

# Industrial Hemp in NZ, Past Present and Future Challenges and Changes

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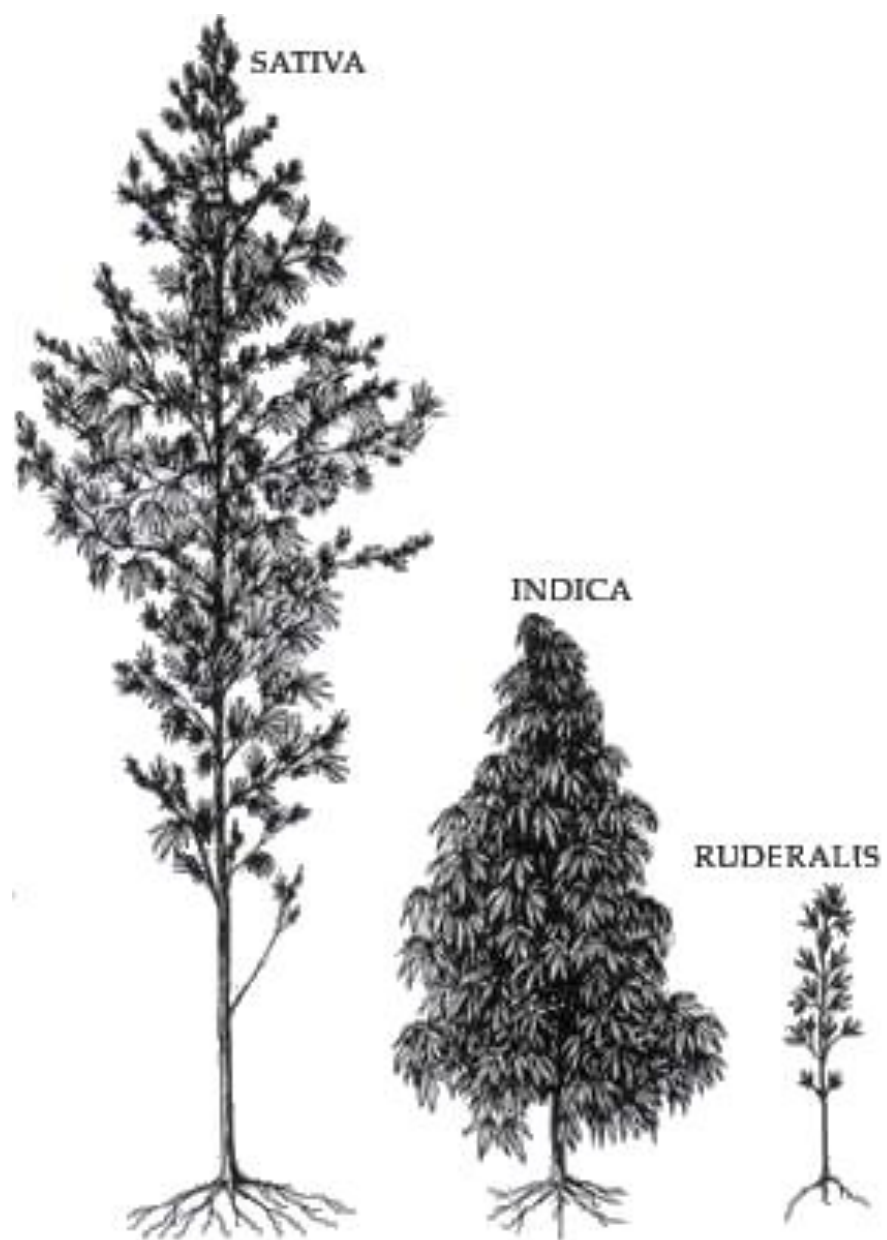
Richard Barge – Deputy Chair NZ  
Hemp Industries Association Inc  
(1997)



# Richard Barge – Deputy Chair NZHIA

- What is iHemp, introduction to the NZHIA and the iHemp regulations
- The challenge of working with hemp, why is it a good idea and the political risk
- Changing attitudes, challenges of education
- A brand new raw material – challenges for industry and the primary producers
- Challenges of scale – supply and demand
- iHemp - A Catalyst for Change

