

Catalogue of Results

2003



MEAT & LIVESTOCK
AUSTRALIA

Royal Melbourne

LAMB CARCASS COMPETITION

Sponsored by

RAS



WEEKLY TIMES

The Royal Agricultural Society of Victoria -
PUTTING THE BEST ON SHOW

The Royal Agricultural Society of Victoria Limited

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2003 RAS PRIME LAMB CARCASE COMPETITION

Acknowledgements

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Castricum Bros, Dandenong

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Introduction

Jack Seymour

President

The Royal Agricultural Society of Victoria Limited

Welcome to the presentation of the results for the 2003 RAS Prime Lamb Carcase competition.

The format for this commercial competition was introduced last year and accepted by the industry as a relevant and valuable source of information for producers and seed stock breeders in performance evaluation.

At this stage the competition better suits the heavier lambs produced for the export market, however endeavours are being made to have a similar process applied to assess lambs produced for the domestic trade. Unfortunately the growth of entries anticipated as the competition becomes established was handicapped this year by the widespread drought conditions experienced by many producers.

The competition attracted twelve entries representing some 2,500 lambs with pleasing features being the number of new entrants and the diverse genetic background of the drafts.

It is an exciting time to be involved in the prime lamb industry with unprecedented demand for lambs meeting the specifications dictated by a more quality-conscious consumer.

With considerable advances in genetic predictability and knowledge of more concentrated supplementary feeding to produce consistently high quality, steps are being taken to stretch the periods of supply beyond the historic seasonal peaks.

While the industry is providing producers with favourable returns, producers will continue to invest in technology and adopt new systems and management practices to further strengthen the prospects for the future.

Much of the success and mutual benefit that those in the industry are currently enjoying has been brought about by the prudent endeavours and favourable alliances established over recent years by our sponsors.

Special thanks to Theo Castricum and those involved in the family company Castricum Brothers of Dandenong for the support, co-operation and application of VIAscan technology that has made this competition possible.

We also extend our appreciation to Ian Ross and all associated with Meat and Livestock Australia for the outstanding contribution to the industry, and this competition.

Sincere thanks also to the Weekly Times for its ongoing support and promotion of the competition as well as the wide range of other activities with the Society.

Congratulations to the winners of the competition and our thanks to all who have participated.

We look forward to more favourable seasonal conditions and a significant growth in entries in 2004.

Exhibitors

I.I. & D.E. Hocking, Lucindale, SA

D. & H. McKenzie & Son, Timboon, Vic

W.M. & K. Agnew, Millicent, SA

Uondo Pastoral Co., Kerang, Vic

Sudholz Farm, Kotupna, Vic

G.K. Oliver, Inverleigh, Vic

Kentucky P/L, Corowa, NSW

Uondo Pastoral Co. Kerang, Vic

Mount Ireh Estate, Longford, Tas

Kryden Trust, Meander, Tas

KA & P Jacobs, Hall, NSW

Gleeson Bros, Wakool, NSW

Awards

First Prize - \$4,000

Gleeson Bros, Wakool, NSW

Second Prize - \$2,000

I.I. & D.E. Hocking, Lucindale, SA

Third Prize - \$1,000

W.M. & K. Agnew, Millicent, SA

Genetic opportunities to improve Lean Meat Yield (LMY)

Dr Alex Ball, Manager LAMBPLAN



The prime lamb market is calling for better lean meat yields. Stud breeders can expect increasing pressure to improve the genetic information which they provide to their clients, so that they, in turn, can produce lambs which meet this market for higher yielding lambs.

The first question that commercial breeders generally ask is, "which breed is best for yield"? The answer is that no particular breed is better or worse than any other breed, as the variation within a breed is the same as, or even greater than the variation between breed, or breed types. Yield can be improved by the careful selection of the right animals within each breed. Commercial producers should be aware of carcass traits in both ram and ewe selection if they are to improve lean meat yield.

Single trait selection for growth, leanness or muscling offers very little for the stud breeder who is aiming to improve yield (see table on next page). The greatest response in lean meat yield will be achieved by selecting for improved growth and leanness.

