Alliance Group

CPT® Central Progeny Test

SUPPORTED BY

MEAT & WOOL
NEW ZEALAND

RESULTS 2004/2005

IN CONJUNCTION WITH

agresearch

SHEEP IMPROVEMENT LIMITED

ABACUS BIOTECH

LINCOLN UNIVERSITY
Te Whare Wānaka O Aoraki

On-Farm Research

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KEY :

Sites:	A = Ashley Dene W = Woodlands
	02 = 2002/2003 season 03 = 2003/2004 season 04 = 2004/2005 season
EMA	Eye Muscle Area
FEC	Faecal Egg Count

Acknowledgement:
Meat and Wool New Zealand have partly funded the 2004/2005 Alliance Group CPT trials.

PROJECT OUTLINE

The Alliance Group Central Progeny Test (CPT) was established in 2001 and has now completed three full years of ram evaluations. The aim of the CPT has been to increase the number of genetic linkages between the various breeds and strains in the New Zealand sheep industry so that better comparisons can be made between rams, regardless of their breed.

This booklet contains the combined results from the three years of ram evaluations. This includes the results from three years of work at AgResearch Woodlands and two years work at the Lincoln University Ashley Dene property.

The focus this year has been on the evaluation of meat production for a number of dual purpose and terminal breeds. However, the dual purpose sires were mated to sufficient ewes this year so that the ewe lamb progeny could be retained to evaluate maternal traits. Results from the three cycles and the two sites can be directly compared because 'link sires' have been used across sites and years. A total of 72 rams have now been evaluated in the CPT. These rams have already been used widely in the industry so that as many flocks as possible can be linked genetically with other flocks. With this linkage, an industry-wide analysis can be performed (the SIL ACE analysis) which helps producers to choose rams which best suit their own particular needs and objectives.

Results from the trial are presented as indices and breeding values (BV) as follows:

Indices	Individual BVs
• Days to kill index • Meat value index • Overall net value index	• Eye muscle area (EMA) • Dressing percent (DP%) • Meat colour • Meat pH • WormFEC

The top 15 terminal sire and dual purpose rams that have been evaluated for meat traits and days to kill are listed.

The Central Progeny Test is lead by a group consisting of Alliance Group Ltd, AgResearch, Lincoln University, On-Farm Research, Abacus Biotech Ltd, Sheep Improvement Ltd (SIL) and Meat and Wool New Zealand.

CPT FARM COMPARISONS

ASHLEY DENE

Year 2 (2004 – 2005)

- Second mating carried out at Lincoln University Ashley Dene Pastoral Systems Research Farm
- 5 terminal and 9 dual purpose rams (from 5 breeds) were selected for use
- The main link sires with Woodlands were the SRDG Romney 1832/02 and Coopworth Ram 85/00

Mating

- 70 ewes were mated by A.I to dual purpose sires and 45 ewes were mated by A.I to terminal sires
- For natural mating 85 ewes were allocated to dual purpose sires with 50 ewes to terminal sires
- A total of 925 ewes mated
- All ewes were Coopworth breed
- All A.I ewes were synchronised using CIDRs prior to mating
- 8 sires were mated using A.I
- 6 sires were mated using natural mating (rams with ewes for 10 days)

Lambing

- Immediately prior to and during lambing single bearing ewes were separated from twin and triplet bearing ewes and were set stocked at 10 ewes per hectare for multiple bearing ewes and 12 ewes per hectare for single bearing ewes
- No mothering on was conducted

Docking

- Lambs vaccinated for Pulpy Kidney and Tetanus
- Male lambs kept entire
- Following tailing all ewes and lambs mobbed together

Mid Lactation

- All lambs weighed at 7 weeks of age
- Estimation made as to the number of lambs that would reach target slaughter weight at weaning

WOODLANDS

Year 3 (2004 – 2005)

- Third mating carried out at the AgResearch Woodlands Farm
- 5 terminal and 8 dual purpose rams (6 breeds) were selected for use
- The link sires with Woodlands were the SRDG Romney and Coopworth Ram 85/00

Mating

- Dual purpose sires were allocated 70 ewes and terminal sires were allocated 30 ewes. A total of 710 ewes were mated
- All ewes both natural mated and AI were synchronised using CIDRs
- 3 terminal rams were used naturally (rams with ewes for 1 week)
- Ewes were predominantly Coopworth with some ¼ East Friesian X Coopworth

Lambing

- Lambed ewes were mobbed to achieve 6 groups of around 80 ewes per grazing group; all sires were represented in each group
- Smallest triplet was mothered onto single bearing ewe

Docking

- Lambs vaccinated for scabby mouth, and injected with B12 smartshot
- All male lambs made into crypts
- Liveweight recorded on all lambs at birth and docking. Lamb grazing group recorded

Mid Lactation

- All lambs weighed and drenched (with combination drench) on 28 October 2004

ASHLEY DENE

Animal Health

- Ewes drenched pre mating with oral anthelmintic plus selenium
- Ewes vaccinated pre lamb with combination 6 in 1 vaccine and drench
- Lambs remaining post weaning draft drenched with oral anthelmintic

Weaning

- 1 December 2004 (lambs being slaughtered remained on mothers until 7 December 2004)
- All lambs ultrasound scanned for EMD, EMW & EMA
- All remaining lambs FEC sampled 4 January 2005

Drafting

- 1st slaughter (8 December 2004 – 138 lambs)
  Drafted at a minimum liveweight of 36.0 kg
  Average hot carcase weight 17.93 kg
- 2nd slaughter (6 January 2005 – 231 lambs)
  Drafted at a minimum liveweight of 38.0 kg
  Average hot carcase weight 17.21 kg
- 3rd slaughter (1 February 2005 – 119 lambs)
  All remaining lambs sent – average liveweight of 41.0 kg
  Average hot carcase weight 16.59 kg
- Average hot carcase weight 17.26 for 488 lambs

Ewe lambs from maternal sires

- 250 dual purpose ewe lambs were retained to form part of the maternal trait evaluation
- These ewe lambs have been hogget mated in May 2005 to Cheviot rams at an average liveweight of 51.0 kg. The range was from 37.0 kg to 59.0 kg liveweight

WOODLANDS

Animal Health

- Ewes vaccinated with 5 in 1, Toxovax, Campylovexin and Salvexin-B
- Selcote-ultra prills on all paddocks
- Drenched with Potassium iodide pre mating and pre lambing
- Ewes with triplets were run separately from scanning to lambing and were fed barley at 300 g/ewe/day for 4 weeks pre-lamb

Weaning

- 13 December 2004
- WormFec sample on up to 16 lambs per sire on 15 December 2004
- Dag score recorded
- Lambs remaining after each draft were given an anthelmintic and iodine drench

