Peter Westblade Memorial Merino Challenge 2016-2018

MEAT CHALLENGE

REPORT

CRAIG WILSON & associates
Great Decisions

Published by Craig Wilson and Associates

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CONTENTS PAGE NUMBER

About the PWMMC

Australia's largest commercial evaluation of Merino genetics the Peter Westblade Memorial Merino Challenge (PWMMC) assists Merino breeding enterprise make more informed decisions on their Merino genetics. The PWMMC has two components consisting of a Meat Challenge and a Wool Challenge. The Meat Challenge is a unique initiative of the PWMMC measuring commercially relevant growth and carcase traits.

The information and data analysis presented in this report shows entrants and the wider sheep industry the financial opportunities that exist through high performance Merino genetics. Entry to the PWMMC is extended to any commercial breeders who are running self-replacing Merino type sheep.

PWMMC 2016-2018
50 teams of 30 wether lambs
Even-up shearing April 2016

Meat Challenge

50 teams of 15 wether lambs. All given the same opportunities on Lucerne and commercial feedlot prior to processing

1 Assessment
Collingullie Feedlot and Fletchers International Exports - June & July 2016

Wool Challenge

50 teams of 15 wether lambs. All run together and given the same opportunities (management, nutrition and animal health)

2 Assessments

April 2017
March 2018

Peter Westblade 1949 - 2008

Peter Westblade (pictured below) was born in Lockhart, NSW and left school at 16 years of age. Peter established himself by buying his grandfather's 400 hectare farm with 10 per-cent deposit and 90 per-cent borrowed money.

Working in the shearing sheds to help meet the repayments, he went on to build that initial purchase into the 'Pastora' property of today, covering nearly 2,800 hectares running 3,700 breeding ewes.

Not only was Peter a far-sighted, innovative and successful stud Poll Merino Breeder; he was also an inspiring sheepclasser using objective measurement, a mentor to many and a champion of worthy causes.

His involvement in sheep breeding began in the early 1970's when he identified his desired traits for a profitable sheep many years ahead of the industry.

Peter Westblade was passionate about breeding profitable sheep. Being a strong supporter of a balanced approach to all things, his legacy lives strongly amongst those who had the fortune to know such a great man.

Peter Westblade's son Tim and his wife Rachel now continue the dedication and passion for Merino's and the management of 'Pastora'.

From the Challenge Convenor

The Peter Westblade Memorial Merino Challenge 2016 -2018 follows on from similar trials co-ordinated by Craig Wilson and Associates since 2004. The concept of the PWMMC has been developed to assist Merino breeding operations make more informed decisions on their Merino genetics.

The Wool Challenge and Meat Challenge within the PWMMC provide a holistic view of the relative capacity of merino lamb genetics to perform in both the meat and wool segments of the market.

It has been deliberately designed to show the entrants in the Challenge and the wider sheep industry the genetic opportunities that exist for them to be more financially sustainable into the future.

Income and expenses are not considered within this report though the 43% range in carcass values after being fully adjusted for age highlights the role genetics play in the profitability of lamb finishing operations.

The PWMMC 2016 Meat Challenge experienced an extremely wet late autumn and winter that meant that the growth rates were lower than those in the three previous years that the challenge has run.

All information contained within this report has been statistically analysed by the NSW Dept of Agriculture and fully adjusted for age.This allows us to not only compare the teams within the Autumn, Winter and Spring age groupings but also across those groups. The relative performance of the wether lambs in the Challenge will be influenced by management and nutrition effects prior to the Challenge starting.

The results seen within this report match up well with link teams that have had their genetics previously analysed in the PWMMC Meat Challenge.

Contained within this report are 10 teams that are part of a trial that is being run concurrently with the PWMMC 2016-2018. The results add depth and integrity to the dataset as this trial has three teams linking both trials together.

