

## Decriminalizing Marijuana: The Science and Social Sustainability Behind the use of Marijuana (*Cannabis*) in India

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### Abstract

Thinking of decriminalization or legalization for medical or recreational use of cannabis (*Cannabis sativa* spp.) is now legal in many countries across the globe but there is an urgent need to understand how cannabis may impact the environment. Due to the challenges of researching quasi-legal commodities, peer-reviewed studies documenting environmental impacts of cannabis are limited, slowing the development of policies and agricultural extension guidelines needed to minimize adverse environmental outcomes. The impact and fillip from cannabis cultivation (land-cover change, water use, pesticide use, energy use, and air pollution) and consumption (water pollution) is astounding. It shows how science can contribute to minimize environmental risks and inform the development of regulations for a growing universal cannabis industry. The NDPS Act does not bargain similarly with ganja, charas, and bhang. As bhang isn't secured under the meaning of cannabis, it is devoured lawfully on a huge scale in northern India. That each kind of cannabis ought to be restricted but the purpose of giving a special case to the therapeutic utilization of cannabis is exceptionally difficult to look for consent, due to its medicinal and logical experimentation and purposes. Ownership of any of the medications sorted illicit by the NDPS Act leads to a decade imprisonment. The Narcotics Control Bureau (NCB), indicates that 88 percent of the medication related seizures in India represent tranquilize clients. Just two percent are traffickers and not the agents or of those running the medication exchange at a larger scale.

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## Introduction

### Definition of *marijuana*

The psychoactive dried resinous flower buds and leaves of the female hemp or cannabis plant (*Cannabis sativa* or *C. indica*) that contain high levels of THC and are smoked, vaped, or ingested (as in baked goods) especially for their intoxicating effect : CANNABIS

Weed is a medication made up of hemp plant called *Cannabis Sativa*. The cannabis plant is additionally used to influence paper, to fuel, cleanser, rope, maps, net, bind, jute packs, oil for lightning, paint, creature nourishment, salves, and so on. Creation of pot has been available in India since the antiquated period-the time of flourishing divine beings and goddesses. Cannabis in India if smoked and breathed in high measurements, brings about mental or physical symptoms despite the fact that Marijuana is a plant which helps in creating numerous valuable items for our day to day survival. But for some Indian states wages depends on the development of cannabis.

### Nomenclature

Marijuana is the most commonly used illegal drug in the world with an estimated 125 million people consuming it in some form or the other every year. In India, marijuana use has been historically bound to faith and mysticism.

**Marijuana** is a flowering plant used to make hashish (from resin), ganja (leaves) and bhang (leaves and seeds). **Opium poppy** is a flowering plant that produces psychoactive alkaloids like opium, heroin, morphine & codeine.

**Cannabis** contains cannabinoids, which helps in numbing pain by acting on cannabinoid receptors in our brain, while opium-derivative opioids (Opioid overdose can cause deaths) interact with receptors, reducing pain and creating a euphoric effect.

### The Legalities of Marijuana



Decriminalization of marijuana means if a person is found using marijuana in small amounts he/she will not be prosecuted for it. In many Indian states possession of small amounts of marijuana is treated, like any other states that had decriminalized marijuana.

## CANNABIS, SCIENCE AND SOCIAL SUSTAINABILITY

Cannabis placement in international law was done in the **absence of scientific evaluation** and has provided the basis for a morality driven war on drugs for many decades. Among governments and non-state actors there are relatively few who still deny the failure of drug prohibition, and even less that advocate for its continuation. The World Health Organization backed and justified the severe status of control applied to the plant during the design of modern international drug policy –and by recommending that international control over the plant, its components, and its medical preparations be scrapped off.

*Cannabis policy reform helps create a model and forge the tools necessary to address the outdated or missing evidence as well as scheduling issues for a wide array of plants, products, or substances liable to generate harms or dependence in humans.* Because of its characteristics, widespread cultivation and use, and the diversity of its applications, the Cannabis sativa L. plant and related policies directly pertain to the 17 Goals of the United Nations 2030 Agenda for Sustainable Development which noted that “efforts to achieve the Sustainable Development Goals and to effectively address the world drug problem are complementary and mutually reinforcing”. The non psychoactivity-related uses of the Cannabis sativa L. plant – called “hemp”, “industrial hemp” or “industrial cannabis” – have accompanied humankind over centuries, in particular for the provision of food from the seed and through the numerous products derived from its fiber, among which, efficient building materials can be locally sourced and produced. *More recently, the plant has continued to be explored for the soil-cleaning property of its roots, contributing to clean water and oceans .The significant biomass produced by the stems of cannabis has revealed itself to be both a promising source of energy and a renewable source of recyclable vegetal plastic.*