However, seedstock and commercial breeders should be aware that although LMY is a measure of the total meat yield, it does not indicate where that meat is located and hence, what the value of that meat will be. For this reason, seedstock breeders should be conscious of the need to improve muscling in higher value primal cuts.

Lambs which are sired by terminal sire rams with higher Estimated Breeding Values (EBVs) for growth will be leaner and will have a higher LMY at the same age and weight, compared with lambs which are sired by rams with average or lower EBVs for growth.

The Maternal Central Progeny Test (MCPT) has already demonstrated that the variation within a breed or breed type is likely to be far greater than the variation between maternal breed types for growth, leanness and eye muscle area of their progeny. This can be expected to extend to lean meat yield. Maternal breeders (breeders of prime lamb dams) who wish to increase yield can use the dollar indexes in LAMBPLAN.

These indexes have appropriate weightings for growth, leanness and muscling, as well as placing pressure on improving maternal performance and reproductive ability.

For commercial breeders who are using Merino ewes as prime lamb mothers, Merino Genetic Services (MGS) provides information on growth, carcass traits, reproduction and disease resistance. This information can be used to select replacement Merino rams that not only improve wool value, but also add flexibility – the option to produce prime lambs from their daughters.

How can genetics be used to improve Lean Meat Yield?

EBVs for post weaning weight (PWWT), fat (PFAT) and eye muscle depth (PEMD) also influence the lean meat yield of a carcass. Lambs with heavy carcasses, that are lean and also have thicker muscles, will have a higher lean meat yield. This can be improved by using EBVs for the other three traits.

You must have feedback in order to monitor progress and make the necessary decisions about what traits to emphasise when purchasing rams and ewes. There are basically four combinations of growth and leanness, set out in the following table that you need to consider.

In making your decisions, it is very important to recognise that the selection of maternal sires, for breeding first cross ewes, has an enormous influence on the ability of the subsequent second cross or terminal lambs, to produce carcasses with a high LMY. The Maternal Central Progeny Test program has demonstrated that by selecting superior maternal sires, returns from second cross progeny can be improved by up to \$35.00 per ewe per year. To assist in selecting animals for several traits, commercial breeders can use selection indexes.

The Carcass Plus index places 60% of emphasis on weight or increasing growth rate, 20% on reducing fatness and 20% on greater muscling. So it is an index that can be used to improve LMY. The Carcass plus index is calculated using post-weaning information which has been shown as the age where the majority of lambs are slaughtered, at ages of 6-8 months. This selection index rates animals on their ability to breed heavy, lean and well-muscled progeny, which meet the weight and fat specifications of heavy domestic and export markets.

The EBV specifications recommended for improving LMY with either Merino or crossbred ewes and the reasons for those recommendations are set out in the following table.

Feedback information		Improvement required	Target traits
Growth	LMY		
Low	Low	Improve growth and carcass traits of rams. Improve carcass and maternal traits of ewes.	PWWT PEMD MWWT
Low	High	Improve growth rate of sires and maternal traits of ewes.	PWWT MWWT
High	Low	Improve carcass traits of both rams and ewes.	PWFAT PWEMD
High	High	Increase number of lambs.	Focus on Number of lambs

