

Food & Beverage Information Project 2011 Depth Sector Stream – Nutraceuticals & Foods For Health

Final Report
October 2011; v1.9

www.foodandbeverage.govt.nz

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Coriolis is a strategic management consulting and market research firm

We work with organisations to help them grow. For corporations, that often means developing strategies for revenue growth. For governments, it means working on national economic development. For non-profits, it means helping to grow their social impact.

We address all the problems that are involved in growth: strategy, marketing, pricing, innovation, new product development, new markets, organisation, leadership, economic competitiveness.

We bring to our clients specialised industry and functional expertise. We invest significant resources in building knowledge. We see it as our mission to bring this knowledge to our clients and we publish much of it for the benefit of others.

A hallmark of our work is rigorous, fact-based analysis, grounded in proven methodologies. We rely on data because it provides clarity and aligns people.

However, we deliver results, not reports. To that end, we work side by side with our clients to create and implement practical solutions.

The Coriolis name

The coriolis force, named for French physicist Gaspard Coriolis (1792-1843), may be seen on a large scale in the movement of winds and ocean currents on the rotating earth. It dominates weather patterns, producing the counterclockwise flow observed around low-pressure zones in the Northern Hemisphere and the clockwise flow around such zones in the Southern Hemisphere. *To us it means understanding the big picture before you get into the details.*

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The objective of this report is to provide a **factual** source of high quality **information** on the current situation in the New Zealand **nutraceuticals & food for health/functional foods** sector for four audiences:

- **Investors** (domestic or international)
- **Industry** participants (firms & individuals)
- **Government** (across all roles and responsibilities)
- **Scientific researchers** (academic, government & firm)

It creates a common set of **facts** and **figures** on the current situation in the industry.

It draws conclusions on potential industry **strategic directions** and highlights **opportunities** for further **investment**.

It forms a part of the wider Food & Beverage Information Project and will be updated annually.

The opinions expressed in this report represent those of the industry participants interviewed and the authors. These do not necessarily represent those of Coriolis Limited or the New Zealand Government.

Note: Sectors analysed in more depth on a rotating schedule, in 2011 this included Seafood and Nutraceuticals



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GLOSSARY OF TERMS

This report uses the following acronyms and abbreviations

A\$/AUD	Australian dollar	NZ	New Zealand
ABS	Absolute change	NZ\$/NZD	New Zealand dollar
ANZSIC	AU/NZ Standard Industry Classification	Oceania	Australia, New Zealand & Pacific Islands
AU	Australia	R&D	Research and Development
Australasia	Australia and New Zealand	T/O	Turnover
E Asia	East Asia	S Asia	South Asia (Indian Subcontinent)
EBITDA	Earnings before interest, tax, depreciation and amortization	SE Asia	South East Asia
C/S America	Central & South America (Latin America)	US/USA	United States of America
CRI	Crown Research Institute	US\$/USD	United States dollar
CY	Calendar year (ending Dec 21)	UK	United Kingdom
CAGR	Compound Annual Growth Rate	YE	Year ending
FY	Financial year (of firm in question)	YTD	Year to date
£/GBP	British pounds		
IP	Intellectual Property		
JV	Joint venture		
m	Million		
n/a	Not available/not applicable		
NA/ME/CA	North Africa / Middle East / Central Asia		
N.H	Northern Hemisphere		
		Sources	
		AR	Annual report
		Ce	Coriolis estimate
		Ci	Coriolis interview
		K	Kompass
		Ke	Kompass estimate
		ws	Website

METHODOLOGY & DATA SOURCES

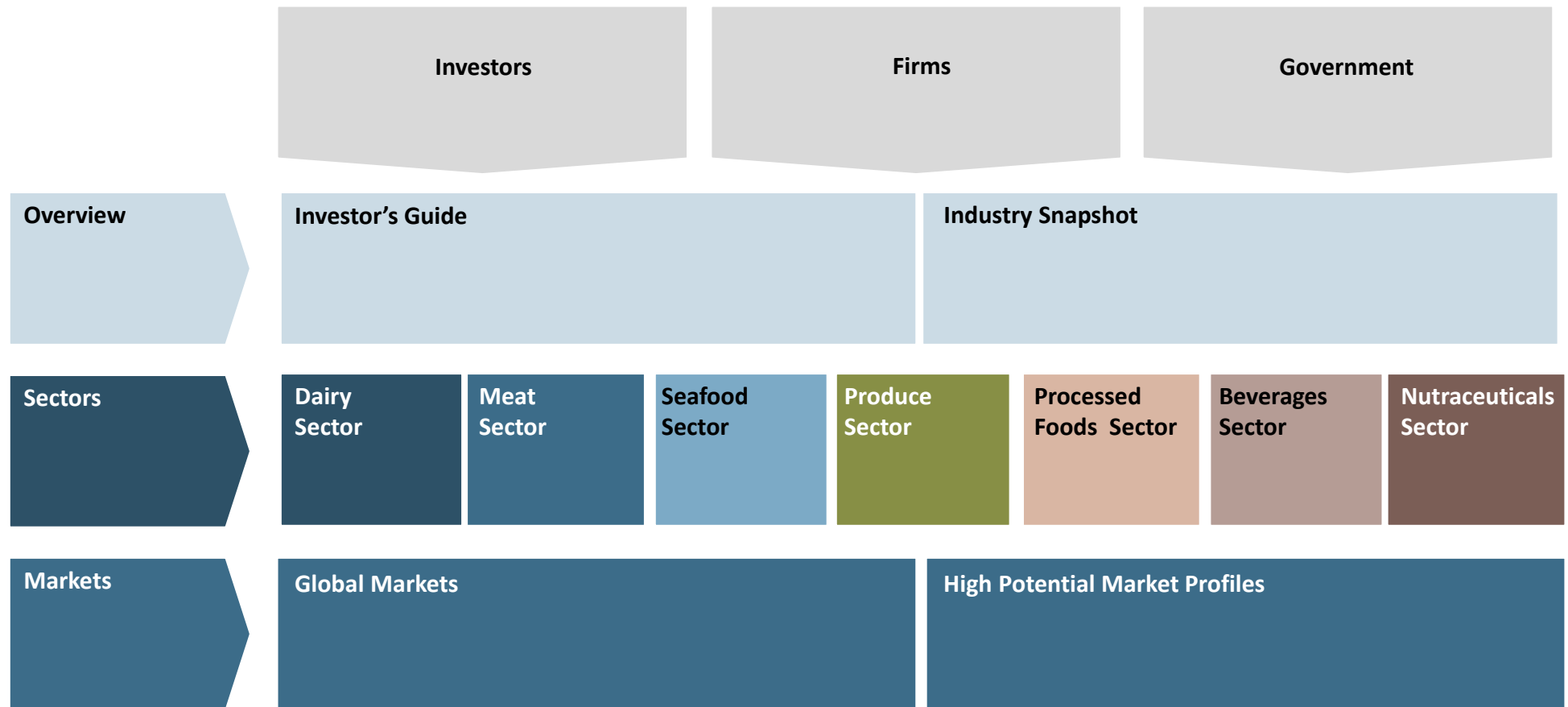
This project has a number of specific data-related limitations, relating to the industry being in the early stages of the development curve

- This report uses a range of information sources, both qualitative and quantitative.
- There is no standardised product or industry definition widely or universally accepted in New Zealand.
- The numbers in this report come from multiple sources. While we believe the data is directionally correct, we recognise the limitations in what information is available.
 - Many data sources incorporate estimates of industry experts.
 - There is no source of the total turnover of the New Zealand nutraceuticals or functional foods industry.
- The Australian and New Zealand Standard Industry Classification system (ANZSIC) or the Global Harmonised Commodity Description and Coding System (HS codes) trade/tariff codes do NOT have any classifications that in any way catch firms involved in nutraceuticals or functional foods.
- Statistics New Zealand collects very limited information on nutraceuticals or functional foods (foods for health)
 - For an example of what government collected data on the sector looks like see:
<http://www.statcan.gc.ca/pub/88f0006x/88f0006x2009001-eng.pdf>
- In addition, in some places, we have made our own clearly noted estimates.
- Coriolis has not been asked to independently verify or audit the information or material provided to it by or on behalf of the Client or any of the data sources used in the project.
 - The information contained in the report and any commentary has been compiled from information and material supplied by third party sources and publicly available information which may (in part) be inaccurate or incomplete.
 - Coriolis makes no representation, warranty or guarantee, whether express or implied, as to the quality, accuracy, reliability, currency or completeness of the information provided in the report.
- All trade data analysed in all sections of the F&B Information project are calculated and displayed in US\$. This is done for a range of reasons:
 1. It is the currency most used in international trade
 2. It allows for cross country comparisons (e.g. vs. Denmark)
 3. It removes the impact of NZD exchange rate variability
 4. It is more comprehensible to non-NZ audiences (e.g. foreign investors)
 5. It is the currency in which the United Nations collects and tabulates global trade data
- If you have any questions about the methodology, sources or accuracy of any part of this report, please contact Tim Morris, the report's lead author at Coriolis, on +64 9 623 1848

F&B INFORMATION PROJECT

The New Zealand Food & Beverage Information Project is designed to be the foundation of facts and figures on which a range of audiences can build

Structure of the New Zealand Food & Beverage Information Project
(2011)



NUTRACEUTICALS SECTOR ANALYSIS

This analysis of the New Zealand nutraceuticals sector forms a part of the wider Food & Beverage Information Project

Structure of the New Zealand Food & Beverage Information Project
(2011)

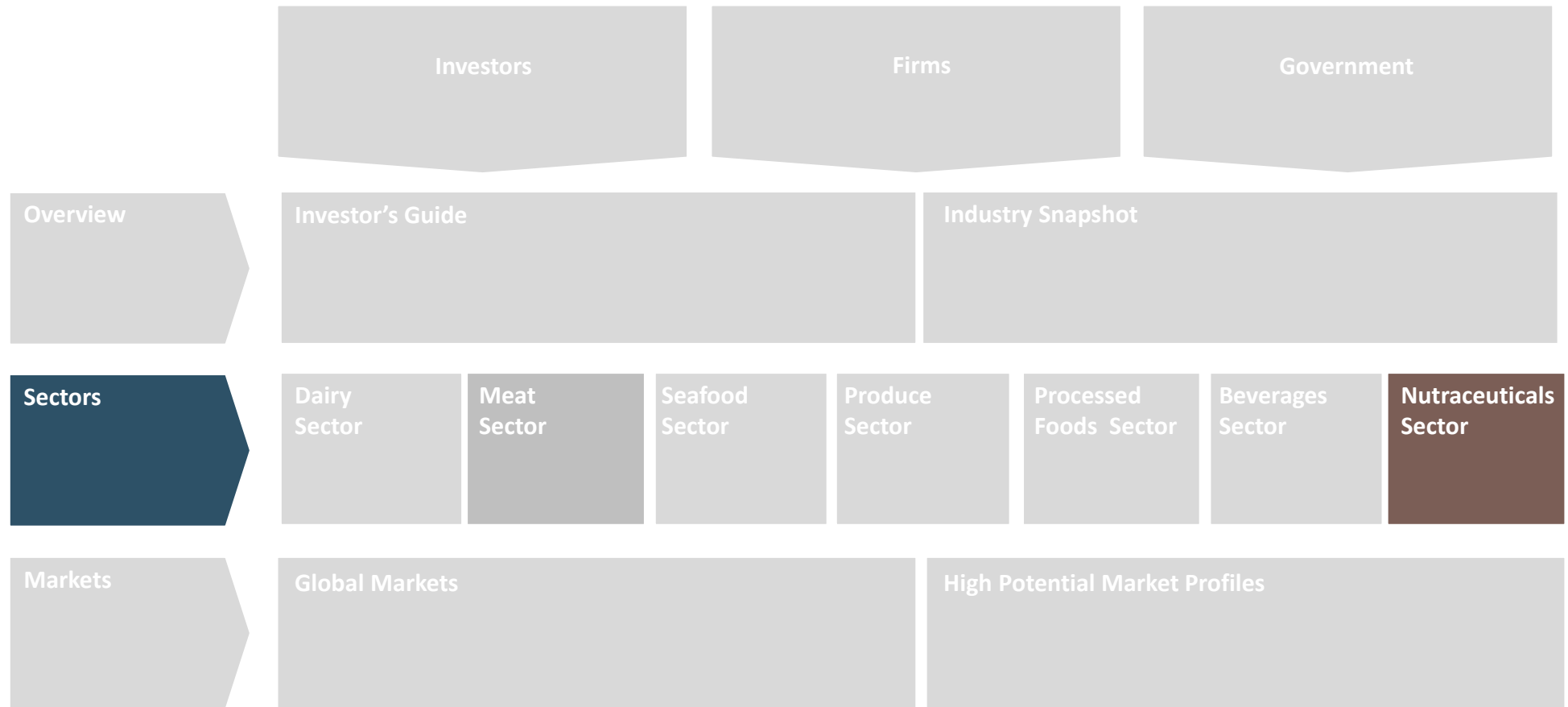




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A DIFFICULT AREA TO STUDY

Nutraceuticals and functional foods (foods for health) are a difficult area to define globally; data availability is poor

- “Quantifying the value of the functional food market is a difficult task.” *Colette Shortt, Opportunities for Health-Enhancing Functional Dairy Products, 2004*
- “At present there is no universally accepted definition for nutraceuticals and functional foods.” *Handbook of Nutraceuticals and Functional Foods, 2nd Ed., 2004*
- “There is no universal consensus in the definition of the terms functional food or natural health products, although they are commonly used around the world.” *Statistics Canada, 2007*
- “From a market perspective, functional foods are difficult to quantify because different definitions are used.” *J.A. Weststrate, Functional foods, trends and future, British Journal of Nutrition 2002*
- “All natural products areas are tricky to define, they have such a huge scope, and lots of small players.” *CEO, NZ Company*

WHAT ARE THEY?

We are using the following definitions as the basis for our sector analysis

Definitions used in our research
(2010)

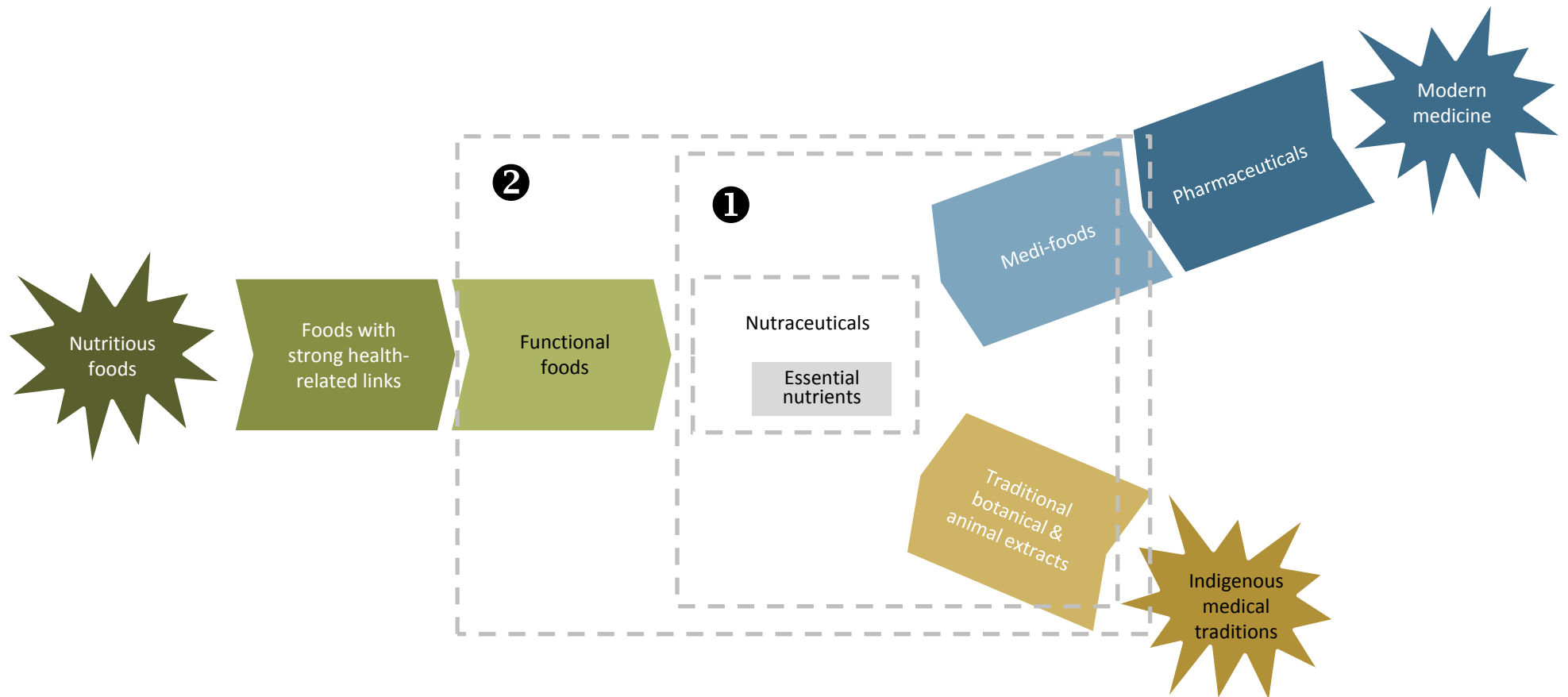
There are a lot of proposed definitions, many conflicting or vague; we have effectively adopted the definition used by Health Canada as this is the only official government definition available³

RFP Term	Coriolis definition – simple	Widely accepted industry term(s)	Coriolis definition – more detailed	Comments/Notes
1 Nutraceuticals	Natural product extracts sold in dosage form (capsules, tablets, powders, etc.)	<ul style="list-style-type: none"> - Supplements - Nutritional supplements - Natural health products 	<ul style="list-style-type: none"> - Product that is prepared from foods and other natural products, but is isolated and sold in the form of capsules, tablets, or powders, or in other dosage forms not normally associated with foods. - A nutraceutical is demonstrated to have a physiological benefit or provide protection against illness or assist with general health and wellbeing. 	<ul style="list-style-type: none"> - We include within this definition all essential nutrients (vitamins, minerals, α-Linolenic acid¹, etc.) and other non-essential nutritional supplements - We exclude industrial proteins²
2 Functional Foods (aka “Foods for Health”)	Foods with added nutraceuticals	<ul style="list-style-type: none"> - Functional foods 	<ul style="list-style-type: none"> - Foods fortified with added or concentrated ingredients to functional levels, which improve health or performance. - Foods that, by virtue of the presence of physiologically active components, provide a health benefit beyond basic nutrition. - Added nutraceutical are outside standard recipe or formulation. 	<ul style="list-style-type: none"> - We exclude non-health related functional foods wherever possible (for example Red Bull and V energy drinks)

MODEL

Nutraceuticals exist at the intersection of food and medicine

Proposed model of nutraceuticals and related classes of health-related products
(model; 2010)



EXAMPLES

Examples of all these types of product can easily be identified

Definitions and examples of terminology used in model
(2010)

Category		Definition	General examples	New Zealand examples	
Nutritious foods		- Conventional food from natural sources containing essential nutritional elements	- Apples as part of a healthy diet ("An apple a day keeps the doctor away") - Oranges and vitamin C	- New Zealand grass-fed beef	
Foods with strong health-related links		- Conventional foods strongly associated with specific health claims	- Ocean Spray cranberry juice and urinary tract infections - Kellogg's All-Bran and fibre	- Calcium in milk	
2	Functional foods (Foods for Health)	- Conventional foods to which high concentration nutraceuticals have been added to give health benefits	- Yakult probiotic drinking yoghurt - ResVes WineTime chocolate bar with Resveratrol	- Anchor Symbio yoghurt containing ProDigestis™, Acidophilus and Casei bacteria	
Traditional botanical and animal extracts		- Plant and animal extracts with historical tradition of being used for health	- Wal-Mart Spring Valley organic flaxseed oil	- Silberhorn Sir Bob Charles SportsVel 100 (deer velvet extract)	
1	Nutra-ceuticals	Essential nutrients	- Nutrient required for normal body functioning that cannot be synthesised by the body (at all or in adequate quantities)	- GNC Alpha Lipoic Acid (to aid with weight loss) - Bayer One-A-Day™ complete women's multivitamin	- Nature's Own Omega 3
	Nutra-ceuticals	Nutritional supplements	- Isolated compounds presented in semi or pseudo-medical form	- Schiff Glucosamine Plus - Natures Bounty Gingko Boloba	- Vitaco's Biolane™ advanced joint health (containing mussel extract)
Medi-Foods		- Food or food derivatives that have been through some level of clinical trials	- Novartis Fibersource HN™ to dispense via an IV drip	- Comvita Medi-Honey™ for wound treatment	
Pharmaceuticals		- Patented chemical substance intended for use in medical treatment which have been through stages I-III clinical trials and are government approved for use	- Pfizer Lipitor™ treatment for high cholesterol (US\$12b sales in 2007)	- Amsacrine (only identified successful pharmaceutical drug developed in NZ)	



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NUTRACEUTICALS – SITUATION

Nutraceuticals, while still fragmented globally, is consolidating as the sector matures

New Zealand

- The New Zealand industry is relatively young and filled with many passionate individuals; most firms are small; the median firm in NZ would have 2-3 employees
- Industry regulation is increasing as the sector matures
- New Zealand produces a handful of nutraceuticals at any scale:
 - Manuka honey – derived from the native manuka tree; honey sourced from the high factor trees is valued for its antibacterial properties
 - Green lipped mussels assist with joint mobility
 - Deer velvet used primarily for male impotence
 - A range of dairy derivatives and dairy-related bacteria
- High sector innovation with new products constantly emerging; many products are fads and many have a natural lifecycle; while Manuka is still on rise, deer velvet has clearly peaked
- The New Zealand sector has produced a number of mid to large firms
 - Vitaco (\$168m; Private Equity [Next Capital AU])
 - Comvita (\$85m; NZX listed)
 - New Image (82m; NZX listed)
 - Alpha Laboratories (\$85m; private)
- The sector has been a focus of Government science funding over the past decade, but results for this research, limited to date

Competitors

- Production of key ingredients (e.g. vitamin C) typically occurs in large scale factories (e.g. China, Germany) and are traded globally
- Globally the nutraceuticals sector is highly fragmented
 - Vitamins & supplements consolidating at a pace; large players emerging, often around major pharmaceutical companies
 - Still a large group of mid-sized firms, typically narrow focus
 - Large number of small, single product firm selling “snake oil”
- There is intense competition in the market; new brands, products, compounds, and items are constantly evolving

Consumers/Markets

- Nutraceuticals are typically consumed in Western countries by wealthy/ city dwellers & aging baby boomers trying to repair the damage of modern living
- Nutraceuticals consumed in Asian countries is cultural
- Consumer often looking for more proactive health solutions as medical costs rise
- Consumers often purchase sporadically and have inconsistent consumption (e.g. a cupboard full of half finished jars of pills)
- Two key channels: (1) retail supermarkets which want two key brands and private label and (2) pharmacies/supplements specialists which want a wider range of non-supermarket brands

NUTRACEUTICALS – SWOT ANALYSIS

New Zealand needs to continue moving forward and adapting; success is not guaranteed

Strengths	Weaknesses
<ul style="list-style-type: none"> - Unique flora and fauna due to New Zealand’s geographic isolation - Unique products proven success (e.g. Manuka honey) - New Zealand trusted country and products with secure food source - Able to leverage favourable opinion of New Zealand in key markets (e.g. China, Korea, Japan) - Cheaper to manufacture than in Australia 	<ul style="list-style-type: none"> - High cost of robust scientific validation of claims (e.g. clinical trials) - Fickle market often fad products with inconsistent consumption - Narrow consumer market - Regulatory environment in export markets challenging to understand and frequently changing; no global standards or agreements - Most NZ firms have low/no economies of scale - Lack of capital for research and capital investment
Opportunities	Issues/Threats/Risk
<ul style="list-style-type: none"> - Large waste streams from existing food and beverage manufacturing - Expansion into high demand nutraceuticals markets (e.g. East Asia) - Native, unique plants - Research into key high potential products with proven track record (e.g. manuka honey, blackcurrants) - Marketing New Zealand’s unique environment and products - Marketing to tourists in New Zealand - Online shopping - “Country of Origin” labelling supporting New Zealand products - Special dietary requirements (e.g. for use in retirement homes, hospitals etc.) 	<ul style="list-style-type: none"> - Counterfeiting of New Zealand products, particularly in China - False claims bring disrepute on the industry - Increasing amount of regulatory restrictions - Backlash, negative publicity in sector with products with unproven claims - Companies repacking imported ingredients as produced in New Zealand - Scares/contaminations/disease damaging consumer image of New Zealand

NUTRACEUTICALS – POTENTIAL STRATEGIC DIRECTIONS

Five potential strategic directions are identified for the nutraceutical sector

Situation creating opportunity	Resulting potential strategic direction	Opportunity	Challenges
<ul style="list-style-type: none"> - Large number of new nutraceuticals being developed by scientists - Entrepreneurs developing new nutraceuticals - Existing global nutraceuticals being launched in New Zealand (e.g. Noni) - Handful of key products account for most of industry export growth - Highly crowded world market 	1. Focus on proven winners (e.g. manuka) instead of spreading efforts widely	<ul style="list-style-type: none"> - Build on and amplify success of existing winners - Amplify consumer cut-through with winning message 	<ul style="list-style-type: none"> - Missing out on high potential new nutraceuticals
<ul style="list-style-type: none"> - Most nutraceuticals only delivered in single form to consumer (e.g. pill) - Consumers have a wide range of consumption and use occasions 	2. Line extensions to leverage functional properties into new forms	<ul style="list-style-type: none"> - Build strong consumer perception of health benefits of product (e.g. cranberries) through wider exposure - Sell more volume to consumers 	<ul style="list-style-type: none"> - Succeeding in new channels - Coming up with ideas - In market execution
<ul style="list-style-type: none"> - Industry still highly fragmented with large number of small players - Few NZ brands have any in-market awareness or presence - Cost structures and overheads per unit are high 	3. Industry consolidation to drive scale	<ul style="list-style-type: none"> - Roll-up strategy by larger firms and emerging leaders - Drive economies of scale around production and marketing 	<ul style="list-style-type: none"> - Low barriers to entry (currently)
	4. More collaborative marketing	<ul style="list-style-type: none"> - Firms work together to jointly market NZ as suppliers - Similar to wine industry 	<ul style="list-style-type: none"> - Egos and personalities - Cooperating and competing at the same time