The NCIA environmental committee was formed to write a technical report on “Environmental Impacts, Best Management Practices and Policies for the Cannabis Industry” necessary to position the cannabis industry as a leader in environmental sustainability at the



local, state, and national levels and to help inform environmental policy

## ORIGINS OF CANNABIS CONTROL IN INDIA,

Cannabis has a long history in India. Its oldest origin is not known in the world but what is certain is that around 3,000 BC, cannabis was consumed by people in some form. In India, evidence from 1,000 BC onward supports its use by people here.. Its association with Lord Shiva is part of Indian folklore.

Convention of cannabis or its bhang form started with the British and its Parliament enacted a law to tax bhang, ganja and charas on the pretext of the “good health and sanity” of the “natives”. But the British did not criminalize its use.

### Cultivation in India

***Cannabis:** Only permitted in Uttarakhand through a state license. **Poppy:** Regulated by the Central Board of Narcotics (CBN) is grown only in parts of MP, UP & Rajasthan. The two plants are legally grown for pharmaceutical uses. Cannabis is also used in some religious rituals and festivals such as Holi where bhang is consumed. As per the estimate, around 60,000 kgs of hash and 40,000 kgs of opium are produced in Himachal Pradesh. Out of that, only 500 kgs are seized annually, which helps the local economy of hilly states with limited water and the huge demand for this drug.*

. *Criminalization of cannabis in various forms happened after 1961 convention of the UNCND (United Nations Convention on Narcotic Drugs) that placed the plant and its derivatives on Schedule IV. India had opposed the move against cannabis citing its social and religious link to consumption of cannabis. But later cannabis became highly regulated. India, thus keeping bhang for religious use.*

The sudden change in public attitudes towards marijuana with over two-thirds of adults now supporting its legalization, up from just about 10 per cent 50 years ago. Over this period, attitudes towards marijuana have also softened globally, with Canada, Thailand, Malaysia and Uruguay now offering nationwide marijuana stores, while several others have decriminalized its use.

Marijuana as with alcohol can be controlled in their use without harming the health, education, age restrictions, taxation of our country’s citizens thus limiting the dose of the active ingredients and access to counseling for those who wish to stop. In doing so, you root



out the criminal mafias, empty jails of young people ,free up precious police time to go after the real criminal gangs and generate a new source of income for the state.

### Merits

Marijuana use is not as harmful as it is made out to be. In fact *tetrahydrocannabinol* or *THC* contained in marijuana has been shown to have significant health benefits. The use of medical marijuana to treat ‘neuralgia, convulsive disorders, emaciation,’ among other things is well known.

Medical marijuana helps as a sleep aid; helps combat nausea due to chemotherapy; and helps with muscle tension, spasms and chronic pain. Further, marijuana is shown to be much less addictive than cigarettes or tobacco. If alcohol and tobacco are legal, marijuana can be legal which is less lethal. And fewer deaths reported of marijuana overdose. For all these reasons legalization of marijuana at a minimum can reduce illegal cross border trafficking, **reduce illicit pot farms** and create a more effective and regulated market for meeting the obvious demand for this drug, but hemp can also be used for textile purposes, among others.

### Comparison of marijuana with alcohol

A person who consumes marijuana is less likely to cause violence or any damage when compared to a person who consumes alcohol.

Marijuana has many unproven claims to cause cancer whereas alcohol causes various types of cancer – kidney, mouth, stomach and is proven Marijuana enhances senses while alcohol can make one numb.

### Demerits

In support of legalization, the libertarian view is that individuals should be allowed to put whatever they want in their bodies and the liberal view is that the war on drugs has failed and that it has disproportionately impacted minorities in order to legalize a substance for recreational use that seriously impairs one’s judgment and health.

### International and National Regulation:

The UN has also passed a resolution removing marijuana from Schedule IV of the Single Convention on Narcotic Drugs, 1961, where it was listed alongside **deadly opioids and LSD’s**. Opium, a narcotic derived from poppy, can never be grown in your garden pot.



India voted in favor of removing cannabis and cannabis resin from Schedule IV of the 1961 **Single Convention on Narcotic Drugs at the United Nations Commission on Narcotic Drugs** (CND) on 9 December 2020. The resolution of the UN Commission on Narcotic Drug has voted to reclassify cannabis recognizing it as a narcotic that is not dangerous.

