Opportunities in Horticulture

Land Management and Opportunities in the Lake Rotorua Catchment Conference

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17 June 2015

Background and Outline

- Grow Rotorua commissioned review of horticultural opportunities
- Methodology
- Results
- Possible next steps

Methodology

Analysis of the Potential for Horticulture Development

- Stage 1- Literature/internet review
- Preliminary analysis
- Stage 2 - Consultation
- Stage 3 - Detailed analysis of a short list

Previous Research/Initiatives

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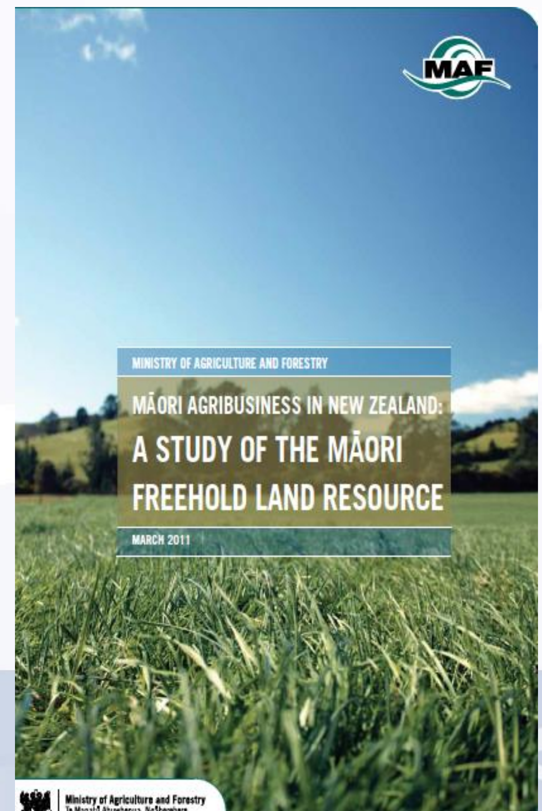
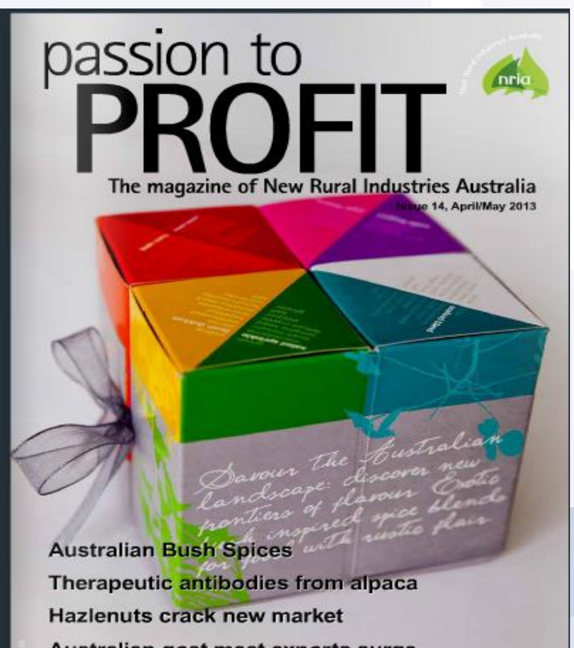
and Wood Processing	Wood processing	Medium	High	Yes	Medium	
	Services	Medium	High	Yes	Medium	
Tourism (Product and Infrastructure)	International brand strength	High	High	Yes	High	
	Infrastructure	High	High	Yes	Medium	
	Service sector	Medium	Medium	No	Low	
	Events	High	Medium	No	High	
	Natural resources	High	High	Yes	Medium	
Geothermal	Tourism feature/wellness	High	Medium	Yes	High	
	Energy supply	Low	Low	No	High	
	Living environment	Medium	Medium	Yes	High	
Agriculture	Dairy/sheep and beef and other	High	High	No	High	
	Processing	Medium	High	No	High	
	Services	High	High	No	Medium	
Research and Development	Intellectual Property	Medium	Low	Yes	High	3
	Commercialisation	Low	Low	Yes	High	
Lakes environment	Lifestyle product	Medium	Medium	No	High	4
	Tourism and other development	Medium	Medium	Yes	Medium	
Education	Skills development and Innovation	Medium	Medium	No	High	5

