

The Holistic Truth

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CBD

HOW IT WILL BE
BENEFICIAL TO
YOUR HEALTH



PAIN



BRAIN



ANXIETY

WHAT TO LOOK FOR WHEN
BUYING CBD FORMULATIONS



Industrial Hemp

Industrial hemp was legally allowed to be grown with the farm bill of 2014. The bill restricts hemp that is grown so that it has to have less than .3% THC by dry weight. This prevents the plant from creating a 'high' and only allows it to be utilized for its health benefits.

Unfortunately, no current USDA Organic Certification for hemp currently exists. Many believe this certification will be applied in time.

Hemp may be either domestic or imported. It is very important where Hemp is sourced because of its ability to detoxify soil and air. Asian hemp may be planted to remove heavy metal toxicity. Hemp will absorb carbon dioxide and carbon monoxide from polluted air if the crop isn't treated with care.

Cannabis Oil vs Hemp Seed Oil vs Hemp Extract Oil

Cannabis Oil is derived from Cannabis that is greater than .3% THC by volume therefore making it Psychotropic. Sourced from cannabis that has between 6-20% THC. Because of this, it is only allowed to be sold in states that have passed medicinal or recreational laws.

Hemp Seed Oil is non-psychotropic and is sourced from cannabis seeds. Because it is from the seeds and not the plant, it has no active cannabinoids. This type of hemp is more comparable to sunflower or avocado oil. Hemp seed oil is a healthy fat but needs growth and flowering to produce active cannabinoids.

Hemp Extract Oil is non-psychotropic but is sourced from whole plant. Because it is derived from industrial hemp (less than .3% THC) it has numerous benefits and is legal in all 50 states. Hemp extract has active cannabinoids like CBD and CBN and includes the whole plant making it full spectrum.

About the Endocannabinoid system (ECS)

Cannabinoid binding sites are found throughout central nervous system (CNS) and peripheral nervous system (PNS). Cannabinoids act as neuromodulators for a variety of processes including but not limited to:

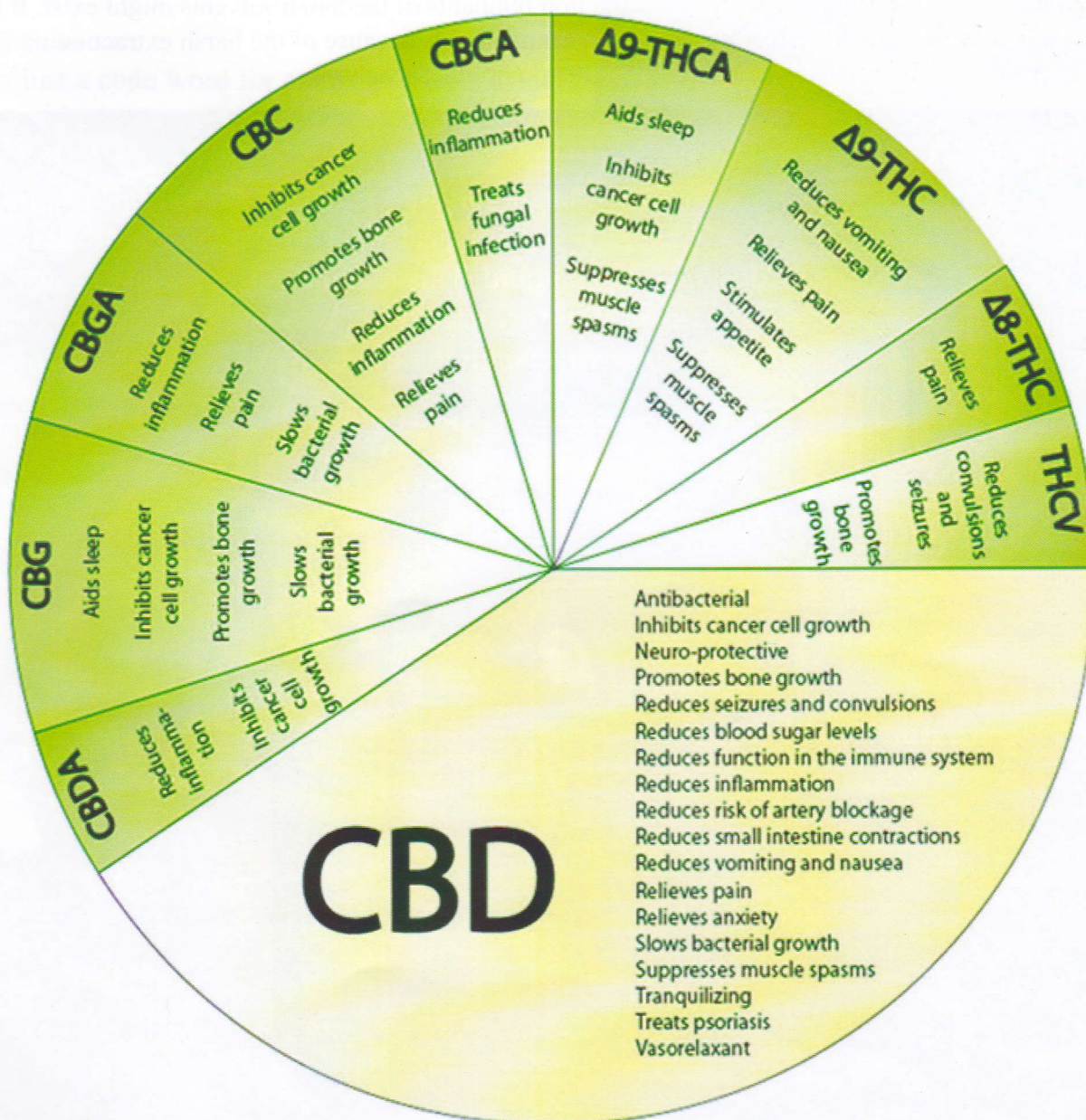
- **Motor learning**
- **Appetite**
- **Pain sensation**
- **Other cognitive and physical processes**
- **The two primary receptors CB1 and CB2 and some studies show another binding site might be found in the brain**