The PWMMC has again attracted teams from across Australia. The teams represent a wide cross section of the Merino bloodlines and major wool and sheep meat growers. The PWMMC has received fantastic support from all sectors of the Merino industry.

Major contributions to the success of the Peter Westblade Memorial Merino Challenge (PWMMC) 2016-2018, Meat Challenge have been made by the following;

- Sally Martin, Sally Martin Consulting.
- Fletcher International Exports, Josh Laurie and Terry Mitchell.
- George Wilson and John Richter Yarragundry West Collingullie.
- Alistair Pennington, Conqueror Milling Cootamundra.
- Ross Smith Transport and Richard Worner Transport.
- Zoetis Animal Health.
- Australian Wool Innovation.
- Allflex Australia

Peter Westblade was passionate about breeding profitable sheep. Being a strong supporter of a balanced approach to all things, his legacy lives strongly amongst those who had the fortune to know such a great man.

The enthusiasm, goodwill and collaborative approach from all involved, makes the PWMMC a pleasure to be associated with.

Craig Wilson

1.0 PWMMC - Trial Design

The PWMMC 2016-2018 (Merino Challenge) evaluates both commercial carcase and wool attributes of randomly selected 2015 drop wether lambs. Most of the major wool growing regions in Australia are represented through the 50 teams of 30 wether lambs. Refer to pages 8-9 for entrant details.

1.1 How the wether lambs were selected

The selections protocols for the Merino Challenge stipulate entrants must have either purchased rams directly from the ram breeder nominated as their bloodline source for a minimum of five years (in line with the National Wether Comparison Guidelines) or have bred their own rams and not be actively selling rams. Entrants that have not used a since source for their Merino genetics are known as a mixed bloodline. Merino studs nominating their own commercial flocks are ineligible.

The standard protocol for all sheep entering the Merino Challenge required entrants to yard a minimum of 90% of their 2015 drop wether lambs. From this group a nominated independent person randomly drafted off 54 wether lambs from which 30 wether lambs were selected and tagged with two unique permanent tags. The entrant teams were then transported to the Yarragundry West where they were inducted and shorn.

1.2 How the wether lambs were allocated to the Wool Challenge and Meat Challenge

A body weight was taken prior to the even-up shearing (April 2016) and was used to allocate wethers to the Wool Challenge and Meat Challenge. The allocation was within team, subsequently the wool length of individual teams did not need to be taken into consideration.

The random allocation of each team of 30 wether lambs enables an even distribution of body weights to either the Wool Challenge or Meat Challenge. Table 1 shows an example of how each team was allocated based on their body weight. Table 2 shows an example of the average body weight after the allocation to the Wool Challenge and Meat Challenge.

Table 1: An example of how each team was allocated by body weight.

Tag Number	Live Weight (kg)	Allocation
23	28.4	wool
27	28.8	meat
9	29.2	meat
5	30.0	meat
30	30.4	wool
12	30.6	wool
14	30.6	meat
19	30.6	meat
26	30.6	wool
18	30.8	wool
21	30.8	wool
10	31.2	meat
22	31.2	meat
3	31.4	wool
16	31.6	meat
17	31.6	wool
1	31.8	wool
6	32.0	meat
25	32.2	meat
15	32.6	meat
2	33.2	wool
11	33.2	wool
29	33.4	wool
4	33.6	meat
20	34.0	meat
24	34.8	wool
28	35.4	meat
8	36.0	wool
13	36.6	wool
7	36.8	meat

Table 2: An example of the average body weights for one across the Wool and Meat Challenge.

Team Count	30
Team Average Body Weight	32.1
Meat Count	15
Meat Average Body Weight	32.0
Wool Count	15
Wool Average Body Weight	32.2
Wool/Meat Body Weight Difference	0.3

2.0 Entrant Details

The PWMMC has operated in the current format since 2010. The 2016-2018 PWMMC is the fourth trial of its kind. 2016 has seen 50 commercial breeders enter teams from NSW (43), Victoria (4), Tasmania (1) and Western Australia (2). Since the inception of the PWMMC there have been 210 teams evaluated from five states of Australia, Table 3 shows the distribution of teams.