2003 RAS PRIME LAMB CARCASS COMPETITION

TERMINAL SIRE EBV GUIDELINES FOR TRADE AND EXPORT MARKETS AND EWE TYPES

Lamb carcass weight (C.Wt.) and ewe type	EBV Specifications and Reasons for Recommendation			
18 - 22kg C.Wt. lambs from XB ewes	<u>PWWT</u>	<u>PFAT</u>	<u>PEMD</u>	<u>Carcass Plus Index</u>
	4 - 6 +	< - 0.5	> 0	140 +
	Note: If PWWT is > 8 then PFAT range should be between - 0.5 and 0.			
Rams with higher post-weaning weight EBVs will produce lambs with faster growth rates and will have greater carcass weights at given ages. As new season lambs from 1st cross ewes are usually fatter, rams should have average to below average EBVs for fat. However, if sires EBVs for growth are high then pressure on fat should be lower.				
18 - 22kg C.Wt. lambs from Merino Ewes	<u>PWWT</u>	<u>PFAT</u>	<u>PEMD</u>	<u>Carcass Plus Index</u>
	4 - 6 +	< 0	> 0	140 +
	In general growth rate should be slightly higher and pressure on fat lower, particularly if the environment is such that the season is shorter. Emphasis on muscling should be moderate to high.			
24kg + C.Wt. lambs from XB ewes	<u>PWWT</u>	<u>PFAT</u>	<u>PEMD</u>	<u>Carcass Plus Index</u>
	6 +	< - 0.8	> 0	154 +
	Getting 2, 3 or 4 fat score 24kg plus lambs is a challenge. Sires with negative EBVs for fat will produce leaner lambs. Selecting sires with higher growth rate and negative EBVs for fat will produce higher yielding lambs. Please note that animals with higher EMD EBVs tend to have higher FAT EBVs. Therefore pressure placed on EMD EBVs will depend on WT and FAT EBV figures.			
24kg + C.Wt. lambs from Merino ewes	<u>PWWT</u>	<u>PFAT</u>	<u>PEMD</u>	<u>Carcass Plus Index</u>
	6 +	< - 0.6	> 0.2	140 +
	In general EBVs for fat do not need to be as low as for XB ewes. However it is important that you look at your feedback sheets as there is significant variation in the genes for fatness and growth amongst merino ewes. In general Merino ewes may also be slightly poorer muscled so a little more emphasis on muscling should occur.			

Note:

If lambs are 10-12 months of age at turn-off then consideration could be given to using yearling EBVs, such as YWT, YFAT, YEMD, and the 60:20:20 index based on yearling EBVs.

These are general guidelines and breeders should make adjustments for their personal situation and consult with their ram breeders to determine the most appropriate sire selection.

TERMINAL SIRE EBV GUIDELINES FOR EXPORT MARKETS

Carcass weight and ewe type	EBV Specifications and Reasons for Recommendation			
24kg + C.Wt. lambs from XB ewes	PWWT	PFAT	PEMD	Carcass Plus Index
	6+	< -0.8	> 0	155 +
	Sires with negative EBVs for fat will produce leaner lambs. Selecting sires with higher growth rate and negative EBVs for fat will produce higher yielding lambs.			
24kg + C.Wt. lambs from Merino ewes	PWWT	PFAT	PEMD	Carcass Plus Index
	6 +	< -0.6	> 0.2	150 +
	In general EBVs for fat do not need to be as low as for XB ewes. However it is important that you look at your feedback sheets as there is significant variation in the genes for fatness and growth amongst Merino ewes. In general Merino ewes may also be slightly poorer muscled so a little more emphasis on muscling should occur.			
26kg + C.Wt. lambs from XB ewes	PWWT	PFAT	PEMD	Carcass Plus Index
	8 +	< -1.0	> 0.0	165 +
	Getting 2, 3 or 4 fat score 26kg plus lambs is a challenge but achievable. The biggest limitation in 2nd cross 26kg lambs is the maternal genetics. It can be achieved but growth EBVs need to be maximised and purchase rams between -1.0 and -1.8 for fat. The leaner the better.			
26kg + C.Wt. lambs from Merino ewes	PWWT	PFAT	PEMD	Carcass Plus Index
	8 +	< -0.8	> 0.2	165 +

2003 RAS PRIME LAMB CARCASE COMPETITION

Clearly the opportunities for making significantly higher dollar returns from lamb production are demonstrated in this competition. The key to making improvements in lean meat yield is access to feedback information for weight, fat and LMY on an adequate draft of lambs that have been sold over the hooks.

The results from this competition show that producers that have feedback information are well placed to identify low performance animals and as a result determine where deficiencies in genetic resources or management are contributing to this low performance.

The results of this competition also demonstrate to processors, such as Castricum Brothers, the opportunity for improvement of compliance to market specifications that producers can achieve through direct transfer of information from processor to producer. The long-term sustainability of the Australian lamb industry rests with the communication that processors and producers develop.