NUTRACEUTICALS – POTENTIAL AREAS FOR INVESTMENT

Investors should focus on proven products achieving traction in export markets; opportunities beyond there more speculative and only for those with strong transferrable capabilities; opportunities exist for industry roll-up

- Wide range of opportunities for investors with leverageable or transferable skills
 - Marketing/market access
 - Distribution/infrastructure
- Fragmentation suggests significant opportunity for consolidation and /or industry roll-up, driven by economies of scale
- Wide range of acquisition targets
 - Most companies for sale at the right price

Waste streams & by-products

- Clearest opportunity is in adding value to waste streams emerging from existing large food production industries
 - Seafood
 - Meat
 - Dairy
 - Fruit (kiwifruit, apples)
- Large amount of waste give economies of scale in refining and processing

NZ Unique

- New Zealand has a wide range of plants and animals found nowhere else on earth due to New Zealand's isolated location
 - Huge range of unique native plants
 - Wide range of sea organisms
 - Extraction from native land animals likely rejected for non-

economic reasons

- These unique plants and animals create opportunities and success to date comes from a handful of these

Manuka honey

- Manuka honey is achieving cut through and strong consumer acceptance; consumers "get" the concept
- Product is highly defensible as it is only in New Zealand (& AU)
- Production fragmented across a wide range of geographically disperse beekeepers; low/no opportunities here
- In production Comvita is largest firm; another 4 firms at any scale

Green-lipped mussel extract

- Waste-stream of production of green lipped mussels
- Product is defensible as it is only in New Zealand; however, wide range of competing products in joint-mobility space

Dairy related

- Wide range of dairy derived or related nutraceuticals being developed or promoted in New Zealand
- Consumer success to date primarily colostrum; leader is New Image selling via direct marketing in Asia
- Other dairy (bioactive milk components and probiotics) controlled by farmer-owned cooperatives
- Beyond these three proven success in the market, opportunities are more speculative



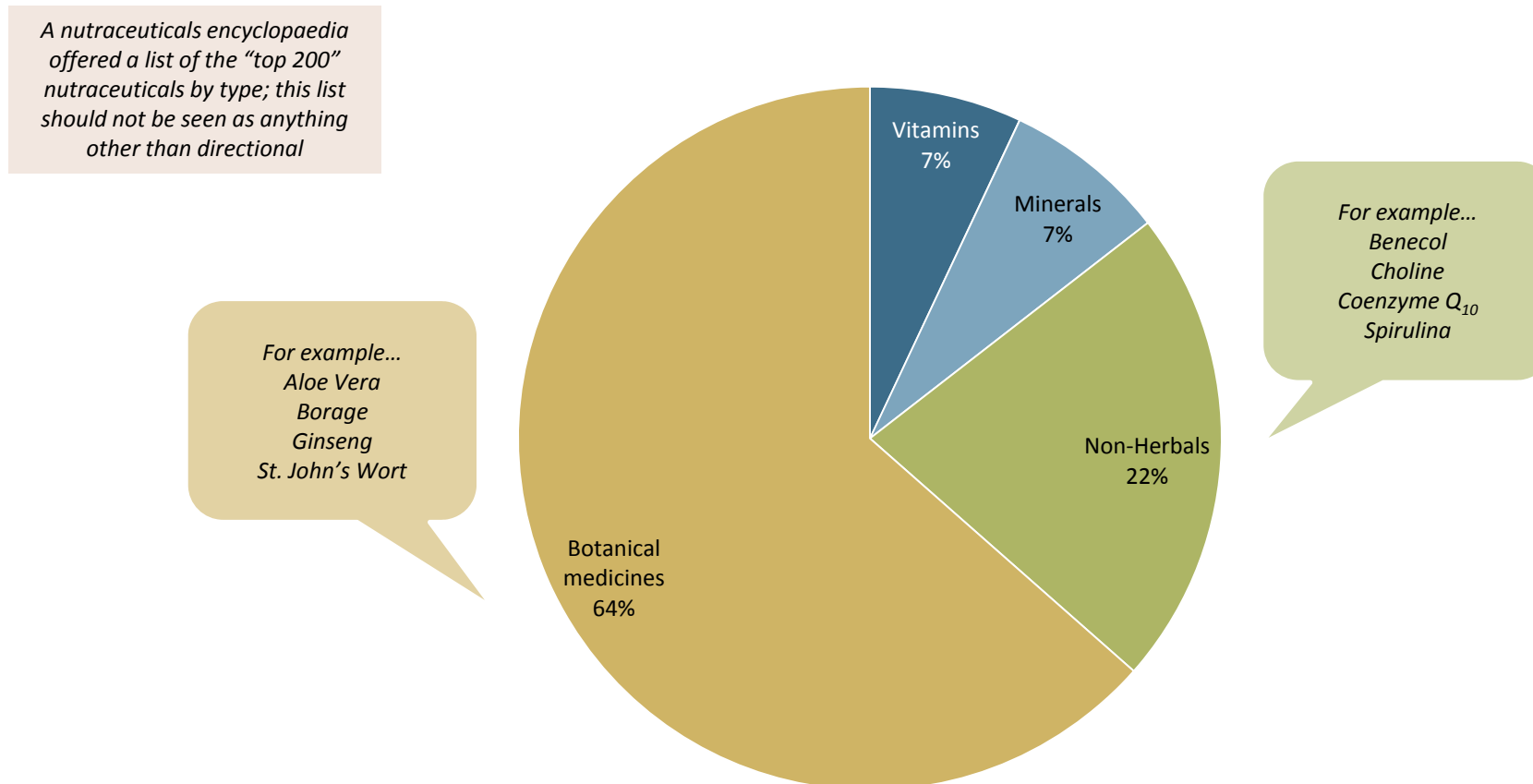
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TOP 200 NUTRACEUTICALS BY TYPE

Analysis of the “Top 200” nutraceuticals indicated two thirds of the range of nutraceuticals are botanical medicines, followed by non-herbal “other”

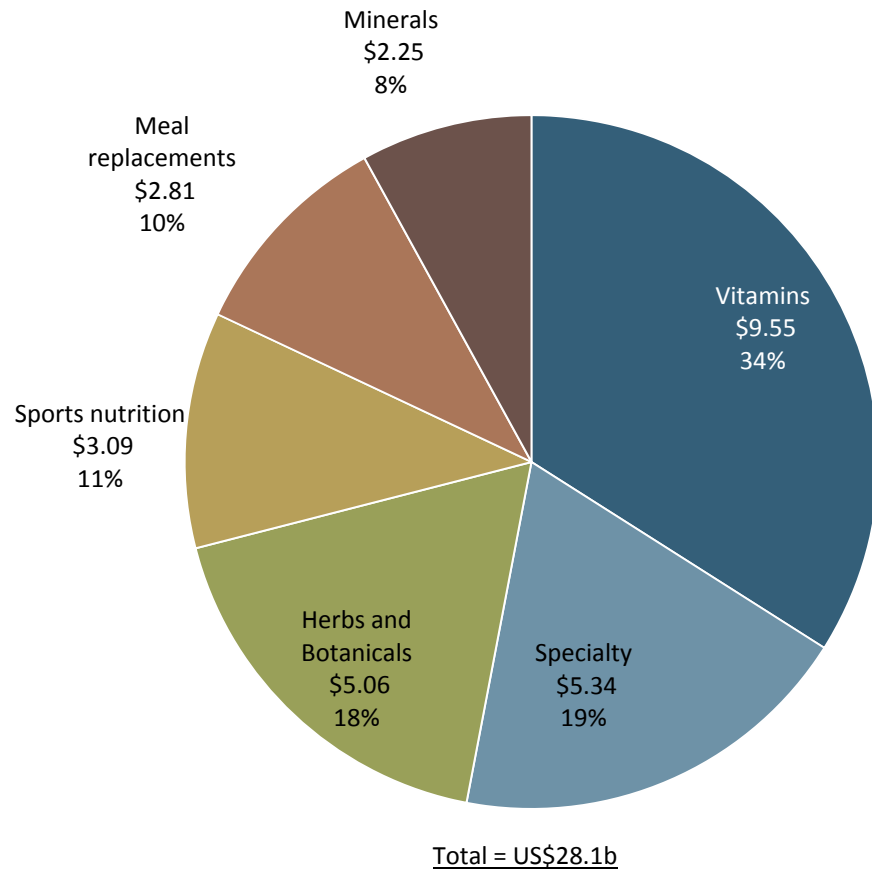
Classification of the “Top 200” nutraceuticals by type
(#, 2001)



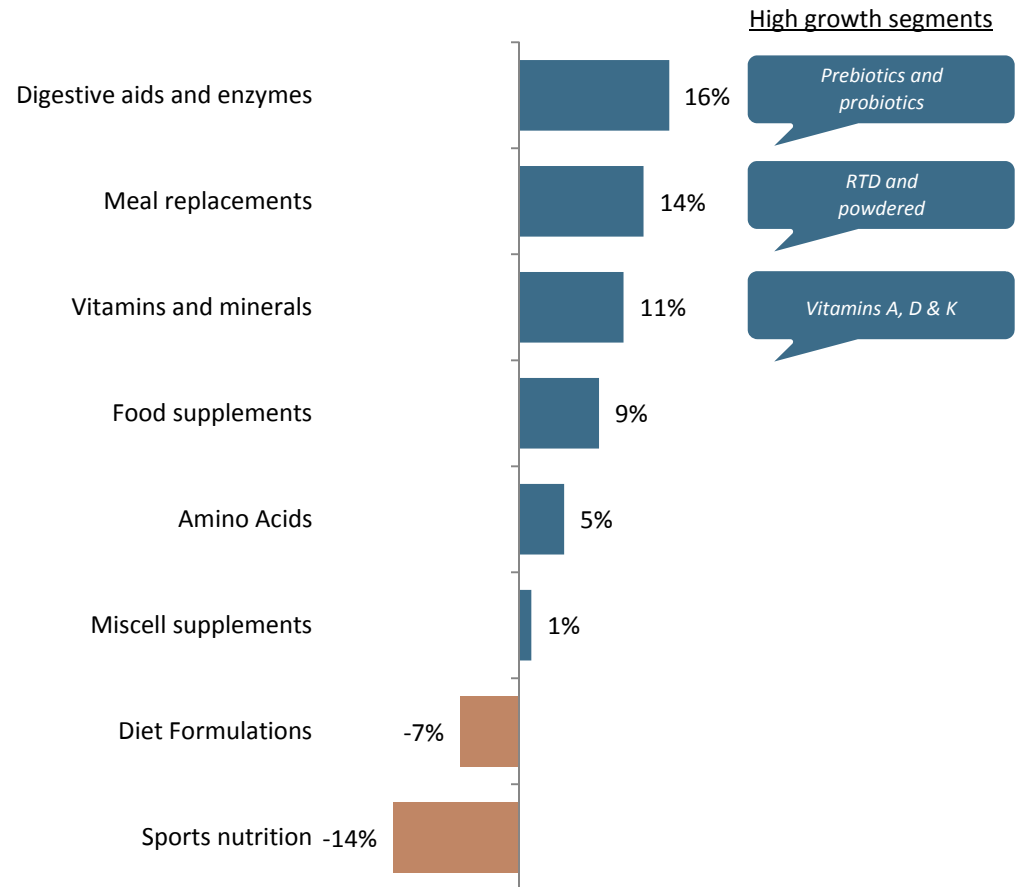
USA SUPPLEMENTS INDUSTRY

The USA has grown its nutritional supplements industry to over US\$28b

USA Supplements industry sales
(US\$m; 2010)



USA Supplements industry sales growth by category in specialist supplement stores
(US\$m; 2009 vs. 2010)



NEW PRODUCTS

New products are constantly emerging; sector growth combined with consumer-eagerness for novelty has led to a more crowded field

Examples of select new natural product derivatives launched (or heavily promoted/marketed) in the last five years
(2006-2011)

New products	Health claims
Chia seeds	Omega-3 and protein rich
Krill oil	Omega-3
Pomegranate oil	General health, skin care
Hawaiian coffee cherry	Antioxidant
Bilberry	Eyesight, heart disease
Lingonberry	Antibacterial, UTI treatment
Tamarind extract	Antibacterial, digestive health
Goji berry extract	Antioxidant, immune regulation
Pumpkin seed oil	Omega-3, prostate health
Cactus fruit extract	Diabetes, hangover, digestion
Brown seaweed extract	Weight loss, skin care, cancer
Broccoli extract	Cancer, immune enhancement
Euphoria fruit (Longan)	Antioxidant, hair loss
Cili fruit	Antioxidant, heart disease
Yumberry	Antioxidant, eyesight, circulation
Sea buckthorn	Skin care, wound healing
Dragonfruit	Diabetes, general health
Kombucha tea	Cancer recovery, liver detox

New products	Health claims
Mulberry	Antioxidant, blood pressure
Agave	Sugar substitute, prebiotic
Sugarbeet fibre	Digestive aid, diabetes
Sugarcane fibre	Digestive aid
Long pepper extract	Nutrient absorption
Grapefruit seed extract	Antibacterial, detoxification
Amla (Indian gooseberry)	Antibacterial, diabetes, immune
Aronia (chokeberries)	Antioxidant, cancer, immune
Camu camu	Antioxidant, mood enhancer
Maca	Menopause, virility, energy
Noni juice	Antioxidant, cancer
Menhaden fish oil	Omega-3
Red yeast rice (fermented)	Heart health
Burdock root	Skin conditions, liver detox, cancer
Barley grass	Inflammation, cancer, aging, heart
Acai	Antioxidant, diabetes
Mangosteen	Anti-inflammatory, heart health

NEW ZEALAND POSITION

In this highly competitive, fashion forward environment, New Zealand's current nutraceutical portfolio is starting to show its age

Profile of key New Zealand nutraceuticals
(#, 2011)

Key New Zealand nutraceuticals	Year bioactivity first identified	Where bioactivity first identified	Current market situation
Deer velvet	?	China	- In decline - Struggling against Viagra
Probiotic	~1935	Japan	- Mature - Widespread use as ingredient
Lactoferrin	1939/1961	USA	- Mature; slowing growth; falling prices - All major global dairy coops now produce
Colostrum	70's-80's	Various	- Growth slowing
Green Lipped mussel extract	1980 (?)	Australia	- Mature
Manuka Honey	1988	New Zealand	- Growth slowing but still strong - Supply constrained
Totanol	1992	United States	- First identified 1937 in NZ - Stable - No clear consumer cut through - Wide range of competing sources
Kiwifruit extract	2001 (?)	United Kingdom	- Mature to decline (?) - No clear consumer cut through

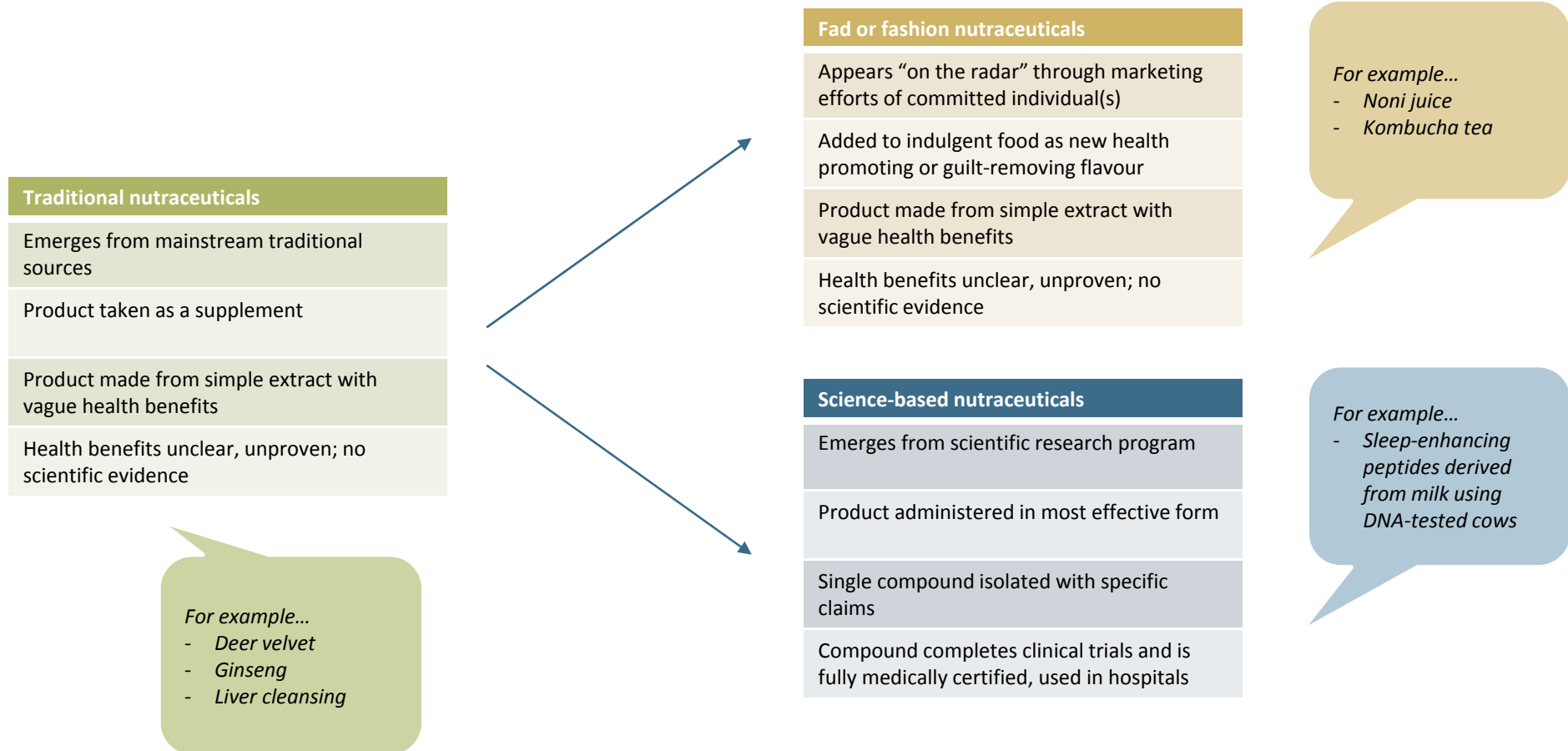
What's hot according to Nutraceuticals World
(1998 vs. 2010)

Hot Herbs 1998	Hot Herbs 2010
<ul style="list-style-type: none"> - Echinacea - St. John's Wort - Kava kava - Ginkgo biloba - Ginseng - Garlic - Saw palmetto 	<ul style="list-style-type: none"> - Acerola - Maca - Maqui - American ginseng - Camu camu - Noni - Pomegranate - Kombucha
<ul style="list-style-type: none"> - Asian - Traditional herbal remedies 	<ul style="list-style-type: none"> - New & trendy - "Superfruit"

INDUSTRY BIFURCATION

The traditional nutraceuticals industry appears to be bifurcating (splitting) into fashion nutraceuticals and science based ones

Proposed model of changing nature of nutraceuticals
(model; 2010)



FAD OR LONG TERM?

There are strong indicators as to whether a new nutraceutical is a likely to be a fad or a long-term success

Requirements for success in nutraceuticals today
(model)

Indicator	Details	Example
Indicators for fad or fashion product (boom and bust cycle)		
Traditional wisdom	- Product derived from indigenous traditions in far away land	- Açai berries consumed by traditional peoples of Brazil for centuries
Scenic source	- Source of product is sourced from highly scenic, romantic or mysterious source	- Hawaiian coffee cherry (aka. unroasted coffee) - Siberian pineapple (aka sea buckthorn)
Unsubstantiated claims	- Unsubstantiated claims product is cure for major heretofore incurable conditions	- Promotional material claiming that Tahitian Noni juice could treat, cure or prevent numerous diseases, including diabetes, clinical depression, haemorrhoids and arthritis
Multiple claims	- New product makes wide range of health claims	- Gac fruit promote energy, enhance the immune and liver functions and can be used to treat skin diseases
Indicators of long-term success (not a fad)		
Immediate effect	- Product provides immediately or rapidly noticeable effect to consumer	- Caffeine in energy drinks - Activa
Aligned with pre-existing concepts	- New usage aligned with historic consumer belief system or product association	- Fruit and health - Yoghurt and health
Actual functionality	- Product delivers on promised health benefits	- Cranberries and urinary tract health in women
Growing scientific support	- Growing body of scientific evidence reinforcing claims - Clinical trials	- Manuka honey and wound healing



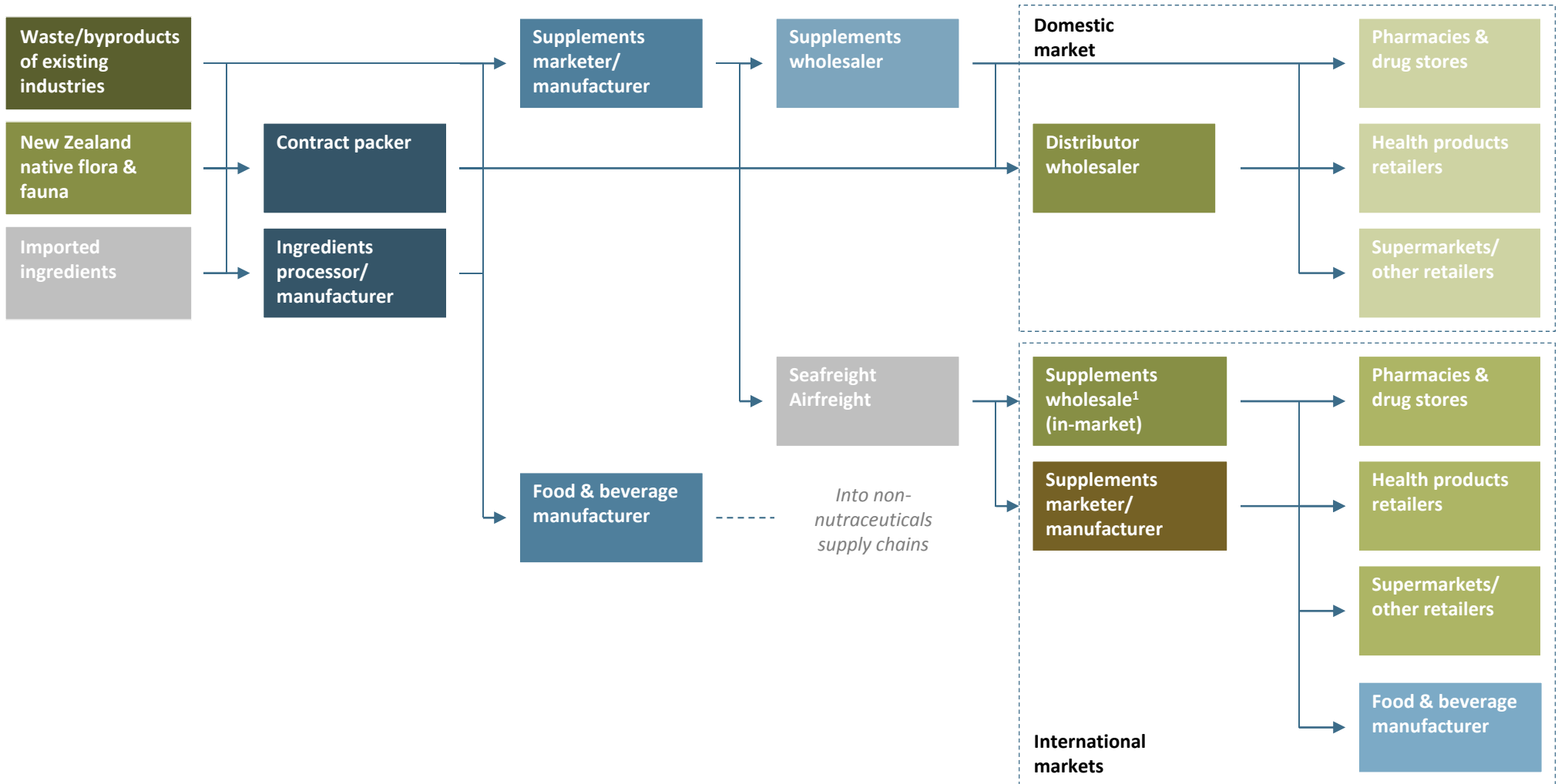
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NUTRACEUTICALS – SUPPLY CHAIN

The nutraceuticals supply chain is relatively simple for any one product

Simplified model of New Zealand nutraceuticals supply chain
(model; ANZSIC codes as available)



NZ PORTFOLIO

New Zealand has a limited portfolio of major nutraceuticals¹; most are by-products, often extracted from waste streams; while clearly defensible, few nutraceuticals are currently from native New Zealand species

New Zealand nutraceuticals by-products of existing sectors
(2010)

Sector	Product	By-product or waste product
Dairy	Milk	Lactoferrin
		Colostrum
Meat	Venison	Deer velvet
Seafood	Green lipped mussel	Green lipped mussel extract
	Seafood	Fish oil
	Shark	Shark cartilage Shark liver oil
Produce	Kiwifruit	Kiwifruit extract
	Blackcurrants	Blackcurrant extract
Beverages	Wine	Grape seed extract
Processed/other	Honey	Bee propolis Bee venom
Forestry	Wood	Pine bark extract