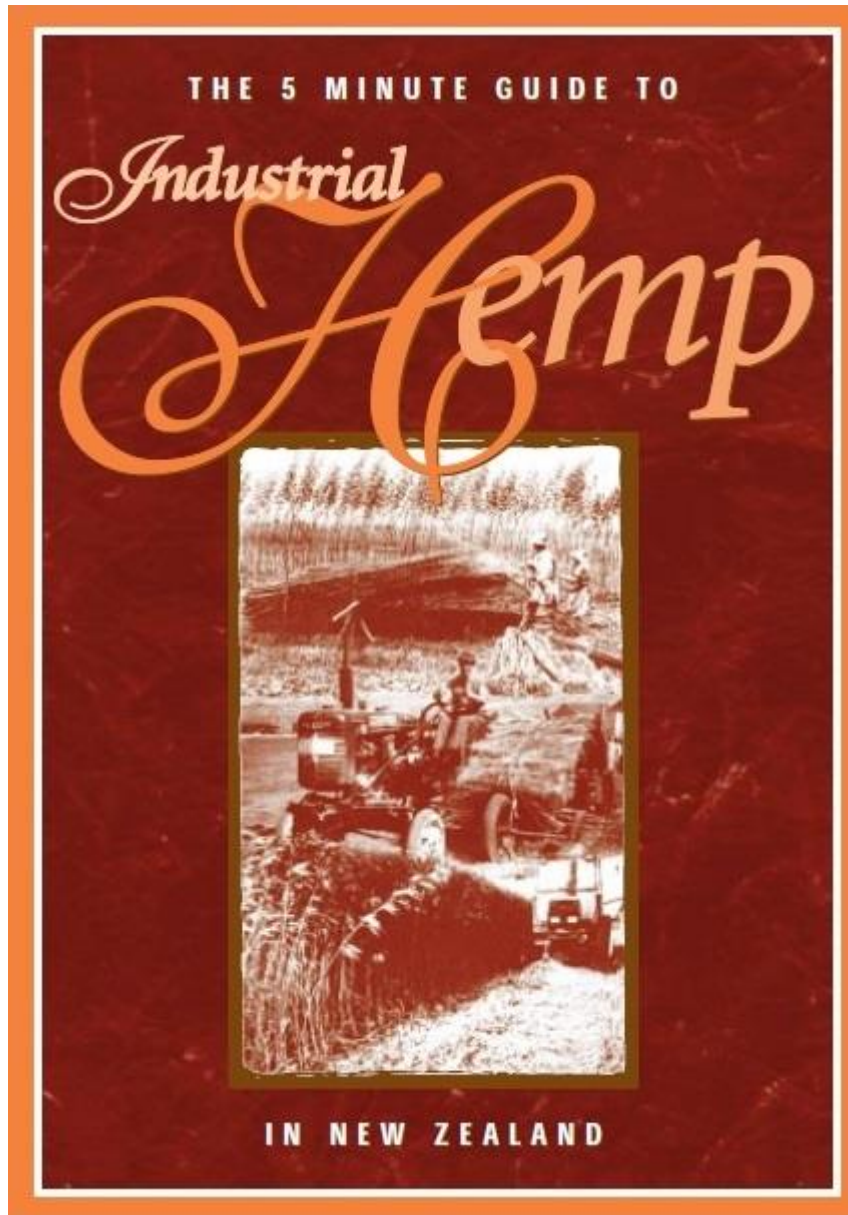




# What is industrial hemp?

- Industrial hemp is cannabis with a low THC content
- An annual herbaceous crop growing to maturity in 90-120 days
- Requires little if any agriculture inputs and is a phytoremediator
- Producing seed, fiber, leaf/flower and roots





# The NZHIA, incorporated in 1997

## **Industrial Hemp** and its Potential for New Zealand

**A Report for the 1999 Kellogg Rural  
Leadership Course**



**November 1999**

**Charles N Merfield**  
charles@merfield.com

# Misuse of Drugs (Industrial Hemp) Regulations 2006

(SR 2006/163)

## 3 Object

The object of these regulations is to enable the cultivation and distribution of industrial hemp under a licensing regime that ensures that other forms of cannabis are not cultivated and distributed under the guise of industrial hemp.

**hemp** means cannabis plant, seed, or fruit

**hemp product** means—

- (a) a product of a kind that is derived, in whole or in part, from industrial hemp; and
- (b) a hemp seed food product



**industrial hemp** means hemp in the form of—

- (a) plants with a THC content that is—
  - (i) generally below 0.35%; and
  - (ii) is not above 0.5%; or
- (b) seeds harvested from plants of that kind

## 67 Permission

- (1) Every person is permitted to possess, use, and trade in—
  - (a) hemp products; and
  - (b) hulled hemp seeds; and
  - (c) stalks of industrial hemp, as long as those stalks are without leaves or fruit.
- (1A) Every person is permitted to import into and export from New Zealand—
  - (a) hemp products; and
  - (b) hulled hemp seeds; and
  - (c) stalks of industrial hemp, as long as those stalks are without leaves or fruit.
- (2) This regulation does not affect any other restrictions imposed by law.



MANATŪ HAUORA

# LICENCE FOR INDUSTRIAL HEMP

(Issued pursuant to the Misuse of Drugs (Industrial Hemp) Regulations 2006)

## GENERAL LICENCE

Licence No 2017/IHG47

Name and address of licensee:

**HEMPTASTIC NEW ZEALAND LIMITED**  
22 Gracechurch Drive, Flat Bush, AUCKLAND 2016

Responsible persons:

**Richard Stuart BARGE**

**Director**

**Gillian Carol BARGE**

**Director**

The licensee is hereby authorised, pursuant to the Misuse of Drugs (Industrial Hemp) Regulations, to carry out the following activities:

- (√) the procurement of industrial hemp from within New Zealand or from overseas, for the varieties specified on this licence
- (√) the supply within New Zealand, of industrial hemp
- (√) the processing of industrial hemp
- (√) the possession of industrial hemp for the purposes of the activities specified above.

These activities are authorised only in respect of the approved cultivars specified on this licence.

Location of authorised activities:

**22 Gracechurch Drive, Flat Bush, AUCKLAND 2016**

Name of approved cultivar(s):

**Anka**

**Fasamo**

**Kompolti**

**USO31**

**Ferimon 12**

**Fedora 17**

**Aotearoa 1**

**Finola**

**CFX-1**

**CFX-2**

**CRS-1**

**Futura 75**

This licence is subject to the following conditions:

- 1) All authorised activities will be carried out pursuant to the Misuse of Drugs Act 1975 and the Misuse of Drugs (Industrial Hemp) Regulations 2006.
- 2) The licensee will send an annual report to the Ministry of Health by 31 July each year, in accordance with regulation 54 of the Regulations.