EDGEnetwork[®] -Improving Lean Meat Yield

Lean Meat Yield

Understand lamb description systems and specifications

This one day workshop will assist you to understand the relationship between lean meat yield and the profitability of your prime lamb enterprise.

At the conclusion of the training you will be able to:

- Identify customer needs;
- Understanding market specifications; analysing and rating carcasses;
- Analyse carcass feedback sheets;
- Understand how genetics, nutrition, feed supply and health influence Lean Meat Yield;
- Identify opportunities and strategies for improving productivity and returns;

"Essentially, weight and leanness drive dollar returns for lamb producers selling over-the-hooks."

Dr Alex Ball

LAMBPLAN Manager
Meat and Livestock Australia

Effective Breeding for Lambs

Use genetic techniques to generate wealth

This one day workshop will help you to evaluate the effectiveness of your breeding program and determine strategies to better match genetics and management with market requirements.

At the conclusion of the workshop, you will be able to:

- Understand the impact of genetics on production and profitability;
- Evaluate an existing production program
- Analyse the gap between current and desired performance
- Understand LAMBPLAN Estimated Breeding Values (EBVs)
- Use EBVs to select rams to improve Lean Meat Yield and meet specific prime lamb market requirements

"I set some target EBVs for my situation. I produce lambs for the export market so set high growth rates and good muscling as my targets."

Craig Grant

Prime lamb producer, Pigeon Ponds, Victoria

To get further information in relation to either of these courses please contact

Catherine Addinsall at RIST on 1800 88 3343

Some observations from the carcass competition results

Dr Robert Banks

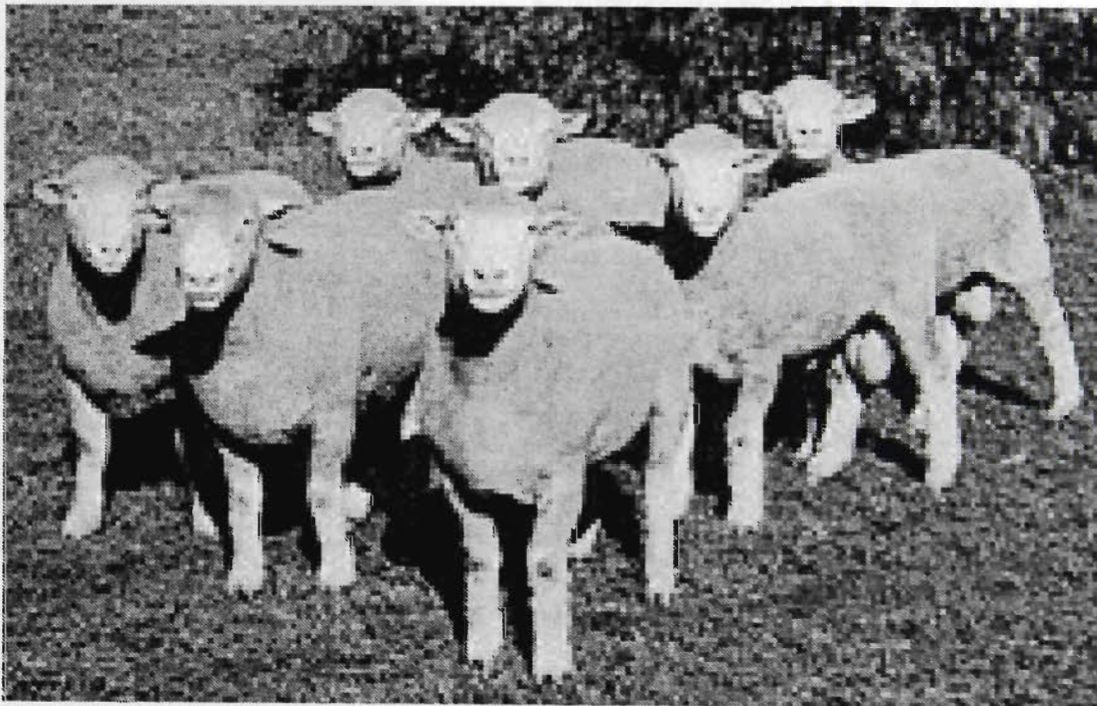
Project Manager, Genetic Improvement, MLA

The aim of the competition, and commercial production for the North American market, is to achieve high carcass value (c/kg). This is achieved through the production of heavy carcasses that are high in Lean Meat Yield %.

