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Danki Pa - Eco Estate,  
Rietvlei, Plettenberg Bay  
6600

[www.thecannaclub.co.za](http://www.thecannaclub.co.za)

HEALING  
with HEMP

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MEDDICATE

CANNABIS HEMP - MEDICINAL GUIDE

Contributing to the growing popularity of hemp seed oil is a global recognition and praise of the health benefits. Hemp seeds are an incredibly healthy source of protein and nutritious oils packed with all eight of the essential fatty acids the body needs.

While hemp seed oil is virtually free of THC (the psychoactive compound in cannabis) it won't make you 'high', yet has proven health benefits.

Hemp Seed Oil is certainly the most balanced dietary supplement, packed with all the essential nutrients to support & maintain a healthy lifestyle - through restoration & regrowth of the Body, Mind and Soul.

This booklet contains a brief summary on the background & healing properties of Hemp Seed Oil.





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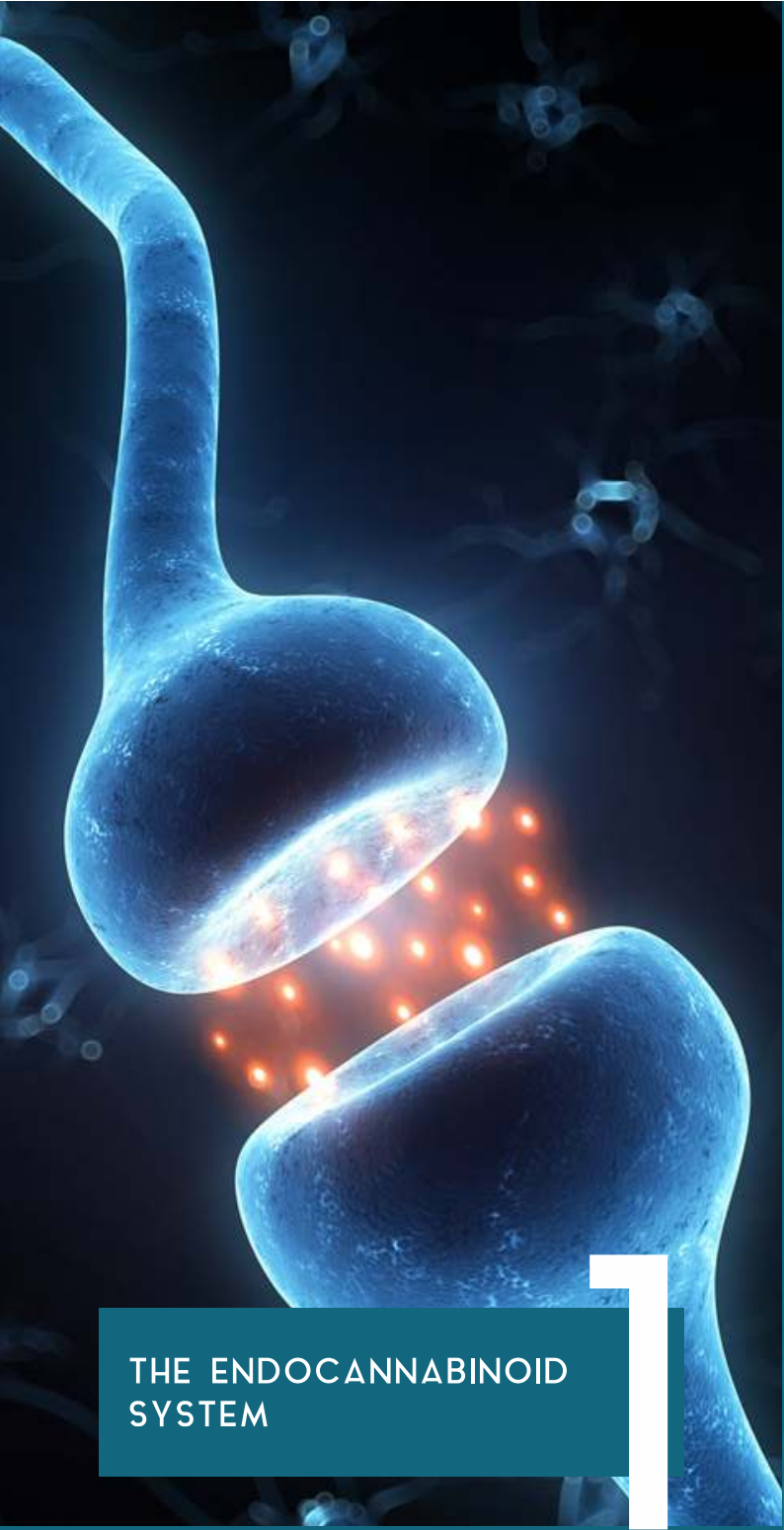
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## THE ENDOCANNABINOID SYSTEM

# 1

The endogenous cannabinoid system, is perhaps the most important physiologic system involved in establishing and maintaining human health.

Cannabinoid receptors are of a class of cell membrane receptors in the G protein-coupled receptor superfamily



Sea squirts, tiny nematodes, and all vertebrate species share the endocannabinoid system as an essential part of life and adaptation to environmental changes. By comparing the genetics of cannabinoid receptors in different species, scientists estimate that the endocannabinoid system evolved in primitive animals over 600 million years ago.

While it may seem we know a lot about cannabinoids, the estimated twenty thousand scientific articles have just begun to shed light on the subject. Large gaps likely exist in our current understanding, and the complexity of interactions between various cannabinoids, cell types, systems and individual organisms challenges scientists to think about physiology and health in new ways. The following brief overview summarizes what we do know.

## WHAT ARE CANNABINOID RECEPTORS?

Cannabinoid receptors are present throughout the body, embedded in cell membranes, and are believed to be more numerous than any other receptor system.

When cannabinoid receptors are stimulated, a variety of physiologic processes ensue. Researchers have identified two cannabinoid receptors:

**Cb1** predominantly present in the nervous system, connective tissues, gonads, glands, and organs; and

**Cb2** predominantly found in the immune system and its associated structures.

Many tissues contain both CB1 and CB2 receptors, each linked to a different action. Researchers speculate there may be a third cannabinoid receptor waiting to be discovered.

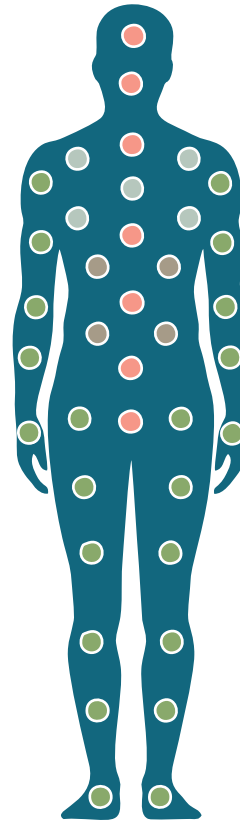
Endocannabinoids are the substances our bodies naturally make to stimulate these receptors. The two most well understood of these molecules are called anandamide and 2-arachidonoylglycerol (2-AG).

They are synthesized on-demand from cell membrane arachidonic acid derivatives, have a local effect and short half-life before being degraded by the enzymes fatty acid amide hydrolase (FAAH) and monoacylglycerol lipase (MAGL).

Phytocannabinoids are plant substances that stimulate cannabinoid receptors. Delta-9-tetrahydrocannabinol, or THC, is the most psychoactive and certainly the most famous of these substances, but other cannabinoids such as cannabidiol (CBD) and cannabitol (CBN) are gaining the interest of researchers due to a variety of healing properties. Most phytocannabinoids have been isolated from cannabis sativa, but other medical herbs, such as echinacea purpura, have been found to contain non-psychoactive cannabinoids as well.

Interestingly, the cannabis plant also uses THC and other cannabinoids to promote its own health and prevent disease. Cannabinoids have antioxidant properties that protect the leaves and flowering structures from ultraviolet radiation - cannabinoids neutralize the harmful free radicals generated by UV rays, protecting the cells. In humans, free radicals cause aging, cancer, and impaired healing. Antioxidants found in plants have long been promoted as natural supplements to prevent free radical harm.