CFS
Crops For Southland Inc

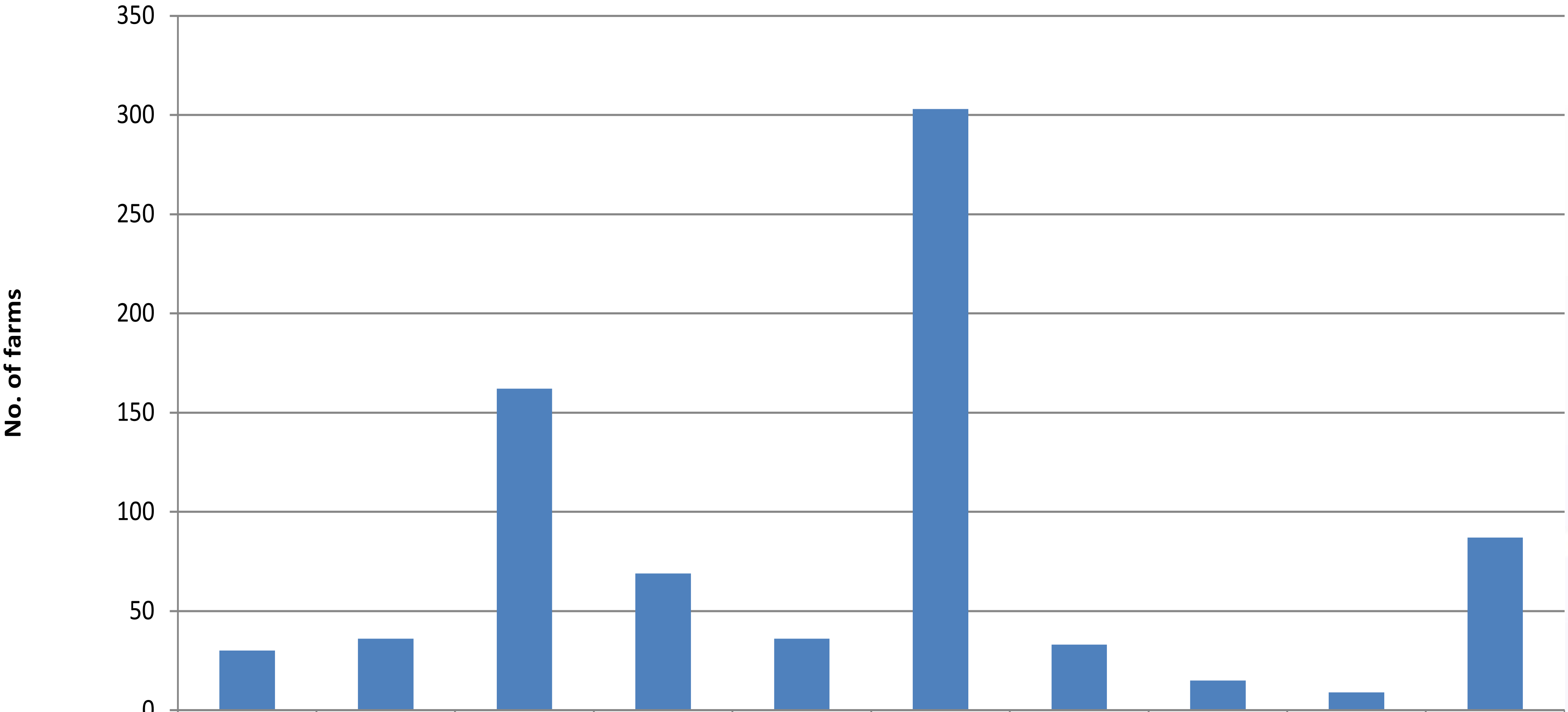




Screening of crop options

1. Landuse suitability
2. Environmental issues - potential for N mitigation
3. Market and value chain analysis
4. Strategic potential and economic impacts
5. Competitive advantage - geothermal