Outstanding carcasses/groups therefore achieve two things:

- High carcass weight
- High lean meat yield (%)

Lean Meat Yield is closely related here to value in c/kg – because high Lean Meat Yield means high earning or processing efficiency – each kilogram handled earns maximum return.

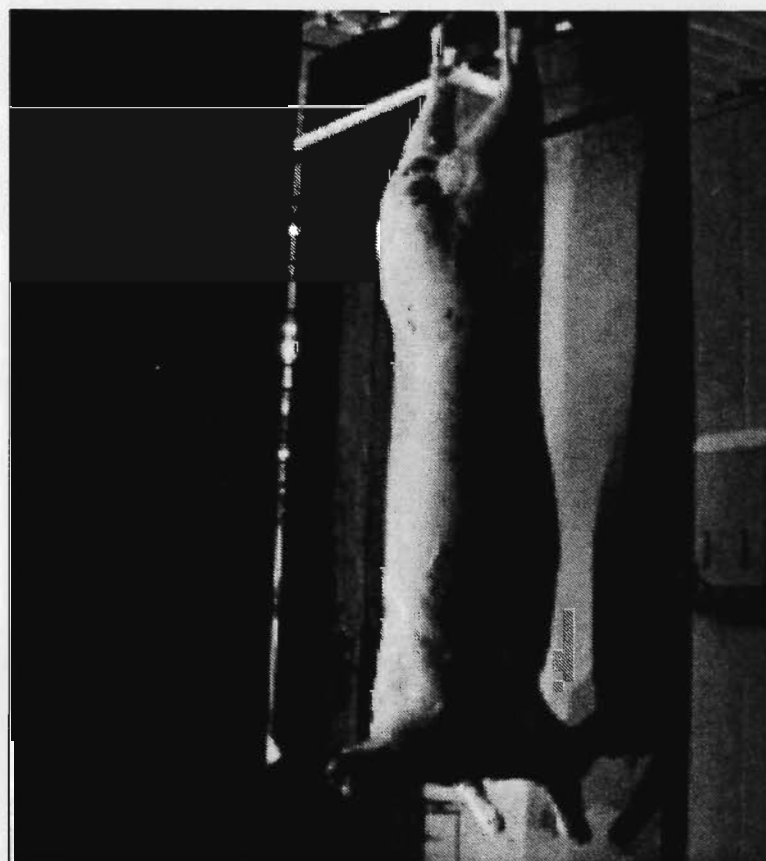




*Information Leaders
to the Meat Industry.*

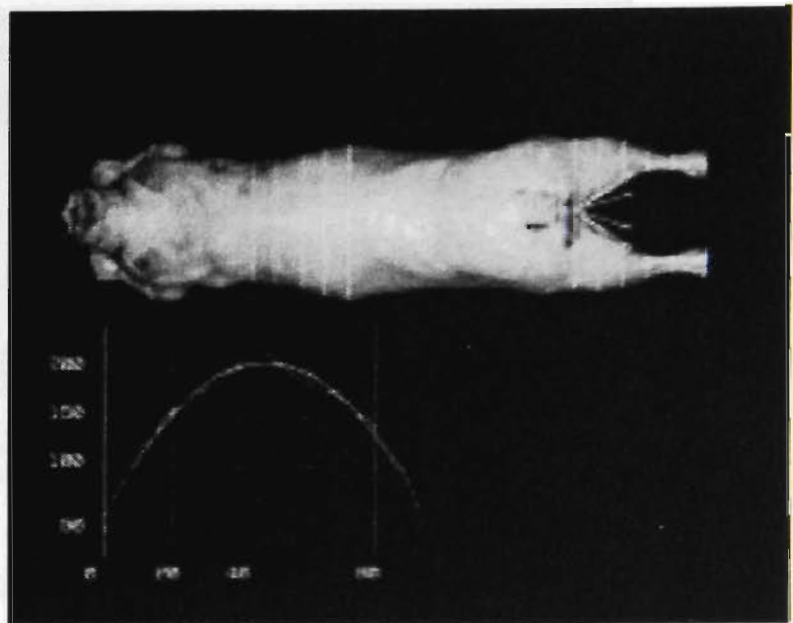
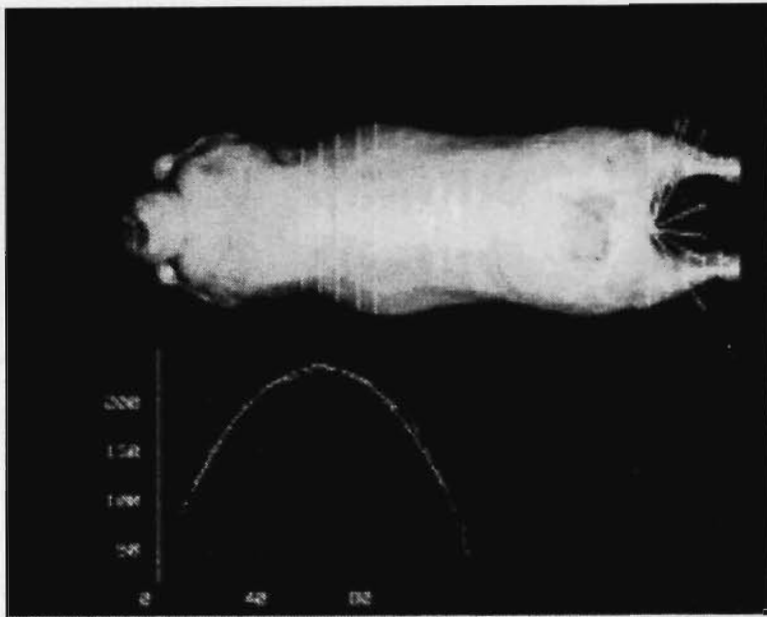
What is the VIAscan® Sheep Carcase System (SCS)?

VIAscan is a technology developed by MLA based on Video Image Analysis. Applied to sheep and lamb, it collects a dorsal view of the whole carcase and extensively measures the dimensions and colours over the carcase. It combines this information with other kill floor data such as body identification and carcase weight to produce a series of objective measurements or predictions about the carcase.



What does it objectively measure and predict?

The VIAscan system objectively measures the shape and size of the carcase overall and in addition, the shape and size of the hind legs and the loin. It also uses the colour information to determine the fat coverage of the carcase. These measurements are not directly commercially valuable, but combined together into statistical relationships developed from large trials, they are able to predict important characteristics about carcasses such as the lean meat content, the GR fat score and the weights of the valuable primals.



