Massey University – Intensive Livestock Field Day (7)

Thursday 24th March 2011

Field Trip Leaders: Nicky Hyslop, Jansen Travis

Focus for the Day: Key issues driving intensive livestock systems in Canterbury

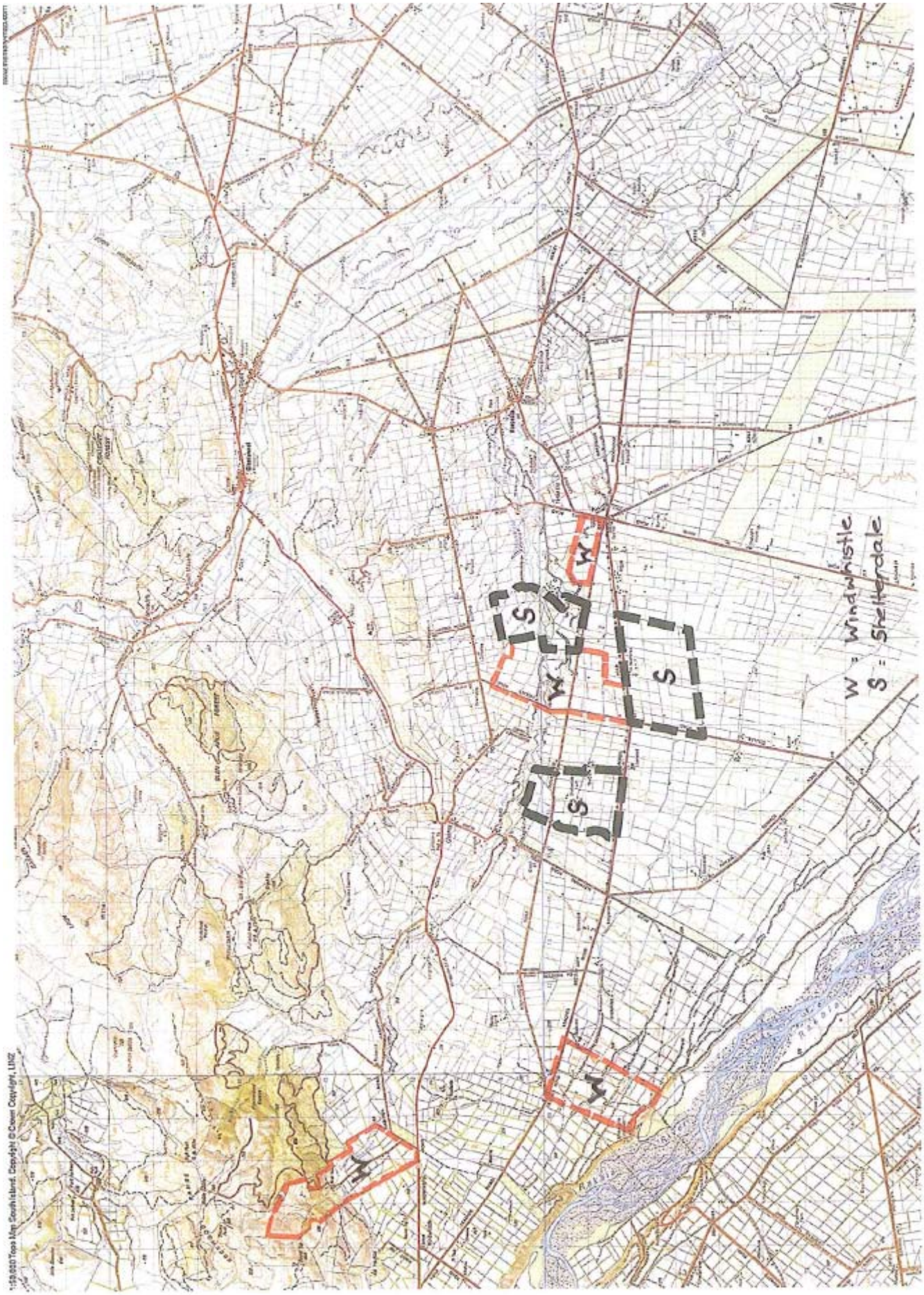
Programme

8.00 am	Depart Methven Resort	
8.40 am	WINDWHISTLE PASTORAL	
	Welcome & Introductions	Rick Daly & Nicky Hyslop
	Windwhistle Pastoral Business Structure	Rick Daly & Andy Macfarlane
9.35 am	Stop One: Intensive Breeding Policies	
10.30 am	Morning Tea	
10.45 am	Stop Two: Integration of Pastoral Based Livestock Enterprises & Cropping. Intensive Land Use & Gross Margins	
11.15 am	Stop Three: Beyond the Farm Gate: Farm/Market Relationships CMP & Waitrose Bagging Plant	
12 – 12.30pm	Lunch	