The licence shall expire on the **14<sup>th</sup> day of January 2020.**

Signed this 20<sup>th</sup> day of January 2017.....  
For the Director-General of Health



© Anna Harding

# Popular Mechanics Magazine

WRITTEN SO YOU CAN UNDERSTAND IT

## NEW BILLION-DOLLAR CROP

*American farmers are promised a new cash crop with an annual value of several hundred million dollars, all because **a machine** has been invented that solves a problem more than 6,000 years old.*

**Hemp is the standard fiber of the world. It has great tensile strength and durability. It is used to produce more than 5,000 textile products, ranging from rope to fine laces, and the woody "hurds" remaining after the fiber has been removed contain more than 77 percent cellulose, which can be used to produce more than 25,000 products, ranging from dynamite to Cellophane.**



*Hemp fiber being delivered from machine, ready for baling. Pile of pulverized hurds beside machine is 77 percent cellulose..*



*Sailing the seven seas with sails and rope made of hemp.*



*Modern version of a linen duster made from hemp, one of the toughest fibers in the world.*

The hemp seed contains omega 3,6,9 + 20 amino acids, including all the essential ones. And is high in protein



“Supermarket News march 2019”

## hempfeature

### HOPPING GOOD

Blue Frog is the first company to manufacture a hemp-based cereal in New Zealand. Not only is the team passionate about cereal, but they are also passionate about creating a memorable breakfast or snacking occasion. “Hemp is such a nutritious and tasty offering, it’s been in our product pipeline for almost two years, as we were waiting for legislation to be passed. At Blue Frog, we pride ourselves on being the first to include super



tasty and highly nutritious ingredients into our products,” said founder Scott Faragwanath. “Hemp truly is a wonder food. If ever a food deserved the title of ‘super,’ hemp would be it. Not only is it easy and extremely sustainable, but it is also incredibly healthy.”

Hemp is rich in GLA, believed to be useful for preventing joint inflammation, and it’s a high-quality protein source. Blue Frog’s first shipment of hemp is Canadian, but their long-term goal is to implement ways in which they can work with local growers. “New Zealand is the perfect location to create a very strong hemp industry, and we want to be a strong supporter of this.” The support for hemp-based products has been mixed in New Zealand, but it seems as though consumer interest is on the rise. “There appears to be two camps at present, those early adopters of whole foods who are very aware, and the majority of the population, who don’t understand the difference between hemp and cannabis.” Blue Frog sensed that they have some exciting new products in the pipeline.

For more information visit [www.bluefrogbreakfast.co.nz](http://www.bluefrogbreakfast.co.nz) or email [acc@bluefrogbreakfast.co.nz](mailto:acc@bluefrogbreakfast.co.nz)

### GETTING HEALTHY

Hemp is a nutritional powerhouse and has every reason to become a staple in consumers’ diets. Not only is it filled with healthy fats, protein, Vitamin E, and minerals such as phosphorus, potassium, sodium, magnesium, sulphur, calcium, iron and zinc, hemp is also an incredible plant for the environment. Hemp is carbon neutral, and removes carbon dioxide and toxins from the air, as well as restoring nutrients to the soil rather than leaching it, making it a very sustainable plant to grow. Distributed by Natural Things Distribution, Natura Organics hemp products are a wholesome blend of certified organic plant-based proteins and superfoods. The vegan protein blends contain hemp protein, sprouted and bio-fermented pea protein and zacha inchi protein.

“This means that our hemp protein range has a broad spectrum of amino acids from a variety of plant-based protein sources to ensure it is easily digestible,” said Mark Dickinson from Natural Things Distribution. “The change



to the Australia New Zealand Food Standards Code that occurred in late 2018 allowed us to develop hemp products that would bring a whole new meaning to plant-based protein. Our specific formula not only contains the combination of three different vegan protein powders but each of the three flavours has been specifically designed to deliver unique health benefits.” The legislation of hemp has meant that Natura Organics’ mission of helping people to live healthier and more energetic lives is now even easier. For more information contact Mark at [mark@naturaorganics.co.nz](mailto:mark@naturaorganics.co.nz) or visit [www.naturaorganics.co.nz](http://www.naturaorganics.co.nz)



### THE SUSTAINABLE APPROACH

Hemp is considered to be one of the most useful plants on earth. Not only is it the most nutrient dense seed on the planet but it is also touted as being one of the most environmentally friendly as it is naturally resistant to pests, eliminating the need for most pesticides and herbicides. Hemp Farm decided to grow hemp for the health and well-being of the environment. Anne Jordan, company director of Hemp Farm, believes that hemp is a sustainable solution to many of today’s environmental issues. “It sequesters carbon out of the environment and

locks it up in the products made from it. Everything made from hemp is top shelf by way of quality and environmental impact.” Hemp Farm’s products are grown using organic principles and are certified organic.

“Our hemp 50 percent protein powder is a complete clean protein, excellent for muscle health and recovery after exercise. Our cold pressed hemp seed oil is perfect

for drizzling and has a wonderfully nutty flavour. We also supply the oil in convenient capsules for a healthy boost on the go.” In addition to hemp food and health products, Hemp Farm produces a skincare range. The business is also in the process of developing offerings such as hemp butter, milk, bread, and chocolate. Additionally, “through [our] partnership with iconic brand NZ Yarn, we will be producing hemp yarn, hemp-based blends for carpets and new woven matting for composite materials, insulation, and erosion control.”

