

A vertical green leaf is positioned in the upper half of the frame. A single, teardrop-shaped drop of bright yellow oil is suspended in mid-air, falling from the tip of the leaf. Below the drop, the neck and upper body of a brown glass bottle are visible, suggesting the oil is being dispensed. The background is a soft, out-of-focus green gradient.

*The
Ultimate Guide
to CBD Oil*

What is CBD?

CBD (cannabidiol) is a cannabinoid – a biologically active cannabis compound that has been proven to have significant health benefits. The cannabis plant is composed of a complex chemical mixture that includes phyto-cannabinoids, terpenoids, flavanoids, steroids and enzymes. Cannabinoids help by modulating many physiological systems in the human brain and body. There are many active cannabinoids that have been identified in cannabis and of these tetrahydrocannabinol (THC) and cannabidiol (CBD) are usually present in the highest concentrations and have been studied the most extensively.

THC is the psycho-active component, which is used recreationally to give the “high”. CBD is non-psychoactive, meaning it does not make people feel “high or stoned” so that means daily tasks, like driving, taking care of children and working, will not be affected or put at risk by using CBD. There are no dulled senses to inhibit consumers. While this makes CBD a poor choice for recreational users, it gives a significant advantage as a tonic, since it has minimal side effects. This makes CBD an appealing option for people looking for relief from various conditions such as inflammation, pain, anxiety, psychosis, seizures, spasms, etc -- without feelings of lethargy.

CBD rich hemp oil, the essential oil of the hemp plant, has over 480 natural compounds including 100 or so cannabinoids (CBD and THC are two) and over 120 terpenes (part of a plants essential oils which contribute to a plant’s scent, flavour and colour) along with amino acids, proteins, enzymes, ketones, fatty acids, steroids, flavonoids, vitamins and more.

The term CBD has come to mean this whole plant extract high in cannabidiol (CBD) with much smaller amounts of the other compounds. Although there are synthetic cannabinoid substances produced by pharmaceutical companies, it is believed that the naturally occurring plant substances (phyto-cannabinoids) act synergistically, known as the “Entourage Effect”, for optimal benefits.

By using selective breeding techniques, cannabis growers have managed to create varieties with high levels of CBD and next to zero levels of THC.

CBD was first isolated in the 1930s (and further in the 1940s), but its structure and configuration were first fully described decades later—in the 1960s—by Professor Raphael Mechoulam and his team of researchers in Israel. As of early 2014, PubMed.gov, a service of the National Institutes of Health, has indexed over 1,650 peer-reviewed papers on CBD.



What is the difference between Hemp (aka Industrial Hemp) and Cannabis?

When trying to wrap your head around the differences between hemp and cannabis, it is important to begin with this simple concept: both hemp and cannabis come from the same plant. Whether you call something hemp or cannabis will depend on a variety of factors. However, despite the fact that the terms *hemp* and *cannabis* are often used interchangeably, they do have separate connotations.

Unfortunately, prohibition has spurred a lack of education surrounding the cannabis plant. This has led to countless rumours about what makes hemp different from cannabis. Everything from “hemp plants are male and cannabis plants are female” to “cannabis is a drug and the other is not” are incorrectly being preached as common knowledge to unknowing bystanders. So, how are these terms supposed to be used? Let’s find out.






“Health Canada defines hemp as products of *cannabis sativa* which contain less than 0.3 percent THC, whereas US law defines hemp as all parts of any *cannabis sativa* plant containing no psychoactive properties, except for defined exceptions.”

According to a 1976 study published by the International Association of Plant Taxonomy concluded “both hemp varieties and marijuana varieties are of the same genus, *cannabis*, and the same species, *cannabis sativa*. Further, there are countless varieties that fall into further classifications within the species *cannabis sativa*.”

However, depending on how the plant is grown and utilised will determine which term is correct. For instance, the term cannabis (or marijuana) is used when describing a *cannabis sativa* plant that is bred for its potent, resinous glands (known as trichomes). These trichomes contain high amounts of tetrahydrocannabinol (THC), the cannabinoid most known for its psychoactive properties.

