

FOOD • FIBRE • HEALTH

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TOKOROA

Exploring hemp's economic and sustainability potential: Big business in Southern Waikato

South Waikato Sports & Events Centre

Wednesday 15 June 2022 PRESENTED BY RICHARD BARGE



SPEAKERS



RICHARD BARGE (NZHIA)

The NZHIA Chair presents a history of hemp in Aotearoa New Zealand and a new iHemp industry for Southern Waikato.





BILL QUINN (ORGANICAG)

Opportunities and differences in production and marketing of iHemp.

JAMES BAILEY (MOMONA FARMS)

Farming iHemp and the potential for the future.



- 7.30 Pōhiri
- 7.50 NZHIA
- 8.10 James Bailey
- 8.25 Bill Quinn
- 9.00 NZHIA
- 9.15 Panelists
- Till Close

Welcome Introduction and History Momona Farm OrganicAg Business plans - Why Question & Answers



NZ Hemp Industries Association iHemp and History



Growers and Cultivators



Testing and Development



Processors and Manufacturers







NZ HEMI INVESTO \$2 Billion And 20,000 Regiona Just Needs The





NZ HEMP EXPORT DRIVEN Investor report:

S2 BILLION AND 20,000 REGIONAL JOBS BY 2030 JUST NEEDS THE NOD...



















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BILLION -DOLLAR CROP

patrices with endir-produced boreign filter while paying farmore When dellars a ton for being as it comes from the field. From the farmers' point of view; heata is an ener crop to grow and will pield from flater to six how per acre on any land that still grow sorn, when, or outs. It has a short growing present, so that it can be planted after other stops are in. It can be provid to any state of the union. The long roots pesterrate and hreak the sell to berre it in prefect condition for the sent year's ong. The detas should of lowers, sight to bushes fast above the ground, chakes and usuels. Two auccustive empt are enough to reduce beed that hes been abandoned Instatute of Caladian Dublies or Querk grain. Under ubl methods, hemp

timeland is part 1888.

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Chemurgy is a branch of applied chemistry that is concerned with preparing industrial products from agricultural raw materials









Henry Ford c1930











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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 grave 350,000 acres.







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

If a Party permits the cultivation of the cannabis plant for the prod 1. tion 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.

This Convention shall not apply to the cultivation of the canna-2. bis plant exclusively for industrial purposes (fibre and seed) or horticultural purposes.

The Parties shall adopt such measures as may be necessary to prevent 3. the misuse of, and illicit traffic in, the leaves of the cannabis plant.







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.











hempfarm.co.nz





















THE MANY USES OF HENDEND

THE HEMP PLANT HAS UP TO 25,000 USES











This pioneering industry is on the edge of incredible growth. We're looking for farmers, growers, entrepreneurs and businesses who want to discover how to invest, upskill and become part of Aotearoa New Zealand's next billion dollar economy.



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Day50 Drystock




























Vodafone - Stay... 🗢 10:09 PM



ELLABAILEY_MYHEMPKITCHEN Posts



ellabailey_myhempkitchen





Liked by windsurfing22 and others

ellabailey_myhempkitchen With all of the winter sniffles/flus about it's so important to keep up with nutrient dense foods. Hemp has the perfect... more

View all 10 comments

ellabailey_myhempkitchen @jodzflem our crop went to @hempconnectnz and @hempfarmnz and I've tasted/used it all, it's of the highest \odot









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Opportunities and differences in production THE NZHIA Bill Quinn **DISCOVERY & INVESTMENT** and OrganicAg. TOUR²⁰ FOOD • FIBRE • HEALTH marketing of iHemp.



2018 crop Manawatu. Grown using organic compliant systems/inputs.









iHemp seed <u>less</u> cold pressed oil <u>equals</u> iHemp seed-cake (husk in)







Pellets



Hemp Board ~ The Superior Particle Board for the 21st Century

Ecoteam Hemp Board is a type of particle board which is manufactured predominantly from Cannabis hemp hurd fibre. A thin surface of recycled wood gives it a fine finish and additional structure. Ecoteam Hemp Board represents a superior sustainable substitute for conventional particle board with many advantageous properties.

