

THE NZHIA

iHEMP

DISCOVERY & INVESTMENT

TOUR 2022

FOOD • FIBRE • HEALTH



CHRISTCHURCH

Exploring hemp's
economic and
sustainability potential:
**Focusing on processing
capability & innovation**

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AGMARDT



Webtools Agriculture - The Loft

Wednesday 13 July 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 Canterbury.



Melissa Baer
(Webtools Agri)

The Value Chain of Hemp will be the difference between commodity or high value export product



CRAIG CARR
(CARRFIELDS)

Carrfields and NZNF journey in Hemp, where we come from, where we are at and where we going.



RYAN COSGROVE
(CARRFIELDS)

Hemp fiber processing and the NZ Natural Fibres approach.



BRAD LAKE
(TAPAPA NZ)

Presenting four ways to make hemp a foundation of New Zealand agriculture.



JO TOWNSHEND
(MIDLANDS)

Pioneering Hemp in the Southern Hemisphere.

PROGRAM

- 7.30 Welcome
- 7.35 NZHIA Introduction and History
- 7.50 Webtools Agri Melissa Baer
- 8.00 Carrfields Craig Carr
- 8.20 Carrfields Ryan Cosgrove
- 8.40 Tapapa Brad Lake
- 9.00 Midlands Jo Townshend
- 9.20 Panelists Question & Answers
- Till Close