It is used in treating inflammations of the bladder and kidney stones. Dried leaf powder is applied to fresh wounds to promote healing. With digestive herbs (like cumin, fennel, anise) bhang can be excellent for stimulating appetite and digestion; with aphrodisiac herbs and foods (almonds, walnuts, sesame seeds, saffron) it becomes an excellent aphrodisiac.

In 2015, Uruguay became the first country to legalize recreational cannabis with Canada following last year, 2018. On the other hand, Cannabis in South Africa has been decriminalized by the country's Constitutional Court for personal consumption by adults in private.

#### **Rules and Duties imposed by Law on marijuana in India**

Indians have a very strong mythical and medicinal relationship with Marijuana as part of its festivities and culture. In 1986, Government of India created stringent narcotic laws that made the sale, production, and transportation illegal in the country, albeit shifted a legal source of state income to the international drug cartels.

The question of illegal drug marijuana to be decriminalized in India is of paramount significance due to its revenue generation when at a time today the GDP is eroding. On one hand, psychoactive drugs like *ecstasy* and *LSD (Lysergic acid Diethylamide)*, are potentially illegal drugs with frequent **rave dos.** (Speak loudly or angry) although many are against the legalization of marijuana, but at the same time support its decriminalization for its long term medical benefits.

According to Psychiatrist and Psychotherapist, “Cannabis is a psychotropic drug usually used to alter the mood and mind otherwise called as a Stress Buster. It slows down the activity of the central nervous system. Besides treating various symptoms such as nausea /vomiting during chemotherapy, improving the appetite of HIV/AIDS patients and reducing chronic pain.



Weed, marijuana, bhang, charas, ganja and so on, cannabis in India has been given numerous names and forms over thousands of years. Cannabis has been a soul of India, specifically in the Hindu religion, used in the form of charas (resin), bhang (seeds), and ganja (flower of cannabis). Although NDPS allows consumption of bhang, some states have their own laws banning or restricting its use. In Assam, *The Assam Ganja and Bhang Prohibition Act, 1958*, prohibits sale, purchase, possession and consumption of ganja and bhang. In Maharashtra, Section 66(1) (b) of the *Bombay Prohibition (BP) Act, 1949*, bans manufacture, possession and consumption of bhang and bhang-containing substances without a license.

The most commonly used form of cannabis in India is in the form of bhang used to make 'Thandai', a milkshake laced with cannabis seeds and leaves, consumed on Hindu festivals of Holi and Shivratri, the Sikh festival of Hola Mohalla, and other festive forms.

The reasons for legalizing marijuana in India. Today many use weed by consuming this drug illegally. The drug Marijuana is associated with a lot of taboos and nightmares in India. Cannabis contains 120 components with different useful properties and reducing many health problems, yet this drug has its defects too. The Indian Government considers the consumption of weed in any form as illegal but should absorb the usefulness of this drug. Cannabis is basically made of two important compounds THC (tetrahydrocannabinol) and CBC (cannabidiol) which is flooded with medicinal benefits and also helps us physically, spiritually and mentally. Weed, Pot and Marijuana are some of the names people are friendly with.

The Cannabis industry is absolutely useful to treat amnesia, glaucoma, alleviating anxiety, cure the effects of hepatitis and PTSD, in treating cancer, AIDS, and in treating alcoholism and relieving pain.

India is blessed with a vibrant economy and reasonable tropical weather and climate for the growth of weed and highly competitive legal marijuana world market. With the best inextricable climate and good policy recommendations India's economic growth can reduce the unemployment rates, generate increased revenue, medicinal and pharmaceutical advancement, decreased crime rates and totally shutting down the illegal trade.

Legalization of weed is a boon for employment sector, setting up marijuana nurseries and dispensaries and other local trade will give thousands of job opportunities. Processing,



selling and exporting involves a lot of hands and government can decide on tax rates, limitations to sell or not, while the policy makers can decide on how to turn weed welfare.

The increased revenue we get from the import export trade can be used in implementing educational policies for the illiterate, for rehabilitation centers, for poverty funds, health authority, schools and for the development of our country. Legalization also helps in the weed startups and pharmaceuticals to rise up which might help in big investors to step in and also helps the country to engage in global weed market.