Drafting

- 1st slaughter (15 December 2004 – 125 lambs)
  Drafted at a minimum liveweight of 36.0 kg
  Average hot carcase weight 16.6 kg
- 2nd slaughter (12 January 2005 – 143 lambs)
  Drafted at a minimum liveweight of 39.0 kg
  Average hot carcase weight 16.6 kg
- 3rd slaughter (9 February 2005 – 147 lambs)
  Drafted at a minimum liveweight of 39.0 kg
  Average hot carcase weight 17.8 kg
- 4th slaughter (9 March 2005 – 102 lambs)
  All remaining lambs sent average liveweight 41.0 kg
  Average hot carcase weight 18.9 kg
- Average hot carcase weight 17.4 kg for 517 lambs

Ewe lambs from maternal sires

- 276 dual purpose ewe lambs were retained to form part of the maternal trait evaluation.
- These ewe lambs have been hogget mated 25 April 2005 to Cheviot rams at an average liveweight of 53.0 kg. The range was from 39.0 to 65.0 kg liveweight
- The hoggets were ultrasound scanned for EMD, EMW and fat depth

DAYS TO KILL

** Average index value is $0 Average days to kill 129*
** Each extra day costs 15 cents, values in both tables directly comparable*

Terminal

TAG	Flock	Breed	Sites	Progeny	Days to kill index	Rank
***128/97**	**Punchbowl**	**Suffolk**	**W03**	**38**	**$4.16**	**1**
514/00	Linton	Poll Dorset	W04	46	$3.16	2
X0050/87	**Sheepac**	**Oxford**	**W03**	**27**	**$3.16**	**3**
4012/99	Bilberry Oaks	Hampshire	W02 W03	49	$3.02	4
35/01	**Glengarry**	**Poll Dorset**	**A03 W03**	**38**	**$2.90**	**5**
33/02	RBL Rissington	Primera	W04	27	$2.76	6
120/00	**Glendhu**	**Dorset Down**	**W03**	**33**	**$2.42**	**7**
767/99	Darenal	Dorset Down	A03	13	$2.12	8
***419/96**	**Punchbowl**	**Suffolk**	**W02**	**12**	**$2.01**	**9**
400/00	Brandes Burton	Texel	W02 W04	63	$1.93	10
51/00	**Trackly**	**Dorset Down**	**W02**	**25**	**$1.93**	**11**
911/99	Murray Downs	Texel	W03	31	$1.92	12
25/02	**Glenaven**	**Hampshire**	**W04**	**40**	**$1.90**	**13**
41/00	Tasvic Downs	Southdown	W02	46	$1.74	14
211/98	**Kurralea**	**Poll Dorset**	**W02**	**28**	**$1.68**	**15**

Range: -$2.73 to $4.16

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	Days to kill index	Rank
232/01	**TRIGG - Hiwinui**	**Romney**	**W03**	**21**	**$2.12**	**1**
5093/99	Meadowslea	Romney	A03	21	$0.53	2
1127/95	**Awareka**	**Romney**	**W03**	**19**	**$0.26**	**3**
2135/99	Rosedale	Growbulk	W03	30	$0.02	4
426/99	**Mt Guardian**	**Perendale**	**W03**	**21**	**-$0.10**	**5**
2165/97	Wairere	Romney	W02 W03 A04	86	-$0.20	6
531/98	**Wharetoa**	**Coopworth**	**W03**	**27**	**-$0.28**	**7**
97/02	Raywell	Borderdale	A03 A04	50	-$0.44	8
781/00	**Shoreford**	**Romney**	**W03**	**29**	**-$0.48**	**9**
1035/02	Newhaven	Perendale	W04	32	-$0.48	10
422/00	**Wattle Bank**	**Corriedale**	**A04**	**25**	**-$0.53**	**11**
107/97	Strathblane	Corriedale	A03	14	-$0.87	12
132/01	**Kelso**	**Composite**	**W03**	**31**	**-$1.06**	**13**
493/00	Hazeldale	Perendale	W03	23	-$1.07	14
706/00	**Lincoln**	**Coopworth**	**A03 W03 A04**	**76**	**-$1.11**	**15**

Range: -$4.10 to $2.12

Overall Range: - $4.10 to $4.16

MEAT VALUE

** Average is an 18kg Y grade carcase valued at $70 per head*
** The relative value for meat from the loin was 4x that of meat from the shoulder and 2x that of meat from the hindleg*

Terminal

TAG	Flock	Breed	Sites	Progeny	Meat Value	Rank
299/00	**Waikite**	**Texel**	**W02 W03**	**59**	**$75.18**	**1**
xa2/99	The Burn	Texel	W02	23	$73.81	2
299/01	**Ohio**	**Poll Dorset**	**A04**	**35**	**$73.68**	**3**
400/00	Brandes Burton	Texel	W02 W04	63	$73.56	4
911/99	**Murray Downs**	**Texel**	**W03**	**31**	**$73.40**	**5**
21/01	Broken Hut	Texel	A03	30	$72.47	6
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**$72.35**	**7**
77/95	Douglas Downs	Dorset Horn	W02 W04	75	$72.23	8
***128/97**	**Punchbowl**	**Suffolk**	**W03**	**38**	**$71.98**	**9**
5258/01	Mt Linton	Texel	W03	29	$71.74	10
106/99	**Ohio**	**Poll Dorset**	**W02**	**46**	**$71.46**	**11**
2002/02	Mt Linton	Texel Cross	A04	34	$71.45	12
154/99	**Ivadene**	**Poll Dorset**	**W02**	**27**	**$71.43**	**13**
165/00	Torresdale	Suffolk	W02	30	$71.42	14
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**$71.26**	**15**

Range: $66.96 to $75.18

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	Meat Value	Rank
34/01	**Twin Farm**	**TEFRom**	**W03**	**30**	**$70.94**	**1**
132/01	Kelso	Composite	W03	31	$70.81	2
781/00	**Shoreford**	**Romney**	**W03**	**29**	**$70.67**	**3**
211/99	Blackdale	Coopworth	W03	27	$70.59	4
435/98	**Kelso**	**Composite**	**W02**	**31**	**$70.52**	**5**
11/01	Little River	Cheviot	A03 W03	60	$70.48	6
138/01	**Edale**	**Growbulk**	**A03**	**35**	**$70.45**	**7**
107/97	Strathblane	Corriedale	A03	14	$70.04	8
85/00	**Tahakita**	**Coopworth**	**W04 A04**	**75**	**$69.94**	**9**
97/02	Raywell	Borderdale	A03 A04	50	$69.79	10
1127/95	**Awareka**	**Romney**	**W03**	**19**	**$69.59**	**11**
531/98	Wharetoa	Coopworth	W03	27	$69.58	12
774/02	**Flockton**	**Perendale**	**A04**	**37**	**$69.45**	**13**
706/00	Lincoln	Coopworth	A03 W03 A04	76	$69.32	14
172/02	**Glen Rannoch**	**Perendale**	**A04**	**33**	**$69.00**	**15**

