

**The New Homefront**

**A 21<sup>st</sup> Century Proposal to reintroduce Cannabis Hemp into British  
Agriculture**

**Author: Victor Hamilton**

*'The use of vegetable oils for engine fuels may seem insignificant today. But such oils may become in the course of time as important as petroleum and coal tar products of the present time.'*

Rudolph Diesel, 1912

## A Brief History of Hemp

The earliest recorded usage of Hemp is approximately 5000 years ago in China where hemp paper was made long before rice paper. By the time Hemp first appeared in the West, around 2500 BC in Egypt, the Chinese had already discovered around three thousand uses for Hemp and before Hemp became fully established across Europe (about 1000 years later) it was accounting for nearly 75% of the trade between the West and East.

Hemp's strength and resilience to a variety of climates made it the ideal plant for the New World, where it was used by settlers and Native American 'Indians' alike. Hemp supplied oil for domestic lighting and light industry, fibre for rope, sails and cloth making (Levi jeans were originally made from Hemp) and bedding for animals. Its medicinal uses, already known to the Chinese for thousands of years, probably came to the fore when African slaves were transported to America and it is definitely known that the Native American tribes had quickly recognised its medicinal worth.

It was the development of the recreational Cannabis Sativa variety (aka Marihuana, Grass etc) that, along with the political rise of the Cotton and Wood pulp industries, finally put paid to a comprehensive exploitation of Hemp in the West. America banned the cultivation of all varieties of Hemp in the late 1930s but, ironically, continued to import Hemp from China and Japan until the outbreak of World War 2. When the Hemp supply was cut off by the Japanese, America lifted the cultivation ban on Hemp and in 1943, grew 375,000 acres of Hemp for the War effort.

Although America once again banned domestic Hemp cultivation after the Second World War, it also formed a new trade agreement to import Industrial Hemp from China. Even today, Hemp still accounts for nearly 30% of fibre used to make clothing in America and Europe whilst, in France the clothing industry has managed to maintain a healthy, independent, *domestic* supply of Hemp since before the middle ages and now, Hemp clothing is *chic* once again.

Today, China remains the world's largest cultivator of industrial Hemp; producing approximately 0.797 million hectares of hemp annually and its fibre processing output is around 0.6 million tons which is 10 percent of cotton fibre processing output. For the next five years, hemp fibre processing output is expected to reach 1.5 million tons and its consumption will reach 20 percent of cotton fibre consumption. China's largest customer is the USA, which has also started to re-examine Hemp as a possible, future power source (biodiesel) with 11 US States now starting experimental growing programmes whilst another 7 US States have applied for licences to explore the medicinal qualities.

In 1995 Hemp went back into experimental production in Britain (under controlled licence) and nowadays companies such as The Springdale Group

have 'bio-diversified' Hemp into oil, seed and fibre production for a variety of uses from foodstuffs to clothing to light industrial oils and cleansing products.

It is now estimated that Hemp has approximately 250,000 uses Worldwide and is connected to over 60% of World Trade - even the petrochemical oil industry! But, as fossil fuels begin to go offline over the next 10-15 years, Hemp is the only bio crop in a strong enough position to offer a truly sustainable, clean alternative without adversely affecting our environment and our economy.

History has turned full circle. Hemp is the new Agricultural and Industrial Revolution.

## Part One: *Hemp: The New Agricultural Revolution*

In December of 2006, the National Hemp Industry of China met in Beijing to discuss future world markets for Industrial Hemp. Experts who attended the meeting discussed development and technical upgradation of Hemp and urged the Chinese government to invest in new technologies as China's fast developing world market; for Industrial Hemp would soon be in the position to seriously challenge the cotton industry. Furthermore, it was also suggested that studies on the biomass properties of Hemp for conversion to biodiesel should be accelerated.

Across the World, governments are now seriously reconsidering plant biomass as a future fuel source for biodiesel. In Brazil, over 90% of cars can now run on a sugar cane derived fuel, whilst across Europe biodiesels derived from food cereals are being explored for what they have to offer. But what is the point in using a food crop to create a lower quality biodiesel when Hemp can and will outperform its nearest rival without any detrimental effect on the environment?

Over the following pages this document will demonstrate that Hemp is not only the one, real viable alternative to fossil fuel technology but will also show that Hemp and its by-products (biomass, oil, seeds, fibre, husk etc) can enhance or even replace some of the products and technologies we all take for granted and for which the environment pays a hefty price.

~

### *What is Biodiesel?*

Biodiesel is the name for a variety of ester-based oxygenated fuels made from hemp oil, other vegetable oils or animal fats. The concept of using vegetable oil as an engine fuel dates back to 1895 when Dr. Rudolf Diesel developed the first diesel engine to run on hemp oil or peanut oil.

### *Properties of Biodiesel:*

Today's diesel engines require a clean-burning, stable fuel that performs well under a variety of operating conditions and climates. Biodiesel is the only alternative fuel that can be used directly in any existing, *unmodified* diesel engine. Because it has similar properties to petroleum diesel fuel, biodiesel can be blended in any ratio with petroleum diesel fuel. In America many federal and state fleet vehicles are already using biodiesel blends in their existing diesel engines and the newer, 'cleaner' burning hybrid engines being employed to run buses in New York, London, Madrid, Paris and many other cities around the World all help to lower ambient pollution.

## *Hemp bio diesel versus 'regular' Diesel: Pollution*

Figure 1

	Hemp biodiesel	Regular diesel
Can be grown locally?	Yes	No
Renewable Resource?	Yes	No
Biodegradable?	Yes	No
Dangerous to Handle and Store?	No	Yes
Economic Gain to Farmers and Industry?	Yes	No
Contributes to Global Warming?	No	Yes
Toxic Byproducts of Emission?	No	Yes
Contributes to Sulphur Pollution (acid rain)?	No	Yes
Pollutes Local Environment?	No	Yes
Highly Toxic to Humans and Other Animals?	No	Yes

It is easy to see from the simple graph above that biofuel derived from Hemp offers substantial economical and environmental benefits.