Thirdly, due to marijuana consumption states should police in reducing violence and crime rates especially on its production, distribution and business of marijuana. Black market plays an influential factor in increasing crimes, as they sell weed for higher prices among minors and this sometimes results in accidents causing threat to young lives. Mafias also play a pivotal role as the black market tends to attract minors because weed is scarcely available and people are ready to do anything to obtain it. Money laundering is also promoted through illegal weed trade. If there is Legalization of weed malpractice and fraud can be reduced.

#### **Medical research**

The Central Council for Research in Ayurvedic Sciences (CCRAS), a research body under the Ministry of AYUSH, announced the results of the first clinical study in India on the use of cannabis as a restorative drug for cancer patients on 25 November 2018. Bombay Hemp Company (BOHECO) collaborated with CSIR and hosted a conference to promote the use of cannabis-based medicines in Delhi on 23 November 2018. The first medical cannabis clinic in India was opened in **Koramangala**, Bangalore on 1 February 2020. The clinic, operated by Odisha-based HempCann Solutions, sells cannabis infused tablets and oils under the brand name Vedi Herbals.

#### **Penalty for carrying drugs (Weed or Marijuana) in India?**

The purpose of possession of drugs (under The Narcotic Drugs and Psychotropic Substances Act, (NDPS) 1985, section 20) is not relevant and the punishment depends upon the quantity of drugs in possession and its consumption by juveniles or children below the age of 18 years under the below acts and its penalty are as follows:

The Juvenile Justice (Care and Protection) Act, 2000 State drug laws





For holding a small quantity, the prescribed punishment is rigorous imprisonment for up to 6 months, fine of Rs. 10,000 to Rs 2 lakhs or 10 to 20 years imprisonment.

Mitigating the use of illegal drug and the measures that we could adopt while legalizing marijuana

Policy makers can raise suggestions on how weed plantations by farmers, nurseries, pharmacies should be managed; the priority should be rural development and urban infrastructural development.

An age limit guidelines is essential, to prohibit the minors and illiterate people from using cannabis.

Awareness classes, Best Practices and Outsourcing Knowledge on dosage, application, pros and cons of the drug should be taught in schools and all the government affiliated institutions which will infuse precaution and meticulous usage.

The efficiency and safety of the drug should be clinically proven before selling it out in any outlets, consumer protection is mandatory.

Unauthorized export and import should not be encouraged and stringent action must be taken if violated.

The violence, disorganization and crimes associated with weed should be taken by the hands of law.

Advertising and Public consumption should be stringently monitored. Adopting good policies practiced in countries can also provide the surety of safety, Colorado, Portugal, Canada all show good examples.

Unbiased laws should be promoted so that no corruption and harm can fall on the country.

Tax rates should be regulated. Banning Marijuana does no good to the country and economy, nevertheless focusing on measures legalizing and regulating should be conveniently strategized for the better growth of country.*How to Make the Cannabis Industry More Sustainable*

**The dilemma of climate change.** Politicians feel that climate change is not an issue, but the scientific community is integrated to recognize the serious threat that climate change poses to the world. Currently climate change awareness researchers point out to the rising temperature in **Antarctica** which has reached 65 degrees Fahrenheit recently – the



warmest temperature ever recorded on the continent ostensibly a serious cause for concern.

The cannabis industry can combat climate change and boost sustainability strategies although it consumes a significant amount of energy with a solid carbon stumpage which is definitely not sustainable. Its negative impact on the global environment should monitor that the international cannabis industry can become more **environmentally friendly**.

**Sungrown Cannabis** The cannabis industry can be more sustainable by developing sungrown cannabis operations instead of indoor cannabis cultivation operations but educating consumers on its differences is compulsory at the same time utilitarian's should be aware of its reality.

**Sungrown cannabis** that was cultivated under the sun can often be just as good as or even better than cannabis that was cultivated using artificial light, and at a cost that is considerably cheaper than indoor cannabis.

**Hempcrete** All cannabis facilities should be made out of hempcrete. Hempcrete is a bio-composite durable building material made from the inner woody core of the hemp plant mixed with a lime-based binder. Hempcrete is carbon-negative, meaning that more carbon is taken out of the atmosphere from the cultivation of hemp and creation of hempcrete than is emitted into the atmosphere. Every facility in the cannabis space and cultivation equipments whether indoor or under the sun should be made out of hempcrete.

#### Renewable Energy Sources

Cannabis companies should reduce the amount of energy it takes to run their operations except to power certain tasks or processes, and such energy should come from renewable sources. Well solar panels have replaced fossil fuel sources and windmills are becoming more common at rural cannabis operations to reduce energy and make the cannabis industry more sustainable.