1 pm	GAVIN KING – Welcome & Introductions	
	Stop One: Intensive Sheep Operation	Gavin King & Jansen Travis
	Stop Two: Dryland vs. Irrigation Conversion: Central Plains Water Scheme Opportunities for Canterbury	Nicky Hyslop Doug Catherwood
3.30 pm	Depart for Lincoln	
4.30 pm	Arrive Lincoln for casual barbeque.	
8.30 pm	Depart for Methven	

In the spirit of the OCCUPATION, HEALTH AND SAFETY ACT the Owners have taken all reasonable care in making your visit to the property as safe as possible, they clearly point out, you enter the property at your own risk.

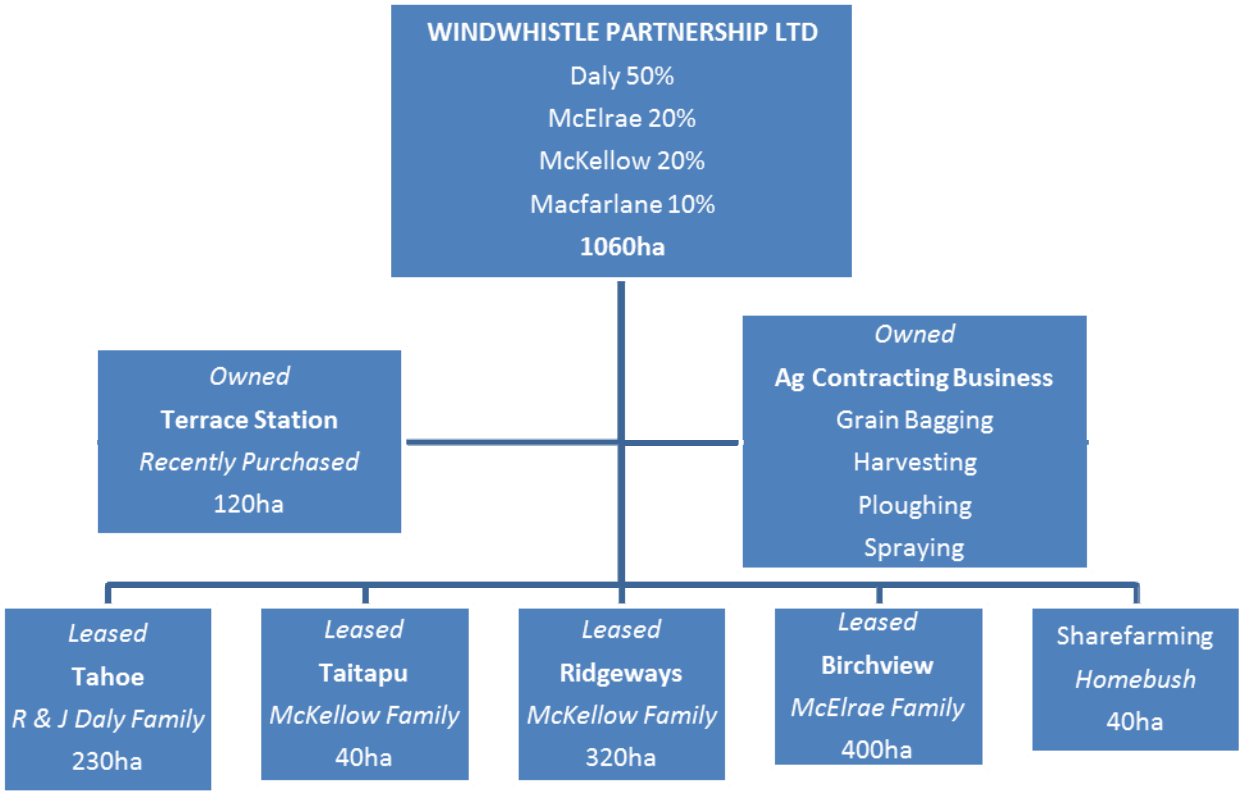
The Owners and IFMA Congress organizing committee will accept no responsibility for any incident or injury to any person or property that takes place while you are visiting the property.

