where you want to be

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

N.Z Sheep Production & Profitability

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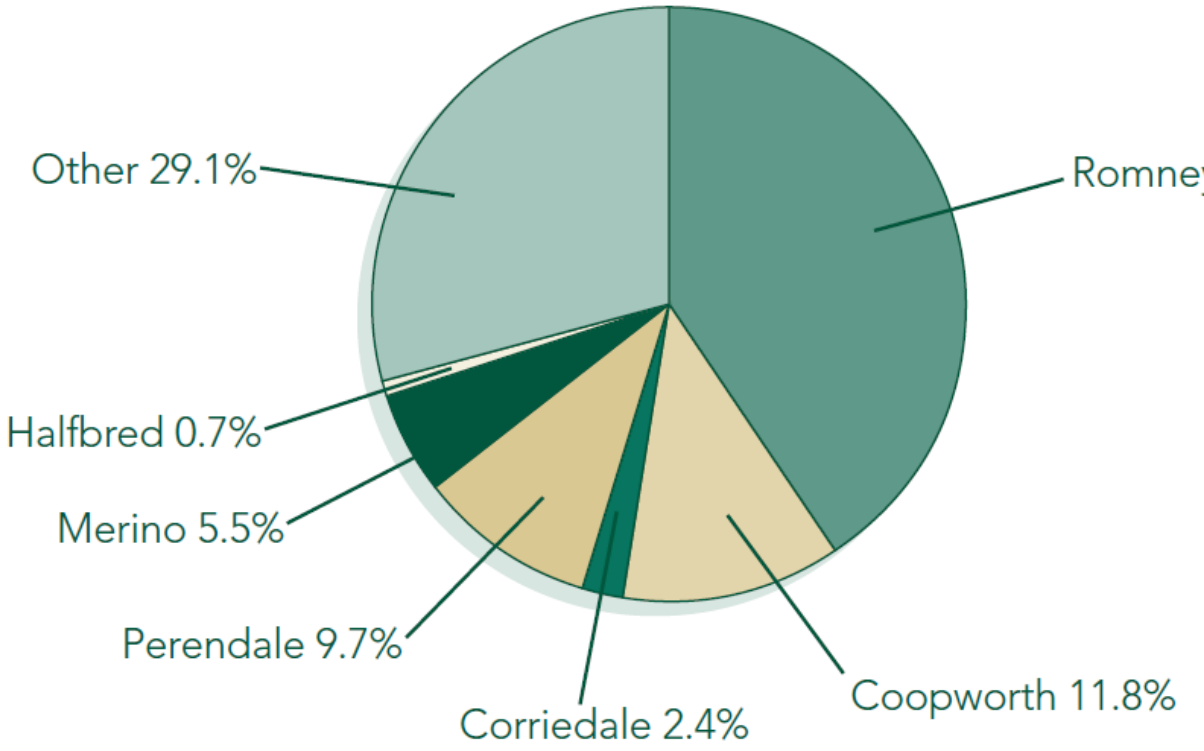
Faculty of Agricultural & Life Sciences

SHEEP BREEDS



Source: Meat & Wool New Zealand Economic Service
Sheep & Beef Farm Survey 2007–08

N.Z SHEEP BREEDS

COOPWORTH

- Long wool dual purpose breed, equal emphasis on meat and wool. Highly regulated breed
- 10,500,000 Numerically
- 130 – 160 % Lambing

CORRIEDALE

- Dual purpose breed
- 3,500,000 Numerically
- 100 – 120 % Lambing

N.Z SHEEP BREEDS

MERINO

- Speciality fine wool breed
- 1,300,000 Numerically
- 80 – 120 % Lambing
- High country, mountainous regions S.I

ROMNEY

- Dual purpose breed, emphasis on both meat and wool
- 21,000,000 Numerically
- 110 – 130 % Lambing
- Widespread throughout N.Z