## *Advantages of Biodiesel:*

1. Biodiesel is the only alternative fuel in the USA to complete the Environmental Protection Agency; Tier 1 Health Effects Testing under section 211(b) of the Clean Air Act, which provide the most thorough inventory of environmental and human health effects attributes that current technology will allow.

2. Biodiesel is the only alternative fuel that runs in any conventional, unmodified diesel engine. It can be stored anywhere that petroleum diesel fuel is stored.

3. Biodiesel can be used alone or mixed in any ratio with petroleum diesel fuel. The most common blend is a mix of 20% biodiesel with 80% petroleum diesel, or "B20."

4. The lifecycle production and use of biodiesel produces approximately 80% less carbon dioxide emissions, and almost 100% less sulphur dioxide.

5. Combustion of biodiesel alone provides over a 90% reduction in total unburned hydrocarbons, and a 75-90% reduction in aromatic hydrocarbons.

6. Biodiesel further provides significant reductions in inhalable particulates and carbon monoxide than petroleum diesel fuel.

7. Based on Ames Mutagenicity tests, biodiesel provides a 90% reduction in cancer risks.

8. Biodiesel is 11% oxygen by weight and contains no sulphur. The use of biodiesel can extend the life of diesel engines because it is more lubricating than petroleum diesel fuel, while fuel consumption, auto ignition, power output, and engine torque are unaffected by biodiesel.

9. Biodiesel is safe to handle and transport because it is as biodegradable as sugar, 10 times less toxic than table salt, and has a high flashpoint of about 300 F as compared to petroleum diesel fuel, which has a flash point of 125 F.

10. Biodiesel can be made from domestically produced, renewable oilseed crops such as wheat, barley, maize, rapeseed and hemp.

11. Biodiesel is a proven fuel with over 30 million successful US road miles (see Hemp Car), and over 20 years of similar use in Europe.

12. When burned in a diesel engine, biodiesel replaces the exhaust odour of petroleum diesel with the pleasant smell of hemp, popcorn or 'french' fries/chips.

13. In America - The Congressional Budget Office, Department of Defense, US Department of Agriculture, and others have determined that biodiesel is the low cost alternative fuel option for fleets to meet requirements of the Energy Policy Act.

### *Biodiesel Impact:*

An important factor not usually considered when calculating the costs and benefits of industrial feedstock materials is the macroeconomic effect associated with domestically produced, renewable energy sources. Economic benefits of a biodiesel industry in Europe would include:

1. Value added to the feedstock (oilseeds or animal fats)
2. A substantially increased number of manufacturing jobs
3. An increased tax base from plant operations and income taxes
4. Investments in plant and equipment
5. Improvement of the trade balance
6. Reductions in health care costs
7. Improved air quality and greenhouse gas mitigation.

### *Local Economy:*

A recent study in America by the University of Missouri estimated the benefits of producing biodiesel in a metropolitan region.

This study concluded that 100 million gallons of biodiesel production could generate an estimated \$8.34 million increase in income and over 6,000 additional temporary or permanent jobs for the metropolitan region.

Admittedly Britain and Northern Ireland don't have the same area of land mass available to be able to generate these incomes but it is still possible to estimate a similar, predicted rise in employment figures across the Six Counties of Northern Ireland, across Britain and even Europe.

This would also help to encourage a growing number of young people to re-evaluate farming as a worthwhile career and so dramatically reduce the numbers leaving to seek employment elsewhere in Europe.



## Part Two: Industrial Hemp in the U.K.

In the recent 'Viewpoint' article for the BBC by NUF president, Peter Kendall, entitled 'Biofuels will not lead to hunger' (<http://news.bbc.co.uk/1/hi/sci/tech/5406458.stm>) – he clearly states that:

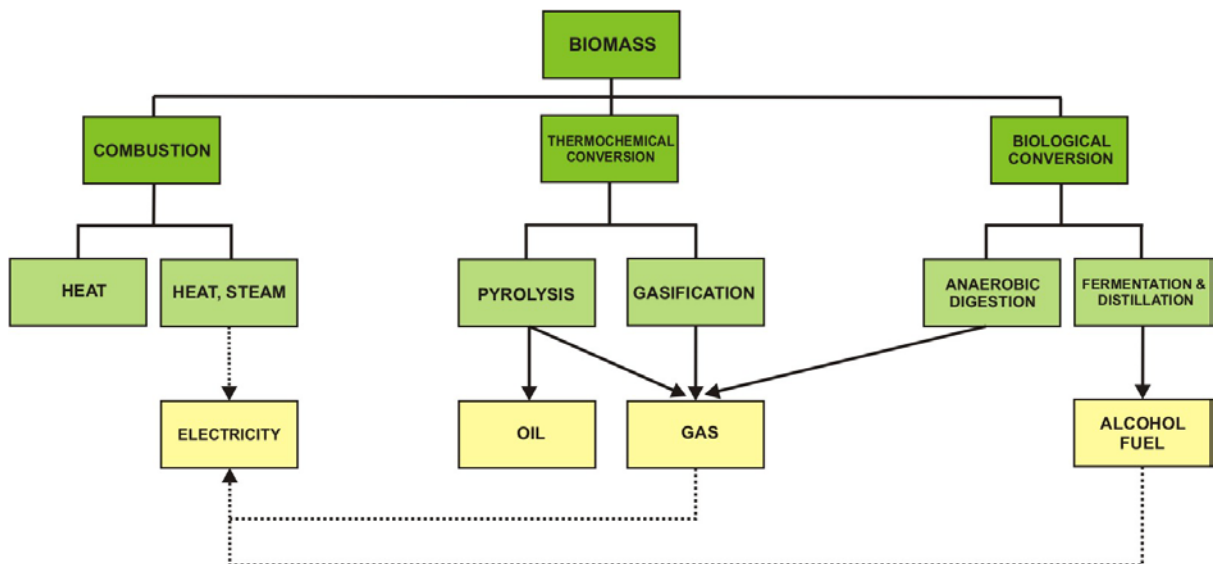
*'The area of land required to produce sufficient bio-diesel and bio-ethanol to meet the targets set out in the UK's Renewable Transport Fuel Obligation (RTFO), which requires 5% of all petrol and diesel sold on forecourts to be biofuel by 2010, can be found without prejudicing food production capacity'*