Windwhistle Pastoral & Shelterdale Property Locations



1.0. WINDWHISTLE PARTNERSHIP BACKGROUND

- Originally Windwhistle Pastoral leased 380ha of land.
- In June 2000 Rick Daly was offered equity partnership and management opportunity in Windwhistle Pastoral and the operation has since grown to 1160ha.
- Rick Daly's background was from a farming family with 4 boys (all interested in farming) on 300ha. Rick wanted a pathway to land ownership outside of the family farm and did not want to go dairying (more recognised industry for land ownership than sheep/beef/crop).
- Business structure of Windwhistle Partnership:



KEY POINTS OF STRUCTURE:

- We needed some scale to generate a return and manage risk.
- Very limited in capital.
- Could offer a good work ethic and good management skills to a group of others.
- The ownership structure where 2 of the landowners also have a share in the farming company is unusual but works really well for us.

WHY

- They have a sense of ownership and inclusion in the business.
- Their return in capital is averaged up but they share some farming risk.
- They have skills & experience to offer the business despite not wanting to farm full time.
- They get the benefit of increased scale and spreading risk across several land uses.
- Communication and the partnership mentality with lessors is enhanced.
- Lack of land security to offer lenders is a problem. The group structure allows guarantees to be spread across several people. The banks don't like lending on livestock and plant.
- We now have enough group strength to buy the first piece of commonly owned land. Eventually that land will also create more security for lenders.
- Larger group structure gives WPL something to offer smaller farms without the expertise or large farms doing other things. A range of contracting and share farming options offered.
- Such deals are dependent on reputation, which has to be built on trust and ability to deliver results.

2.0. PROPERTY DETAILS

2.1. Location Hororata / Windwhistle **2.2. Rainfall** 1050mm or 42 inchs

2.3. Area & Soils

Block	Area (Ha)	Soils	Tenure
Tahoe	230ha	Silt & Stony Silt (free draining)	Leased – owned by R&J Daly
Birchview	400 ha	Hill soils	Leased – owned by T&J McElrae
Ridgeway	320 ha	Silt Loam and Clay (Heavy)	Leased – owned by J McKellow
Terrace St'n	120 ha	Silt Loam. Medium Soils	Owned – recent purchase
Homebush	40 ha	Silt Loam. Medium Soils	Sharefarmed
Lincoln	50 ha		Leased – owned by McElrae
Total	**1160ha**		

2.5. Labour Manager + 1 full time senior stockman + 2 part time

2.0. STOCK & CROP ENTERPRISES – CHANGES AT WINDWHISTLE:

2.1. Stock Numbers & Crop Areas

	2004/05	2010/11
Land Area:	670ha	1067ha
Stock:		
Breeding Ewes	2747hd	1500hd
Ewe Hoggets	796hd	480hd
Breeding Hinds	368hd	415hd
Weaner Venison	185hd	290hd
Breeding Cows	133hd	110hd
Five Star Steers	170hd	
Bull Beef	270hd	100hd
Dairy Cow Grazers		10,000hd for 60 days winter
Crop:		
Kale	65ha	450ha
Feed Wheat	8.5ha	90ha
Feed Barley	52ha	75ha
Contracting Business:		$135,000