Laboratories can also produce cannabinoids. Synthetic THC, marketed as dronabinol (Marinol), and nabilone (Cesamet), a THC analog, are both FDA approved drugs for the treatment of severe nausea and wasting syndrome. Some clinicians have found them helpful in the off-label treatment of chronic pain, migraine, and other serious conditions. Many other synthetic cannabinoids are



Endocannabinoids and their receptors are found throughout the body: in the brain, organs, connective tissues, glands, and immune cells.

In each tissue, the cannabinoid system performs different tasks, but the goal is always the same: homeostasis, the maintenance of a stable internal environment despite fluctuations in the external environment.

Two primary cell receptors make up the ECS, Cannabinoid Receptor 1 (Cb1) and Cannabinoid Receptor 2 (Cb2).

The keys for these receptors are called endocannabinoids.

There are two main endocannabinoid molecules, named anandamide and 2-Ag. Cannabinoid receptors, located throughout the body, are part of the endocannabinoid system, which is involved in a variety of physiological processes including appetite, pain-sensation, mood, and memory

### CB 1 receptors

- CENTRAL NERVOUS SYSTEM
- NERVES
- OTHER ORGANS

### TRPV1 receptors

- BLOOD • BONE MARROW
- TONGUE • KIDNEY • LIVER
- STOMACH & OVARIES

### CB 2 receptors

PERIPHERAL ORGANS  
especially the cells associated with the immune system

### TRPV2 receptors

SKIN • MUSCLE • KIDNEY  
STOMACH • LUNGS

## THE ENDOCRINE SYSTEM

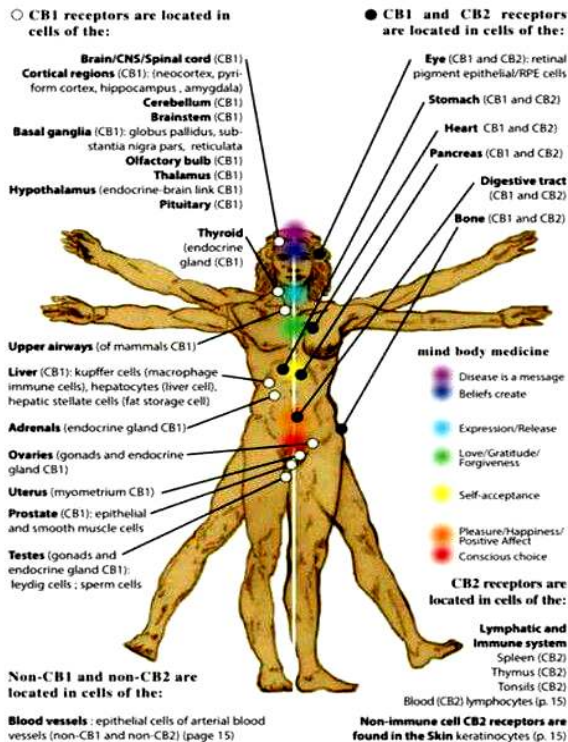
The endocrine system is the collection of glands in the body that secrete hormones into the bloodstream to be carried towards distant target organs. The central neuroendocrine systems is the interface between the brain and the rest of the endocrine systems. The part of the brain that balances the release of hormones in the body is called the hypothalamus and sits right on top of the pituitary gland where it regulates stress, metabolism, growth, reproduction, and lactation.

All of these processes are regulated by the hypothalamus releasing or inhibiting the release of hormones by the pituitary gland. The release of pituitary hormones affects downstream physiological functions. Other hypothalamic neuroendocrine cells control water/salt balance, and lactation and childbirth, through the release of vasopressin and oxytocin. Together, these hypothalamic neuroendocrine functions enable the central nervous system to respond rapidly to internal or external environmental change, and to maintain a response through endocrine hormonal transducers. The ECS modulates the regulation of the neuroendocrine system, which regulates organ function and stress response and helps maintain a healthy balance across the neuroendocrine system and related physiological body system.

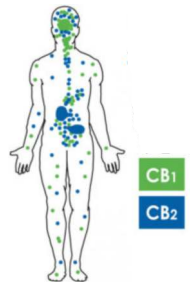
## Targeting the Endocannabinoid System for Endocrine Regulation

Cannabinoids in cannabis have long been known to be able to affect the secretion of pituitary hormones. By way of the ECS we regulate our hormonal balance, both up and down, through a direct effect on the organs themselves. The stimulation of the hypothalamic-pituitary-adrenal (HPA) axis is a crucial neuroendocrine response to stress and is dependant on CB1 receptor-mediated signaling. Activating the CB1 receptors in the hypothalamus results in a signaling cascade that ultimately inhibits overall neuroendocrine function. Stress is well known to affect endocrine function and a poorly regulated endocrine system can lead to major health problems. The endocrine response, as part of the HPA axis, is central to its regulation.

Up until a few years ago, the stimulatory effects of cannabinoids on the HPA axis was considered an exception. The commonly accepted view of the ECS was that it played a general inhibitory role on neuroendocrine functions. We now understand that cannabinoids can have both stimulatory and inhibitory effects on the HPA axis which is how it's able to modulate its regulation. These biphasic effects of cannabinoids, both stimulatory and inhibitory, are increasingly revealing themselves as we look closer at the interactions between the ECS and the endocrine system.



This brings us to the cannabinoid du jour, cannabidiol or CBD. Long playing the second fiddle to the more active tetrahydrocannabinol (THC), CBD does not interact strongly with either the CB1 or CB2 receptors. Instead, CBD is able to increase endocannabinoid tone by inhibiting fatty acid amide hydrolase (FAAH) and enzyme that breaks down cannabinoids in the body. FAAH inhibitors may be helpful for people with anxiety-related disorders because they appear to improve the regulation of the HPA axis. It's unknown precisely how this happens, but it appears they help to modulate the sensitivity of the cannabinoid receptors in the body.



In addition to its stimulatory effects on HPA, the ECS also plays a critical inhibitory role in regulating HPA functions. Researchers found that endocannabinoid signaling negatively modulates the stress-induced activation of the HPA axis, confirming the notion that an increase in endocannabinoid signaling activity may constitute a novel approach to improving the lives of people with anxiety-related disorders.

Currently, the best way to boost endocannabinoid signaling, improve the regulation of the HPA,, and promote a healthy endocrine system is the use of a dietary cannabinoid supplement made from hemp. These products contain naturally occurring cannabinoids, including CBD, which have been shown to naturally increase ECS tone which helps to improve the regulation of homeostasis across the HPA axis. This will improve both the physiological and psychological responses to stress making us more likely to resist the cascade that leads to HPA dysfunction and endocrine-related health problems.



# WHY YOUR BODY WANTS HEMP

Hemp contains all of the essential amino acids and essential fatty acids that are necessary for human life. It also contains a unique protein called globule edestin which is similar to globulin in human blood plasma. Hemp seed oil possesses powerful anti-inflammatory and antioxidant properties. Hemp is also considered to be the most balanced oil for nutrition found in nature and it is easily digestible, too. All of this combined together, provides many wonderful benefits for health as well as beauty, inside and out.



If your body cannot produce enough endocannabinoids, you might be in for some trouble.

But, where do endocannabinoids come from, anyway? This question has another simple answer: diet.

Your body creates endocannabinoids with the help of fatty acids. Omega-3 fatty acids are especially important for this.

Recent research in animal models has found a connection between diets low in omega-3s and mood changes caused by poor endocannabinoid regulation.

Fortunately, hemp seeds are a quality source of omega-3s. Cannabinoid receptors are often what we associate with the endocannabinoid system. But, the ECS is more complicated than that. Enzymes also have a crucial role to play in the process.

In a way, enzymes are kind of like Pacman. They gobble up various compounds, change them, and then spit out the parts.

In the ECS, enzymes break down leftover endocannabinoids.

Sleep  
Appetite, digestion, hunger  
Mood  
Motor control  
Immune function  
Reproduction and fertility  
Pleasure and reward  
Pain  
Memory  
Temperature regulation

Endocannabinoids are the chemical messengers that tell your body to get these processes moving and when to stop. They help maintain optimal balance in the body, also known as homeostasis. When the ECS is disrupted, any one of these things can fall out of balance. Dysregulation in the ECS is thought to contribute to a wide variety of conditions, including fibromyalgia and irritable bowel syndrome.