#### Packaging

Cannabis cultivation gives more attention on sustainable practices, chiefly its industrial packaging. A legal cannabis dispensary packaging is plastic used only once and then discarded but recycling programs and cannabis policies should look in for sensible packaging requirements by reducing environmental impacts and concerns.

#### Agricultural Practices



Cultivation practices also pose negative environmental impact concerns like the use of pesticides, synthetic nutrients, fungicides, and herbicides. Cultivators need to use natural strategies which not only reduce pollution, but can also save cultivators money. Cultivation operations and sun grown operations, should refrain from altering the local ecosystems avoiding cutting forests and tapping local water sources.

## Conclusion

To conclude marijuana is a very useful drug which should be legalized and not to be grouped with cocaine and heroin, but with other recreational drugs such as caffeine and tobacco. The legalization of marijuana will create new job opportunities and will give a huge boost to our economy.

It can be used for various medical purposes combating illnesses and disorders that can potentially lead to death. Awareness should be created for legalizing marijuana by mitigating its taboo.

That the US and many European nations had canvassed strongly in 1961 for strict regulation of cannabis as it criminalized its usage and today there is growing public opinion for de-criminalizing cannabis.

The UN decision to reclassify cannabis, would lead to an international protocol to legalize cannabis. Weed is similarly less dangerous than different genuine medications, for example, heroin, cocaine, LSD, ayahuasca, and so on. Everything relies upon how the national administration needs to see the utilization of cannabis in one's life and the economy of the state.

The cannabis industry has the opportunity to establish industry standards and operating procedures that engage with the environment in ways that serve finite resources. **Policy considerations and recommendations for improving environmental compliance and sustainability are warranting.** A *National platform* can serve as a place for industry to report environmental parameters, such as energy use or waste generation, and would also provide a place for regulators across all levels of government to share information and guidance. This national clearing house would promote coordination in the regulation of the cannabis industry and hold the industry accountable to achieving environmental sustainability.



States have to incorporate environmental best practices and regulatory requirements into existing marijuana licensing and testing processes. When states or the national government move to legalize cannabis, they should consider structuring licensing programs to include environmental processes for permits from the beginning so as to avoid ambiguities in the business enterprises.

#### Finally policy

Recommendation should focus on developing incentive programs for the cannabis industry that too in an environmentally sustainable matrix for a greater diversity of business market with more businesses integrating sustainable into their strategic planning suiting the needs of stakeholders. Such an atmosphere will boost the ability to anticipate and react to social, environmental, economic and regulatory changes as they arise. Despite a growing number of new technologies emerging over the past few decades, the legalization of marijuana and hemp is an unparalleled opportunity for the cannabis industry to emerge as the leader of environmentally sustainable practices.

## GLOSSARY OF CANNABIS TERMS

### AROMA

Like fine wine, cannabis can elicit a variety of scents for each individual user. Aroma describes the general smell and/or taste of a certain plant or flower. While some individuals definition of aromas can vary by taste (such as “earthy,” skunky,” or “citrus”). These descriptions are meant as a basic guideline, not exactly inked as fact in any cannabis textbook (that we know of).

### BHO

BHO stands for butane hash oil and is a potent concentrate of cannabinoids made by dissolving marijuana in its plant form in a solvent (usually butane). The resulting product has very high THC levels (generally more than flowers or hashish) and is a thick, sticky oil. BHO is also referred to as honey oil, “dabs” or “dabbing,” wax, or shatter, depending on the manufacturing method.

### BLUNT

A blunt is a hollowed out cigar that’s filled with cannabis. Blunt “wraps” come in a wide variety of sizes and flavors, and we recommend completely removing tobacco from a



proper cigar and refilling it with ground up bud. Cigar wraps burn for a long time, sometimes a half an hour or more; so blunts are great for a party or to pass around with the gang. Keep in mind that blunt wraps and cigar papers contain tobacco, so if you're especially sensitive to nicotine, you may want to stick with a joint.

#### BUD

Bud refers to the actual flower of the cannabis plant. These are the fluffy parts that are harvested and used for recreational or medicinal purposes as they contain the highest concentrations of active cannabinoids.

#### CANNABINOIDS

Cannabinoids are the chemical compounds that are active in cannabis. There are at least 85 different known cannabinoids isolated from cannabis, all exhibiting varied effects. The two most popular cannabinoids are THC and CBD.