The lamb population has a range of greater than 11% in lean meat yield. The SCS predicts yield on a statistical basis determined by exact dissection of large trial sets of lambs representing the population.

Are these important?

There are several reasons why this information is valuable:

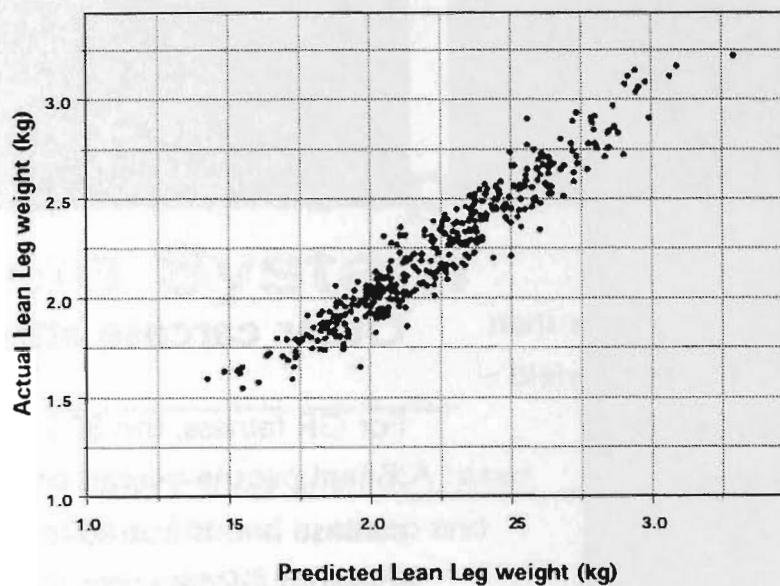
- Knowing the lean meat yield, the fat class and the primal weights at the carcass weigh-grade point, enables a fairer value to be accorded to the carcass than if the value was based on weight alone, or weight and fat. This means that a producer growing lambs with more meat should be paid more than the producer with fatter, lower yielding lambs at the same weight.
- Processors armed with knowledge of the value characteristics of the lamb they are processing, including the suitability of primals for certain markets before stamping, ticketing or sorting, have the opportunity to base process decisions on optimising carcass sales value.
- Specifications can be created for producers that are based on the needs of the final consumer. This allows completing the value chain loop where producers are given feedback and rewarded on the basis of their performance, in terms of the product the consumer wants to buy.