Hemp Farm’s biggest challenge at this stage is the perception of the crop. “This has been our mission over the past ten years, to educate about the differences between hemp and high THC varieties of marijuana. We have given many talks about the incredible benefits of the plant. Hemp has been utilised for food, fibre, fuel and medicine for centuries. “Most people know and are aware of the differences and are enjoying the health benefits of adding hemp to their daily diet. It is an exciting time for hemp in New Zealand.” For more information contact Adam at [adam@hempfarm.co.nz](mailto:adam@hempfarm.co.nz) or visit [www.hempfarm.co.nz](http://www.hempfarm.co.nz)



### MIXING HEMP AND HERBS

Waikete Herbs began when founder Wendy Kendall decided to move to the popular island to raise a family. She wanted to create a healthy spread alternative for her young children and so began experimenting with herbs in her backyard. “Waikete Herbs now has a range of oils and spreads derived from the goodness of herbs and carefully preserved. With a focus on creating healthy offerings for families, it was not surprising that when given the opportunity to include hemp in a herb spread Kendall jumped at the chance. The organic Herb Spread with Garlic and Superseeds with Hemp Oil contains a combination of parsley, rosemary, marjoram, dandelion, plantain, spinach, oregano, thyme, sage, lavender and calendula. For more information contact Wendy Kendall at [info@waiketeherbs.co.nz](mailto:info@waiketeherbs.co.nz) or visit [www.waiketeherbs.co.nz](http://www.waiketeherbs.co.nz)



**New 100% organic HEMP range**

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[www.matakanasuperfoods.com](http://www.matakanasuperfoods.com)

**Hemp Farm**

**Natural Superfoods for Health and Vitality.**

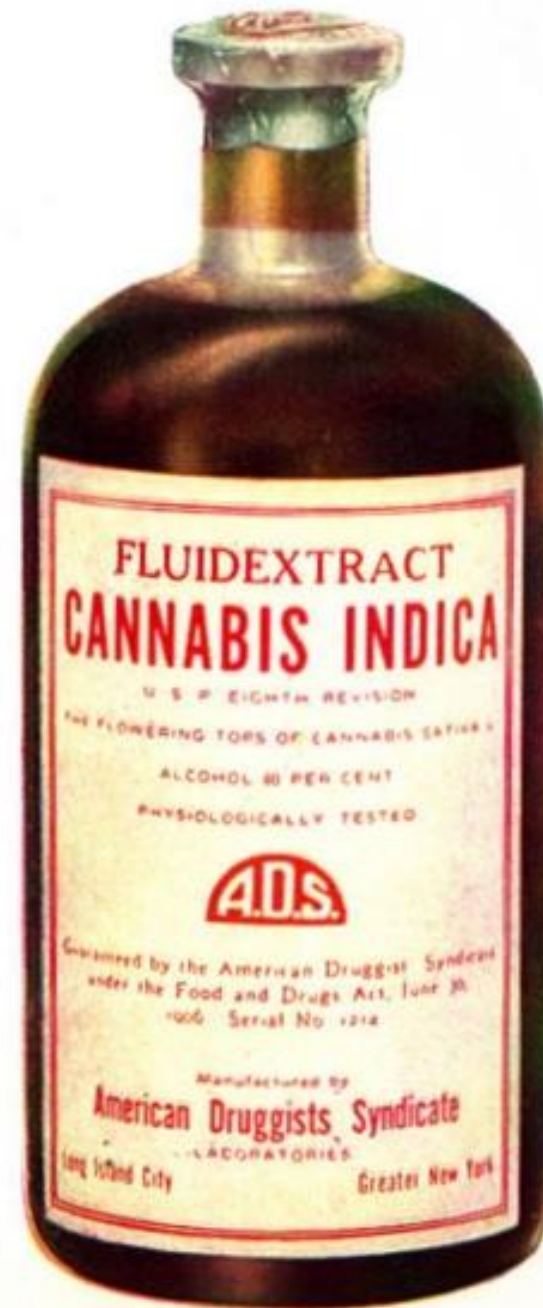
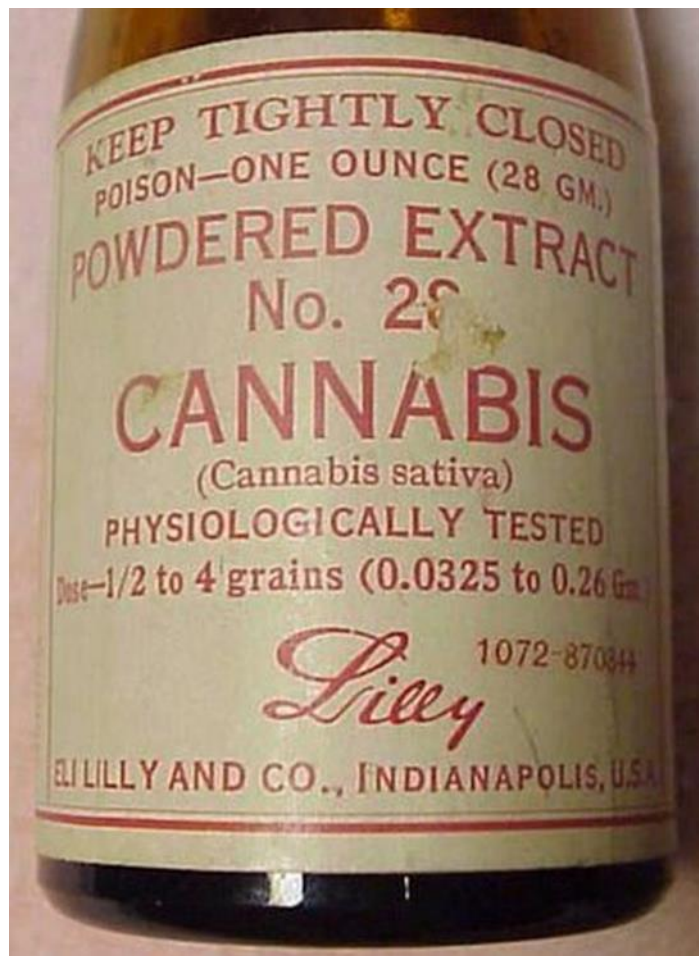
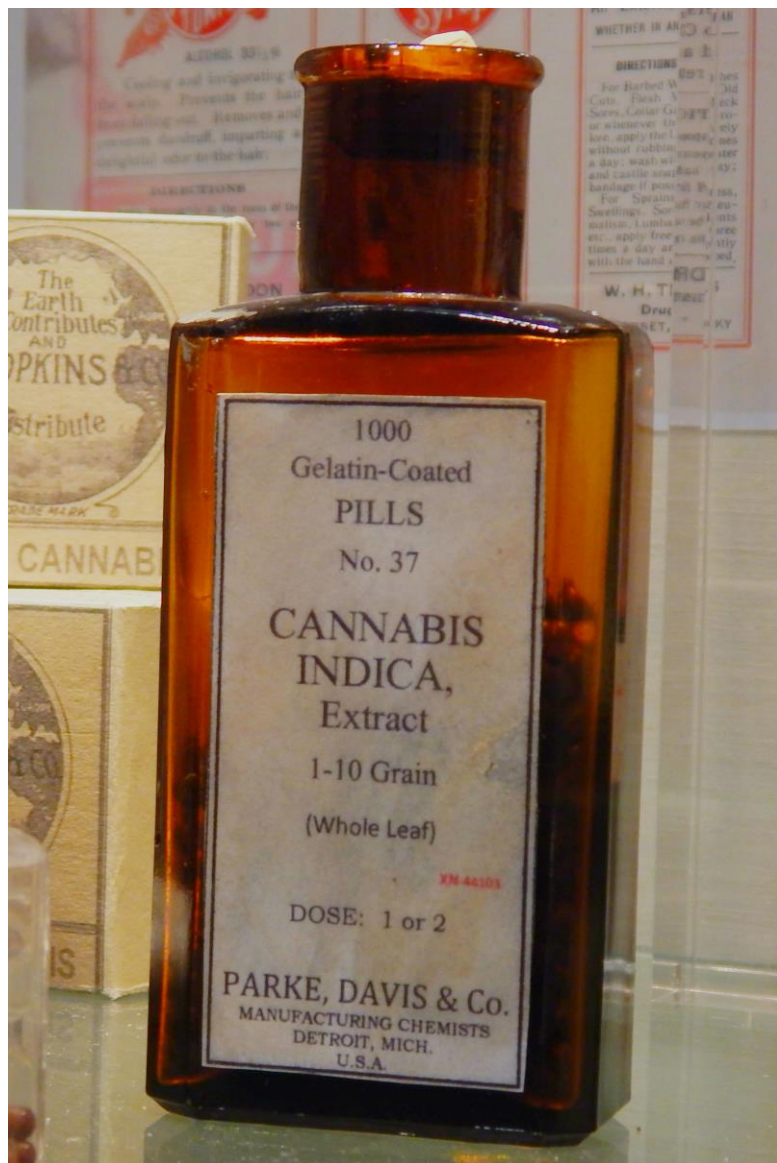
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[www.waibush.co.nz](http://www.waibush.co.nz)