Hemp, on the other hand, is used to describe a *cannabis sativa* plant that contains only trace amounts of THC. Hemp is an extremely versatile and high-growing plant, typically bred for manufacturing where it is used in thousands of commercial and industrial products from clothing and construction to oils and topical ointments, and much, much more. Only products made from industrial hemp (less than 0.3% THC) are legal to sell, buy, consume, and ship. This single factor (0.3%) is how *most* people distinguish between what is classified as “hemp” and what is classified as “cannabis.”

So to summarise, the term cannabis refers to the entire hemp family of plants, marijuana the ‘pot’ sub species of sativa and indica generally refers to the psychoactive varieties containing over 0.3% THC, and hemp refers to the non-psychoactive CBD rich plants containing below 0.3% THC.

	Sativa 	Indica 
Some	 Mainly affects the mind	 Mainly affects the body
	 Tall and skinny plant structure	 Short and dense plant structure
	 Uplifting and/ or euphoric feelings	 Heavy feeling and/ or “body-melt”

CBD has a long history of being used to alleviate the symptoms of health problems. Queen Victoria used cannabis for menstrual cramps in the 19th century. Animal studies had long suggested that CBD lessens anxiety and reduces the severity and frequency of seizures and today this is a proven outcome on humans.

The cannabis plant has been used for thousands of years in medicine for its sedative/hypnotic, antidepressant, analgesic, anticonvulsant, antiemetic, anti-inflammatory, anti-spasmodic and appetite-stimulating effects.

The roots of CBD extend back thousands of years; to the end of the first ice age. Archaeological finds suggest that the source plant for the CBD compound, *cannabis sativa*, was likely one of the first agricultural crops planted by early man. In fact, growing cannabis sativa, something we tend to think of as modern, is often associated with the birth of agriculture 12,000 to 10,000 years ago.

The astronomer Carl Sagan an icon of scientific credibility, put forth the possibility that Cannabis may have been world's first agricultural crop, leading to the development of civilization itself. Looking at time lines, it is clear that cannabis plants have been integral to mankind since earliest times.

Cannabis plants are exceptionally versatile. Both the seeds and cannabis oil were used for food in China as early as 6,000 BCE. Two thousand years later, in 4,000 BCE, there is evidence of textiles made from hemp (cannabis) used in both China and Turkestan. The influence of the plant seems to have been global. In 850, the Vikings transported hemp rope and seeds to Iceland, and by the year 900, Arabs were learning techniques for making paper from hemp. By 1000, Italians were using ropes made of hemp on their sailing ships.

Today, consumers are primarily interested in the healthful properties of cannabis compounds, and there is a long thread of cannabis applications for health running through all eras of history. Stories about the healing properties of hemp (cannabis) mention Greek philosophers, Herodotus, Napoleon and other legendary figures. The physician for Nero's army, for example, included cannabis in his inventory. In 1563, the health benefits of cannabis were discussed in a report by Portuguese physician Garcia da Orta. A few years later, China's Li Shih-Chen documented the antibiotic and anti-nausea effects of cannabis.

In contrast to today's modern restrictions of growing *cannabis sativa*, England's King Henry VIII actually fined farmers if they *did not* raise hemp for industrial use. This was in 1533. Less than one hundred years later, settlers in Jamestown, Virginia began growing hemp plants for hemp's unusually strong fibre. Once the plant demonstrated its usefulness, it became illegal to NOT grow hemp in Virginia USA.

By 1850, Cannabis was added to list of The US Pharmacopeia, a respected compendium of Medicines and Dietary Supplements. That same year, marijuana was used throughout United States as a legal drug and could easily be purchased in pharmacies and general stores. This lasted until about 1915.

Cannabis as medicine is not a new concept. Prior to prohibition, major pharmaceutical companies produced a wide variety of cannabis-based medicines and 1840 to 1937 were considered the "golden age" for cannabis medicine.