N.Z SHEEP BREEDS

PERENDALE

- Dual purpose breed, equal emphasis on meat and wool.
- 7,500,000 Numerically
- 110 – 130 % Lambing
- Widespread throughout N.Z hill country

SUFFOLK

- Terminal crossing sire
- 45,000 Numerically
- 100 – 120 % Lambing
- Widespread throughout N.Z

N.Z SHEEP BREEDS

TEXEL

- Terminal crossing sire
- 420,000 Numerically and growing
- 110 – 150 % Lambing
- Widespread throughout N.Z
- Well muscled with high yielding carcases

WILTSHIRE

- Terminal crossing sire
- 6,000 Numerically
- 190 – 210 % Lambing
- Sheds fleece, absence of dags, resistance to fly strike,

MY SUPER SHEEP

- High litter size
- Multiple litters per year
- More than 2 teats
- Good milking ability
- Good mothering ability
- Excellent feed conversion
- High growth rates
- Low carcass fat content
- No dags
- No shearing
- Minimal disease risks
- Good Temperament

MY SUPER SHEEP

- High litter size
- Multiple litters per year
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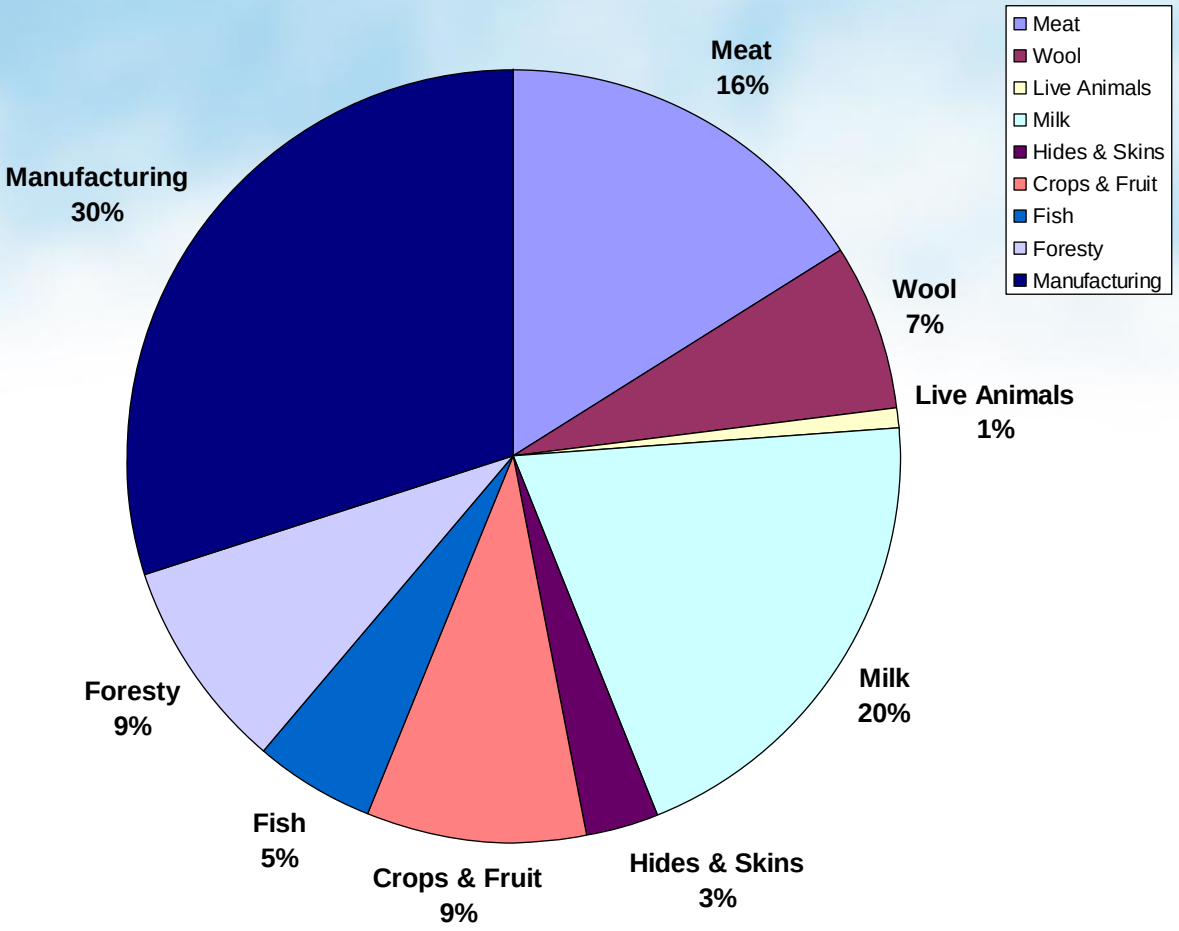
DOES THIS ANIMAL EXIST??

