

# GRASS ROOTS *Advocate*



**People Advocating  
Cannabis Education**  
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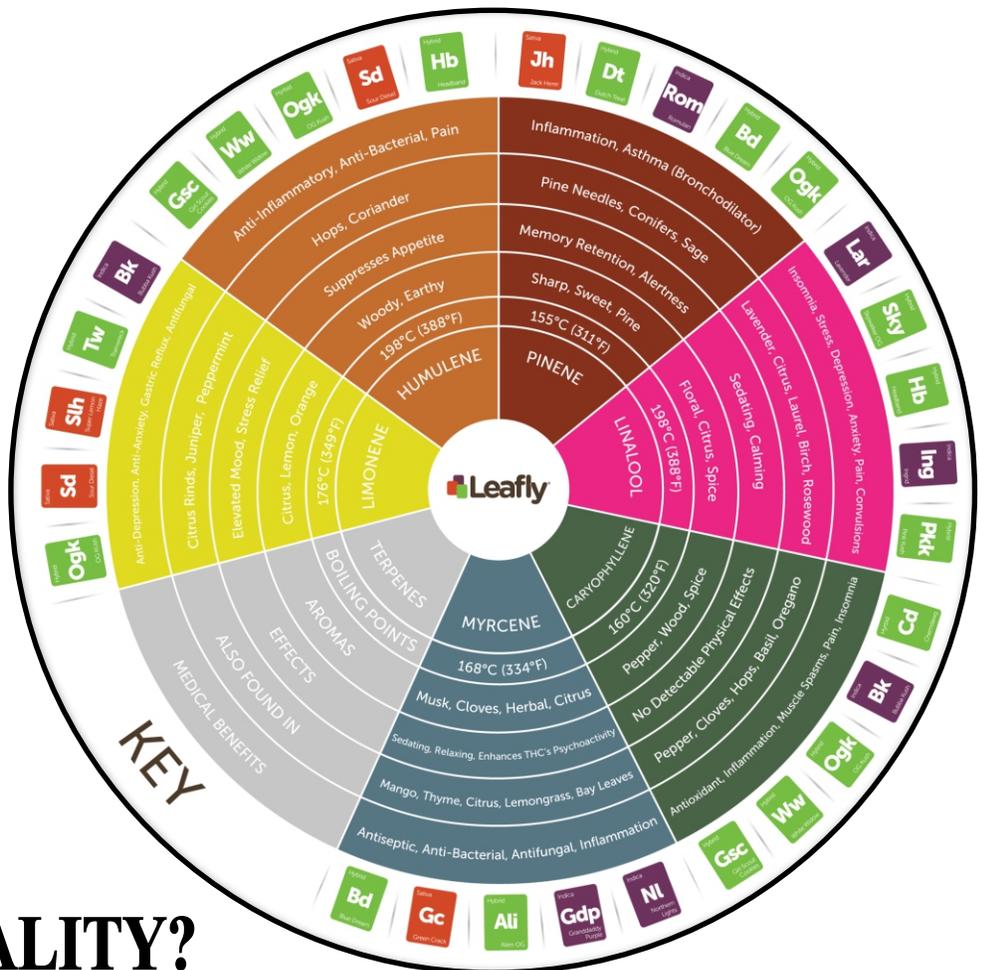
## Terpenes

# WHAT ARE THEY?

Medical Marijuana Patient  
**ABEL STUART**

The Grand Opening  
**CANNADAZE**

What's your favourite  
**STRAINS PERSONALITY?**



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## Who We Are ...

P.A.C.E. ---- medical and non-medical cannabis advocates who promote cannabis education by participating at non-cannabis public events, through the Grassroots Advocate magazine and a weekly LIVE online radio broadcast found at LifestyleRadio.ca. We focus on the Canadian cannabis community and Canada's cannabis news, but do occasionally go International.

## ACKNOWLEDGEMENTS

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## Decisions Decisions.....

All throughout our lives we all make many decisions. Some are good ones and some are not. Some are ones that we don't want to make and hate doing so if forced upon us. Some are made to improve our lives but some results don't always reflect that.

Making a tough decision is a situation I find myself in now.

As everyone knows there was no Grassroots Advocate available in December because I become too ill from a possible crohns flair up. This prevented me from getting our little information sharing magazine completed and out. During this down time I was sent by my gastrologist to get a cat-scan done on my upper body which would allow them to see what was going on inside.