Although cannabis has a long history, what is new is the recent discovery (1992) of the body's endocannabinoid system (ECS) (see section below). Also discovered was that the cannabis plant is loaded with phytocannabinoids that can stimulate the ECS receptor sites of this system. It is this combined discovery that is leading cannabis, in all forms, back into the limelight again as a viable tonic for good health.

The Endocannabinoid System

In addition to cannabinoids produced by the plant (phyto-cannabinoids), there are endogenous (which means having an internal cause or origin) cannabinoids (such as anandamide and 2AG) that occur naturally in the mammalian brain and body. There are also synthetic cannabinoids which are synthetically engineered in labs.

Regardless of the type, cannabinoids act as neuromodulators and help regulate every physiological system such as our nervous system, digestive system, reproductive system, immune system, endocrine system and muscular system.

Research on cannabis' effects led directly to the discovery of a hitherto unknown biochemical communication system in the human body, the Endocannabinoid System (ECS), which plays a crucial role in regulating our physiology, mood, and everyday experience. The ECS is also known as "the body's own cannabinoid system". It is made up of groups of cannabinoid receptors which are mainly located in the human brain and central and peripheral nervous systems.

The discovery of receptors in the brain that respond pharmacologically to cannabis—and the subsequent identification of endogenous cannabinoid compounds in our own bodies that bind to these receptors—has significantly advanced our understanding of human biology, health, and disease.

The ECS is estimated to be over 600 million years old and is found in all vertebrate species. We are just beginning to understand how widespread and important it is to our functioning. The primary purpose of the ECS revolves around maintaining balance in the body; this is known as homeostasis.

Various studies show that these receptors allow two-way communication between body systems and are the reason CBD is so easily utilised by the human body. It is an in-built mechanism for effectively utilising cannabinoids (both from cannabis and from our own biological production) to help with numerous human processes and sensations. These studies have revealed that cannabinoids act as neuromodulators for a variety of processes, including motor learning, appetite, and pain sensation, among other cognitive and physical processes.

The two primary endocannabinoid receptors are CB1 (found mainly in the brain and central and peripheral nervous system, and also in the liver, kidneys and lungs) and CB2 (found mainly in the immune system and spleen). These receptors are specifically designed to work with both the endocannabinoids that our bodies naturally produce (such as after exercise), and also with plant based cannabinoids such as THC and CBD. Sensations such "runners high" were

once thought to be produced by endorphins. However recently it has been proven that this feeling is actually due to the body producing its own cannabinoids.

The fundamental function of the CB1 and CB2 receptors is either to “excite” or to “inhibit”. This excite or inhibit process will determine how other hormones and body systems are regulated in the body. The ECS is fundamentally a hormone regulation system throughout the body and it helps to keep the body in balance.

CB1 is mainly responsive to THC so when THC is present it is effective for the therapeutic moderation of pain intensity. Remember that THC is the psycho-active component of cannabis and produces the intoxicated effect that it is mostly known for. Importantly, CB1 receptors are not present in the part of the brain that regulates heart rate and respiration, so unlike narcotics, there is no lethal dosage threshold for THC.

CBD does not directly act on the CB1 and CB2 receptors but instead interacts and enhances other signalling systems. It acts indirectly by stimulating endogenous cannabinoid signalling and activating the release of other endocannabinoids, that work on both CB1 and CB2 receptors. CBD also works indirectly on other receptors besides CB1 and CB2 mainly affecting receptors such as serotonin, adenosine and vanilloid. Recent studies have shown how CBD is involved in the stimulation of 5-HT1a serotonin receptor which is known to produce the anti-depressant effect. This receptor is common to a huge range of other processes such as appetite, pain perception, nausea, anxiety and addiction mechanisms.

CBD is non-psychoactive because it does not act on the same pathways as THC. One of the effects of CBD is that it moderates the effects of THC. It actually knocks THC off the CB1 receptor, so if someone is experiencing THC intoxication, a strong dose of CBD can counteract those effects.