YES

BUT it's a PIG

N.Z Export Receipts by Industry



Livestock Production systems

N.Z LPS Exports

	Product:	N.Z Output exported %		N.Z share of World Market
	Wool	90%		1.0%
	Lamb	95%	Meat	0.5%
	Mutton	55%		
	Beef	78%		
	Venison	97%		
	Dairy	95%		2.0%
For comparison	Kiwifruit	90%		3.5%
	Apples	60%		2.0%

Lamb Growth

- What is current average daily growth rate of lambs in N.Z?

150g/day

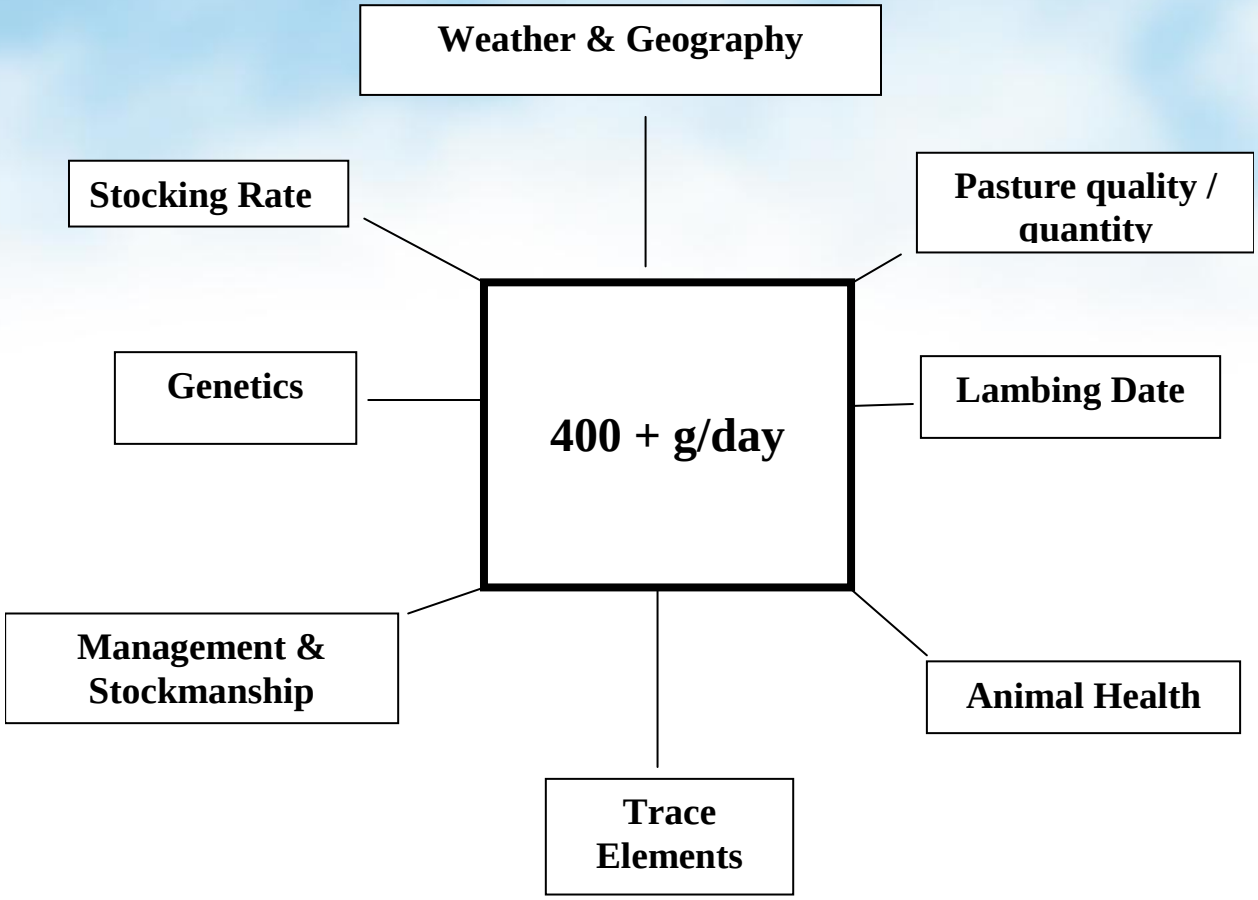
- What should the target be?