NZ Hemp Industries Association

iHemp and History



Growers and Cultivators



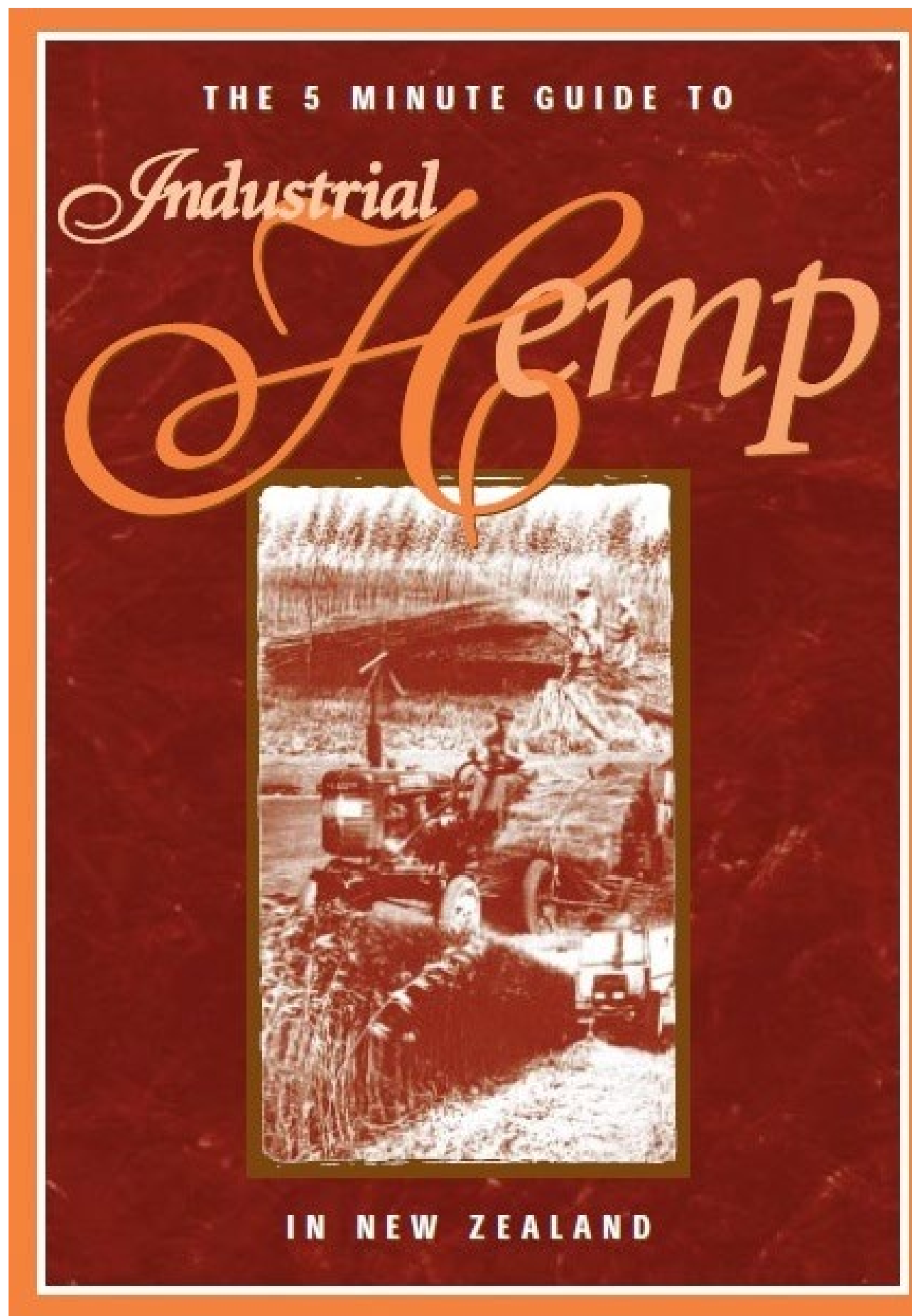
Testing and Development



Processors and Manufacturers

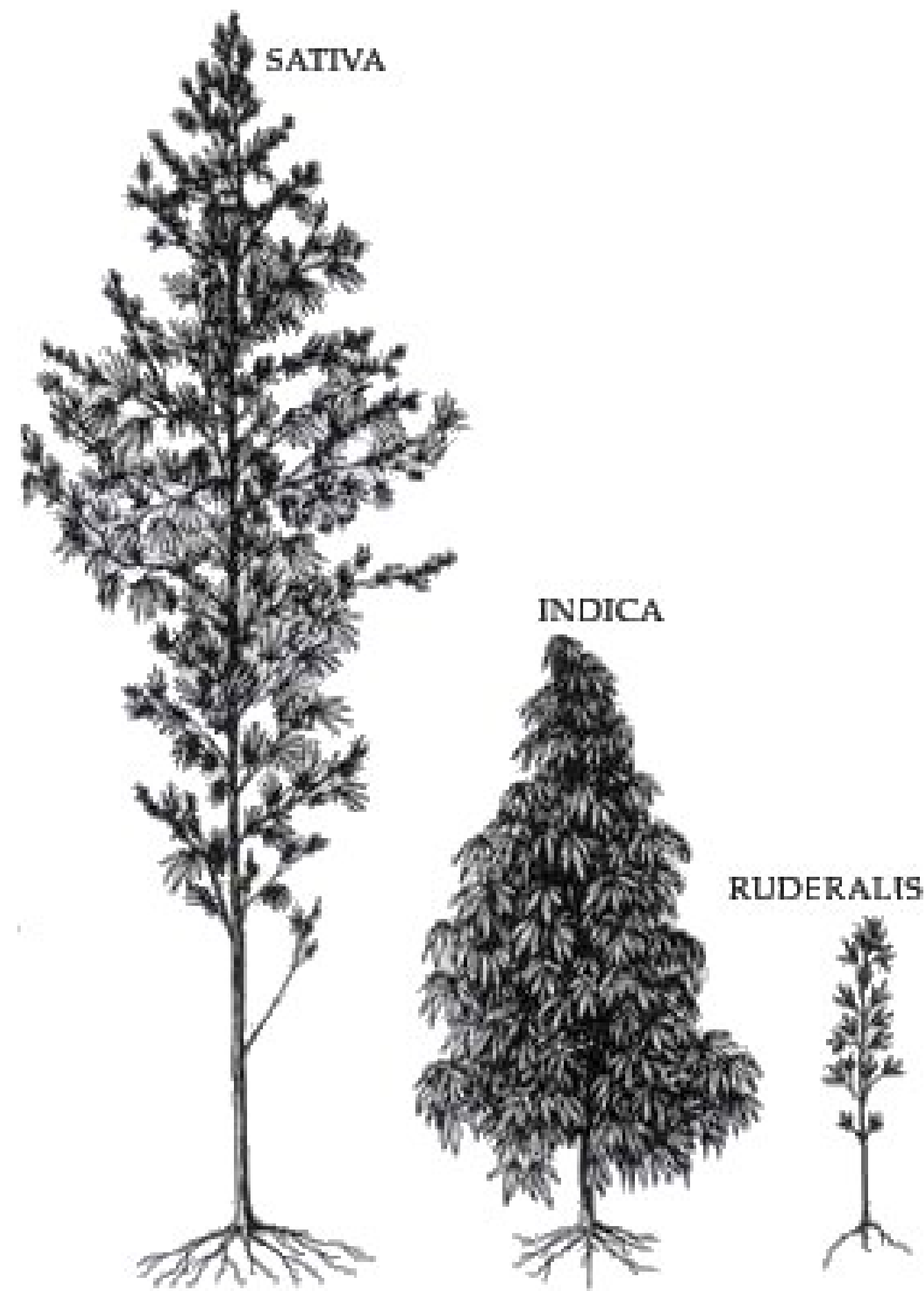


Distributors and Consumers

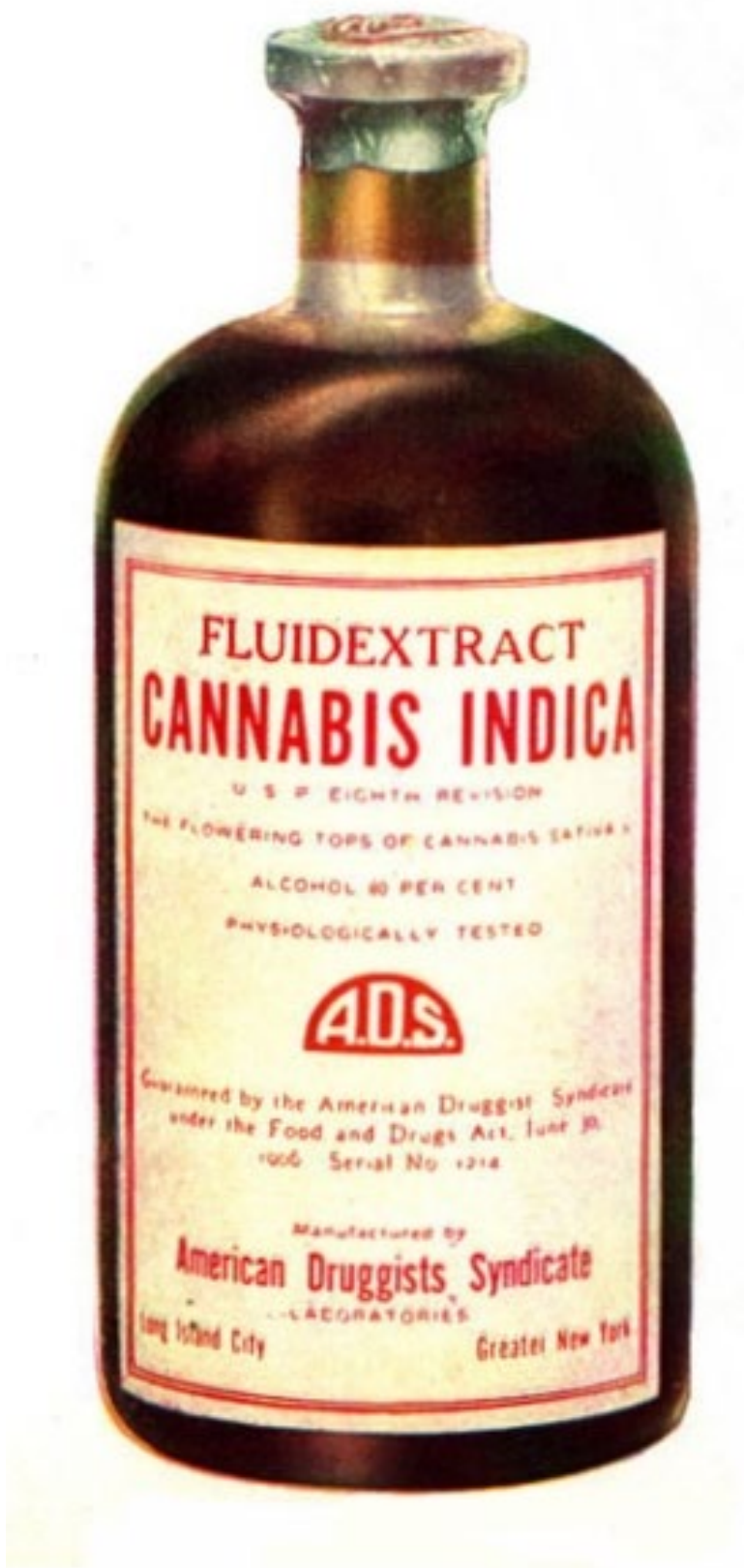
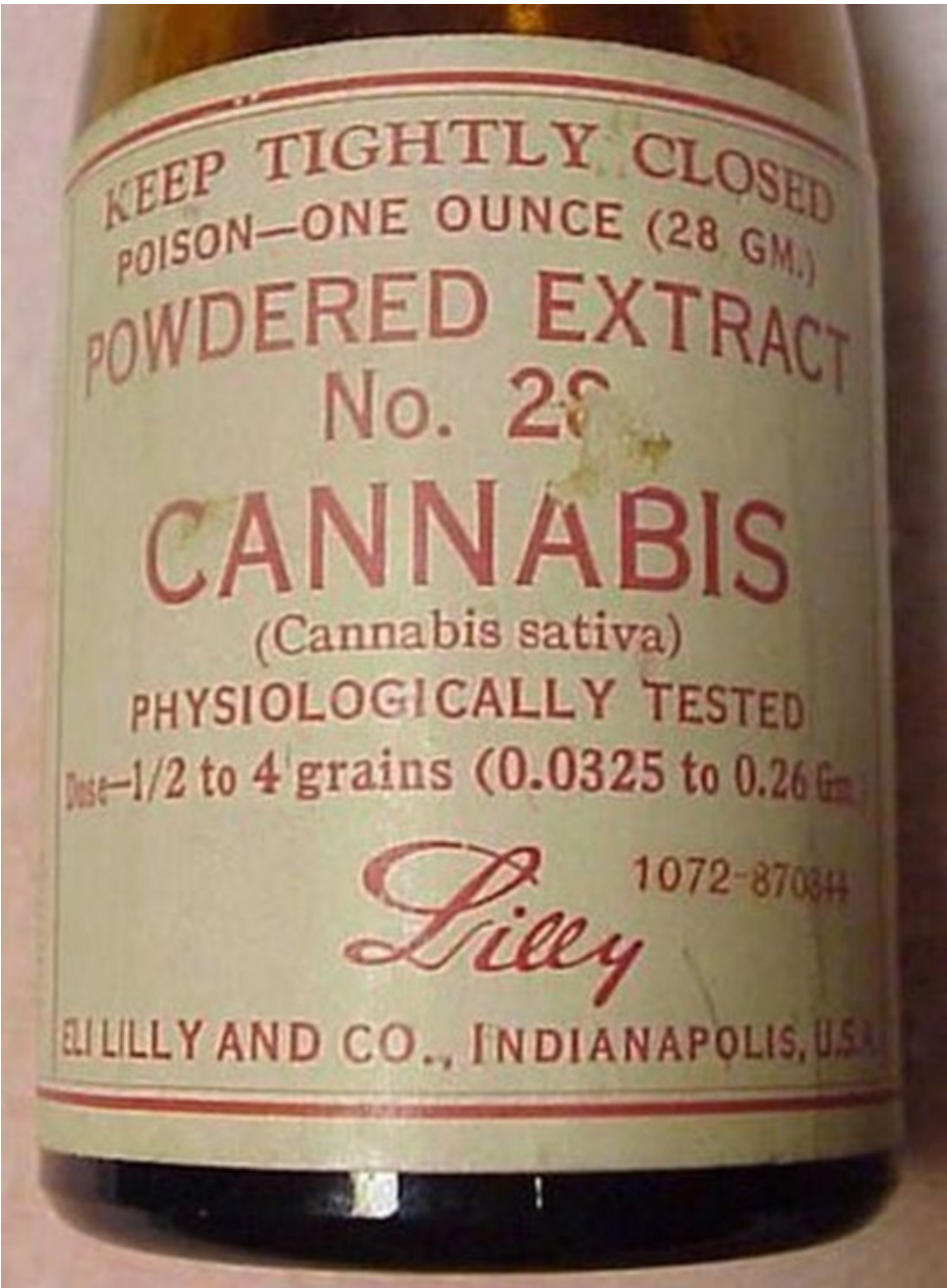
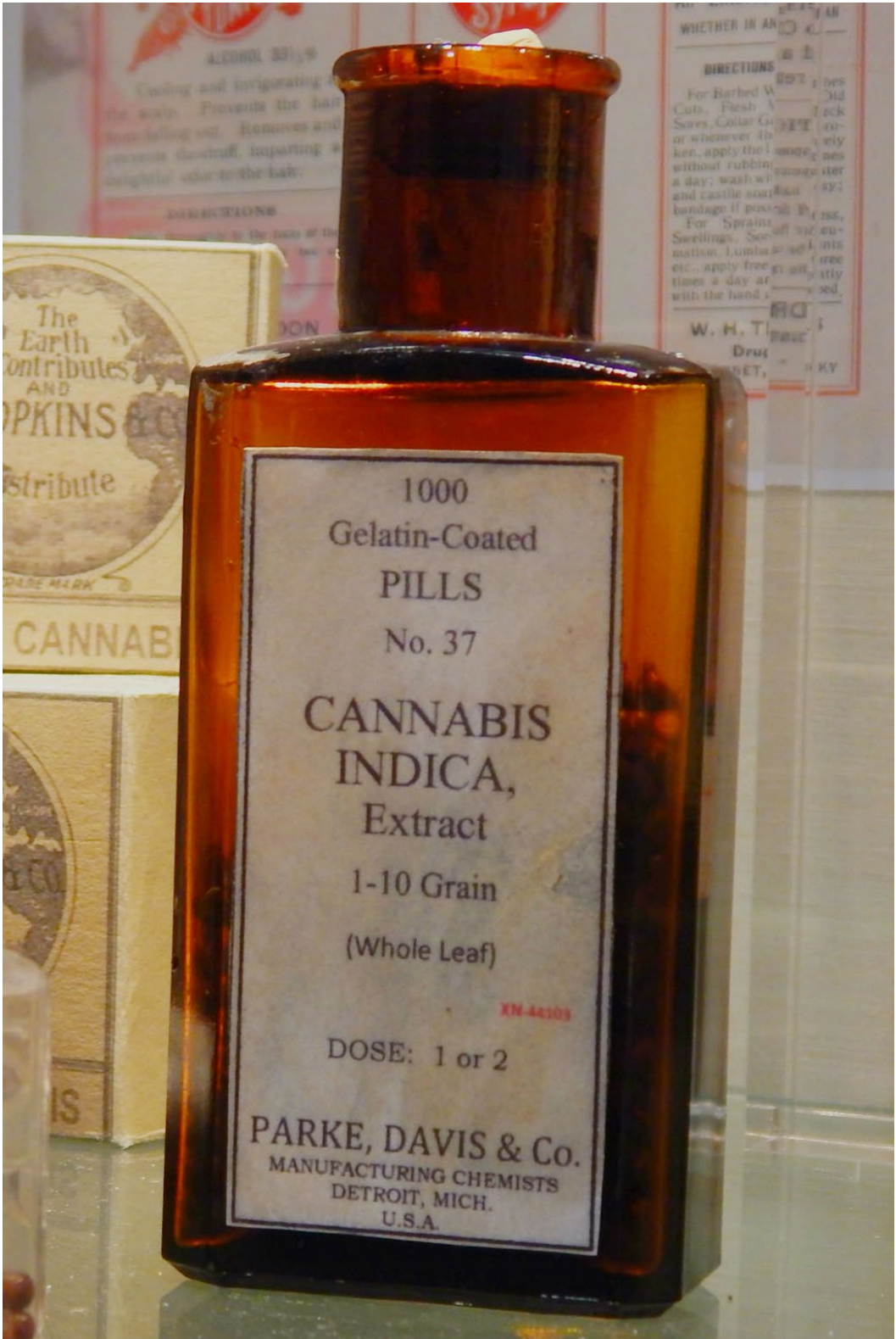