Nutraceuticals derived from NZ native species
(2010)

Species	Product	Origin
Leptospermum scoparium	Manuka honey	- Tree native to NZ and AU
Pseudowintera colorata	Horopito	- Tree native to NZ
Perna canaliculus	Green lipped mussel extract	- Shellfish native to NZ
Podocarpus totara	Totarol	- Tree native to NZ - Substance now known to occur in range of plants (e.g. rosemary)











See detailed analysis in
Appendix 1 and 2

PRESENCE IN SELECT RETAILERS

New Zealand products have had limited success in achieving in-market cut through – Manuka honey key standout to date

Presence of select nutraceuticals in select international retailers
(# of items; May 2011)

Treat as directional
Additional Asian retailers¹

Retail Chain	# of stores	Presence of by-product or waste product [not necessarily from NZ]						NZ-unique			
		Fish oil (all types)	Black currant	Colostrum	Shark cartilage	Deer velvet	Kiwifruit extract	UMF Manuka honey	GL Mussel Extract	Totarol	Horopito
 priceline (Australia)	330	50	8	-	2	-	5 (all cosmetics)	1 (in cosmetic cream)	1	-	-
 coles (Australia)	742	45	1	-	-	-	-	3 (Arataki; Bee Products)	-	-	-
 Walgreens (USA)	7,600	75	1 (seed oil)	1	2	1 (as ingredient)	-	--	1	-	-
 GNC LIVE WELL. (USA, other)	6,000	126	-	1	1	2	-	-	-	-	-
 Boots (UK, other)	3,250	80	17	-	1	-	-	5 (Comvita; Golden Hills)	1	-	-
 Lloyds pharmacy Healthcare for life (UK)	1,600+	72	15	-	-	-	-	10 (Comvita; Green Bay)	1	-	-
 SHOPPERS DRUG MART (Canada)	1,149	18	2 (1 seed oil)	-	1	-	-	-	-	-	-
 mypharmacy (Singapore)	Online only	6 (Healtheries; other)	-	1 (Ripple [NZ])	1	-	1 (as ingredient)	5 (Comvita; Woodland's)	-	-	-

Note: Non NZ-unique mostly do not list source of raw materials; clearly not all NZ sources (particularly fish oil, blackcurrant and shark cartilage)

IDENTIFIED BUSINESS MODELS

There are three broad business models for firms involved in nutraceuticals and functional foods – marketing, manufacturing and IP

Identified business models in nutraceuticals
(model)

	Marketing focus 1	Manufacturing focus 2		IP focus 3
	Supplements marketer	Contract packer	Ingredients manufacturer	
Description	Firm marketing nutraceutical supplements to consumers	Firm processing/packing supplements into a consumer-ready form (capsule, pills, etc.)	Firm refining raw organic material into isolated/concentrated form	Firm spun-out of government funded research with some level of IP protection
Point of leverage / driver of success	<ul style="list-style-type: none"> - Strong, trusted, historical/heritage brands at retail - Ongoing advertising and promotional spending - Large salesforce able to regularly visit and sell into retail channels (e.g. health stores) - Own manufacturing plant 	<ul style="list-style-type: none"> - Large scale production lines using modern equipment - Efficient manufacturing processes - Large factory throughput 	<ul style="list-style-type: none"> - Per contract packer plus... - Location near raw material supply (if perishable) - Access to raw material (if waste product of existing process) - IP protection around process or product 	<ul style="list-style-type: none"> - Strength of IP protection - Capital to finance clinical trials - Ability to raise capital from government or VC - Ability to sell discovery - Size of health segment
Barriers to entry	<ul style="list-style-type: none"> - Limited shelf space already full of existing brands - Retailers wanting fewer not more brands - Achieving scale to be able to visit individual accounts/stores 	<ul style="list-style-type: none"> - Government regulations - Certification requirements - Capital cost - Existing contracts and relationships 	<ul style="list-style-type: none"> - Limited market size controlling number of refiners possible at scale - Process or product IP - Capital requirement 	<ul style="list-style-type: none"> - IP protection - Difficulty of production or extraction process
Winners	<ul style="list-style-type: none"> - Existing category leader who add new "flavour" to range - Global F&B multi-nationals and leading regional players in category 	<ul style="list-style-type: none"> - If generic, global manufacturer with largest scale in product (e.g. vitamin c) - If region-specific, regional refiner/processor with largest scale 	<ul style="list-style-type: none"> - Firms with access to raw materials from existing activity - Firms already refining similar products - Firms with strong IP 	<ul style="list-style-type: none"> - Firms that sell out for a good price
Strugglers	<ul style="list-style-type: none"> - Undercapitalised single-product startups - Me-too late entrants without leverage 			<ul style="list-style-type: none"> - Firms without strong IP

EVOLUTION OF FIRMS AND BUSINESS MODELS

Firms in the nutraceuticals space go through common evolutionary pathways

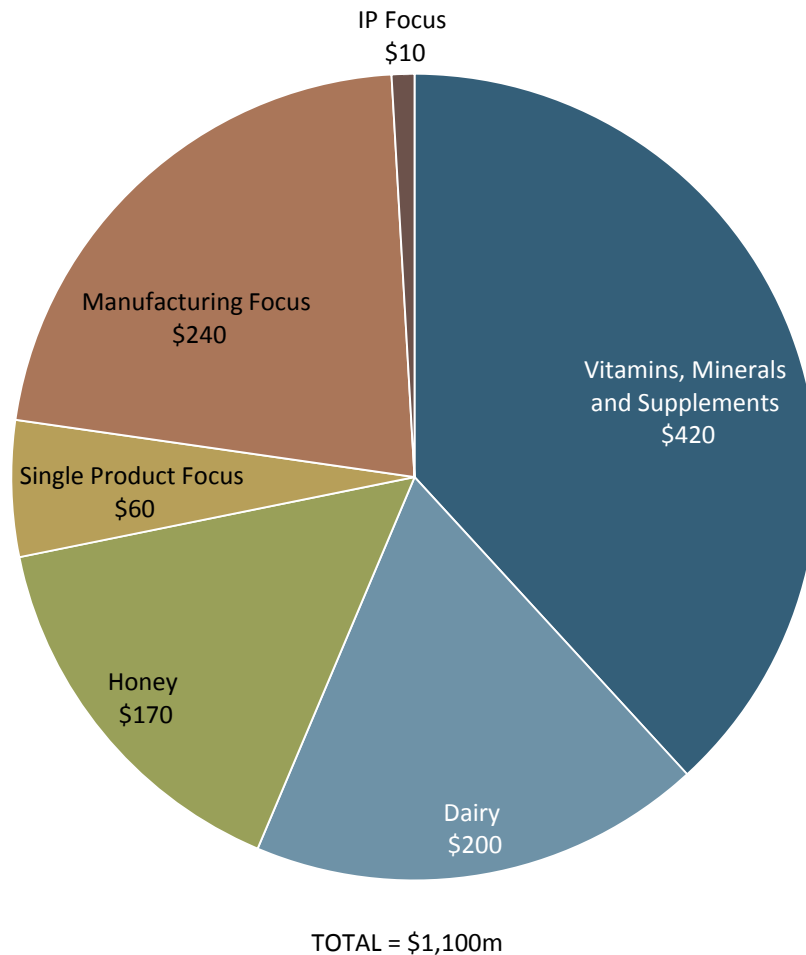
Simplified model of how nutraceutical-focused firms evolve over time
(model)

Stage I	Stage II	Stage III	Stage IV
1 Marketing focus			
<ul style="list-style-type: none"> - New category of nutraceutical is discovered¹ or comes to light due to research or new waste product becomes available² - Passionate individual develops strong belief in product due to personal experience - Startup is formed and develops prototype production equipment - Product is contract packed by others - Firm achieves initial success due to lack of competition and novelty factor 	<ul style="list-style-type: none"> - Category becomes more crowded as new firms enter - New firms use contract packers rather than invest in production capacity - Category growth rate slows as novelty wears off (no longer the “new” thing) - Firms either invest in own production capacity or remain contract packed - Firms often move into alternative marketing and distribution systems (e.g. online, multi-level marketing) 	<ul style="list-style-type: none"> - Large marketers notice category and launch products - Existing players launch new products in new categories to leverage fixed costs - Smaller me-too players struggle and often go out of business - Effectiveness of product is questioned or challenged by further research 	<ul style="list-style-type: none"> - No single product firms remain; surviving startups now broad range marketers - Now just a “flavour” for existing big players - Product has found its level in the market with growth at or below general sector growth
2 Manufacturing focus			
<ul style="list-style-type: none"> - Person with engineering or manufacturing experience identifies specific niche process opportunity - Startup is formed, often using mixture of off-the-shelf and self-designed equipment 	<ul style="list-style-type: none"> - Firm has high capital cost relative to sales - Firm seeks volume by fully leveraging capabilities of process/equipment 	<ul style="list-style-type: none"> - Firm expands into new underserved areas - Hands-on founder ensures production process is innovative and efficient - Full service one-stop-shop product development/packaging design 	<ul style="list-style-type: none"> - Industry consolidation - Firms now large, full range suppliers - Increasing emphasis on R&D - Attempts to develop proprietary ingredients
3 IP focus			
<ul style="list-style-type: none"> - Government funded research leads to new product or process IP - IP is relatively weak (i.e. not a patentable drug/NME³) 	<ul style="list-style-type: none"> - Inventor starts firm which may move into government funded incubator - Firm might receive matched government funding for R&D - Firm raises additional outside capital diluting ownership of founder 	<ul style="list-style-type: none"> - Firm launches product containing compound - Firm often poor marketing skills - Success more difficult than anticipated - Firms changes focus to licensing 	<ul style="list-style-type: none"> - Firm either: <ol style="list-style-type: none"> 1. runs out of cash 2. is acquired by major player 3. metamorphoses into manufacturer or marketer (above)

NEW ZEALAND – INDUSTRY TURNOVER

We estimate aggregate turnover of firms in nutraceuticals is ~\$1b

Estimated size of New Zealand nutraceuticals industry
(NZ\$m; 2010)



CAUTION: turnover here includes significant non-nutraceutical products (e.g. non-UMF honey)
- Includes non-NZ sales on non-NZ products (e.g. Vitaco Australia)

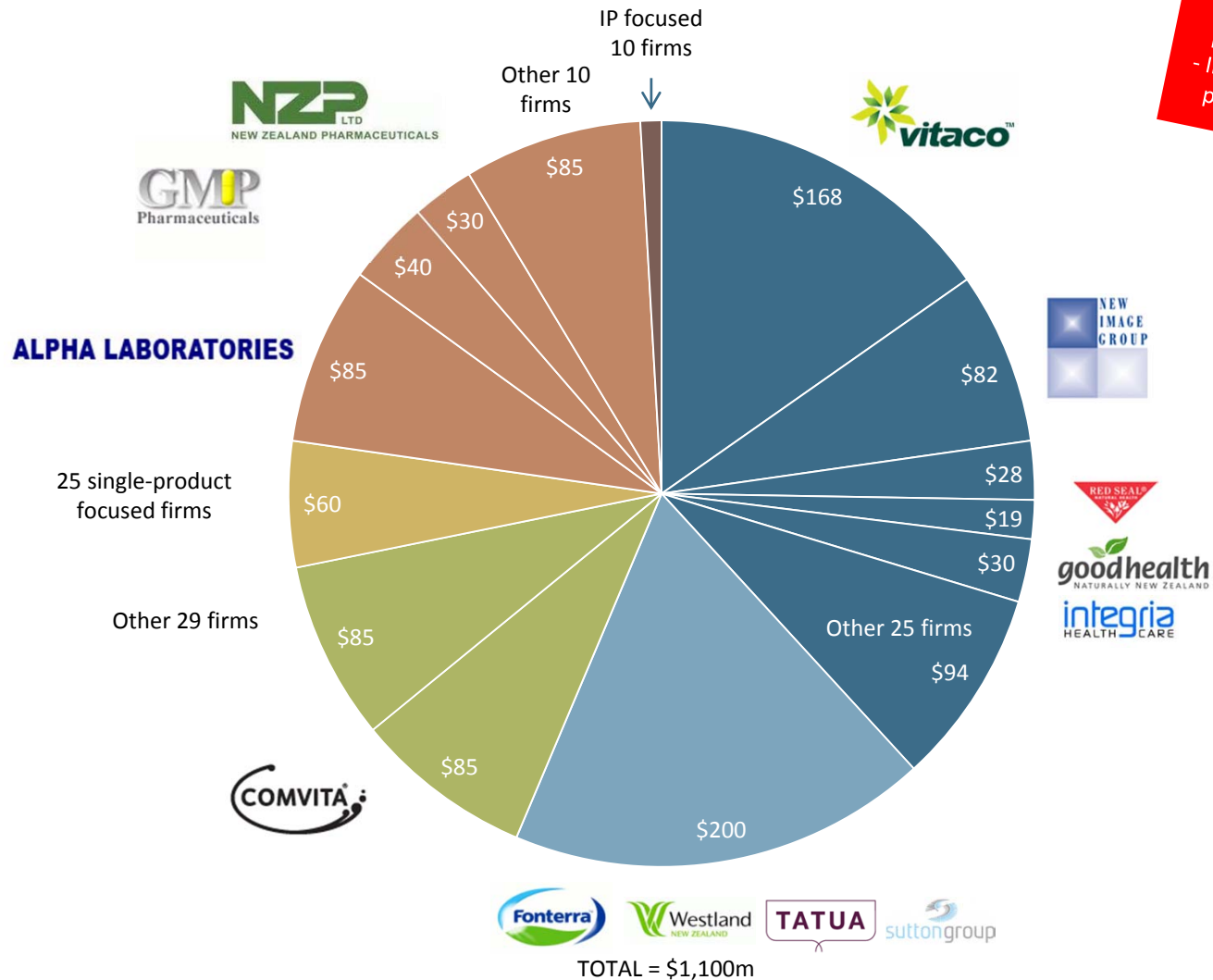
Comments/Notes

- As discussed elsewhere, there is no reliable publicly available source of industry size data
- Our analysis is preliminary and should be treated as directional
- This analysis has significant limitations, for example:
 - Honey is currently all honey not just UMF manuka honey
 - Supplements includes vitamins and minerals
 - Dairy is a Coriolis “back of the envelope” estimate subject to revision; excludes Fonterra’s Anlene and Annum
 - The total is built up from an aggregation of identified firms turnover however most of these turnovers are themselves estimates
 - Most firms use total sales not nutraceutical component of sales

NEW ZEALAND – INDUSTRY TURNOVER

Breaking out the key firms from total highlights the relative level of consolidation by sector

Estimated size of New Zealand nutraceuticals industry
(NZ\$m; 2010)



CAUTION: turnover here includes significant non-nutraceutical products (e.g. non-UMF honey) - Includes non-NZ sales on non-NZ products (e.g. Vitaco Australia)

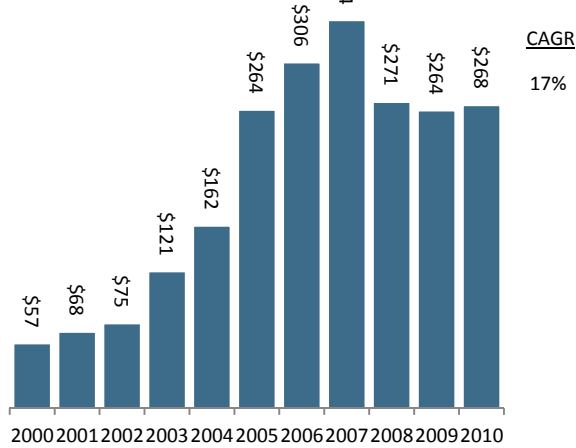
NUTRACEUTICALS ETC. - EXPORTS BY TYPE

It is difficult to untangle most nutraceuticals from the trade data; available data shows “other food preparations not elsewhere specified”¹ and honey as the main successes

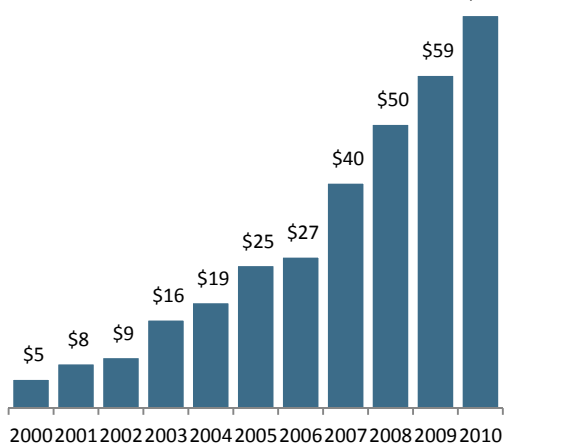
Nutraceutical exports by type
(US\$m; 2000-2010)

Total = US\$369 (2010)

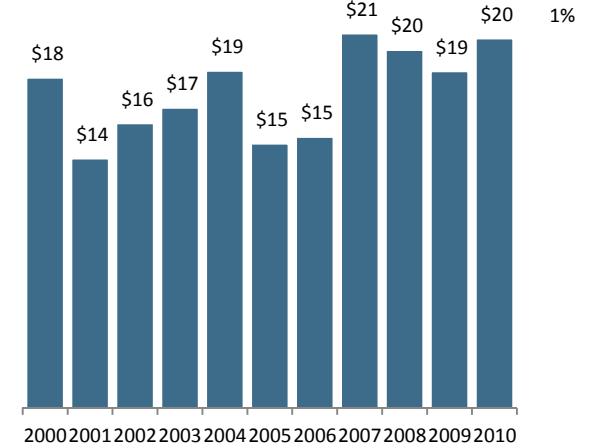
Other food preparations nes¹
(HS 2016.90)



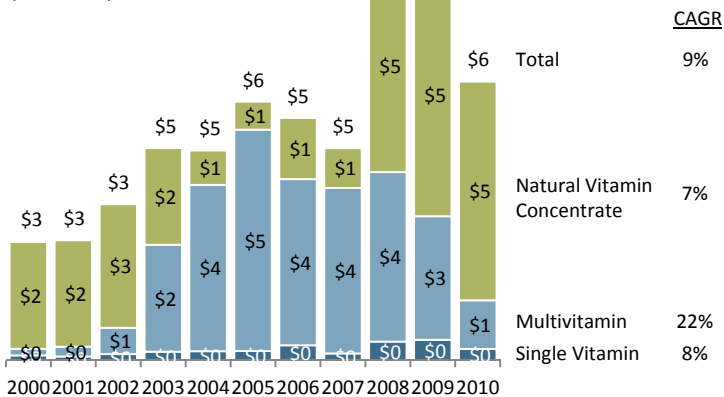
Honey
(HS 0409)



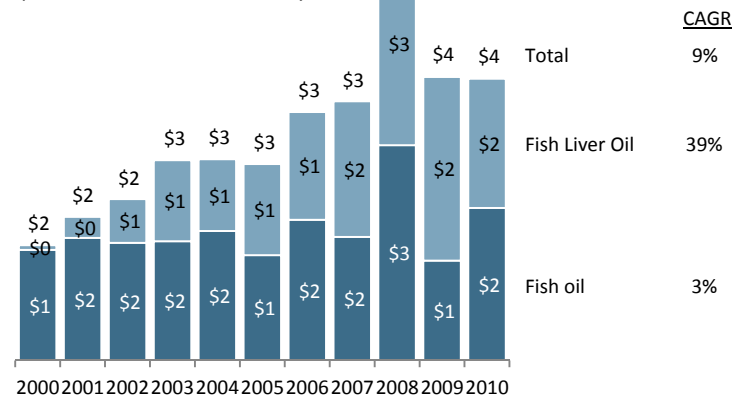
Deer Velvet
(HS 0507.90)



Vitamins
(HS 2936)



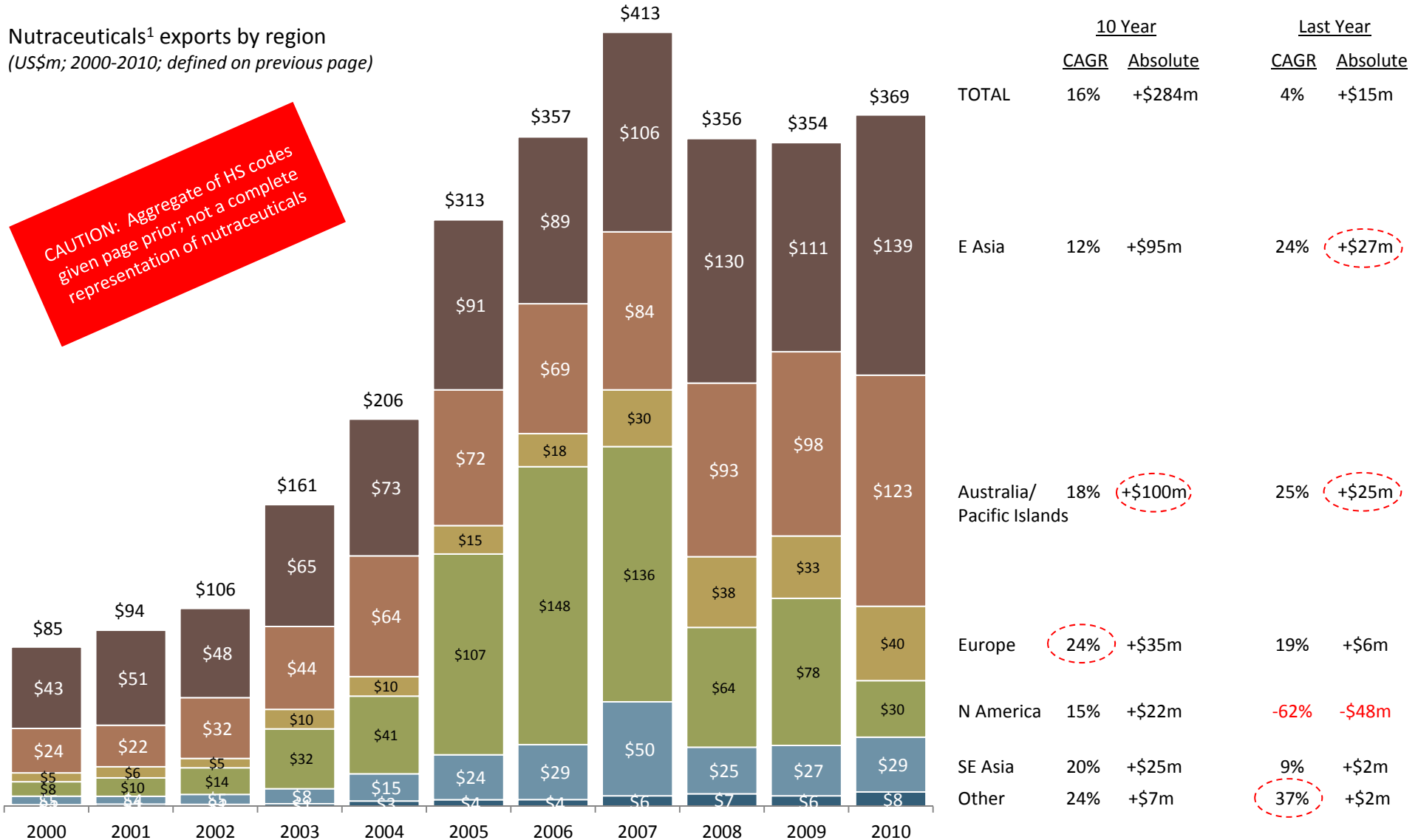
Fish Oil
(HS 1504.10 + HS 1504.20)



NUTRACEUTICALS ETC. - EXPORTS BY REGION

It is difficult to untangle most nutraceuticals from the trade data; however available data shows all regions are showing good growth except for recently in North America

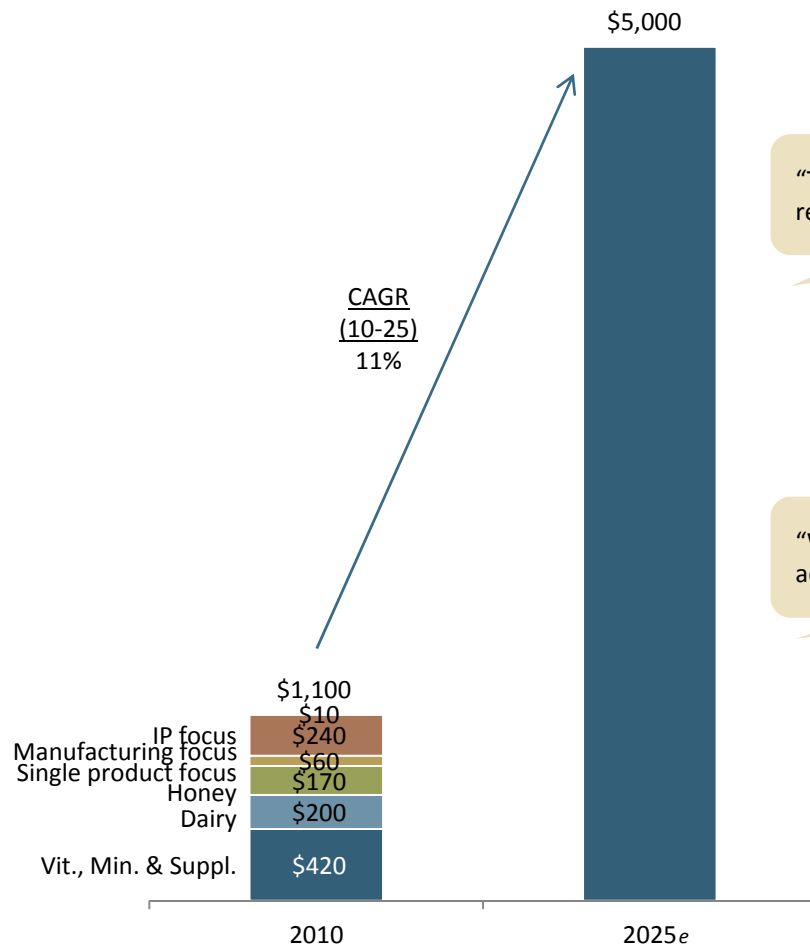
Nutraceuticals¹ exports by region
(US\$m; 2000-2010; defined on previous page)



WHAT IS THE FUTURE OF NUTRACEUTICALS

Industry body NZ Natural Products has articulated a growth target of \$5 billion by 2025; this will require 11% growth year on year

Nutraceuticals industry size
(NZ\$m; 2010 vs. 2025estimate)



“To achieve this growth... we just need to remove a lot of barriers.”