400g/day

Advantages of high growth rates:

- Less time to reach target liveweight
- 4.5kg birth weight @ 400g/day reaches 37kg in 81 days
- Most sold prime off mother
- Dressing out % higher
- Subject to less parasite challenge (organic Lambs??)

The Lamb Growth Matrix



One weak or missing spoke and the 400+ target will NOT be achieved

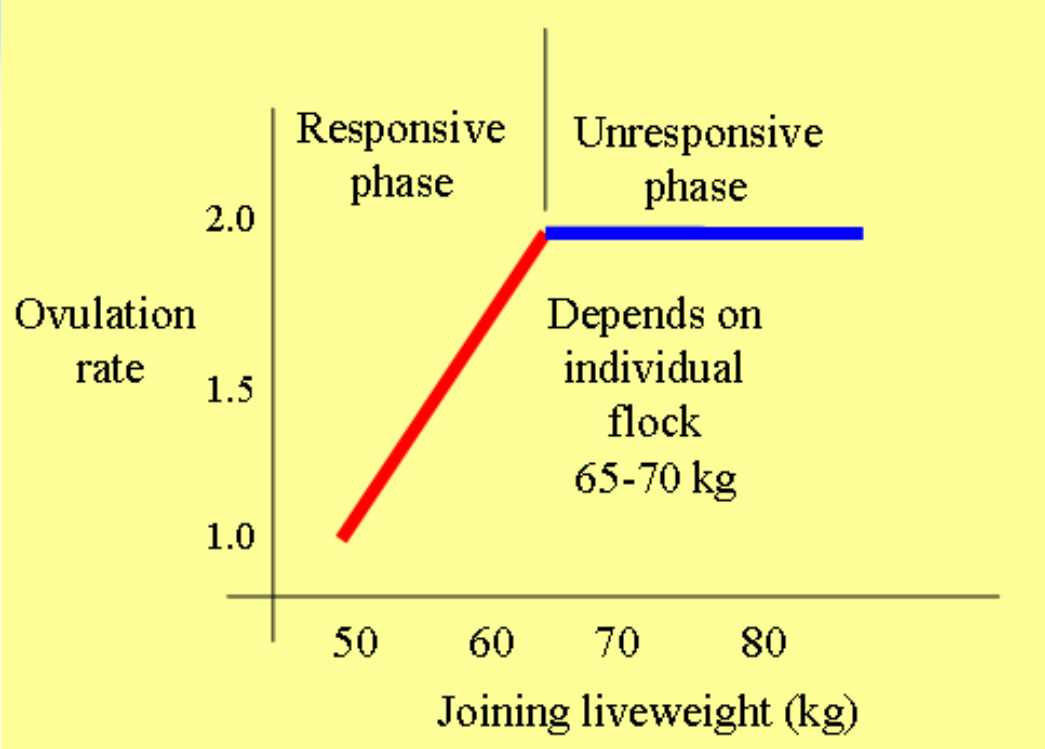
Sheep Feed Requirements

MATING

- LW at mating gives the basic OR potential – often called the static effect.
- Improved nutritional allowance with potential to increase LW (Flushing) will increase OR and conception rate a fall will do the reverse.
- For most N.Z sheep breeds and increase of 1Kg average mating weight will result in an increase of 2–3 % in OR (This is NOT lambing %)

Optimising reproductive potential of a ewe flock

- Nutrition critical to ovulation rate



Sheep Feed Requirements

AIM IN THIS PERIOD TO HAVE EWES GAINING LW

- **The level of gain and feed required will depend on expected lambing.**