This graphic features a collage of four images at the top: hemp plants, a food processing facility, a shopping cart with groceries, and a bowl of hemp-based salad. Below these is a black box with yellow text that reads: 'NZ HEMP EXPORT DRIVEN INVESTOR REPORT: \$2 BILLION AND 20,000 REGIONAL JOBS BY 2030 JUST NEEDS THE NOD...'. The main part of the graphic is a world map on a blue background with yellow dots indicating export destinations: Europe, China, India, Australia, New Zealand, North America, and South America. A path of wooden blocks spelling 'GROWTH' leads from New Zealand towards the right, with a hand placing the final block 'H'. A black arrow points upwards from the end of the path. In the bottom right corner, a black box contains the text 'FULL REPORT' in yellow.

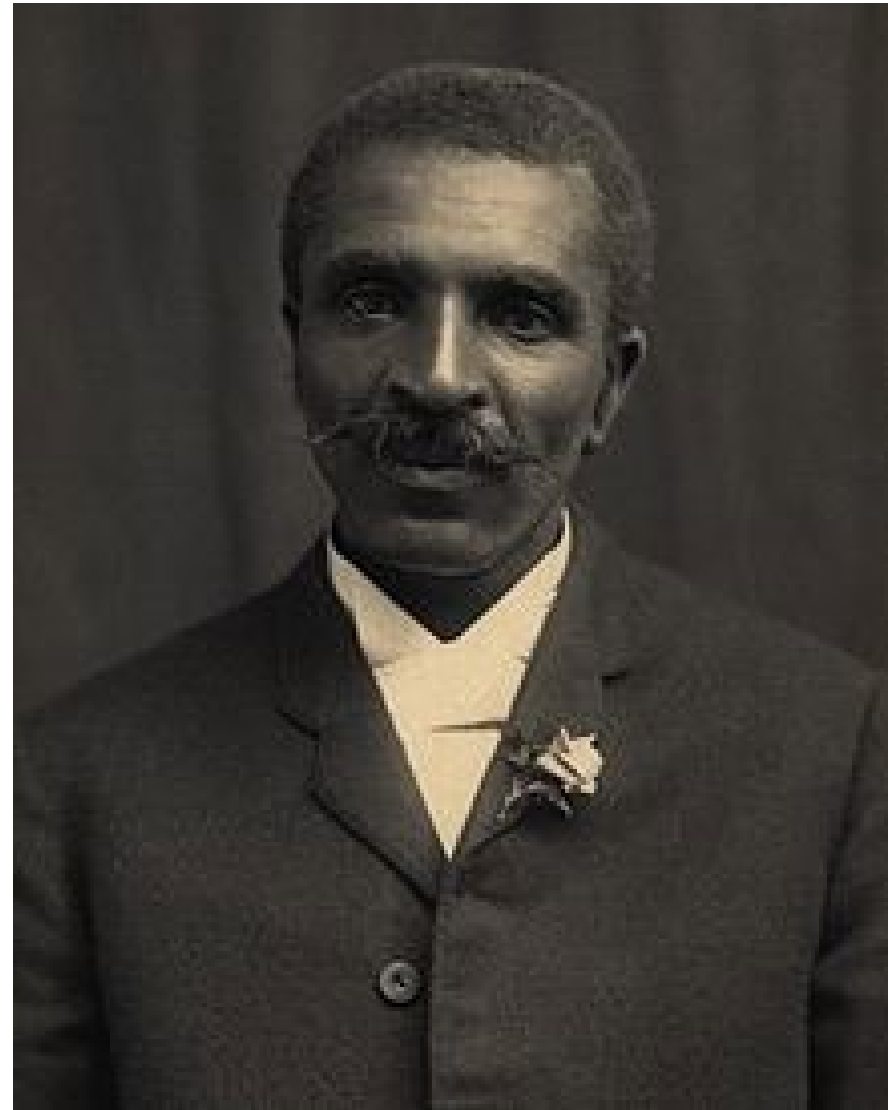








Chemurgy is a branch of applied chemistry that is concerned with preparing industrial products from agricultural raw materials



George Washington
Carver c1910



Henry Ford c1930



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 Investigations, 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

CONTENTS

Page		Page
	The Production and Handling of Hemp Hurds, by Lyster H. Dewey :	
1	What Hemp Hurds are	
2	Pith, Wood, and Fiber	
2	Character of Hurds Affected by Retting	
3	Proportion of Hurds to Fiber and Yield per Acre	
3	Hurds Available from Machine-Broken Hemp	
4	Present Uses of Hemp Hurds	
5	Present Supplies of Hurds Available	
5	Baling for Shipment	
5	Cost of Baling	
6	Summary	
	The Manufacture of Paper from Hemp Hurds, by Jason L. Merrill :	
7	Introduction	
8	Factors Justifying an Investigation of Hemp Hurds	
11	Character of the Material	
12	Character of the Tests	
13	Operations Involved in a Test	
16	Description of Tests	
21	Comparison of the Tests and Commercial Practice	
24	Physical Tests of the Papers Produced	
25	Conclusions	





WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

BILLION-DOLLAR CROP

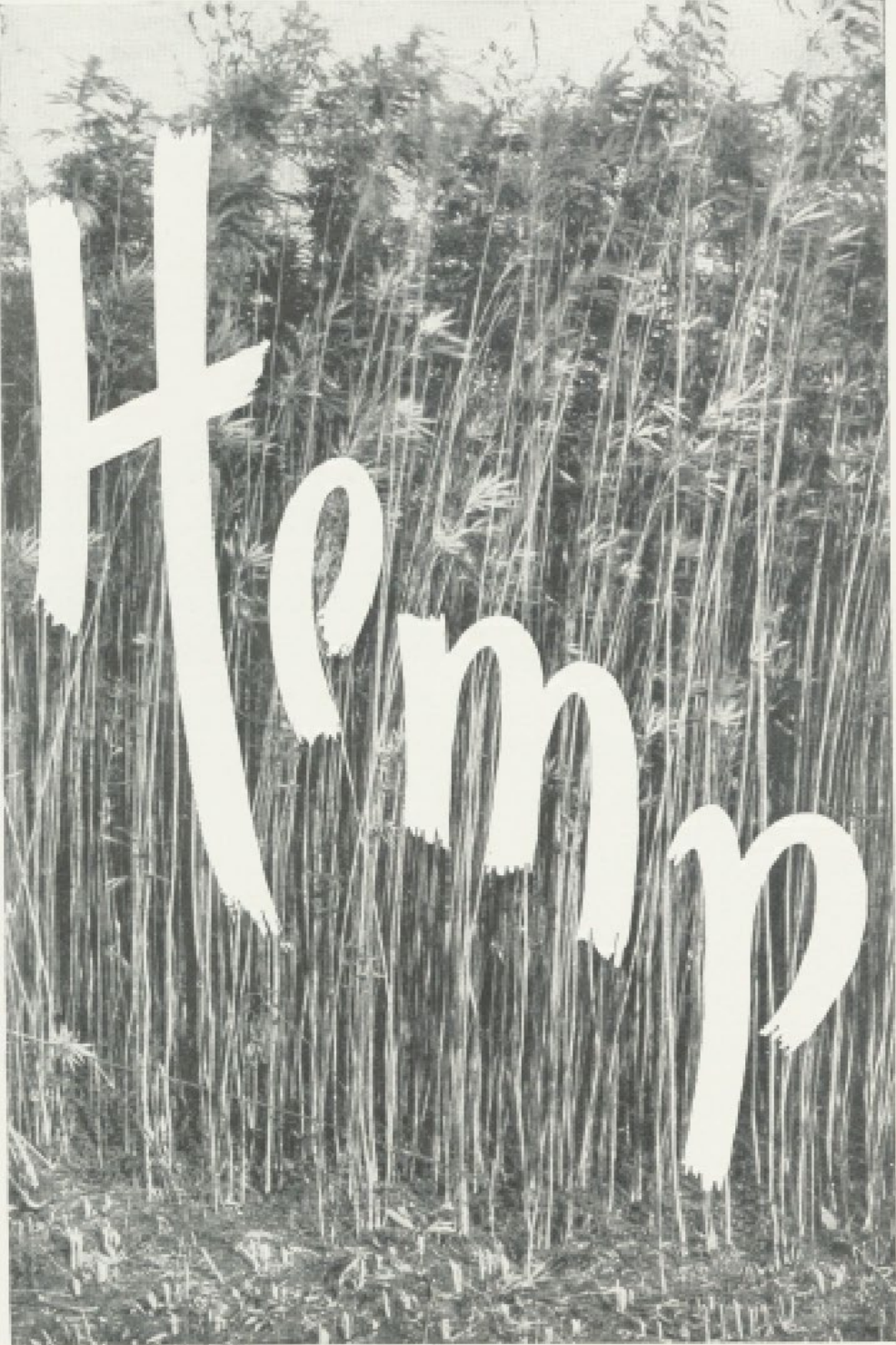
petition with cotton-produced foreign fiber while paying farmers fifteen dollars a ton for hemp as it comes from the field.

From the farmer's point of view, hemp is an easy crop to grow and will yield from three to six times 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 shade of leaves, eight to twelve feet above the ground, shades out weeds. Two successive crops are enough to reclaim land that has been abandoned because of Canadian thistles or quack grass.

Under old methods, hemp required to pay about

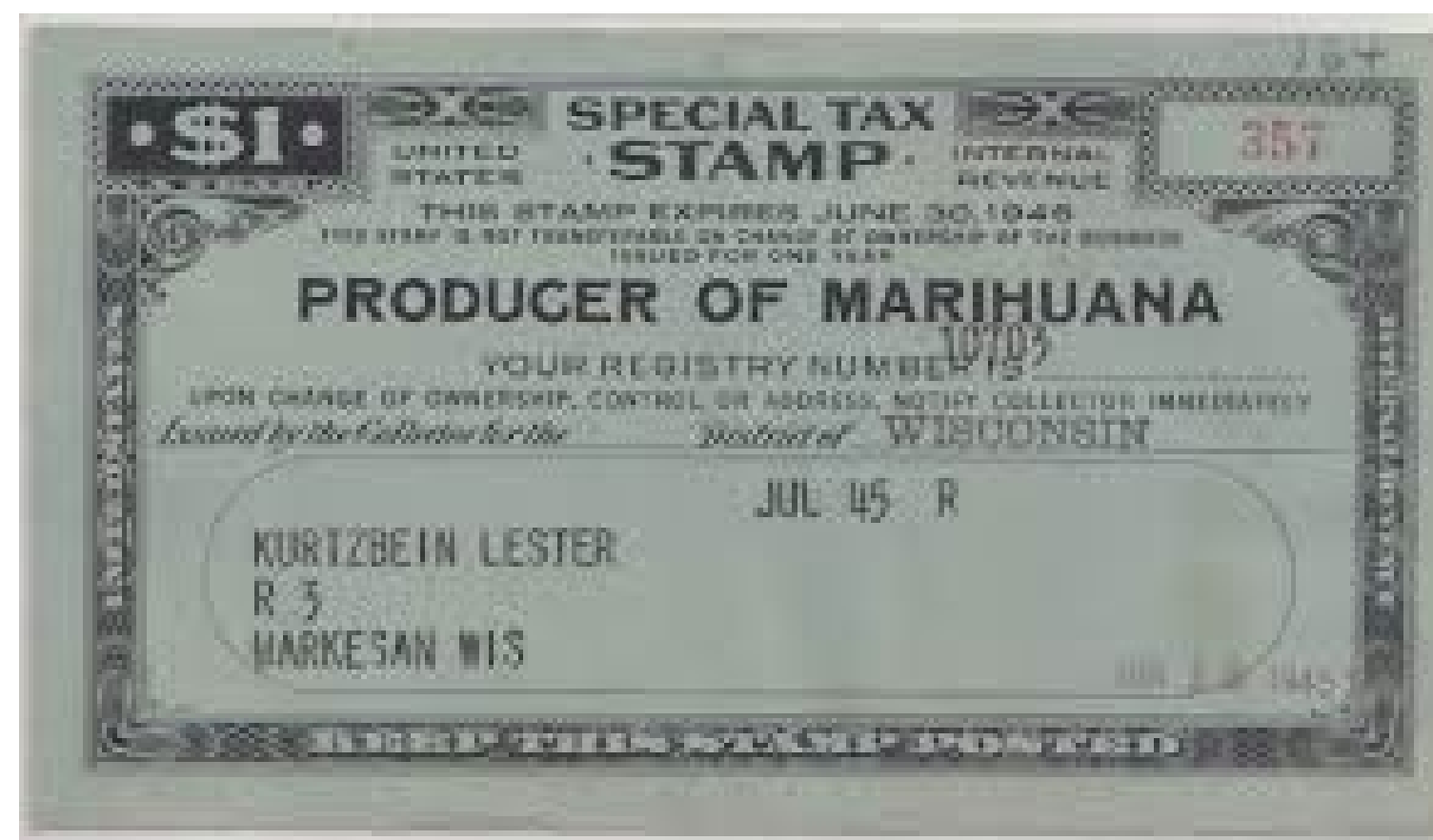
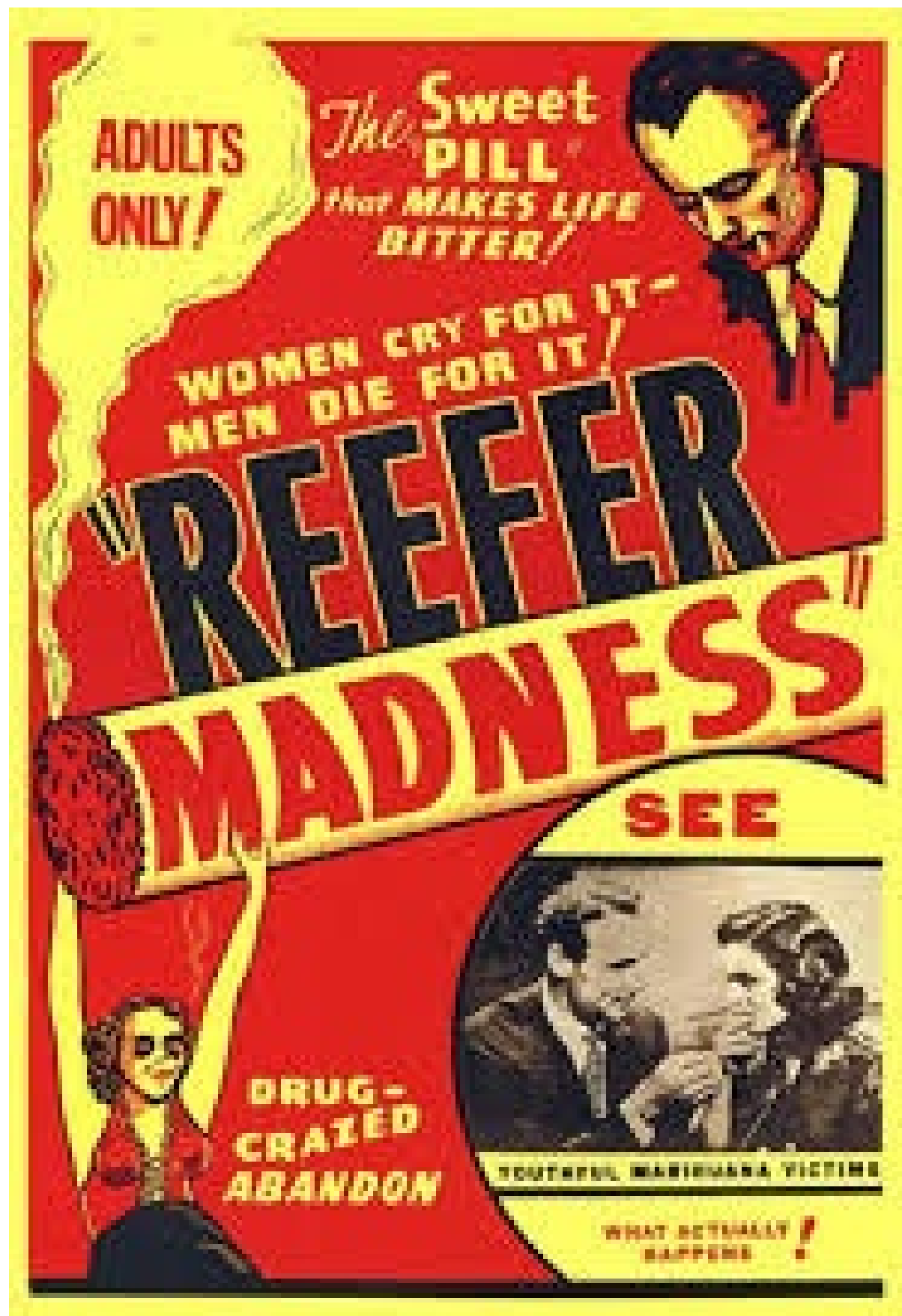


Fig. 1. Modern method of hemp plant growth from seed. Bottom, horizontal hemp with a green leaflet. Hemp grows luxuriantly in France.