“We really need to focus our efforts to achieve this growth.”

Comments/Notes

- Where will growth come from? Ingredients or branded products?
- As discussed elsewhere, there is no reliable publicly available source of industry size data
- Our analysis is preliminary and should be treated as directional
- Industry goal also includes cosmetics (See Appendix)



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THREE KEY OBSERVATIONS

Interviews with industry participants identified three key themes for driving the growth and development of the New Zealand nutraceuticals sector

	1 The Industry must be legitimate and credible	2 Industry collaboration and consolidation is required	3 Industry and science must align
Present	<ul style="list-style-type: none"> - Outdated legislation - Fragmented product level standards - Complex export country requirements 	<ul style="list-style-type: none"> - Highly fragmented - Small under-resourced companies - Unsophisticated businesses 	<ul style="list-style-type: none"> - Limited collaboration - Limited commercialisation success stories - Lack of knowledge of each others business
Future	<ul style="list-style-type: none"> - Clear and directional legislation (e.g. proposed Natural Products Reform Bill) - Individual products aligning standards (e.g. honey industry) - Information provided to assist in interpreting and understanding in-market rules - NZ seen as a legitimate, trusted and safe industry 	<ul style="list-style-type: none"> - Large sophisticated companies - Joint venture marketing and scientific research - Align around unique NZ themes and natural strengths 	<ul style="list-style-type: none"> - Fully Integrated science and industry relationships - Positive relationship fostering new products - Focused on market-driven products - Balanced approach to blue skies and applied research

OBSERVATIONS

Observation 1: the industry must become legitimate and credible

	Observation
1	Legitimate & credible
2	Collaborate and consolidate
3	Industry & science alignment

1 WHAT ARE NATURAL NEW ZEALAND PRODUCTS?

All industry participants spoken with want customers to see them as a legitimate industry with a credible and unique product

Common phrases used by industry participants in interviews
(2011)



1 LEGITIMATE & CREDIBLE

The NZ industry must exist within a legitimate regulatory environment

- “It is important that we are legitimate. The industry has to be sustainable, traceable, transparent, be conscious of animal welfare etc. We got into trouble with our possum skins being sprayed red in stores, “even eco fur is fur”. With deer velvet, there needs to be animal welfare considerations. With the shark cartilage, it needs to be sustainably harvested.” *Industry representative, NZ, 2011*
- “Australia has the best regulatory environment in the world. New Zealand is about to upgrade its Bill. It’s the wild west in New Zealand, there are softer regulations than in China. You can make tablets in your backyard and get away with it. We need to be replicating Australia's TGA [Therapeutic Goods Administration]. Our manufacturing standards need to be higher. We need credibility and to maintain a reputation internationally as exporters. You get that by having a good regulatory environment.” *CEO, medium manufacturing/marketing company, 2011*
- “You have to step up to the mark or get left behind.” *Industry representative, NZ, 2011*
- “Some people open a company in New Zealand; they put the company address on the label, so its looks like it is made in New Zealand. This is misleading the public. There needs to be government regulation on labeling. You should have to have a manufacturing number and have country of origin on the label. It all hurts New Zealand.” *CEO, Medium-sized, manufacturing company, 2011*
- “There is a lot of snake oil under the dietary supplement regulations.” *Manager, large manufacturing company, 2011*

1 LEGITIMATE & CREDIBLE

Companies feel “Brand New Zealand” is at risk from “dodgy” operators and counterfeiting

- “There is the dodgy colostrum. Companies buy NZ skim and whole milk and use imported colostrum and sell it as “Product of NZ.” Who knows where the colostrum is from and what the dairy cows have been eating while they are in the barns? Consumers know NZ dairy products are all free range, pasture fed. That is happening with bee propolis as well.” *Managing Director, NZ Company, 2011*
- “How do we sell NZ Inc. if the product is not grown in NZ? Labels shouldn’t be saying grown in NZ if its not. That is a risk to NZ Inc.” *Industry representative, NZ, 2011*
- “Companies are cutting costs by starting to manufacture in New Zealand, but the factory isn’t even stainless steel. What sort of dodgy plant is that?” *Marketing Manager., medium-sized manufacturing company, 2011*
- “Honey companies are bringing in their Royal Jelly from China; colostrum from the US is cheaper than NZ Colostrum, so its brought into NZ. Not sure how that is “made in NZ?” *GM, Medium sized, NZ Company, 2011*
- “Some companies are not sourcing NZ made product. We need to get rid of all the shit players. We have a really big problem of misrepresentation of New Zealand globally and it could really damage us in the next 5-10 years. We might not have an industry.” *Marketing Manager., medium-sized manufacturing company, 2011*
- “There is a lot of counterfeiting of New Zealand products, especially in China. This happens with beef, milk, wine, infant formula, a lot of foods. We need to join together to stop counterfeiting. If says it is “made in NZ,” it must be. There are only a few factories in New Zealand. We all know what our products look like.” *CEO, Medium-sized, manufacturing company, 2011*
- “There are a lot of dubious shelf companies in New Zealand, trading off New Zealand’s good name. Its pretty unethical what is going on. Contract packers don’t care what they are selling and where it is going. There are a lot of false claims. It will only take one good scare.” *CEO, large manufacturing/marketing company, 2011*

1 LEGITIMATE & CREDIBLE

The “Natural Health Products Bill” would appear to address many of the concerns of industry

	Ministry of Health development of the New Zealand Natural Health Products Bill
Purpose and Principle	The purpose of the bill is “to provide assurance to consumers that natural health products are safe, true to claim and true to label.”
Key elements of the proposed scheme are:	<ul style="list-style-type: none"> - product approval, based on notification of products on a database - recognition of the decisions of trusted overseas regulators, where appropriate - a list of prohibited ingredients - a list of permitted ingredients and a process for adding new ingredients - a list of permitted low-level natural health products claims - labeling requirements - advertising rules - export certification, where it would assist companies to access overseas markets - a tailor-made manufacturing code of practice
Next Steps	<ul style="list-style-type: none"> - Passed its first reading in September 2011

USA Activity

Natural Products Foundation, USA, announced an independent initiative that involves random product testing and weeding out misleading advertisements. “We want to make sure everyone plays by the rules.” Executive Director, NPD, Aug 2007

US Federal Trade Commission focused in the last few years on the “deceptive” claims of POM Wonderful, Daniel Chapter One, Acai berries, Nestlé’s Boost Kid Essentials

EU – 2010 (European Food Safety Authority) manufacturers claims required to be supported by scientific data

1 LEGITIMATE & CREDIBLE

Exporters find international regulations and standards are very difficult to keep up with

- “Its very difficult, there are country to country regulations, they are difficult everywhere. In places like China the regulations change all the time. Its not clear what the regulations mean, they are not transparent. There could be government assistance to help with this. If they helped out it would benefit many.” *CEO, Medium-sized manufacturing company, 2011*
- “Some countries are such a pain to get into. It can take a couple of months to get one product into China, but do it right and you are OK. The corruption is disgraceful.” *Marketing Manager., medium-sized manufacturing company, 2011*
- “There are massive regulatory barriers in the sector.” *Manager, large manufacturing company, June 2011*
- “No claims get through on the labeling. An immunity medical claim makes a product pharmaceutical, but immunity can be a therapeutic good... It is easy for a product to overstep the mark with their claims. Sometimes they don't live up to their evidence.” *Manager, large manufacturing company, 2011*
- “R&D is a double edged sword. You spend \$100,000 to prove something like the efficacy of product but you can't publicise any claims, or you aren't a supplement you are a medicine and you need to register. In Hong Kong for example they changed their regulations and we had a re-register as a health product not pharmacy. Its hard to keep up with all the rules.” *GM, Medium-sized, NZ Company, 2011*

1 LEGITIMATE & CREDIBLE
































The honey industry have been in court over ratings, standards and payments for a number of years

- "Over the past year, the association has spent significant sums of money to employ professional investigators and take action to remove license holders' rights to use the mark if their product was found not to be true to label," *John Rawcliffe, AMAH GM, Dec 2008*
- "The industry had been stunned by the ending of a 15-year relationship between Professor Peter Molan and the Active Manuka Honey Association which runs the UMF test system he created." *Kerry Paul, CEO Manuka Health NZ, article, Dec 2008*
- "The industry leaders must think of the collective good. The present situation is not good for anyone and it puts New Zealand's reputation at risk." *National MP Paul Hutchison, article, May 2009*
- "[The industry] has got all the potential of being a very large and sustainable industry for New Zealand, reforesting New Zealand and bringing employment to poorer communities. If we could just align our interests and stop the squabbling, everyone could benefit." *Brett Hewlett, Comvita article, May 2009*
- "The feuding is a financial drain on the association and the companies involved, the biggest risk to the manuka honey industry comes from the amount of dubious manuka honey on the shelves, and a warring industry cannot deal with that." *article, May 2009*
- "Professor Molan said [by having an independent system] he was acting in the best interests of the industry: "If people are having doubts about the credibility and reliability of what they are being told, they will start to wonder if they can believe anything they have been told about manuka honey. That threat is particularly pointed as the highest value use for manuka honey is in wound dressings, so any taint of scandal could be hugely damaging." *article, May 2009*
- "The behaviour of the honey industry companies is appalling, it's a disaster. They need a common standard, they have UMF factor, and MGO rating system who knows what else. They are sending mixed messages. They need to work together and coordinate. Comvita did such a dam good job but fell out with Waikato University. They took them to court and lost. The industry is suffering. Its not until you get out of NZ that you realise how tiny we are and realise that we need to work together. Everyone is really competitive in NZ but our competition should be the world not each other, we are too small." *CEO, NZ Company, June 2011*
- Comvita and WaikatoLink in the high court over representations of research results involved with isolating and classifying the active compound behind UMF™ Manuka honey (resolved in June 2010) .
- "Honey put such negative media onto themselves, all the infighting and the public spats. They really need to work together. They are not doing themselves any good." *Industry Representative, June 2011*

1 LEGITIMATE & CREDIBLE

There is call for the existing honey classifications and standards to be aligned; it is currently confusing consumers

“The honey sector needs to work together, it is a disgrace.”
 CEO, Nutraceutical Company,
 June 2011

Company	Trademark	Example standards	Measures	Notes															
		<table border="1"> <thead> <tr> <th>Product</th> <th>Methylglyoxal, mg/kg</th> <th>Strength</th> </tr> </thead> <tbody> <tr> <td> MGO™ 100 Manuka</td> <td>100 mg/kg</td> <td>MINIMUM</td> </tr> <tr> <td> MGO™ 250 Manuka</td> <td>250 mg/kg</td> <td></td> </tr> <tr> <td> MGO™ 400 Manuka</td> <td>400 mg/kg</td> <td></td> </tr> <tr> <td> MGO™ 550 Manuka</td> <td>550 mg/kg</td> <td></td> </tr> </tbody> </table>	Product	Methylglyoxal, mg/kg	Strength	 MGO™ 100 Manuka	100 mg/kg	MINIMUM	 MGO™ 250 Manuka	250 mg/kg		 MGO™ 400 Manuka	400 mg/kg		 MGO™ 550 Manuka	550 mg/kg		methylglyoxal content	Developed in University of Dresden 2007
Product	Methylglyoxal, mg/kg	Strength																	
 MGO™ 100 Manuka	100 mg/kg	MINIMUM																	
 MGO™ 250 Manuka	250 mg/kg																		
 MGO™ 400 Manuka	400 mg/kg																		
 MGO™ 550 Manuka	550 mg/kg																		
	UMF® (Active Manuka Honey Association)	<ol style="list-style-type: none"> 1. COMVITA ACTIVE 5+ MANUKA HONEY 250g (code 110), 500g (code 111), 1kg (code 112)  2. COMVITA UMF® 10+ MANUKA HONEY 500g (code 373)  3. COMVITA UMF® 15+ MANUKA HONEY 250g (code 555)  4. COMVITA UMF® 20+ MANUKA HONEY 250g (code 388)  	“Active Unique Manuka Factor” – identify non-peroxide antibacterial activity	28 NZ licensed users      															
	Molan Gold Standard™	 Original manuka activity  Defensive Antioxidant Capacity (D-AXC™)  Pre-emptive Antioxidant Activity (P-AXC™) 	antibacterial activity, defensive antioxidant capacity (D-AXC™) and pre-emptive antioxidant capacity (P-AXC™)	Professor Molan – University of Waikato Use Active 10+, 15+ 20+ and 25+ 															

1 LEGITIMATE & CREDIBLE

Many players feel that science will legitimise products and aid sales

- “It is important that we have a bias towards clinical based evidence. We can’t be competing from the bottom end, we need to be up with the sciences. Pseudo science gets discredited, if something has dodgy efficacy, and will be found out. Clinical trials and real science has validity. We have to differentiate our products with science. Once you have science it is like a barrier to entry for others.” *Industry representative, NZ, June 2011*
- “Our main basis is finding scientific foundations. We adopt a scientific approach. Our key development is to come from a natural products perspective using strong technology like combining manuka honey for wound care. There is a big opportunity with professional organisations; hospitals, the retirement sector, burns facilities etc. We use the science capability in NZ and offshore. There are huge opportunities in Medical Foods, cosmeceuticals, ingredients. There is low market awareness of manuka honey, the opportunity is huge.” *MD, Honey Company, June 2011*
- “To win you need science. Five years ago it didn’t matter, but now you need science to back you up. You can source your ingredients from a big company that has done the science and use that.” *CEO, large manufacturing/marketing company, 2011*
- “Well-researched supplements such as vitamin D, fish oil and omega-3s will continue to post robust sales in the future—a testament to the fact that good science helps drive business.” *Council for Responsible Nutrition, USA*
- “Natural medicines have to be evidence based. This is the only way.” *CEO, medium manufacturing company, 2011*

1 LEGITIMATE & CREDIBLE

Honey companies are moving into wound care and honey impregnated dressings and bandages

Company	Brand	Example	Notes
			100% Medihoney™ Antibacterial Medical Honey. Medihoney wound dressing registered in USA, FDA in 2007
			JV with Links Medical MANUKAppli is the sterile wound gel dressing made with Molan Gold Standard of 16. bacteriostatic ¹ , anti-inflammatory ¹ , and antioxidant ^{2,3} healing properties

“We have the lozenges, and cream which are USDA FDA approved. We have a 50:50 partnership. We own the IP, manufacture and develop and J&J distribute and we collect the royalties. We are also looking at the anti-viral applications of the honey.” *Owner, honey company, 2010*

Funding for Manuka Honey R&D “to determine the economics and environmental influence of honey production... how local ecosystems effect yields and activity levels.” *Comvita, May 2011*

“You get the big companies to develop the story, the science and trials, they can afford it. Then you champion the hospitals and doctors and build momentum from there.” *Business Manager, medium-sized manufacturer, NZ, June 2011*

OBSERVATIONS

Observation 2: industry collaboration and consolidation are required

	Observation
1	Legitimate & credible
2	Collaborate and consolidate
3	Industry & science alignment

2 CONSOLIDATION

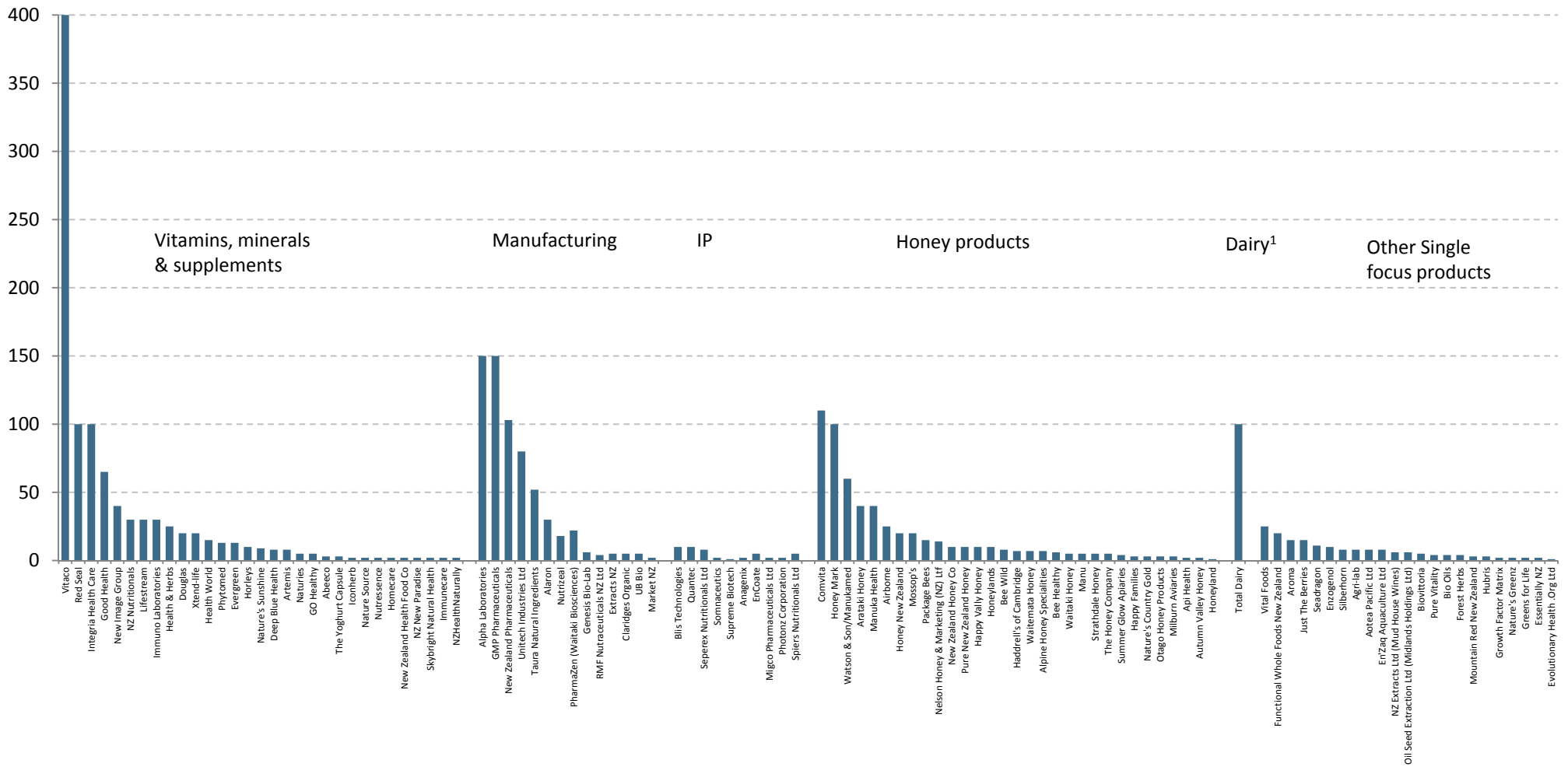
Many companies identified scale as one of the biggest issues in the sector

- “Scale is a huge issue in NZ. I would love to see more vertical integration right through from the raw material to the brands.” *Industry representative, NZ*
- “It is very difficult for small NZ nutraceuticals companies to export by themselves, there is so much to know and learn.” *CEO, Medium-sized, manufacturing company*
- “We are not pioneers in R&D anymore. We don’t have big enough companies. They are all piddly ass players.” *Marketing Manager., medium-sized manufacturing company*
- “You have to have scale and volume to be cost effective in your plant. It is more cost effective to be in NZ than Australia with plants.” *CEO, Medium-sized, manufacturing/marketing company*
- “For little guys they may have a product they think is great, but they cant afford the science, or know how to commercialise it. That’s why it doesn’t get past niche.” *CEO, medium manufacturing/marketing company, June 2011*
- “The life cycle of the product changes, when you are young and a new ingredient you need some claims and you move into the health food stores and health chains, and independents, you need a big sales team and that is hard and expensive. In these channels the consumer needs more advice. As a product becomes more mainstream it can go into a pharmacy or supermarket. The margins are much better at the health store level but there isn’t enough scale. Look at Australia their natural health market (supplements and vitamins) is \$1.4b in NZ its \$250m” *CEO, medium manufacturing/marketing company, June 2011*
- “The smaller companies are a pain, they are entrepreneurs who play the market and develop a story with their nutraceutical product and try to get the message out. But the science is really difficult. If there was real science the big companies would be in there.” *Business Manager, medium-sized manufacturer, NZ, June 2011*
- “In our business, we need 40-50 products through different stages of their life cycle. We need to have that critical mass to make money.” *Business Manager, medium-sized manufacturer, NZ, June 2011*
- “With nutraceuticals there is no clear marketing line you can use. People are more used to the pharmaceutical way which is visit doctors, get prescribed an IP protected medicine you can use and get results. Natural products are more subtle, a bit hippy, you’re not sure it is working, there is no IP therefore there are lots of little companies involved.” *Business Manager, medium-sized manufacturer, NZ, June 2011*

2 CONSOLIDATION

The majority of the identified New Zealand companies are small, there are few companies with any scale

Employee number of identified industry players
(actual #; most recent year available)



2 COLLABORATE

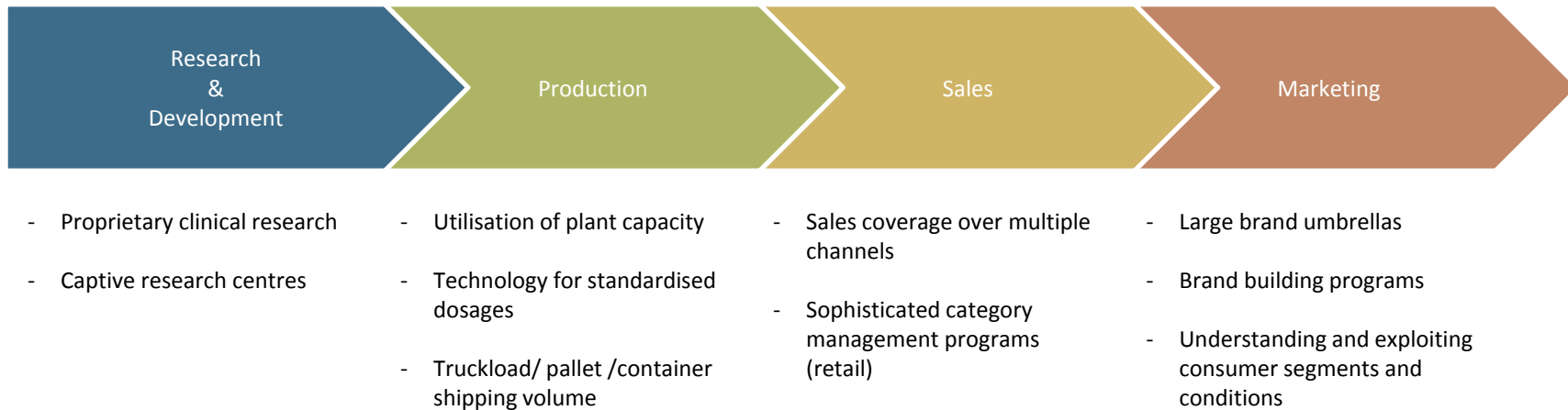
Interviewees identified the need for more collaboration among New Zealand firms

- “It’s a real shame that some of the bigger companies like Fonterra, Talleys, Sealord, Sanford, a lot of big players don’t nurture smaller companies and assist this off-side industry. They should be building capabilities and knowledge now, understanding the market, develop relationships, potential customers etc. There is low to no support; the industry is barely tolerated. They are 50 years behind the world leaders. It is sad, frustrating and irresponsible.” *CEO, medium-sized manufacturing company, 2011*
- “...In NZ we tend to think that the company down the road is competition, they don’t want to share anything, but if they understood each others business and started with low risk arrangements like supply chain then move into more high risk ventures it could work. They slag each other but if smart enough they would work together. In the US a company will take 5% in NZ they want 50% ownership.” *Industry representative, NZ*
- “The economic argument for the sector is not always clear. It is difficult to get shelf space, there is a lot of competition, there are some big names in the area. We have some smart companies like Vitaco and Comvita, they raise the sector. Can others leverage off their brands? Maybe we need to stop creating new brands and start leveraging the ones we already have. Why not work together more.” *Industry representative, NZ*
- “There is a mentality in NZ, it is a protective attitude. They want to do it all, or not at all. The seafood sector won’t work together. They should work together and share profits, it would make such a big difference. Seafood research is different from their core business. They are commodity players, to pull out tonnes of fish and put a few aside for us is too hard, why bother.” *Scientist, NZ*
- “We can work as a team with in-market sales. We can get really good people in market who are product specialists supporting a few companies. It’s expensive but effective.” *Scientist, NZ*
- “We give companies the potential to export into China. They use our system to distribute and access China from NZ. It is a challenge for a small company to get into China, there are lot of bottle necks. We have opened stores in China to sell NZ and Australia products.” *CEO, medium-sized manufacturing Company*
- “We could work with others, we could do the smaller runs and Fonterra could do the large runs. They don’t want to bother with small jobs. I think there is a real opportunity there.” *Business Manager, medium-sized manufacturer, NZ, June 2011*

2 CONSOLIDATION

There are a wide range of points in the supply chain that would benefit from increased economies of scale, either through collaboration or consolidation

Key areas of supply chain for driving economies of scale in nutraceuticals sector
(model)



GMP is providing a portal and common platform to sell NZ and Australian products into China. "New Zealand small and medium businesses can not handle themselves in China. There is a huge bottle neck. There is a huge opportunity in China."