The ECS theory of disease is termed "Clinical Endocannabinoid Deficiency". The idea is simple: when the body does not produce enough endocannabinoids or cannot regulate them properly, you are more susceptible to illnesses that affect one or several of the functions listed above.



## HEALTH BENEFITS



### +Heart Health

Hemp seed oil has a 3:1 ratio of Omega-6 to Omega-3 fatty acids, a balance that has been shown to support heart health and promote proper cardiovascular function. These nutrients play a role in many biological processes and help prevent a number of degenerative diseases.



### +Skin Hair, and Nails

Hemp seed oil can be used as a moisturizer for the skin, and for good reason. Studies have indicated that hemp seed oil can dramatically decrease skin dryness to alleviate itching and irritation. Moreover, the antioxidant and anti-inflammatory properties protect against the aging process while soothing the skin.



### +Supports the Immune System

The essential fatty acids in hemp seed oil have been shown to promote healthy flora in the intestines and support immune system response and function. This is especially very helpful during the cold and flu season when viruses are running rampant at school, work, and in everyday social interactions.



### +Best Nutrition for Your Brain

Hemp seed oil contains all the essential fatty acids & enzymes, including docosahexaenoic acid (DHA), that are required for brain development. DHA is crucial to the health of the brain as well as the retina of the eye, particularly in the first year of life. Mothers who supplement with hempseed oil during pregnancy, provide brain- and eye-protective benefits for the developing baby.



## FUNCTIONS



### Hemp Seed Oil Assists in Treatment of Cancer

CBD has many well-researched benefits against cancer:

- \* It inhibits systemic malignant tumours
- \* It inhibits glioma cell growth
- \* It inhibits tumour migration in GBM
- \* It causes programmed cell death in breast cancer cells
- \* It reduces breast cancer cell proliferation and metastases
- \* It induces cancer cell death in colorectal and prostate cell lines
- \* It inhibits lung cancer cell invasion and metastases

There are probably another 1000+ studies.

The above are just to give you a feel for what CBD can potentially do!



### Hemp Seed Oil **IMPROVES** Heart Health

With an ideal ratio of omega-6 and -3 fatty acids and the ability to lower high blood pressure, hempseed oil provides the perfect heart-healthy diet.

Hempseed is a complete, plant-based protein rich in a particular amino acid called arginine. Preliminary studies have suggested that arginine has preventative effects as well as therapeutic benefits for cardiovascular health, lowering the risk of conditions such as high cholesterol, high triglycerides, congestive heart failure, and hypertension.



### Hemp Seed Oil Helps To **Reduce** Inflammation

Cannabinoids can stop inflammation by activating CB2 receptors found in the endocannabinoid system. Cannabinoids suppress inflammatory response and subsequently attenuate disease symptoms. This property of cannabinoids is mediated through multiple pathways such as induction of apoptosis in activated immune cells, suppression of cytokines and chemokines at inflammatory sites and upregulation of FoxP3+ regulatory T cells. Cannabinoids have been tested in several experimental models of autoimmune disorders such as multiple sclerosis, rheumatoid arthritis, colitis and hepatitis and have been shown to protect the host from the pathogenesis through induction of multiple anti-inflammatory pathways.



### Hemp Seed Oil assists In Regrowth of Joint and Bone Tissue

The CBD and other properties of medicinal grade hemp have been shown to alleviate many inflammatory conditions. Both ingested and used topically, research indicates that hemp is useful in reducing inflammation and easing pain. The joint pain and swelling caused by degenerative and rheumatoid arthritis, and osteoarthritis, are among the disorders being researched to determine how hemp products can play a role. CB2 plays a role in the immune system by managing pain and inflammation. When CBD enters a person's body, it may attach to CB2 receptors. Alternatively, it may cause the body to produce natural cannabinoids that attach to the CB2 receptors. Either way, CBD affects the way these receptors respond to signals being sent to them, helping reduce inflammation and pain. The two sources for hemp oil are the seeds and the root of the plant. Each source has unique qualities which are useful in relieving the symptoms of arthritis.

## FUNCTIONS



### Hemp Seed Oil Balances Hormones

Hemp seed oil is rich in GLA (gamma linolenic acid), which is considered to be a necessary building block from some prostaglandins. GLA is important for optimal hormone health, and taking one gram of essential fatty acids (including 210 mg of GLA) will provide in a significant reduction in symptoms.

It's able to decrease irritability and depression, breast pain and fluid retention associated with PMS.

Because hemp oil is high in GLA, a number of studies have indicated that it may also help reduce menopause symptoms. Hemp oil helps with hormonal balance. Hemp oil is the only edible seed that contains gamma-linolenic acid. G.L.A is the precursor for the production of the protective and calming prostaglandin PGE1 which helps regulate hormonal balance and support menopausal health.



### Hemp Seed Oil assists in Healing Skin Conditions

Hemp seed oil has also been found to help heal skin conditions such as eczema, psoriasis and other rashes. The oil's fatty acids are believed to affect immune responses in the body which helps to promote healing. This is also likely due to the oil's perfect balance of omega-6 and omega-3 fatty acids.

For the most effective relief, use hemp seed oil both internally and externally. Studies have shown that consuming the oil helps improve blood levels of essential fatty acids which can help speed healing from within. Additionally, applying hemp seed oil to the skin can relieve dryness and itchiness, reducing the need for medications.

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### Hemp Seed Oil Provides For a Healthy Complexion

Hemp seed oil is great to use on the skin for a more beautiful complexion. It is easily absorbed, moisturizing without being greasy. Also, the oil can help to clean and detoxify skin, as well as even out skin tone.

Unlike many other oils, hemp seed nourishes dry skin without sticking to it. Thus it won't clog pores as easily as other heavier oils. So if you're looking for a good moisturizer that doesn't leave a greasy residue, you'd do well to consider hemp seed oil.

Furthermore, hemp seed oil is similar to our skin's own natural lipids. Thus it is able to penetrate cells to deeply moisturize both the epidermis and subdermal layers.



### Hemp Seed Oil Treats Acne

You might not think that using any kind of oil would be good for treating acne. However, because of its light consistency, hemp seed oil is actually fabulous for acne-prone skin. As mentioned above, it's not greasy at all.

One great way to use hemp seed oil is as a carrier for other skin-healing oils. Add a few drops of neem oil which can help to heal acne marks and prevent scarring. You can also add a couple of drops of lavender oil which will further soothe inflammation. This concoction will help clear your skin without clogging pores.



## FUNCTIONS



### Hemp Seed Oil Supports Weight Loss

Substituting hemp seed oil for other oils in your diet can even help you lose weight. This effect is due in part to its rich nutrient content and healthy fatty acids. Also, according to multiple studies, including a 2007 study published in the Journal of Nutrition, the oil's GLA content supports weight loss. GLA works as a natural appetite suppressant to help you feel full longer. GLA also reduces sugar cravings to help lower your overall calorie intake, as well as to curb inflammation. Try adding hemp seed oil to a smoothie in the morning to help curb excess hunger throughout your day.

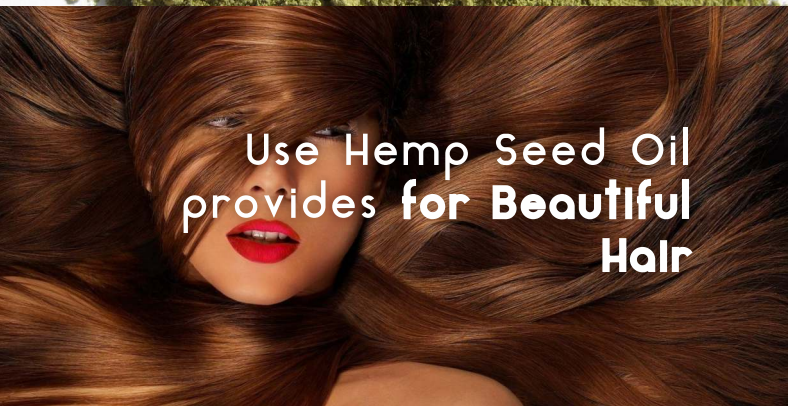


### Hemp Seed Oil is a Great Source of Plant-Based Protein

Vegans and vegetarians sometimes have a tough time getting enough protein in their diets. Adding hemp seed oil is a great way to accomplish this as it provides a similar amount of protein to eating meat. In fact, about 25% of the calories from the oil comes from protein.