Of the 210 teams entered since 2010, 48 percent of entrants have entered more than once. In 2016, 52 percent of teams are new entrants. There are 57 bloodlines or ram sources represented and currently there are 22 bloodlines represented by two or more teams. The repeat entrants provide excellent linkage between years and trials and will allow across year analysis in the future that will include both carcase and wool data.

Table 3: Number of teams represented by states.

State	2010-12	2012-14	2014-16	2016-18	Total
NSW	45	50	46	43	184
VIC	4	7	3	4	18
WA	1		1	2	4
SA		2			2
TAS		1		1	2
Total	50	60	50	50	210

Table 4: Summary of entrant details.

210 teams (entrants)
48% repeat entrants
52% new entrants over the three trials (2010; 2012; 2014)
57 Bloodlines/Ram Sources (2010, 2012, 2014 & 2016)
22 bloodlines represented by two teams or more (2010, 2012, 2014 & 2016)

Table 5: PWMMC 2016-18 Entrant Details.

Team	Nomination	Town	State	Bloodline	Years on Bloodline	Age Group
1		Taralga	NSW	Mixed	-	Spring
2		Stockinbingal	NSW	Pastora	10	Winter
3		The Rock	NSW	Pastora	30	Winter
4		Bigga	NSW	Mixed	-	Spring
5		Goulburn	NSW	Leahcim	7	Winter
6		Lockhart	NSW	Pastora	20	Autumn
7		Gunning	NSW	Collingwood	20	Winter
9		Tallimba	NSW	Pastora	22	Winter
10		Dalgety	NSW	Mixed	-	Spring
11		Cooma	NSW	Mixed	-	Spring
12		Lindenow South	VIC	Emu Park	30	Winter
13		Cooma	NSW	Greendale	10	Spring
14		Galong	NSW	Hazeldean	5	Spring
15		Beckom	NSW	Pastora	10	Winter
16		Galong	NSW	Wallaloo Park	15	Winter
17		Wongarbon	NSW	Pastora	21	Winter
18		Campbell	TAS	Kenilworth	25	Spring
19		Hamilton	VIC	Mixed	-	Winter
20		Carrathool	NSW	Hazeldean	16	Autumn
21		Lake Bolac	VIC	Bundilla	6	Spring
22		Jugiong	NSW	Hazeldean	8	Winter
23		Goolgowi	NSW	Pastora	20	Autumn
24		Yass	NSW	Cavan	15	Spring
25		Yass	NSW	Bogo	20	Spring
26		Gunning	NSW	Mumblebone	15	Spring
27		Merriwa	NSW	AMM	20	Winter
28		Ando	NSW	Mixed	-	Spring
29		Cumnock	NSW	Mixed	-	Winter
30		Gidginbung	NSW	Woolaroo	27	Autumn
31		Wagga Wagga	NSW	Winyar	10	Winter
32		Harden	NSW	Mixed	-	Winter
33		Gnowangerup	WA	Mixed	-	Winter
34		Esperance	WA	Pyramid	8	Winter
35		Pleasant Hills	NSW	Pooginook	50	Winter
36		Tottenham	NSW	Centre Plus	20	Winter
37		Trundle	NSW	Centre Plus	28	Winter
38		Walpa	VIC	Mixed	-	Winter

Table 5 cont: PWMMC 2016-18 Entrant Details.