Range: $66.86 to $70.94

Overall Range: $66.86 to $75.18

MEAT & GROWTH INDEX

** Average is an 18kg Y grade carcase valued at $70 per head*

Terminal

TAG	Flock	Breed	Sites	Progeny	Meat & Growth	Rank
***128/97**	**Punchbowl**	**Suffolk**	**W03**	**38**	**$76.13**	**1**
299/00	Waikite	Texel	W02 W03	59	$76.11	2
400/00	**Brandes Burton**	**Texel**	**W02 W04**	**63**	**$75.49**	**3**
911/99	Murray Downs	Texel	W03	31	$75.32	4
299/01	**Ohio**	**Poll Dorset**	**A04**	**35**	**$73.94**	**5**
33/02	RBL Rissington	Primera	W04	27	$73.85	6
xa2/99	**The Burn**	**Texel**	**W02**	**23**	**$73.75**	**7**
77/95	Douglas Downs	Dorset Horn	W02 W04	75	$73.56	8
X0050/87	**Sheepac**	**Oxford**	**W03**	**27**	**$73.31**	**9**
514/00	Linton	Poll Dorset	W04	46	$73.18	10
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**$73.02**	**11**
4012/99	Bilberry Oaks	Hampshire	W02 W03	49	$73.01	12
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**$72.82**	**13**
106/99	Ohio	Poll Dorset	W02	46	$72.67	14
21/01	**Broken Hut**	**Texel**	**A03**	**30**	**$72.63**	**15**

Range: $66.14 to $76.13

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	Meat & Growth	Rank
232/01	**TRIGG - Hiwinui**	**Romney**	**W03**	**21**	**$70.72**	**1**
781/00	Shoreford	Romney	W03	29	$70.19	2
1127/95	**Awareka**	**Romney**	**W03**	**19**	**$69.85**	**3**
132/01	Kelso	Composite	W03	31	$69.75	4
34/01	**Twin Farm**	**TEFRom**	**W03**	**30**	**$69.53**	**5**
97/02	Raywell	Borderdale	A03 A04	50	$69.35	6
531/98	**Wharetoa**	**Coopworth**	**W03**	**27**	**$69.30**	**7**
107/97	Strathblane	Corriedale	A03	14	$69.18	8
5093/99	**Meadowslea**	**Romney**	**A03**	**21**	**$69.09**	**9**
435/98	Kelso	Composite	W02	31	$68.98	10
138/01	**Edale**	**Growbulk**	**A03**	**35**	**$68.74**	**11**
1035/02	Newhaven	Perendale	W04	32	$68.35	12
11/01	**Little River**	**Cheviot**	**A03 W03**	**60**	**$68.33**	**13**
706/00	Lincoln	Coopworth	A03 W03 A04	76	$68.22	14
85/00	**Tahakita**	**Coopworth**	**W04 A04**	**75**	**$68.11**	**15**

Range: $60.48 to $70.72

Overall Range: $60.48 to $76.13

EMA

** Average EMA is 12cm²*

Terminal

TAG	Flock	Breed	Sites	Progeny	EMA BV	Rank
299/00	**Waikite**	**Texel**	**W02 W03**	**59**	**15.54**	**1**
299/01	Ohio	Poll Dorset	A04	35	15.06	2
2002/02	**Mt Linton**	**Texel Cross**	**A04**	**34**	**14.50**	**3**
106/99	Ohio	Poll Dorset	W02	46	14.11	4
21/01	**Broken Hut**	**Texel**	**A03**	**30**	**13.77**	**5**
33/02	RBL Rissington	Primera	W04	27	13.72	6
77/95	**Douglas Downs**	**Dorset Horn**	**W02 W04**	**75**	**13.57**	**7**
xa2/99	The Burn	Texel	W02	23	13.53	8
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**13.47**	**9**
*128/97	Punchbowl	Suffolk	W03	38	13.27	10
400/00	**Brandes Burton**	**Texel**	**W02 W04**	**63**	**13.10**	**11**
78/02	Lincoln	Dorset Down	W04	30	13.08	12
211/98	**Kurralea**	**Poll Dorset**	**W02**	**28**	**13.04**	**13**
154/99	Ivadene	Poll Dorset	W02	27	12.95	14
911/99	**Murray Downs**	**Texel**	**W03**	**31**	**12.87**	**15**

Range: 10.78 to 15.54

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	EMA BV	Rank
138/01	**Edale**	**Growbulk**	**A03**	**35**	**13.08**	**1**
1127/95	Awareka	Romney	W03	19	12.58	2
107/97	**Strathblane**	**Corriedale**	**A03**	**14**	**12.55**	**3**
435/98	Kelso	Composite	W02	31	12.19	4
85/00	**Tahakita**	**Coopworth**	**W04 A04**	**75**	**12.18**	**5**
11/01	Little River	Cheviot	A03 W03	60	12.01	6
781/00	**Shoreford**	**Romney**	**W03**	**29**	**11.85**	**7**
850/00	Hillcrest	Perendale	W03	30	11.84	8
426/99	**Mt Guardian**	**Perendale**	**W03**	**21**	**11.76**	**9**
664/98	ARDG Elite	Romney	W03	16	11.64	10
2165/97	**Wairere**	**Romney**	**W02 W03 A04**	**86**	**11.58**	**11**
531/98	Wharetoa	Coopworth	W03	27	11.52	12
211/99	**Blackdale**	**Coopworth**	**W03**	**27**	**11.48**	**13**
132/01	Kelso	Composite	W03	31	11.37	14
706/00	**Lincoln**	**Coopworth**	**A03 W03 A04**	**76**	**11.32**	**15**

Range: 9.64 to 13.08

Overall Range: 9.64 to 15.54

DRESSING PERCENTAGE

** Average dressing percentage is 45%*

Terminal

TAG	Flock	Breed	Sites	Progeny	Dressing % BV	Rank
167/02	**MEBA**	**Texel**	**W04**	**51**	**47.9**	**1**
299/00	Waikite	Texel	W02 W03	59	47.4	2
xa2/99	**The Burn**	**Texel**	**W02**	**23**	**46.8**	**3**
911/99	Murray Downs	Texel	W03	31	46.8	4
226/00	**Logan**	**South Suffolk**	**A03**	**29**	**46.5**	**5**
26/00	Lincoln	Dorset Down	A03	29	46.5	6
78/02	**Lincoln**	**Dorset Down**	**W04**	**30**	**46.4**	**7**
400/00	Brandes Burton	Texel	W02 W04	63	46.3	8
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**45.9**	**9**
299/01	Ohio	Poll Dorset	A04	35	45.9	10
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**45.7**	**11**
140/00	Turnberry	Composite	W02	21	45.7	12
5258/01	**Mt Linton**	**Texel**	**W03**	**29**	**45.7**	**13**
211/98	Kurralea	Poll Dorset	W02	28	45.6	14
35/01	**Glengarry**	**Poll Dorset**	**A03 W03**	**38**	**45.5**	**15**