Well those results are in and it turns out that I was correct and I was having a crohns flair up. My doctor showed me the scan and explained that my small bowel had inflammation in

different spots and that it had thickening walls. The walls thickening can build up and lead to the closure of the bowel which the report pointed out in an area or two. We discussed surgery but he informed me that he couldn't just take a small part out, but would have to remove my

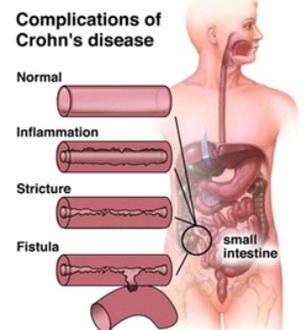
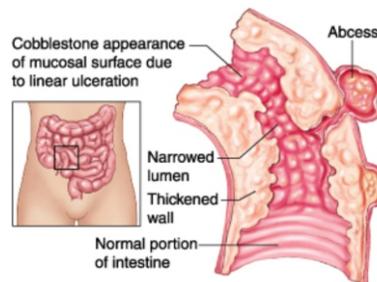
small bowel. The other option is a drug that's only been around for 2 years and has a very high cost to go with it. Coverage? Good luck...

With crohns sometimes the best thing is to find out what is bothering your system and deal with it. For myself I don't see my issue being food related as I stay within certain list of them and don't often stray from it. When the flair up started I did a review of the things I had eaten and I couldn't find anything out of the ordinary. What I do know was that I was under a lot of stress at that time and stress is contributing factor in crohns. Because of this I have come to the conclusion that stress was a huge factor in me getting sick.

So what do you do? The logical thing is to not allow or reduce the stress in my life, but life in its self can be stressful. The advocacy work that I am involved in is very important to me but more important to me is my health. If the advocacy work that I'm presently involved in is making me sick then that's not doing me any good. So for the next little while I have a few

things I have to think over such as should my advocacy stuff end or should I curtail it some. Is my advocacy work even causing my health issues or were these health issues going to happen anyways?

There are many unknowns and things that I have to think about. What I do know and don't have to think about is that I'll always be a cannabis advocate educating people about the benefits of cannabis. What I need to decide is what I'm going to keep doing and what direction I want it to take. Decisions Decisions.....



### 5 TIPS FOR LIVING WITH CROHN'S DISEASE

KEEP A FOOD JOURNAL

MANAGE STRESS

EAT SMALLER MEALS, EAT MORE FREQUENTLY

EDUCATE YOURSELF

BUILD A SUPPORT SYSTEM

BAPTIST HEALTH

Sources: www.cdc.org www.crohnscollaboratory.org

#### Crohn's Disease Stress Management Tips

- Learn everything you can about Crohn's disease and how it affects you.
- Get involved in managing your disease. Take control, ask questions with your doctor and make decisions together.
- Educate your family and friends about Crohn's disease and the limitations it places on you.
- Seek support from others: your family, friends, support group, and professional mental health counselor.
- Stay active and involved in life physically, mentally, and socially. Physical activity reduces stress and may help you feel better.
- Sometimes you just will not feel well enough to carry out normal activities. Accepting that and giving yourself permission to rest reduces guilt, anxiety, and stress.



### Human rights board orders insurer to pay medical marijuana costs in precedent-setting case

By Sunny Freeman Feb 02/17 [business.financialpost.com](http://business.financialpost.com)

A Nova Scotia human rights board has ruled that a patient's medical marijuana should be covered by his employee insurance plan in a potentially precedent-setting case. The decision, issued Jan. 30, ruled in favour of Gordon Skinner's claim that he faced discrimination when trying to access insurance coverage for his disability.



### Human rights complaint filed over Social Services not covering medical marijuana

By Jacqueline Wilson Feb 10/17 [globalnews.ca](http://globalnews.ca)

A Saskatchewan human right complaint has been filed over the lack of coverage for medical cannabis by Social Services. A brutal assault several years ago left Terance Grady with post-traumatic stress disorder (PTSD), anxiety and depression. Flashbacks of the attack make it hard for him to fall asleep. The only thing that helps is marijuana.



### Researchers use cannabis to treat epileptic children in University of Alberta study

By Claire Theobald Feb 02/17 [edmontonjournal.com](http://edmontonjournal.com)

As desperate parents of children with severe epilepsy turn to alternative therapies, researchers are launching a study examining the efficacy and safety of treating seizures with medical marijuana products. "Parents are becoming more aware of the use of cannabis to treat epilepsy from social media and parent support groups," said Richard Tang-Wai, a pediatric epileptologist at the University of Alberta.



### Calgary prepares for future with legalized marijuana

By CBC News Feb 06/17 [cbc.ca](http://cbc.ca)

Eighteen cannabis stores opened in Denver, Colo. the day recreational marijuana sales became legal in that state three years ago, an official told Calgary city council on Monday. Now Denver boasts 295 licensed grow ops, 219 retail stores, 84 medical marijuana outlets and 10 testing facilities. Councillors invited Denver city official Dan Rowland to talk about that city's experiences with legal cannabis as Calgary prepares for the possibility of legalized marijuana in Canada.