Other carcass attributes

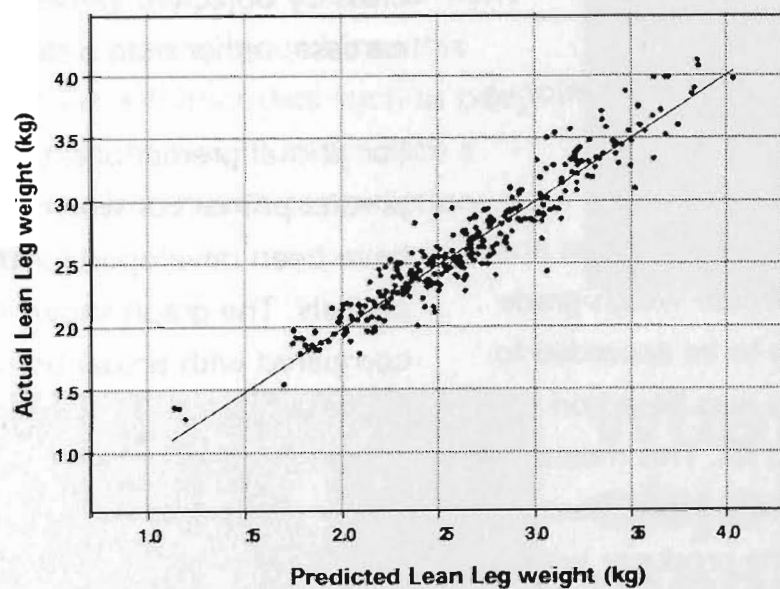
For GR fatness, the SCS predicts the GR value by looking at the overall fatness and weight of the carcass and is accredited by AUS-MEAT to measure GR fat score. The system predicts the fat class by objective values from all over the carcass, rather than a single site measurement.

For primal predictions, the SCS will objectively predict primal cut weight. At present, equations have been developed for the three important primals. The graph shows the predicted weight compared with actual boning room weights for 360 carcasses.

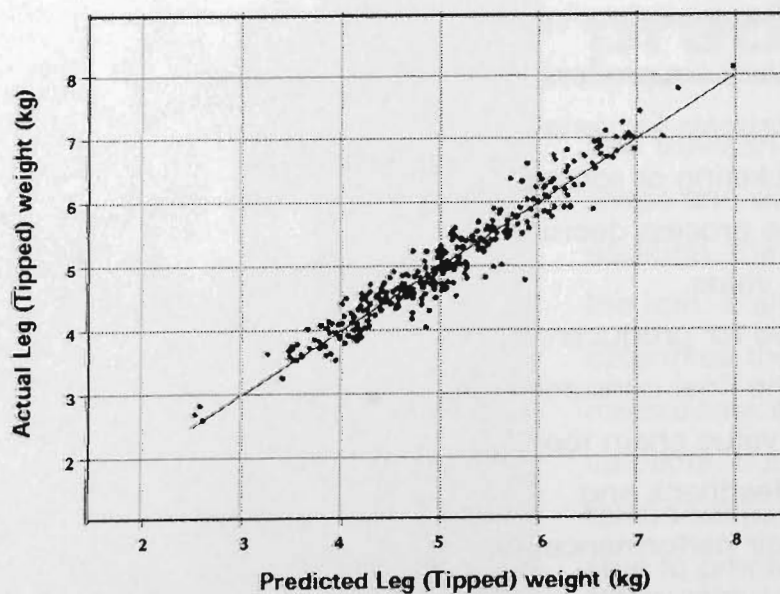
Primal	Range in population	SCS RSD
Eye of Loin	0.32 to 1.08 kg	0.05 kg
Lean Leg	1.54 to 3.21 kg	0.08 kg
Bone-in Leg	2.13 to 4.6 kg	0.13 kg