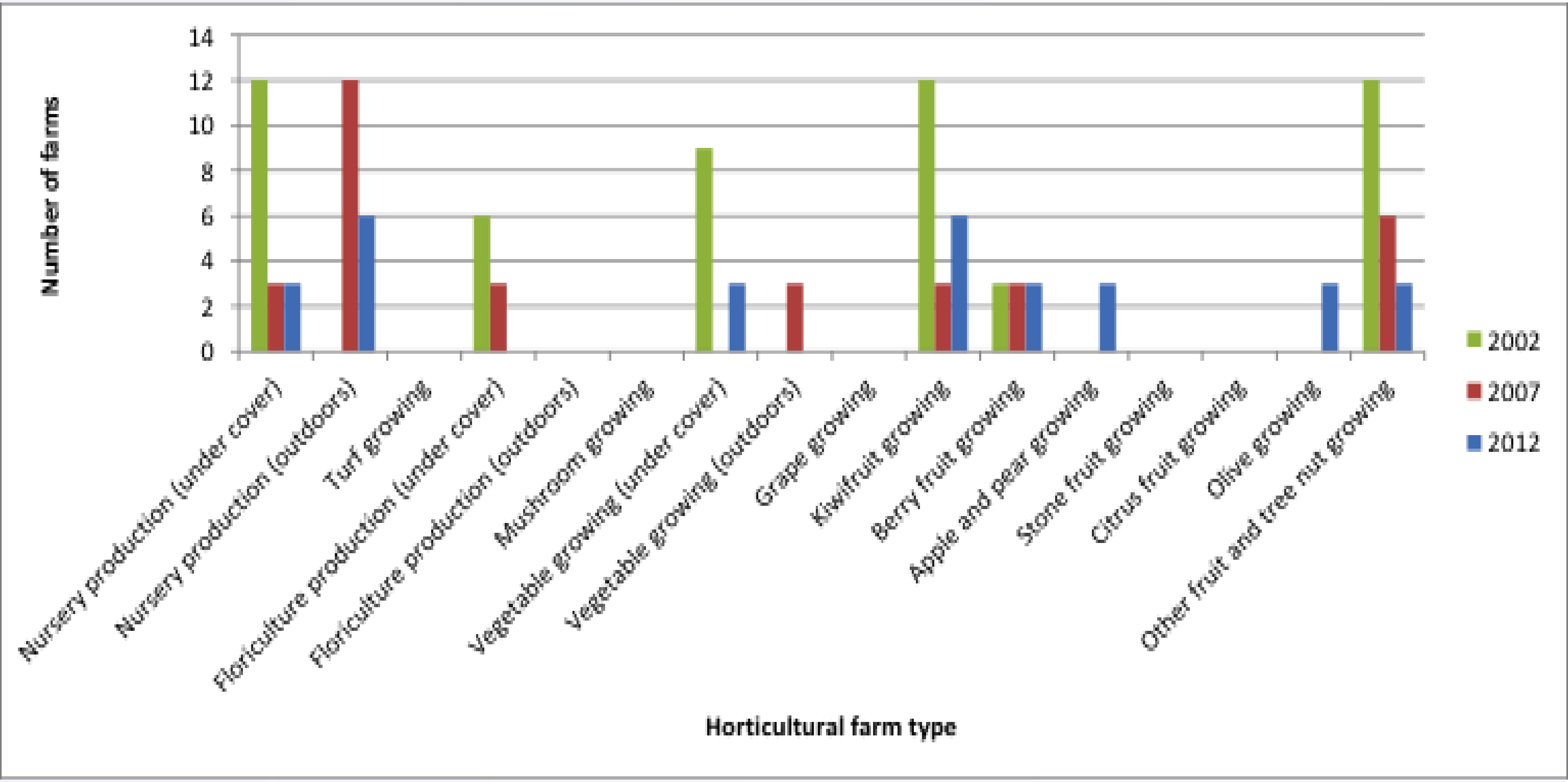
1. Rotorua District – 2012 Landuse



	Nursery, vegetables, flowers & fruit	Sheep farming (specialised)	Beef cattle farming (specialised)	Sheep-beef cattle farming	Other crops	Dairy farming	Deer farming	Horse farming	Other livestock farming	Forestry
Rotorua district	30	36	162	69	36	303	33	15	9	87

Farm type

Rotorua District – Trends in Horticulture



Land Use Capability Classes

Increasing limitations to use

<table>
<tr><th>LUC Class</th><th>Arable cropping suitability†</th><th>Pastoral grazing suitability</th><th>Production forestry suitability</th><th>General suitability</th></tr>
<tr><td>1</td><td rowspan="4">High
↓
Low</td><td rowspan="7">High
↓
Low</td><td rowspan="7">High
↓
Low</td><td rowspan="4">Multiple use land</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td></tr>
<tr><td>4</td></tr>
<tr><td>5</td><td rowspan="4">Unsuitable</td><td rowspan="3">Pastoral or forestry land</td></tr>
<tr><td>6</td></tr>
<tr><td>7</td></tr>
<tr><td>8</td><td>Unsuitable</td><td>Unsuitable</td><td>Conservation land</td></tr>
</table>