And further that: *'The 3.5 million tonnes of feed wheat that is currently surplus to requirements and has to be exported will account for the bio-ethanol. And using the UK's 750,000 hectares of set-aside to grow oilseed rape will comfortably take care of the bio-diesel requirement'*

The above statement makes it clear that it is well within the ability of the UK to grow enough biomass for biofuel conversion for domestic consumption. But, as will be seen from the information to follow, food crops such as feed wheat are inherently inferior to Hemp for conversion to biofuel.

### BIOMASS BREAKDOWN FOR INDUSTRIAL HEMP

Figure 2



## Hemp seed oil for Bio Diesel

### Production of oil:

Hemp seed contains about 30% oil. Grown as an oilseed crop, Hemp yields an average of 1 tonne per hectare, which translates to about 115lbs or about 15-20 imperial gallons of hemp seed oil per acre. Recent returns from UK based company, The Springdale Group have improved on these figures with a return of 35% oil production from Industrial Hemp seed yielding 1.2 Metric Tonnes per hectare (A hectare would theoretically yield  $1.2 \times 0.35 = 420\text{kg}$  of oil, assuming a 100% extraction).

At first glance these figures do not seem very impressive when compared to the oil yield of soybean or rapeseed. However, since Hemp can produce 2-3 crops per year in up to 10 degrees of frost, (and can even be used as part of a crop rotational pattern) with only 60-80 kg/ha of Nitrogen required per year and its conversion to biodiesel creates no toxic run-off or environmental threat (unlike rapeseed, soybean, sugar cane and many, many more), Hemp is the best choice in the long run.

Figure 3 (below) is intended to represent the above information. The value of the crop was obtained from information released by The Springdale Group and is shown here as a possible income.

FARM SIZE	1 CROP PER YEAR	2 CROPS PER YEAR	3 CROPS PER YEAR
<b>10 ACRES</b>			
Seed (lbs)	1150	2300	3450
Oil (Low/High Yield) in gallons	15/20	30/40	45/60
£ Value of Crop	350	700	1050
<b>20 ACRES</b>			
Seed (lbs)	2300	4600	6900
Oil (Low/High Yield) in gallons	30/40	60/80	90/100
£ Value of Crop	700	1400	2100
<b>30 ACRES</b>			
Seed (lbs)	3450	6900	10,350
Oil (Low/High Yield) in gallons	45/60	90/120	135/180
£ Value of Crop	1050	2110	3160

Figure 4 (on page 10) is a table compiled from a recent Canadian government report into Oil yields. Since there is little comparable UK evidence for commercial production of Industrial Hemp from UK government sources, this table has been included to show what returns Canadian hemp farmers can expect.

### Hemp Cellulose for Biodiesel

Another approach to biodiesel production from Hemp is to convert the cellulose (the bulk biomass from stalks, hurds etc) into ethanol (see Figure 2; page 7). This can be achieved in several ways including gasification, acid hydrolysis and specially engineered enzymes to convert cellulose to glucose, which is then fermented to make alcohol.

Conversion rates for Hemp cellulose into ethanol are about 25-30 gallons per tonne of biomass used.

Conversion rates for Hemp cellulose into glucose and then into alcohol are about 100 gallons per ton of biomass. The newer, specially engineered organic enzymes presently being studied in the USA show early indications that this yield could increase by another 30-50%.

The figures for Biodiesel derived from Hemp Cellulose and those from Biodiesel derived from Hemp Oil demonstrate that this plant has a great deal to offer as a clean burning, fuel source.

### Barriers to Production of Industrial Hemp

At present Industrial Hemp is grown in the UK mainly for its fibre production but, with appropriate European funding and support from the UK government, oil yields from Hemp can be dramatically improved and so put Hemp in a strong market position.

Legislation is required from government to make a clear and distinct division between Industrial Hemp and Cannabis and so open up the market for Industrial Hemp to ALL farmers across the UK.

Present UK legislation prohibit the growth of Hemp with more than 0.5% of THC (The psychoactive compound found in Cannabis), whilst in the USA this figure is as low as 0.3% in some states. The low percentage of permitted THC also has an effect on the quality of oil derived from the Hemp seed, so a higher permitted level of THC would create a higher quality oil and, in turn, a higher quality biodiesel.

Figure 4 - Oil yields and characteristics

Production of Fatty Oils: These are conservative estimates -- crop yields can vary widely.