Range: 43.6 to 47.9

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	Dressing % BV	Rank
132/01	**Kelso**	**Composite**	**W03**	**31**	**46.8**	**1**
11/01	Little River	Cheviot	A03 W03	60	46.4	2
1035/02	**Newhaven**	**Perendale**	**W04**	**32**	**45.6**	**3**
172/02	Glen Rannoch	Perendale	A04	33	45.6	4
850/00	**Hillcrest**	**Perendale**	**W03**	**30**	**45.4**	**5**
774/02	Flockton	Perendale	A04	37	45.5	6
138/01	**Edale**	**Growbulk**	**A03**	**35**	**45.5**	**7**
2135/99	Rosedale	Growbulk	W03	30	45.3	8
706/00	**Lincoln**	**Coopworth**	**A03 W03 A04**	**76**	**45.2**	**9**
34/01	Twin Farm	TEFRom	W03	30	45.1	10
85/00	**Tahakita**	**Coopworth**	**W04 A04**	**75**	**45.1**	**11**
664/98	ARDG Elite	Romney	W03	16	44.9	12
493/00	**Hazeldale**	**Perendale**	**W03**	**23**	**44.7**	**13**
435/98	Kelso	Composite	W02	31	44.6	14
426/99	**Mt Guardian**	**Perendale**	**W03**	**21**	**44.6**	**15**

Range: 42.6 to 46.8

Overall Range: 42.6 to 47.9

MEAT COLOUR BV (a*)

** Average meat colour (a*; higher values are redder and lower values are browner)*
** Mean = 20*

Terminal

TAG	Flock	Breed	Sites	Progeny	Meat Colour BV	Rank
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**21.0**	**1**
41/00	Tasvic Downs	Southdown	W02	46	20.9	2
5258/01	**Mt Linton**	**Texel**	**W03**	**29**	**20.8**	**3**
c57/99	Charleston	Southdown	W02	21	20.7	4
767/99	**Darenal**	**Dorset Down**	**A03**	**13**	**20.6**	**5**
1144/99	Teviotdale	Hampshire	W02	34	20.6	6
R77/02	**Mapua**	**Southdown**	**A04**	**52**	**20.5**	**7**
21/01	Broken Hut	Texel	A03	30	20.4	8
140/00	**Turnberry**	**Composite**	**W02**	**21**	**20.4**	**9**
400/00	Brandes Burton	Texel	W02 W04	63	20.3	10
33/02	**RBL Rissington**	**Primera**	**W04**	**27**	**20.2**	**11**
167/02	MEBA	Texel	W04	51	20.2	12
u33/97	**Mornish**	**Suffolk**	**W02**	**16**	**20.1**	**13**
26/00	Lincoln	Dorset Down	A03	29	20.0	14
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**20.0**	**15**

Range: 18.0 to 21.0

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	Meat Colour BV	Rank
1832/02	**Awareka**	**Romney**	**W04 A04**	**75**	**21.5**	**1**
1127/95	Awareka	Romney	W03	19	21.2	2
107/97	**Strathblane**	**Corriedale**	**A03**	**14**	**21.1**	**3**
781/00	Shoreford	Romney	W03	29	21.1	4
422/00	**Wattle Bank**	**Corriedale**	**A04**	**25**	**20.9**	**5**
493/00	Hazeldale	Perendale	W03	23	20.9	6
1035/02	**Newhaven**	**Perendale**	**W04**	**32**	**20.8**	**7**
1235/00	Strathblane	Corriedale	A04	30	20.6	8
172/02	**Glen Rannoch**	**Perendale**	**A04**	**33**	**20.6**	**9**
458/01	View Hill	Romney	W03	29	20.6	10
531/98	**Wharetoa**	**Coopworth**	**W03**	**27**	**20.6**	**11**
5828/02	Waihora	Romney	W04	51	20.5	12
4014/96	**Waihora**	**Romney**	**W04**	**22**	**20.5**	**13**
211/99	Blackdale	Coopworth	W03	27	20.5	14
97/02	**Raywell**	**Borderdale**	**A03 A04**	**50**	**20.5**	**15**

Range: 19.0 to 21.5

Overall Range: 18.0 to 21.5

pH BV

** Average pH is 5.6, increase in pH above 5.7 decreases tenderness*

Terminal

TAG	Flock	Breed	Sites	Progeny	pH BV	Rank
R77/02	**Mapua**	**Southdown**	**A04**	**52**	**5.55**	**1**
2002/02	Mt Linton	Texel Cross	A04	34	5.55	2
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**5.56**	**3**
T533/01	Wharetoa	Composite	W02 W03	56	5.56	4
167/02	**MEBA**	**Texel**	**W04**	**51**	**5.56**	**5**
106/99	Ohio	Poll Dorset	W02	46	5.56	6
21/01	**Broken Hut**	**Texel**	**A03**	**30**	**5.56**	**7**
77/95	Douglas Downs	Dorset Horn	W02 W04	75	5.57	8
41/00	**Tasvic Downs**	**Southdown**	**W02**	**46**	**5.57**	**9**
c57/99	Charleston	Southdown	W02	21	5.57	10
1144/99	**Teviotdale**	**Hampshire**	**W02**	**34**	**5.57**	**11**
767/99	Darenal	Dorset Down	A03	13	5.58	12
33/02	**RBL Rissington**	**Primera**	**W04**	**27**	**5.58**	**13**
26/00	Lincoln	Dorset Down	A03	29	5.58	14
226/00	**Logan**	**South Suffolk**	**A03**	**29**	**5.58**	**15**

Range: 5.55 to 5.73

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	pH BV	Rank
1832/02	**Awareka**	**Romney**	**W04 A04**	**75**	**5.52**	**1**
5828/02	Waihora	Romney	W04	51	5.53	2
107/97	**Strathblane**	**Corriedale**	**A03**	**14**	**5.56**	**3**
1127/95	Awareka	Romney	W03	19	5.56	4
422/00	**Wattle Bank**	**Corriedale**	**A04**	**25**	**5.56**	**5**
1235/00	Strathblane	Corriedale	A04	30	5.57	6
138/01	**Edale**	**Growbulk**	**A03**	**35**	**5.57**	**7**
232/01	TRIGG - Hiwinui	Romney	W03	21	5.58	8
664/98	**ARDG Elite**	**Romney**	**W03**	**16**	**5.58**	**9**
211/99	Blackdale	Coopworth	W03	27	5.58	10
2165/97	**Wairere**	**Romney**	**W02 W03 A04**	**86**	**5.58**	**11**
850/00	Hillcrest	Perendale	W03	30	5.58	12
531/98	**Wharetoa**	**Coopworth**	**W03**	**27**	**5.59**	**13**
781/00	Shoreford	Romney	W03	29	5.59	14
97/02	**Raywell**	**Borderdale**	**A03 A04**	**50**	**5.60**	**15**