Decreasing versatility of use

Rotorua District – By Land Use Capability

Class	Description	Area Ha
0	Other (lakes)	25,600
1	Intensive Horticulture	700
2	Cash cropping	23,400
3	Intensive grazing	63,100
4	Extensive grazing	91,300
5	Pasture with limits	48,100
6		
7	Protection	11,300

Rotorua District - Most Intensive Sustainable Landuse

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Legend

Most intensive, sustainable land use possible

- Intensive horticulture
- Cash cropping
- Intensive grazing
- Extensive grazing
- Pasture with trees
- Forestry
- Protection

2. N Mitigation - Landuse

Land use type	N leaching loss ($kg\ N\ ha^{-1}\ yr^{-1}$) Range	Mean	References
Market gardening	80–292	177	Williams et al. (2003); Francis et al. (1992 ; 2003).
Dairy pasture	15–115	65	Ledgard et al. (1999, 2000 and unpublished research); Roach et al. (2001); Steele et al. (1984); Monaghan et al. 2000); Silva et al. (1999).
Mixed cropping or arable farming	35–110	61	Francis et al. (1994; 1995); Adams and Pattinson (1985); Ludecke and Tham (1971).
Orcharding	50[a]	50[a]	Ledgard et al. (1992).
Sheep	6–66	21	Brock et al. (1990); Ruz-Jerez et al. (1995); Heng et al. (1991); Magesan et al. (1994, 1996); Burden (1980).
Forestry	3–28	3[b]	Parfitt et al. (1997, 2002, 2003); Magesan et al. (1998).

3. Horticultural Crops – Market Analysis

No	Crop	Market				
		World Exports (tonnes) 2012	Average price (US$ Tonne) 2012	NZ 2012 Exports Production (Tonnes)	Average Export Price 2012 ($US)	2008-2012 NZ value exports annual average trend
Intensive Horticulture and Other						
1	Blueberries	289,819	$4,774	1,221	$11,790	16%
2	Cherries	431,958	$3,928	1,582	$10,650	9%
3	Flowers – cut	NA	NA	1,646	$15,247	2%
4	Flowers – bulbs	NA	$5,000	2,519	$2,519	5%
5	Hazelnuts	218,781	$6,895	4	$8,500	NA
6	Pipfruit	8,213,806	$866	309,464	$948	5%
7	Raspberry – fresh	155,750	$5,194	2	$16,000	20%
	Raspberry – frozen	367,448	$2,041	1,122	$2,096	-38%
9	Strawberries	858,939	$2,711	646	$5,868	5%
10	Saffron	1,395	$104,522	NA	NA	NA
11	Walnuts	194,588	$8,042	4	$9,500	10%
12	Ginseng	7,980	$58,412	1	$238,000	NA
13	Honey Manuka honey	526,193	$3,293	8,606	$11,999	20%

Sources UN International Trade Centre and other

ITC

TRADE MAP

Trade statistics for international business development

Monthy, quarterly and yearly trade data. Import & export values, volumes, growth rates, market shares, etc.

Home & Search | Data Availability | Reference Material | Other ITC Tools | More | Mr. Jon Manhire

Product: ... ... 081050 - Kiwifruit, fresh | Product Group: None

World / Country: All | Country Group: None

Partner: All | Partner Group: None

other criteria: Exports | Trade indicators | by country

List of exporters for the selected product in 2014
Product : 081050 Kiwifruit, fresh