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







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.

Photo: U.S.D.A. by Foraythe



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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.



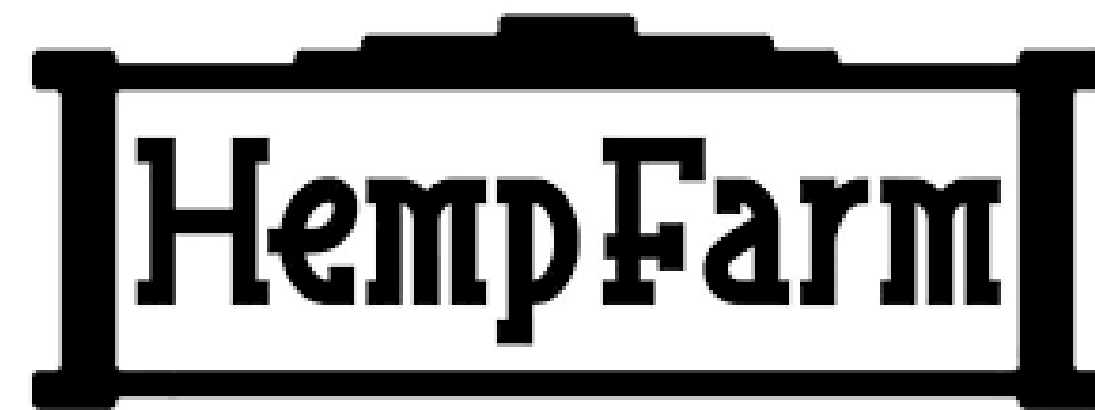
Misuse of Drugs (Industrial Hemp) Regulations 2006

(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





Hemp Construction Materials



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powered by
BACKSTORY

The NZ Hemp Story

“The Value Chain of Hemp will be the difference between commodity or high value export product”



“Millennials in the UK prefer Biodiversity over Country of Origin”

- We must tell the whole story
- “From New Zealand” isn’t enough
- Value and Evidence of attributes are more important than ever
- Consumers are emotional beings and want to feel connected
- Values Alignment in the Value Chain

Where to Start



Login

Welcome back. Log in to access your licences.

Email address

melissabaer8@gmail.com

Password

.....

☐ Remember me

[Forgot password](#)

Log in

[Don't have an account? Sign up.](#)

powered by
BACKSTORY

Start with Digitizing Compliance

- Take control of your data
- Take control of your ability as a farmer and an industry to chart your own course

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COMPANY PRESENTATION

FOUNDERS

**GREG &
GLENYS
CARR**



FROM HUMBLE BEGINNINGS

1970- 1980s



**FROM HUMBLE
BEGINNINGS**

**DURING
THE
1990s**



**FROM HUMBLE
BEGINNINGS**

**DURING
THE
2000s**



2014 ELDERS PURCHASE

Carr
GROUP

+

Elders



Carrfields

**2015-
2020**



GROUP COMPANY STRUCTURE



CARRFIELDS HOLDINGS LIMITED

Carrfields
Farms Ltd

Carrfields
Equities Ltd

Carrfields
Limited

Carrfields
Properties

Carr Family
Foundation

WHO IS CARRFIELDS

- 100% New Zealand, family-owned company
- Provides products & services with Revenue of approx. \$200M per annum
- Farm Machinery
- Irrigation
- Grain & Seed
- Contracting
- Livestock
- Wool
- NZ Natural Fibres
- Exporting to over 50 countries globally
- Passionate about agriculture



OUR PEOPLE

400+ Team of
employees and
contractors across
New Zealand,
Australia, India &
UAE