### Police chiefs reject proposal for homegrown marijuana

By Daniel LeBlanc Feb 08/17 [theglobeandmail.com](http://theglobeandmail.com)

Canada's police chiefs are calling on Ottawa to reject some of the key recommendations in a federal report on the legalization of marijuana, stating the proposals by former Liberal minister Anne McLellan will be impossible to enforce. In a new discussion paper, the Canadian Association of Chiefs of Police (CACCP) calls on Ottawa to "hold off on home grows" when it tables legislation in the spring to legalize marijuana for recreational purposes.



### Landlords seek to ban marijuana with new clause, but can they?

By CTV Montreal Feb 13/17 [montreal.ctvnews.ca](http://montreal.ctvnews.ca)

Some Montreal landlords are banning the use of cannabis in their rental units. As the likely legalization of marijuana looms, many are currently renewing leases with a new clause that forbids tenants from smoking up. Rental property owners are asking tenants to sign new leases which would include a ban on smoking cannabis anywhere on the property.



### **Marijuana supplier hid pesticide from inspectors, former worker says**

By Grant Robertson Feb 09/17 [theglobeandmail.com](http://theglobeandmail.com)

A federally licensed medical-marijuana company recently caught selling cannabis that contained a banned pesticide had used the dangerous chemical on its plants as far back as 2014, which it hid from Health Canada, says a former employee of Mettrum Ltd.



### **Ex-Organigram customer says she still suffers from contaminated medical pot**

By Bridget Yard Feb 09/17 [cbc.ca](http://cbc.ca)

A Neguac woman who has used medicinal marijuana to treat post-traumatic stress disorder says contaminated product from Organigram, a licensed producer and distributor from Moncton, has made her sick. "I still have breathing problems, still have a rash — it burns from the inside out," she said. "I just want to scratch but I know I can't. When no doctors want to help you, I don't even know what to do."



### **Local law firm to file class-action lawsuit over tainted marijuana**

By Mark Hodgins Feb 28/17 [news957.com](http://news957.com)

HALIFAX – Wagners is spearheading a class action lawsuit against two medical marijuana producers, Canopy Growth and Organigram. In late December there was a recall of Organigram's products after five lots of cannabis tested positive for the presence of pesticides. canopy growth recalled it's product because small amounts of a fungicide were discovered. Lawyer Ray Wagner says the number of complaints they received is quite high, and has even resulted in some serious health concerns.



### **B.C. Supreme Court rules municipalities can regulate pot dispensaries**

By CBC News Feb 17/17 [cbc.ca](http://cbc.ca)

A B.C. Supreme court judge ruled Tuesday that municipalities have the right to regulate marijuana dispensaries and cities have the right to deny them business licences and implement bylaws banning the sale of pot. The case centred on Mary Jane's Glass and Gifts in Abbotsford, one of the many dispensaries operated by Don Briere.



### **Weed workshop introduces Ont. seniors to world of medical marijuana**

By CTVNews.ca Staff Feb 18/17 [ctvnews.ca](http://ctvnews.ca)

There might be something special about grandma's latest batch of brownies. A new monthly workshop north of Toronto is helping seniors navigate the world of medical marijuana. "Our demographic is middle-aged to older people," Rick Gillman of CanCann Consulting told CTV Barrie. "We do have lots of people in their 80s and even one I know in their 90s who are successfully using cannabis and having great results with it."



### **Oral measurement of THC intoxication level is not feasible, study concludes**

By Ricardo Oliveira Feb 27/17 [news.lift.co](http://news.lift.co)

Cannabis legalization poses considerable risks for drivers and policy makers, with multiple investigations converging on the conclusion that cannabis intoxication increases road traffic accidents and fatalities, likely due to a reduction in attention, reaction speed, and judgement of drivers. A recent investigation from the University of Marseille and the Service de Pharmacocinétique Toxicocinétique provides new important data for this ongoing debate. The team, led by Dr. Amélie Marsot, described in great detail the pharmacokinetic profiles of THC and its metabolites in saliva, blood plasma, and urine during the first 72 hours.

# CANNABIS & YOU

## 11 Marijuana Terpenes You Should Know About

By Mary Jane Originally published at maryjanesdiary.com

Terpenes are exciting the marijuana industry. Labs are testing terpene profiles in controlled environments. This is all new and exciting in the world of cannabis, but people have been talking about terps for a while. Most plants (and even some insects) contain terpenes. People have been testing and mapping coffee, wine, oranges – you name it. So, what is a terpene exactly, and why should you care?

### What are Terpenes?

Terpenes are classified as organic compounds. Different strains of cannabis have a wide variety of smells and tastes. Many terpenes affect the aroma and flavor profile of your bud. By mapping out the terpene profiles, we can predict and manipulate them. Changing the smell and flavor is pretty cool, but it's not even the most exciting part about terpene research. Some terpenes have been found to have medicinal benefits. That means, there are non-psychoactive compounds that can be used to safely treat an array of medical conditions. There are a ton of different terpenes in cannabis, but here are 11 profiles you should know about.