2 NUTRACEUTICALS – TRANSACTIONS

There have been a handful of identified transactions in the nutraceuticals sector in New Zealand

Recent major nutraceutical industry transactions (2006-2011)

Date	Acquirer	Target	Price	Details
2011	Comvita	Kiwi Extracts (Extracts NZ)	N/A	- Acquired remaining 67% share of business to secure propolis supply chain
Apr 2011	Tate & Lyle	BioVittoria		- Agreement for global distribution and sales ; market under T&L "Purefruit" brand. 12% stake
Feb 2011	"A major British listed firm"	omega-3 fish oil intellectual property and processing technology from Speirs Nutritionals Partners	N/A	- Selling omega-3 fish oil intellectual property and processing technology - Speirs Nutritionals has rights to commercialise technology developed by the Riddet Institute, based at Massey University, that allows omega-3 oils to be included in normal food items with no impact on taste or smell
Dec 2010	New Image	Somnaceutics Ltd	N/A	- Includes Somnaceutics' patents and intellectual property on SleepTime, a natural sleep-enhancing milk product developed in New Zealand by scientist Professor Bob Elliott
Oct 2010	New Image	50.01% of Living Nature	N/A	- Living Nature is based in Kerikeri and is the manufacturer of natural skin care products for over two decades - The firm uses a range of ingredients it calls Living Nature that simply refers to rare New Zealand bio-active ingredients that are attractive to international clients.
Jan 2010	Westland Milk Products	Remaining EasiYo shares to 100%	N/A	- Westland Milk Products acquires the remaining shares of EasiYo, taking ownership to 100%
Dec 2008	Danisco	17% of GraceLinc from Plant & Food Research	N/A	- Danish bio-based company acquires 17% share in Plant & Food spinoff GraceLinc, set up to commercialise Glucagel a soluble dietary fibre that "has potential health benefits, particularly for cardiovascular health, digestive health and glucose and weight management" - No longer in business
June 2008	Douglas Pharmaceuticals	Clinicians	N/A	- NZ's largest pharmaceutical firm acquired second tier supplements marketer/manufacturer with Clinicians brand
Apr 2008	Todd Capital / Todd Corporation	Thompsons from Sanderson family	N/A	- Acquired Thompson Group vitamins and supplements business; - Changed name to Integra Healthcare
Sep 2006	Etika International	Naturalac Nutrition (Horley's) from Fonterra	NZ\$7.8m	- Branded sports nutrition and weight management products that trades under the Horleys brand name - Acquirer is Malaysian/Singapore listed dairy/F&B firm with origin in Malaysian condensed milk business
Dec 2006	Next Capital	NZ Nutra-Life	N/A	- Roll-up of two smaller firms into larger firm; renamed Vitaco - Consists of Nutra-Life Health & Fitness, Nutra-Life NZ Ltd and Health international - Manufactures supplements and health foods with strong brands such as Nutra-Life, Kordels, Balance, Wagner and Trilogy - Nutra-Life shareholder Mike Thompson becomes 20% shareholder in new combined entity
Oct 2006	Next Capital	Healtheries from Gary Lane	A\$21m	- Established in New Zealand in 1904 - Now part of Vitaco - Originally a speciality flour miller the company has grown into a market leader in supplements, functional beverages and healthy foods; Exports its products to more than 20 countries including AU, UK and Singapore

OBSERVATIONS

Observation 3: the science agenda needs to be better aligned with the needs of industry

	Observation
1	Legitimate & credible
2	Collaborate and consolidate
3	Industry & science alignment

3 ALIGN

Science is important but expensive

- “In the USA and getting to stage 3 clinical trials takes 4 years and costs under \$5m this is a lot less than the 12 years and \$1.2b it takes for a pharmaceutical product. If you have the evidence you can sell your product with medical claims. Obviously this takes investment.” *CEO, medium sized manufacturing company, 2011*
- “Research is expensive and we need lots more money for research. I have been well supported but we need more people working in the area in general. In the EU they have lots of people working in the seafood nutraceuticals research space with a lot of funding.” *Scientist, NZ, June 2011*
- “Research is expensive, that’s why it is limited in New Zealand, a lack of funds. But we need so much more funding for research.” *GM, Nutraceuticals company, June 2011*
- “We don’t do any science, we cant afford it. We leave it up to the customer to do that; the Nestles of this world. They know the science so much better. Companies like Nestle and Kraft are out there with research budgets bigger than all our countries.” *Business Manager, medium-sized manufacturer, NZ, June 2011*
- “The industry is hard. You can’t just keep feeding the machine.” *Industry Executive, June 2011*
- “There was an extract that was shown to remove headaches, but when they realised they would need \$10m for R&D it just wasn’t going to happen.” *CEO, medium sized manufacturing company, 2011*

3 ALIGN

To develop, the industry needs assistance, but this needs to be directed effectively

- “Every time there is a grant, people are scrambling to get the money. Scrambling to get more money flushed down the toilet.” *Manager, large manufacturing company, June 2011*
- “The sector is very difficult with limited potential. Its gone on for too long. The CRI’s think it’s the holy grail, but it’s incredibly difficult. Its gone on for 10 years, “we are going to do this,” “we are going to do that” but success is really hard. There are massive regulatory barriers. You need to be a pharmaceutical company to succeed in this sector, but we can’t invest like them. They have billions of dollars, very strong IP, a huge marketing arm. It’s a much easier option to make a pseudo-claim and make snake oil at the end of the day.” *Manager, large manufacturing company, June 2011*
- “There are lots of really big companies that have billions to invest in science. If you go too far down the science line you need to do more than just prove efficacy and that gets really expensive. You start being a pharmaceutical company and you need big dollars for that” *Manager, large manufacturing/marketing company*
- “They have the new voucher system now, its very unfocussed. Sitting down with government is very frustrating, the departments change the staff change, they have high ideals but have no idea how to get there, or how long it takes.” *CEO, small manufacturing company, 2011*

3 ALIGN

Industry is interested in products with real commercial potential

- “New Zealand science has to seriously look at the route to market. If there is already a product, it is OK. There is no opportunity to develop a brand from discovery. It’s a needle in a haystack. Even if you do have an ingredient, by the time it gets to the end product at retail, it is a miniscule part of the final value. Therefore the product has to get into the mainstream to make enough money. Will that happen?” *Manager, large manufacturing company, June 2011*
- “Yes, we want science, but we aren’t going to pay for it. We aren’t speculative. The VC funds can do that. If it is proven already, the companies can come to us and we will sell it.” *CEO, medium manufacturing/marketing company, June 2011*
- “Lots of things are being done in Universities, but how saleable and commercial is it? I’m not sure. Its hard work to get things out of there. They hold on for patents too long. They don’t manage staff well. They say things in public they shouldn’t. They don’t have a person who can see value and opportunities. They aren’t exposed to enough business or processes. They either overvalue or undervalue. If they over value it, they over invest and kill it.” *Industry Executive, 2011*

3 ALIGN

There was a widespread perception that industry and science do not currently understand each others businesses well

- “We sometimes partner with the CRI’s, but it never comes to anything. There has never been a product that has come out of it.” *Manager, Large, manufacturing/marketing Company*
- “We work with AgResearch a bit, but it’s difficult to get a product that turns into something commercial. Its hard to get all the ducks in a row: science, processing, IP, sales. You need basic science and people who are keeping up to date with what is happening in the industry. But we don’t expect to get anything out of it. They have to have a business contact. They were researching lactoferrin and purifying it, but so purified it was too expensive and it wasn’t linked to commercial reality. They are really just intrigued by the science and documenting it. They now have to generate revenue and they don’t like that. I think a lot of scientists think that commerce is dirty. We need middle ground.” *Business Manager, medium-sized manufacturer, NZ, June 2011*
- “There is a huge mismatch between commercial reality and science. It is science for science sake. They don’t think about the regulatory barriers, about what you can and can’t say, and the cost of taking the product to market (if it gets that far). The science must be directed from a commercial basis, from what will work and what is being demanded. Whole foods and functional foods are much more likely to succeed.” *Manager, large manufacturing company, June 2011*
- “The challenge with science in New Zealand if they look for efficacy, then talk to someone about commercialising the product. It needs to be targeted. It has to be a product that is in demand.” *CEO, medium manufacturing/marketing company, June 2011*
- “We have some great scientists in New Zealand but they have to focus on the right products. They must be solution focused not product focused. Otherwise it’s a complete waste of time.” *CEO, medium manufacturing company, 2011*
- “We have science, but it works in isolation. They don’t know how to commercialise and its not targeted to consumer demand.” *CEO, large manufacturing/marketing company*

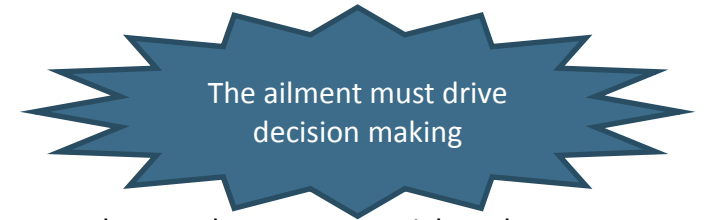
3 ALIGN

Many industry players feel that science in the industry can work together more collectively

- “We need collective wisdom. The industry needs to get together and agree on a direction, a science focused direction. Get investment funds and funds like TechNZ, then bring in groups like IRL, Plant and Food, Trinity, the Universities to do the research. Groups like NZFSA also need to be on board so the regulatory environment is in tune with the sector. They can help the companies get certified and credible. Like with the honey get great evidence to show manuka’s virtues. We need to identify the genuinely powerful products. Then collaborate in product development and marketing. Government should encourage collaboration... *Industry representative, NZ*
- “We are not in the market, there is no link between us, the other scientists, and what is happening in the real world. If you were in an EU business park you would trot down the road and meet the manufacturers dealing with the products. In NZ we are too isolated. The missing bit is marketing and strong market information and signals. What they want, who wants it. The chain falls apart. There needs to be a strong link between raw materials, processing, science, product and the market end-user. Nutraceuticals companies don’t have time or can afford to look for things I have made. There needs to be a coordinating body like the Dairy Board used to be; they co-ordinate marketing, business development, link people etc. It could be funded by an industry levy. This would help everyone make good decisions. NZ is so small the world is so big, we need to work as a team.” *Scientist, NZ*
- “We can have a great product, with great science, but there is no vehicle to commercialise and it turns into a disaster. Science sometimes doesn’t listen. Need to come to an agreement based on the consumer need, if there is no need the product will get passed over.”
- “Set up a Food Innovation institute at Massey, amongst the University, CRI’s Fonterra etc. R&D Centres always lose money unless they are tied to a University. They tend to be the major user. It takes \$5-\$10m to get running. Business will then support it, if its getting value. There should be only one, not a lot of them spread all around the place. We need to focus.” *Industry Executive, 2011*

3 ALIGN

The sector must align under what the market is demanding



- "All decisions must be market led, or it's a complete waste. In New Zealand we are too focused on products and our raw materials and not enough on the ailments. We should be looking at Calcium deficiency and then finding the product that suits." *CEO, medium-sized manufacturing company, 2011*
- "We have to be providing the products that the consumers want." *CEO, large manufacturing company, 2011*
- "It is vital that all products that are researched are being demanded by consumers. We need to focus on the areas of greatest demand." *CEO, large marketing company, 2011*

3 ALIGN

Realising the commercial potential from research is paramount

FRST Select project examples “Diet, Health and Nutrition” related
(NZ\$m; 2005/06-2010/11)

Industry	Funding (NZ\$m)	Example projects
Crop & Food	\$17.1	- Lifestyle Foods for Energy Balance : The Carbohydrate Story
Plant and Food	\$17.1	- Lifestyle Foods for Appetite Control
HortResearch	\$11.1	- Wellness Foods
AgResearch	\$10.5	- Innate defense molecules in cows' milk
ViaLactia BioSciences	\$8.9	- Developing new foods and ingredients for the health and wellness market
AgResearch	\$8.2	- Premium export and higher margin dairy-based food solutions for improved intestinal barrier function in infants and the aged
HortResearch	\$6.6	- New Healthy and Flavoursome Berries and Products
HortResearch	\$5.6	- Fresh and Processed Berryfruit Products to Enhance Gut Health
Crop & Food	\$5.2	- New health market opportunities from understanding and exploiting food-microbe-host interactions underpinning the healthy human bowel
Massey University	\$4.0	- Future foods - a new capability for New Zealand's leading industry
NIWA	\$3.4	- Te Whatukura a Takaroa: Nutraceuticals from Seafood
AgResearch	\$3.3	- Premium export milk-based foods for prevention of allergy in infants and young children
Fonterra	\$3.3	- Probiotics for novel dairy bioactives
Plant and Food	\$2.9	- Fruit-derived compounds and technologies to alleviate inappropriate inflammation



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EXAMPLES – FOODS WITH HEALTH CLAIMS

When developing an association in consumers minds with health claims, it helps to have a large well financed organisation behind you

Examples of firms investing in the development of foods with health benefits
(various)

Product	Situation/Issues	Solution
Heinz Ketchup	<ul style="list-style-type: none"> - In 1981 Regan administration proposes classifying ketchup as a vegetable to save money in school lunch programs - Salsa outsells ketchup in US market (80's) 	<ul style="list-style-type: none"> - HJ Heinz, Hunt Wesson (US #2 ketchup) and Campbell's Soup (tomato soup) form the Tomato Research Council (TRC) to educate industry and consumers on the health benefits of tomatoes - TRC does not directly fund lycopene research but companies involved do - TRC appoints Scientific Advisory Panel to contribute to credibility of program - 1997 the TRC and the American Health Foundation sponsor international symposium on the role of lycopene and tomato products in disease prevention - Heinz runs ads "Lycopene may help reduce the risk of prostate cancer and cervical cancer" - Ketchup and tomatoes become associated with health benefits of lycopene
Ocean Spray Cranberry juice	<ul style="list-style-type: none"> - Product is quasi-monopoly producer by highly profitable grower coop (formed 1930) - 1959 cranberry health scare causes price crash - Cranberry juice sales flatten - Cranberry juice primarily sugar not juice 	<ul style="list-style-type: none"> - Ocean Spray funds research into health properties of cranberry juice - Ocean Spray funded research shows cranberries "interfered with the presence of bacteria in the urinary tract" and other health benefits - Cranberries become associated with proanthocyanidins health properties, particularly in relation to urinary tract infections
Sunkist Oranges	<ul style="list-style-type: none"> - Citrus seen as a luxury - Depression causes orange prices to fall under cost of production 	<ul style="list-style-type: none"> - 1907 Firm conducts first ever consumer advertising for a perishable fruit - 1917 Scurvy outbreaks during WWI lead to further research and preliminary identification of vitamin c - 1922 Sunkist – a grower owned coop representing 80% of Western US growers - runs first campaign associating oranges with newly discovered vitamin c (headline: "140,000 doctors would agree") - 1932 Relationship between vitamin C and anti-scorbutic factor is discovered; other research linking vitamin C with health benefits follows - Sunkist (and others) heavily promoting oranges as high in vitamin C - Oranges become associated with vitamin C; consumption grows

FINANCING IMPORTANT

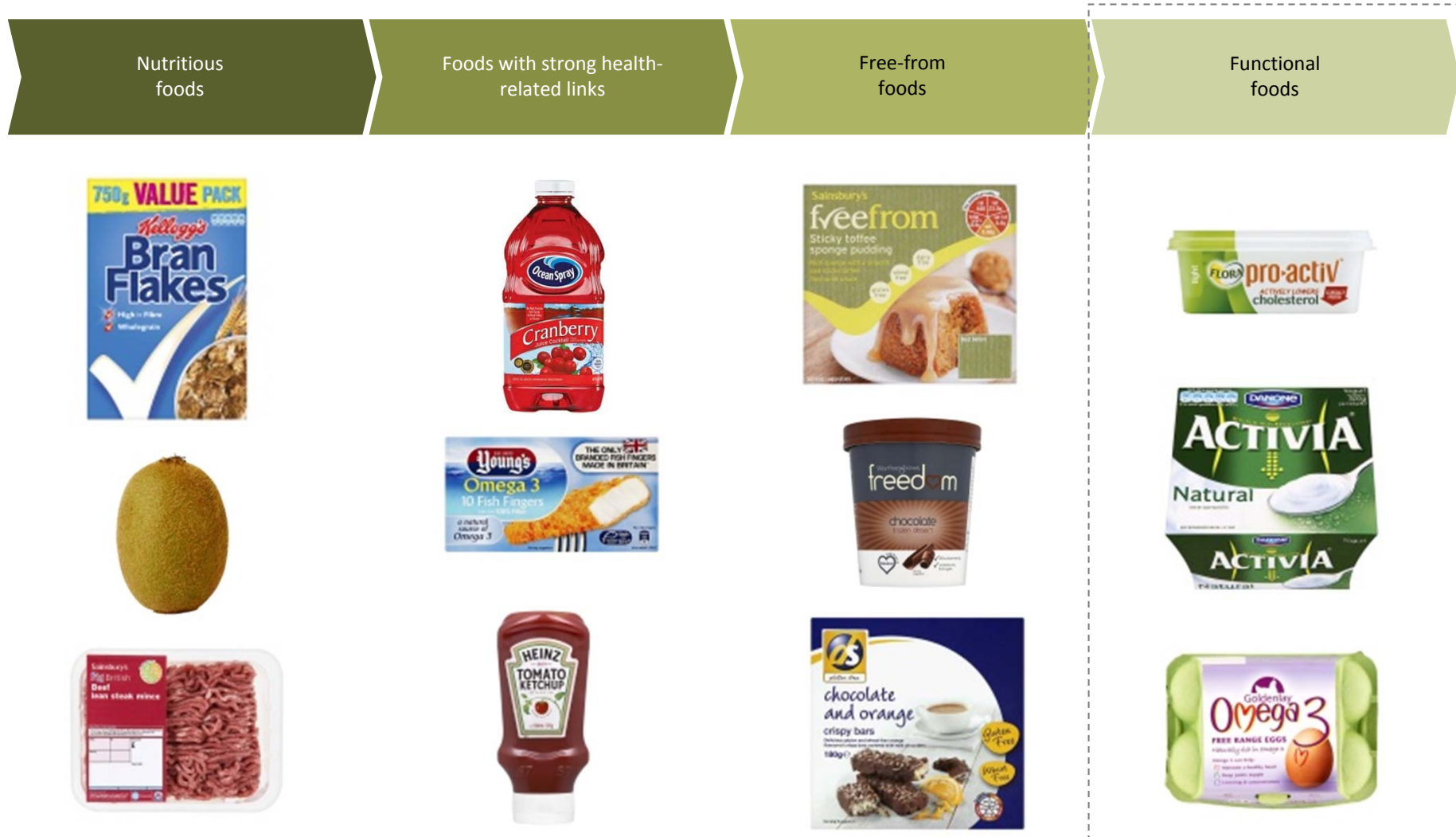
It is recognised that investment required for product development and marketing is enormous

- “With Danone’s brands Actimel and Activa it took 10-15 years to really take off. There was so much investment and marketing. It wasn’t the science that took the time, it was the marketing. It takes 5-6 years to break even in a new country... The brand is so much more than the science. You need to understand the market and the consumers.” *Industry Executive, 2011*
- “When selling dairy products into Asia it is all functional. We need so much investment for sales and marketing. We need to sell the health benefit.” *Manager, Dairy company, large, 2011*
- “The amount of investment required to really research something new is massive. Weight satiety has potential. Building a brand and finding a product that will appeal to consumers will be huge.” *Manager, Dairy company, large, 2011*

WHAT ARE “FUNCTIONAL” FOODS

Functional foods exist in a spectrum of health-related foods; as discussed earlier, we define functional foods as food to which health-related nutraceuticals have been added¹

EXAMPLES: Selection of health-related foods for sale in Sainsbury in the United Kingdom (2011)



EXAMPLES – FUNCTIONAL FOODS

The are number of milestone “functional” foods in the history of the concept

Examples of major historical milestones in the development of the functional foods and beverages sector
(1886-2010)

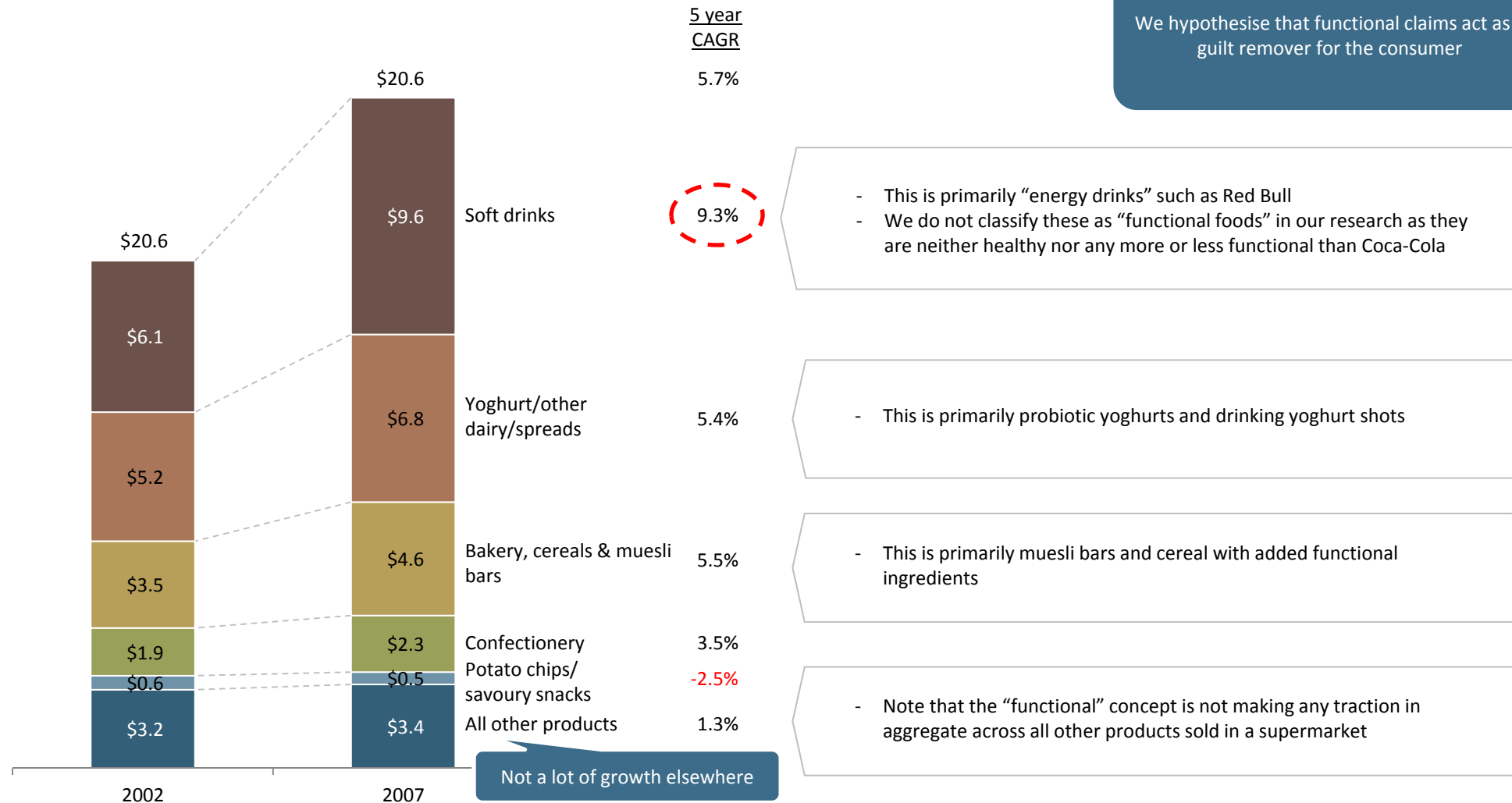
Year	Country	Company	Product	What?	What was added?	Comments/notes
1886	United States	Eagle Drug and Chemical Company	Coca-Cola	Soft Drink	Coca leaf (cocaine) Kola nuts (caffeine) Cochineal dye ¹	<ul style="list-style-type: none"> - In response to alcohol prohibition in region - Also vanilla, cinnamon, lime extract, nutmeg, etc.
1924	United States	Morton Salt Co.	Morton’s Salt	Salt	Iodine	<ul style="list-style-type: none"> - To prevent goiter
1935	Japan	Yakult Honsha	Yakult	Drinking yoghurt	Lactobacillus casei	<ul style="list-style-type: none"> - To promote gut health - Firm now a US\$3.2b dairy company
1943	United States	U.S. Government	All bread	Bread	Nicotinic acid (niacin)	<ul style="list-style-type: none"> - Vitamin B3 into all bread on government orders during wartime; rebranded due to tobacco link
1987	Austria	Red Bull GmbH	Red Bull	Soft drink	Taurine Glucuronolactone Caffeine B vitamins	<ul style="list-style-type: none"> - Westernised version of Thai energy drink, which was itself derived from Japanese Lipovitan (1962)
1988	Japan	Otsuka Pharmaceuticals	Fibe Mini	Soft drink	Dietary fibre	<ul style="list-style-type: none"> - World’s “first” functional food
1994	France	Danone	Actimel	Drinking yoghurt	Lactobacillus casei	<ul style="list-style-type: none"> - Launched in response to arrival of Yakult in Europe - €1.4b in sales (06)
1995	Finland	Raiso	Benecol	Margarine	Plant sterol esters	<ul style="list-style-type: none"> - Reduce cholesterol - Following study published in NEJOM²
1998	U.K.	Dean Farms	Columbus Healthier Eggs	Eggs	Omega-3 fatty acids	<ul style="list-style-type: none"> - Birds feed itself modified to be rich in Omega-3
2010	United States	ResVes Inc.	WineTime	Chocolate bar	Resveratrol	<ul style="list-style-type: none"> - As much resveratrol in one bar as you would find in 50 glasses of red wine

INDUSTRY GROWTH IN US MARKET

Taking the US market as an example, we find functional foods are large and growing; however growth is concentrated in a handful of categories; many of which are regarded as “junk food”

Inflation-adjusted retail sales of functional foods to consumers in the US by category
(US\$b; 2002 vs. 2007)

We hypothesise that functional claims act as a guilt remover for the consumer



WHO WINS?