- **100% lambing MEm is probably adequate**
- **180% lambing LW gain of ≥ 150g/e/day is required.**
- **Provision of this level of feeding is difficult.**

Sheep Feed Requirements

PRE-LAMB

- **Most difficult time of year in terms of feed quality and quantity.**
- **Feeding level will depend on expected lambing % (derived from what?)**
- **The higher the Lambing % the earlier feed levels need to be increased.**

Sheep Feed Requirements

Feeding in this period affects:

- Lamb birth weight
- Lamb survival rate
- Ewe condition at Lambing
- Milk production
- Mothering ability
- Disease (sleepy sickness, milk fever)
- Parasite immunity breakdown (length and severity)

Ewe Nutrition

Recommended feeding levels for ewes during pregnancy and lactation

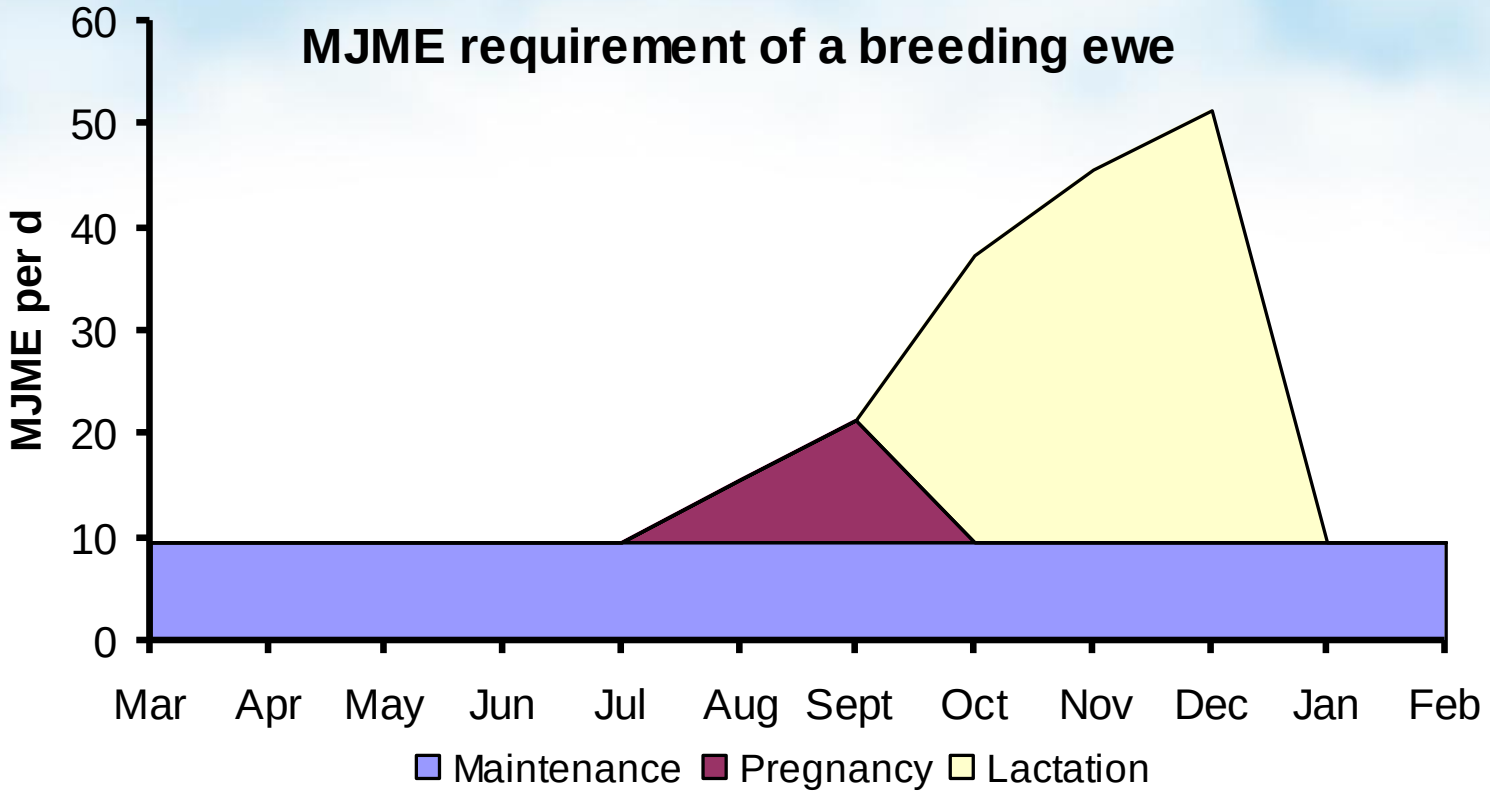
	Feeding Level		
	Times maintenance		MJME/day (11 ME)
Early Pregnancy		1.0	11.0
Mid Pregnancy		1.0	11.0
Late Pregnancy	Singles	1.5	16.5
	Twins	1.75	19.3
Lactation	Singles	2.0	22.0
	Twins	3.0	33.0

