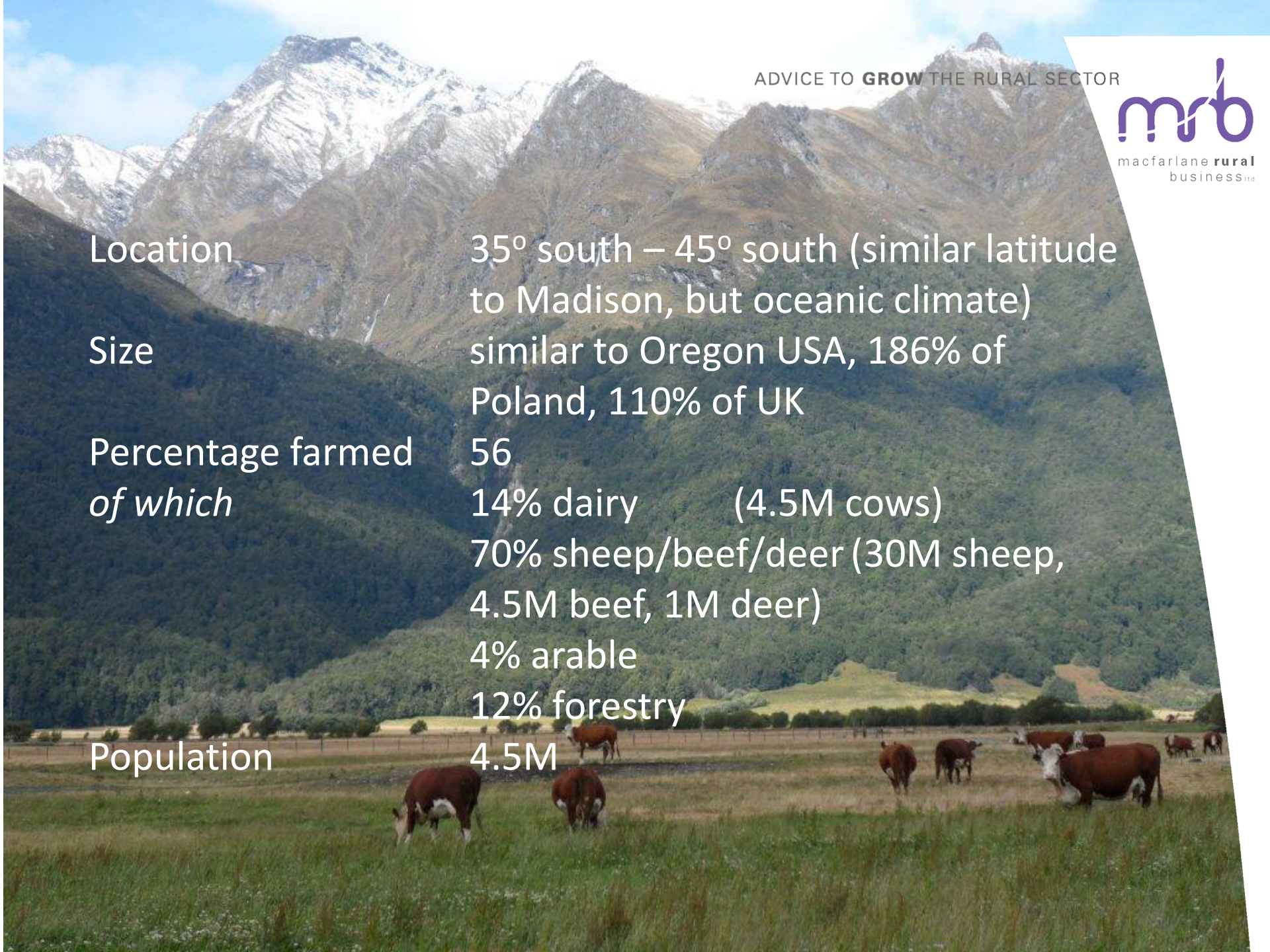


NEW ZEALAND

A presentation by Andrew Macfarlane
Registered Farm Management Consultant
and Farmer, NZ

Location	35° south – 45° south (similar latitude to Madison, but oceanic climate)
Size	similar to Oregon USA, 186% of Poland, 110% of UK
Percentage farmed <i>of which</i>	56 14% dairy (4.5M cows) 70% sheep/beef/deer (30M sheep, 4.5M beef, 1M deer) 4% arable 12% forestry
Population	4.5M





CANTERBURY CASE STUDY FARMS – DAIRY (100% IRRIGATED)

	Imperial	Metric
Area	550acres	220 ha
Cows	770	770
Production	8.25M <u>lbs</u>	342,000kgMS
MS %	9.12% (5.2% fat)	
Per cow	= 15000lbs (corrected to 3.5%)	6800kg milk
	= 55lbs/day milked (270 days/year)	25kg/day
Staff	= 4 (all capable of doing all jobs, but well paid)	
	<u>wages</u> = 16% of total costs	
Diet	= 80% pasture	