Again looking at the US market suggests that, as a general rule, the winners in functional foods are the existing category leaders who can add “functional” as a flavour

EXAMPLE: Key players in functional foods in the US market across key categories (2011)

This implies that New Zealand will act as an ingredient supplier rather than use any nutraceutical breakthrough to build a strong (functional) food position

	Existing players add “functional” flavour to range	Enthusiastic new market entrant leveraging functional properties to gain significant share
Soft drinks	 	
Yoghurt/other dairy	   	
Bakery, cereals & muesli bars	  	No major successes
Confectionery	   	No major successes
Potato chips/savoury snacks	 	No major successes

Convenient and keeps you awake.

Tastes good, convenient, and focuses on one benefit; gut health



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FUNCTIONAL FOODS IN NZ – EXAMPLES

The successful functional foods categories globally are the successful categories in New Zealand; generally existing category leaders are winning (as is the case globally)

EXAMPLES: Select functional foods available in New Zealand supermarkets
(2011)

Category	Key Firms/brand	Example	Functional Ingredients	Claims
Probiotic Yogurt	Goodman Fielder/Meadow Fresh (NZ) National Foods (AU)/Yoplait Fonterra/Anchor (NZ)	Pre-Bio Elivae Symbio	Prebiotics and probiotics Probiotic bacteria	Digestive health
Single serve dairy drink	Goodman Fielder/Activate (NZ) Yakult/Yakult	Activate Body Boost Shots Yakult	Probiotic bacteria (Bifido-Defensis™) Vitamins & Minerals	Digestive health, immune support
Milk	Goodman Fielder/Meadow Fresh (NZ) Fonterra	Meadow Fresh Pre-Bio Anlene Annum	Inulin Calcium, vitamin D, magnesium, zinc and protein Folate, Vit B's Gangliosides (GA), SA, DHA*, EFA and Iron.	Digestive health Bone maintenance Nutrition for pregnant and breastfeeding Mums
Powdered Yoghurt	Westland/EasiYo (NZ)	EasiYo Bio	Probiotic bacteria	Digestive Health
Spreads	Unilever/Flora Goodman Fielder/Logicol Goodman Fielder/Gold'n Canola (NZ?)	Flora Pro-activ Logicol Gold'n Canola	Plant sterols Plant sterols Omega-3	Heart health
Bakery, cereals & muesli bars	Griffins/Nice & Natural (NZ?)	Nice & Natural "Superfruits" <i>(questionable as functional)</i>	Superfruits	Antioxidant
Soy Milk	Sanitarium	So Good Essentials	Added iron, calcium, antioxidants, omega-3	General health
Honey	Airbourne (NZ) Hollands (NZ)	Airbourne Manuka UMF	Manuka honey	Antibacterial

FUNCTIONAL FOODS IN NZ – EXAMPLES

Other examples of functional foods in New Zealand include pet food (likely the largest functional food category in NZ) and Tea (though tea is debatable under a tight definition of functional foods)

EXAMPLES: Select functional foods available in New Zealand supermarkets
(2011)

Category	Key Firms/brand	Example	Functional Ingredients	Claims
Pet Food	<p>Champ</p> <p>Golden Boy (NZ)</p> <p>Pedigree</p> <p>Optimum Nutrition</p>	<p>Champ Adult Heart Formula</p> <p>Golden Boy Performance</p> <p>Various Pedigree Dog Foods</p> <p>Optimum Nutrition for Life</p>	<p>Omega-3, Glucosamine & Multi-vitamins</p> <p>Omega-3, Antioxidants and Glucosamine</p> <p>Omega-3, Beet, Antioxidants, Prebiotics, Glucosamine</p> <p>FLUTD, Antioxidants, Optimum Dental Defense</p>	<p>Omega-3: Heart</p> <p>Multi-vitamins & antioxidants: General health</p> <p>Glucosamine: Joint health</p> <p>Beet pulp & prebiotics: Digestive health</p> <p>FLUTD: Urinary tract health</p> <p>Optimum Dental Defense: Dental health</p>
Tea	<p>Twinnings</p> <p>Healtheries (NZ)</p>	<p>Twinnings Echinacea & Raspberry</p> <p>Healtheries St John's Wort & Berries</p> <p>Healtheries Ginseng Tea & Blackcurrant & Vanilla</p> <p>Healtheries Chamomile & Peppermint with Senna & Milk Thistle</p>	<p>Various</p>	<p>Immune support</p> <p>Mood improvement</p> <p>General Health</p>
Beverages	<p>GHO</p>	<p>Apple Cider drinking vinegar</p>	<p>Vinegar</p>	<p>Vitamins, minerals</p>

MAJOR MILK COMPANIES

The largest NZ dairy companies are heavily involved in milk-based nutraceuticals - but primarily as an ingredient to sell to other companies – few branded consumer successes to date

EXAMPLES: Select nutraceutical/functional food activities of leading New Zealand dairy cooperatives (2011)




	Ingredients	Consumer functional food products
	<ul style="list-style-type: none"> - Calcium, vitamin D, magnesium, zinc and protein - Vitamin B1, B2, B3, B12, Folate, Calcium, Iron, GA, SA, & EFA - Specialty probiotic ingredient supplier - Lactoferrin - Colostrum - Large range of ingredients in the testing phase or soon on offer 	<ul style="list-style-type: none"> - Anlene (bone health) - Annum for baby/childs brain development - Anchor Symbio Yoghurt (probiotic yoghurt) - Stolle Milk Powder (antibody rich milk) - reCharge Ice Cream (to reduce effects of chemotherapy, testing stages) - Col+ colostrum single serve drink (JV with New Image Group)
	<ul style="list-style-type: none"> - Lactoferrin - Glycomacropeptide - Lactoperoxidase - Casein peptones 	<ul style="list-style-type: none"> - None
	<ul style="list-style-type: none"> - Lactoferrin 	<ul style="list-style-type: none"> - Immuprime nutritional powder - Nutriprime nutritional powder - Purchased EasiYo (some flavours contain probiotics, BioLife range)



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NUTRACEUTICALS – FIRMS – MARKETING FOCUS

There are a group of larger “marketing focused” nutraceutical firms in New Zealand










New Zealand nutraceuticals firms – marketing focus – large
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Marketing focus						
	\$168m (2010)		400 (K)	Private equity; AU (Next Capital)	1904	www.vitaco.co.nz www.healtheries.co.nz Firm has origin in stone ground flour mill Supplements, nutritional, sports, contract mnfg., other
	\$82m (2010)	90% + (ws)	40 (K)	New Zealand; Listed (NZX: NEW)	1984	www.newimageasia.com www.newimagegroup.co.nz Multi-level marketer of colostrum/other supplements Contract packs; building infant formula plant
	\$30m (2010)		100 (K)	New Zealand; private (Todd Corporation)	1951	www.integria.com Formerly Thompson Group 143 brands
	\$28m (Ke) \$11m (02)	15% (C)	100 (K)	New Zealand; private (Hilke family)	1923	www.redseal.co.nz
	\$18.5m (Ke)		65 (K)	New Zealand; private (Blanchard family)	1987	www.goodhealth.co.nz Complete range of supplements
	\$9m (Ke)		30 (K)	NZ/AU; Private (Warren Stewart)	1980	www.nznutritionals.co.nz Also Vita-Fit, Pro-life, Morlife; plant in CHC; contract packs for others
	\$9m (Ke)		30 (K)	New Zealand; private (Purchase and Ross families)	1994	www.lifestream.co.nz Wide range of supplements
	\$23.3m (2010)		10 (K)	Singapore; listed (SING: 5FR)	1980	www.horleys.com ; www.etika-intl.com Was Fonterra ; now Eitka (Singapore)
	\$7m (Ke)		25 (K)	New Zealand; private (Edmonds family)	1989	http://www.healthandherbs.co.nz/ Multiple brands: Radiance, Natures Way, etc.

NUTRACEUTICALS – FIRMS – MARKETING FOCUS

There is also a group of mid-size and smaller firms with a “marketing focus”












New Zealand nutraceuticals firms – marketing focus – medium
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Marketing focus						
	\$5m (Ke)		9 (K)	New Zealand; private (Fahy, Torok)	1979	www.naturessunshine.co.nz http://natsun.co.nz; www.nspwholesale.co.nz Multi-level marketer of supplements
	\$141m (2009)		450 (K)	New Zealand; private (Douglas family)	1967 1997	www.clinicians.co.nz Acquired June 2008 (was Natural Health Laboratories) While Douglas is large, it is a mid-size player in supplements
	\$3m (Ke)		20	New Zealand; private (Matthews family)	2000	www.xtend-life.com www.naturalproductsnz.co.nz Supplements; manufacturer; contract packs
	\$2m (Ke)		13 (K)	New Zealand; private (Rasmussen family)	1998	www.phytomed.co.nz
	\$2m (Ce)		N/A	New Zealand; private (Chu; Looi; others)	1996	www.creativeenergy.co.nz ; www.naturoparm.co.nz Parent is Health Distributors Supplements and homeopathic remedies
	\$2m (Ke)		13 (K)	New Zealand; private (Lee family)	1993	www.evergreennz.com Deer blood/velvet, marine product; export to Asia
	N/A		N/A	New Zealand; private (Lawton family; others)	2004	www.deepbluehealth.co.nz Marketer of bee, deer, etc.; product packed by GMP
	\$0.4m (Ce)		N/A	New Zealand; private (Huanf & Lu families)	2010	www.naturies.co.nz Doxcon Pharmaceuticals Mostly export to China; packed by others (?)
	\$1.25m (Ce)		14 (K)	New Zealand; private (De Bryn, Johnson, Vallant, Grant; others)	1989	www.invita.co.nz imports, markets and distributes food and life science ingredients

NUTRACEUTICALS – FIRMS – MARKETING FOCUS

We also identified a range of smaller marketing focused firms

New Zealand nutraceuticals firms – marketing focus – small
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Marketing focus						
	~\$5m (ws)		11-50	Struck off	N/A	www.immuno.co.nz Colostrum, cosmetics, etc.
	N/A		N/A	NZ; private (Criglington; Coleman)	1983	www.mierslabs.co.nz ; www.nojetlag.com Homeopathic remedies
	N/A		N/A	NZ; private (Clair, Dunkel, McMahon; others)	1990	www.artemis.co.nz
	N/A		2	NZ; private (Elliott and Donovan)	2008	Ultimate Natural Health Ltd www.iconherb.com www.detox-on-tv.com Online and phone sales only
	N/A		N/A	NZ; private (Middleton, Bartlett, Low; others)	2002	www.naturesourcedirect.com Barley grass, colostrum, manuka oil marketers
	N/A		N/A	NZ; private (Davis family)	2005	www.nutressence.co.nz Nutritional supplement for horses, now people
	\$0.45m (Ce)		N/A	NZ; private (Renner; Driscoll; King; others)		www.gohealthynz.co.nz
	N/A		N/A	NZ; private (Huang family)	2008	www.homecarenz.com Range of products (supplements, colostrum, baby food)
	\$2.5m (Ce)		N/A	NZ; private (North & Haines families)	1988	www.nzhealthfood.com Retail shop with contract packed brands
	\$0.5m (Ce)		N/A	NZ; private (Banno; Missen)	2010	www.nznewparadise.co.nz
	\$1.5m (Ce)		N/A	Struck off	1996	www.skybright.co.nz Colloidal silver; other products

NUTRACEUTICALS – FIRMS – MARKETING FOCUS

We also identified a range of smaller marketing focused firms








New Zealand nutraceuticals firms – marketing focus – small
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Marketing focus						
 	N/A		N/A	New Zealand; private (Hartstone family)	1996	www.jagulana.co.nz [website down] "amazing adaptogenic herb" Firm has historically had other names (GMH, etc.) US firm has received warning letter from US FDA on product
	N/A		N/A	In liquidation	1981	http://malcolmharker.co.nz/ Naturopathic and herbal remedies
	N/A		N/A	New Zealand; private (Shepherd; others)	1999	www.miadasport.com Weightlifting sports nutrition
	N/A		N/A	New Zealand; private (Brewer)		www.nzbotanicals.com Herbal products for people and animals
	\$0.15m (Ce)		N/A	New Zealand; private (Chandler family)	2003	www.nutranz.co.nz Omega 3 and Glucosamine
	\$0.5m (Ce)		N/A	New Zealand; private (McConnachie; others)	2001	www.nzhealthnaturally.com Range of supplements and UMF honey

NUTRACEUTICALS – FIRMS – MANUFACTURING FOCUS

There are a number of large nutraceutical firms focused primarily on manufacturing, either raw ingredients or a contract packed final products









New Zealand nutraceuticals firms – manufacturing focus – large
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Manufacturing focus						
ALPHA LABORATORIES	\$85m (Ke) \$50-100m (ws)		150+ (ws) 150 (K)	New Zealand; private (Shim family)	n/a	www.alphalabs.co.nz contract manufacturer of dietary supplements
	\$40m (C; 10)		150 (Ci)	New Zealand; private (Ye family)	2002	www.gmp.com.au Factory in NZ and AU; pharmacy and milk powder; offices in HK and Beijing; retail stores in China Mnfg. range of products; "One-stop OEM service"
	\$30m (K; 03)		103 (K)	New Zealand; Private equity (Pohutukawa; Direct; Biopacific; others)	1971	www.nzp.co.nz Pharma ingredients and dietary supplements Originally owned by meat industry consortium
	\$23m (Ke)		80 (K)	New Zealand; private (Hanham family)	1970	www.unitech.co.nz ; www.proactive.net.nz Contract manufacturer; also markets under ProActive brand
	\$27m (10)		52 (K)	Australia; private equity (CHAMP)	1978	www.tauraurc.com Factories in NZ & UK
	\$10-15 (Ci)		45 (Ci)	New Zealand; private (Miller; others)	1995	www.nutrizeal.com contract freeze drying and hard gel encapsulation Parent is Nutriventures
Alaron	\$9m (Ke)		30 (WS)	New Zealand; private (Smith; Geiger; others)	1993	www.alaron.co.nz GMP certified/TGA licensed contract and private label manufacturer of dietary supplements, complementary medicines, nutraceuticals, vitamins and minerals in hard shell capsule, tablet, power blend and sachet formats.
 	\$5.2m (2009)		22 (K)	NZ; listed (Unlisted)	1970/ 1984	www.waitakibio.com www.pharmazen.co.nz Nutritional supplements ingredients Waitaki Meat spin-off to add value to co-products 1970

NUTRACEUTICALS – FIRMS – MANUFACTURING FOCUS

We identified a range of smaller manufacturing focused firms










New Zealand nutraceuticals firms – manufacturing focus – mid-size/small
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Manufacturing focus						
	\$2m (Ke)		11 (K)	New Zealand; private (Keeley family; others)	1996	www.seadragon.co.nz ; http://www.bioproducts.co.nz www.seadragon.co.nz/Default.asp?Page=38 Parent is Merinova; fish oil bulk extraction; deer velvet June 2004 management buy-out of AgResearch subsidiary responsible for deer velvet extracts
	\$1m (Ke)		6 (K)	New Zealand; private (Parsons family)	1995	www.genesisbiolab.co.nz Extraction and freeze drying fruit and other extracts
	\$2m (Ce)		N/A	New Zealand; private (Hardie family)	1996	www.rmfnutraceuticals.co.nz www.nutraceuticals.co.nz Sourcing ingredients firm (not manufacturer) 2 warehouses (Christchurch & Sydney)
	\$0.5m (Ce)		N/A	New Zealand Comvita 100%	1990	www.extractsnz.co.nz Renamed Kiwi Extracts Ltd Cold extraction; ethanol extraction; freeze drying; Propolis
	N/A		N/A	New Zealand; private (Heath family; others)	Over 20 years ago	www.claridges.co.nz Wholesale NZ ingredients and manufacture some Have opened marketing office in China
	N/A		N/A	New Zealand; private (Lee family)	1988	http://ubbio.com Manufacturer and exporter; branch in South Korea Formerly "National Deer Horn"
	N/A		N/A	New Zealand; private (Green family)	1992	www.marketnz.co.nz ; www.herbenz.com Patented Echinacea Juice Extract; also deer velvet, etc. Online shopfront; some products contract packed by others
	N/A		N/A	New Zealand; private (Symns, Johnson, Buckett)	2003	www.o2bhealthy.co.nz CMS Ltd - Contract manufacturing of Supplements Ltd Own brand o2b, manufacture 200 products in Nelson Developing owner operated retail stores in NZ

NUTRACEUTICALS – FIRMS – IP FOCUS

There are a handful of firms in nutraceuticals with a strong IP focus...

New Zealand nutraceuticals firms – IP focus
(2010 or as available)


	Turnover	% Export	Employees	Ownership	Year founded	Notes
IP focus						
	\$1.9m		10	New Zealand; listed (NZX: BLT)	2000	www.blis.co.nz
	\$8-12m (Ce)		8+	New Zealand; private (Skeggs; Alloo; Wilson; others)	2004	www.seperex.co.nz Based in Dunedin; offices and lab in Hong Kong Bioactive marine extracts – BioLex® BioLexLPlus®
	\$0.5m (Ce)		N/A	New Zealand; mixed (Claycomb; Bragger; NZVIF; others)	N/A	www.quantec.co.nz Technology based on immune enhancing properties of a novel milk fraction
	\$0.3m (Ce)		N/A	New Zealand; mixed (Davey, Elliot; NZVIF; others)	2007	www.somnaceutics.com patented natural sleep enhancing milk product Asian distribution deal with New Image
	\$0.1m (2009)		N/A	United Kingdom; N/A	2007	www.supremebiotech.com Astaxanthin products from our unique strain of algae (Haematococcus pluvialis)
	\$0.35m (Ce)		N/A	New Zealand; private (Johnson and Washington-Smith)	2008	www.anagenix.com Origin in Otago University research Researching JV with Trinity Bioactives research group
	N/A		N/A	New Zealand; private equity (Biopacific; others)		www.encoate.com Proprietary, cost effective, food-grade biopolymer technologies
	N/A		N/A	New Zealand; mixed (Cavom, ENZO; NVIF; others)	2005 (?)	www.migco.com Pine bark extract
	N/A		N/A	New Zealand; mixed (S. Tindall; Geiringer; NVIF; others)	2002	www.photonzcorp.com Omega-3 fatty acid eicosapentaenoic acid (EPA) from marine microalgae; recent \$2.9m from FRST

NUTRACEUTICALS – FIRMS – IP FOCUS

... continued

New Zealand nutraceuticals firms – IP focus











(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
IP focus						
	N/A		N/A	NZ; mixed (~60% Speirs Group)	2006	<p>www.speirsnutritionals.co.nz Recently sold micro-encapsulation of omega-3 fish oils to UK Co. (initial payment of NZ\$2.1m) JV between Speirs Group Ltd, Massey University, The Riddet Institute and The Bio Commerce Centre Speirs Group reported \$1.7m related start-up costs in 2010</p>

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

In New Zealand dairy co-ops supply lactoferrin and colostrum, as do two smaller firms

Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Dairy						
	\$16,726m (2010)	90% (C)	20,000 (K)	NZ; co-operative	2001	www.fonterra.com Lactoferrins and colostrum; probiotics
 	\$421.6m (2010)	80% (C)	350 (K) EY: 40	NZ; co-operative	1937	www.westland.co.nz Lactoferrins and colostrum www.easiyo.com
	\$166.4m (2010) \$25m (specialty)	95%+	180 (K)	NZ; co-operative	1914	www.tatua.com Lactoferrins Protein hydrolysates
	N/A	90%+		China/Japan/NZ (51% Bright Dairy; Mitsui 7%; others)	2000	www.synlaitmilk.com Have colostrum and Lipidex (beta serum powder)
	\$0.2m (2010)			NZ; listed (NZAX: ATM)	2000	www.a2corporation.com Milk using selected strain of cow that produces milk protein variant
	N/A		N/A	New Zealand; private (Nixon; Parry)	2005	www.zestlife.com Liquid colostrum
	\$1m (Ke)		4 (K)	New Zealand; private (Lock family)	2001	www.purenzcolostrum.com Colostrum powder
	N/A		N/A	New Zealand; private (Wootten family)	2001	www.immunecare.co.nz Parent is Winning Team Limited
	\$0.8m (Ke)		3 (K)	New Zealand; private	1988	www.theyoghurtcapsule.co.nz Encapsulated yoghurt; primarily direct sales (?)

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

There a wide range of firms with a single product focus...

Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Meat byproducts						
	\$1m (K)		8 (K)	New Zealand; private (Carline family; others)	N/A	www.silberhorn.co.nz Deer velvet
	\$1m (Ke)		4 (K)		1993	www.deer.co.nz; www.cervidor.co.nz Deer velvet; deer products; deer enriched manuka honey
	\$2m (K; 02)		2 (K)	New Zealand; private (Bellaney family)	1988	www.gfmpro.co.nz Deer velvet; parent is Bioceuticals Ltd.
	\$1.75m (Ce)		N/A	New Zealand; private (Morley family; others)	2002	www.mountainred.co.nz Deer velvet; GL mussel extract
	\$0.5m (Ce)		N/A	New Zealand; private (Gloriavale Christian community)	2005/ 2011	www.purevitalitynz.com Parent (PetfoodNZ in receivership; new owners)
	N/A		N/A	New Zealand; private (Thomsen family)	1992	www.gevir.co.nz
CANES DEER VELVET	N/A		N/A	New Zealand; private (Cane family)	1998	www.canesdeerveivet.com
	N/A		N/A	New Zealand; private (Ho family)	1996	www.nzsupremedeer.com Process and export a wide range of deer products

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

There a wide range of firms with a single product focus...




Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Meat byproducts						
Agri-lab	\$1.4m (Ke)		6-10 (K)	New Zealand; private (Payne family)	1998	www.agri-lab.com Animal organs, glands, etc. primarily Chinese medicine
Meat Biologics Research	N/A		N/A	New Zealand; government (20% Massey Uni; 20% IRL; 20% AgResearch; 20% B+LNZ; 20% Meat Ind. Assn.)	2002	Established in 2002. It is the one of the first five consortia set up under a Foundation of Research, Science & Technology (FRST) initiative. Its mission is to develop novel nutraceuticals, functional foods and health supplements from red meat or red meat co-products (collectively termed "meat bioactives"). These bioactives are targeted for use by humans for general health & well-being purposes.

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...










Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Seafood						
	\$5-10m (K; 02)		15 (K)	New Zealand; private (Winters family; others)	1961	www.aromanz.com GL mussel and shark extracts Manufacture of freeze dried marine nutraceuticals
	\$10-\$15 (Ci)		N/A	New Zealand; private (Broadbent family)	1973	www.maclab.net ; www.lyprinol.com/index.php/history Freeze-drying mussels; purpose built factory
	\$1m (Ke)		6-10	New Zealand; private (Takahasi family; others)	1996	www.aoteapacific.co.nz Shark extracts
	\$0.8m (Ke)		3 (K)	New Zealand; private (Robinson family)	1999	www.hubrisintl.com Mussel extract and glucosamine
	N/A		N/A	New Zealand; private (Worthington; Bishop)	2003	www.naturalhealthnz.net.nz ; www.mobicoso.com ; www.kalsio.com ; www.technyflex.com ; www.kalsytech.com GL mussel extract; fish bone calcium supplements
En'Zaq Aquaculture Ltd.	N/A		N/A	New Zealand; private (Dorst; Clement)	1985	www.enzaq.com Green lip mussel extract
	N/A		N/A	New Zealand; private (Erickson; Reid)	2003	rimu.orconhosting.net.nz/herbmark/eco_logic.html Manufacture seaweed extract; also grow herbs
Maxamena Nutraceuticals	N/A		N/A	New Zealand; private (Ryan)		No website (?) Related firm Biomarine Laboratories into liquidation 2008

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...













Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Honey/Bee products						
	\$85m (2010)		143 ¹	New Zealand; Listed (NZX: CVT)	1974	www.comvita.com Manuka honey; wide range of other products
	\$1-5m (K; 06)	59% (K)	10 (K)	New Zealand; private (Watson family; Daniell family)	2003	www.watsonandson.co.nz www.manukamed.com 15,000 beehives
	\$15m	90%	40	New Zealand; private (numerous)	2006	www.manukahealth.co.nz Honey products in medifoods, cosmeceuticals, 70 products in 40 markets
	\$5-10m (K)		40	NZ; private (Berry family; others)	1944	www.aratakihoneyhb.co.nz
	\$10.8m (2010)		N/A	NZ; cooperative (80-100 beekeepers)	1950's /1981	www.nzhoney.co.nz New Zealand Honey Producers Co-operative took over the assets of the Honey Marketing Authority Hollands; 3 Bees; SweetMeadow; Hororata
	\$5m (npa; 09)	90%	N/A	New Zealand; private (Ward family)	2005	www.newzealandhoneyco.co.nz Honey products; parent is Alpine Honey
	\$3m (Ke)		25	New Zealand; private (Bray family)	1910	www.airborne.co.nz Regular, manuka, active manuka, and honey lozenges
	\$3m (Ke)		20 (K)	New Zealand; private (Pringle family)	2003	www.honeynz.co.nz www.beesonline.co.nz Honey
	\$3m (Ke)		20 (K)	New Zealand; private (Mossop family)	1952	www.mossopshoney.co.nz Wide range of honey products

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...

Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Honey/Bee products						
  	\$3m (Ke)		15 (K)		1947	www.packagebees.co.nz
Nelson Honey & Marketing (NZ) Ltd	\$2.4m (Ke)		14 (K)	New Zealand; private (Cropp family)	1972	www.nectarease.co.nz Honey; bee products
	\$2m (Ke)		10 (K)		1995	www.purenewzealandhoney.com Manuka honey, active manuka; other honeys
	\$1m (Ke)		10 (K)	New Zealand; private (Lipscombe family)	1976	www.happyvalley.co.nz ; www.happyvalleyhoney.com.hk Honey and bee products
	\$2m (Ke)		10 (K)		1995	www.honeylands.co.nz
	\$1m (Ke)		8 (K)	New Zealand; private (Davidson family)	1945	www.beewild.co.nz
	\$1m (Ke)		7 (K)		1993	www.haddrells.co.nz ; Cambridge Bee Products Bee products; UMF honey (Golden Hills brand)
	\$1m (Ke)		7 (K)		1960	www.waitematahoney.co.nz Honey, UMF Honey
	\$3m (Ke)		6 (K)		1991	www.beehealthy.co.nz ; www.ecroyd.com/ Honey; manuka honey; bee products
	\$2m (Ke)		5 (K) 3,500 hives		1940	www.waitakihoney.co.nz
	\$1m (Ke)		4 (K)		1976	www.manukahoney.co.nz/ Manuka honey; UMF honey

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...

Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Honey/Bee products						
	N/A		N/A	New Zealand; private (Nikolaeva family)	1998	www.apihealth.com Bee venom; bee products
	\$1.5m (Ce)		N/A	New Zealand; private (Darren Clifford)	2006	www.thehoneycompany.co.nz
	N/A		N/A	New Zealand; private (William Gluyas)	1990	www.manu.co.nz Manuka products; honey
	N/A		3 (K)	New Zealand; private (Bickerstaff and Wheeler)	1997	www.honeybalm.com Bee product based supplements
	\$1m (Ke)		1-5 (K)	New Zealand; private (Pohio family)	2000	www.naturescountrygold.co.nz Honey; Manuka Boosta honey-based energy-bars
	\$0.7m		2 (K)	New Zealand; private (Clarke family)	2003	www.autumnvalleyhoney.co.nz
	\$0.3m (Ke)		1 (K)	New Zealand; private (Walker family)	1986	www.honeyland.co.nz
			1,200 hives	New Zealand; private (Dale family)	1959	www.strathdalehoney.com Clover honey; bio-gro organic certified; C. Otago
	N/A		N/A	New Zealand; private (Cook family; Goodman family)	1997/ 2000	www.naturebee.com Potentiated pollen; bee venom; AMF manuka honey

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...









Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Honey/Bee products						
Otago Honey Products	\$1m (Ke)		3 (K)	New Zealand; private (Sales, Farhi, Walker, McCaw)	1991	No website located
Milburn Apiaries	\$1m (Ke)		3 (K)	New Zealand; private (Walker, McCaw families)	1970	No website located Part owns, Otago Honey Products
Alpine Honey Specialties	\$1m (Ke)		7 (K)	New Zealand; private (Ward family)	1981	No website located
Cell Limited (Formerly Cellular Improvements)	N/A		N/A	New Zealand; private (Donnelly family)	1999	http://yhst-56964562438721.stores.yahoo.net/ Potentiated pollen
Zeal Extracts	N/A		N?A	New Zealand; private (Butler)	1998	Websites down; Active Zealax UMF honey

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...




Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Produce /plant based						
	\$7m (Ke)		25 (K)	Bahamas/NZ (BioPacific; Seeka Kiwifruit; others)	1991	www.vitalfoods.co.nz Founded by former Ag Scientist; developed kiwifruit powder Clinical trials; launched Phloe Healthy Bowel Attracted venture capital investment Nestle Health Science strategic investor
	\$3m (K; 09)		n/a	New Zealand/other (Various incl. Tate & Lyle UK)	NA	www.biovittoria.com Monk fruit natural sweetener based Waikato Innovation Tate and Lyle investment for global distribution and sales
	\$1m (Ci)		4	New Zealand; listed (subsidiary of Mud House Wine Group)	2004	www.nzextracts.co.nz Wine grape (and other fruit) extracts - Oxi-fend®Vinanza® Parent is Mud House Wine
	N/A		N/A	New Zealand; private equity (NZE 69%; others)	2003	www.justtheberries.com Blackcurrant extract powder
	N/A		N/A	New Zealand; private (Green family; others)	1997	www.midlands.co.nz www.osel.co.nz Primarily seeds/other; oil seed extraction business
	\$1-5m (K)		20 (K)	New Zealand; private (Musgrave family; others)	1992	www.fwf.co.nz ; www.waihibush.co.nz Flax seed oil
	\$1m (Ke)		4 (K)	New Zealand; private (Prebble family; others)	1989	www.bio-oils.co.nz Flax seed oil
	N/A		N/A	New Zealand; charity (Disability training services)	2003	www.ginkgo.co.nz Nature Green NZ Ltd Growing ginkgo in New Zealand

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued...

Key firms in the New Zealand sector
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Barley Grass						
	N/A		N/A		2002	www.gogreen.net.nz http://evolutionaryhealth.org Wheat grass, spirulina and barley grass manufacturers
	N/A		N/A		2002	www.naturesgreenz.com Manufacture and online market barley/wheat grass and fish oil sourced from NZ
	N/A		N/A		2001	www.greensforlife.co.nz Barley grass powder

NUTRACEUTICALS – FIRMS – SINGLE PRODUCT FOCUS

... continued

Key firms in the New Zealand sector
(2010 or as available)




	Turnover	% Export	Employees	Ownership	Year founded	Notes
Forestry						
 ENZOGENOL®	\$2m (Ke)		10 (K)	New Zealand; private (Giles family)	1998	www.enzo.co.nz Pine bark extract Firm is Enzo Nutraceuticals; parent Protein Ventures Shareholder in Migco [listed elsewhere]
NZ-unique flora						
 MENDE BIOTECH LTD. MANUFACTURERS OF TOTAROL™	\$0.8m (Ke)		3 (K)	New Zealand; private (Hueber family; Mende family)	1999	www.totarol.com Totara tree extract
 ENZ®	N/A		N/A	New Zealand; private (Hueber family)	2001	www.essentiallynz.com Totarol marketer; part owned by Mende
 FOREST HERBS	N/A		N/A	New Zealand; private (Butler family)		www.forestherbs.co.nz Horopito
Tairawhiti Pharmaceuticals	N/A		N/A	New Zealand; private (Kerr; Te Ata Ra Tapumahi Trust; others)		http://www.manuka-oil.com Manuka tree oil



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APPENDIX 2 – PRODUCT PROFILES

This appendix analyses seven key products in the nutraceuticals category that play on New Zealand’s strengths

	Key function	Overall	Level of scientific credibility or support	Amount of research conducted	Industry “health”	Defensible to NZ
Manuka Honey	Anti-bacterial	●	◐	◐	●	●
Green lipped mussel extract	Anti-inflammatory	◐	◐	◐	◐	●
Lactoferrin	Anti-bacterial Immunomodulation	◐	◐	◐	●	◐
Colostrum	Immune health	◐	◐	◐	◐	◐
Kiwifruit extract	Digestive health	◐	◐	◐	◐	◐
Deer velvet	Sexual health	◐	○	◐	○	◐

See Appendix 2

PRODUCT PROFILE – MANUKA HONEY

Manuka honey is validated in wound healing and is approved for hospital use

Publications (Manuka Honey)		Delivery Mechanism	Competing Products
First Publication on Health Effects:	1988 in NZ	<ul style="list-style-type: none"> - Raw honey as a food - Honey supplements with royal jelly/propolis/ pollen added - Added to wound dressings - Combined into a gel for wound treatment 	Natural: Totarol, oregano oil Other honeys Probiotics Tea tree oil, eucalyptus
Total Papers on Activity and Health Function:	37	Active Ingredients Methylglyoxal Low pH Other unknown factors	Conventional Medicine: Antibiotics Topical creams Revamil® Honey
Diseases/ Activities Studied:	Antibacterial: 25 Wound dressing: 23 Tooth decay: 2 Gut inflammation: 2 Asthma: 2 Immunity: 1 Angiogenesis: 1 Antifungal: 1	History Honey has been used to treat wounds for millennia. In 1988, Dr Peter Molan’s lab at the University of Waikato discovered manuka honey had antibacterial properties. Manuka honey was later shown to have a distinct bactericidal activity from other honey and was effective in wound treatment. It is now collected widely in NZ and certified for use in hospital wound care.	Research State Antibacterial/Wound Dressing: Very well researched, convincing evidence, “proven” Soon to be used as part of hospital wound care in several countries FDA approved product Other: Other uses are spin-off from anti-bacterial care (i.e. tooth care) or are only at the initial phase of research Difficult to judge promise of research into these areas
Country of Primary Author:	UK: 16 NZ: 14 Ireland: 6 Canada: 4 USA: 3 India: 3 France: 1 Poland: 1 Slovakia: 1 Portugal: 1 Italy: 1 Germany: 1 Australia: 1	Patents/IP/NZ-specific advantages Proprietary blend of manuka honeys tested (for instance Comvita) Patents on extraction/isolation active ingredient and wound gel technology (bought from WaikatoLink) Manuka honey primarily NZ, also Australia	NZ Research Centres Waikato Honey Research Unit (University of Waikato) University of Waikato Plant and Food Reserach

PRODUCT PROFILE – GREEN-LIPPED MUSSEL EXTRACT

Green-lipped mussel extract is used for treatment of inflammation

Publications (Green-Lipped Mussel)		Delivery Mechanism	Competing Products
First Publication on Health Effects:	1980 in Australia??	- Taken as an oral supplement	Natural:
Total Papers on Activity and Health Function:	38		Curcumin Fish oil, flaxseed oil Glucosamine, chondroitin, MSM Shark cartilage <i>Boswellia</i> (plant) extract, rosehip oil
Diseases/ Activities Studied:	Arthritis/anti-inflammatory: 35 Inflammatory bowel disease: 1 Cancer: 1	Active Ingredients	Conventional Medicine:
Country of Primary Author (after 1990):	Australia: 9 USA: 7 UK: 6 NZ: 3 China: 1 Finland: 1 Canada: 1 South Korea: 1 Russia: 1 Japan: 1	Liprinol® is an extract containing multiple compounds Omega-3 Oils Mucopolysaccharides Chondroitin Sulphate Betain	NSAIDs TNFα inhibitors
		History	Research State
		Research in the 1970s on animal extracts showed green-lipped mussels have high levels of omega-3 oil and mucopolysaccharides. During the 1980s extraction methods were developed to retain bioactivity. Several studies have been conducted on health benefits of green-lipped mussel extract, primarily in Australia. Cold extraction of BioLane® preserves active compounds	Of 5 animal studies on green-lipped mussel extract on arthritis, 2 showed moderate benefit Few side effects Not officially approved for treatment of disease
		Patents/IP/NZ-specific advantages	NZ Research Centres
		Extraction process is patented (Liprinol) Green-lipped mussel primarily grown in NZ ?, could be grown in aquaculture elsewhere	None

PRODUCT PROFILE – COLOSTRUM

Colostrum has a long history in neo-natal health but has only recently emerged as a health supplement for adults

Publications (Bovine Colostrum Supplement)		Delivery Mechanism	Competing Products
First Publication on Health Effects:	1970-1980s	<ul style="list-style-type: none"> - Capsule of dried colostrum - Colostrum-fortified nutrition drinks 	Natural:
Total Papers on Activity and Health Function:	28 (hundreds of paper on colostrum in agriculture)		Sports Performance: Amino acids, kombucha tea, devil's claw, ginger, brown rice syrup, palm nectar, alfalfa juice, creatine Immune: Prebiotics, probiotics
Diseases/ Activities Studied:	Sports Performance: 17 Immune: 5 General Health: 3 Infant Health: 3		Conventional Medicine:
Country of Primary Author:	Australia: 11 NZ: 4 (8 more on analytics/processing of colostrum for human use) USA: 3 Finland: 3 Netherlands: 2 UK: 1 Germany: 1 Iran: 1 Iraq: 1	Active Ingredients	??
		Antibodies	Research State
		History	Antibodies are readily digested and inactivated in the stomach which means the mechanism of action of colostrum is debatable Moderate evidence colostrum is active as an antibiotic to treat food poisoning etc. Many publications on colostrum in sports performance, weak to moderate improvements shown using a variety of metrics
		Patents/IP/NZ-specific advantages	NZ Research Centres
		NZ is largest exporter of dairy in-the-world	Fonterra Bioactivity Investigation Group (Wellington) Institute of Food Nutrition and Human Health (Waikato University)

PRODUCT PROFILE – KIWIFRUIT EXTRACT

Kiwifruit extracts have recently been researched and is primarily marketed for treating digestive complaints

Publications (Green-Lipped Mussel)		Delivery Mechanism	Competing Products
First Publication on Health Effects:	2001 in the UK	<ul style="list-style-type: none"> - Taken as an oral supplement - Freeze-dried powder for drink 	Natural:
Total Papers on Activity and Health Function:	23		Fibre-enriched supplements Papaya extract (Papain) Peppermint, pancreatin Pre-/Probiotics
Diseases/ Activities Studied:	Digestion: 5 Cancer: 4 Asthma: 2 Liver Fibrosis: 2 Diabetes: 2 Anti-inflammatory: 2 Bone Marrow Production: 1 Cardiovascular: 1 Dermatitis: 1 Antioxidant:	Active Ingredients	Conventional Medicine:
		Actinidin, an enzyme with similar activity to human digestive enzymes Other digestive enzymes Antioxidants	??
Country of Primary Author:	Korea: 8 China: 6 Japan: 4 NZ: 4 UK: 1 Taiwan: 1	History	Research State
		Limited uses of kiwifruit relatives in traditional Chinese medicine. Korean and Chinese research has looked at effects of kiwifruit extract on variety of diseases including cancer and heart disease.	Effects on digestion are relatively easy to test Actinidin enhances breakdown of protein Moderate to good effects on protein digestion Link between protein digestion and gastrointestinal disease is more difficult to establish Other uses for extract are clearly unproven and solely initial trials
		Patents/IP/NZ-specific advantages	NZ Research Centres
		Kiwifruit are grown in several countries, NZ is a major player IP??	Riddet Institute (Massey University)

PRODUCT PROFILE – DEER VELVET

Deer velvet has an ancient history in tradition Chinese medicine for treating disease especially erectile dysfunction

Publications (Green-Lipped Mussel)		Delivery Mechanism	Competing Products
First Publication on Health Effects:	First known scientific study was in 1999 in South Korea	<ul style="list-style-type: none"> - Taken as an oral supplement - Blended into other traditional Chinese medicines 	Natural:
Total Papers on Activity and Health Function:	15		Virility: Horny goat weed, yohimbe, maca root, eurycoma shrub, ginko bilboa, ginseng Sports Performance: Amino acids, kombucha tea, devil's claw, ginger, brown rice syrup, palm nectar, alfalfa juice, creatine
Diseases/ Activities Studied:	Arthritis: 3 Sports Performance: 3 Morphine Withdrawal: 2 Erectile Dysfunction: 1 Cancer: 1 Osteoporosis: 1 Behaviour Modification: 1		Active Ingredients
Country of Primary Author:	Canada: 7 China: 3 NZ: 2 South Korea: 2 Russia: 1	Range of claimed compounds with activity including glucosamine, chondroitin, collagen, amino acids	Viagra®
		History	Research State
		Used in traditional Chinese medicine for thousands of years as treatment for erectile dysfunction. In the past decade, research has gone into expanding health uses of velvet.	Almost entire knowledge base is from traditional uses Few studies and limited animal/human trials Push now to expand uses beyond tradition treatment of erectile function (due to Viagra) Effectiveness is not convincing
		Patents/IP/NZ-specific advantages	NZ Research Centres
		Not patented or IP protected Farmed deer industry in NZ is world's largest ?	AgResearch



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APPENDIX 3 – NUTRACEUTICALS FROM MILK

Preliminary conclusions

Conclusion	Details
Probiotics	
“The” success story of nutraceuticals	<ul style="list-style-type: none"> - Global success of probiotics in yoghurt drinks - Driven by major global yoghurt players (e.g. Danone) - Now effectively mainstream
Limited defensibility of probiotics	<ul style="list-style-type: none"> - Easy to derive and patent new strains - Crowded category with large number of patented strains (too many to list)
Low/no success outside dairy	<ul style="list-style-type: none"> - Consumer proposition: “bacteria in your food” resonates in yoghurt; more difficult elsewhere - Numerous non-dairy attempts have shown limited/no success (e.g. probiotic museli bar)
Probiotics seeking new uses	<ul style="list-style-type: none"> - Probiotics initially 100% gut health; now new areas of claim (e.g. respiratory infections) - Recent patents show explosion of putative novel uses
Bioactive milk components	
Not a new concept	<ul style="list-style-type: none"> - Japan (and Korea) have historically led research and development of milk bioactives - Now being researched around the world - New Zealand strong in area but NZ strength should not be overplayed
Creating a lot of excitement	<ul style="list-style-type: none"> - Globally: lots of papers, lots of research; lots of patents - Moving from vague general health claims to specific treatments using defined compounds
Limited existing market(s)	<ul style="list-style-type: none"> - Primary market is infant formula; minor use in sports nutrition, etc. - Industry growth has slowed (China only bright spot)
Push to commercialise/ create new/novel products	<ul style="list-style-type: none"> - Fonterra creates Lactopharma (w/U of Auckland) and ViaLactia (Fonterra bioactives company) partly to create new products and product uses - Chr. Hansen development of numerous new probiotic uses

PROBIOTICS – COMMERCIAL STRAINS

Most major food companies have a patented strain of probiotic for yoghurt or supplement use

Preliminary examples
Not intended to be complete list

Selection of probiotic strains currently used in functional foods and nutraceuticals
(2010)

Strain	Researched effect	Patent	Brand Name	Company
<i>Bacillus coagulans</i> GBI-30, 6086	Reduces irritable bowel syndrome (IBS), improved immune function	?	GanedenBC30, enLiven yoghurt	Ganeden Biotech
<i>Bifidobacterium LAFTI B94</i>	IBS, pathogen, cancer treatment	?	LAFTI B94	Institut Rosell-Lallemand
<i>Bifidobacterium animalis</i> subspecies <i>lactis</i> BB-12	Digestive and immune health	?	Probio-Tec Bifidobacterium BB-12	Chr. Hansen
<i>Bifidobacterium breve</i> Yakult			Bifiene	Yakult
<i>Bifidobacterium infantis</i> 35624	Digestive health		Align (supplement)	Procter & Gamble
<i>Bifidobacterium animalis</i> subsp. <i>Lactis</i> HN019 (DR10)			Howaru Bifido	Danisco
<i>Bifidobacterium animalis</i> DN 173 010 (called <i>Bifidus regularis</i>)	Digestive health, regularity		Activia yoghurt	Danone (aka Dannon)

PROBIOTICS – COMMERCIAL STRAINS

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Selection of probiotic strains currently used in functional foods and nutraceuticals
(2010)

Strain	Researched effect	Patent	Brand Name	Company
<i>Lactococcus lactis</i> L1A	Anti-inflammatory, digestive health			Norrmejerier
<i>Lactobacillus plantarum</i> 299v	Improve IBS symptoms		GoodBelly /ProViva/ TuZen/Bion Transit /ProbiMage	Probi
<i>Lactobacillus reuteri</i> ATTC 55730	Gingivitis prevention, diarrhea treatment, general health			BioGaia Biologics
Mixture of <i>Lactobacillus rhamnosus</i> GR-1 & <i>Lactobacillus reuteri</i> RC-14	Treatment and prevention of vaginitis		Bion Flore IntimeJarrow Fem-Dophilus	Chr. Hansen
<i>Lactobacillus plantarum</i> HEAL 9 & <i>Lactobacillus paracasei</i> 8700:2	Lowering risk of catching a cold		Bravo Friscus/ ProbiFrisk	Probi
<i>Lactobacillus acidophilus</i> NCFM				Danisco
<i>Lactobacillus johnsonii</i> La1	Bowel inflammation			Nestle

PROBIOTICS – NEW PATENTS

A flurry of patents have been filed recently on new bacterial strains with novel or improved health benefits

New US patent applications in probiotics
(2011)

Preliminary examples
Not intended to be complete list

Category	Subcategories	Researched effect	Patent	Country/Date discovered	Commercial Product
Lactobacillus	Lactobacillus paracasei KW3110	Digestive health	Originally patented in Japan, US patent application 20110038837 in 2011	Japan?	?
Bifidobacterium	Bifidobacterium strain AH1205	Anti-inflammatory for irritable bowel syndrome	2011, US patent application 20110020400		?
Bacillus	Bacillus coagulans	Control of pathogens in the digestive system	2011, 20110020306		?
Sporolactobacillus	Sporolactobacillus vineae SL153 strain	Treatment of pathogens of the digestive system	2011, US patent application 20110014166		?
Mixture	Cranberry, D-mannose and several bacterial strains	Urinary tract infections	2011, US patent application 20110064706		?
Mixture	Bifidobacterium lactis Bi-07 and Lactobacillus acidophilus NCFM®	Irritable bowel syndrome, bloating, diarrhoea	2011, US patent application 20110033423		?
Mixture	5 Lactobacillus strains and a prebiotic	Respiratory infections and intestinal upset, taken orally	2011, US patent application 20110027243	Italy	?
Mixture	Lactobacillus rhamnosus, inulin and soy polysaccharides	Treatment of diarrhoea	2011, US patent application 20110014167		?

NUTRACEUTICAL MILK PROTEINS

Many proteins in milk have nutraceutical uses

Milk proteins and derivatives used in nutraceuticals
(2010)

Preliminary examples
Not intended to be complete list

Category	What	Subcategories	Researched effect	Patent	Date discovered	Commercial Product
Lactoferrin	Whole lactoferrin		Antimicrobial	None	?	
			Lipid metabolism	Formulation patented, 2005 (in Japan)		Various, patented and produced by NRL Pharma (Japan)
			Analgesic and anti-anxiety	2006 (in Japan)		Various, patented and produced by NRL Pharma (Japan)
			Bone growth (Osteoporosis prevention)	Fonterra and University of Auckland, 2002 (NZ), 2010 (US)		?
	Peptides cleaved from lactoferrin	aa16-40	Antimicrobial activity	??	2000	N/A
		aa17-41	Anticancer	??	2005	N/A
		Lactoferricin	Anticancer	2000s from Korea		Products by NuGEN
		Enterically coated lactoferrin	Improved bioavailability, to be marketed as antioxidant	Coating components and methods patented, 2007 (in Japan)		Various, patented and produced by NRL Pharma (Japan), seeking FDA approval
		Lactoferrin and lactic acid mix	Urinary tract infection treatment	Patent application 2008 (US patent application 20080161234)		?
		Lactoferrin with attached polymer (PEG)	Improved bioavailability, reduced allergenicity	Attachment patented, 2009 (in Japan); 2011 US application		Patented and produced by NRL Pharma (Japan)

NUTRACEUTICAL MILK PROTEINS

Many proteins in milk have nutraceutical uses

Milk proteins and derivatives used in nutraceuticals
(2010)

Preliminary examples
Not intended to be complete list

Category	Subcategories	Researched effect	Patent	Country/Date discovered	Commercial Product
Peptides cleaved from casein	aa84-86 and aa74-76	Antihypertensive	??	2003	Fermented milk (Calpis, Evolus)
	Glycomacropeptide	Antimicrobial	??	2006	BioPURE-GMP
	aa106-116	Anticancer	??	2006	Oral care products
	Casomorphins				
	Casoxins				
	Caseinophosphopeptides	Mineral absorption, tooth decay			
	Glycylated peptides (β -casomorphin-7)	Sleep aid	Patent application 2010 (US Patent application 20100130406) by Somnaceutics Ltd (NZ)	New Zealand	Sleep Time™ and others made by Somnaceutics (now owned by New Image Group)
	Casein hydrolysate	Sleep aid	Patent approved 1993 (Europe), 1998 (US)	France	Lactium™ made by Ingredia (France), used in a variety of products
Casein isoform	A2-casein containing milk	Heart disease		New Zealand	A2-Milk

NUTRACEUTICAL MILK PROTEINS

Many proteins in milk have nutraceutical uses

Milk proteins and derivatives used in nutraceuticals
(2010)

Preliminary examples
Not intended to be complete list

Category	Subcategories	Researched effect	Patent	Country/Date discovered	Commercial Product
B-lactoglobulin	aa78-80	Antihypertensive	??	Japan, 1998	Biozate
Whey	Whole whey	Anticancer		2000	
	Peptides cleaved from whey				
	Lactorphins				
	Whey hydrolysate fraction	Satiety	Patent on isolation and use, 2007 by Unilever (US patent 7618648)		
α -lactalbumin		Calcium absorption			
Milk Fractions		Anti-inflammatory (also heart disease and sports performance)	Patent on purification and use, 1997 (US patent 5650175)		Microlactin™ (Stolle Milk Biologics)
	Phosphatidylserine enriched fraction		Patent application on isolation, 2009 (US Patent application 20090123630)		?
	Protein extract from buttermilk	Reduction of allergies in children	Patent application in Australia by Biolink/TGR (Adelaide)		TGR-313 produced by TGR, not in production yet
	Protein extract	Mouth ulcers	Patent application in Australia by Biolink/TGR (Adelaide)		Lactermin™



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SOURCE – CANTERBURY/NELSON NUTRACEUTICALS ORGANISATION

We reviewed the companies of the Canterbury/Nelson Nutraceuticals cluster organisation website

Firm	Classification	Outcome
Andeer		
Aroma NZ Ltd.	SP – Seafood	Profiled
Bio Oils Ashburton Ltd	SP - Plant	Profiled
Botanica	Medicine	Out of scope
Bronson and Jacobs Ltd (Orica Chemnet)	AU-based supplier	Out of scope
Canterbury Development Corporation	Government agency	Out of scope
Carol Priest Natural Cosmetics NZ Ltd	Cosmetics	Out of scope
Catalyst R and D Ltd	Service provider	Out of scope
Claridges Herbal Products	Manufacturer	Profiled
CMS Ltd (o2b healthy)	Manufacturer	Profiled
CreateIP	Service provider	Out of scope
Extracts NZ Ltd	Manufacturer	Profiled
Formula Foods Corporation Ltd	Ingredients/service	Not nutraceutical-focused
Genesis Bio-Lab Ltd	Manufacturer	Profiled
Gramart Foods Ltd	Jam/food	Not nutraceutical-focused
Hi Tech Foods Ltd	Food ingredients	Not nutraceutical-focused
James and Wells	Service provider	Out of scope
Lanocorp Pacific Ltd	Cosmetics	Out of scope
Lincoln University	Government agency	Out of scope
Manu Nutraceuticals Ltd	SP - Honey	Profiled
Market New Zealand Ltd	Manufacturer	Profiled
Merinova Ltd	SP – Seafood	Profiled
Midlands Seed Ltd	SP - Plant	Out of scope
Migco Pharmaceuticals Ltd	IP focused	Profiled

Firm	Classification	Outcome
NIWA	Government agency	Out of scope
Natures Remedies	Retailer	Out of scope
Nelson Honey and Marketing	SP - Honey	Profiled
New Zealand Health Food Company Ltd	Retailer	Out of scope
New Zealand Nutritionals Ltd	Marketing	Profiled
NZ Agriseeds - Botanicals Division	Seeds	Out of scope
Oasis Beauty NZ Ltd	Cosmetics	Out of scope
Oil Seed Extractions Ltd	SP – Plant Profiled	Profiled
Professional Herb Services Ltd	Retailer/services	Out of scope
Pukunui Herbs NZ Ltd	Farm (?)	Follow up
RMF Nutraceuticals	Manufacturer/sourcer	Profiled
Scott Apiaries	SP - Honey	Profiled
Skybright Natural Health Ltd	Manufacturer	Profiled
Triggertec Ltd	Website down/dead	Unclear status
UB Bio Ltd	Manufacturer	Profiled
Westland Milk Products	Dairy	Profiled
Xtend -Life Nutraceuticals Ltd	Marketer	Profiled

SOURCE – NATURAL PRODUCTS NZ ORGANISATION

We reviewed the membership list of NPNZ organisation...