Sheep Feed Requirements

				Kg DM/e/d		
		LW Gain	ME Req	M/D 9	M/D 10	M/D 11
55kg Ewe		0	11	1.2	1.1	1.0
		50	14	1.6	1.4	1.3
		100	17		1.7	1.5
		150	20.5			1.9

Example:

- Requirement of a 65kg ewe rearing two lambs to 30kg
  - Ewes fed at maintenance + demands of pregnancy + demands of lactation



Achieving adequate nutrition

	Feed intake (kgDM per d)	Pasture length (cm)	Pasture mass (kgDM per ha)	Production level
Ewes				
Mid pregnancy	1.0	1-2	600-800	Maintenance
6 weeks pre-lamb	1.4	2-3	800-1000	60-80 g/d
Lambs at foot	2.0	5-6	1600-1800	200g/d (lambs)
Summer	1.0	1-2	600-800	Maintenance
Mating	1.4	2-3	800-1000	120-150g/d
Weaned lambs				
Spring	1.5	5-6	1600-1800	300g/d
Summer	1.6	3-4	1400-1600	250g/d
Autumn	1.4	3-4	1400-1600	200g/d
Winter	1.2	2-3	800-1000	100g/d

Lamb Drafting

Various options

- Draft to a predefined weight
- Draft to condition
- Draft to age

Aim is to achieve target carcass weight with acceptable fat cover.

Carcass weight needs to be above 16kg to attract premium $$ per Kg

Processing plants require minimum carcass weight to allow efficiency in further processing.

Lamb Drafting

Farmers traditionally paid on a carcass wt and tissue cover basis

Current move to payment on red meat yield, however carcasses must meet certain criteria.