(crops marked in **bold** are suitable for the U.K. climate)

Crop	kg oil/ha	litres oil/ha	lbs oil/acre	US gal/acre
<b>corn (maize)</b>	<b>145</b>	<b>172</b>	<b>129</b>	<b>18</b>
<b>cashew nut</b>	<b>148</b>	<b>176</b>	<b>132</b>	<b>19</b>
<b>oats</b>	<b>183</b>	<b>217</b>	<b>163</b>	<b>23</b>
lupine	195	232	175	25
kenaf	230	273	205	29
calendula	256	305	229	33
cotton	273	325	244	35
<b>hemp</b>	<b>305</b>	<b>363</b>	<b>272</b>	<b>39</b>
<b>soybean</b>	<b>375</b>	<b>446</b>	<b>335</b>	<b>48</b>
coffee	386	459	345	49
<b>linseed (flax)</b>	<b>402</b>	<b>478</b>	<b>359</b>	<b>51</b>
<b>hazelnuts</b>	<b>405</b>	<b>482</b>	<b>362</b>	<b>51</b>
euphorbia	440	524	393	56
pumpkin seed	449	534	401	57
coriander	450	536	402	57
<b>mustard seed</b>	<b>481</b>	<b>572</b>	<b>430</b>	<b>61</b>
camelina	490	583	438	62
sesame	585	696	522	74
safflower	655	779	585	83
rice	696	828	622	88
tung oil tree	790	940	705	100
sunflowers	800	952	714	102
cocoa (cacao)	863	1026	771	110
peanuts	890	1059	795	113
opium poppy	978	1163	873	124
<b>rapeseed</b>	<b>1000</b>	<b>1190</b>	<b>893</b>	<b>127</b>
olives	1019	1212	910	129
castor beans	1188	1413	1061	151
pecan nuts	1505	1791	1344	191
jojoba	1528	1818	1365	194
jatropha	1590	1892	1420	202
macadamia nuts	1887	2246	1685	240
brazil nuts	2010	2392	1795	255
avocado	2217	2638	1980	282
coconut	2260	2689	2018	287
oil palm	5000	5950	4465	635

Biodiesel yield = oil yield x 0.95 (approx.)

## Part Three

### Alternative Uses For Hemp

Hemp offers far more than a potential for Biodiesel. In Part One of this proposal it was mentioned that Chinese, Industrial Hemp production will soon be in a strong enough market position to challenge the cotton industry directly. This is because of the relative cheapness of Industrial Hemp production as compared to that in the Cotton Industry. For instance:

As previously mentioned, Industrial Hemp requires only 60-80kg/ha of Nitrogen fertiliser per annum – compare that to the £4 Billion worth of pesticides that China presently uses every year and it becomes easier to see why Hemp will eventually win the day.

The Pesticides commonly used in Cotton Production are:

*'Aldicarb'* – Other uses include being employed as a nerve agent. The World Health Organisation has classified Aldicarb as 'deadly'.

*'Endosulfan'* – Widely used across 19 cotton producing country and responsible for at least 1000 deaths per year. It has also been linked with sterility in males.

*'Monocrotophos'* – Withdrawn from use in the USA; 1989 yet still used across the world and now known to cause paralysis and other debilitating conditions in children.

*'Deltamethrin'* – Other uses include being employed as a nerve agent. Deltamethrin is known to cross the placenta barrier in pregnant women, has been found in new born babies and breast milk of mothers working in the cotton industry.

Cotton and Water Use:

Cotton production consumes vast quantities of water with 6 pints required to create just one 'cotton bud'. The vast run-off of chemicals and waste water from worldwide cotton production has been responsible for the draining of the Aral Sea (Central Asia), a crisis so acute that the United Nations described it as one of the *"most staggering disasters of the 20th century"*

Polluting valuable freshwater with hazardous pesticides associated with global cotton production also represents a substantial threat to global freshwater resources at a time when access to clean water is becoming a major concern for many developing countries. Hazardous cotton pesticides have contaminated rivers in USA, India, Pakistan, Uzbekistan, Brazil, Australia, Greece and West Africa to name barely a few so it comes as no surprise to learn that the Chinese Government have turned their attention to Industrial Hemp, as a fast growing, renewable resource that will help to keep the environment healthy and give yet another boost to the rapidly expanding Chinese economy.

Hemp as a building material:

Already we have seen hemp being used as a quality building material and the Suffolk Housing Society has, quite rightly, seen the low cost construction and near zero maintenance as an ideal solution for 'starter homes'.

*Isochanvre*, as the hemp building compound is called, is flame-proof, non-toxic, 1/9 the weight of cement, retains heat in winter, is cool in the summer and is unpalatable to rats, insects, or termites.

Because of its flexibility and strength it is the ideal material for building in areas susceptible to earthquakes, tornadoes and hurricanes; and over time the plant elements bind with the minerals to make the building stronger and more valuable as it ages. Small wonder then, that advocates extol it as the nearest we will get to perfection: a totally sustainable, non-toxic alternative to bricks and concrete capable of producing the kind of energy efficient, environmentally friendly buildings which most governments insist they want to see built as a matter of course.

However, it should be noted that the Suffolk Housing Society had to go to France to find the right solution and the expertise to work with hemp. The British government should encourage this kind of housing development across the whole of the UK and engage with farmers and the building industry to reintroduce hemp as soon as possible and really commit to building a better, safer and healthier Britain for all our sakes. This is already being done in France, Holland, Germany and Italy (to name but a few) and it is high time that Britain ensured that we are in the vanguard of the new, environmental revolution and not followers of fashion.

The full potential of hemp can only be touched on in this document as its uses are many and new ways of using this incredible and unique commodity are still being discovered.

Overleaf is just a small selection of uses that hemp can and has been put to over the years – it serves as both a poignant reminder and a weathervane to the future.

## The Many Uses Of Hemp

- ◆ Textiles and Fabric – Hemp is softer, warmer, more absorbent, stronger and more durable than cotton. It can also be made into a high quality cloth that can rival satin and silk, so it perfect for the fashion industry, with the added advantage that it is healthier to wear than man-made materials.
- ◆ Fibre, Pulp and Paper – Easier and cleaner to produce than pulps made from traditional rag or woodpulp sources, with no toxic chemical run off from the paper making process. Hemp paper outlasts woodpulp paper by a factor of 50, does not bleach in direct sunlight to the same degree as woodpulp paper, is chemical free and cheaper to make. It require no chemical fertilisers and has very few, significant weed or insect enemies.
- ◆ Rope, cord and twine – Hemp rope and other cordage has been proved to be stronger and more resilient to rapid temperature fluctuations than regular cordage and will outlast the closest petrochemical alternative by a factor of 50-100 years, at least.
- ◆ Food Oils and protein – Hemp oil is highly nutritious and contains the highest amount of essential fatty acids found anywhere in the plant kingdom. These essential oils and acids are responsible for our immune responses and help clear the arteries of cholesterol and plaque, to name a few. Hemp produces the highest recorded quality of seedcake, which in turn improves the quality of dairy animals (and by extension milk and cheese products) and the overall quality of animals bred for their meat.