### 1. Limonene

*Flavor / Aroma* – Citrus. *Medicinal Uses* – Limonene can be used to help promote weight loss, prevent and treat cancer, and treat bronchitis. It can also be used to make ointments and medicinal creams that penetrate the skin better. *Strain* – Perhaps you know Super Lemon Haze gets its name partially from the aroma, but did you know the smell is present because it contains Limonene?

### 2. Myrcene

*Flavor / Aroma* – Earthy and musky with a hint of fruity flavors. *Medicinal Uses* – Myrcene has been shown to be an effective anti-inflammatory. It also works as a sedative and muscle relaxer. This could possibly contribute to the tired/stoney feeling often attributed to indicas. *Strain* – A Swiss study found that most of the strains they tested contains high levels of myrcene. One strain they tested, Lovrin 110, contained over 65% myrcene.

### 3. Linalool

*Flavor / Aroma* – Floral with a hint of spice. In addition to cannabis, linalool can be found in an array of flowers, mint, cinnamon, and even some fungi. *Medicinal Uses* – Can be used as an anti-inflammatory. It also helps to modulate motor movements. Another study found that Linalool could be used to help treat liver cancer. *Strain* – A lab tested sample of Amnesia Haze showed slightly over 1% linalool.

### 4. Alpha Bisabolol

*Flavor / Aroma* – Floral. Alpha bisabolol is also found in chamomile. *Medicinal Uses* – Can be used to heal wounds, fights bacteria, and can be used as a deodorizer. Research suggests alpha bisabolol has been effective in treating a variety of inflammations. *Strain* – The Werc Shop analyzed a strain called 'Oracle' and found high levels of alpha bisabolol.



### 5. Delta 3 Carene

*Flavor / Aroma* – Piney / earthy. *Medicinal Uses* – Studies have found Delta 3 Carene to be an effective anti-inflammatory. It is also known to dry fluids like tears, running noses, and menstrual flows. *Strain* – A research study examined 162 marijuana plants, which represented over 80 strains. They detected carene in many of the samples.



### 6. Borneol

*Flavor / Aroma* – Earthy and camphor. *Medicinal Uses* – Borneol can be used as an analgesic, anti-insomnia, anti-septic, and bronchodilator. *Strain* – Dr. Mariano García de Palau claims that haze strains such as K13 contain high amounts of borneol.



### 7. Alpha-Pinene / Beta-Pinene

*Flavor / Aroma* – Pine. This is, of course, partially where pine trees get their scent from. *Medicinal Uses* – Pinene has been shown to have anti-inflammatory properties. *Strain* – One study examined 16 marijuana plants and found all the strains contained notable amounts of alpha-pinene and beta-pinene.



### 8. Eucalyptol

*Flavor / Aroma* – Spicy. Eucalyptol is used as a cooking spice and fragrance. *Medicinal Uses* – Eucalyptol is used in a variety of products including cough suppressants, mouthwash, and body powder. *Strain* – Some cannabis strains contain eucalyptol, however, it is typically in very small amounts. An analysis of super silver haze showed .06% eucalyptol.



### 9. Terpineol

*Flavor / Aroma* – Pine, clove. *Medicinal Uses* – Studies suggest cannabis-extracted terpineol contains antioxidant properties. *Strain* – A marijuana testing lab claims terpineol is a unique terpene found in Jack Herer and Jack crossbreeds.



### 10. Caryophyllene

*Flavor / Aroma* – Hoppy. Cannabis and hops are basically cousins. *Medicinal Uses* – Studies suggest that caryophyllene may help treat anxiety and depression. *Strain* – Green House Seeds tested a hydroponic and a soil-grown specimen of Train Wreck. They found the soil grown cannabis contained .33% caryophyllene. The hydroponic only contained .07% caryophyllene.



### 11. Camphene

*Flavor / Aroma* – Herbal. *Medicinal Uses* – Camphene has been shown to possess anti-inflammatory and antibiotic characteristics. *Strain* – One study suggests camphene is significantly higher in concentration among 'mostly indica' strains.

# PATIENT IN THE NEWS

## Sydney man with epilepsy wants province to pay for his medical marijuana

By Holly Conners Feb 08/17 cbc.ca

A Sydney, N.S., man is fighting to have the Nova Scotia Department of Community Services cover the cost of his medical marijuana. Abvhiael (Abel) Stuart has what he describes as "severe, chronic and uncontrolled" epilepsy and has found marijuana significantly reduces the frequency of his seizures from between one and three times a day to once a month. "It gives me a quality of life, which is something I've lost a lot of with the epilepsy getting bad," he said. "And I'd like to be able to get back to life."

### Side effects

Over the past 12 years, Stuart has tried seven different anticonvulsants. "I've had the side effects from them," he said. "Dilantin makes my bones itch from the inside out."