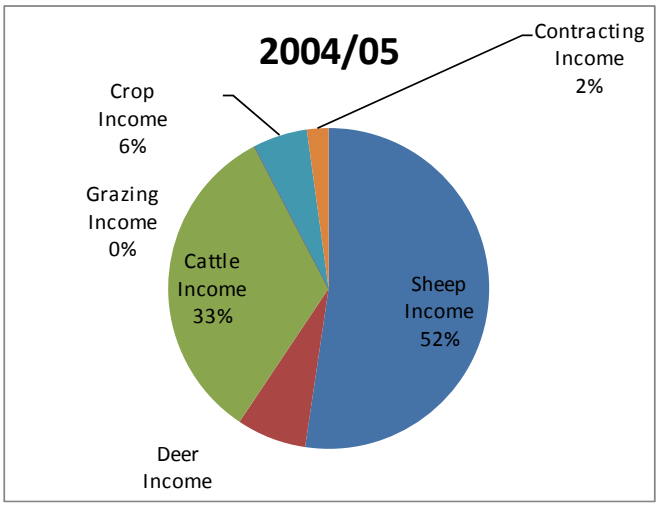
2.2. Stock Performance & Crop Yields

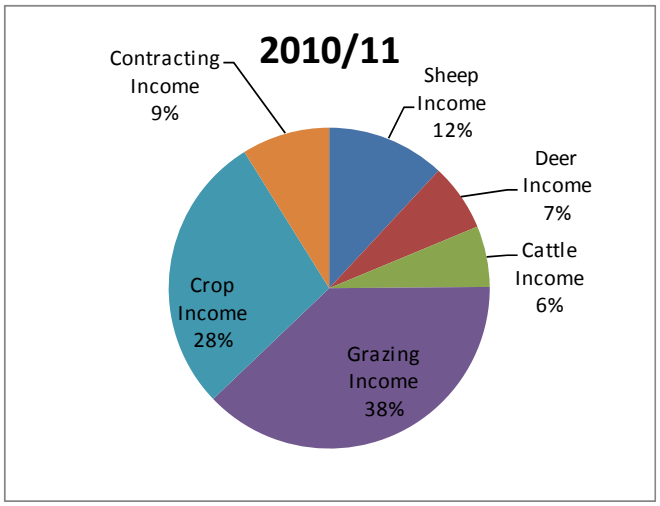
	2004/05	2010/11
Stock:		
Breeding Ewes	150% Lambing, 30kgLW Wean Lamb	150% Lambing, 32kgLW Wean Lamb
Breeding Hinds	80% Fawning, 60kgLW Weaning	80% Fawning, 60kgLW Weaning
Five Star	Sell 18mnth Steers @ 430kgLW	
Bull Beef	Purchase 100kgLW Dec or 380kg Aut.	Purchased 380kgLW December
	Killed at 275 - 330kgCW.	Killed at 330kgCW in Oct/Nov/Dec
Dairy Cow Grazers		60 days on Kale over winter

Crop:		
Kale	10,000kgDM/ha	12,000 – 15,000kgDM/ha
Feed Wheat	7 Tonnes/ha	6.5 – 9 Tonnes /ha
Feed Barley	5 Tonnes/ha	5.0 – 8 Tonnes /ha

2.4. Financial Performance

Windwhistle Partnership	**2004/05**		**2010/11**	
Ha	670	ha	1060	ha
Income	**$**	**$/ha**	**$**	**$/ha**
Sheep Income	$347,556	$519 /ha	$202,970	$191 /ha
Deer Income	$46,741	$70 /ha	$116,015	$173 /ha
Cattle Income	$218,751	$326 /ha	$104,470	$156 /ha
Grazing Income		$0 /ha	$647,000	$966 /ha
Crop Income	$36,409	$54 /ha	$481,136	$718 /ha
Contracting Income	$14,500	$22 /ha	$151,000	$225 /ha
Gross Farm Income	**$663,957**	**$991 /ha**	**$1,702,591**	**$2,541 /ha**
Expenditure	**$**	**$/ha**	**$**	**$/ha**
Wages	$125,262	$187 /ha	$224,800	$336 /ha
Animal Health	$33,093	$49 /ha	$20,910	$31 /ha
Fertiliser	$66,644	$99 /ha	$293,119	$437 /ha
Feed	$33,150	$49 /ha	$64,830	$97 /ha
Seeds & Treatment	$11,985	$18 /ha	$87,750	$131 /ha
Weed & Pest	$15,830	$24 /ha	$123,930	$185 /ha
Repairs & Maint.	$15,000	$22 /ha	$50,000	$75 /ha
Vehicles	$25,000	$37 /ha	$88,000	$131 /ha
Admin	$19,250	$29 /ha	$26,500	$40 /ha
Other Farm Working	$27,229	$41 /ha	$108,022	$161 /ha
Farm Working Expenditure	**$372,443**	**$556 /ha**	**$1,087,861**	**$1,624 /ha**
		56% GFI		64% GFI
Farm Surplus	**$291,514**	**$435 /ha**	**$614,730**	**$918 /ha**
				$0
Rent	$134,000	$200 /ha	$307,700	$459 /ha
				$0
Surplus Before Interest/Drawings/Capital	**$157,514**	**$235 /ha**	**$307,030**	**$458 /ha**