Range: 5.52 to 5.68

Overall Range: 5.52 to 5.73

WORMFEC BV (%)

** Breeding values expressed as a percentage reduction in eggs shed*

Terminal

TAG	Flock	Breed	Sites	Progeny	WormFec BV	Rank
140/00	**Turnberry**	**Composite**	**W02**	**21**	**-36.0**	**1**
299/00	Waikite	Texel	W02 W03	59	-30.8	2
61/97	**Oringi**	**Oxford Down**	**A04**	**38**	**-27.1**	**3**
25/99	Tyanee	Suffolk	A04	41	-25.0	4
167/02	**MEBA**	**Texel**	**W04**	**51**	**-22.2**	**5**
xa2/99	The Burn	Texel	W02	23	-21.1	6
X0050/87	**Sheepac**	**Oxford**	**W03**	**27**	**-19.7**	**7**
106/99	Ohio	Poll Dorset	W02	46	-13.5	8
767/99	**Darenal**	**Dorset Down**	**A03**	**13**	**-13.2**	**9**
78/02	Lincoln	Dorset Down	W04	30	-12.0	10
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**-10.2**	**11**
120/00	Glendhu	Dorset Down	W03	33	-6.8	12
c57/99	**Charleston**	**Southdown**	**W02**	**21**	**-6.2**	**13**
911/99	Murray Downs	Texel	W03	31	-5.6	14
154/99	**Ivadene**	**Poll Dorset**	**W02**	**27**	**-4.2**	**15**

Range: 77.6 to -36.0

Dual Purpose

TAG	Flock	Breed	Sites	Progeny	WormFEC BV	Rank
4014/96	**Waihora**	**Romney**	**W04**	**22**	**-42.0**	**1**
1127/95	Awareka	Romney	W03	19	-39.8	2
664/98	**ARDG Elite**	**Romney**	**W03**	**16**	**-28.8**	**3**
850/00	Hillcrest	Perendale	W03	30	-25.7	4
1035/02	**Newhaven**	**Perendale**	**W04**	**32**	**-23.5**	**5**
132/01	Kelso	Composite	W03	31	-22.9	6
1235/00	**Strathblane**	**Corriedale**	**A04**	**30**	**-21.4**	**7**
5093/99	Meadowslea	Romney	A03	21	-21.2	8
435/98	**Kelso**	**Composite**	**W02**	**31**	**-17.9**	**9**
2135/99	Rosedale	Growbulk	W03	30	-15.4	10
2165/97	**Wairere**	**Romney**	**W02 W03 A04**	**86**	**-13.9**	**11**
706/00	Lincoln	Coopworth	A03 W03 A04	76	-11.7	12
11/01	**Little River**	**Cheviot**	**A03 W03**	**60**	**-2.2**	**13**
313/01	Valley	Coopworth	W04	36	1.2	14
97/02	**Raywell**	**Borderdale**	**A03 A04**	**50**	**3.1**	**15**

Range: 80.5 to -42.0

Overall Range: 80.5 to -42.0

TOP 20 TERMINAL RAMS FOR MEAT AND GROWTH

ID	Flock	Breed	Sites	Progeny	Meat & growth ($)	Rank	Meat Value ($)	Rank	Days to kill ($)	Rank	EMA BV (cm^2)	Meat colour BV (a*)	pH BV	Dress % BV	WormFec BV (%)
***128/97**	**Punchbowl**	**Suffolk**	**W03**	**38**	**$76.13**	**1**	**$71.98**	**9**	**$4.16**	**1**	**13.27**	**18.5**	**5.68**	**45.1**	**13.9**
299/00	Waikite	Texel	W02 W03	59	$76.11	2	$75.18	1	$0.94	20	15.54	19.9	5.60	47.4	-30.8
400/00	**Brandes Burton**	**Texel**	**W02 W04**	**63**	**$75.49**	**3**	**$73.56**	**4**	**$1.93**	**10**	**13.10**	**20.3**	**5.63**	**46.3**	**6.7**
911/99	Murray Downs	Texel	W03	31	$75.32	4	$73.40	5	$1.92	12	12.87	19.4	5.62	46.8	-5.6
299/01	**Ohio**	**Poll Dorset**	**A04**	**35**	**$73.94**	**5**	**$73.68**	**3**	**$0.26**	**27**	**15.06**	**19.9**	**5.59**	**45.9**	**48.8**
33/02	RBL Breedline	Primera	W04	27	$73.85	6	$71.09	16	$2.76	6	13.72	20.2	5.58	45.3	-1.8
xa2/99	**The Burn**	**Texel**	**W02**	**23**	**$73.75**	**7**	**$73.81**	**2**	**-$0.06**	**30**	**13.53**	**19.6**	**5.60**	**46.8**	**-21.1**
77/95	Douglas Downs	Dorset Horn	W02 W04	75	$73.56	8	$72.23	8	$1.33	17	13.57	19.0	5.57	45.0	-0.2
X0050/87	**Sheepac**	**Oxford**	**W03**	**27**	**$73.31**	**9**	**$70.16**	**25**	**$3.16**	**3**	**11.53**	**18.4**	**5.63**	**43.6**	**-19.7**
514/00	Linton	Poll Dorset	W04	46	$73.18	10	$70.02	26	$3.16	2	11.80	19.1	5.64	45.4	22.7
T369/02	**Wharetoa**	**Composite**	**A03**	**27**	**$73.02**	**11**	**$72.35**	**7**	**$0.67**	**22**	**12.44**	**21.0**	**5.56**	**45.9**	**0.5**
4012/99	Bilberry Oaks	Hampshire	W02 W03	49	$73.01	12	$69.98	27	$3.02	4	11.39	18.2	5.59	44.6	77.6
T533/01	**Wharetoa**	**Composite**	**W02 W03**	**56**	**$72.82**	**13**	**$71.26**	**15**	**$1.56**	**16**	**13.47**	**20.0**	**5.56**	**45.7**	**-10.2**
106/99	Ohio	Poll Dorset	W02	46	$72.67	14	$71.46	11	$1.21	19	14.11	19.7	5.56	45.4	-13.5
21/01	**Broken Hut**	**Texel**	**A03**	**30**	**$72.63**	**15**	**$72.47**	**6**	**$0.15**	**28**	**13.77**	**20.4**	**5.56**	**45.2**	**7.1**
*419/96	Punchbowl	Suffolk	W02	12	$72.28	16	$70.27	23	$2.01	9	11.61	19.7	5.60	43.6	3.2
35/01	**Glengarry**	**Poll Dorset**	**A03 W03**	**38**	**$72.03**	**17**	**$69.13**	**34**	**$2.90**	**5**	**12.45**	**19.1**	**5.61**	**45.5**	**4.9**
25/99	Tyanee	Suffolk	A04	41	$71.98	18	$70.75	17	$1.23	18	11.80	19.6	5.60	44.3	-25.0
41/00	**Tasvic Downs**	**Southdown**	**W02**	**46**	**$71.97**	**19**	**$70.23**	**24**	**$1.74**	**14**	**11.59**	**20.9**	**5.57**	**44.7**	**4.9**
767/99	Darenal	Dorset Down	A03	13	$71.62	20	$69.50	29	$2.12	8	12.47	20.6	5.58	45.4	-13.2