The oil is also considered to be a complete protein source, something that's very rare in the plant kingdom.

(This means that hemp seed oil offers all of the essential amino acids, as mentioned previously.)



### Use Hemp Seed Oil provides for Beautiful Hair

Hemp seed oil offers benefits to the hair as well. As such, there are many recipes for homemade shampoos, conditioners, and other hair products which call for the oil. Using hemp oil on the scalp can help improve blood circulation and prevent scalp infections. This results in stronger, healthier and longer hair growth. It also helps to thicken the texture of hair, prevent dandruff, and reduce hair loss. When used directly on the ends of the hair, it can moisturize and strengthen strands to prevent breakage.



### Hemp Seed Oil As Varnish For Woodwork

Hemp seed oil does more than just help to beautify the body inside and out. One of its common uses in the 19th century was for varnishing woodwork. All you need to do is mix a little in with lemon oil and apply it over finished wood. Then, buff it out and the finish will shine. You can also substitute it for petroleum-based products. Use hemp seed oil to lubricate a bicycle chain for a smoother ride. You can also apply the oil to door hinges to quiet that squeak.

## COMPONENTS

The human body uses fatty acids from food for building tissues and for specialised functions such as the production of prostaglandins, localised tissue hormones.

One major group of fatty acids is called essential fatty acids, which are polyunsaturated, and include two major groups, omega-3 and omega-6 fatty acids.

They are called "essential" because the body cannot make them and thus, must obtain them from food sources. Hempseed oil is the only edible seed oil to contain over 80% polyunsaturated EFA's and boasts not only the optimum ratio of Omega 3 and Omega 6, but also Gamma Linolenic Acid (GLA) and Stearidonic Acid (SDA).

HEALING WITH  
HEMPSEEDOIL

3





**WHAT IS HEMP SEED OIL,  
WHY IS IT SO POPULAR AND  
WHAT'S THE DIFFERENCE BETWEEN HEMP SEED OIL  
AND MEDICAL MARIJUANA?  
FROM LEGALITIES AND PRODUCTION TO  
DOSES AND VARIETY OF USES;  
WE TAKE YOU THROUGH ONE OF THE MOST INCREASINGLY  
POPULAR HEALTH PRODUCTS ON THE MARKET.**

Washed hemp seed contains no THC at all. The tiny amounts of THC contained in industrial hemp are in the glands of the plant itself. Sometimes, in the manufacturing process, some THC- and CBD-containing resin sticks to the seed, resulting in traces of THC in the oil that is produced. The concentration of these cannabinoids in the oil is infinitesimal. No one can get high from using hemp seed oil. It has anti-psychotic properties and is used in the treatment of many nervous system issues. Contributing to the growing popularity of hemp seed oil is a global recognition and praise of the health benefits. Hemp seeds are an incredibly healthy source of protein and nutritious oils packed with all eight of the essential fatty acids the body needs. While hemp oil and tinctures are virtually free of THC (the psychoactive compound in cannabis) and have no psychoactive properties and won't make you 'high', but they do have proven health benefits, so they're excellent for supporting a healthy lifestyle.

Hemp seed oil is a medically recognised treatment for conditions including diabetes II, high blood pressure, high cholesterol and arthritis. It also reduces the inflammation caused by eczema, psoriasis and acne, so it's super for healing and moisturising dry skin. The oil nourishes your skin, providing useful fatty acids to restore a youthful appearance. When used on hair it can stimulate blood circulation in the head, and even thicken hair texture.

Unrefined, cold-pressed oil has a rich, nutty flavour and a green tint. After some refining, hemp oil becomes colourless and the flavour, minimal. The oil has many applications and uses; one classic use is in soaps. Hemp oil is also used in paints and lubricants, and in body care products. It may be rubbed directly onto the skin to treat cracked, dry skin, or blended into body oils, body creams, and other personal care products. It can be used as a dietary supplement, taking advantage of the high concentrations of essential fatty acids in unrefined hemp oil or using the oil as a dressing or garnish to improve nutrition.

**One ounce (28 grams) of hemp seeds contains about:**

- 161 calories
- 3.3 grams carbohydrates
- 9.2 grams protein
- 12.3 grams fat
- 2 grams fiber
- 2.8 milligrams manganese (140 percent DV)
- 15.4 milligrams vitamin E (77 percent DV)
- 300 milligrams magnesium (75 percent DV)
- 405 milligrams phosphorus (41 percent DV)
- 5 milligrams zinc (34 percent DV)
- 3.9 milligrams iron (22 percent DV)

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Unrefined hemp oil doesn't have a very long shelf life. The oil quickly goes rancid, unless it is stored in dark containers in a refrigerated environment. People who use unrefined hemp oil generally purchase it in small amounts to avoid it going off. The oil is not suitable for cooking because it has a very low smoking point. Refined hemp oil has a more stable shelf life; although many of the benefits are not present after refining. Diabetes should also be aware that a need for insulin may be reduced.

**"Perfect protein" not only containing all 20 amino acids, but also each of the nine essential amino acids that our bodies cannot produce.**

Table 3. Typical protein content (%) of each food is given directly below the name

Amino acid	Potato (2%)	Wheat (14%)	Maize (11%)	Rice (9%)	Soy bean (32%)	Hempseed (25%)	Rapeseed (23%)	Egg white (13%)	Whey powder (13%)
Alanine	0.09	0.50	0.72	0.56	1.39	1.28	1.05	0.83	0.61
Arginine	0.10	0.61	0.40	0.62	2.14	3.10	1.49	0.68	0.39
Aspartic acid	0.34	0.69	0.60	0.86	3.62	2.78	1.82	1.23	1.49
Cystine	0.02	0.28	0.15	0.10	0.54	0.41	0.39	0.29	0.17
Glutamic acid	0.37	4.00	1.80	1.68	5.89	4.57	4.41	1.67	2.40
Glycine	0.10	0.71	0.35	0.47	1.29	1.14	1.28	0.50	0.29
Histidine*	0.03	0.27	0.26	0.19	0.76	0.71	0.72	0.28	0.29
Isoleucine*	0.08	0.53	0.35	0.35	1.62	0.98	1.00	0.74	0.85
Leucine*	0.11	0.90	1.19	0.71	2.58	1.72	1.80	1.08	1.40
Lysine*	0.10	0.37	0.33	0.31	1.73	1.03	1.49	0.74	1.15
Methionine*	0.02	0.22	0.18	0.17	0.53	0.58	0.46	0.47	0.23
Phenylalanine*	0.08	0.63	0.46	0.43	1.78	1.17	1.05	0.76	0.49
Proline	0.09	1.53	0.85	0.40	1.65	1.15	1.59	0.50	0.43
Serine	0.08	0.70	0.47	0.48	1.54	1.27	1.10	0.92	0.64
Threonine*	0.07	0.42	0.34	0.34	1.35	0.88	1.13	0.58	1.02
Tryptophan*	0.02	0.51	0.04	0.09	0.41	0.20	0.31	0.20	0.25
Tyrosine	0.06	0.40	0.36	0.33	1.14	0.86	0.69	0.46	0.47
Valine*	0.10	0.61	0.46	0.51	1.60	1.28	1.26	0.98	0.91

Individual amino acid values for each food is given in grams per 100 g. Essential amino acids are indicated by an asterisk (\*).





## APPLYING HEMP SEED OIL TO THE BODY & SKIN

There are several different methods you can use to get the skin benefits from hemp oil.

The first is to apply the hemp oil topically to your skin. This can work if you have immediate irritation or dry patches of skin that you want to soothe quickly. To do this, you can apply the hemp oil directly to the skin.

You can also make a concoction using other anti-inflammatory and soothing ingredients with a recipe like the following that can be applied to the skin:

- 1/4 cup hemp oil
- 2 teaspoons melted coconut oil
- 4 to 5 drops skin-boosting essential oil, like lavender or rosemary oil

If you're using the hemp oil to treat acne and want to apply it topically, apply the oil directly to clean skin and leave it on for one to two minutes before washing it away with warm water.