Phytocannabinoids

There are over 100 phytocannabinoids found in cannabis plants. The two most known and studied are Tetrahydrocannabinol (THC) which is psychotropic and cannabidiol (CBD) which has numerous health benefits and doesn't produce a euphoric high.

Cannabidiol (CBD) has been shown to help with numerous diseases and disorders and effects the CB1 and CB2 receptors found throughout the body. CBD produces no level of toxicity in humans up to 1500 mg per day (p/o) or 30 mg I.V.

Phytocannabinoids Found in Cannabis Plants



Methods of Extraction for Phytocannabinoids

Ethanol Extraction

There are many forms of ethanol extraction methods. One such method would be scientific ethanol extraction utilizing lab equipment. A more crude version would simply be dunking the plant in large drums of ethanol. This extraction method uses a harsh solvent and soaks the plant in ethanol. Some remnants of the ethanol remain and don't come off even after the cleaning process. This method may destroy some plant waxes and it is the cheapest form of extraction making it the most popular.

Hydrocarbon Extraction

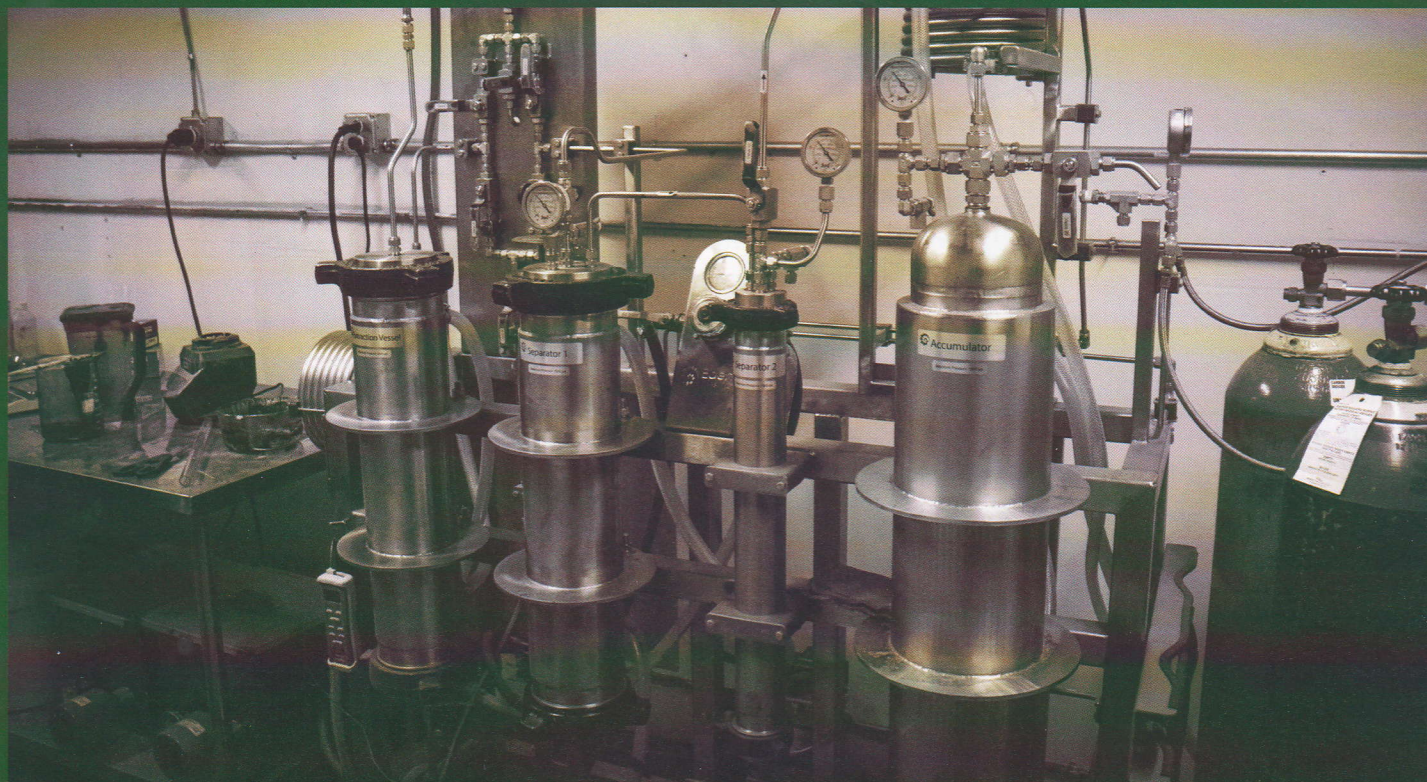
During hydrocarbon extraction butane is forced or "blasted" through hemp. Like Ethanol extraction this too uses a harsh solvent. Close attention needs to be paid to removing the hydrocarbon after the extraction or the process could be ruined.

Isolate Extraction

During isolate extraction harsh solvents are used (Butane, hexane, chloroform or others). Isolate extraction is commonly used on hemp that has mold or been exposed to pesticides. This may change the chemical bonds of the extracted products. Unfortunately with this extraction remnants of the harsh solvents might exist. It has been claimed that this may degrade the effectiveness of the cannabinoids because of the harsh extraction method. It is imperative that solvents are removed or else risk of allergic or other reactions.

Supercritical CO2 Extraction