TOP 15 DUAL PURPOSE RAMS FOR MEAT AND GROWTH

ID	Flock	Breed	Sites	Progeny	Meat & Growth index	Rank	Meat Value index	Rank	Days to kill index	Rank	EMA BV (cm^2)	Meat Colour BV (a*)	pH BV	Dressing % BV	WormFec BV (%)
232/01	**TRIGG - Hiwinui**	**Romney**	**W03**	**21**	**$70.72**	**1**	**$68.61**	**18**	**$2.12**	**1**	**10.42**	**20.5**	**5.58**	**44.2**	**11.8**
781/00	Shoreford	Romney	W03	29	$70.19	2	$70.67	3	-$0.48	9	11.85	21.1	5.59	42.9	23.4
1127/95	**Awareka**	**Romney**	**W03**	**19**	**$69.85**	**3**	**$69.59**	**11**	**$0.26**	**3**	**12.58**	**21.2**	**5.56**	**43.6**	**-39.8**
132/01	Kelso	Composite	W03	31	$69.75	4	$70.81	2	-$1.06	13	11.37	19.4	5.60	46.8	-22.9
34/01	**Twin Farm**	**TEFRom**	**W03**	**30**	**$69.53**	**5**	**$70.94**	**1**	**-$1.42**	**16**	**10.82**	**19.8**	**5.60**	**45.1**	**6.1**
97/02	Raywell	Borderdale	A03 A04	50	$69.35	6	$69.79	10	-$0.44	8	10.77	20.5	5.60	43.6	3.1
531/98	**Wharetoa**	**Coopworth**	**W03**	**27**	**$69.30**	**7**	**$69.58**	**12**	**-$0.28**	**7**	**11.52**	**20.6**	**5.59**	**43.6**	**80.5**
107/97	Strathblane	Corriedale	A03	14	$69.18	8	$70.04	8	-$0.87	12	12.55	21.1	5.56	42.6	10.0
5093/99	**Meadowslea**	**Romney**	**A03**	**21**	**$69.09**	**9**	**$68.56**	**20**	**$0.53**	**2**	**10.25**	**19.9**	**5.64**	**44.3**	**-21.2**
435/98	Kelso	Composite	W02	31	$68.98	10	$70.52	5	-$1.54	17	12.19	19.7	5.62	44.6	-17.9
138/01	**Edale**	**Growbulk**	**A03**	**35**	**$68.74**	**11**	**$70.45**	**7**	**-$1.72**	**20**	**13.08**	**19.0**	**5.57**	**45.5**	**55.4**
1035/02	Newhaven	Perendale	W04	32	$68.35	12	$68.83	17	-$0.48	10	10.66	20.8	5.63	45.6	-23.5
11/01	**Little River**	**Cheviot**	**A03 W03**	**60**	**$68.33**	**13**	**$70.48**	**6**	**-$2.14**	**26**	**12.01**	**20.3**	**5.65**	**46.4**	**-2.2**
706/00	Lincoln	Coopworth	A03 W03 A04	76	$68.22	14	$69.32	14	-$1.11	15	11.32	19.3	5.66	45.2	-11.7
85/00	**Tahakita**	**Coopworth**	**W04 A04**	**75**	**$68.11**	**15**	**$69.94**	**9**	**-$1.82**	**21**	**12.18**	**20.3**	**5.64**	**45.1**	**16.3**

LAMB SURVIVAL INVESTIGATION 2004

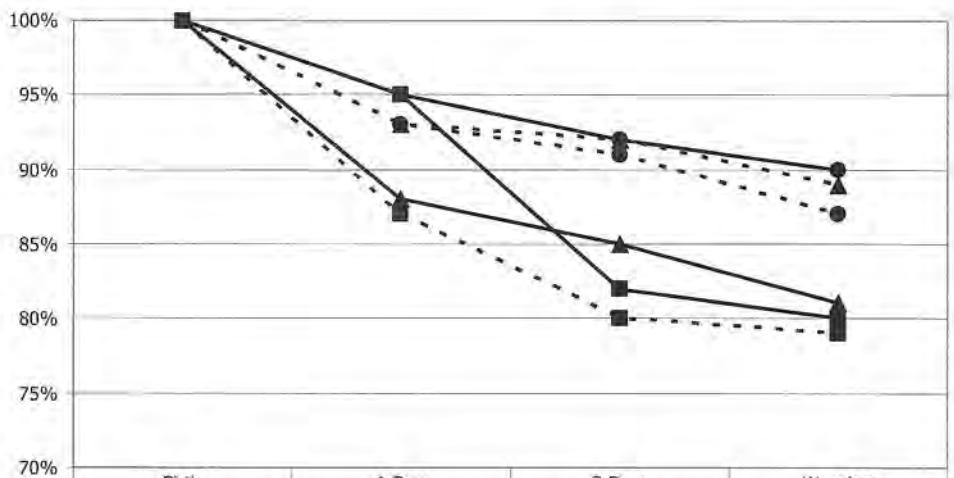
As an extension to the CPT a lamb survival investigation commenced in 2004 at AgResearch Woodlands and preliminary analyses investigated the effect of sire type (Maternal and Terminal) on lamb survival and mortality traits. Statistical analyses were adjusted for lamb birth day, lamb sex, ewe age, ewe body condition score and live weight, gestation length and birth weight where applicable.

The Maternal Sire type included the Coopworth, Dorset Horn, Perendale Romney and Texel breeds. The Terminal Sire type included the Composite, Dorset Down, Hampshire, Poll Dorset, and Texel breeds.

Brief summary of results:

- Lamb survival from the Maternal and Terminal sire lines was similar to weaning within litter size, however Maternal triplet lamb survival was lower from birth to 1 day of age than for triplet lambs born to the Terminal Sire line (Figure 1).
- Lamb gestation length and birth weight differed significantly between surviving and dead lambs in the Maternal sire line and not in the Terminal Sire line. For Maternal lambs:
  - Gestation length was significantly different for surviving single lambs (shorter gestation) and triplet lambs (longer gestation) compared to those that died (Figure 2).
  - Birthweight of surviving lambs was significantly heavier than for lambs that died (Figure 3).
- The primary cause of lamb death for lambs that died between birth and 3 days of age was dystocia (difficult births) and was similar for the Terminal and Maternal sire lines (Figure 4).
- Skin-fold thickness was measured on lambs that died between birth and 3 days of age and was significantly thicker for lambs born to the Maternal than the Terminal sire line (Figure 5).