Team	Nomination	Town	State	Bloodline	Years on Bloodline	Age Group
39		Larras Lee	NSW	Claremont	60	Spring
40		Peel	NSW	Blink Bonnie		Winter
41		Condobolin	NSW	Pooginook	25	Autumn
42		Junee	NSW	Willandra	30	Spring
43		Galore	NSW	Hazeldean	20	Spring
44		Warren	NSW	Pooginook	4	Autumn
45		Coonamble	NSW	Pooginook	5	Winter
46		Young	NSW	Bundilla	9	Winter
47		Young	NSW	Mixed	-	Autumn
48		Rand	NSW	The Yanko	12	Winter
49		Hay	NSW	Tupra	20	Autumn
50		Hay	NSW			Autumn
51	Link team	Condobolin	NSW			Autumn
52		Hay	NSW			Autumn
53	Dorset Cross Merino	Currawarna	NSW			Autumn
54		Jerilderie	NSW			Autumn
55	Link team	Warren	NSW			Autumn
56		Hay	NSW			Autumn
57		Conargo	NSW			Autumn
58		Hay	NSW			Autumn
59		Conargo	NSW			Autumn
60	Link team	Carrathool	NSW			Autumn

PWMMC 2016 - 2018 Wool Challenge wethers, November 2016

3.0 Merino Challenge Management

The Merino Challenge commenced in April 2016 when the wether lambs had been shorn to a standardised wool length (even-up shearing).

Post even-up shearing the Meat Challenge wether lambs were run at Yarragundry West, Collingullie on lucerne pastures. Early May 2016 the wether lambs were transitioned to the "Yarragundry West" Lamb Feedlot. The wether lambs were backgrounded on lucerne pastures as a pelleted ration was introduced. The pelleted ration was 12.8 megajoules of energy and 17% crude protein, supplied by Conqueror Milling Company, Cootamundra.

3.1 What traits were measured in the Meat Challenge?

Table 6 lists all the meat traits that were measured over the duration of the Meat Challenge (April to July 2016).

Table 6: Traits measured in the 2016 Meat Challenge.
Body weight and Growth
Body weights (5 in total)
Final body weight (kg)
Dressing percentage – derived from final body and carcase weights
Age (mouthed – lamb/hogget) – prior to slaughter
Carcase
Carcase weight (kg)
Fat depth at GR (12th rib) (mm)
Eye muscle depth (mm) – ultra sound prior to slaughter
Fat (mm) – ultra sound prior to slaughter
Skin
Skin wrinkle (internal) – 1 to 5

4.0 Meat Challenge Summary

The 2016 Meat Challenge again highlight the variation that exists in the Merino industry for meat and growth traits. As highlighted in the 2010, 2012 and 2014 Meat Challenges, entrants that place emphasis on meat and growth traits within their breeding programs have performed well in the 2016 Meat Challenge.

For entrants that have not specifically focused on meat traits within their breeding selections, the Meat Challenge provides the opportunity to gauge the potential and scope of what their flock is capable of.

There is a large age range between teams (6 months). To accommodate the age range the results have been reported in age groups (Autumn, Winter and Spring drops). The results presented in this report have been adjusted for age unless specified.

The economic variation between teams for carcase value was 43% between the top and bottom teams.

Growth rates averaged 118grams/head/day adjusted for age, the variation of individual lamb growth rate ranged up to 292grams/head/day. The growth rates were slightly lower in 2016 compared to previous years (2010, 2012 and 2014).

The average final body weight was 52.7kg and 47.3kg for the Autumn and Winter/Spring drops respectively. The wether lambs average dressing percentage was 46.6% with an average carcase weight of 23.4kg.

Meat quality traits were not collected in 2016 after the limited variation between teams in 2010 Meat Challenge. Merinos are often associated with high pH levels which can have an effect on meat colour and shelf life. The results in 2010 showed little difference between teams with an average pH of 5.6, below the threshold of 5.8pH.

Overall the 2016 Meat Challenge results have been consistent with past year results. There was a very high correlation between carcase value, carcase weight and start weight, and a high correlation between carcase value, body length and dressing percentage.

A key message for the Merino industry is that while for some traits there is little variation, there are traits with considerable variation and excellent opportunities for economic gain, highlighted by the 43% difference in carcase value when adjusted for age.