UNITED STATES DEPARTMENT OF AGRICULTURE  
BULLETIN No. 404

Contribution from the Bureau of Plant Industry  
WM. A. TAYLOR, Chief

Washington, D. C. PROFESSIONAL PAPER October 14, 1916

HEMP HURDS AS PAPER-MAKING  
MATERIAL

By

LYSTER H. DEWEY, Botanist in Charge of Fiber-Plant Investiga-  
tions, and JASON L. MERRILL, Paper-Plant Chemist  
Paper-Plant Investigations

*This bulletin is printed on paper manufactured from hemp hurds,  
run No. 143, which is recorded on page 20*

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WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1916



BILLION-  
DOLLAR  
CROP

petroleum with endo-produced foreign fiber while paying farmers fifteen dollars a ton for hemp as it comes from the field.

From the farmers' point of view, hemp is an easy crop to grow and will yield from three to six tons per acre on any land that will grow corn, wheat, or oats. It has a short growing season, so that it can be planted after other crops are in. It can be grown in any state of the union. The long roots penetrate and break the soil to leave it in perfect condition for the next year's crop. The dense stand of leaves, eight to twelve feet above the ground, shades out weeds. Two successive crops are enough to exhaust land that has been abandoned because of Canadian thistles or quack grass.

Under old methods, hemp required to grow in France.