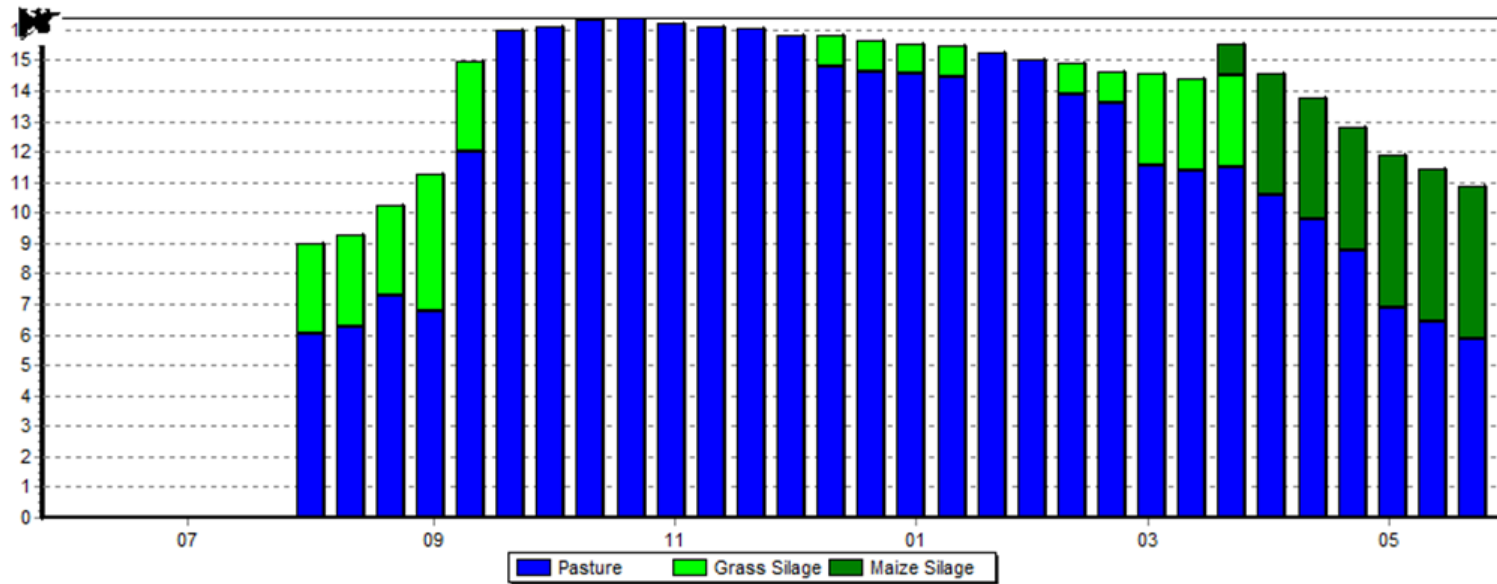
EBIT	\$2,500 - \$3,500/ha
Land value	\$38,000/ha
Fonterra shares	\$ 8,000/ha
Stock	\$ 6,000/ha
Plant	\$ 1,000/ha
TFC	\$53,000/ha

Return on Capital = 4.7% - 6.6%





DAIRY COW DIET MAKE-UP



ARABLE (100% IRRIGATED)

Area 573 acres 232 ha

Crops 27% wheat
9% process peas
9% process potatoes
9% maize silage (sold)
9% ryegrass seed
9% white clover seed
6% carrot seed
3% radish seed
9% fodder beet (for wintering dairy cows)
9% kale (for wintering dairy cows)

EBIT	US\$1,600/ha
Land value	\$28,000/ha
Plant	\$ 2,000/ha
Working capital	\$ 1,500/ha
TFC	\$31,500/ha
Return on Capital	= 5.1%



Fodder beet for livestock
wintering



Hybrid carrot seed

SHEEP/BEEF/DEER (25% IRRIGATED)

Area = 800ha

2,500 sheep
1,000 Friesian bulls
1,500 deer

EBIT \$ 800/ha
Land value \$12,600/ha
Stock \$ 1,500/ha
Plant \$ 500/ha
Working capital \$ 800/ha
TFC \$15,400/ha

Return on Capital = 5.2%



Young bull beef and lambs



Red deer for European markets

MARKETS

- MILK

2% of global production

35% of cross border trade (along with EU, USA, Australia)

53% powder, 32% fat based, 12% protein based

- MEAT

10% of production, 60% of cross border trade in lamb

40% of production, 90% of cross border trade in venison (excl intra Europe)

1% of beef production, 6% of global trade, but very important in lean beef for hamburger trade

- ARABLE

Very small grain producer (not self sufficient) but one of the worlds three largest seed and vegetable seed nurseries along with Denmark & Oregon (USA).

KEY ISSUES

1. Interface between environment standards and productivity.

- Environmental standards are strict, but have not historically been strict enough.
- Specific standards around effluent, nutrient management (compulsory nutrient management plan), water management, (Sustainable Dairy Water Accord).
- Ultimate cost of non compliance is heavy fine and non collection of product.