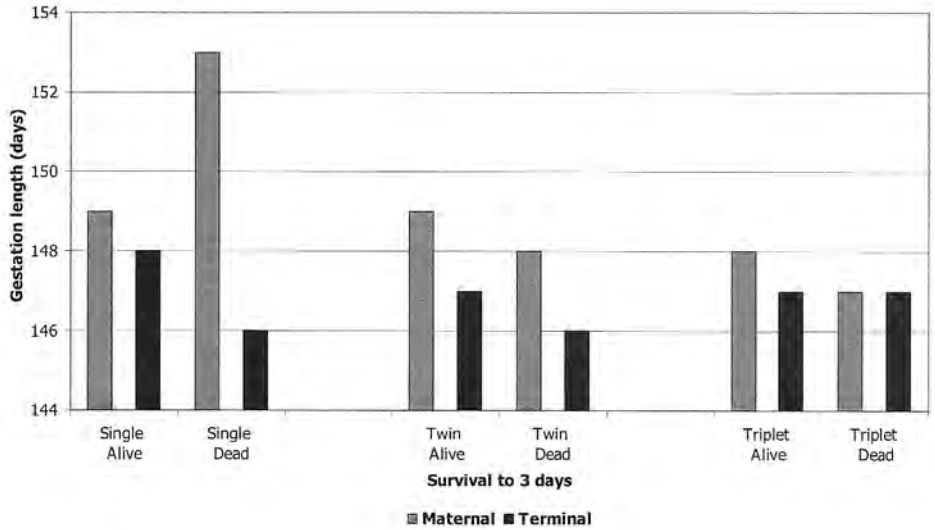
Figure 1. Lamb survival from birth to weaning for single, twin and triplet lambs from the Terminal and Maternal Sire lines.



	Birth	1 Day	3 Days	Weaning
- ▲ - Maternal singles	100%	93%	92%	89%
—▲— Terminal singles	100%	88%	85%	81%
- ● - Maternal twins	100%	93%	91%	87%
—●— Terminal twins	100%	95%	92%	90%
- ■ - Maternal triplets	100%	87%	80%	79%
—■— Terminal triplets	100%	95%	82%	80%

Lamb survival was significantly different between Maternal and Terminal triplet lambs from birth to 1 day of age.

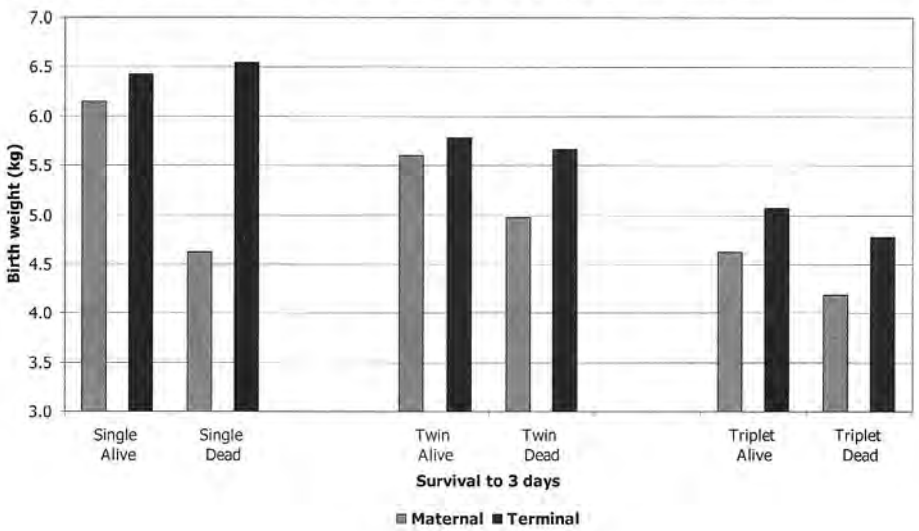
Figure 2. The effect of gestation length on lamb survival from birth to 3 days of age for the Terminal and Maternal Sire lines.



Gestation length was significantly different between:

- Surviving and dead Maternal single lambs
- Surviving and dead Maternal triplet lambs.

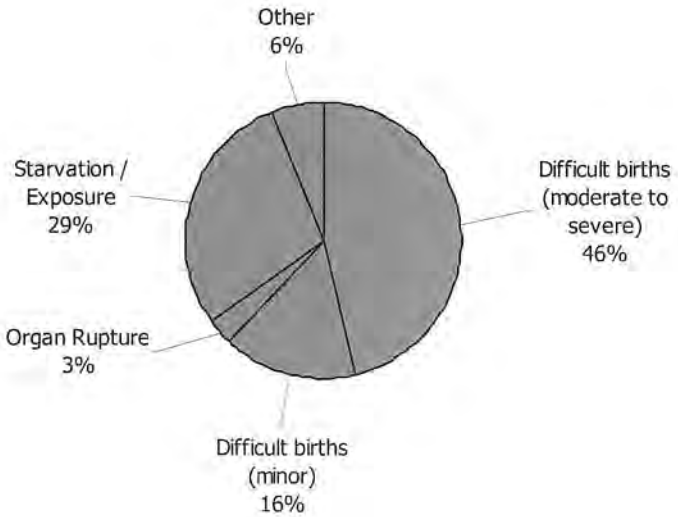
Figure 3. The effect of lamb birth weight on lamb survival from birth to 3 days of age for lambs born to the Terminal and Maternal Sire lines.



Birth weight was significantly different between:

- Surviving and dead Maternal single lambs.
- Surviving and dead Maternal twin lambs.
- Surviving and dead Maternal triplet lambs.

Figure 4. Primary cause of lamb death from birth to 3 days of age for all lambs (n=94).



Primary cause of lamb death was similar for dead lambs from the Maternal (n=79) and Terminal sire lines (n=15).