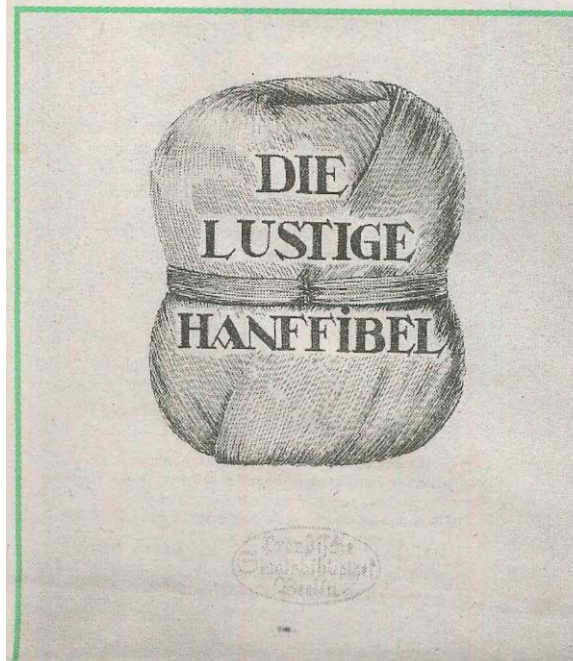
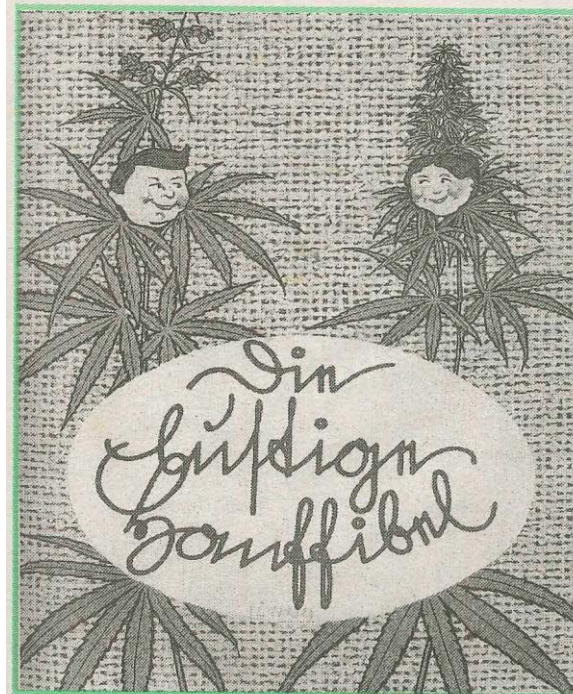
Fig. 1. Modern method of hemp culture made from hemp. Modern, harvesting hemp with a grain binder. Hemp grows successfully in France.



FARMERS' BULLETIN No. 1935  
U. S. DEPARTMENT OF AGRICULTURE



*Photo: U.S.D.A. by Foray/Re*  
 All the hempseed available in the U. S. is stacked in this Kentucky warehouse under armed guard. Next year, USDA hopes, there'll be enough to grow 350,000 acres.



## The Humorous Hemp Primer

The cover shows the male plant eager to pollenate the willing female.



## The Lustrous HempFiber

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**SINGLE CONVENTION  
ON  
NARCOTIC DRUGS, 1961,**

**as amended by  
the 1972 Protocol Amending the Single Convention  
on Narcotic Drugs, 1961**



*Article 28. Control of cannabis*

1. If a Party permits the cultivation of the cannabis plant for the production of cannabis or cannabis resin, it shall apply thereto the system of controls as provided in article 23 respecting the control of the opium poppy.
2. This Convention shall not apply to the cultivation of the cannabis plant exclusively for industrial purposes (fibre and seed) or horticultural purposes.
3. The Parties shall adopt such measures as may be necessary to prevent the misuse of, and illicit traffic in, the leaves of the cannabis plant.





# THE ENDOCANNABINOID SYSTEM

## HUMAN CANNABINOID RECEPTORS

### CB1

Receptors are concentrated in the brain & the central nervous system but are also present in some nerves and organs.

### CB2

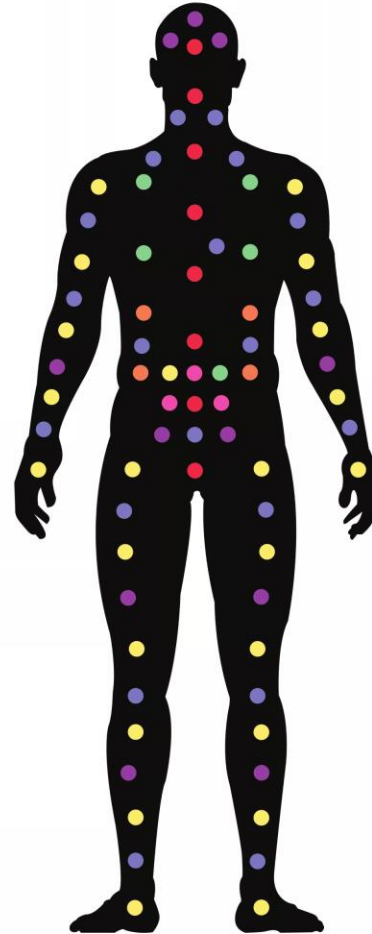
Receptors are mostly in peripheral organs, especially cells associated with the immune system.

### TRVP1

Receptors are concentrated in the blood, bone, marrow, tongue, kidney, liver, stomach & ovaries.

### TRPV2

Receptors are concentrated in the skin, muscle, kidney, stomach & lungs.



### GPR 18

Receptors can be found primarily in bone marrow, the spleen and lymph nodes, and to a lesser extent the testes

### GPR55

Receptors are found in the bones, the brain, particularly the cerebellum, and the Jejunum and Ileum.

### GPR 119

Receptors are found predominantly in the Pancreas and the intestinal tract, in small amounts



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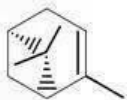
# Terpenoid Education

How do Terpenoids affect the body?

Medicinal effects one can expect to see from medicine high in these terpenoids.