OUR LOCATIONS

NORTH ISLAND

TUAKAU ①

Livestock

CAMBRIDGE ②

Livestock

FEILDING ③

Livestock

Machinery

WEST COAST

WESTLAND ④

CLAAS Harvest Centre

Machinery

CANTERBURY

WAIPARA ⑤

CLAAS Harvest Centre

Machinery

Irrigation

Grain & Seed

CHRISTCHURCH ⑥

CLAAS Harvest Centre

Livestock

NZ Natural Fibres

ASHBURTON ⑦

Machinery

Grain & Seed

Contracting

CLAAS Harvest Centre

Irrigation

Mitsubishi Ashburton

Livestock

TIMARU ⑧

CLAAS Harvest Centre

Machinery

Grain & Seed

Irrigation

OTAGO

ALEXANDRA ⑨

Irrigation

Grain & Seed

SOUTHLAND

INVERCARGILL ⑩

Livestock

CARRFIELDS UAE ⑪

WINSEED INDIA PTY ⑫

CARRFIELDS MACHINERY AUSTRALIA ⑬

HEAD OFFICES

NEW ZEALAND

Ashburton, New Zealand

UAE

Dubai, United Arab Emirates

INDIA,

Kwandwa, Indore, India



OUR COMPANIES AND BRANDS



MACHINERY, CONTRACTING, LIVESTOCK, IRRIGATION,
GRAIN & SEED, TECHNOLOGY AND WOOL

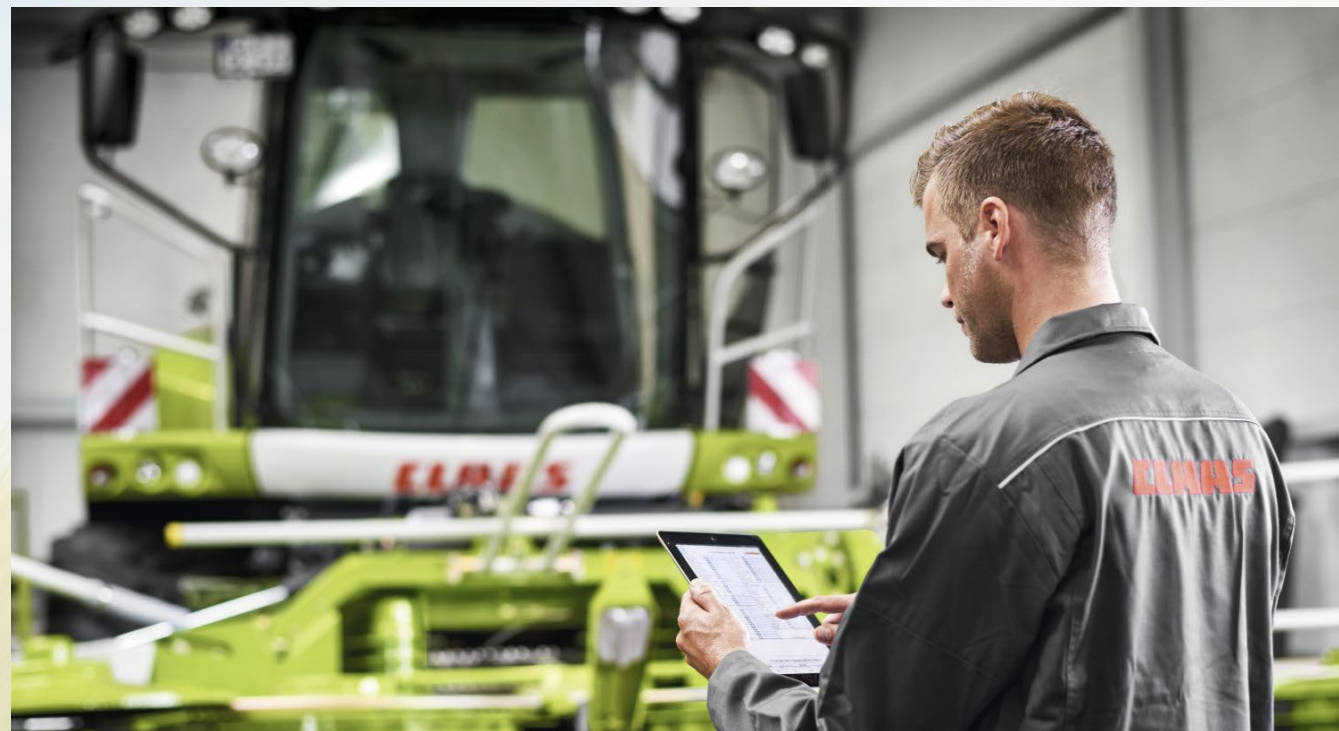


NEW ZEALAND

natural fibres



CARRFIELDS MACHINERY



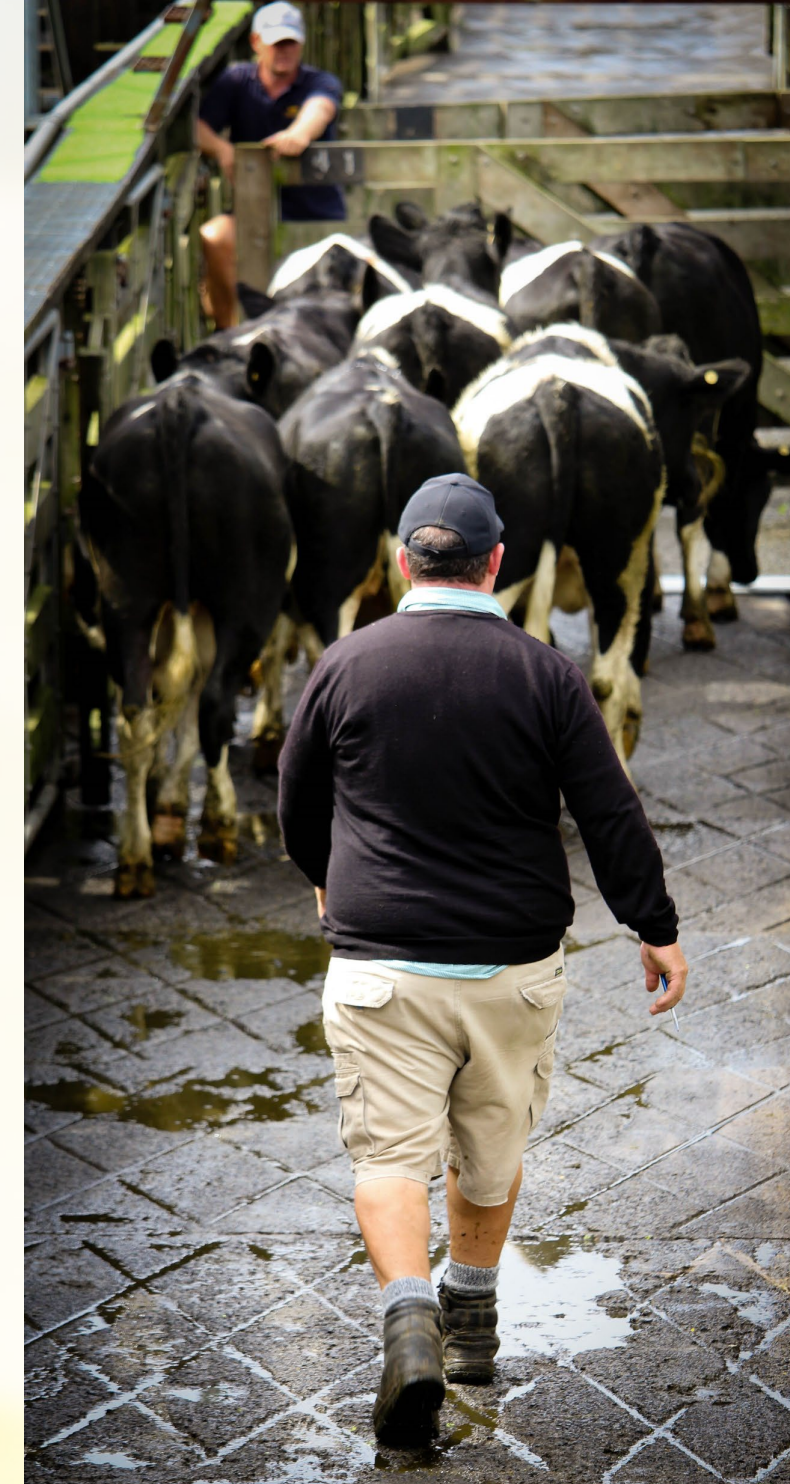
CARRFIELDS CONTRACTING



CARRFIELDS IRRIGATION



CARRFIELDS LIVESTOCK



CARRFIELDS **GRAIN & SEED**







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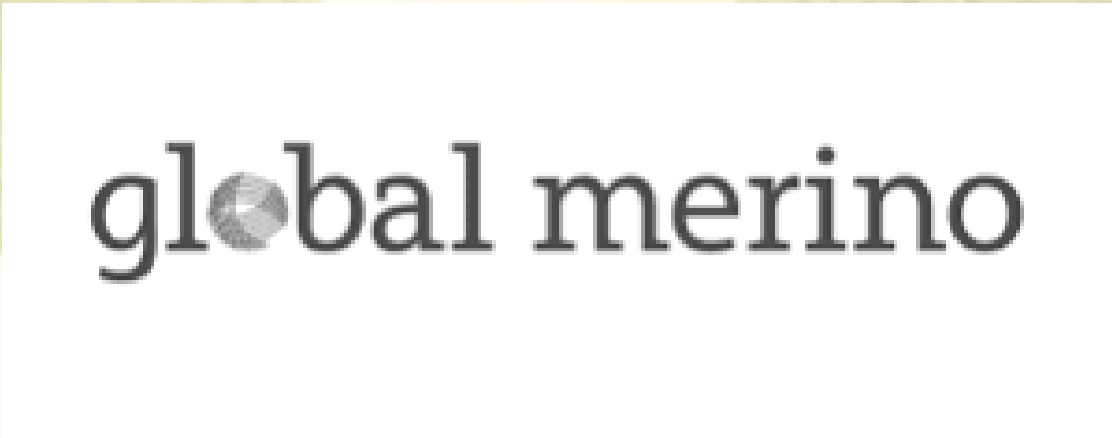
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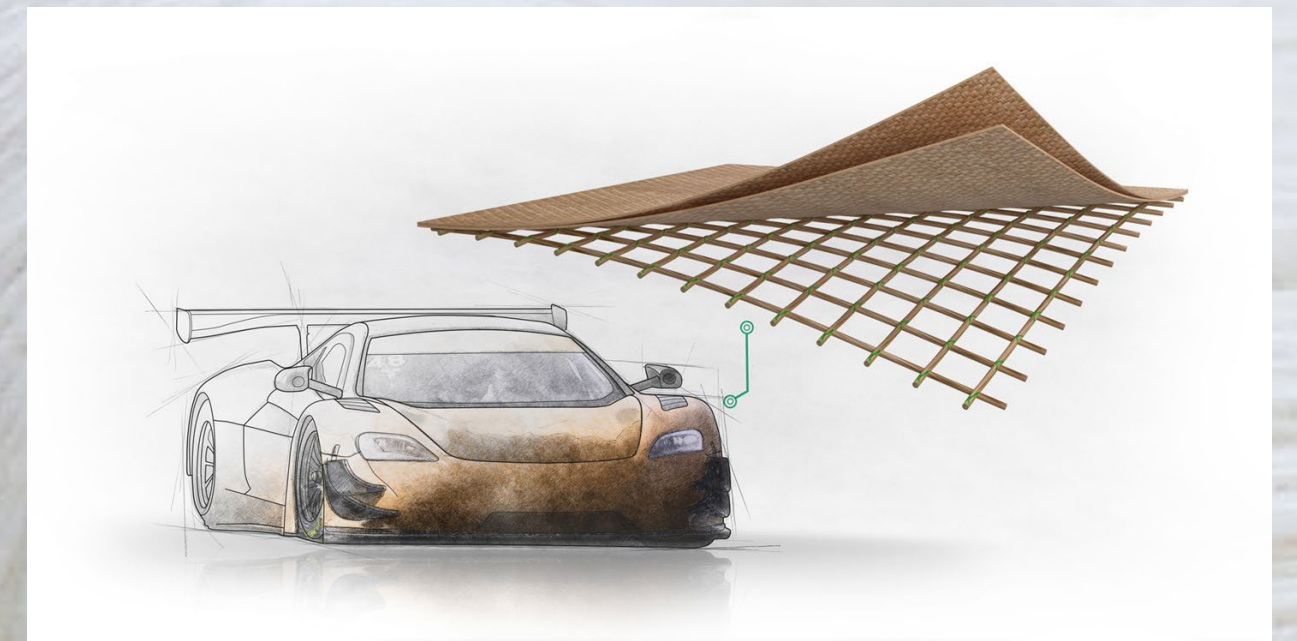
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CARRFIELDS WOOL



NEW ZEALAND
natural fibres



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Developing a Hemp Fibre Industry in New Zealand

Carrfields Org Structure

Carrfields Limited

Carrfields
Livestock

Carrfields
Irrigation

Carrfields
Winseed

Carrfields
Wool

Carrfields
Contracting

Carrfields
Machinery

Carrfields
Seed

NZ Natural
Fibres *

Hemp Hot Zone

* 70/30 Joint Venture with
HempNZ

Low Carbon Supply Chain

Independently verified
carbon footprint of products

TOITŪ

E N V I R O C A R E

- **Grown**
- **Decorticated**
- **Manufactured**

Carrfields

HEMP
NEW ZEALAND

NEW ZEALAND
natural fibres

NZL Govt Support

- NZ\$3.2m total over 5 years
 - \$1.34 from Govt
- Four Workstreams
 - Hemp Genetics
 - Agronomic Development
 - Product Development
 - Market Development



Funding of hemp fibre innovation set to propel New Zealand on to world stage

New Government funding will help a New Zealand hemp fibre company explore untapped opportunities – from soft flooring to food packaging that's more environmentally sustainable.