As stated above, this is just a small selection of the uses that hemp has been put to in the past and demonstrates that hemp will have an important role in our future. Simply put - there is no other commodity or raw source material that can truly rival or outperform hemp.

## References and Resource Lists:

### ***Introduction; A Brief History of Hemp***

‘The cultivation and use of hemp (/Cannabis sativa/ L.) in ancient China’  
Xiaozhai Lu and Robert C. Clarke. Department of Biology and Genetics, Beijing  
Medical University, Beijing 100083

‘Taxonomic studies of Cannabis in China’ - Shao Hong and Robert C. Clarke.  
Department of Biology and Genetics, Beijing Medical University, Beijing 100083

Facts & Information for the Pulp & Paper Industry  
[www.powerspecialties.com/...dpaper.htm](http://www.powerspecialties.com/...dpaper.htm)

[www.globalhemp.com](http://www.globalhemp.com) - Hemp Industries Association

[www.hemptech.com](http://www.hemptech.com) – Fibre

Hemp links

[www.hempseed.com/linkability.html](http://www.hempseed.com/linkability.html)

<http://www.hemphasis.net> – Consumer information on many aspects of Hemp and  
Hemp cultivation.

### ***Part One: The New Agricultural Revolution***

The Advantages of Biofuel – information derived from:  
<http://www.hempcar.org> (see Ames Mutagenicity Tests)

<http://www.hempcar.org/diesel.shtml> (The original ‘diesel’ fuel)

<http://www.biomass.org> - American Biomass Association

<http://www.greenfuels.org/bioindex.html> - Biodiesel Information Centre



## ***Part Two: Industrial Hemp in the U.K.***

<http://news.bbc.co.uk/1/hi/sci/tech/5406458.stm> (NUF President, Peter Kendall on biofuel requirements for the U.K.)

<http://www.houseofhemp.co.uk/hemp.html> – UK agricultural hemp for materials and clothing.

<http://www.fuelandfiber.com> – Mr Tim Castleman, Fuel and Fiber Company, Sacramento, CA, USA.  
'Hemp as Biomass for Energy' (Hemp4NRGRV3\_july06.2.pdf)

<http://www.thespringdalegroup.com> – Hemp seed for Biodiesel (Oil yields)

Figure 4 (Oil yields and characteristics) – details obtained from the National Biodiesel Board of Canada (Fuel Fact Sheet) and 'The Environmental Benefits of Ethanol', Greenfuels, Canada.

[www.angelfire.com/ca7/ddc/Fuel.html](http://www.angelfire.com/ca7/ddc/Fuel.html) - Hemp for Fuel: Energy Farming

## ***Part Three: Alternative Uses for Hemp***

<http://www.chanvre-info.ch/info/fr/Procede-isochanvre.html> – Isochanvre, the unique hemp building material.

<http://www.limetechnology.co.uk/home/index.php>

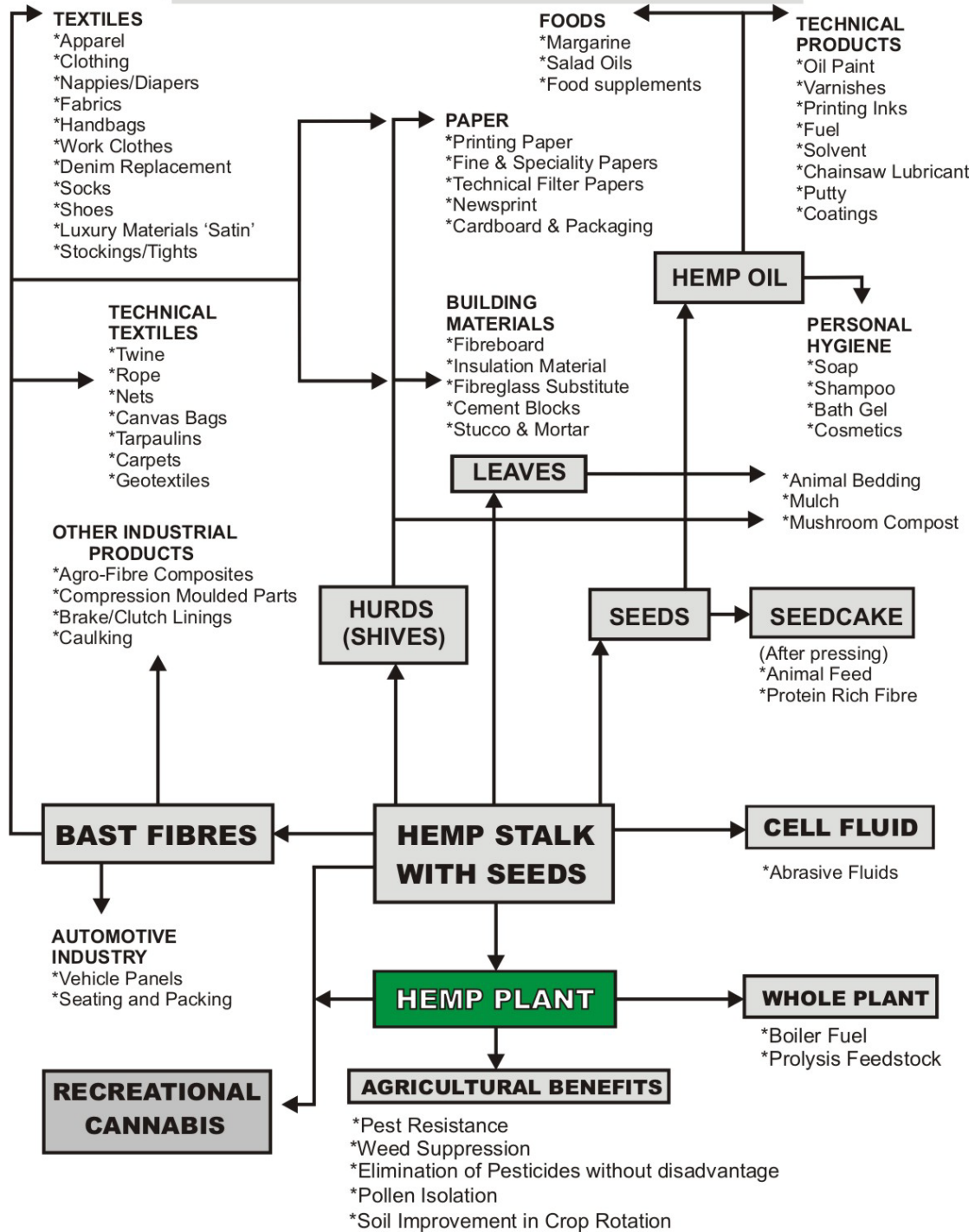
<http://www.limetechnology.co.uk/pages/hemcrete.php> – 'Hemcrete' alternative to concrete etc.