Look at these advantages



Lightweight & Strong

It's lighter but stronger than most conventional particle boards and medium density fibreboards. The density ranges from 450 kg/m3 to 490 kg/m3 which is around 1/2 to 3/4 the density of wood-based particle board.

Water and mould resistant

It can withstand weeks of complete immersion in water with negligible loss of structural integrity, edge disintegration and minimal swelling. Hemp particle board dries back to the original dimensions, and is not prone to mould.

Excellent insulation properties

It has excellent thermal and acoustic insulation properties, reducing or mitigating the need for additional insulation materials. The thicker the board, the better the insulation

Sustainable building product

It's composed predominantly of hemp fibres, and contains a surface of recycled wood fibre (sawmill waste) which adds a fine finish and additional structural properties. Hemp is a source of low-impact renewable fibre.

See us at the Sustainable Living Expo ~ Site 24

43 Ewing St, Lismore Ph: 6621 5123 / 0428 888 123 email: info@ecoteam.com.au www.ecoteam.com.au



Made

in Germany

ecotear

https://www.statista.com/statistics/980098/global-hemp-cultivation-acreage-by-country/ Ô

(in 1,000 acres)



Acreage for hemp cultivation in 2017, by country

Published by M. Shahbandeh, Oct 19, 2021

The statistic shows the acreage of hemp cultivation worldwide in 2017, by country. In 2017, 137 thousa cultivation in Canada, the largest amount of acreage for hemp cultivation by a nation worldwide.

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DET	AILS		FAQ	

FAO; Health Canada; New Frontier Data; Hemp Business Journal; Vote Hemp; EIHA

Health Canada; Hemp Business Journal; FAO; EIHA;

The Global Hemp Industry Outlook 2019, page 6



Volume versus Value?

https://www.statista.com/statistics/1204146/area-for-hemp-cultivation-by-country-europe/

Consumer Goods & FMCG + Cannabis

Agricultural area dedicated to hemp cultivation in Europe in 201 (in hectares)



Agricultural land devoted to the culture of hemp in Europe in 2019, by country Published by <u>Eloise Trenda</u>, Jul 5, 2021

With almost 18,000 hectares (approximately 44,478.97 acres), France is the country with the largest agricultural area dedicated to hemp cultivation in Europe. Over 9,000 hectares of farmland are used to grow hemp in Lithuania, placing the country on the second step of the European podium.

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Traceability That's bankable!!!!\$\$\$????

Certified Organic;

- Fastest growing market worldwide.
 - Over 25 years of success.
 - Market access.
 - Market surety.
 - High value markets.
- Follow those already involved and those that helped them.
 - {Beyond Organic[™]. {Go Beyond Organic[™].

{Nature and More[™].

Certified organic and more!!

- Taking the next step;
- Ecological measurement
- Social measurement
- Energy footprint
 - Packaging

(not even organic!)

Beyond Organi<u>x</u>[™].

- Use synthetic chemicals.
- Use urea, DAP, etc
- NDF and Brix
- No established market.

•

Piggy backers that failed;

Eco'98;

• Mid 90's

• Change no production methods.

- Better marketing.
- Never got off the ground!!
 - Organza[™];
 - Early 2000's
- Never got off the ground.

Trust those that HAVE trust and history! Certified Organics'; delivering for both farmer and consumer for decades. **Complete food creates a complete environment.**

Carbon farming for decades!



Beyond Organics[™] For products that do not meet the organic certification requirements

• <u>glyphosate</u> sprayed pasture/oat crop.

Waxle.

0508 FA

LA-LABIN

- Conventional >>yes
- Regen—Ag >>**yes**
- Organic----NO



- <u>*glyphosate*</u> sprayed pasture cultivation for crop.
- Spray Free>>yes
- Conventional >>yes
- Regen—Ag
- Organic-----



- In milk herd grazing <u>glyphosate</u> pasture.
- Conventional >>yes
- Regen—Ag >>**yes**
- Organic----NO

"Perception is reality in the marketplace." *Peter Cullinane.*





- Regen—Ag >>**yes**
- Organic----NO

"Perception is reality in the marketplace." Peter Cullinane.