Firm	Classification	Outcome
Absolute Essential Ltd	Cosmetics	Out of scope
Alaron Products Ltd	Manufacturer	Profiled
Anagenix Ltd	IP Focused	Profiled
ApiHealth NZ Ltd	SP - Honey	Profiled
Aroha Drinks	Soft drink	Out of scope
Azurlis NZ Skin	Cosmetics	Out of scope
Baldwins Intellectual Property	Service provider	Out of scope
Bio Oils Ashburton Ltd	SP – Plant based	Profiled
Blackmores Ltd	Australian mnfr.	Out of scope
Cawthron Institute	Government agency	Out of scope
Clinical and Regulatory Services Ltd (CARSL)	Service provider	Out of scope
Cognis Australia PTY Ltd (NZ Office)	Wholesaler	Out of scope
Complementary Healthcare Council of Aus.	Lobby group	Out of scope
Comvita	Marketing focus	Profiled
DavisAsia Ltd	Marketing focus	Profiled
Doxcon Pharmaceuticals Ltd	Marketing focus	Profiled
Easiyo Products	Dairy	Dairy
ENZO Nutraceuticals Ltd	SP - Forestry	Profiled
Equine Essentials	Animal health	Out of scope
Essentially New Zealand Ltd	SP – NZ unique	Profiled
Fonterra	Dairy	N/A
Forest Herbs Research Ltd	SP – NZ unique	Profiled
GMP Pharmaceuticals Ltd	Manufacturing focus	Profiled
GO Healthy New Zealand	Marketing focus	Profiled
Good Health Organisation	Manufacturing focus	Profiled

Firm	Classification	Outcome
Good Health Products Ltd	Marketing focus	Profiled
Goodbye Sandfly	HBC/Medicine	Out of scope
Health 2000 Group	Retailer	Out of scope
Homecare Health Management Ltd	Marketing focus	Profiled
Hubris International Ltd	SP - Seafood	Profiled
Industrial Research Ltd	Government agency	Out of scope
Integria Healthcare (New Zealand) Ltd	Marketing focus	Profiled
Invita NZ Ltd	Marketing focus	Profiled
James & Wells Intellectual Property	Service provider	Out of scope
Just the Berries	SP – Plant based	Profiled
Keene Manufacturing Solutions Ltd	Service provider	Out of scope
Kerasi Limited	Service provider	Out of scope
Label and Litho Ltd	Service provider	Out of scope
Lifestream International Ltd	Marketing focus	Profiled
Manuka Health New Zealand Ltd	SP - Honey	Profiled
Mende Biotech Ltd	SP – NZ unique	Profiled
Mix Ltd	Cosmetics	Out of scope
MJ Health Ltd	Cosmetics	Out of scope
Mountain Red Ltd	SP - Deer	Profiled
Natural Health Laboratories Ltd	Marketing focus	Profiled
Natural Health Review	Media	Out of scope
Nelson Apiaries	SP - Honey	Profiled
Network Nutrition Pty Ltd	Wholesaler	Out of scope
New Image Group	Marketing focus	Profiled
New Zealand Extracts Ltd	SP – Plant based	Profiled

SOURCE – NATURAL PRODUCTS NZ ORGANISATION

... continued



Firm	Classification	Outcome
New Zealand Health Food Company Ltd	Marketing focus	Profiled
New Zealand Natural (North America)	Dairy	Dairy
New Zealand Trade and Enterprise	Government agency	Out of scope
NutraNZ	Marketing focus	Profiled
Nutrizeal Ltd	Manufacturing focus	Profiled
NZ New Paradise Ltd	Marketing focus	Profiled
Pacific Perfumes Ltd	Cosmetics	Out of scope
Pacifica Skin Care Ltd	Cosmetics	Out of scope
Phytomed Medicinal Herbs Ltd	Manufacturing focus	Profiled
Pilot Brands	Meat	Meat
Plant & Food Research	Government agency	Out of scope
Pure Vitality Health Products	SP - Deer	Profiled
Quantec Ltd	IP Focused	Profiled
Radius Pharmacy Ltd	Retailer	Out of scope
Red Seal Natural Health Ltd	Marketing focus	Profiled
Remarkable Foods Ltd	Food	Food
RMF Marketing Services Ltd	Manufacturing focus	Profiled
Robert Forbes and Associates Pty Ltd	Service provider	Out of scope
Sanofi-aventis New Zealand	Australian mnfr./whls.	Out of scope
SeaDragon Marine Oils Ltd	SP - Seafood	Profiled
Seperex Nutritionals Ltd	IP Focused	Profiled
Simunovich Olive Estate	Cosmetics	Out of scope
Somnaceutics Ltd	IP Focused	Profiled
Supreme Biotechnologies (NZ) Ltd	IP Focused	Profiled
The New Zealand King Salmon Co Ltd	Seafood	Seafood

Firm	Classification	Outcome
Trinity Bioactives Ltd	IP Focused	Profiled
UBM Medica New Zealand Ltd	Media	Out of scope
Victoria University of Wellington	Government agency	Out of scope
Vitaco Health NZ Ltd	Marketing focus	Profiled
Wilson's Lavenders Ltd	Farmer	No website Nothing on Google Not in companies office

SOURCE – NZBIO ORGANISATION

We reviewed the membership list of the NZBIO organisation...



Firm	Classification	Outcome
A J Park	Service provider	Out of scope
AbacusBio Limited	Service provider	Out of scope
AFT Pharmaceuticals Ltd	Pharmaceuticals	Out of scope
AgResearch	Government agency	Out of scope
Argenta Manufacturing Limited	Animal health	Out of scope
Auckland Council	Government agency	Out of scope
Auckland UniServices Ltd	Government agency	Out of scope
Baldwins Intellectual Property	Service provider	Out of scope
BioCatalyst Ltd	Service provider	Out of scope
Bioengineering Institute, U. of Auckland	Government agency	Out of scope
Biomatters Limited	Service/Software	Out of scope
BioPacificVentures	Venture capital	Out of scope
BLIS Technologies Ltd	IP focused nutraceutical	Profiled
Business NZ	Lobby group	Out of scope
Cawthron Institute	Government agency	Out of scope
CoDa Therapeutics, Inc.	Pharmaceuticals	Out of scope
Cure Kids	Charity	Out of scope
Ernst & Young	Service provider	Out of scope
Environmental Services Research (ESR)	Government agency	Out of scope
Estendart	Service provider	Out of scope
Fonterra Co-operative Group Ltd	Dairy company	Profiled
FRST	Government agency	Out of scope
Industrial Research Limited	Government agency	Out of scope
Innate Therapeutics Limited	Pharmaceutical	Out of scope
Institute for Innovation in Biotechnology	Equipment supplier	Out of scope

Firm	Classification	Outcome
Invitrogen New Zealand Limited	Equipment supplier	Out of scope
Izon Science	Spectroscope	Out of scope
James & Wells Intellectual Property	Service provider	Out of scope
Kerridge & Partners	Recruitment agency	Out of scope
KODE Biotech	Biotech	Out of scope
LanzaTech NZ Ltd	Bio-Energy	Out of scope
Living Cell Technologies Limited	Pharmaceuticals	Out of scope
Manuka Health New Zealand Ltd	SP - Honey	Profiled
Massey University	Government agency	Out of scope
Maurice Wilkins Centre	Government agency	Out of scope
Medicines New Zealand	Lobby group	Out of scope
Merck Millipore	Equipment supplier	Out of scope
Ministry of Science & Innovation	Government agency	Out of scope
MP Biomedicals New Zealand Limited	Equipment/supplies	Out of scope
New Zealand Trade & Enterprise	Government agency	Out of scope
NZ Genomics Ltd	Government agency	Out of scope
Otago Innovation Limited	Government agency	Out of scope
Pacific Edge Biotechnology Ltd	Biotech	Out of scope
Pastoral Genomics Limited	Research consortium	Out of scope
PGG Wrightson Seeds	Seeds/farm supplies	Out of scope
Photonz Corporation Limited	IP focused nutraceutical	Profiled
Plant and Food Research	Government agency	Out of scope
PolyBatics Ltd.	Biotech	Out of scope
PricewaterhouseCoopers	Service provider	Out of scope
RJ Hill Laboratories	Service provider	Out of scope

SOURCE – NZBIO ORGANISATION

... continued



Firm	Classification	Outcome
Rubicon Ltd	Biotech/other	Out of scope
SCION	Government agency	Out of scope
Seperex Limited	IP focused nutraceutical	Profiled
Sigma-Aldrich New Zealand Ltd	Equipment/supplies	Out of scope
Simpson Grierson	Service provider	Out of scope
Southern Lights Biomaterials	Animal tissue	Out of scope
Symansis Ltd	Biotech/other	Out of scope
TechSol	No available data	Unclear
Thompson & Clark Investigations Limited	Service provider	Out of scope
Thomson Reuters Healthcare & Science	Service provider	Out of scope
Tompkins Wake	Service provider	Out of scope
University of Otago, Research & Enterprise	Government agency	Out of scope
ViaLactia Biosciences (NZ) Limited	Biotech/other	Out of scope
WaikatoLink Limited	Government agency	Out of scope
Wintec	Government agency	Out of scope
World Courier (NZ) Limited	Service provider	Out of scope

Less than 1/3 (21 out of 66) actually bio/pharma related firms

SOURCE – NZTE

We reviewed the list of nutraceutical firms provided by NZTE from their database...

Firm	Classification	Outcome
A2 Corporation	Dairy	Dairy
Abacus Biotech Ltd	Service provider	Out of scope
Absolute Essential	Cosmetics	Out of scope
Agresearch Ltd	Government agency	Out of scope
Agri-lab Co-Products Ltd	SP – Meat byproducts	Profiled
AgriQuality NZ Ltd	Government agency	Out of scope
Alaron Products Ltd	Manufacturing focus	Profiled
Alpha Laboratories NZ Ltd	Manufacturing focus	Profiled
Aotea Pacific Ltd	SP – Seafood	Profiled
ApiHealth NZ Ltd	SP - Honey	Profiled
Aroma (NZ) Ltd	SP – Seafood	Profiled
Auckland UniServices Limited	Government agency	Out of scope
Bioactives Research	Service provider	Out of scope
Trinity Bioactives	IP Focused	Profiled
Biovittoria	SP - Plant based	Profiled
Blackmores	Aust. Mnfr.	Out of scope
BLIS Technologies	IP Focused	Profiled
Bronson and Jacobs	AU based supplier	Out of scope
Canes Deer Products Ltd	SP – Deer velvet	Profiled
Cawthron Institute	Government agency	Out of scope
Cellular Improvements Ltd	SP – Honey/bee product	Profiled
CMS	WHO?	
Comvita	SP - Honey	Profiled
Creative Energy Natural Health NZ	Marketing focus	Profiled
Distribution International	Wholesaler/Retailer	Out of scope

Firm	Classification	Outcome
Earthwise Direct Aka Betta Crop Organics	HBC/Cleaning	Out of scope
Eat Right Foods	Food	Food
Enzo Nutraceuticals Ltd	SP – Forestry	Profiled
Essentially New Zealand	SP – NZ unique	Profiled
Evergreen Life Limited	Marketing focus	Profiled
Extracts NZ Ltd	Manufacturing focus	Profiled
First Ocean Wide	Unclear	Website down
Fonterra/NZMP	Dairy	Dairy
Forest Herbs Research Ltd	SP – NZ unique	Profiled
Fragrance Holdings Ltd (Les Floralties)	Cosmetics	Out of scope
Functional Whole Foods	SP - Plant based	Profiled
Genesis Biolaboratory Ltd	Manufacturing focus	Profiled
Gevir Products NZ Ltd	SP – Deer velvet	Profiled
GHO	Food (vinegar/drinks)	Out of scope
Ginko Green NZ Ltd	SP - Plant based	Profiled
GMP Pharmaceuticals	Manufacturing focus	Profiled
Good Health Products Ltd	Marketing focus	Profiled
Gracelinc	IP Focused	Profiled
Gramart Foods	Food	Food
DavisAsia Ltd	Marketing focus	Profiled
Happy Families Ltd	Retailer	Out of scope
Health and Herbs International Ltd	Marketing focus	Profiled
Vitaco Health	Marketing focus	Profiled
Herb Mark Ltd / Eco Logic Concepts	SP – Seafood (seaweed)	Profiled
Honey New Zealand Intl Ltd	SP - Honey	Profiled

SOURCE – NZTE

... continued

Firm	Classification	Outcome
Honeycreme International Ltd	Cosmetics	Out of scope
Plant & Food Research	Government agency	Out of scope
Hubris International	SP – Seafood	Profiled
Ideal Health	Retailer	Out of scope
Immuno Laboratories NZ Ltd	Marketing focus	Profiled
Industrial Research Limited (RP)	Government agency	Out of scope
Jagulana Health Products Ltd	Marketing focus	Profiled
Just the Berries Ltd	SP - Produce	Profiled
Lifestream International Ltd	Marketing focus	Profiled
Living Nature	Cosmetics	Out of scope
MacLab	SP – Seafood	Profiled
Malcolm Harker Ltd	Marketing focus	Profiled (in liquidation)
Manuka Health NZ	SP - Honey	Profiled
Market New Zealand Ltd	Manufacturing focus	Profiled
Maxamena	SP – Seafood	Profiled
Mende-Biotech Ltd	SP – NZ unique	Profiled
SeaDragon Marine Oils	SP – Seafood	Profiled
Miada Sports Nutrition	Marketing focus	Profiled
National Deer Horn Ltd	SP -Deer	Profiled
Natural Health Laboratories	Marketing focus	Profiled
Natural Health New Zealand (2002) Ltd	SP – Seafood	Profiled
Natural Health Review	Publication	Out of scope
Natural Health Zone	Retail	Out of scope
Nature Bee	SP - Honey	Profiled
Natureplus	Marketing focus	Profiled

Firm	Classification	Outcome
Nature's Nurse	Topical medicine	Out of scope
Natures Sunshine Products (NZ)	Marketing focus	Profiled
Naturo Pharm Ltd	Parent profiled	
Nelson Apiaries Ltd	SP - Honey	Profiled
Network Nutrition	No longer operating	
New Zealand Botanicals Ltd	Marketing focus	Profiled
New Zealand Pharmaceuticals	Manufacturing focus	Profiled
New Zealand Supreme Natural Foods Limited	SP - Deer	Profiled
NIWA	Government agency	Out of scope
NutraNZ	Marketing focus	Profiled
Nutravision Consultancy Services	Equipment/consultant	Out of scope
NutriPharm NZ Ltd (Nutritional Brands)	Infant formula	Processed foods
Nutri-Zeal Ltd	Manufacturing focus	Profiled
NZ Blackcurrant Holdings Ltd	Food	Food
NZ Extracts Ltd	SP – Plant based	Profiled
NZ Health Food Company	Marketing focus	Profiled
NZ Health Naturally	Marketing focus	Profiled
NZ Health Shop	Retailer	Out of scope
NZ Laboratory Services	Service provider	Out of scope
Oil Seed Extracts	SP – Plant based	Profiled
Pacific Health Products	Wholesaler	Out of scope
Pharmazen Group	Manufacturing focus	Profiled
Phytomed Medicinal Herbs Ltd	Marketing focus	Profiled
ProActive Nutrition	Parent profiled	
Professional Herb Services	Wholesaler/retailer	Out of scope

SOURCE – NZTE

We reviewed the NZTE feedback

Firm	Classification	Outcome
Quantec Ltd	IP Focused	Profiled
Red Seal Natural Health Ltd	Marketing focus	Profiled
RMF Marketing Services Ltd	Manufacturing focus	Profiled
Robert Forbes & Assoc	Service provider	Out of scope
Seperex Nutritionals Ltd	IP Focused	Profiled
Silberhorn	SP – Deer velvet	Profiled
Solgar NZ	Agent/wholesaler	Out of scope
New Image	Marketing focus	Profiled
Tairawhiti Pharmaceuticals Ltd	SP-NZ unique	Profiled
Tatua	Dairy	Dairy
Integria Health	Marketing focus	Profiled
Trilogy Natural Products	Cosmetics	Out of scope
Tui Bee Balme Co-op	Cosmetics	Out of scope
Vita-Fit Nutrition Ltd	Parent profiled	
Vital Food Processors Ltd	SP – plant based	Profiled
Weleda NZ Ltd	Cosmetics	Out of scope
Westland Milk Products	Dairy	Dairy
Xtend - Life Nutraceuticals (NZ) Ltd	Marketing focus	Profiled
Zeal Extracts Ltd	SP - Honey	Profiled

SOURCE – MSI

We reviewed the MSI additions as part of their feedback

Firm	Classification	Outcome
Synlait	SP - Dairy	Profiled
A2 Corporation	SP - Dairy	Profiled
Anagenix	Shown with Trinity	Profiled
Carina Chemical Laboratories Ltd	Unclear business model	
Blackmores	AU/No NZ mnfr. (Closed NZ mnfr 1996)	Out of scope
Gevir Premium	SP - Deer	Profiled
GraceLinc Limited	IP Focused	Profiled
Kiwifruit Extract Ventures Ltd	IP Focused	Profiled
Miers Laboratories	Marketing focused	Profiled
MJ Health Ltd	Cosmetics	Out of scope
Natural Magic Ltd	Medical ointment	Out of scope
Nature's Kiss NZ Ltd	Medical ointment	Out of scope
Tairawhiti Pharmaceuticals	NZ-unique	Profiled
Xtend-Life Natural Products (International) Limited	Manufacturing focus	Profiled
Alliance		
ANZCO		
AFFCo		
SFF		
Meat Biologics Research Ltd.	SP – meat based	Profiled



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SUPPLEMENTARY – IDENTIFIED THEN EXCLUDED







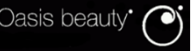


We identified the following firms but then excluded them as outside scope

- As there is effectively no data on the size and structure of the nutraceuticals sector in New Zealand we built data from scratch:
 - Identifying as many as possible companies in New Zealand
 - Attempting to determine basic information about identified firms
- To do this, we used a wide range of sources, including interviews, industry directories and web searches
- As part of this, we identified a range of companies which we excluded from our definition of the industry
- We include a list of these firms here for reference

COSMETICS

We identified a range of natural products derived cosmetics firms which were out of scope

Identified natural products derived cosmetics firms in New Zealand
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Cosmetics						
 ABSOLUTE ESSENTIAL THERAPEUTIC PLANT OILS						www.absoluteessential.com/ Aromatherapy; essential oils
 LIVING NATURE New Zealand						www.livingnature.com/ Cosmetics & skincare; partially owned by New Image
 100% Botanicals Made in New Zealand						www.doctorwendy.net/ Skincare
 pacifica SKINCARE						
 CAROL PRIEST ESTABLISHED 1978						www.carolpriest.co.nz/
 Lanocrème since 1953					1987	www.lanocrema.com/ Lanolin cream; honey; kiwifruit extract; others
 Oasis beauty			4 (ws)			www.oasisbeauty.co.nz/ Skincare
 GO NATIVE NEW ZEALAND						www.gonative.co.nz Natural cosmetics ingredients with NZ specific ingredients
 Les Florales New Zealand						www.lesfloralies.co.nz/

COSMETICS

We identified a range of natural products derived cosmetics firms which were out of scope


Identified natural products derived cosmetics firms in New Zealand
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Cosmetics						
				NZ/Swiss; private (52% Melville; 48% Weleda AG)		www.weleda.com.au ; http://www.weleda.co.nz www.weleda.com
Madeleine Ritchie						www.honeycreme.co.nz
						www.trilogyproducts.com/
						www.tuibalmes.co.nz
						www.magickawa.com Kawakawa ointment
						www.kiriskincare.co.nz

WHOLESALERS

We identified a range of firms that were wholesalers of imported product and firms that only served horses












Identified importer/wholesalers of nutraceutical ingredients in New Zealand
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Importer/Wholesaler						
	\$150m (K; 05)		70 (K)		1987	www.chemiplas.co.nz Wholesaler not manufacturer; some food ingredients
Ingredient Techniques	\$1m (Ke)		5 (K)		n/a	www.ingredients.co.nz Wholesaler not manufacturer
Animal not human						
Good Health Organisation Redwood Animal Health						www.rah.co.nz/
Equine Essentials			3		2005	www.equineessentials.co.nz/ Horse cosmetic products

PRIMARILY RETAILER

We identified a wide range of nutraceuticals retailers, primarily direct/internet sellers...





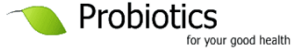





New Zealand nutraceuticals firms – primarily retailer
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Primarily Retailer						
						www.healthy.co.nz
						http://theherbaldispensaryraglan.co.nz Retail store
						http://livingfoodslifestyle.co.nz
						http://childlife.co.nz Imports and distributes Child Life Essentials supplements
					1993	www.proherb.co.nz Import and distribution of global products
						www.tasmanhealth.co.nz/
						www.greenhealth.co.nz
			10-20			www.healthpost.co.nz Retail other brands and have own brand
						www.healthia.co.nz
Shaman's Garden					2003	www.shaman.co.nz Herbal remedies
					2000s	www.hhacupuncture.co.nz Solely sell kombucha tea
						www.natures-remedies.com/

PRIMARILY RETAILER

...continued...










New Zealand nutraceuticals firms – primarily retailer (2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Primarily Retailer						
T.J. Clark	\$1m (Ke)		5 (K)		2001	www.tjclark.co.nz/ Noni juice , colloidal minerals, other
	\$3m (K)		3 (K)	New Zealand; private (Sowden family)	1992	www.abeeco.co.nz/ Parent is “Performance Health” Direct mail; originally bee pollen; now a range of supplements packed by others
						www.nonihealth.co.nz Primarily sell noni products: supplements, juice, soap
						www.nonienterprise.com/ Sell only noni juice and capsules (made in Niue)
						www.purepacifika.com Sell only noni juice and capsules (made in Niue)
						www.probiotics.co.nz Importers and distributors
					2000	www.lovelyhealth.com Southern Deep (marine), Southern Country (dairy), Southern Synergy (barley grass) range of supplements
						http://www.healthy.co.nz/ Firm is Ideal Health
						www.workboot.co.nz/profile/Natural_Health_Zone/2540.html
						http://www.nzhealthshop.co.nz/
	\$6m (2010)		N/A		1985	www.healthworldnz.co.nz Brands Metagenics/Ethical Nutrients Factory in Australia; wholesale AU produced product in NZ

PRIMARILY RETAILER

...continued

New Zealand nutraceuticals firms – primarily retailer
(2010 or as available)

	Turnover	% Export	Employees	Ownership	Year founded	Notes
Primarily Retailer						
						www.tastenature.co.nz Health shop
						www.realnutrients.co.nz Have own brand, ~50% of products
						www.biotrace.co.nz On sell product from US
					1984	www.pachealth.co.nz Sales to natural health industry; effectively a wholesaler
			2		2009	www.vitalityplus.co.nz
			2-4			www.in2herbs.co.nz Import and distribution
						www.vitallife.co.nz Just online sales
Nature's Nutrition						www.naturesnutrition.co.nz
						www.waimarionaturalhealth.co.nz
						www.oneearth.co.nz Range of supplements and herbal products