Other medications caused beet-red skin, big purple bruises and difficulty moving. Abel Stuart says there is precedent for the province to pay for medical marijuana. (Holly Conners) Stuart worked at the Convergys call centre in Glace Bay but worsening seizures forced him to quit in 2014, he said. "Grand mals, I have one of those and I'm pretty much done for the day ... Generally an hour, an hour-and-a-half after the seizure I'm completely unconscious."



He started collecting social assistance in 2015. Last November, Stuart obtained a doctor's prescription for medical marijuana with help from the Marijuana For Trauma clinic in Sydney. His prescription of three grams a day of high-cannabidiol-containing medical marijuana from a federally licensed supplier would cost \$540 per month, which Stuart said he can't afford.

### Coverage refused

Stuart applied to Community Services to have the cost covered as a special need and was denied. The department wouldn't provide anyone to speak to the issue Tuesday but sent the following written statement:

"The Department of Community Services provides clients with coverage for medications listed on the Nova Scotia Formulary. Medical marijuana is not included on the formulary or covered under MSI and therefore coverage is not available under the department's pharmacare program, or

as an item of special need." The statement went on to say, "Medical marijuana is not an approved Health Canada drug and therefore cannot be included on the provincial formulary. There is no publicly-funded program that covers medical marijuana in Nova Scotia."

Stuart argues there is legal precedent to support his case. In March 2010, a Supreme Court of Nova Scotia ruling ordered the department to cover the cost of medicinal marijuana as a special need for a Halifax woman who used it for the symptoms of fibromyalgia and chronic Hepatitis C. The decision was later upheld.

"This sets a precedent. This sets the fact that they do have a responsibility to be covering this." Stuart plans to take his case to the Assistance Appeal Board, and to request a judicial review. "To try to get them to have number one, compassion, and two, the responsibility to obey the law," he said.



## Community Services

## Peanut Butter and Espresso Cannabis Cupcakes

eatyourcannabis.com

*Time Required:* 30 minutes     *Yields:* 6 Cupcakes

### *What You Need:*

muffin pan & 6 muffin paper liners  
½ cup almond meal  
¾ teaspoon baking powder  
1/8 teaspoon salt  
½ cup unsweetened cocoa powder  
1 teaspoon espresso powder  
4 packets of Stevia  
3 tablespoons Coconut Cannabis Oil, melted  
½ cup unsweetened applesauce  
2 eggs & 2 teaspoons vanilla extract  
¼ cup natural creamy peanut butter  
¼ cup unsweetened cocoa powder

### *Steps:*

Preheat the oven to 375°F.

Line a muffin pan with 6 paper cups. Combine the almond flour, baking powder, salt, cocoa powder, espresso powder, and 2 packets of stevia together in a bowl. Set aside.

In another smaller bowl, combine 2 tablespoons of Cannabis Coconut Oil, applesauce, eggs, and vanilla extract. Pour the wet ingredients over the dry ingredients and stir until combined.

Fill the paper cups 3/4 full. Bake for 15-20 minutes, or until a cake tester comes out clean.

Allow the cupcakes to cool for 5 minutes in the pan, then transfer them to a cooling rack to cool completely. Mix vanilla extract, peanut butter and cocoa powder together to make the frosting. Spread a little bit on each cupcake. Add slivered almonds on top if desired.



## Coconut Cannabis Oil

by eatyourcannabis.com

*Time Required:* 5 to 24 hours

### *What You Need:*

crock pot & 5 cups water distilled  
2 ounces cannabis, finely ground (adjust as required)  
1 cup organic coconut oil  
cheesecloth or strainer  
Tupperware container with lid rubber band (to stretch around the rim of your Tupperware.)

### *Steps:*

Melt 1 cup of organic coconut oil in crock pot on lowest setting. Add 2 ounces of cannabis and 5 cups of water when the coconut oil has melted. Mix everything together. Turn crock pot on high. Heat for one hour, stirring frequently. Return crock pot to low setting. Allow the mixture to steep for 4 to 24 hours. Stir every hour. Turn crock pot off. Pour the Coconut Cannabis Oil mixture little-by-little slowly over the top of the cheesecloth and into the container. Repeat this step as necessary to strain all of the liquid from the plant. Cover container and place in the refrigerator. Wait overnight for the mixture to separate. Remove the hardened coconut oil from the top and discard the water.

Use Coconut Cannabis Oil in solid form, or melt down to use as a liquid.



## CannaDaze Grand Opening

By Al Graham

It all started as an idea and some would call it a dream but for Wayne Mathesen it did become come reality. What started out as a knapsack full of flags is now a retail space full of pipes, bongs, dab gear, plus much much more. Oh and those flags, he is still selling them as well.

To get things going Wayne could have gone to a bank or somewhere else to get the capital he needed to get things going but he chose not to. Instead he built things from the ground up. This would include running the highway to attend flea markets to setting up shop at events he arranged such as the Peterborough 420 and Cannabis Day Peterborough or by making the journey down the highway to the cannabis events being held in Toronto. Those long highway drives and early mornings have now been reduced or eliminated with the opening of his retail store in Campbellford ON.