Researchers are finding out that by modulating the endocannabinoid system, the symptoms of a number of diseases and pathological conditions may be alleviated. Conditions such as multiple sclerosis, cancer, stroke, obesity/metabolic syndrome, anxiety disorders, neuropathic pain, Huntington’s disease, glaucoma, seizure disorders, Parkinson’s and osteoporosis are just a sampling of the disease symptoms helped.

Human breast milk and the cannabis plants have something in common – some of the same cannabinoids. Breast milk is abundant in cannabinoids. These similar cannabinoids protect the infant against disease, stimulate the suckling response and help to regulate the appetite.

Endocannabinoid production, therefore cannabinoid levels in the body, are nutrition dependent, so the levels drop with poor nutrition, including being deficient in omega-3 oils. Omega-3 fatty acids are the precursor for the body to be able to produce its own endocannabinoids. Omega-3 fatty acids help repair and grow CB1 receptors and the CB1 receptors cannot work properly if starved of Omega-3. It would be very helpful for anyone using a cannabis preparation (or not) to incorporate Omega-3 fatty acids into their diet, priming the CB1 receptors to be at their best for endocannabinoids or phyto-cannabinoids.

Omega-3’s are found naturally in a variety of foods including walnuts, flaxseeds, chia seeds, sardines, salmon, tuna, fresh basil, spinach, beans, brussels sprouts, cauliflower, broccoli and

avocado's to get you started. Good diet, exercise and staying well hydrated are also important for good health.

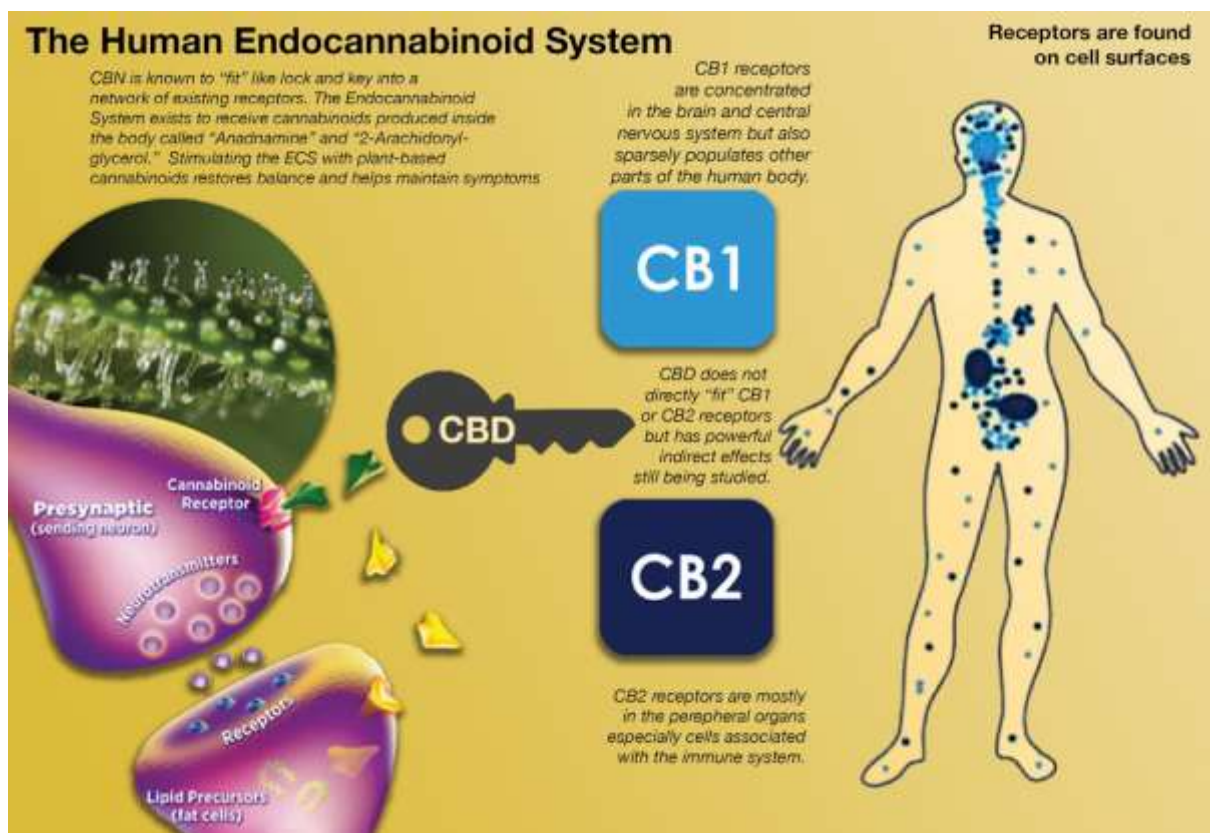
The fact that there is a system in our body that produces cannabinoids, and is specifically designed to accept just them, should be overwhelming proof of cannabis' efficacy as a health tonic. We have just scratched the surface of a world of possibilities. People are waking up to the benefits of these tonics as more researchers are exploring the infinite possibilities inherent in this seemingly simple plant.