#### CANNABIS

Cannabis is a plant genus that produces three species of flowering plants: Cannabis sativa, Cannabis indica, and Cannabis ruderalis. Cannabis sativa and Cannabis indica are used to produce recreational and medical marijuana. Cannabis ruderalis is rarely farmed due to its natural lower THC content and small stature, but there is some cross-breeding thanks to ruderalis's unique ability to auto-flower rather than mature based on light. Cannabis is native to Asia, but grows almost anywhere and has long been cultivated for the production of hemp as well as various other uses.

#### CBD

Cannabidiol-an abundant cannabinoid of marijuana, CBD has wider scope of potential medical applications over THC. CBD is effective in treating neuropathic pain caused by MS, Diabetes, Lupus, cancer and other injuries. It is also used to combat anxiety, seizures, sleeplessness, and nausea. This is a great option for those who are looking to take advantage of the medical actually counteracts THC's psychedelic effect, so if you're looking for a more mellow experience we recommend talking to your budtender about finding your ideal THC to CBD ratio.

#### CROSS (GENETICS)

A cross (referring to crossbreeding) is the result when two different plant strains being bred together. For example, Blue Dream is a cross between Blueberry and Haze strains.



## CONCENTRATES

The term concentrate refers to any wax, shatter, or oil that you vaporize or smoke or any tincture applied sublingually under the tongue. Concentrates are a potent consolidation of cannabinoids that are made by dissolving marijuana in its plant form into a solvent. The resulting product has very high THC levels (generally more than flowers or hashish) and can produce various products, most typically oils and waxes.

## CO<sub>2</sub> EXTRACTION

CO<sub>2</sub> extraction is a type of supercritical fluid extraction used to maximize the cannabinoids and terpenes of the marijuana plant while still maintaining their delicate structure. A supercritical fluid behaves both like a gas and like a liquid-diffusing through solids like a gas but dissolving compounds like a liquid. The supercritical CO<sub>2</sub> goes through a series of extraction vessels at specific pressures and temperatures, flooding the ground plant material and extracting those clean cannabinoid profiles. It is then separated and filtered from the plant material and, after the extraction is complete, a drop in pressure allows the excess CO<sub>2</sub> to evaporate, leaving the cannabis oil behind. The benefit of CO<sub>2</sub> extraction is that it is naturally occurring and leaves behind no residues. Other examples of CO<sub>2</sub> extractions in the food industry include the extraction of flavor oils from hops in the brewing industry and extraction of caffeine from coffee beans. Fun Fact: Most concentrates are made using shake, trim and undesirable buds that aren't fit to smoke.

## DABS/DABBING

A dab is a slang term used to refer to a dose of BHO received through butane combustion and inhalation. The act of “dabbing” refers to partaking in dabs.

## EDIBLES

Edibles are cannabis-infused foods, beverages or tinctures containing up to 10mg of THC per serving. Some edibles contain multiple servings & direct you to consume only a portion. They can take up to 2 hours to “kick in” and tend to deliver a longer lasting high than smoking or vaping cannabis. Start slowly with 5mg to see how it affects you. Read more on our blog,

## FLOWERING TIME

Flowering time refers to the time it takes for a plant to produce mature flowers. Cannabis flowering times are affected by the length of daily exposure the plant receives to



sun (with the exception of the *Cannabis ruderalis* species, which flower automatically). When flowering times are reported for a strain, they are general estimates based on how the plants do on average in optimal conditions. Actual flowering times will vary, and it is up to the grower to decide when to harvest for maximum benefit.

#### FLOWERS

Flowers are often the “pretty” part of a plant, and the same is true for cannabis. While cannabis flowers don’t have traditional petals, they are still the reproductive organ of the female plants. Cannabis flowers are the hairy, sticky, crystal-covered bits that are harvested and dried to be used as medication. When male plants fertilize them, these flowers will produce cannabis seeds. If not, they will continue to produce the resin that contains their active cannabinoids until they are harvested or begin to die.

#### HASH

Hash is probably the oldest marijuana concentrate around and is made from the collected and compressed resin, or kief, from the leaves and flowers. More potent than smoking bud, hash offers an elevated experience for any and all smokers.

#### HEIRLOOM

An heirloom refers to a cannabis strain that was taken from its native homeland and propagated in another geographical location.

#### HEMP

Hemp is a fibrous product that can be produced from the male cannabis plant and can be used in the manufacture of rope, paper, beauty products, and a vast array of other products. Hemp plants have no value as a drug since they are males and don’t produce the same level of cannabinoids as the female cannabis plants.