Back in early April of 2016 Wayne had secured his location, checked with a town official to make sure there would be no issues (licensing to bylaws) and was told there was none by the municipalities planning director. With this approval Wayne informed the press about his new store and got featured on the front page of the local paper. Unfortunately for Wayne days later one of the municipal bylaw officer called to inform him that he was not allowed to open his business. Why, because the location which had retail space below 2 apartments, had just added third apartment in the rear. This third apartment was created by reducing the retail space which Wayne knew about and had no problem with unlike the bylaw officer.

After nine months of delays and having to meet everything the bylaw officer requested (4 layers of fire proof drywall, sound barrier, fire proof caulking in all holes even inside electrical boxes, separate hydro meter, new gas meter and location plus a new furnace to heat the building) Wayne was finely given the ok to move in. We did find it odd that this space had prior approval to be an office without this work being required.

Once he got moved in he proceeded to put his plan together. In came some new to him glass cabinets, the big screen TV, the shelving units and the product orders. Over the next while he was able to put everything together and have his Grand Opening on March 10/17.

No new business would be complete without a ribbon cutting ceremony and no ceremony is complete without dignitaries. For Wayne's ceremony he was met by representatives and presented with certificates from the local BIA, the Chamber of Commerce and the Municipality of Trent Hills. Joining them were reps from the local MP and MPP offices.



To help Wayne celebrate and to let others know about the store The 420 Road Show broadcasted the opening live at 420Radio.ca. During the day they were able to talk to Wayne and Eamon who was in helping out for the day, plus the guests that appeared on the program which was heard within the store. These would include Justin Loizos of Just Compassion, cannabis writer and author Goopy Rabinski, Anthony Foster of the Hamilton Vapor Lounge, Kirk from Gizeh rolling papers and Ross Middleton of the Canadian Therapeutic Cannabis Partners.

So far the reception to the new store in this small town has been very good. Many of his customers have come in and asked him “what took you so long?” and this isn't just the early twenty something crowd but also the mature aged ones as well. Because he'll attract the mature crowd that may use walkers etc and other patients he wanted to make sure he was street level. With this store being ground level and without any steps to get in, it makes it very good for those who need assistance getting around thus making it very patient friendly.

CannaDaze is more than just a bong shop. Yes it carries bongs but Wayne also carries rolling papers, dab and rig gear along with growing equipment and nutrient supplies. As he says he carries everything but the plant itself. Talking about the plant, yes many have topped into see if he is a dispensary and every one of them have let disappointed but happy to know that he could point them in the right direction. With Campbellford being almost an hour from any other store like this it should help those who can't make that long drive or don't have the time to do so.

CannaDaze is also the home of the PACE Information Center as Wayne supplies PACE with a corner at the front of the store. The PACE corner has information that is handed out via an educational links brochure, past issues of Treating Yourself

Magazine and help patients get legal access to cannabis medication. This corner of the store is also the home of The PACE Radio Show. The window spot allows those who walk by to peer in and see the broadcast being held at which time they are invited into get involved in the conversation.



There are still many that are hiding in their cannabis closets and Wayne has a solution for those who don't want to speak up. He says “Have a voice without saying a word” and he's right and it's so easy to do. Buy and wear an anti-prohibition button or a t-shirt supporting the cause as they can spark a conversation or sends a message to those who read it. .... it's that simple.

With winter almost gone tourist season will kick in. Being the store is near a busy intersection and downtown park Wayne predicts that like the cannabis plant, the business and customer base will keep growing.

CannaDaze can be found at 19 Bridge St. W. in Campbellford ON or online at <http://cannadaze.ca>

## What Is Your Favorite Strain's Personality?

By Steven Bennett, Ph.D. Originally published at merryjane.com

If you are keeping up with the pace of cannabis culture, you have no doubt noticed that terpenes are showing up on shelves everywhere in different forms. Of the 50,000+ terpenes that are found in nature, over 140 of these flavorful compounds are specific to cannabis. Terpenes are found in varying combinations that give each strain its unique personality including flavor, smell, effects, and medicinal potential.

Walk into a dispensary today and you will see that concentrated terpenes are being heavily marketed in tandem with a variety of cannabis concentrates (like live resin and CO2 extracted oils). Each of these terpenes fall within a number of distinct categories including: Steam distilled terpenes, Organic plant terpenes, Synthetic terpenes

### *Cannabis derived terpenes*

That's right – the terpenes you bought yesterday might not be the same terpenes you bought today. In fact, they might be completely different and have a totally different impact on your health and experience. So how do you navigate through the different types of terpenes to answer the million-dollar question: How do I truly capture my favorite strain's personality, in concentrated form? Fear not, we are here to help.