Suffolk Housing Society – Low cost, Hemp homes for the future:

<http://www.suffolkhousing.org/pages/hempage.html> ***Further reading:***

1. U.S. Energy Atlas, David J. Cuff & William J. Young, FreePress/McMillan Publishing Co., NY, 1980
2. Progress in Biomass Conversion Vol. 1, Kyosti V. Sartanen & David Tillmall editors, Academic Press, NY, 1979
3. Brown's Second Alcohol Fuel Cookbook, Michael H. Brown (Senate hearing transcripts)
4. Environmental Chemistry, (4th edition), Stanley E. Manahan, P.W.S. Publishers, Boston, MA, 1979
5. Hemp for Victory, U.S. government documentary film, USDA 1942-43

# MODERN USES FOR HEMP



**'Prohibition of drugs is immoral and driven by dogma'**

Chief Constable Richard Brunstrom (North Wales)  
October 2007

## Part Four

### The Case For The Decriminalisation of Cannabis

The government's case for keeping Cannabis as a restricted substance is largely based on The European Misuse of Drugs Act (1971) and the Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988) which actually permit member states to alter their domestic law making policies "...if a system other than prohibition is deemed to be most appropriate for protecting public health and welfare".

Britain, therefore, does not need to seek permission to change its domestic drug laws and, in recent years, we have seen a government rethink with Cannabis reclassified downwards from a category B drug to a category C drug. But what outwardly appears to be a sensible move towards eventual decriminalisation has only made matters worse, as the recent confusion in the media over how much constitutes 'possession with intent to supply' showed. This debacle also demonstrated just how out of touch government was with public recreational drug use in Britain.

Britain needs a sensible, workable drugs policy based in reality. We need to remove cannabis from the equation, make it a taxable resource and concentrate on the fight against Class A drugs, alcohol and tobacco addiction and prescriptive medicines, which are the real killers in our midst.

But too many politicians are worried for their own careers to stand up and be counted in favour of a law change. This is ironic when the government's own figures estimate 1 in 8 on the population to be 'regular' cannabis users – which begs the question 'How many cannabis smokers are in positions of authority, i.e. Parliament and the Police?'

*"Cannabis never killed anybody and its use is widespread. You can't stop it..."* These words were spoken by Judge James Pickles in 1992. "The law..." Judge Pickles stated, "...defeats itself because all the efforts to stop drugs coming in only drives up the prices and then gangsters move in to push the drugs. If they (government) legalised (cannabis) there wouldn't be gangsters and huge profits... The police are gradually decriminalising the possession of cannabis because they realise there's not much point prosecuting".

And, In 2000, the Police Foundation made this statement to the Report of the Independent Inquiry into the Misuse of Drugs Act 1971:

*"In considering the current operation of the law and sentencing, we are of the view that the possession of cannabis should not be an imprisonable offence. Consequently, it should no longer be an arrestable offence in England and Wales under section 24 of PACE. Further, the prosecution of offences of cannabis possession should be the exception and only then should an offence, if there is a conviction, incur a criminal record."* (Page 107, para 37). This is a statement of true value and worth, for the majority of cannabis smokers in the UK are not involved in any form of anti-social activity or crime in their day-to-day lives. They are unlikely to be involved with a criminal

lifestyle and yet all face the same prospect of becoming criminalised through the risk of buying cannabis. What is a social activity becomes viewed as deviant behaviour and that person or persons is then in immediate danger of being classified as a mental risk to society and themselves if they choose to continue to use cannabis recreationally, safely and at home where they present no threat to anyone at all.

By the very nature of this dilemma, a person's rights and freedom of choice are being severely challenged here and I understand why this has been a bone of contention for a great many years with campaigners far more seasoned to the fight than myself.

The continuing prosecution for possession of Cannabis Sativa for recreational usage and even for self-medication is counter productive and a waste of valuable Police resources. I was recently told, off the record, by a serving Police officer that he would rather turn a blind eye to *'the bloke at home having a quiet puff after a day's work'* and keep the peace than face the *'hassle'* of three hours paperwork over a *'lousy bag of weed'* (his words). This is not uncommon amongst the Police in general and reflects a more sensible attitude to policing that is slowly being adopted at the grass roots level (no pun intended).