#### HYBRID

Hybrid refers to a plant that is a genetic cross between one or more separate strains of cannabis. Hybrids can happen unintentionally, but they are usually bred specifically to combine desired traits of the original plants. Most marijuana on the market today is some form of hybrid.

#### HYDROPONICS

Hydroponics refers to a system of gardening that does not use soil. Plants are grown in water and receive their nutrients from the addition of solutions rather than soil. For



growers, hydroponic advantages include more control over nutrient intake and stability. In terms of marijuana production, plants grown hydroponically are sometimes said to have cleaner, more distinct flavors

#### INDICA

Indica is the less scientific name for the Cannabis Indica species of cannabis. Generally, these plants originated in the Middle East and Asia and include both of the famous kush and Afghan lineages. Compared to their sativa counterparts, the plants are shorter, bushier and have more compact flower growth. This species tends to provide a nice body high that facilitates relaxation, or the “couch lock” effect.

#### JOINT

A joint is a cannabis cigarette rolled using non-tobacco papers. If you’re new to cannabis, try a pre-roll first.

#### KIEF

Kief is a collected amount of trichomes that have been separated from the rest of the marijuana flower. Since trichomes are the sticky crystals that contain the vast majority of the plant’s cannabinoids, kief is known to be extremely potent. Kief is sometimes mistakenly referred to as pollen and is the primary ingredient in hashish production.

#### KUSH

Kush refers to a line of cannabis plants that hail from the Hindu Kush mountains in Afghanistan and Pakistan. Kush strains are Indicas and have a unique aroma that has garnered a large fan base. Specific breeds and plants are unique, but their aroma is generally described as “earthy” and often piney combined with floral or sweet tones.

#### LANDRACE

A landrace refers to a local variety of cannabis that has adapted to the environment of its geographic location. This accounts for genetic variation between landrace strains, which have been crossbred to produce the cannabis variety we see today. Landrace strains are oftentimes named after their native region, like Afghani, Thai, and Hawaiian, and traces of landraces are sometimes detectable in the names of their crossbred descendants.

#### LIMONENE

Another prevalent terpene found not only in cannabis but in the peels of citrus fruits and cardamom, limonene, (named for its lemon scent and taste), is anti-fungal and anti-





bacterial. Limonene is also recommended as a mood elevator and anxiety reducer. Strains that typically have high limonene levels include Super Lemon Haze, Jack Herer, and Berry White. Read more about terpenes on our blog,

#### LIVE RESIN

Live resin uses fresh, frozen cannabis flowers cut from the grow before they've been dried or cured, and then processed within hours of harvest resulting in elevated terpene levels. Terpenes give each individual strain its specific flavor and aroma profile. You prefer skunky, piney, citrus, earthy or floral smelling buds? You can thank terpenes for giving you the variety of choices. More and more we are finding that not only does each terpene have it's own flavor and aroma profile, we're finding that they also have different effects within the body. That being said, live resin manages to maintain a really beautiful terpene profile because it's capturing the terpenes of a live plant as opposed to that of the dried and cured flowers used in most BHO concentrates. Terpenes are incredibly temperamental, especially the lighter, aromatic ones. They can disintegrate in the drying and curing process. Live resin is a wonderful and tasty way to capture the layered flavors of the cannabis flower without losing much in the process.

#### MARIJUANA

Marijuana is the general term for female cannabis plants or their dried flowers. Females are distinct from male plants in that they are the ones that produce flowers that contain a high percentage of cannabinoids that hold psychoactive properties.

#### MYRCENE

Thought to be one of the most abundant terpenes in cannabis, myrcene is found not only in cannabis but in other plants like wild thyme, sweet basil, mango, and hops. It is known to be anti-bacterial and anti-inflammatory, it lessens the effects of diabetes, induces sleep and reduces anxiety. Fun Fact: eating a fresh mango 45 minutes before smoking will increase the effects of the cannabis. Eat up, fruit lovers!

#### OG

OG is a term that's now used to describe many strains, though the term originated to describe Southern California's Ocean Grown Kush, which was quickly shortened to OG Kush. OG Kush grew quickly in fame and reputation. Most OGs are different variations of the original OG Kush genetics or are also ocean grown on the West Coast.



## PHENOTYPE

Phenotype is a term that is heard most often in growing. It refers to the general physical characteristics of the plant such as height, color, branching, leaf configuration down to cell structure—any markers that can be used to identify and judge the healthiness of a plant.