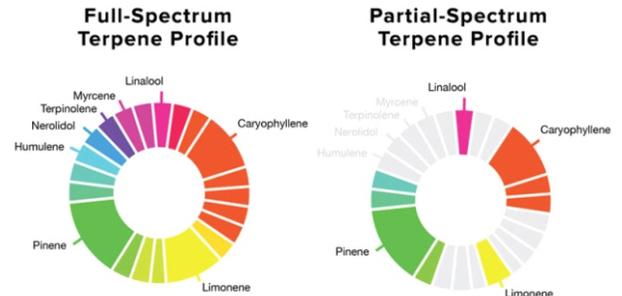
The first thing that's important to understand is that no matter where your terpenes come from, each terpene product is considered to be either full-spectrum, or not. A full spectrum terpene extract will capture the entire terpene profile of your favorite strain, in the same ratios as the original plant material itself; thereby, serving as a concentrated “twin” of the original plant profile. Non full-spectrum extracts will only have one or some terpenes, but not all of the terpenes that are found in the cannabis strain. Both can be found in cannabis concentrate products; however, full-spectrum extracts are much more rare as reproducing the full strain profile is more difficult than producing a partial terpene extract. The reason for this is how the terpenes are extracted, or in some cases, how the terpenes are manufactured.

### *The Entourage Effect of Full-Spectrum Terpene Profiles*

Identifying which products have full-spectrum terpene profiles is of particular interest when trying to replicate the effects and flavor of your favorite flower. This is due to a phenomenon referred to as the “entourage effect,” which might hold the key to unlocking the true effects of cannabis strains, as well as their medicinal value. When consumed through vaporization, terpenes have unique effects independent of cannabinoids. Even more interesting is what happens when terpenes are delivered in tandem with cannabinoids like THC and CBD. The terpenes will actually elicit various effects like permeabilization of the blood brain barrier to allow access to larger molecules like cannabinoids. In other words, the terpenes open the brain's “doors” which receives cannabinoids much wider than it would open if the user experienced cannabinoids on their own, without terpenes.

This entourage effect makes full-spectrum terpene profiles much more emblematic of the original cannabis strain's personality, ensuring that the body receives the same ratio of terpenes and cannabinoids that would come from the cannabis plant itself. This protects the integrity of the original plant's flavor, effects, and medicinal potential. Evolab, a Denver, CO based extraction company is doing extensive research around the entourage effect, and goes to great lengths to preserve the integrity of the strain's original personality by offering full-spectrum terpene extracts with both their FreshTerps and Alchemy product lines. Alternatively, most other terpene products on the market are considered non-full spectrum extracts, which serve primarily as flavoring additives.

The second consideration asks: Where did the terpenes come from? Are they synthetic, plant derived or cannabis derived? Chemically speaking, the brilliant bright lemon flavor in fresh cannabis is the same as the lemon smell released by lemons – it is the terpene limonene. It's not uncommon for chemists to produce limonene and other terpenes synthetically in a laboratory, which do in fact have the same molecular structure as their plant-derived cousins. The subtle differences, however, are the impurities that might remain from processing of the terpenes, which is why synthetically processed terpenes may have remnants of harsh chemicals.



Even if terpenes are naturally derived from plants like lemons or pine trees, these compounds may have other residual material from the plant it was extracted from that might lead to different aromas than if pulled directly from the cannabis plant. It has become industry standard to purchase terpenes from both natural and synthetic sources, and recombine them in an effort to improve the taste of cannabis products. For the aforementioned reasons, this could result in an experience that doesn't truly capture the personality of your favorite strain. And some producers may not desire to create this effect. Flavors like bubble gum or cherry cola are not uncommon, and although novel, will not get you that true strain specific personality you are looking for.

### Where do terpenes come from?

Source			
	Synthetic	Organic Plants	Cannabis

Further complicating the use of these terpenes are considerations for safety. Many are produced in large third-world countries with relaxed oversight on the use of chemicals, pesticides, and heavy metals. A 98% pure, naturally derived, kosher terpene may have traces of toxic pesticides remaining and a synthetic would not, proving that going “all natural” isn't always the best option. These considerations need to be made regarding the use terpenes as flavoring agents.

On the other side of the spectrum are cannabis-derived terpenes. These terpenes are the most ideal when looking for your favorite strain's personality in a concentrate form as they do in fact come from the cannabis plant. Consumers should be aware, however, of the available methods extractors are currently using. Just because terpenes are cannabis derived does not mean it is a full-spectrum extract. In fact, most cannabis-derived terpene products are not full spectrum extracts; therefore, again greatly diminishing the sought-out personality of your favorite flower – the Entourage Effect.

#### Top Methods for Extracting Cannabis-Derived Terpenes

The most common methods for cannabis derived terpene extractions are hydrodistillation (“water distillation”) and steam distillation. Both techniques require boiling water and differ primarily by whether the cannabis is placed directly into the bath (hydro) or contained above (steam). The main challenge with the distillation process is that it can induce “conversion” with some of the terpenes. Terpenes are a very fragile, yet dynamic pool of molecules.