5.0 Meat Challenge Results

The lambing dates of the entered wether lambs range from April 2015 to October 2015 with the average birth date 19th July 2015.

Due to the large spread in team age the Autumn wether lambs were processed in mid-June 2016 and the Winter/ Spring drop lambs were processed in mid-July 2016.

5.1 Body weight and growth rate

Body weights were obtained on the wether lambs four (4) times over the duration of the Meat Challenge. All weights have been used to generate the growth rate (grams/head/day).

Table 8: Body weight recording dates.

Data collection date	Autumn Group Average Body weight (kg)	Winter/ Spring Group Average body weight (kg)	Comment
24/04/2016	48.7	39.2	Starting body weight
17/05/2016	51.1	41.3	
06/06/2016	52.6	43.0	
12/06/2016	52.7		Final Body Weight (Autumn)
27/06/2016		45.2	
09/07/2016		47.3	Final Body Weight (Winter/ Spring)

The Meat Challenge team averages for growth ranged from 62 gram/head/day to 182 grams/head/day, adjusted for age. The variation between individual animals within the Meat Challenge ranged from less than 10 grams/ head/day to 292 grams/head/day. Over the duration of the Meat Challenge the average growth rate was 118 grams/head/day.

A key industry message is there are strains of Merino sheep that have significantly better growth rates at the same age under the same nutrition opportunities.

Meat Standards Australia (MSA) recommends that animals should be gaining weight prior to processing. In particular, the growth rates two weeks prior to processing have a significant effect on meat eating quality. The MSA standards recommend that Merino lambs should be growing at a minimum of 150grams/head/day in the two weeks prior to processing.

5.2 Growth rate relative to age

Figure 2 shows the average growth rate relative to age, the graphed results show there is a similar range in growth rate across all age groups.

Figures 2a, 2b and 2c show the average growth rate per team relative to the age of the team (days) reported in the respective age groups.