In my first proposal I tried to draw attention to the £2 Billion pound in revenue that was being (and is still being) lost annually to organised crime. The figure was arrived at by using government statistics which, in turn, are based on figures collected from recorded arrests, raids etc. However, my original estimate was only based on consumption and did not factor in the full value of cannabis (as a commodity) from seed to eventual customer.

Recent seizures of crops grown by Vietnamese and other 'gangs', highlighted in the press, have, ironically, helped to improve my estimate of cannabis's commercial value and I would now suggest that something in the region of £10-12 Billion per annum is being made by these operations. This is money that does not remain in the UK and does nothing for our economy. This money should be used to revitalise *our* economy and support *our* emergency services. At the very least it should be used to keep council tax at a lower level for pensioners.

Cannabis will continue to be used recreationally no matter what measures are employed by government to curb its usage. This is a simple fact and one that has been recognised by judges and politicians, the police and probationary services and by the general public alike. The longer that government continues to fight this unwinnable battle, the more money will haemorrhage from Britain.

There are potential Cannabis growers who would welcome the chance to come forward, openly declare their crop and profits and willingly pay income tax. These potential growers are not influenced by criminal organisations and are not interested in producing anything other than a good quality, chemical free Cannabis for resale, often giving it away free for genuine medical need.

But, with the present climate of distrust and the senseless increase in prison sentences for those caught growing and/or supplying Cannabis – all the

government has managed to do is to 'muddy the waters' still further with inconsistent legislation, which goes against the best advice of the various Police authorities who have continually stated that they would support a real move towards tackling the far more dangerous (sometimes fatal) Class A drugs such as Heroin, Cocaine and similar.

I still believe that the only sensible, long-term solution is to begin a decriminalisation programme for cannabis, establish a state registered system of legalised growers and create extra wealth and opportunity for Britain. Permit Dutch-style coffeeshops for adults and institute quality control with limits on how much may be purchased at a time. Permit individual councils to issue licences and to use the revenue to support the local health and emergency services and lower council tax bills. This lessens the burden on the exchequer and, by extension, on the welfare state as a whole.

These ideas were covered in my original proposal '21<sup>st</sup> Century Funding for the N.H.S.'

The Gateway Theory.

A popular argument used to demonise cannabis is the so called 'gateway' theory that suggests a cannabis smoker will be lead onto harder drugs by a dealer or become tempted in close proximity to harder drugs when visiting a dealer to purchase cannabis.

It therefore follows that by applying the same basic model to other human habits and activities that all beer drinkers *will* gravitate to spirits and harder liquor, all cigarette smokers *will* turn to cigars and tobacco and all car drivers *will* become prone to road rage. Since this is patently not the case then this immediately places the 'gateway' theory on shaky ground.

Despite strong evidence to dispute this 'gateway' theory and much of the so-called evidence to support it (which is circumstantial at best) this simply comes down to which scientist or government representative you chose to believe and which political agenda is being pursued at that time. This is an emotive issue and will remain one for as long as politicians still regard the cannabis debate as an easy target and a good opportunity to look 'tough' in the media in the fight against drugs. Nowadays one only has to imply that children have access to drugs or worse and the self-escalating hype and general ignorance of the tabloid press will do the rest.

As we have already seen in Britain, America, Canada, France, Australia and New Zealand (to name but a few) any reputable scientist who wishes to remain in his or her position tends to avoid the cannabis debate for fear their results will inevitably be badly misrepresented, sidelined or even scrapped when they fail to tow the accepted political line.

Such has happened very recently in Australia, where a government appointed scientist has now refused to take part in any future research into cannabis

after his previous study and findings were severely edited to fit with present Australian political thinking, which is still trying to prove a causal link between cannabis smoking and cancer.

However, as with all traded commodities, one vital point has been overlooked in the eagerness to demonise the dealer and it is this – that every dealer of whatever commodity *knows* his or her business and customers. Cannabis smokers generally avoid mixing with those who use Class A drugs and if only for the very obvious fact that the two personality types are rarely compatible. At the end of the day it would not be in a dealer's best interest to push harder drugs to a cannabis smoker and that is generally known and accepted by dealers and smokers alike.

### Cannabis causes schizophrenia

Following the release of the ACMD report into drug usage and the way that its findings have been presented to the public, much has been made of this claim and been used by the tabloid press to frighten the ill-educated and badly misinformed into a false belief that smoking a single joint will lead to a long-term addiction and a stay in the funny farm. The reality is quite the opposite.

Whilst it is certainly the case that there *appears* to be an increase in cases of schizophrenia being diagnosed amongst cannabis smokers – it should be noted that the claim that 1% of cannabis smokers suffer from or appear to have developed symptoms associated with the onset of schizophrenia, is reflected in the general population at large. The same figure of 1% can easily be applied to all professions, including politics and if done so then these results instantly become less dramatic.

The real question to be addressed is not why schizophrenia appears to be on the increase amongst cannabis smokers but rather - *why are schizophrenics becoming attracted to cannabis usage in the first place?* Cannabis is not causing schizophrenia although there is evidence to suggest that it *might* contribute towards activating latent schizophrenia in some extreme cases. By the same extent – a glut of alcohol or prescriptive medication may have the same effect, in the right circumstances.

This debate will continue for sometime to come but a deeper reading of the ACMD report suggests that in a growing number of cases where mental problems are being claimed for cannabis users – *there is already a predisposition towards mental health problems within that family unit and its history*. Therefore, the demonisation of cannabis is a scapegoat for deeper, underlying issues that go directly to the core of Britain's National Health Service. But a sensationalist claim that cannabis causes schizophrenia makes a better story in the press. After all, a majority of British people read newspapers that require the reading age of 7-9 years old - and its not that difficult to pull the wool over the eyes of a child, is it?