- In milk sheep grazing *glyphosate* pasture.
- Christmas lamb anyone?
- Conventional >>yes



NZFAP and NZFAP Plus - New Zealand's National Farm Assurance Programmes

Our seal of origin delivers trusted and authentic ORIGIN, TRACEABILITY, FOOD SAFETY and ANIMAL WELFARE standards to our global consumers.

Covid-19 Audit Options

Purpose

The New Zealand Farm Assurance Programmes (NZFAP and NZFAP Plus) provide confidence and certainty to the millions of consumers world-wide that the meat and wool produced from New Zealand's sheep, beef and deer farms is authentic, genuine, and safe. Collectively they provide assurances regarding integrity, traceability, animal health and welfare, people, farm and natural resources and biosecurity.

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History & Ownership

The New Zealand Farm Assurance Programmes (NZFAP and NZFAP Plus) are voluntary nation-wide farm assurance programmes. They were originally developed under the Red Meat Profit Partnership (RMPP), a joint Primary Growth Partnership initiative between the New Zealand red meat sector and the New Zealand Ministry for Primary Industries.

Both Programmes are now owned and managed by New Zealand Farm Assurance Incorporated (NZFAI).

Case study 3

Regenerative farming at Rehoboth Farm

They used to cultivate soil but now spray with glyphosate (mixed with fish and fulvic acid to reduce the rate) and direct drill. There is no soil disturbance and the soil is kept covered.



Fit for a Better World Accelerating our economic potential

Ministry for Primary Industries Manatū Ahu Matua



EALAND GOVERNMENT

The primary sector has agreed a vision for its future

In April 2018, the Minister of Agriculture established the Primary Sector Council to develop a shared direction for the food and fibres sector. The Council consulted widely, talking to hundreds of people from all parts of the sector and across rural communities to arrive at our first common vision and strategy. The vision, set out below, was launched by the Prime Minister at Lincoln University in December 2019.





- What scale do we wish to see,
- Cottage industry—each taking product to market?
- Industrial co-operation---but at scale.





- Raw value
- Or
- High profile?



Infrastructure/mechanisation


Waikato crop Short variety.















Bulk from press. Great to eat as is.

A quick squeeze in the hand and add to a salad, scrambled eggs, mashed potato, breakfast cereal/muesli.



20 seconds in the coffee grinder or whizz and you have a 32% protein whole food powder.

Use like you would Salt and pepper!

Add it to baking, Meatballs/rissoles, Dips & dressings. Soup or stew.

Only limited by Your Imagination!

iHemp Seed-Cake

	eurof	ins	eurofins					
	FATTY A	CID PROFILE	RESULTS		LOQ			
	NU493	Fatty acid profile (as product basis)						
L .		Omega 3	1.95	g/100 g	-			
Ε.		Omega 6	5.60	g/100 g	-			
Ε.		Saturated fat	1.16	g/100 g				
L .		Unsaturated fat	8.53	g/100 g	-			
L .		Monounsaturated fat	0.98	g/100 g	-			
Ε.		Polyunsaturated fat	7.55	g/100 g				
		Trans fat	< 0.02	g/100 g	-			

Protein Content

Protein 32.7 g/100 g

32.7% protein with husk in.