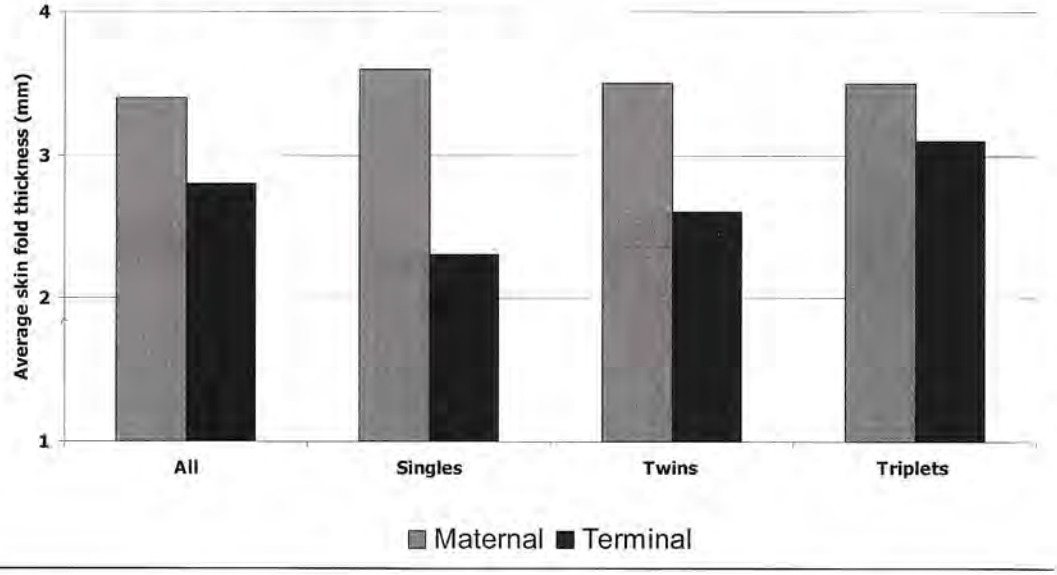
One third of dead lambs died during birth.

<u>All dead lambs:</u>
41% of lambs that later died had breathed, of those that had breathed **80%** had walked, of those that had walked **37%** had fed.

<u>Dead lambs from the Maternal sire type:</u>
40% of lambs that died had breathed, of those that had breathed **81%** had walked, and of those that had walked **41%** had fed.

<u>Dead lambs from the Terminal Sire type:</u>
53% of lambs that died later had breathed, of those that had breathed **75%** had walked, and of those that had walked **17%** had fed.

Figure 5. Average skin-fold thickness for lambs that died between birth and 3 days of age from the Maternal and Terminal sire lines.



Average skin-fold thickness (measured on the shoulder and mid-side) was significantly different between:
Maternal and Terminal dead lambs for all lambs, singles, twins and triplets.

Lambs born to Composite sires had thinner skin than lambs born to all other breeds.

An in-depth lamb survival investigation is planned from 2005 as part of the Alliance Central Progeny Test and will identify sire lines and sires that can improve lamb survival rates and lamb rearing performance.

YEAR 4

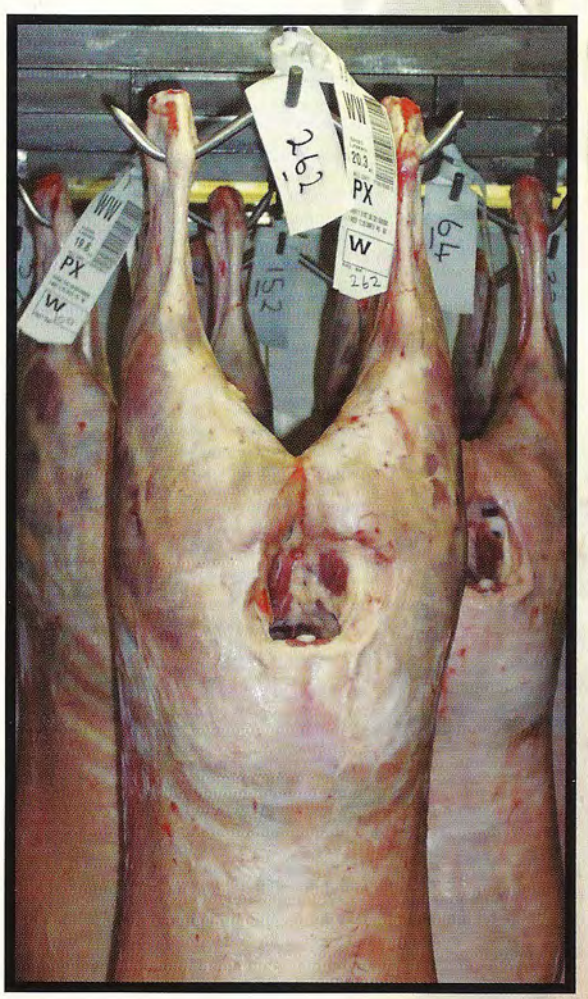
The fourth cycle of matings has been completed at Woodlands and Ashley Dene. As with the last two years, there is a mix of both terminal sires and dual purpose sires.

The ewe progeny from the dual purpose sires will be retained to measure maternal traits and the ram progeny will be slaughtered to measure their meat production performance.

The ewe hoggets from last years dual purpose sires have been mated to begin the maternal evaluations.

Industry Outcomes

- Improve the genetic linkages both between flocks within a breed, and across a breed. These linkages improve the ACE analysis carried out by SIL and ultimately enable better benchmarking of performance between flocks.
- Commercial producers will be better able to select rams on the basis of potential performance on their property.
- Producers will be able to select rams on attributes which contribute most effectively to their profitability.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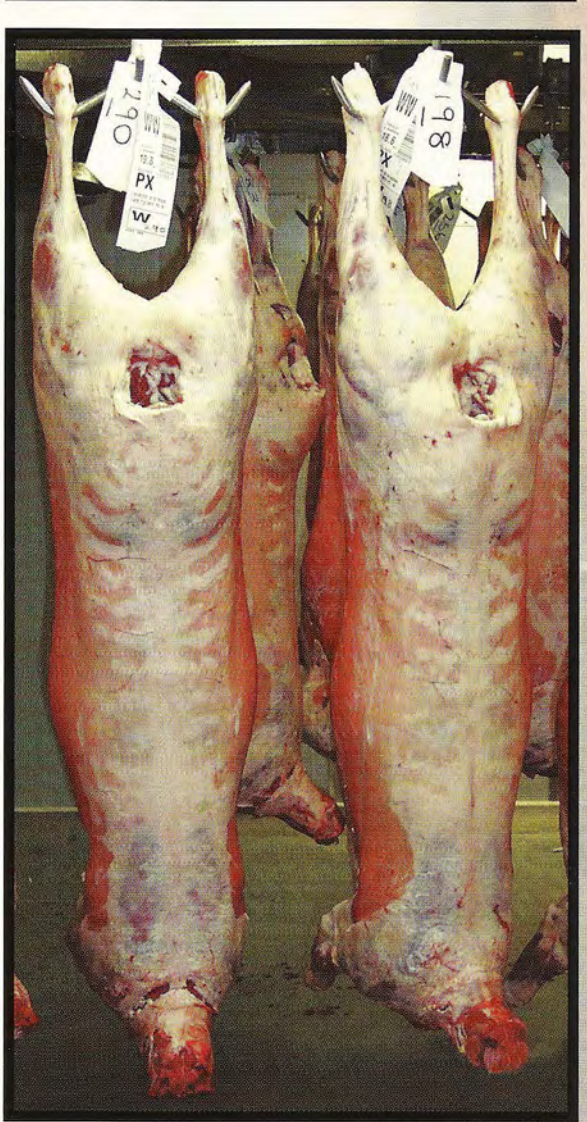
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