6.0. Gross Margins for Intensive Land Classes

	Weaner Venison Fast	Weaner Venison Slow	Br Ewes 150%	Winter Store Lamb	Weaner Steer	Weaner Bull	2yr Bull - Medium	15 Mnth Bull - Heavy	Wnr Dairy Hfr	Winter Dairy Cows	Feed Barley $/ha
Start Date	15-Apr-11	15-Apr-11	1-May-11	1-May-11	1-May-11	1-Dec-10	1-May-11	1-May-11	1-May-11	1-Jun-11	1-May-11
Start Weight (kgLW)	65	54		28	200	100	400	450	190	450	
Start Price/kg	$4.85	$4.85		$3.00	$3.00	$3.00	$1.80	$1.70			
Start Price/hd	$315.25	$261.90	$100.00	$84.00	$600.00	$300.00	$720.00	$765.00	$0.00	$0.00	
Av Growth Rate kgLW/day	0.23	0.13		0.1	0.8	0.8	0.8	0.8	0.7	0.3	
Finish Date	1-Oct-11	1-Apr-12	1-May-12	30-Sep-11	1-May-12	15-Jun-12	15-Dec-11	15-Oct-11	1-May-12	1-Aug-11	
Finish Weight kgLW	103.9	99.8		43.2	493	550	582.4	583.6	446	468	
Finish Weight kgCW	58	56	16.5kgCW	19.0	256	286	302.8	309			7 T/ha
Net Finish Price/kg	$8.00	$7.00	$5.5	$6.50	$4.00	$3.80	$3.80	$4.20		$25.00 /hd/wk	$320 $/T
Margin c/kgDM	**29.3c**	**14.0c**	**15.4c**	**19.1c**	**11.4c**	**16.1c**	**13.6c**	**22.8c**	**17.3c**	**29.8c**	
Margin $/ha @ 10TDM/ha	**na**	**na**	**$1,540**	**na**	**$1,139**	**$1,609**	**na**	**$2,283**	**$1,735**	**$2,976**	**$1,640**
Sensitivity c/kgDM											
+/- kg/day	0.05	0.05	+/- 5% lamb	0.05	0.2	0.2	0.2	0.2	$0.5 /hd/wk	$1.0 /hd/wk	1 T/ha
= +/- c/kgDM	6.46c	7.35c	0.30c	11.38c	9.24c	9.36c	6.19c	6.50c	1.02c	1.19c	$320 /ha
+/- Sale Price/kg	$0.50	$0.50	+/- $0.5/kg	$0.10	$0.10	$0.10	$0.10	$0.10			$50 /T
= +/- c/kgDM	6.62c	3.97c	1.00c	1.04c	1.55c	1.20c	1.08c	1.43c			$350 /ha
Other:	Feed demand curve fits NZ dryland grass supply - high quality feed demand	High quality feed demand	Feed demand curve fits NZ grass supply	High quality feed demand	High quality feed demand	Feed demand curve fits NZ grass supply	Feed demand curve fits NZ dryland grass supply	Feed demand curve fits NZ dryland grass supply	Double up of dairy heifers Dec-May challenging for dryland. Cannot destock quickly.	Typically on fodder crop for 80% of diet - higher costs than pasture. Kale cost up to ~$1100/ha	Can be sown autumn or spring depending on summer reliability

Note:

- The above figures are GROSS margins not net margins!
- Cost of feed to achieve growth rates needs to be considered. Spring finishing typically requires higher quality winter feed which may come at a significant cost. Dairy cows eating 10000kgDM/ha over 8 weeks can only be achieved with 80-100% fodder crop.
- Policies that can work with spring animal compensatory LW gains have opportunity to minimise expensive winter feed & capitalise on cheaper spring feed.
- Risk management is reflected in sensitivity to prices and production changes.
- **The final result on farm is determined by how you integrate stock and crop policies to maximise profitability per ha.**