- **Minimum weight**
- **Minimum yield**

Possible move to differential payment based on percentage of meat yield in the leg, loin & shoulder

Alliance Group Limited
PO Box 845
Invercargill 9840
Telephone : 03 214 2700

COPY
BUYER CREATED TAX INVOICE - IRD APPROVED

PLANT	Smithfield
REFERENCE	2815 C Mob: 2598
DATE	16/02/2010
STOCK	294 LAMBS
CLIENT NO.	4598404
CLIENT GST NO.	010-826-578
ALLIANCE GST NO.	10-109-698
EXPORTER	CENTS PER KG
TRANSPORTER	ELLESMERE
PROCEEDS TO	123147-0016000-000
STOCK FIRM	
DRAFTER	MARK ANDERSON

Lincoln University Ashley Dene
PO Box 94
Lincoln University
Lincoln 7647

TOTAL MEAT VALUE		294ccs	5156.0kgs		21129.49
WOOLPULLS	1.15kg WOOLLY LAMB		293	4.75	
	1.15kg WOOLLY LAMB		1 BLACK W	4.52	
TOTAL WOOL VALUE					0.00
TOTAL MEAT & WOOL VALUE					21129.49
PROCESSING PREMIUM			4752.2	.0500	237.61
ANTIBIOTIC FREE PAYMENT			235	.5000	117.50
			TOTAL CREDITS		**21484.60**
MEAT & WOOL NZ LEVY			294	.4500	132.30-
A CARTAGE				1.1600	341.04-
TOTAL DEDUCTIONS					473.34-
			NETT		21011.26
			PLUS GST ON MEAT & WOOL (OUTPUT)		2685.58
			LESS GST ON DEDUCTIONS (INPUT)		59.17-
			TOTAL		**$ 23637.67**

AVERAGES -

LEG YIELD	20.76%	
LOIN YIELD	14.11%	
SHOULDER YIELD	16.66%	51.53%
PRICE	$ 73.08	
WEIGHT	17.54kg	

STOCK PRESENTATION

A - WELL PRESENTED

Kill Date and Time: 16/02/2010 9:53am, FAP: Y

PAYMENT WILL BE MADE ON THE FIRST BUSINESS DAY 14 DAYS AFTER THE DATE OF KILL.
THE AVERAGE PRICE IS CALCULATED ON TOTAL MEAT, WOOL & PELT VALUE DIVIDED BY THE TOTAL HEAD LESS CONDEMNED AND DEAD.
ALLIANCE THANKS YOU FOR YOUR SUPPORT.

All stock is purchased for slaughter and processing subject to Alliance's stock procurement conditions.

PLANT	Smithfield
REFERENCE	2815 C
DATE	16/02/2010
STOCK	294 LAMBS

GRADE DETAILS		HEAD	WEIGHT	$ / KG	$
PM	14.5 - 15.9	4	62.9	4.150	261.03
PM	16.0 - 17.0	11	181.5	4.150	753.22
PX	17.1 - 19.5	31	566.0	4.150	2348.90
PX	19.6 - 21.2	11	224.7	4.150	932.50
PH	21.3 - 23.0	3	65.6	4.150	272.24
YL	9.1 - 13.2	1	12.6	1.850	23.31
YM	14.0 - 14.4	2	28.6	4.150	118.69
YM	14.5 - 15.9	47	726.3	4.150	3014.14
YM	16.0 - 17.0	63	1038.2	4.150	4308.53
YX	17.1 - 19.5	75	1351.5	4.150	5608.72
YX	19.6 - 21.2	18	363.3	4.150	1507.69
YX	21.3 - 23.0	4	86.8	4.150	360.22
TH	17.1 - 19.5	3	54.9	4.150	227.83
TH	19.6 - 21.2	9	182.9	4.150	759.03
TH	21.3 - 23.0	2	42.9	4.150	178.03
FH	17.1 - 19.5	1	17.5	4.150	72.62
FH	19.6 - 21.2	1	20.7	4.150	85.90
CM1	14.5 - 17.0	3	46.9	2.550	119.59
CH1	17.1 - 19.5	1	17.6	2.550	44.88
CM2	13.3 - 14.4	1	13.9	2.050	28.49
CM2	14.5 - 17.0	2	32.8	2.050	67.24
CH2	17.1 - 19.5	1	17.9	2.050	36.69
TOTALS		**294**	**5156.0**		