Please see the link below for further information:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2241751/> -- The Endocannabinoid System as an Emerging Target of Pharmacotherapy...

Excerpt from the above link from the National Institutes of Health in 2006:

“In the past decade, the endocannabinoid system has been implicated in a growing number of physiological functions, both in the central and peripheral nervous systems and in peripheral organs ... modulating the activity of the endocannabinoid system turned out to hold therapeutic promise in a wide range of disparate diseases and pathological conditions, ranging from mood and anxiety disorders, movement disorders such as Parkinson's and Huntington's disease, neuropathic pain, multiple sclerosis and spinal cord injury, to cancer, atherosclerosis, myocardial infarction, stroke, hypertension, glaucoma, obesity/metabolic syndrome, and osteoporosis, to name just a few...”



Currently there are no documented studies that show undesirable effects from CBD, which is why this particular cannabinoid is legal in most parts of the world. However, there are many studies showing CBD to cause only desirable effects or no effects at all.

In virtually every test on CBD's effectiveness, only desirable effects were obtained; the only negative side effect that has been proven is slight fatigue (and only when a lot of CBD was used). In fact, CBD has been extensively hailed by none other than Dr Sanjay Gupta, who discussed it at length in his documentary "Weed" on CNN live as well as in a string of videos widely circulated on YouTube.

CBD is now used to treat health conditions like neurological degeneration, for which no other successful medication has yet been found. CBD is suggested as potentially useful as a therapy for schizophrenia due to the opposing effects it has. Not only that, but it may be able to relax those suffering from anxiety disorders and offer comfort.

Some currently known uses and applications

Hundreds of peer-reviewed studies indicate that CBD possesses almost unbelievable clinical potential.

Anti-emetic (reduces nausea and vomiting)

Anti-convulsant (suppresses seizure activity)

Anti-psychotic (combats psychosis disorders)

Anti-inflammatory (combats inflammatory disorders)

Anti-oxidant (combats neurodegenerative disorders)

Anti-tumoral/anti-cancer (combats tumour and cancer cells)

Anxiolytic/anti-depressant (combats anxiety and depression disorders)

Vasorelaxant to help with glaucoma

Stress reduction and mood regulation

Improved sleep quality

Improves hair and skin health

Inflammatory pain relief

Neuroprotective qualities

Assists in some symptoms of Multiple Sclerosis and Parkinson's Disease

For more information and to order the highest quality CBD oil available, go to:

www.Canntica.com

If you think you may be suffering from any medical condition, you should seek medical attention. You should never delay seeking medical advice, disregard medical advice, or discontinue medical treatment because of information in this book. If you are considering making any changes to your lifestyle, diet or nutrition, you should consult with your doctor.

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