- In Canterbury, we produce around three times as much milk, meat and wheat per mm irrigation water as 20 years ago. (higher productivity, smart irrigation), and four times as much product/kg N leached.
- Almost all capital spend is going into areas that improve environmental outcomes, usually in association with productivity gains.

- Irrigation development involves large scale storage, which has increased the cost of infrastructure development by tenfold in a decade.
- The driver to irrigation is reliability of production.
- The NZ public (rightly) have very high expectations of environmental standards. (Christchurch is one of only two global cities not to require treated water).

- A new means of agreement through having all stakeholders round the table seems to be working.
- The infrastructure cost is driving output away from sheep production to dairy and arable on flat land, but sheep & deer are increasing in number on hill country.

2. Food Safety

- We export to global markets.
- Quality standards have to meet the level of the most demanding markets (typically Japan and EU, but increasingly, China).
- Food testing techniques are more sensitive (driven by crises like melamine in China, and new technology such as DNA testing).

- High prices encourage opportunists to defraud value chains.
- Traceability issues such as horse meat in Europe, rat meat in China, DCD traces in NZ milk powder all underpin the need for vigilance.

3. Credit availability

- Farm credit readily available (especially dairy).
- Four major Australasian trading banks plus Rabobank. These banks are five of the nine “AA” rated banks globally.
- Average debt levels high (NZ average is 45% gearing).
- Result of high generational turnover, productive investment, farm expansion.

- New Zealand 3rd highest farm gearing in world (behind Denmark and Netherlands) USD 70/cwt, or \$USD 1.80/kg milk.
- Interest rates high relative to USA and Europe (6.5% fixed for 5 years, 5.2% variable).
- Interest rates unlikely to reduce as the Government is working hard to keep inflation under 2%.

4. Market volatility

- Our global markets outside Asia and Australia are all practicing quantitative easing.
- Weak Yen, USD, Euro is resulting in a high Australian and New Zealand dollar.
- We can not print money as we do not have a deflationary environment.
- High, but volatile soft commodity markets (as result of low \$US) are offset by very high New Zealand dollar.
- Small buffers of international commodity stocks inevitably create volatility which can be accentuated by exchange rate movements.

5. Market realignment

- Our markets are moving from the west to the east.
- China now takes 30% of our milk and lamb, and may take 30% of our beef and timber.
- The lesson learnt from the EU in the 1970's is that we want to maintain market diversity.
- To date, Chinese capital investment in New Zealand has been much lower in practice than publicity would indicate.
- Most Chinese investment to date has been in the processing sector rather than land.

6. Capability

- The resurgent rural sector in New Zealand is creating major demand for
 - Rural professionals
 - On farm management capability
- We are struggling to supply the demand.
- We estimate that Ag Science and Commerce students need to increase 500%.
- The average 30 year old farmer in our area needs to juggle production skills, human resource, financial management, risk management, compliance, climate management, capital spend, and manage a mortgage of US\$3.2M.

7. Inter-relationship between business, science, and education

- New Zealand did a poor job through the 1990's when the three sectors became “disconnected” as agriculture fell out of favour.
- A major change in government mind-set occurred five years ago.
- Lincoln University and the AgResearch Lincoln campus are being rebuilt (after the earthquake) as a part of an expanded “Lincoln Hub”. Lincoln has just been invited to join the “Euro league of Life Science” Universities.

- Growth in the “agricultural silicon valley between Christchurch/Lincoln/Ashburton/Methven” is massive.
- A similar “Agrifood” Hub is expanding on the Massey University campus in the North Island.
- None of the current growth would be possible without the foundations laid by the economic reforms of the 1980’s.

8. Rebuilding our second largest city

- The chance for a world class “small city” (400,000 pop).
- Central planning is underpinning the strategy, but has slowed the rebuilding process.
- Voted one of top five destinations by “Lonely Planet”.





Demolition



Rebuilding

THE FUTURE

- With market based economics comes volatility.
- Ability to generate cashflow and grow equity excites young people.
- Proportion of employees is rising as farms increase in size.
- Average age of farmers is decreasing.

- Ownership models have diversified, with contract milking, sharemilking, and equity partnerships all common, but much easier with dairy farming.
- A greater proportion of industry participants have vocational qualification (8% have degrees in agriculture).
- The industry objective is to have every farm owner and/or managers with a degree or university diploma.

- Growth will slow as credit availability slows and environmental compliance requirements tighten further.
- Fonterra has given dairying direction and strategy, even though every dairy farmer has a choice of processor.
- We are in restructuring mode in our meat industry, with processing overcapacity accentuating market volatility.

- Irrigated parts of temperate New Zealand will grow their importance as one of the world's most important seed nurseries.
- Likely to become more focused on output per unit of natural resource.
- In a world where competition to supply will be less important, free trade will encourage collaborative rather than competitive behaviour.
- New Zealand is ideally placed as an “alternative” for high end product where local supply is not available or not suitable.

**We can only feed 30M
people !**