This is the only form of extraction with no harsh solvents used for extraction. Liquid CO2's pressure and temperature is increased to reach supercritical state. It is then able to pass through hemp like a gas but draws out the extract like a liquid. This method is beneficial because there is no possibility of residue from solvents since none are used. CO2 is "tunable" meaning changes in temperature and pressure can effect what it extracts, giving more control to the extractor.



How do You Know You're Getting the Right Product?

A lot of keywords are used on labels to draw people to buying products. Here are some things to look out for.

USDA Certified Organic:

Currently there is no USDA certification for hemp. Because of this, if you are taking a product that claims it is USDA organic the company is being disingenuous.

Some companies will use a loophole that if <95% of product is USDA organic (like the MCT Oil) then they can call the whole product organic.

99.9% Pure:

This is just a code word for someone that is using isolate without saying isolate. It seems appealing like it is a better quality but isolate is powder CBD that has been processed using toxic solvents.

0.00% THC or THC Free:

This is similar to the 99.9% pure. The only way to get 100% THC free is to bring it to isolate. Some testing will show below trace THC after dilution but the only way to extract all THC is using Toxic solvents.

Know Before You Buy

If a companies website or bottle doesn't explicitly state their method of extraction you should be cautious purchasing their product. Also, if they don't explicitly state where their hemp is grown this is another red flag. This information should be readily available. If the website doesn't show the whole label somewhere then that should be a concern in case they are hiding where or whom does their extraction. 3rd party testing is a great thing for manufacturers to have because it backs up your product. However, recently 3rd party testing sheets have been forged. Be weary of companies that do not want to provide you with any of this information.