## PINENE

Another terpene found in marijuana as well as in orange peels, pine needles, rosemary, dill, and parsley. Pinene derives its name from its woody, piney aroma. Pinene is memory enhancing, promotes alertness, is anti-inflammatory, and used for people suffering from respiratory ailments like asthma or bronchitis. Strains with typically high levels of pinene include Dutch Treat, Romulan and Blue Dream. Fun Fact: pinene is the most common terpene in the plant world. Read more about terpenes on our blog,

## PISTILS

Pistils are part of a female plant's anatomy. On cannabis, it's identified as the little hair-like extensions on the flowers that range in color from white to red to darker orange-brown. When plants are going to be fertilized, the pistil acts to collect the male pollen. When plants are left unfertilized, as in the case of marijuana, the pistils change and can be indicators of plant ripeness.

## POT

Pot is a slang term for marijuana

## PRE-ROLL

Pre-roll is a commonly used term that refers to a pre-rolled marijuana cigarette, commonly known as a joint.

## RUDERALIS

Ruderalis is a low-THC cannabis variety that is primarily selected by breeders for its CBD-rich genetics. Unlike Cannabis sativa and indica, which use light cycles to flower, ruderalis is an “autoflowering” variety, meaning it flowers with age. Originating in Russia, ruderalis is a hardy plant that can survive harsh climates

## ROSIN

Rosin is a solventless concentrate that's made by heating and compressing the flowers, kief or hash from the cannabis plant. Relatively simple to make at home, requiring



only some parchment paper and a hair straightener, this high potency concentrate is becoming popular because of the distinct lack of additives like butane or alcohol.

#### SATIVA

Sativa is the less scientific name for the cannabis sativa species of cannabis plant. In general, these plants originated outside of the Middle East and Asia and include strains that are from areas such as South America, the Caribbean, Africa, and Thailand. These strains tend to grow taller as plants (usually over 5 feet), are lighter in color and take longer to flower. When consumed, sativas tend to produce more cerebral effects as opposed to physical and sedative ones

#### SENSIMILLA

The process of sequestering female cannabis plants from male plants to induce overproduction of cannabinoids.

#### SHATTER

Shatter and ice are terms used to refer to BHO.

#### SPLIFF

Commonly misused to refer to a joint, a spliff is actually a mix of both tobacco and bud rolled in smoking paper. In Europe, it's the opposite, a spliff there is a marijuana cigarette while a joint is the combo of tobacco and ganja. However, everyone agrees on one thing: a spliff and a joint are not the same thing.

#### STRAIN

A strain is a specific variety of a plant species. Strains are developed to produce distinct desired traits in the plant and are usually named by their breeders (or by creative consumers). Strain names often reflect the plant's appearance, its promised buzz, or its place of origin. They can also be named for their aroma or flavor. Although the medical marijuana industry strives for consistency, strains can easily be mistaken or purposely misidentified.

#### THC

THC is an abbreviation of tetrahydrocannabinol and is one of most abundant cannabinoids in marijuana. THC is responsible for weed's psychoactive, "high" effects. Fun Fact: higher percentages of THC in bud, (24%-30%), make for a quicker onset, "higher" high.



Lower percentages, (13%-23%) might take longer to take effect but will eventually get you there and often last a little longer.

#### TINCTURES

A tincture is a liquid concentrate, typically procured through alcohol extraction, which strips the plant of its beneficial cannabinoids. Usually carried in a coconut oil or glycerin, tinctures are available in a variety of flavors and dosages and are a great alternative for those not interested in smoking

#### TOPICALS

Topicals are non-psychoactive balms, salves, and oils that users apply directly to the body instead of consuming. They can act as a muscle relaxant and as an antiseptic ointment.

#### TERPENE

Terpenes are the pungent, oily compounds found in the marijuana plant. Secreted from the plant's trichomes, terpenes give cannabis varieties their distinctive flavors and aromas like citrus, berry, skunk or pine. Evolved at first as an adaption to repel predators and lure pollinators, we are finding that each individual terpene has different effects within the body. Read more about terpenes on our blog,

#### TRICHOMES

Trichomes are the small and sometimes nearly microscopic resinous glands, stalks and hairs that cover the flowers and leaves of the cannabis plant. Believed to have evolved as a way to protect the plant from insects and animals, trichomes are now also thought to inhibit the growth of some fungi as well as protect from high winds and low humidity. Trichomes are where terpenes and cannabinoids (THC and CBD), are created and secreted. Fun Fact: the next time you're dusting your bowl with a little kief, keep in mind that you're really toking on the decapitated heads of trichomes.

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