‘Shelterdale’
Gavin & Leigh King

1.0 Overview

‘Shelterdale’, property of Gavin and Leigh King. The couple farm 844ha in a 50/50 partnership. Three sons of whom one is currently managing ‘Heatherlea’, the eldest is returning home shortly after a professional career as a stock buyer and more recently a rural bank manager. The youngest has recently finished university and is working as a Geologist for a mining company in Australia.
Gavin and Leigh are passionate about their family and the land. The Kings have been actively expanding their operation through further purchase of land. The couple wish to maintain a tidy operation, farm in a sustainable manner and ensure it is left in “good heart” for the next generation.
Gavin at 55 yrs old is ready to start taking time away from the property and inclusion of family into the farm business will make this possible.
Leigh works part-time as a school teacher at the local Glen Tunnel School.

The Kings have further farm investments of which all in sheep and beef.

1.1 Area and Valuation

Shelterdale	275.0376ha	or	679acres	$4,000,000
Heatherlea	374.8584ha	or	926acres	$4,500,000
Tim’s Block	101.0196ha	or	250acres	$1,250,000
Hall’s Block	92.9512ha	or	230acres	$1,075,000
Total	**843.8668ha**	**or**	**2085acres**	**$10,825,000**

1.2 Tenure

The total property is freehold

1.3 Location

Shelterdale the home block is located ten kilometres west of Hororata a small rural servicing town. A primary school, fuel station and pub are present.

• Fertiliser Works (Hornby)	52km	or	36 miles
• Lime (Springfield)	42km	or	32 miles
• Primary School (Hororata)	10km	or	6 miles
• Secondary School (Darfield)	27km	or	17 miles
• Service Centre (Darfield)	27km	or	17 miles
• Airport (Christchurch)	60km	or	37 miles
• Export Wool Store (Christchurch)	68km	or	42 miles
• Export Sheep Works (Fairton)	56km	or	35 miles
• Export Beef Works (Belfast)	65km	or	40 miles

1.4 Climate

Records show an average rainfall of 880mm/yr (35 inches). The range over the property 750 – 950mm/yr; with Heatherlea receiving the least. High evapotranspiration during summer (November/December) has a large and variable impact on pasture production during this period. A Significant slowing in pasture growth once frosts set in, end-May. Spring growth starts early-September and peaks at the start of November. Snow falls 2-3 times per year, but clears within a few days; a heavy snowfall can be expected 1 in10 years.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	P/A
Mean Max (°C)	27.6	27.3	25.8	23.4	20.5	18.2	17.4	18.8	22	23.5	24.3	26.5	***23***
Mean Min (°C)	18.2	18.2	16.5	12.7	9.5	7	5.7	6.5	9.5	12.1	14.6	16.7	***12.4***
Mean Rain (mm)	76.3	104.1	56.5	95.7	91.6	87.2	65.9	67.2	47.2	56.1	73.1	59.3	***879.9***
Mean Rain Days	11.6	11.2	11.6	10.5	11.8	11.7	10.6	7.7	7.6	8	12	10.3	***124.8***

1.5 Topography

The property is flat and fully cultivatable. Elevation ranges from 274m.a.s.l (900ft) to 219m.a.s.l (720ft).

1.6 Soils

70% of the soils are silt and stony silt loam, very free draining. The balance being heavy clay based soils that are susceptible to water logging and prone to pugging in winter. The property has a good balance of soil type.

1.7 Topdressing

Annual Application		N – P – K – S	
200kg	Sulphur Super 19 S	00-08-00-21	660ha
70kg	Urea	46-00-00-00	~100ha
Selenium Prills are added			
Brassica			
150kg	Cropmaster DAP	18-20-00-01	70ha
2kg	Borate		
100kg	Urea	46-00-00-00	as required
New Grass			
200kg	Cropmaster 20	19-10-00-13	80ha
Cereal			
400kg	Super Phosphate	00-09-00-12	30ha
200kg	Urea	46-00-00-00	

Lime

Application if Olsen P test is less than 5.8. Target 5.8 – 6.2 Olsen P

Average annual application 250 tonnes.