Studies Done for CBD Have Some Promising Results

In 2015 the American Society for Experimental NeuroTherapeutics published a study about Cannabidiol as a Potential Treatment for Anxiety Disorders. The Study set out to test whether the existing preclinical trials of CBD for Anxiety were reliable. The test found that preclinical evidence conclusively demonstrated that CBD was in fact successful in reducing anxiety behaviors relevant to multiple disorders. PTSD, GAD, PD, OCD, and SAD, with a noteworthy lack of anxiogenic effects. Overall, the review emphasized the potential value and need for further study of CBD in the treatment of anxiety disorders.

In 2016 A study was done to test CBD effect on inflammation and pain-related behaviors in a rat model of arthritis. Current treatments have side-effects for arthritis. CBD was reported to attenuate inflammation and pain without side-effects. It was decided that since CBD has poor oral bioavailability it would be more beneficial to administer it as a topical drug. This would avoid gastrointestinal administration and would provide more constant plasma levels. The results of the test founded that the CBD significantly reduced joint swelling, limb posture scores as a rating of spontaneous pain, immune cell infiltration and thickening of the synovial membrane in a dose-dependent manner. It was revealed that 6.2 and 62 mg/day were effective doses. Exploratory behavior did not change based on the CBD which can be viewed as having no effect on higher brain function.

Frontier CBD and Frontier CBD Cream



Frontier CBD and Frontier CBD Cream

Designed to Help Support Issues Such As:

- Pain
- Brain
- Anxiety

- *Manufactured in the USA on organic farms*
- *Supercritical CO2 extraction process*
- *No toxic chemical solvents, pesticides, or herbicides*
- *Distilled to reduce all odor and taste*

Frontier CBD is derived from agricultural hemp, a renewable plant resource. CBD stands for “cannabidiol” and refers to a portion of the hemp plant that does not contain the psychoactive substance THC normally associated with recreational marijuana use.

Supercritical Extraction, is used for Frontier CBD, an advanced technology using CO2 to gently extract an ingredient from its natural source without applying excessive heat and/or chemical solvents.

Chinese texts from the 3rd millennium BCE record use of Cannabis sativa to relieve pain and cramps; ancient Indian texts from 3000 years ago note the use of bhang (ingested marijuana as food); cannabis was used for surgical anesthesia in ancient China and to relieve pain in ancient Israel, Greece, Rome, and India.

CBD has also been tried by patients for a wide variety of psychological complaints including anxiety and depression, in particular, social anxiety, obsessive-compulsive disorder, post-traumatic stress disorder (PTSD), panic disorder, and generalized anxiety disorder.

CBD hemp extract is often used as an adjunct to medi-

cations in treating patients with refractory epilepsy. Please note that concomitant use of CBD along with anti-epileptic drugs requires close monitoring of serum drug levels of the prescription anti-epileptic medications. Also, it is prudent to monitor liver function tests, especially in patients also taking valproate and other medications. Patients with epilepsy should never start taking CBD products without the guidance of an experienced healthcare practitioner and close monitoring by the patient’s neurologist or primary care physician.

CBD can affect how the liver metabolizes some prescription (pharmaceutical) medications taken at the same time. When adding or increasing CBD, the effect of some prescription medications can change. One can minimize this effect by starting with low doses of CBD, increasing in small steps and separating doses of CBD and prescribed medications by two hours. Please be sure to consult your licensed healthcare provider and prescribing physician to best assess drug-herb interactions.

Coming soon! Nutritional Frontiers will be carrying the Frontier CBD Softgels which will be a blend of CBD and Curcumin!

Turmeric Plus

Increases the bioavailability of CBD, making it more effective and more easily absorbed by the body. Taking Turmeric in conjunction with CBD is highly suggested.

• Turmeric (Curcuma longa) is an antioxidant that:

- Helps with Pain and Inflammation
- Protects against free radical damage and unwanted substances in the liver.*
- It is a natural antiseptic and antibacterial agent.
- Normalizes gallbladder function*
- Aids in digestion*
- Helps maintain cholesterol levels within normal ranges*
- Supports circulation and blood vessel health*

Omega 3D II and Omega 3 Liquid 2800

Here are just a few of the ways omega 3 helps maintain your endocannabinoid system:

- Keeps the receptors healthy and functioning properly.
- Helps you grow more receptors when you need them.
- Helps repair receptors.
- Helps synthesize cannabinoids within the body. You need this even if you are supplementing with CBD oil!
- Helps keep your omega 6 to omega 3 ratio low. You need this to maintain healthy membranes that can support the receptors.
- Helps create one type of cannabinoid out of another type as needed.
- Helps create the enzymes needed to produce or degrade cannabinoids as needed to regulate the whole system.