## Alleviate Dry Skin

Rub the oil directly onto dry, cracked skin. For a deep conditioning treatment for hands and feet, massage in the oil then wear socks or gloves overnight to let it work its magic.

## Strengthen nails and heal cuticles.

Massage a small amount of hemp oil directly into nails and cuticles—great for both fingernails and toenails.

## Remove makeup

Oil follows the “like dissolves like” rule, which means that hemp oil will dissolve the oils and waxes in makeup, especially in stubborn eye makeup. Gently rub a small amount of oil into the makeup and wipe with a cotton ball or a soft tissue.

## Mask overnight

Massage hemp oil into cleansed facial skin before bedtime

## Steam facial skin

Massage a tablespoon of oil into the skin on your dry, clean face, massaging for several minutes. Then lay a hot (not scalding) damp washcloth over your face and let it sit until it cools. Wipe with the washcloth. Repeat with another hot washcloth until all the oil is wiped off. Washing your face afterwards is optional.

## Condition hair

Before shampooing, massage a tablespoon or so of hemp oil into your scalp and let it sit for about 10 minutes. Afterwards, shampoo as normal. You might find you don't need conditioner.

## Reduce acne

This may sound crazy, but this oil actually reduces acne. Massage hemp oil into problem areas and work it in gently for several minutes. The oil will actually draw out sebum plugs that cause whiteheads, blackheads, and even cysts. Do this daily during breakouts.

## Relieve Eczema

A 2005 study found that 2 tablespoons of dietary hemp seed oil consumed daily may help relieve the effects of atopic dermatitis, or eczema.

## Support overall health

You can eat it straight and enjoy its nutty flavor or you can put it in salad dressings, as a butter replacement on toast, rice, potatoes, vegetables...it's delicious! Keep in mind that pure hemp seed oil cannot be used for high-heat cooking. It has a low smoke point and will totally break down even at a moderate heat, at which point all nutritional benefits are lost.

below is a list of simple recipes which are fast and easy to make yet they provide a well balanced delicious flavour which implements the earthy aroma and undertone of the hemp seed oil making for a delicious wholesome meal to soothe the senses.

# EASY RECIPES



2 ripe avocados  
1/4 nut butter like sunflower butter  
2 tbs fresh cilantro finely chopped  
2 tbs lemon juice - 1/2 fresh lemon  
2 garlic clove pureed  
2 tablespoons hemp seed oil  
1/8 teaspoon Chili flakes - optional  
1/4 teaspoon salt

Blend until the dip is smooth and no more lumps of avocado appears. (Food Processor Advisable). Refrigerate at least 1 hour to allow the flavors to blend. Dip in tortilla chips or raw vegetables sticks like cucumbers, carrots.

## AVOLANCHE



1 Fresh Banana  
3 Table Spoons Custard Yogurt  
1 Teaspoon Honey (Optional)  
1 Tablespoon Mixed Nuts (Optional)  
1 Tablespoon HEMP SEED OIL

Peel & Slice Banana in a bowl, then add rest of the ingredients & stir until desired density is reached.

## CANA BANANA



**SALAD**  
200g piece low-fat feta  
3 medium Lebanese cucumbers, halved lengthways, thickly sliced  
4 medium roma tomatoes, halved, cut into wedges  
1 cup (160g) pitted kalamata olives  
1 medium red onion, halved, thinly sliced

**DRESSING**  
2 tablespoons extra virgin olive oil  
1 tablespoon white wine vinegar  
1 garlic clove, crushed  
1/2 teaspoon caster sugar  
1 teaspoon chopped fresh oregano leaves  
1 Tablespoon HEMP SEED OIL

## DELICIOUS GREEK SALAD



Bread Slice  
Butter  
Hemp Seed Oil  
Peanut Butter - Smooth  
Yogurt - Cold & Fresh  
Honey

First butter slice of bread & then apply Hemp seed oil, now smear layer of Peanut Butter, then Yogurt & garnish with a dash of honey.  
Serve Open & Cut into Quarters

## PB & YOGI DELIGHT



250g Fried/Cooked Chicken  
1/4 Cucumber - Chopped  
1/4 Onion - Finely Chopped  
3 Leaves Baby Spinach  
2 Tablespoons Mayonaisse  
1 Tablespoon Mustard  
1 Tablespoon HEMP SEED OIL  
Salt  
Pepper  
Rosemary to garnish

Add ingredients

## CREAM & CRISP CHICKEN



2 ripe bananas  
1 cup oats (gluten free)  
1/4 cup peanut butter  
12 peanuts for garnish (optional)  
1 Tablespoon HEMP SEED OIL

1. Preheat oven to 350°F.
2. Peel bananas and place in bowl. Mash bananas with fork & add hemp seed oil.
3. Add peanut butter and mix; once combined, mix in oats.
3. Spoon dough onto non-stick baking tray.
4. Bake for 10-12 minutes.

## SWEET MORNING CRUNCH



## BRAIN HEALTH

Hemp seed oil contains essential fatty acids, including docosahexaenoic acid (DHA), which is crucial for brain development. Hemp seed oil has the unique content of fatty acids and the perfect ratio of linoleic acid to alpha linoleic acid that help the brain function at its most optimal level. Hemp is one of the very few ingredients found in nature that have the perfect balance of nutrition that completely coincides with the brain's need for cannabinoids.

## BALANCED HORMONES

Research shows that gamma-linolic acid is also useful in helping the body balance hormones. For women, supplementing with GLA can help ease premenstrual syndrome, reduce cramping and pain and help reduce menopause symptoms.

## MOOD IMPROVEMENT

Endocannabinoids and essential fatty acids are also essential for mood. Research has shown that a diet with a proper balance of Omega-6 to Omega-3 fatty acids may help delay or reduce the neurological effects of certain diseases and improve quality of life. Several studies have shown that Omega 3 supplementation can improve symptoms in bipolar disorder. Others have found improvements in ADD/ADHD as well as autism. This could be because essential fatty acids are critical to maintaining brain function. The endocannabinoid system regulates the release of neurotransmitters, some of which play major roles in conditions like depression and anxiety. As mentioned previously, endocannabinoids are made from fat. Consuming extra essential fatty acids gives your body the ability to produce these lipids.

Clients obtain consistently positive results for their brain health and savvy mental health nutrition when they add hemp into their diet. It is an ideal way to provide support for brain focus, balanced mood and a pain-free body.

Hemp is a rich source of plant-based protein, and Omega 3 and 6 fatty acids. Hemp is also an excellent good source of GLA (gamma linoleic acid) and it is an ideal to decrease the inflammation of depression, autoimmune disorders and hormonal imbalances, that can occur with peri menopause, menopause and andropause. Auto immune and hormonal imbalances occur at a significant rate in people with PTSD, histories of chronic stress.. GLA from Hemp is especially useful for helping children and adults who experience the co-occurring complex of dermatological and mental health imbalances of psoriasis, eczema and acne along with depression and anxiety.

MENTAL  
HEALING

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## IMMUNE SYSTEM SUPPORT

Fatty acids are essential for immune modulation.

The endocannabinoids that our bodies produce naturally are derived from fatty acids. Our body cannot create the endocannabinoids without breaking down fats first. Increasing your fatty acid intake boosts the immune system and helps your body produce more endocannabinoids. Omega 3 and omega 6 fatty acids and GLA (gamma-linolenic acid) also regulate our intestinal flora, balance inflammation levels naturally and boost our digestive health.

This way our bodies becomes more resilient and keep the harmful microbes out.

## NERVOUS SYSTEM SUPPORT

Essential fatty acids are vital for a healthy nervous system. Nerves that communicate with the brain are protected by Myelin, a fat insulation that is vital to the normal functioning of the nervous system. Myelin helps ensure that signals from one nerve cell (or neuron) to another can properly reach their destination. Intake of essential fatty acids is necessary to prevent the degeneration of the brain and nervous system over time. To keep myelin functioning properly, dietary essential fatty acids are vital.

## HEART HEALTH

Hemp seed oil has a 3:1 ratio of Omega-6 to Omega-3 fatty acids, a balance that has been shown to support heart health and proper cardiovascular function. The same gamma-linolic acid that makes hemp oil so great for the skin can also lower bad cholesterol and prevent saturated fat buildup in the arteries. When fat builds in the arteries, the heart has to work significantly harder to properly oxygenate your blood. This leads to high blood pressure and prevents your cells from getting the energy they need to survive.

## REDUCED INFLAMMATION

Hemp seed oil contains a variety of plant sterols and alcohols. These compounds have been shown to reduce inflammation – a common symptom in many different conditions. The GLA found in hemp seed oil also reduces inflammation.

## SKIN & HAIR HEALTH

Ceramides are lipids (fats) that support the skin's barrier layer for moisture retention and help hold healthy cells together, leaving skin and hair hydrated, smooth and healthy. Ceramides are also particularly effective in treating eczema and psoriasis – conditions where fewer ceramides exist in the outer layer of the

PHYSICAL  
HEALING

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## DEPRESSION

Humans have an endocannabinoid system that responds directly to cannabinoids found in the plant. Depression, often attributed to chemical imbalances in the brain, can severely impact the autoimmune system. Ignoring the endocannabinoid system can adversely affect many functions, including energy level, sleeping patterns, and mood.

A 2014 study tested the anti-depression effects of CBD. Using animals in numerous tests, such as swimming, mazes, and a Vogel Conflict test, the study concluded that the CBD had anti-anxiety and anti-depression effects on the subjects.

Research has shown that depressed people have more of the cytokine protein in their brains. When this occurs, the brain tries to fight off the proteins, resulting in inflammation. CBD has been shown to be effective in treating inflammation in the brain. That adds to the evidence that CBD is effective for depression.

## DEMENTIA & ALZHEIMERS

CBD could help with dementia, especially Alzheimer's, because of its effects on the endocannabinoid system. The endocannabinoid system produces CB1 and CB2. CB1 is in various places throughout the brain, including in the hippocampus, which is the memory and learning center. CB2 centers in the microglia, which is specialized immune cells. CBD targets these receptors, which could help with Alzheimer's.

A recent study conducted by Karl and Group helped confirm the benefits of CBD on Alzheimer's. The study showed that CBD could reduce reactive gliosis and the neuroinflammatory response. The study also demonstrated that CBD promotes neurogenesis, the growth of healthy neurons.

## ANXIETY

Anxiety is a condition that affects millions of people, and there are many prescription drugs that attempt to treat it. However, these medications may not work for everyone, and CBD may be an efficacious alternative to these traditional drugs. CBD has garnered interest in recent years from consumers, clinicians, and scientists in the treatment of anxiety.

Numerous studies have supported the anti-anxiety properties of CBD. When administered acutely, it can be useful in the treatment of various types of anxiety, including social anxiety, OCD, panic disorder, and PTSD. CBD can also help counter the adverse effects of THC.

Researchers are still trying to conclude why CBD has an anti-anxiety effect on the brain. Most of the studies have been pre-clinical tests on animal subjects. However, these preclinical studies have given us results that could move us in the right direction.

5-HT1A is a type of serotonin receptor, and medications that target the serotonin system are often used to treat depression and anxiety. The pharmaceutical companies developed selective serotonin reuptake inhibitors (SSRIs) which inhibit the reabsorption of serotonin in the brain. That means that the brain can send more serotonin signals, which can lead to a better mood in some cases.

CBD can help with the transmission of serotonin signals. A Spanish study done on animals showed that CBD enhances the transfer of 5-HT1A and may affect serotonin faster than SSRIs. Also, an animal study that used mice suggested that CBD help the hippocampus regenerate neuron, which could be helpful in treating anxiety and depression.

Human studies have also supported the effectiveness of CBD for anxiety. A Brazilian study showed that the human subjects had a significant decrease in anxiety after consuming CBD. Researchers reaffirmed these effects by performing brain scans, which revealed the blood flow patterns were consistent with a reduction in stress.

## SCHIZOPHRENIA AND PSYCHOSIS

One study performed on animal subjects showed that CBD affected the dopamine system, which means that CBD may have a positive effect on psychosis, as well as other psychological disorders. Tests performed on human subjects include a 2015 trial that compared the effects of CBD on 88 patients against a placebo. The findings showed that the CBD proved more efficient in treating the psychosis than the other drug, which had not affected the patients.

Many anti-psychosis drugs have similar side effects to THC, including sleepiness and lack of motivation. Therefore, CBD could be a better alternative. According to Dr. Steven Lavolette, CBD bypasses the pathways that anti-psychosis medications often go through, which leads to fewer side effects.

EMOTIONAL  
HEALTH

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# EMOTIONAL HEALTH



The connection between the emotions and disease has been known for thousands of years in cultures all around the world. In the Bible, Proverbs 17:22-23 says: "A joyful heart is good medicine, but a crushed spirit dries up the bones." Traditional Chinese Medicine (TCM) acknowledges the "7 Emotions" that are thought to have a direct correspondence to disease states. And in Yogic traditions, the term *samskara* means the "subtle impressions of our past actions" and it is thought that these impressions can form into patterns that can affect health.

And now modern science is discovering in astonishing detail how certain emotions can have a direct effect on disease – and healing – in the body.

## What Science Says about the Emotions

The profound effect that emotions have on health and lifespan can be evidenced by a groundbreaking series of 10-year-long studies published in the British journal *Psychology and Psychotherapy* in 1988. The study, which is just as relevant today, concluded that "emotional stress was more predictive of death from cancer or cardiovascular disease than from smoking." It also found that individuals who were the most affected by stress had an overall death rate that was 40% higher than non-stressed participants.

## So just how do emotions have such an effect on our bodies?

The term psychosomatic is normally associated with "imaginary illnesses." In fact, the term simply relates to the physiological connections between mind and body. In modern scientific terms, this connection happens through tiny molecular structures called neuropeptides.

Peptides, a form of ligand, are tiny bits of protein that are produced throughout the body. They are found in hormones such as endorphins, serotonin, and insulin, for example, and are key elements for life. Neuropeptides pave the way between the brain (i.e. our emotions) and the body.

When a thought triggers an emotion, neuropeptides transmit those feelings through neuropathways and extracellular fluid. Eventually these peptides will connect with cellular receptors throughout the body where they will have an impact on the functioning of body systems at all levels.

***The late Candace Pert, author of *Molecules of Emotion* and one of the pioneers of psychoneuroimmunology, states: "...the chemicals that are running our body and our brain are the same chemicals that are involved in emotion."***

## Emotional Clearing for Better Health

Clearing emotions and managing stress go hand in hand. Before you can truly clear emotions, you must learn how to manage stress in order get cortisol levels down. Remember, there is a direct and proven correlation between chronically high cortisol levels (i.e. chronic stress) and cancer.

When you are in a relatively calm internal space memories and feelings associated with stressful situations can rise to the surface in order to be dealt with and cleared. Once you have decided to lower stress and clear emotions for health, decide on some modalities that will help you get there!

## REAL FOOD

When some primary producers end up with grains or vegetables that aren't fit for human consumption they sell them to pet food manufacturers. Practically all commercial pet food is very low quality nutrition and loaded with synthetic vitamins and other chemicals that result in your pet suffering nutritional deficiencies and toxicity.