The Government is contributing \$1.34 million through the Ministry for Primary Industries' Sustainable Food and Fibre Futures fund (SFF Futures) to New Zealand's first hemp fibre development programme project.

New Zealand that controls its own supply chain and a further \$2 million in cash and in-kind support.

HEMPGROWER

[News ▾](#)[Hot Topics ▾](#)[Events ▾](#)[About ▾](#)[Subscribe](#)[HEMP GROWER](#)

Canva

\$1.3 Million Grant Awarded to New Zealand Company for Hemp Fiber Research

New Zealand Natural Fibers will use the funding to study and develop hemp fibers for various products.

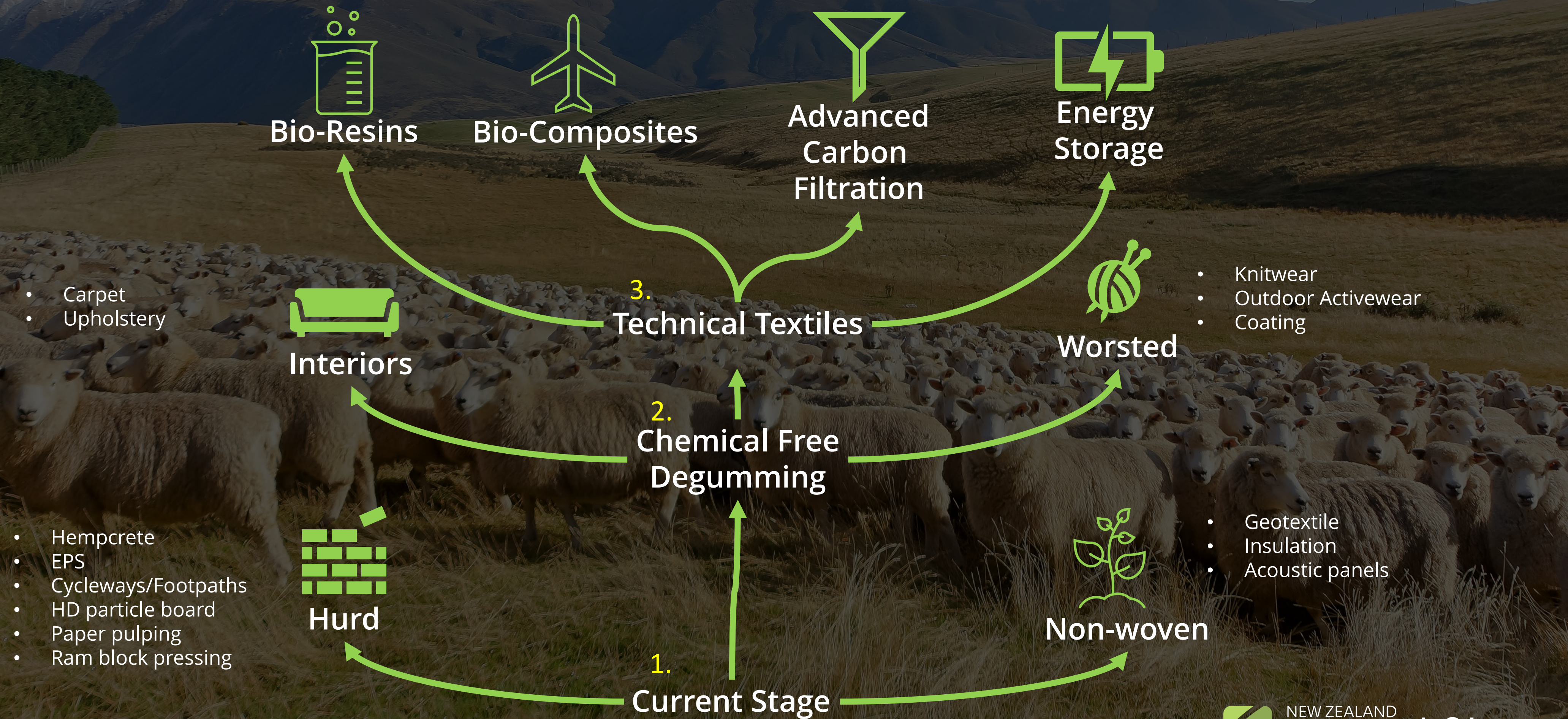
February 9, 2022

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Andriana Ruscitto

[International](#)[Research](#)[Fiber](#)

Our Roadmap





Example Products



Learnings so far...

- A hemp strategy needs to begin with grower sustainability
- Massive amount of capital required to start, and is still required to continue with a value-add product strategy.
 - Infrastructure/CapEx
 - Skilled people
 - Academic R&D
 - Commercialisation of R&D
- Avoid becoming a commodity or ingredient
- Carrfields vertical integration integral to success
- Global collaboration is required, we need to continue to look outward to accelerate our learning
- NZ needs to continue to collaborate, but also identify the line between commercial and collaborative



THANK YOU

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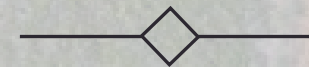
FOUR IDEAS TO SECURE HEMPS NEW ZEALAND FUTURE



Five years of learning from a New Zealand hemp startup

WHO AM I?

- Co-founder of several hemp companies
- Hemp Industry for five years
- Focus on driving change through education. Direct access to customer a must via retail, value added products.
- Vertically integrated – For better or worse
- Tried clothing, skincare, food and supplements



The Brothers Green, Kōaka, Ritual & Rise, Tāpapa Store & Mainland Hemp



WHAT WE DO – GROW, PROCESS & RETAIL NZ HEMP



Vertically integrated hemp supply chain

Based in North Canterbury

Only grow for seed

Three retail brands in supplements, health
food and skincare

Unique Golden hemp protein

E-commerce focus through one website

Example Only





HOW WE GROW – HEMP EDUCATION



—◆—
Hemp field trips
Speaking events
Radio interviews
Articles
Blogs

State of play

Race to the bottom - High volume, low value industry. Very few New Zealand value added hemp brands and products.

Death by a thousand cuts

Regulation and legislation is strangling the current industry and businesses to death. Wasted product grown by industry is staggering.

Scarcity mindset

Our competition should be competing against value added products, not other hemp companies. No effective collaboration.

We are invisible

Most New Zealanders have no idea about hemp or it's solutions. We rely on our retailers to do all our marketing.

The political snitch

Play the game

Educating the population – The public see the benefits of hemp, as soon as they find out about it. **Barely anyone knows anything about hemp**, so how can they support us.

Politicians want votes - Generating political support from a voters is the fastest way to create change. We need politicians to know there is a demand for hemp deregulation from more than just the industry.

Tide is turning for change - Once New Zealanders understand both the environmental and health benefits (and that you cannot get high off it), we see significant motivation to support change and improve access.



Remediation and education

Education is our key

Marketing for the future – Hemp solves problems. Telling people how good hemp is without applying it to a specific, tangible problem is does not make impact.

Keep it simple – Good luck naming the 50,000 uses for hemp. We don't need to overwhelm people. Focus on the hemp products we can produce now and the problems we can solve now. There is enough we can do today for people to see the benefits.

What is our tipping point – What is our target for an educated population, what is our strategy to meet that tipping point where hemp is more well understood than not.

Rising tide lifts all ships – We can educate without competing. All media for hemp is good for the whole industry. Agreeing on a strategy and all being able to contribute would be far more powerful.



The customer is always right

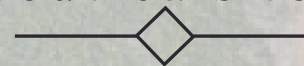
They want solutions, not hemp

When we started, we believed that our products would sell because they were made of hemp. We were wrong, people buy our products because they work. They solve a problem people face each day.

Better not more - The hemp industry must improve our range of value-added products, relying on our wholesale customers to do the job of creating great products and educating the customer is not working.

Give me the science - Understanding why our products work is important, science is key driver for many people about trying new products. There is a lot we don't know.

Our own health is our priority - We can treat a range of common conditions with the raw ingredients we have now – specifically the oil. We have two generations facing a range of treatable conditions with only pharmaceuticals to turn to.



Evolution not revolution

We are here to help

Friend not foe - We need to integrate into the existing primary sectors rather than compete, our farmers and protein producers are our greatest asset in seeing change – hemp for stock food, nutrient management and carbon farming. There is plenty of room at the table for everyone.

Green, red and white - We should capitalise and support the foundation that New Zealand agriculture has laid for hemp. New Zealand is known for high quality protein, red and white, now it's time for New Zealand to offer a green protein option.

Dreams or reality - Calling out other primary producers or trying to portray ourselves as being 'better' only reinforces the 'hippy' perception and resistance to hemp. We think it is important to represent our industry as simply another option for farmers, helping them solve challenges within their existing systems and supporting them in the next phase of New Zealand agriculture.