40% of carcases have met yield grading threshold

Downgrading Reasons

2 BRUISED
6 ARTHRITIS

1 CARCASE WITH C-OVIS FOUND

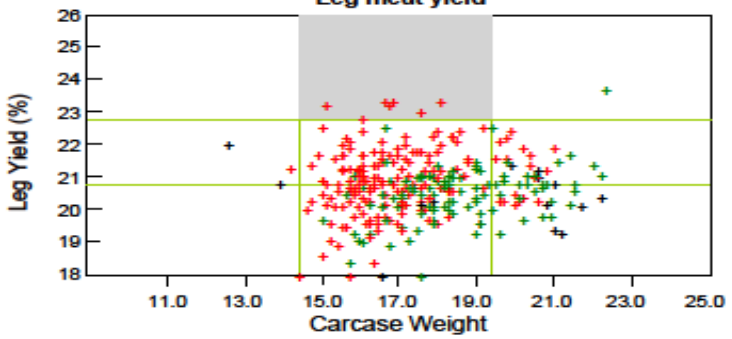
Alliance Group Limited

PLANT	Smithfield
REFERENCE	2815 C
DATE	16/02/2010

CLASS SUMMARY BY CARCASE WEIGHT TO YIELD

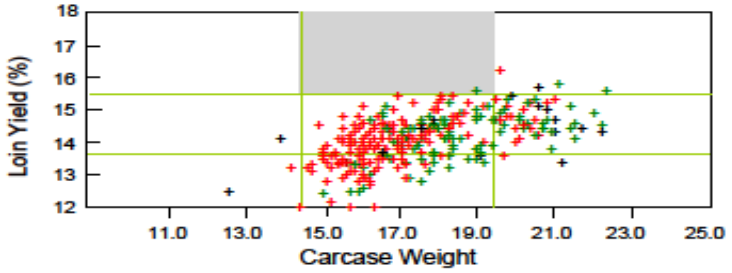
Target Area + = Y1 + = Y2 + = P + = T & F

Leg meat yield



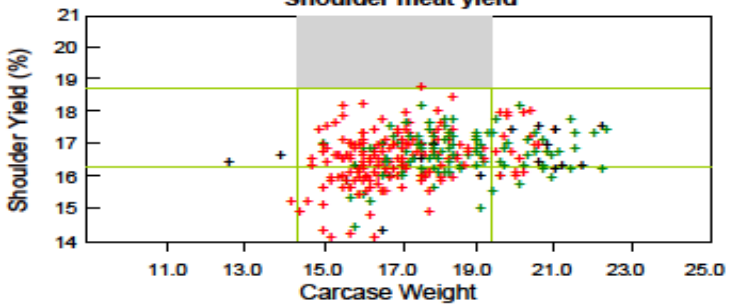
Grade	Carcases	%
Y1 (target)	7	2
Y1 (other)	168	57
Y2		
P	104	35
T & F	13	4
Other	2	1
TOTAL	294	
Average Yield		20.76

Loin meat yield



Grade	Carcases	%
Y1 (target)	1	
Y1 (other)	174	59
Y2		
P	104	35
T & F	13	4
Other	2	1
TOTAL	294	
Average Yield		14.11

Shoulder meat yield



Grade	Carcases	%
Y1 (target)	1	
Y1 (other)	174	59
Y2		
P	104	35
T & F	13	4
Other	2	1
TOTAL	294	
Average Yield		16.66

NOTE: Not all carcases will have a yield grade due to carcase faults or incorrect carcase orientation at time of yield grading.
All stock is purchased for slaughter and processing subject to Alliance Group's stock procurement conditions.

Any questions

Followed by Carcass Demonstration

Any questions

where you want to be

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New Zealand's specialist land-based university