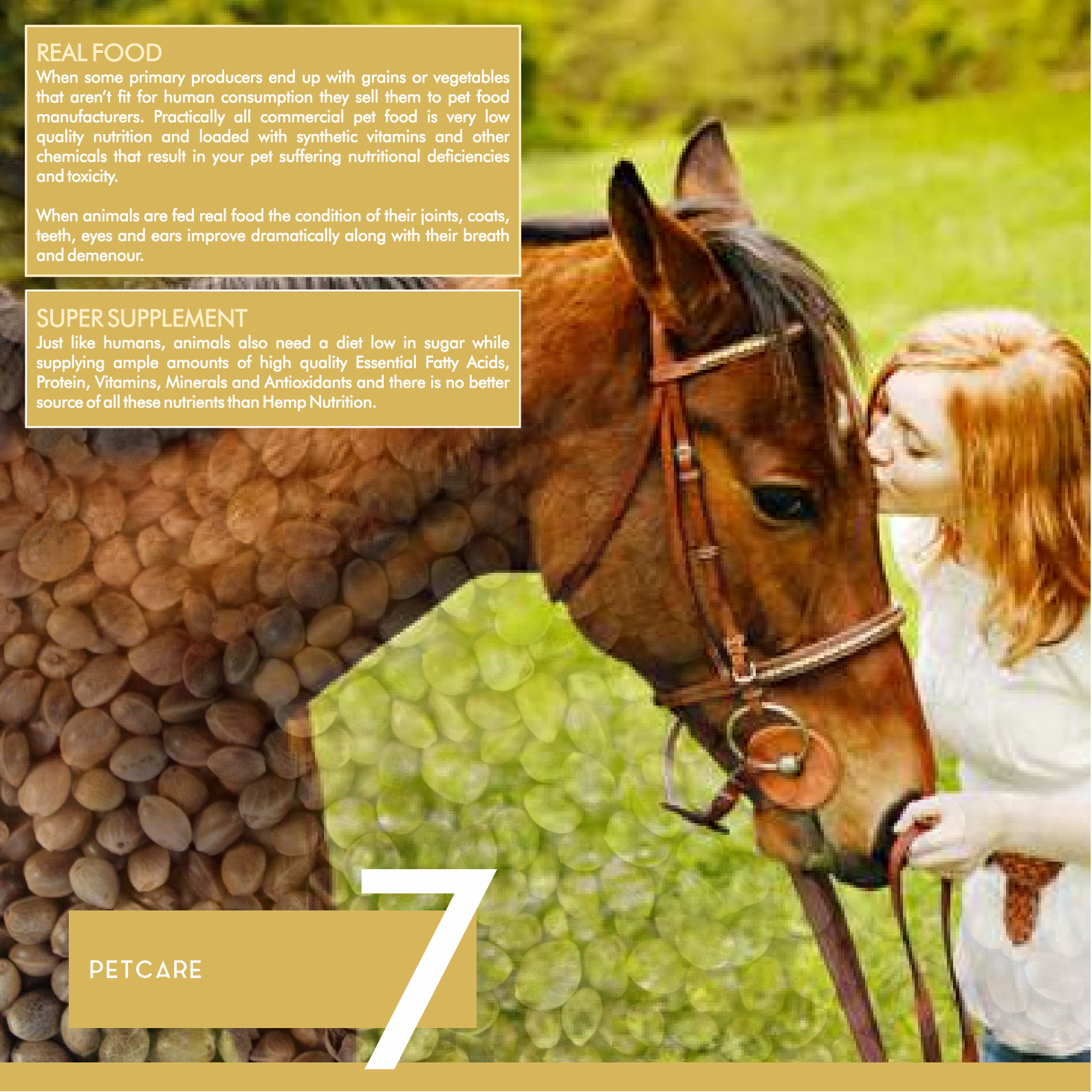
When animals are fed real food the condition of their joints, coats, teeth, eyes and ears improve dramatically along with their breath and demeanour.

## SUPER SUPPLEMENT

Just like humans, animals also need a diet low in sugar while supplying ample amounts of high quality Essential Fatty Acids, Protein, Vitamins, Minerals and Antioxidants and there is no better source of all these nutrients than Hemp Nutrition.

PETCARE

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# PETCARE

**H**emp seed oil, as a supplement or ingredient in dog and cat food is showing great promise. Furthermore, the nutritional composition found in Hempseed meal is showing great promise as an addition to both small and large animal feed.

The good fats in Hemp Seed Oil are truly unique. Approximately 80% is polyunsaturated fat - the highest of any vegetable oil.

Specifically, it contains the Essential Fatty Acids (EFAs) Linoleic Acid (Omega 6) and Alpha Linolenic Acid (Omega 3) in an ideal ratio for absorption by the body. These EFAs, considered good fats, cannot be produced by the body and therefore must be obtained from our diets. Hemp seed oil also contains Gamma Linolenic Acid (GLA), from which Omega 6 is naturally converted. Diets and sluggish enzyme activity often impair this conversion and cause GLA deficiency. Hemp seed oil solves this problem. No other single source oil has this ideal combination of EFAs. Omega 6 (Linoleic Acid) and Omega 3 (Alpha Linolenic Acid) work together within the body. They are converted via enzymes through a chain of events to produce prostaglandins.

Omega 3 and Omega 6 Polyunsaturated Fatty Acids also play important roles in animals with conditions such as pruritic skin disease, atopic dermatitis, allergies, degenerative joint disease, neoplasia, thromboembolic disease and eosinophilic granuloma complex.



*Studies to date have been done using flax, evening primrose oil and fish oil with mixed results. Study design has also been a problem with many lacking placebo control groups. In general, studies using a combination of evening primrose and fish oil (GLA and Omega 3) showed the most promising results. As we know, Omega 3 and 6 work in combination with in the body and an excess of one can lead to a depletion of the other. This can occur with using fish or flax oil exclusively. Long term supplementation with omega-3 may lead to a deficiency of omega-6*

*and reduce the anti-inflammatory potential of Linoleic Acid and its metabolites. Further, high doses of Omega 3 may also alter platelet function to the extent that hemostasis is impaired with significant increases in bleeding times. Likewise, excessive doses of omega-6 can lead to a depletion of omega-3 and its beneficial effects. Questions to be answered include: what is the normal ratio of essential fatty acids stored within the body of the animal and what is the ideal ratio of a supplement? What we do know is that Omega 6 and Omega 3 are required by every cell for proper functioning.*

*We also know that Hemp contains a well-balanced ratio of Omega 6 to Omega 3 and it also contains GLA.*

The introduction of polyunsaturated fats into pet food has developed considerable interest in the last few years. The problem being that these fats are inherently unstable and the food becomes rancid quite quickly. This is especially true of flax. Some foods have used marine or fish products and here the problem lies in potential heavy metal toxicity. Hemp would be an excellent addition to pet food based on its high levels of antioxidants thereby providing a natural preservative and a balanced omega-6 : omega-3 ratio. Another area of interest is the protein in Hemp and this area deserves more research.

As noted previously the protein in Hemp is easily digested and could possibly be an alternate or supplemental source of protein in the food. Hemp seed cake can also be used as feed for farm animals. "Omega 3" eggs have become immensely popular in the supermarkets as individuals are striving for healthier diet and Hemp is a viable alternative to flax in this area.

*A further application lies in blending the seed cake into the concentrate portion of large animal feed.*

- 32.2% crude protein
- 32.3% adjusted crude protein
- 24% soluble protein
- 31.8% acid fiber

These results are very amenable to blending into a concentrate.

A further benefit is that Hemp is grown without pesticides or herbicides and is not genetically modified (in comparison to canola). Anecdotally, we know that the animals love the Hemp.

Pig, chicken and goat farmers in our area all report back that the animals go "crazy" for the Hemp meal.

A final note is that Hemp is now being used as hypoallergenic bedding in farms.

This has great potential in terms of double cropping.

Hemp Seed Oil and Hemp Seed Cake (meal) has great potential in the animal industry. Immediate applications include the addition of Hemp meal and its protein into animal food/concentrates and the oil as a supplement.

## TESTIMONIAL HAPPY HOUND

I have three Huskies on Hemp and 2 Horses.

Meet Levi - our beloved family dog. Levi has epilepsy and despite being on medication he still had seizures from time to time. He also had to go for blood tests every 6 months as the medication could negatively impact some of his organs. After learning that hemp seed oil could be effective in managing epilepsy we started giving it to Levi while at the same time reducing his medication. He has now been on nothing but hemp Seed oil for two months and he has not had a single seizure. He is also noticeably more energetic and just seems happier! After seeing the amazing results in Levi I decided to try it myself. It has made a major difference to my sleeping patterns and energy levels. It has also alleviated joint pains that I struggle with from time to time.



## HEMP SEED OIL FACTS

Hemp is a rich natural source of omega-3, omega-6, protein and fiber. It can be used to fortify dairy products, breads and other foods, and hemp oil can also be used to brew beer.

Hemp oils are also included in bath and body products as it supports healthy skin.

In the Middle Ages, in countries such as Germany and Italy, hempseeds were boiled in a soup, or used as filling in pies and tortes.