Table | Graph | Map | Companies | FDI data | Tariff da

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HS8	Exporters	Trade Indicators									
		Value exported in 2014 (USD thousand)	Trade balance in 2014 (USD thousand)	Quantity exported in 2014	Quantity Unit	Unit value (USD/unit)	Annual growth in value between 2010-2014 (%)	Annual growth in quantity between 2010-2014 (%)	Annual growth in value between 2013-2014 (%)	Share in world exports (%)	Average distance of importing countries (km)
	World	2,297,753	-39,474	1,215,914	Tons	1,890	5	-1	12	100	5,684
+	New Zealand	848,055	846,392	392,025	Tons	2,163	2	-1	29	36.9	10,652
+	Italy	588,860	523,394	340,736	Tons	1,728	6	-2	15	25.6	3,486
+	Belgium	265,208	61,362	88,900	Tons	2,983	2	-7	21	11.5	463
+	Chile	181,431	181,409	102,650	Tons	1,767	7	-9	-26	7.9	10,796
+	Greece	109,801	103,812	101,775	Tons	1,079	13	9	6	4.8	2,162
+	Netherlands	53,642	-64,592	23,295	Tons	2,303	3	-4	-12	2.3	786
+	France	50,235	-54,047	23,596	Tons	2,129	5	0	-12	2.2	3,885
+	Iran, Islamic Republic of	40,900	40,900	34,174	Tons	1,197	44	25	-14	1.8	2,250
+	Spain	27,848	-164,341	15,477	Tons	1,799	19	8	45	1.2	952

Growth Opportunities

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STAGE II – RESULTS

Stage II identified a total of 20 well placed emerging growth opportunities in New Zealand's F&B exports which the screen ranked as "good, better and best"

Results of stage II screen
(ranking)

See Appendix 1 (p32+) for two page profiles and details of screen of all 20 categories

Some findings

- NZ already gets a significant premium for many products – tangible and intangible quality delivery.

- Rapidly growing volume and value of exports from Asia, Eastern Europe for many crops – however some high cost countries eg USA, Netherlands still successful.

- Great variation between average returns per tonne for many products.

- Secondary benefits could be substantial eg farming/food/tourism linkages – Italy, France

Preliminary Summary Assessment

No	Opportunity	Landuse Capability Class	Climate/site Suitability (1-5)	Existing Production (1-5)	Market Potential (1-5)	Potential Returns (1-5)	Overall Rating
Horticultural Crops							
1	Kiwifruit	1-3	2	1	5	5	**13**
2	Avocadoes	1-3	1	1	3	4	**9**
3	Feijoa	1-3	3	1	2	2	**8**
4	Hazelnut	1-3	3	1	2	3	**9**
5	Blueberries	1-3	4	2	2	3	**11**
6	Straw/Raspberries	1-3	3	1	2	2	**8**
7	Outdoor Flowers	1-3	3	1	2	3	**9**
Other new crops/options							
8	Traditional Maori crops	1-4	3	1	1	3	**8**
9	Hops	1-3	2	0	4	3	**9**
10	Tea	1-3	1	1	2	4	**8**
11	Manuka Honey (1)	1-8	4	3	4	3	**14**
12	Truffles	1-4	2	1	3	5	**11**
13	Ginseng	1-7	3	1	2	4	**10**
14	Herbs/Oil Plants	1-7	3	1	3	3	**10**

Geothermal – Greenhouse Crops

No		Existing Production (1-5)	Market Development (1-5)	Potential Returns (1-5)	Overall Rating
1	Tomatoes	4	3	3	10
2	Capsicums	4	3	3	10
3	Other Fruit/Vege	1-3	1-4	2-3	4 to 10
4	Flowers	3	2	3	8
5	Aquaculture	2	1	3	6
6	Food processing	1	3	3	7

Analysis

- Competitive advantage
- Value Chain
- Porter 5 forces analysis – framework for industry analysis and business strategy
- Clusters of competence – link to regional development

CDC Economic Analysis (5,000 Ha, NPV 25 years)

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	NPV	IRR	Return on Invested Capital
Pharmaceutical Plants			
On Farm	$118.5m		
Processing	$160.2m	32%	32%
Milking Sheep			
On Farm	$107m	24%	25%
Processing	$134m	34%	34%
Manuka Honey			
Beekeeping	$0.56m	15%	16%
Walnuts			
On Farm	$85m	17%	38%
Processing			
Blackcurrants			
On Farm	$156m	16%	25%
Processing	$235	39%	39%

Next Steps?

- There are some potential opportunities however significant natural, market and economic barriers to many – NZ is generally a high cost producer.
- Look for non-commodity strategies – value add processing, use of credence attributes, niche production, NZ unique points of difference.
- Scale is often important – research, marketing, supply.
- Passion OK – however analysis and planning more important.