1.8 Irrigation

No irrigation on the property

Shares to irrigate 600ha have been purchased in the proposed Central Plains Water Scheme (CPW).

1.9 Land Use / Cover

Type	Area (Ha)	Yeild (KgDM/ha)
Kale	24	10,000 – 12,000
Fodder Beet	11	25,000 – 30,000
Rape	15	6,000 – 7,000
Summer Rape	21	5000 – 9000
Barley or Cereal Silage	17	7-9t/ha
New Grass	80	
Permanent Pasture	666	
Forestry	10	
Total Area	844	

1.10 Weed / Pest / Disease

Grass Grub is the greatest threat to pasture production on the property. Bio agents are used in badly affected areas.

Sheep are vaccinated against, Salmonella Brandenburg, Toxoplasmosis, Campylobacter, Footrot and are supplemented with iodine through a Flexidine vaccination.

Drench resistance on the property is present, it is actively monitored and management changes made to mitigate its impact.

1.11 Water Supply

The total property has water reticulation to all paddocks.

1.12 Stock/Policy

Cattle

As at 31st May 2010

Type	Number	Stock Units
M.A Cows - Mated	189	1134
Weaner Heifers	69	242
Weaner Steers	16	56
R2yr Steers	5	32
Bulls	5	28
Total	284	1492

Angus breeding cow operation, all progeny sold in autumn (6-7 months old) excluding replacement heifer calves. The cows average 92% calving (no. calves born / cows mated)

Sheep

As at 31st May 2010

Type	Number	Stock Units
M.A Ewes - Mated	3632	4358
2 Tooth Ewes - Mated	1180	1416
Ewe Hoggets - Mated	1481	1333
Cull Lambs	24	17
Rams	50	45
Total	6367	7169

A Coopworth flock breeding own replacements and finishing all progeny if the season allows. Coopworth rams are selected with a focus on parasite resistance. Mating date 1 April – lambing starts 25th August. Ewes are consistently scanning 180 % (excluding triplets) and lambing 150% and the hoggets are scanning 83% after one cycle and lambing 60%.

1.13 Labour

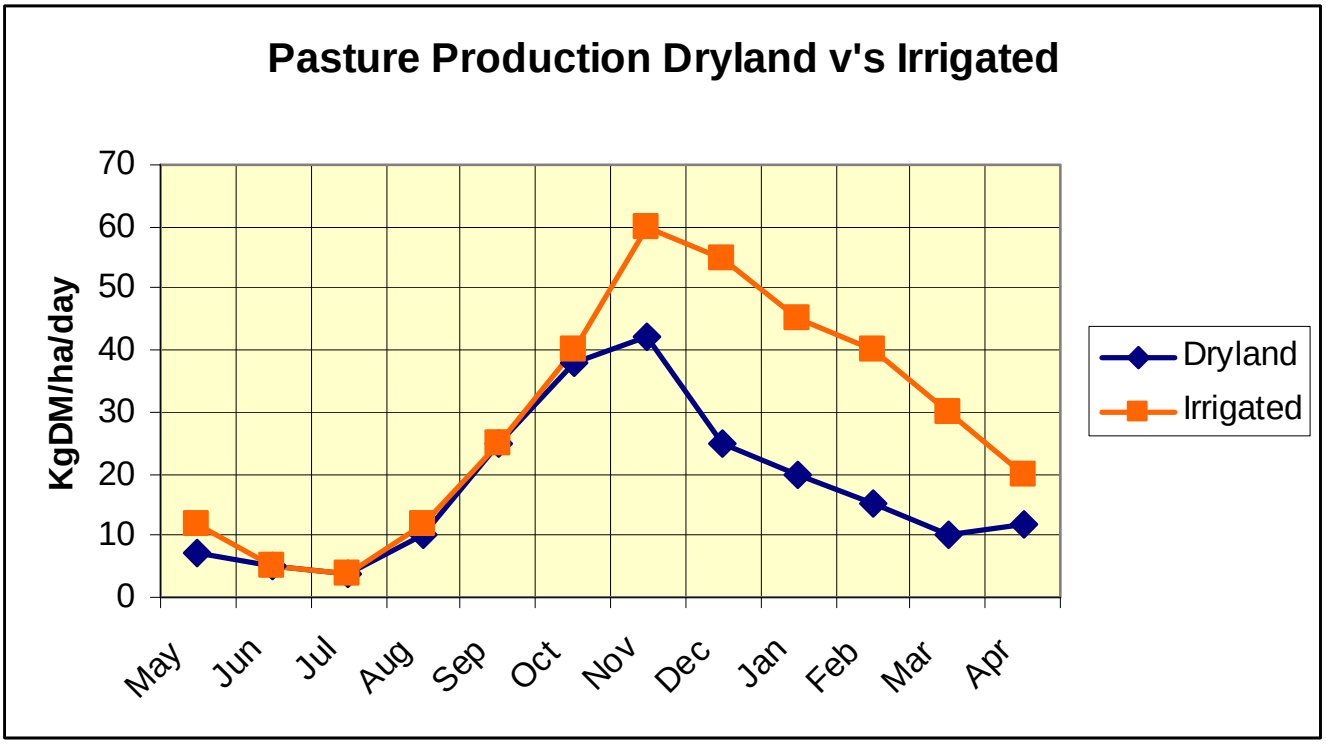
1 Owner/Manager
1 Son/Manager
1 Sheppard General
Total of 3.0 labour units

