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NEW ZEALAND

Low THC Hemp Seeds as Food

Introduction

Over the millennia of human civilisation, few plants have had as-close-a-relationship with people as hemp, (*cannabis sativa*).

The hemp plant is a competitive source of: food and feed provided from its seed; the strongest and longest natural fibre sourced from the plant's stalk; fuels sourced in the form of methanol, ethanol, and biodiesel; and hemp hurds for producing biodegradable plastics, paper, building, and insulation products. Finally, several of the 60+ known cannabinoids have an important contribution to make in the practise of traditional medicine, and the relief of suffering.

The controversial thing that many focus on however, is the role that the cannabis plant plays to about 15% of this country's general population who are regular users of "marijuana", which is the fourth most popular of the commonly available recreational drugs after: caffeine, alcohol, and nicotine.

As an agricultural crop, strains of low THC hemp are known to be good for soil health and require little fertiliser or pesticide. Hemp crops grow in a dense mass of tall slender canes, much like a tight stand of tall bamboo appears to grow.

Hemp crops are sustainable and are well suited to being planted in rotation with other agricultural crops.

The plants have a deep taproot system which helps break down tough ground, aerates and adds nitrogen to the soil. Some hemp crops can grow to a height of 5 metres in a season. The leaves can be ploughed back under as organic fertiliser.

1.0 Hemp seed and its Oil

Hemp seed has been a source of food for humans and feed for animals since before recorded history.

As noted by, FSANZ, hemp seed is a valuable source of essential fatty acids (EFAs) and other important nutrients.

Dr Udo Erasmus; with his Ph.D. in Nutrition, is an internationally recognised authority on fats and oils. Dr Erasmus said of hemp seed oil in his 1993 book, *Fats that Heal Fats that Kill*,

"...hemp seed oil appears to be one of nature's most perfectly balanced EFA oil[s]. It contains both EFAs in the right proportions for long-term use, and also contains GLA [gamma-linoleic acid]. It is the only vegetable oil with this combination." (pg.289)

The “modern” Western diet is considered to be deficient in foods containing EFAs, and as their name suggests, EFAs are “essential” for the maintenance of good human health.

People who subsist on a diet lacking EFAs will encounter a broad range of health problems because EFAs play a significant role in almost all biological processes in the human body.

EFAs cannot be manufactured by our body, so they must be sourced from the foods we eat.

A diet totally deficient in foods containing EFAs will result in death.

2.0 Cannaphobia: Why is this submission even necessary?

For nearly a century the hemp plant has had some rather powerful and vocal vested-interest opponents. Some people believe that certain private United States based economic interests have historically worked collectively to try and eliminate, as much as possible, any trace of hemp products from the way the Western world business system conducts its profit driven activities.

It is the writer’s view that, as a consequence of our commonly accepted global business practises, and through conducting our personal day-to-day activities almost completely *hemp-free*, the human species has visited serious harms not only upon itself, but so too the remainder of the planet.

It is the writer’s belief that a type of widespread, paranoid, anti-cannabis hysteria has captured much of the New Zealand public’s mind.

Local and international news and entertainment media have successfully demonised certain drugs and drug users at the same time as they have aggrandized the perhaps predictable and politically self-inflicted sufferings that have arisen for our society from an enforced black-market supply of marijuana (and some other drugs).

The traditional media focus has tended to misattribute blame for the array of social problems stemming from a dysfunctional punitive drugs’ policy and placed it at the feet of drug users and their marijuana plants. Consequently, this shifting of responsibility has negatively influenced the public perception, discourse, and acceptance of the many positive attributes and uses of low THC hemp.

The writer recently coined the term, “Cannaphobia”, to describe the nature of the seeming irrational public fear around hemp based: foods; fibre; fuels; medicinal; and, of course, recreational drug products.

It is the writer’s opinion that cannaphobia is at the nucleus of the need for citizens to in-effect “beg” politicians to allow once staple hemp seed based foods onto everyday shop shelves in this largely primary-industry based economy.

When change eventually occurs, this significant move forward would be for the betterment of the natural environment generally, and will likely produce measurable health benefits to consumers of hemp seed products both here and in our markets abroad.

The reality is that the industrial hemp crop is a truly remarkable asset to the everyday person, and if, more broadly speaking, hemp sourced: foods; fuels; fibres; medicines, and recreational drug products were to become accepted and valued to their full potential once more, the world would be a significantly: cleaner; healthier; and safer place in which to live.

3.0 Health benefits of Hemp Seed and other EFA rich Foods

The benefits of a diet rich in EFAs should not be understated. Other sources of EFAs include: walnuts, soya bean oil, dark green leaves, and fish.

Hemp seed is a balanced source of EFAs, which means it can supply omega3 and omega6 at the ratio of most benefit to the body's needs. Taking EFAs in a balanced way not only helps to soften skin; thereby slowing the external appearance of the aging process, but it also counteracts degenerative disease.

According to, Dr Erasmus, we need omega6 and omega3 in a 3:1 ratio. This happens to be the natural EFA profile of hemp seed and its oil.

EFAs play a role in every cell in the body. They are necessary to the building blocks in each cell membrane. EFAs are important to the function of enzymes embedded in cell membranes, which transport substances into and out of each cell.

EFAs help with our energy levels at a cellular level. They are important to the process of cell division during the movement of RNA (ribonucleic acid) across the nuclear envelope. EFAs are necessary for the development of healthy nerve and brain tissue and vital to sound liver function.

Getting enough EFAs in the correct balance could also have important implications for our general mood and mental wellbeing.

There is some evidence that cultures with a diet rich in EFAs have the same prevalence within their population group of mental illnesses like, schizophrenia, but of note is that the symptoms of the people who experience these types of conditions appear to be less severe.

4.0 General points of interest

In a range of countries around the world, legislative change is occurring to drug policy, but it appears the system has been slow to capitalise on the consumer demand for healthier foods and more environmentally friendly everyday products.

Products containing hemp sourced: seed; fuels; hurds; or fibre, could make some important contributions towards meeting this need.

One could wonder which substance is the truly intended target of cannabis prohibitions.

Is it the use of marijuana for recreational and medicinal applications that is so morally disturbing? Or, is the focus of cannabis prohibition surreptitiously targeting the broader economics of hemp crops and their potential uses for: food, fuel, and fibre products which the current system might have the most heightened aversion to?

Perhaps it is a bit of both.

In the meantime, there appears to be no need to set CBD/THC/THC-A limits on standard, (certified and tested,) low THC hemp seed products, provided they are supplied: unfortified; clearly labelled as to their content, and free of contamination from "green" hemp plant organic matter – something that could conceivably occur during a "below industry standard" manufacturing and packaging process.

By having hemp seed crops and hemp seed products locally grown and manufactured, this aspect of quality control is simple to regulate-for by authorities, and easily observed by the industry in the special interests of their end use consumer groups.

Hemp seed and its oil are fragile commodities to the effects of exposure to: heat, oxygen, and, light. Therefore it is not ideal to neutralise hemp seed prior to its general sale with processes like, *steam treatment*, as this will split the seed open causing some of the health benefits to be lost to oxidation.

4.1 Hemp Seed (Oil) a source of “clean and green” Energy

As hemp seed and its oil are so fragile from a nutritional perspective, any hemp seed oil not from a first pressing of the seed, and any chemically extracted or rancid oil not fit for human or animal consumption, would have a second life as a source of energy in the form of biofuel.

Soon after the diesel engine was first designed and patented, the year was 1900 when, at the French Government’s invitation, a diesel engine was exhibited in Paris, running on peanut oil. In fact any vegetable oil, including hemp seed oil, once it has undergone some simple filtering and processing measures is a clean burning diesel engine fuel alternative.

If New Zealand produced even a small percentage of its diesel fuel needs domestically in the form of biodiesel there could be significant positive spin-offs for people’s health generally and wider implications for the economy and natural environment.

Presently, much of the country’s primary sector earnings come from the dairy industry. It is the writer’s opinion that the global energy market is potentially a much bigger earner for the country than supplying: milk-powder, cheese, and baby formula, to our overseas markets.

To meet our current liquid fuel energy needs the New Zealand economy imports around \$8 billion worth of fossil fuel products from overseas oil companies annually.

Domestically producing commercially viable quantities of hemp seed biodiesel as a source of energy would require the production of a lot of hemp seed. Such a shift towards biofuel energy could provide a significant number of new jobs and investment opportunities in the rural provinces and would have only desirable spin-offs for the economy and environment.

5.0 Mind Altering Substances Tolerated in Foods and Beverages

The writer notes that many foods; including but not exclusive to: chocolate; cheese; nutmeg; poppy seed; and even, liquorice, contain naturally occurring chemical substances that when taken in large enough doses have consciousness altering effects on the human mind and addiction potential.

All wine fermented from the juice of the grape and its skin contains measurable amounts of a drug known as, “*fantasy*,” (GHB, or gamma-hydroxybutyrate).

Testing on samples of red wine in the United Kingdom has revealed levels of GHB (and its precursor GBL) between, 4.1-21.4mg/L, yet our nation’s government and general public appear unconcerned about this.