Figure 2 - Growth rate relative to age

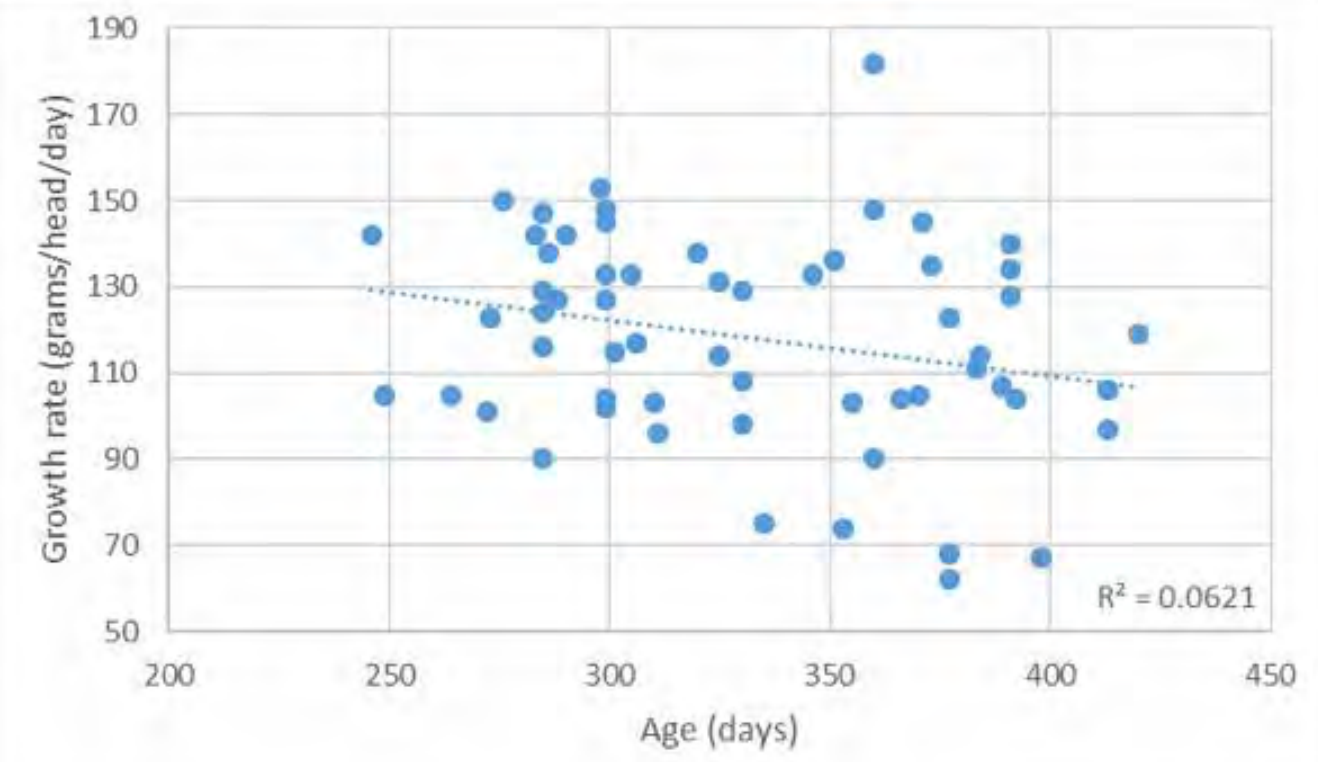


Figure 2a - Growth rate relative to age – Autumn Drop

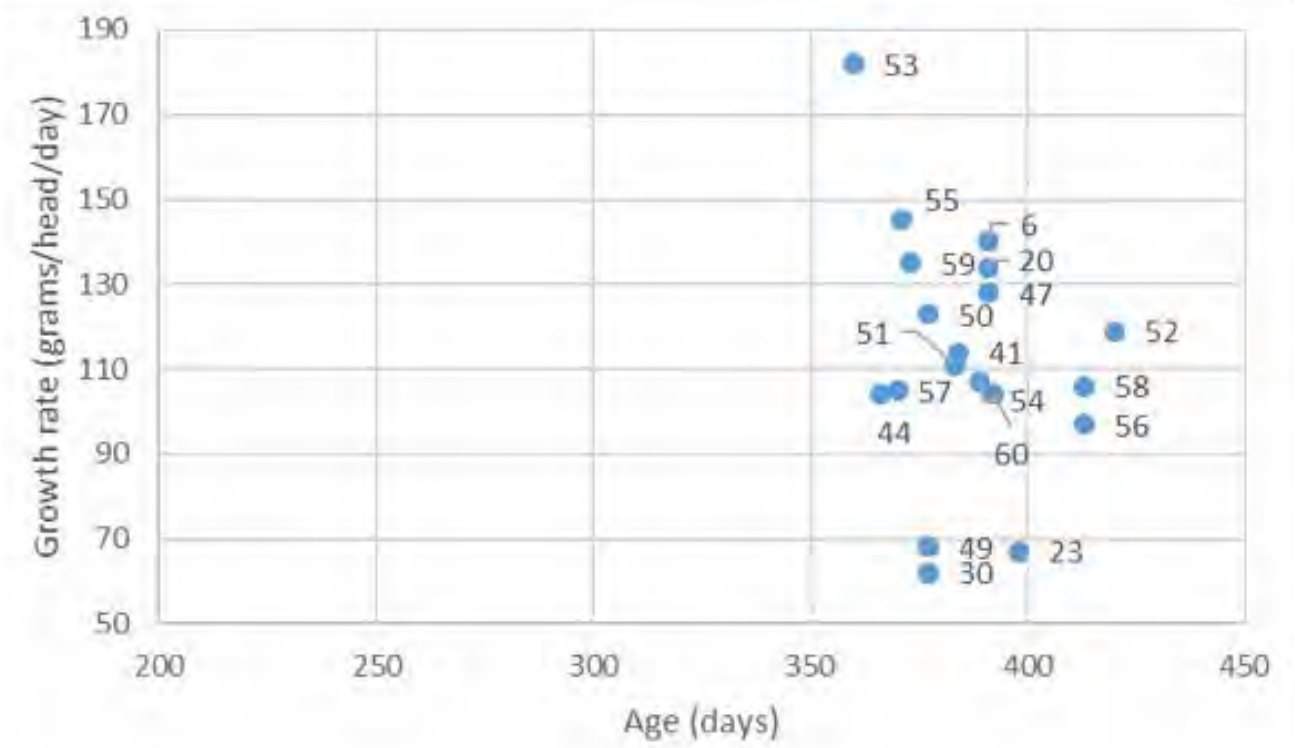


Figure 2b - Growth rate relative to age – Winter Drop