The presence of heat, UV light, certain chemicals, and even pressure can cause numerous chemical changes including the conversion from one terpene to another via basic chemical rearrangements (or destroy them altogether). This results in a non full-spectrum extract that's a mere shadow of the original full spectrum profile found in the cannabis plant; thus all but losing the strain's personality and rendering distilled terpenes to not much more than a cannabis-derived flavoring agent.

For this reason, removing the terpenes with minimal disruption to the material is required and nothing can do it quite like carbon dioxide (“CO2”). CO2 extraction is often described as “tunable” and this is one such example. Alterations in pressure, temperature, and time allow for different aspects of cannabis to be harvested, including a full terpene profile. This product is generally red or orange, contains 25-75% terpenes and only 10-20% cannabinoids, but the flavor is unmistakably that of the plant it came from. With further processing the cannabinoids can be entirely removed, allowing terpene concentration to climb upwards of 95%. The process of extracting for a full terpene profile is typically faster and yields more than other methods. Simply put, cannabis-derived full spectrum extracts are responsible for some of the best tasting and most effective terpene products currently on the market and are far superior to their synthetic and naturally-derived counterparts.

Originally published at <https://www.medicaljane.com/2016/09/20/what-is-your-favorite-strains-personality/>

### How are terpenes extracted?

Method			
	CO <sub>2</sub>	Steam Distillation	Hydro-Distillation

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Oasis Medical Centre	<a href="http://oasismedicalclinic.ca/">http://oasismedicalclinic.ca/</a>	(844) 876-2747
Natural Health Services	<a href="http://naturalhealthservices.ca/">http://naturalhealthservices.ca/</a>	(844) 262-0942

### British Columbia

Medicinal Cannabis Resource Centre Inc.	<a href="http://www.mcrci.com/">http://www.mcrci.com/</a>	(604) 566-9391
Greenleaf Medical Clinic	<a href="http://greenleafmc.ca">http://greenleafmc.ca</a>	(877) 513-4769

### Ontario

CTCP (Grow or LP)	<a href="https://www.canadiantherapeuticcannabispartners.com/">https://www.canadiantherapeuticcannabispartners.com/</a>	(613) 967-9888
Marijuana For Trauma	<a href="http://mftgroup.ca/">http://mftgroup.ca/</a>	(613) 965-6780
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### New Brunswick

Marijuana For Trauma Inc	<a href="http://www.mftgroup.ca/">http://www.mftgroup.ca/</a>	(855) 638-0420
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### Nova Scotia

Trauma Healing Centers	<a href="http://www.traumahc.com/">http://www.traumahc.com/</a>	(902) 462-2957
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### Quebec

Sante Cannabis	<a href="http://santecannabis.ca">http://santecannabis.ca</a>	(514) 419-4131
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### Canada Wide Listings

Lift Cannabis	<a href="https://liftcannabis.ca/doctors">https://liftcannabis.ca/doctors</a>	
Marijuana For Trauma Inc	<a href="http://www.mftgroup.ca/">http://www.mftgroup.ca/</a>	(855) 638-0420

## Compassion Centers

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Victoria Cannabis Buyers Club	<a href="http://v-cbc.ca/">http://v-cbc.ca/</a>	(250)381-4220
British Columbia Compassion Club	<a href="https://thecompassionclub.org/">https://thecompassionclub.org/</a>	(604) 875-0448

### Ontario

CannDo	<a href="http://www.cando.ca">http://www.cando.ca</a>	(416) 901-7095
Toronto Compassion Center	<a href="http://tccentre.org/">http://tccentre.org/</a>	(416) 668-6337
Just Compassion	<a href="http://justcompassion.ca">http://justcompassion.ca</a>	(647) 984-7420
True Compassion Toronto	<a href="http://truecompassiontoronto.com">http://truecompassiontoronto.com</a>	(647) 977-1995

### Nova Scotia

Farm Assists	<a href="https://thefarmassists.com">https://thefarmassists.com</a>	(902) 266-4769
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## Accessing Cannabis Medical Purposes Regulations - ACMPR

Regulations: <http://www.gazette.gc.ca/rp-pr/p2/2016/2016-08-24/html/sor-dors230-eng.php>

Application - Doctor Form – Guide – Security – Testing:

<http://healthycanadians.gc.ca/drugs-products-medicaments-produits/buying-using-achat-utilisation/cannabis-medical/access-acces/personal-production-personnelle/index-eng.php>

Commercial List: <http://www.hc-sc.gc.ca/dhp-mps/marihuana/info/list-eng.php>

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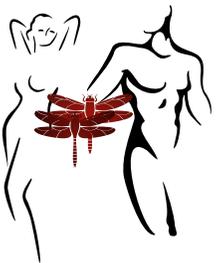


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