The writer is unaware of any local labelling requirement or any limits being set for levels of GHB in common wine products, even though GHB was made a Class B prohibited substance in 2001 and listed under: **Part 1 of Schedule 2 of the Misuse of Drugs Act 1975.**

6.0 The Cannabis Leaf Image as a Marketing Device when seen in Context.

In years to come, the cannabis leaf will not be seen as a threatening motif or the evil symbol of a defiant counter-culture movement.

Currently a significant proportion of the public believe that the dried leaves and female flowers of the cannabis plant and the resins these contain are harmful substances to humans to varying degrees.

Therefore, the calculated marketing of hemp seed foods, which might include the hemp leaf as a marketing device, could quite possibly be negatively misconstrued by the bulk of a likely conservative and health conscious target market. So, the leaf; as a marketing idea, might not really be the most prudent of sales techniques or rewarding of promotion strategies at this time.

In the opinion of the writer, it would follow that there would likely be no pressing need for an enforced prohibition on the above marketing practise. Should a private business, undertaking a lawful activity wish to use an image of the cannabis leaf in the marketing of its hemp seed based food products, then this should be covered by their right of freedom of expression to do so, and good luck to them.

Seemingly, in spite of all the negative publicity about cannabis and other illicit drug use, and in consideration of all the health propagandist groups' "*drug education*" initiatives, this country has some of the highest youth use rates for cannabis in the developed world. NZ statistics on this account are even higher than statistics for the same in: Jamaica; Britain, and the United States of America.

It would appear, to the writer at least, that suppliers of illicit herbal cannabis based drugs require no other form of *promotion* than what is currently visited upon the public in the seemingly counter-productive efforts made by the systems of power that exist to *dissuade* the population away from using cannabis based drug products.

Strident, and sometimes publicly funded anti-drug efforts, in effect, appear to promote and advertise the use of this substance to young, impressionable, risk-taking people significantly more effectively than any leaf representation on the packaging of a hemp seed health-food container ever could.

The writer suggests that associating the hemp leaf image with, *health food*, and *medicine for the sick and dying*, may well be an effective deterrent to youngsters who might have wished to cultivate a rebellious, "devil may care" image amongst their peer group by toying with the, "*weed with roots in Hell*," (as one 1940's U.S. movie poster once described the cannabis plant).

The reality is that challenging a young person to a "game of chicken" will seldom meet with them collapsing into an obsequious heap.

The failure of dictatorial instruction and good old-fashioned scare-tactics were perhaps best illustrated in the, Nancy Reagan, inspired, "*Just Say No*" campaigns of the 1980's and 1990s. And it was also the apparent result following the intensive city billboard and television advertising campaigns in the State of California in the same era, which depicted metaphoric messages from the, *Partnership for a Drug Free America*, like: an egg frying in a pan, with plain text alongside explaining that: "*This is your brain on drugs, any questions?*"

The bitter fruits these expensive prohibitionist efforts were rewarded with were increases in the use of marijuana by young people in that country to record levels at that time.

Conclusion

In the interest of improved general health for people who wish to supplement their diet with EFA rich hemp seed grown in New Zealand, the writer believes it would be a great pity for the current prohibition on the availability of hemp seed to continue any longer.

The writer would like to encourage the formulation of sensible and considered production and labelling regulation recommendations from, FSANZ, so that the consumer is protected from poor commercial practises during the growing and packaging of hemp seed as food for humans and feed for animals.

The writer sees no need to potentially damage the final seed based products with treatments that might-well neutralise the germination potential of the seed, but could result in a lesser quality food product being available on shop shelves for consumers.

Spoiled hemp seed, second-grade or rancid hemp seed oil would make a good alternative energy feedstock for domestically produced biodiesel products.

The hemp leaf as a marketing device should just be left to the industry to determine the value thereof or otherwise. The hemp leaf is neither a good nor bad symbol; only our personal thought on the image makes it so.

At some future time, a population wiser than the present will look back at the near global phenomenon of *Cannaphobia* as it exists in our leaders' minds today, and simply stand aghast.

Following change, when the benefits of a hemp inclusive world are apparent to all, everyday people will wonder how it were ever possible to prohibit, by law, such a valuable crop to humankind for so long a time. Future generations will simply not understand how so many people and officials in so many so-called *free societies* were so easily duped as has been achieved by the system's vested interest groups for private gain up until the present day.

FSANZ has an opportunity to initiate the correction of some of that damage by fostering the fledgling domestic hemp industry and recommending that hemp seed and associated products be made available on the domestic market and so too made available to consumers in our markets abroad.

The writer respectfully encourages the official body of, FSANZ, to please keep a level head when reaching its recommendations on the important questions you have opened up for public submission.

What, FSANZ, decides, and the actions it takes in this regard are going to have a healing or perhaps only more of the status quo ripple effect through our communities.

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