iHemp Seed-cake

🛟 eurofins				Protein Content Protein 32.7 g/100 g				🛟 eurofins		
		RESULTS		LOQ			RESULTS		LOQ	
o NW878						Enumeration of Coliforms Coliforms 35°C	<10	cfu/g	120	
NU443	Arsenic (As) <0.05 mg/kg Ash Content (550°C 16-18 hrs)			0.05		Enumeration of Escherichia col Escherichia coli	<10	cfu/g		
MINIOOO	Ash	6.95	g/100 g	0.1	UMPJ8	Enumeration of Yeasts and Mou Moulds	ulds 10	cfu/g	-	
NW880	Calcium Calcium (Ca)	2250	mg/kg	1	NU517	Yeast Fat Content	<10	cfu/g	823) Martina	
NU474	Carbohydrates Carbohydrates	2.32	g/100 g	0.1	o NW885		9.73	g/100 g	0.02	
UMFQH	Detection of Listeria spec	ies			o NW886		211	mg/kg	0.5	
UMEX2	Listeria Species Detection of Salmonella s	Not Detected	/25 g	2	o NW887	Lead (Pb) Magnesium	<0.01	mg/kg	0.01	
NULADO	Salmonella	Not Detected	/25 g	-	o NW889		6160	mg/kg	0.1	
NU482	Dietary fibre Total dietary fibre	40.9	g/100 g	-2	NU744	Mercury (Hg) Moisture (98-100°C 5 hrs c/w)	0.004	mg/kg	0.002	
NU488	Energy Energy	1280	kJ/100 g	-	NU797	Moisture Protein Content	8.22	g/100 g	0.01	
UM8CN	Enumeration of Aerobic B	lacteria			NU688	Protein Sodium (ICP-OES)	32.7	g/100 g	0.1	
UMEPE	Aerobic Plate Count 35°C 70 cfu/g Enumeration of Coagulase Positive Staphylococci			-		Sodium (Na) ht: Digestion method: Hotblock AOAC Sugar profile	<5 984.27 mod.	mg/100 g	5	
UNIET E	Coagulase positive staphylococcus	<10	cfu/g	25	+ N0003	Fructose Glucose	0.09	%(m/m) %(m/m)	0.05	
Eurofins Food Analytics NZ Ltd 35 O'Rorke Road, Penrose NZ-1061 Auckland NEW ZEALAND			+64 9 579 2669			Lactose Maltose	<0.05 <0.05	%(m/m) %(m/m)	0.05	
		www.eurofins.co.nz				Sucrose Total sugar (calc. as sum)	2.04 2.32	%(m/m) %(m/m)	0.05	

12 x chemo and 4 haircuts later.



iHemp-cake is <u>not</u> a medical product and is not making claims.

iHemp-cake is a complex food and can be enjoyed with a wide range Of dishes or on its own.

The comments here are observations Of a person who used iHemp-cake as Part of the daily food intake.

"Perception is reality in the marketplace." *Peter Cullinane.*

"Let food be thy medicine, and let medicine be thy food." Hippocrates.



How can hemp be used in FARMING:

- Farming as an alternative land use and cash crop plus phytoremediation, heavy metal removal and soil cleaning/ conditioning.
- - Use for nitrogen uptake, and climate change mitigation.
 - Crop rotation and break cropping in collaboration with other primary industries.



How can hemp be used in FOOD INDUSTRY:

Seeds for food and utilising local circular economy byproduct streams to make new and innovative products. Hemp seed nutritional products for humans and animals as well as seed multiplication for northern hemisphere hempseed companies. Future uses of hemp leaf, sprouts and roots.



How can hemp be used in the FIBRE INDUSTRY:



Investment in decortication and primary processing would enable enterprises to scale and enter markets for high and low tech industrial uses.



Collaboration with other primary sectors, such as

forestry and wool.



How can hemp be used in the HEALTH INDUSTRY:

Female plant cultivation for the emerging health and wellness industry, utilising cannabinoids, terpenes, and flavonoids as high-value fractions from locally grown crops for global niche markets. Working with Mānuka, Kakawawa and other native botanicals grown in New Zealand.







All registered participants will go into the draw to win a hemp gift basket!

*T & C's apply, see nzhia.com





JOIN THE NZHIA

BEIN TO WIN

Sign up as an NZHIA member on the tour and go into the draw to win a Hark & Zander Luxury Gift Box

HARK@ZANDER

Hemp products valued at \$445





The Next Step

Join the NZHIA so we can keep in touch

- We need a:
 - Hemp Industry Strategy Reset
 - Capability Development Program

Callahan Innovation: Capability Road Maps

CallaghanInnovation New Zealand's Innovation Agency

Tupu.nz: Fact sheets for industrial hemp





SUSTAINABILITY



Coming soona new community building portal

It's time to unlock hemp's potential for Aotearoa.













Aotearoa New Zealand Hemp Alliance



With thanks to our speakers from

Momona Farms



and regional support from











With thanks to our sponsors



and a special thank you for tonight's spot prize sponsor







- Our mission is to promote the growth and development of the industrial hemp and be part of this growing industry.
- industry in New Zealand in all aspects. Now is the perfect time to become a member

Join at www.nzhia.com





Distributors and Consumers