1.14 Financial Performance

Gavin & Leigh King	**2009-10 actual**		
Ha	844	ha	su
Income			
Sheep Income	$535,653	$634.66	$74.72**
Wool Income	$99,601	$118.01	$13.89**
Cattle Income	$84,025	$99.56	$56.32*
Crop Income	$84,491	$100.11	$9.76
Other Income	$701	$0.83	$0.08
Total Income	**$804,471**	$953.16	$92.88
Expenditure			
Wages	$120,788	$143.11	$13.95
Animal Health	$57,398	$68.01	$6.63
Shearing Expense	$44,307	$52.50	$5.12
Fertiliser & Lime	$92,534	$109.64	$10.68
Feed	$36,668	$43.45	$4.23
Seeds & Treatment	$25,668	$30.41	$2.96
Weed & Pest	$52,574	$62.29	$6.07
Repairs & Maintenance	$24,438	$28.95	$2.82
Vehicle Expense	$15,838	$18.77	$1.83
Fuel & Oil	$15,782	$18.70	$1.82
Cartage	$11,859	$14.05	$1.37
Administration	$9,856	$11.68	$1.14
Rates	$23,305	$27.61	$2.69
Insurance	$15,460	$18.32	$1.79
Other	$44,439	$52.65	$5.13
Farm Working Expenditure	**$590,914**	**$700.14**	**$68.23**
EBIT (Earnings Before Interest and Tax)	**$213,557**	**$253.03**	**$24.66**
Return on Total Farm Capital	**1.80%**		

** Expressed on sheep stock units (SSU)

* Expressed on cattle stock units (CSU)



Irrigation vs Dryland

	Top Dryland	Dairy	Mixed Livestock	Dairy Support
Total Ha	400	219	400	400
% Irrigated	0.00%	100.00%	50.00%	50.00%
Capital Invested $/ha				
Land	$17,000	$17,000	$17,000	$17,000
Off-farm Irrigation Infrastructure		$3,000	$1,500	$1,500
On-farm Irrigation Infrastructure		$4,250	$2,125	$2,125
Water storage		$3,750	$1,875	$1,875
Associated Development (pastures/fert)		$1,000	$475	$880
Dairy Conversion Specific		$7,694		
Fonterra Shares		$5,817		
Plant & Equipment	$500	$640	$500	$500
Livestock	$575	$7,352	$795	
Working Capital	$293	$434	$775	$775
TOTAL	**$18,368**	**$50,937**	**$25,045**	**$24,655**
Marginal Capital		**$32,569**	**$6,677**	**$6,287**
Gross Farm Income	**$1,455**	**$7,986**	**$2,216**	**$2,469**
Farm Working Expenses (Incl WOM)	**$822**	**$4,714**	**$1,230**	**$1,467**
EBIT	**$633**	**$3,272**	**$986**	**$1,002**
Marginal EBIT		**$2,639**	**$353**	**$369**
Return on Marginal Capital		**8.1%**	**5.3%**	**5.9%**
Return on Total Capital	**3.4%**	**6.4%**	**3.9%**	**4.1%**

Notes: