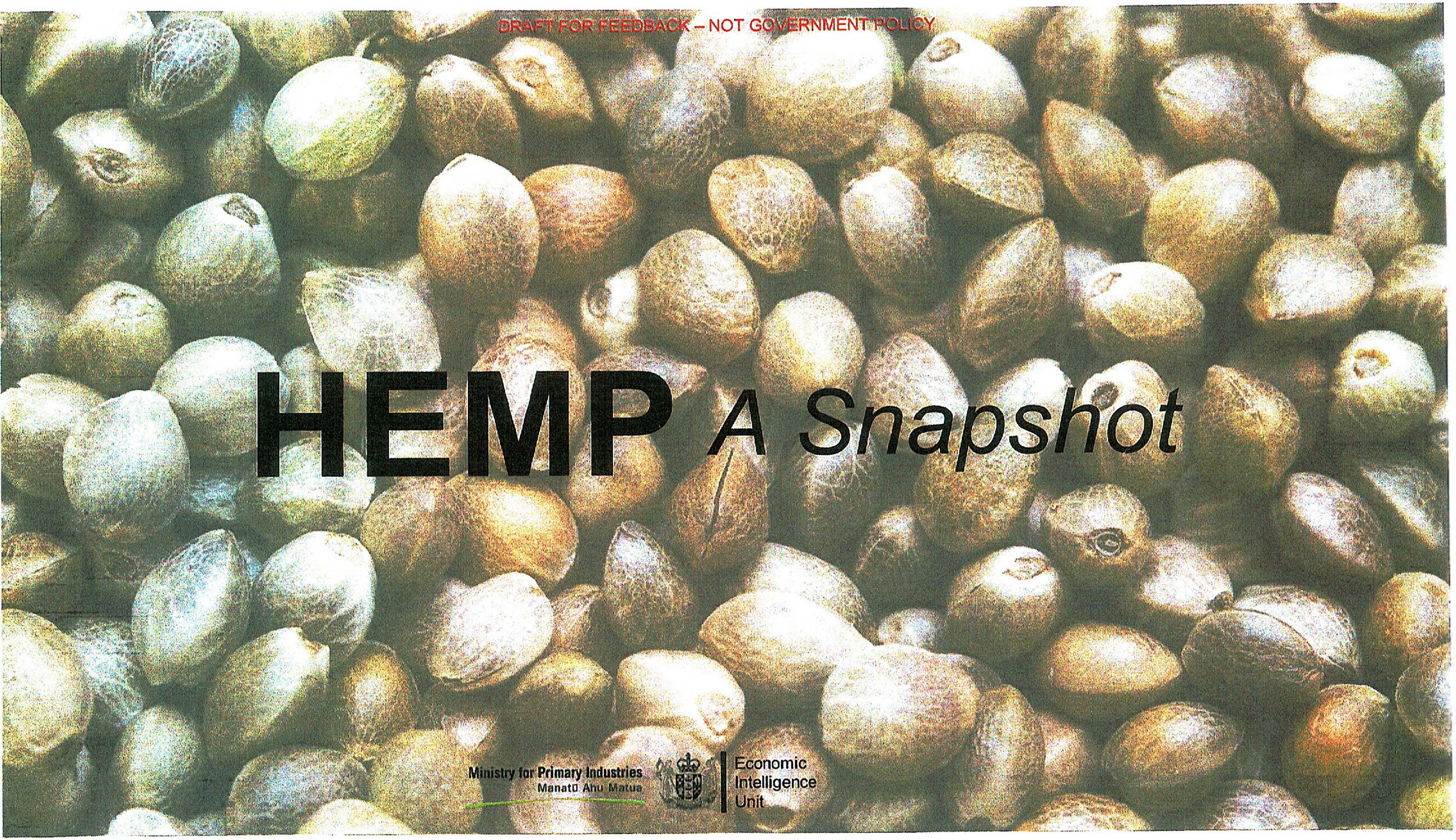

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HEMP A Snapshot

Ministry for Primary Industries
Manatū Ahu Matua

Economic
Intelligence
Unit

INTRODUCTION

Our Approach

To provide a preliminary assessment of global hemp markets, we have focused on measuring four elements:

- **Global Production** to understand the key markets; including value and volume of production;
- **Trade Flows** to asses the market supply and demands, dependencies and seasonality;
- **U.S. Retail Scan** to identify the gaps in current product offerings; and,
- **New Product Launches:** to understand how other companies are responding.

Key Findings

- Overall, international production is small and global trade is volatile compared to similar products (i.e. cotton for fibre, or rapeseed for oil).
- The European Union is a large producer of hempseeds however the majority of exports are traded within the EU. Less than half of total EU imports are from outside of the EU - mainly from Canada and China. Both Canada and the EU are increasingly focusing on hemp oil production.
- Internationally, there have been movements to liberalise the growing of hemp particularly in Canada and the US. Where successful new growers have been quick to pick up licenses, and there has been downstream product innovation as a result. In the case of Canada, proximity to the restricted growing market in the US has led to an emerging sector which is both exporting and innovating with new applications.
- Although the US are not a major producer of hemp, they are a leading product developer, and have the most engaged consumer base. Popular product categories (and the most valuable) all contain high concentrations of hemp oil.
- From a consumer standpoint, beauty and personal care applications are the most popular and competitive product categories. That said, hemp food applications are increasingly becoming an important area of focus for product development given hempseed's high protein profile (when compared to other plant protein sources i.e. chia seeds). There have been more hemp product launches in 2016 here than any other category.
- Further market analysis suggests that from a consumer-facing perspective, hemp product development faces a decision to either:
  - Invest in developing a product where there is already substantial competition but where there is a lack of compelling product offerings (e.g. personal care (bathing products or makeup), or snack foods which leverage hemp's high protein nutritional profile); or,
  - To create compelling products in niche product categories with limited exposure (e.g. oils, skin care or herbal supplements).

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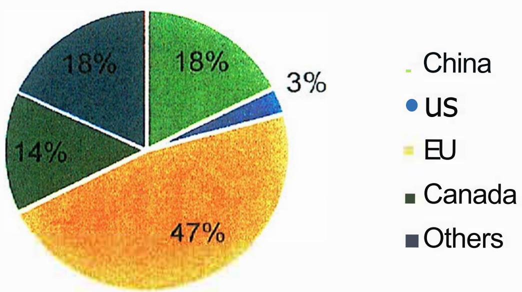
GLOBAL PRODUCTION

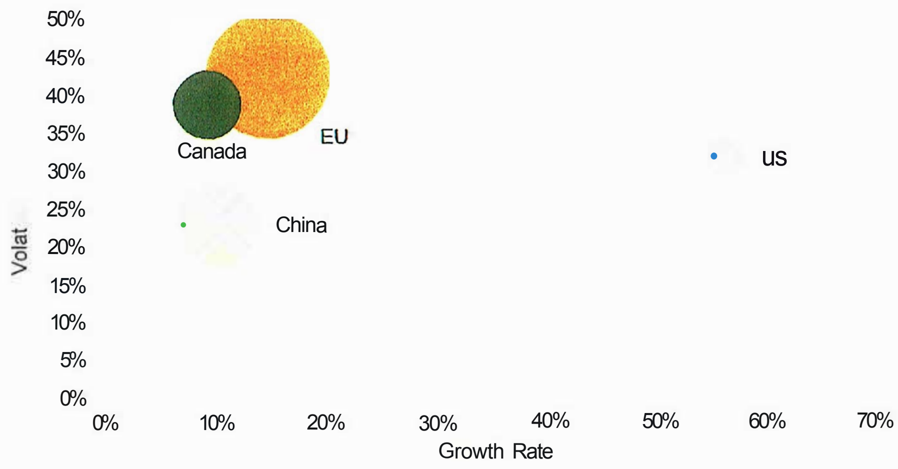
Approximately 30 countries across Europe, Asia, and Norlh and South America currently permit hemp production. Based on aggregated production data sets, worldwide acreage in hemp cultivation- both hemp seed and hemp fibre-is estimated at 175,000 acres, which is producing annually approximately 170,000 tonnes of biomass (2015). International production is largely concentrated in three key markets: China, Canada and European Union.

- The **European Union** collectively is the largest producer of hemp, making up 47% of global production. France produces 71% of the EU's hemp, followed by the Netherlands with 15% of EU production.
- **China is the single largest producer** with a long standing, largely fibre focused production base supplying China's te><tile manufacturing industry. It is a major supplier of finished products to the US market.
- **Canada's** hemp production is fairly new, as commercial hemp licenses were issued in 1998.
- US hemp production, due to federal regulatory restriction. At least 16 states have legalized industrial hemp production for commercial purposes and 20 states have passed laws allowing research and pilot programs.

International Hemp Production by Market



International Hemp Production by Market
Bubble Size: 2016 production (tonnes)



Total hemp production is volatile across all producers from year to year

- **France,** for example, doubled its production in 2012, but 2013 saw a production decline by 40%.
- **After reform liberalised the Canadian sector,** hemp production has grown at a compounding annual growth rate (CAGR) of 9%. This is largely due to the increase in demand from US. In 2011, 240 licenses were issued for hemp production, with that number growing to 1135 licences in 2015. Annual retail sales of all Canadian derived hemp seed products are estimated between $20 million to $40 million
- The **US** is a small producer of hemp, but has begun increasing production in recent years in an attempt to meet the growing manufacturing and consumer demand for hemp.

U.S. RETAIL SCAN

Product groupings	Number of unique products	Number of offers	Average Price
Competitive			
Fabric	109	1175	$7.80
Men's Clothing	129	412	163.21
Women's Clothing	118	360	$32.46
Snack Foods	47	211	$22.68
Kitchen & Table Linens	80	140	$42.37
Bath & Body **	229	3060	$20.58
Nutrition Bars and Drinks	88	481	$29.82
Makeup	67	442	$21.95
Deodorants	16	220	$22.05
Lip Care	15	107	$9.41
Non-competitive			
Nuts & Seeds	0	0	$-
Herbal Supplements	0	0	$-
Skin Care	0	0	$-
Handbags	0	0	$-
Fashion accessories	0	0	$-
Oils	3	4	$-

Given that the US has both the highest level of internet search interest for Hemp, and growing hemp seed imports, an additional market scan was undertaken to explore the current retail landscape. Note that a more expansive data scan will be needed to identify specific products of note.

Product data was collected across all major US retailers where possible. This includes online-only retailers such as Amazon, and online-offline retailers such as Walmart, Sears, Costco, as well as supermarkets. This data sample, from across a number of product categories, revealed a marketplace which has two tiers of products: crowded and competitive product categories, and gaps in product offerings

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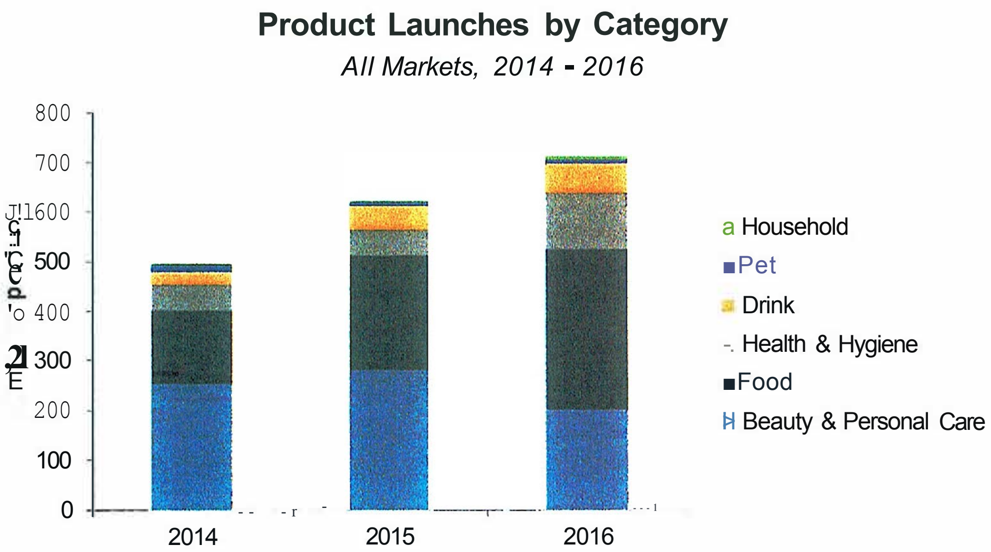
Competitive categories

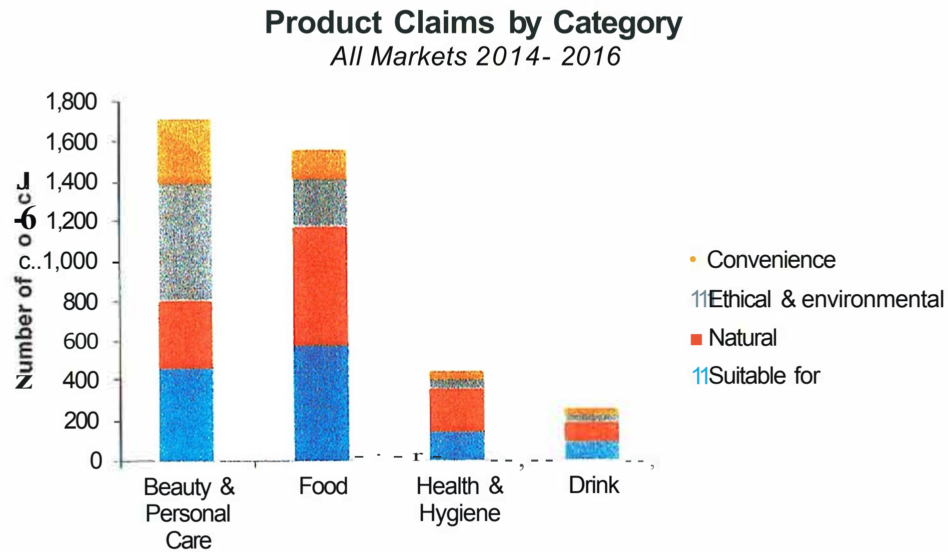
- Bath and Body products are the most popular product category with 229 products picked up from the scan.
- 247 clothing products were identified in the scan; 129 items of men's clothing and 118 items of woman's clothing. The average price for men's clothing $63.21. This is the highest priced category, and men's clothing receives *over* $30 more than the average price of woman's clothing. The premium price associated with apparel is strongly correlated to apparel brand popularity

Non-competitive

- There is a lack of product offerings within the skincare, herbal supplements and nuts & seeds product ranges. This offers an opportunity to develop products in product segments which continue to show strong growth. U.S. Retail sales of Dietary Supplements for example have achieved a 5.5% CAGR since 2011, in a sector now worth $US 14.4 billion.

U.S. PRODUCT DEVELOPMENT





In the last three years, a total of 1827 new products containing hemp have been developed. 56% of these products were launched in Europe and 33% were launched in North America.

Beauty and personal care has been the leading category but in the last three years there have been approximately 707 new food product launched. **The majority of new food product launches are in the USA** with 182 products, followed by Germany with 81, the UK and Canada with 73 products. In total, this represents a 117% increase in the number of food products since 2014_

With the launch of new products, there are a number of claims which indicate the consumer type which products target.

For beauty and personal care

- 'Ethical and environmental' claims are the most common in new products, with 589 claims targeting consumers with concerns about animals testing and sustainability issues

Food

- 'Natural' claims, and 'suitable for' claims are the most common, with 588 product claims. This reflects the increased focus on the nutritional functionality of products, with a particular emphasis on the high protein profile associated with hemp seeds.

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