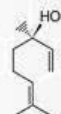
## $\alpha$ -Pinene

- Sleep aid
- Anti-anxiety
- Sedative
- Bronchodilator
- Pine aroma
- Anticonvulsant
- Stress reliever
- Anti-epileptic
- Anti-convulsant
- Anti-inflammatory



## Linalool

- Sleep aid
- Anti-anxiety
- Sedative
- Anti-bacterial
- Pain reliever
- Floral aroma
- Anticonvulsant
- Stress reliever
- Anti-epileptic
- Anti-convulsant
- Analgesic



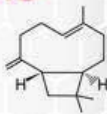
## Myrcene

- Anti-tumor
- Anti-fungal
- Anti-cancer
- Anti-spasm
- Sedative
- Aids insomnia
- Anti-inflammatory
- Anti-bacterial
- Muscle relaxant
- Allows THC to take effect quickly
- Levels >.5% result in "couch lock effect"
- Musky aroma



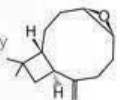
## $\beta$ -Caryophyllene

- Anti-tumor
- Anti-fungal
- Anti-septic
- Anti-inflammatory
- Anti-bacterial
- Muscle relaxant
- Rich spicy aroma



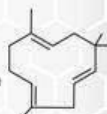
## Carophyllene Oxide

- Anti-fungal
- Pain Reliever
- Spicy aroma
- Anti-Ischemic
- Anti-inflammatory



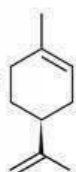
## $\alpha$ -Humulene

- Anti-tumor
- Anti-fungal
- Hoppy aroma
- Anti-inflammatory
- Suppresses appetite



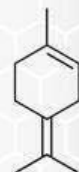
## Limonene

- Anti-anxiety
- Anti-depression
- Anti-tumor
- Antiseptic
- Anti-stress
- Immunostimulant
- Orange aroma
- Produces apoptosis of breast cancer cells
- Antimicrobial
- Used clinically to dissolve gallstones
- Relieves heartburn and gastrointestinal reflux
- Increases blood flow from the heart

