These aromatic compounds create the characteristic scent of many plants, such as cannabis, pine, and lavender, as well as fresh orange peel. The fragrance of most plants is due to a combination of terpenes. In nature, these terpenes protect the plants from animal grazing or infectious germs.

You'll want to identify the most prominent flavor in the dish and match that characteristic to the strain's terpene profile. Some of the most common terpenes to pair with food include Limonene (citrus), Myrcene (mixed herbs, tropical notes), Caryophyllene (cloves, cooking spices), Pinene (pine nuts), Nerolidol (jasmine, ginger) and Linalool (violets, lavender).



ACROSS

- 1. Hostile to
- 5. Mountain nymph of Greek mythology
- 10. Slat
- 14. Shower
- 15. Shouldered
- 16. Popular cookie
- 17. Salt Lake City students

- 18. Piece of bacon
- 19. Contest, ethnicity
- 20. Got ripped
- 21. Musical clickers
- 23. Sun devils' sch.
- 25. 100 Square meters
- 26. Nonsense
- 31. Forbidden
- 35. Doc bloc

DOWN


- 1. Stuck, after "in"
- 2. Western pact
- 3. Wedding cake feature
- 4. Trousers measurement
- 5. Hidden

- 36. Back in
- 38. Poisonous
- 40. Torn clothing
- 42. Fear greatly
- 44. Granary
- 45. Snapshot
- 47. Bony prefix
- 49. Actress Sandra
- 50. Blood line
- 52. Person who tends sheep
- 54. Gerund maker
- 56. 1 or 66: Abbr.
- 57. Pertaining to a barber
- 62. Racetrack fence
- 66. Gaelic
- 67. Big name in vermouth
- 68. Scandinavian capital
- 69. Saudi king
- 70. More or less vertical
- 71. Electric fish
- 72. Body shops?
- 73. New Hampshire city
- 74. Freelancer's encl.
- 6. Roster used to assign duties
- 7. Drops the ball
- 8. Ekberg of "La Dolce Vita"
- 9. Leave
- 10. Traditional passed-down knowledge
- 11. Smell ____
- 12. Gumshoes
- 13. Weed whacker
- 22. Peachy-keen
- 24. Neighbor of Isr.
- 26. Diamond cover
- 27. Mutual of ____
- 28. Myopic Mr.
- 29. Other, in Oaxaca
- 30. Head lock
- 32. Diddle and Derek
- 33. Rust, e.g.
- 34. Exxon valdez, e.g.
- 37. Pledge
- 39. Like some dorms
- 41. Orch. Section
- 43. Cervine
- 46. Redding of R&B
- 48. Decide
- 51. Hooded jacket
- 53. People of courage
- 55. Search blindly
- 57. Snare
- 58. Dept. of Labor div.
- 59. Sparks and Beatty
- 60. Got it
- 61. Slippery ____ eel
- 63. On the ocean
- 64. Woes
- 65. Misplace
- 66. Abysmal grades

R T Y M B B O S Z Z I F E P O S Q Y E T H C C U T Y J R L N
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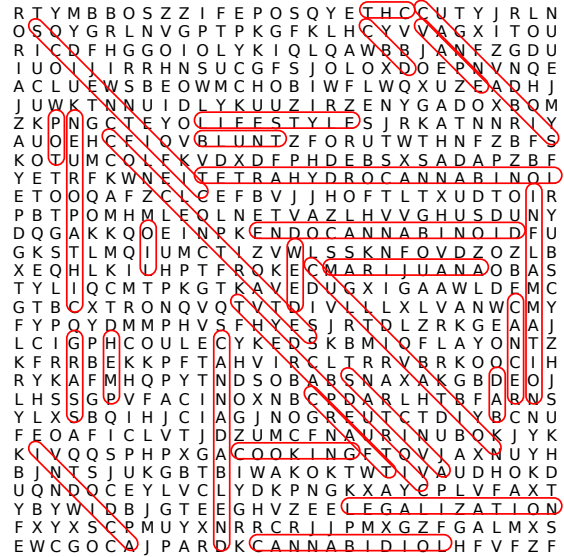
- MARIJUANA
- CANCER
- SATIVA
- GRASS
- CANNABIS
- VAPE
- CRAFT
- BLUNT
- LEGALIZATION
- THERAPEUTIC
- INFLAMMATION
- CANNADABLEND
- CONCENTRATES
- CANNABIDIOL
- ENDOCANNABINOID
- TETRAHYDROCANNABINOL
- WEED
- CBD
- INDICA
- POT
- THC
- DAB
- CULTIVATION
- COOKING
- HEMP
- OIL
- LIFESTYLE
- SCIENTIFIC
- NEUROPATHIC

ANSWERS ON PAGE 64



**"SOME PEOPLE FEEL
THE RAIN. OTHERS
JUST GET WET."**

~ BOB MARLEY



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