Low hanging fruit



New Zealand grown hemp identification logo

Clear identification of New Zealand
grown hemp.



Agreement over industry education strategy

What information do we want the
public to understand that benefits
the industry as a whole.



12-month marketing campaign

Agree on product, plant and
regulation awareness information
and secure funding for video,
articles, radio.



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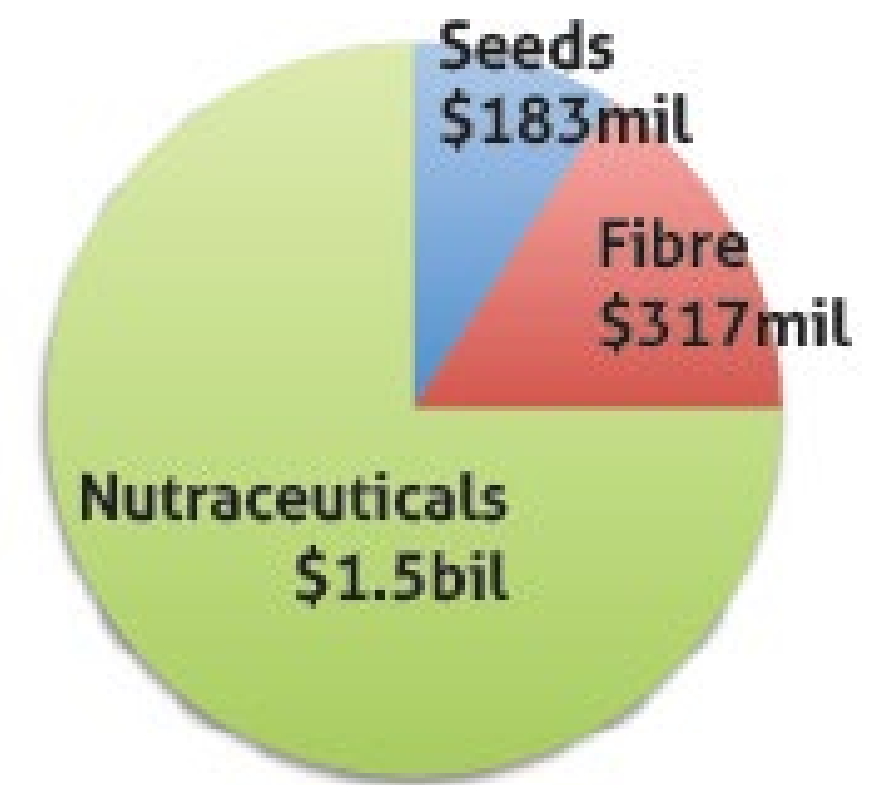
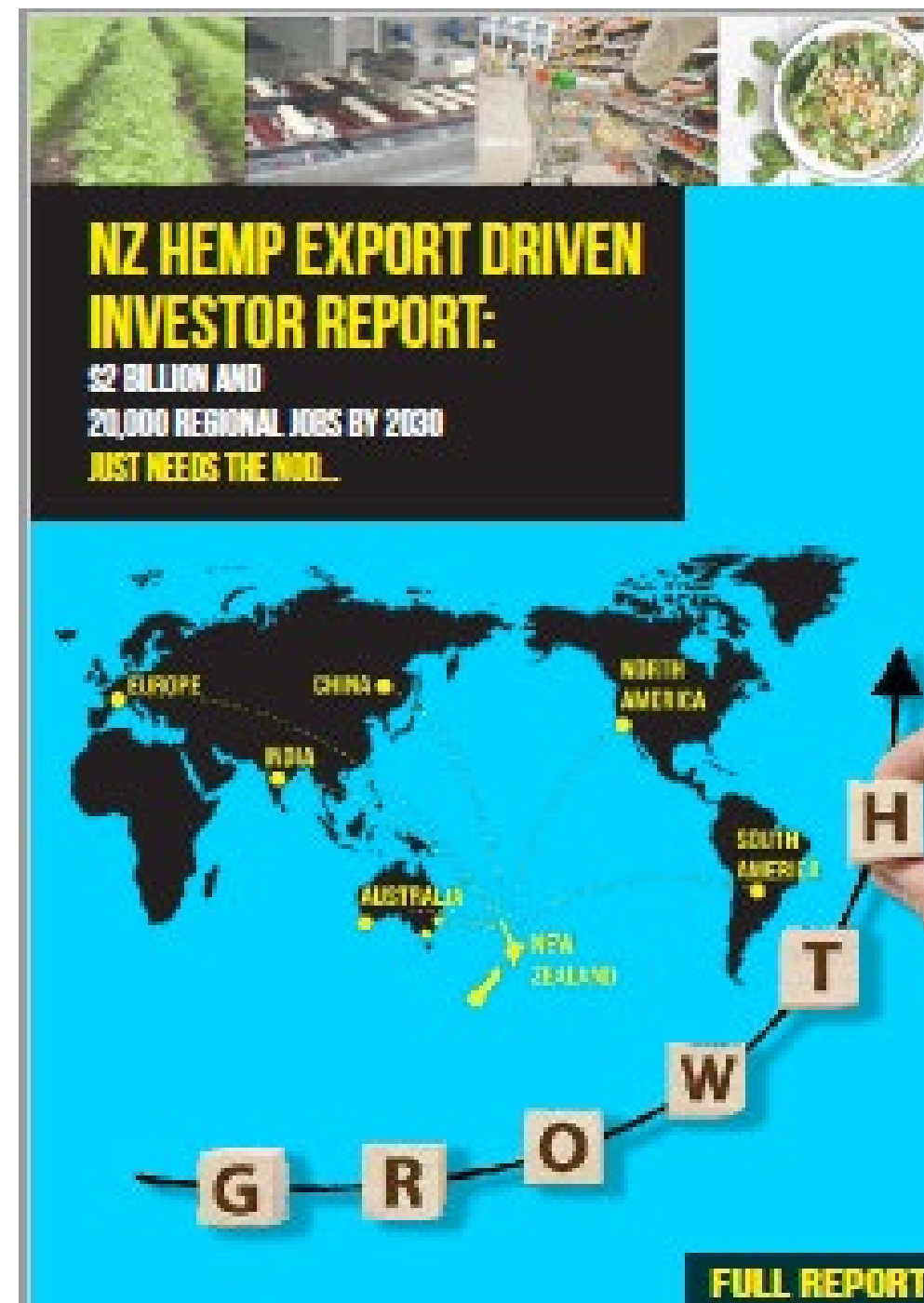
WHY HEMP?

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.

The NZHA WHY

A MPI 2021 report predicts Industry to grow from 3-5 million now to between \$11 to \$774 million by 2030. Their preferred scenario 2 gave a prediction of \$30 million by 2030

But the NZHIA's Senario 2 in our investor report highlights a \$2 billion opportunity by 2030 - We just need the right interpretation of the regulations



**NZHIA Senario
2 \$2 Billion**

Value Chain



Growers and
Cultivators



Testing and
Development



Processors and
Manufacturers



Distributors and
Consumers

Matching supply with sector demand, to scale the industry
Where are the gaps and opportunities?

WHY HEMP?

How can hemp be used in FARMING:

- ① Farming as an alternative land use and cash crop plus phytoremediation, heavy metal removal and soil cleaning/conditioning.
- ② Use for nitrogen uptake, and climate change mitigation.
- ③ Crop rotation and break cropping in collaboration with other primary industries.

WHY HEMP?

How can hemp be used in FOOD INDUSTRY:

- ① Seeds for food and utilising local circular economy by- product streams to make new and innovative
- ① products. Hemp seed nutritional products for humans and animals as well as seed multiplication for northern hemisphere hempseed companies.
- ① Future uses of hemp leaf, sprouts and roots.

WHY HEMP?

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.

WHY HEMP?

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, Kawakawa and other native botanicals grown in New Zealand.

BE IN TO WIN!

Valued
at over
\$300

THE NZHIA
iHEMP
DISCOVERY & INVESTMENT
TOUR 2022
FOOD • FIBRE • HEALTH

JOIN THE NZHIA

BE IN 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



Terms & conditions apply. See www.nzhia.com.

RESOURCES

The Next Step

Join the NZHIA so we can keep in touch

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

Callaghan Innovation
 Capability Road Maps

CallaghanInnovation
 New Zealand's Innovation Agency

Te Puni Kōkiri
 Fact sheets for
 industrial hemp

Te Puni Kōkiri
 MINISTRY OF MĀORI DEVELOPMENT

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

SUSTAINABILITY



NUTRITION



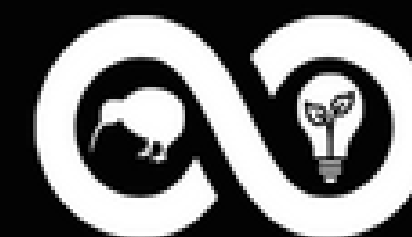
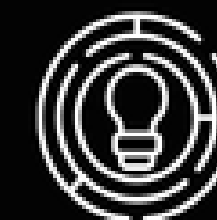
BIOMATERIALS



HEALTH



INNOVATION



**Aotearoa New Zealand
 Hemp Alliance**

Coming soon ...a new community building portal

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