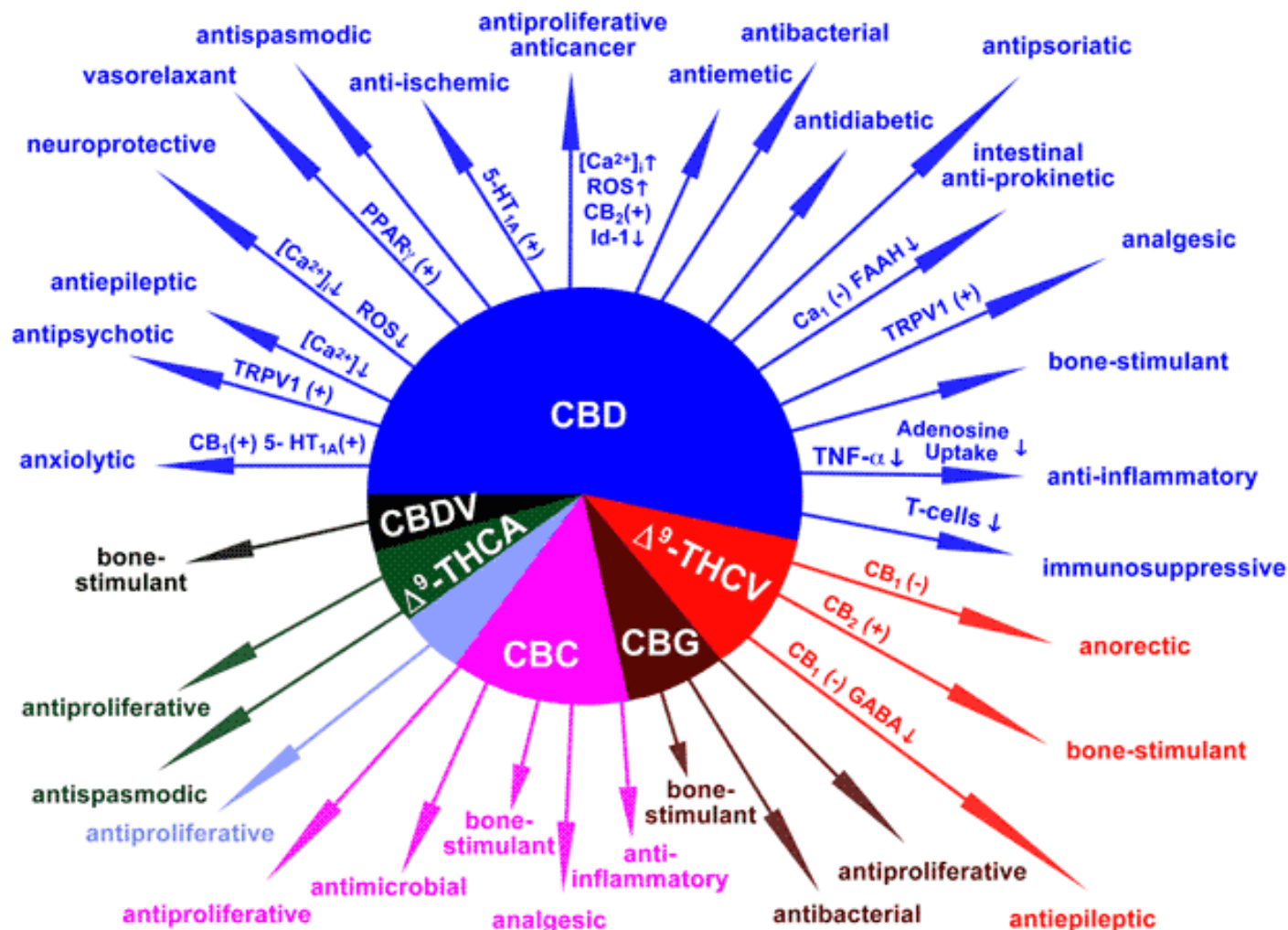


## Terpinolene

- Anti-bacterial
- Anti-fungal
- Smokey woody aroma
- Anti-insomnia
- Antiseptic



## Pharmacological actions of non-psychotropic cannabinoids (with the indication of the proposed mechanisms of action).

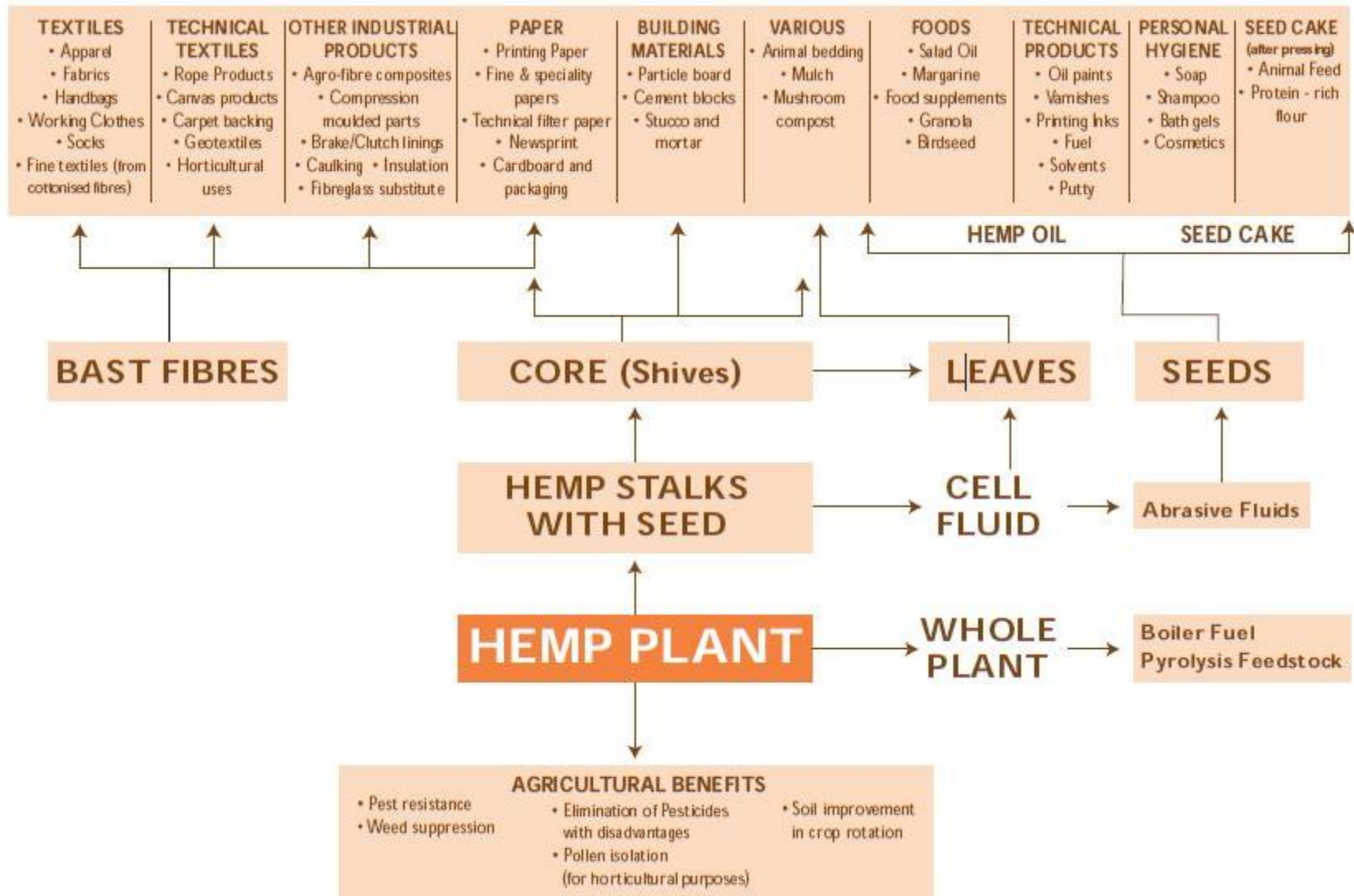




# CANNABINOIDS

THE ULTIMATE GUIDE TO CANNABIS MEDICINE

	THC	CBD	CBG	CBN	CBC	THCv	CBGA	CGCA	CBCA	THCA
Relieves Pain	●	●		●	●		●			
Reduce Seizures		●				●				
Sleep Better				●						
Relieve Anxiety		●								
Reduce Blood Sugar		●								
Suppress Appetite			●							
Kill/Slow Bacteria		●	●							
Reduce Nausea	●	●								
Anti-Fungal									●	
Inhibit tumor/cancer		●	●		●					●
Reduce Artery Blockage		●								
Treat Psoriasis		●								
Antipsychotic		●								
Suppress Muscle Spasm	●	●						●		●
Stimulate Appetite	●									
Promote Bone Growth		●	●		●	●	●			
Reduces Inflammation		●	●		●		●	●		●



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& DEVELOPMENT CORPORATION, ACT AUSTRALIA



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MARIJUANA  
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\$12.95

# THE EMPEROR WEARS NO CLOTHES

*The Authoritative Historical Record  
of the Cannabis Plant, Hemp Prohibition, and  
How Marijuana Can Still Save the World.*

By  
**Jack  
Herer**

Designed & Edited by  
**Chris Conrad**

134104



Thank you for your  
attention and interest in  
the emerging iHemp  
industry

---

If you would like to get involved  
please contact [admin@nzhia.com](mailto:admin@nzhia.com)  
or check out our website  
[nzhia.com](http://nzhia.com)