## Cannabis psychosis

Whilst it could be argued that there is a correlation between psychosis and cannabis use, it should be noted that there is no overall increase of alleged cannabis psychosis in the general population (according to government figures), so this becomes an article for further debate and demands clarification, or else we once again find ourselves in the land of the tabloid sensationalism.

Possibly, a small subset of the general population may be susceptible to an earlier onset of psychosis but in the long term, does this mean that there is also an earlier recovery? Speculative but again it is something that merits further investigation. Another scenario might be that those with earlier onset psychosis, may be self-medicating with cannabis and *cannabis is not the cause but rather a symptom*. Whatever the truth, the simple fact that there is a statistical correlation shows that something needs explanation. It need also be remembered that some people just can't drink alcohol and shouldn't - maybe it's the same for some people and cannabis. One size does not necessarily fit all.

## Cannabis causes Cancer

Despite Cannabis being used to treat Asthma, Glaucoma, Post chemotherapy nausea, Anorexia, cancerous tumours, epilepsy, Parkinson's disease, Multiple Sclerosis, Muscular Dystrophy, Migraines, Menstrual cramps and a whole host of other conditions, ailments and diseases – this highly disputable claim that cannabis causes cancer has no real medical basis.

Sadly, much of this claim is based on the, now thoroughly discredited, Tulane study of 1974, which also continues to be the basis for much worldwide anti-cannabis legislation. The true fact is that tobacco is the cancer-carrying agent and cannabis is not. The smoking of cannabis dilates the airways of the lungs and bronchi, thus allowing more oxygen into the lungs and, by extension, into the blood and brain. This, in turn, improves brain function and thought processes.

It is the *tobacco* that is the demon cancer causing weed and *not* cannabis. The sheer fact that many cannabis smokers smoke cannabis with tobacco *may* make a person more susceptible to cancer in the long run but a person who smokes whole cannabis or only cannabis without tobacco has no more chance of contracting cancer than I have of becoming the next Prime Minister!

Tobacco companies add chemicals to tobacco that *will* cause cancer whilst refusing to permit the general public any clear knowledge of what those chemicals are, why they are added and what effect they might have on the human body. In fact, in the USA, that same information is protected by government and tobacco companies so the general public have *no right*



whatsoever in law to know what is being put into their tobacco products. So much for one's democratic rights!

### The ongoing medical debate

It is impossible to discuss cannabis nowadays without including its growing medical usage, legal or otherwise. With the release of Sativex onto the Canadian market, a cannabis-derived medicine is at last being given a trial. It is interesting to note the lengths to which GW Pharmaceuticals have gone to distance their product from 'whole' cannabis alternative, which is still the preferred, traditional method of using cannabis – usually in a food preparation to allow for slow, long term release – and yet even GW Pharmaceuticals have yet to acquire a full licence for UK distribution of Sativex.

There is still a great deal of mistrust and ignorance (even within the medical profession) about the efficacy of cannabis as medicine, foodstuff and even healthcare product. Sadly the comments of Anne Widdecombe with regards to the Body Shop range of hemp products also highlight the ignorance amongst present politicians and shows how easily a confusion over cannabis hemp and cannabis sativa/indica can come about.

There are numerous instances and tales from all over the world of cannabis having been used medicinally by disparate peoples since before biblical times and those traditions continue to this day. If there is a perceived increase in cannabis being used medicinally in the UK nowadays, as appears so from the many recent media stories covering 'Cannabis Granny' etc, then the question that should be asked is why are people returning to folk remedies? We have not become a nation of stoned old ladies and hippy granddads – these people are choosing self medication with cannabis primarily for pain relief and because cannabis is both cheaper and *far safer* than many prescriptive medicines.

I live with Diverticular Disease which, for anyone who understands what such means, can be debilitating. Those prescriptive medicines I have used have all, without fail, caused painful side effects as each one targeted its own specific purpose and, in doing so, caused side effects needing other medication to deal with them. And so the cycle went on. I am a regular cannabis user and it is this, not the NHS medication that has enabled me to live anything close to a 'normal' life.

Many self-medicators, such as myself, constantly risk criminal proceedings to obtain our medicinal Cannabis and are treated disproportionately by the Police, often being accused of being users and abusers or worse. A person's right to self-medicate with Cannabis needs to be recognised, realised and decriminalised.

As a medical resource, Cannabis Sativa will:

1. Help lower the annual drugs bill of the N.H.S.
2. Be grown locally and so further cut the cost of production and distribution to hospitals.
3. Produce a high quality, whole medicine, all year round.
4. Supplement and/or replace many expensive medicines used for the treatment of depression and, in some cases, even cancer without creating debilitating side effects.
5. Be easily regulated and self-administered whilst offering no possibility of a fatal overdose.
6. Stimulate the appetite and oxygenate the blood and even aid breathing.
7. Create a better quality of life for those suffering from debilitating illnesses such as Multiple Sclerosis.
8. Be readily adapted for use via a transdermal 'patch' delivery system, thus giving the patient total control over dosage.

Following recent developments in the experimental application of cannabis derived medications being used to treat depression and similar disorders in the USA, I intend to push government for a full investigation into whole medical cannabis.

I have never claimed that cannabis is a panacea but I strongly believe that it has a great deal to offer this country if only outdated beliefs and prejudices could be put aside and politicians were allowed a free and open, non-partisan discussion leading to a vote on the decriminalisation issue.

Recreational cannabis coffeshops could collect revenue of up to £12 billion annually for government and slash the cost of policing in one move. It will not create a 'drugs tourism' as if often threatened in the gutter press and, as has been proven by earlier studies (Brixton et al), will not lead to a significant rise in cannabis smoking. It *will* lead to an end of the criminalisation of otherwise law-abiding citizens and permit the Police to concentrate on the gang culture that thrives on Class A, drugland warfare.

Medical cannabis will become a reality and it is time for Britain to be at the forefront of exploration and exploitation of this valuable commodity.