Environmental archeologists discovered hemp was grown in religious medieval hospitals across Scotland, inferring that hemp could have been used as a medicinal crop.

In the 1400s, Christopher Columbus always carried a reserve stock of hempseeds on his expeditions in case of a shipwreck, to use as a food source and initiate hemp cultivation.

In the 1990s, during mass starvation in Africa, charitable organizations such as the Red Cross used hempseeds to cook porridge for nourishment.

Hemp is generating a lot of buzz as consumers discover the wide range of health benefits offered by hempseeds and hemp oil. Prominent influencers in the health food industry, such as Dr. Oz, have shed light on the benefits offered from hemp consumption. In 2011, the annual retail sales of hemp products was an estimated \$452 million. Today, hemp has gained mainstream acceptance and is found in health food stores across North America.

All parts of the hemp plant are harvested and commercially used – its fiber, hurd and seed.



## HEMP FIBER FACTS

The outer layer of the hemp stalk is used to make fiber.

Hemp fiber can be used to make clothes, bags, ropes, canvas and cordage; it can also be used for insulation, to manufacture auto-body parts, windows, boxes, and much more.

The oldest artifact in human history is a piece of hemp fabric from 8000 B.C.

Christopher Columbus' fleets used hemp riggings and sails to navigate the ocean.

Artists such as Van Gogh, Rembrandt and Gainsborough mainly painted on hemp canvas.

The first Levi jeans were made from a hemp fabric known as duck.

In 1941, Henry Ford manufactured a car from the resin of stiffened hemp fiber. The body of the car was constructed to absorb damage from metals 10 times as great as steel, without causing a dent.

The fibers of hemp are one of the strongest natural fibers in the world.

## HEMP HURD FACTS

After using the outer portion of the hemp stalk to make fiber, the remaining hemp stalk and stem are used to make small chucks called hemp hurds.

Hemp hurds can be used to make paper, fertilizers, animal bedding and when combined with hemp fibers, can make building materials.

In 1215, the Magna Carta, the first document limiting the powers of the King of England, was drafted on hemp paper.

Both the Declaration of Independence and the U.S. Constitution was drafted on hemp paper.

Hemp generates 4 times more hemp-pulp than trees do wood-pulp, to produce paper. In fact, hemp paper can be recycled an average of seven times, while wood-pulp paper is recycled an average of 3 times.

Hemp hurds can be used to generate clean energy sources such as, gasoline, ethanol, methanol and methane gas.

This fuel can be used for electricity or as gas for vehicles.

In fact, if the U.S. cultivates hemp on 6% of its land, the crops can be used to provide energy for the whole country.

In 1941, Henry Ford designed a car engine that ran on ethanol made from hemp.

FACTS

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## WHERE DOES HEMP COME FROM?



### Oil Sources

You may not believe it but hemp oil or hempseed oil is actually extracted from the seeds of a certain variety of Cannabis, the same family of plants that provide marijuana. The good thing about hemp seed oil is that it does not contain or have very low concentrations of tetrahydrocannabinol, the active ingredient found in marijuana and the one that gives it its highly addictive properties.

Hemp seed is harvested and then thoroughly dried to draw out as much moisture as possible. It is equally important that only mature seeds are harvested because immature or young ones naturally have more water content. Ideally, the moisture content of hemp seeds should not be higher than 10 percent. The batches of hemp seeds are then cold pressed to allow for the retention of the full range of chemical and health properties of hemp oil. It has been shown that using either high temperatures as in steam distilling or solvents in the extraction of the oil from hemp seeds can lead to significant degradation in the quality of the hemp oil. Additional refining are not encouraged as this can have a

negative effect on the overall quality of the hemp oil. Upon cold pressing the extracted hempseed oil is immediately bottled into opaque bottles under nitrogen to help preserve the qualities of the oil. The batches of hemp seed oil are then immediately refrigerated although freezing is highly recommended if one requires long term storage.

It is quite easy to spot an unrefined hemp oil compared to those that have undergone additional processing. The unrefined, hence higher quality, hemp oil should appear off-yellow or dark green in color. The taste is nutty with a hint of bitterness. Hemp seed oil should not have tetrahydrocannabinol. If there are trace amounts, it is often the result of contamination by other residues from the Cannabis sativa L. plant.

**Despite the fact that it is almost always confused with hash oil, which is the tetrahydrocannabinol-containing oil also derived from the plant Cannabis sativa L., hemp oil is perhaps one of the healthiest oils you can ever have.**

**Some would even say that its omega-3 fatty acids to omega-6 fatty acids ratio of 1:3 closely mimics the ideal needed by a healthy human being. The ratio of omega-3 to omega-6 fatty acids in olive oil is 1:9; sunflower oil at 1:71; and soybean oil at 1:8.**

**Only canola oil is better at 1:2 and flaxseed oil at 4:1.**

**It is therefore not surprising that hemp oil, or hempseed oil, is highly recommended for a variety of purposes including protection of the cardiovascular system particularly the heart and blood vessels, boosting of the immune system, and slowing down the aging process**

## WHAT ARE HEMP SEEDS?

Hemp seeds, or hemp hearts, are the seeds of the hemp plant, or *Cannabis sativa*. Although marijuana comes from the same plant, hemp seeds only contain a trace amount of THC, the active ingredient in marijuana, and they will not get you high. In fact, hemp seeds are safe and very healthy to eat.

Some of the products made with hemp and hemp oil include:



Body care products



Cleaning products



Plastics



Building materials



Health foods



Textiles



# THE DIFFERENCE BETWEEN CANNABIS & HEMP



Hemp seed oil is an increasingly popular product, used for an expanding variety of purposes. It's a controversial crop in some regions of the world, because parts of the Cannabis genus plant have psychoactive properties. In discussions around hemp oil you'll often hear the terms CBD and THC which are components that distinguish different qualities of the plant.

**CBD**, or **Cannabidiol** is a chemical compound found in the **Cannabis plant**. It's a compound that doesn't produce any psychoactive effects but is known to hold the **highest medicinal value**.

Research deems it effective for treating inflammation, pain, seizures, anxiety and spasms associated with multiple sclerosis, becoming a major focus of scientists, researchers and doctors alike. Many cancer patients use CBD as part of their treatment. Doctors at the California Pacific Medical Center Research Institute have found that **CBD is a potent inhibitor of cancer**.

Documented, medical research shows that **CBD inhibits the ID-1 protein gene which is a major conductor of cancer cells and CBD has been shown to slow and sometimes stop the metastasis in certain patients suffering from certain forms of cancer**. More research is needed though and several clinical trials are under way.

**THC** or **Tetrahydrocannabinol** is the **psychoactive constituent** of the **Cannabis** plant and underlies much of the controversy around the plant which has legal restrictions in most countries.

**WASHED HEMP SEED** contains **no THC at all**. The tiny amounts of THC contained in industrial hemp are in the glands of the plant itself. Sometimes, in the manufacturing process, some THC- and CBD-containing resin sticks to the seed, resulting in traces of THC in the oil that is produced. The concentration of these cannabinoids in the oil is infinitesimal. No one can get high from using hemp seed oil.

# DIFFERENT TYPES OF HEMP OIL



## Hemp Seed Oil

As the name says, this comes from the seeds of the hemp plant. It can be derived in two ways; either unrefined and cold-pressed, or refined. The unrefined oil is green in colour with a nutty flavour, and has all its nutrition preserved. The refined oil is clear with little or no flavour. It's typically used in nutrition supplements, as an ingredient in body care products, lubricants and some plastics.



## Hemp CBD Oil

This is the oil used for medicinal purposes. It doesn't contain any THC, and is being sold around the world as a health supplement. CBD is non-psychoactive and has been shown to be safe, even in large doses, for human consumption. It has anti-psychoic properties and is used in the treatment of many nervous system issues.



## Hemp Essential Oil

This comes from the upper leaves and flowers. They're steam-distilled and contain no THC or CBD. It's an expensive product as it takes a huge amount of hemp plant to get each drop of oil. It is mostly used in flavouring and perfumes.



EQUIP your  
immune system  
with HEMP by  
ENHANCING your Health  
to EMPOWER your  
Natural Well-Being

LOOK OUT  
for our other  
publication  
in this series:



THE CannACLUB+