Eye of Rack



Lean Leg



Bone-in Leg

Actual

Predicted



On

Understanding LAMBPLAN EBVs

Note: A useful rule of thumb for converting ram EBVs into lamb production is to simply halve the EBV (as rams contribute half the genetics of the lamb)

How to read a LAMBPLAN report:

Animals with low birth weight EBVs produce smaller lambs with potentially less lambing problems due to birth size.

Animals with positive EBVs for growth produce lambs that grow quicker and reach target weights in a shorter time. This ram will produce lambs that are 2.75 kgs heavier than a ram with a 0 EBV for growth.

An index is a guide to the value of a ram for a particular market target, rams with higher indexes will produce lambs that are more suited to that particular market.

Lot Number	Tag Number	Birth Weight (kgs)	Weaning Weight (kgs)	Growth (kgs)	Fat (mm)	Eye Muscle Depth (mm)	Index
2	0'1000	0.04	4.0	5.5	-1.5	1.0	154.6

Tag number of the ram showing the year of birth and the identification.

Animals with positive EBVs for Weaning Weight (wwt) produce lambs that grow quicker to weaning. This ram will produce lambs that are 2kg heavier than a ram with a 0 EBV for growth.

Rams with a negative EBV for fat produce lambs that are leaner, independent of the weight of a lamb. This ram will produce lambs that are 0.75 mm leaner at the GR site when compared to a ram at 0.

Rams with a positive eye muscle depth figure produce lambs that have more muscle in their carcass independent of weight. This ram will produce lambs that have a 0.5mm deeper eye muscle.



Contact: LAMBPLAN office on (02) 6773 2948 or fax: (02) 6773 2707 or view the LAMBPLAN website www.lambplan.com.au

PRIME LAMB CARCASS COMPETITION 2003 ENTRIES

EXHIBITOR INFORMATION		CONSIGNMENT QTY	MEAT YIELD	DRESSED		PREMIUM/KG	\$/CARCASE
				WEIGHT	\$/kg		
I.I. & D.E. Hocking	Lucindale	203	53.5%	24.60	\$4.02	\$0.04	\$0.96
D. & H. McKenzie & Son	Timboon	452	51.2%	27.40	\$4.09	-\$0.06	-\$1.73
W.M. & K. Agnew	Millicent	203	53.6%	24.60	\$4.01	\$0.03	\$0.78
Uondo Pastoral Co.	Kerang	215	51.2%	26.54	\$3.95	-\$0.08	-\$2.05
Sudholz Farm	Kotupna	202	51.9%	28.10	\$4.11	-\$0.02	-\$0.69
G.K. Oliver	Inverleigh	300	53.5%	23.70	\$3.92	\$0.01	\$0.35
Kentucky P/L	Corowa	433	52.1%	24.17	\$3.88	-\$0.06	-\$1.49
Uondo Pastoral Co.	Kerang	460	52.8%	24.87	\$3.99	-\$0.01	-\$0.33
Mount Ireh Estate	Longford	217	52.7%	23.20	\$3.81	-\$0.06	-\$1.50
Kryden Trust	Meander	280	52.4%	22.10	\$3.71	-\$0.11	-\$2.35
KA & P Jacobs	Hall	430	52.7%	25.64	\$4.07	\$0.00	-\$0.04
Gleeson Bros	Wakool	203	55.2%	25.22	\$4.15	\$0.13	\$3.40



The Royal Agricultural Society of Victoria Limited

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