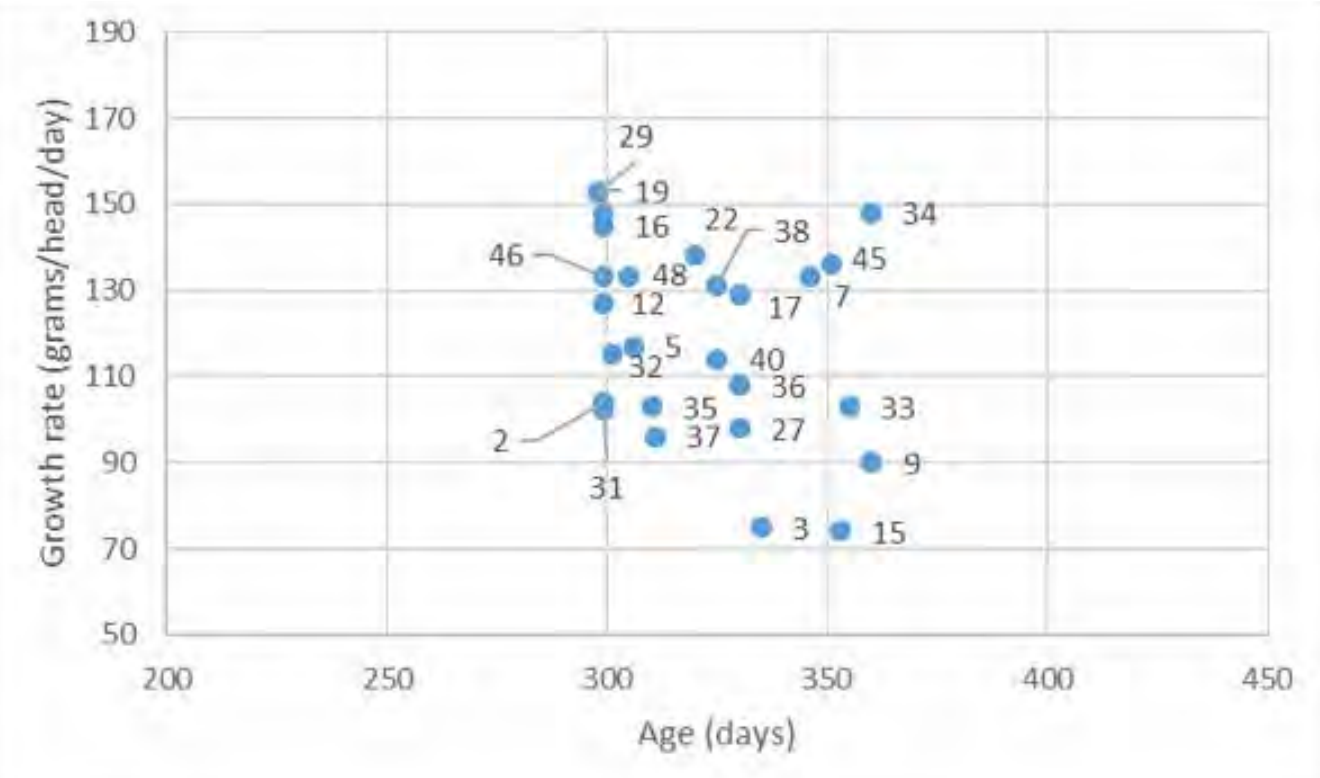
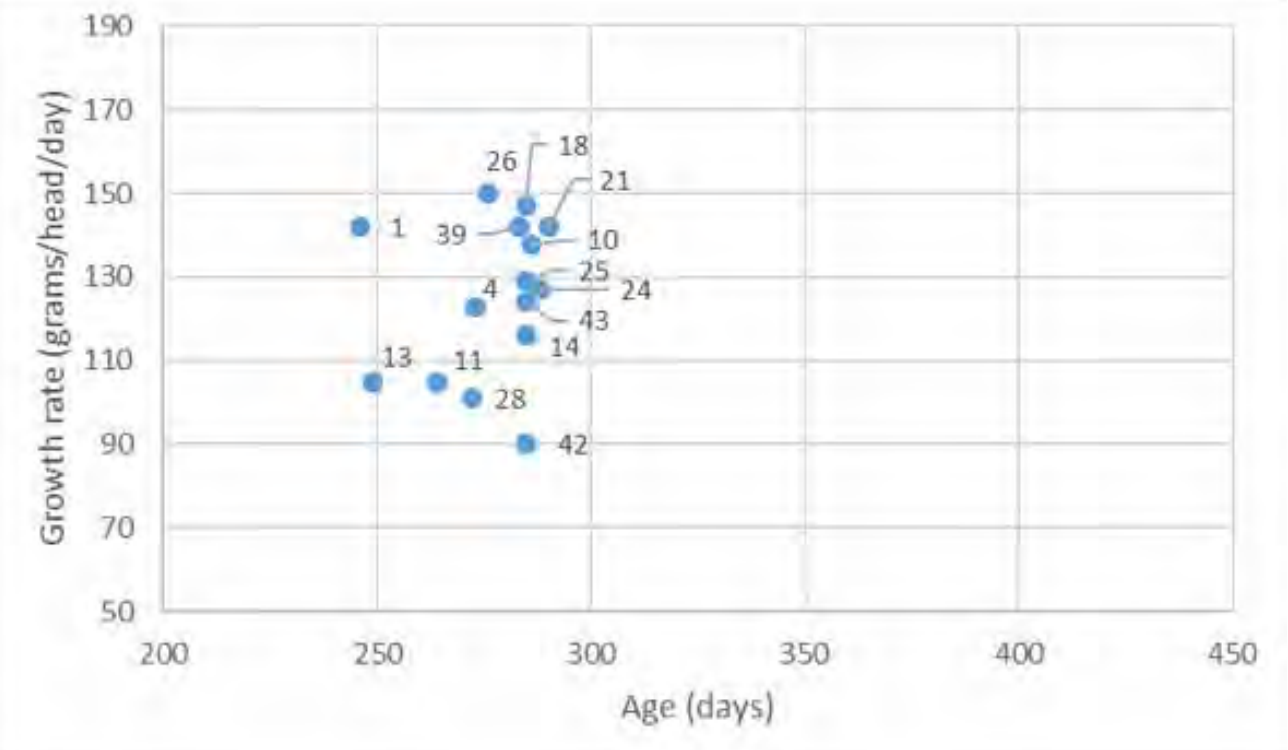


Figure 2c – Growth rate relative to age – Spring Drop



5.3 Growth Relative to Carcase Weight

Figure 3 shows the variation that exists between the different age groups for growth rate relative to carcase weight. Figures 3a, 3b, and 3c show the growth rate and carcase weight variation within each age group.

Figure 3 – Growth rate relative to carcase weight (adjusted for age).

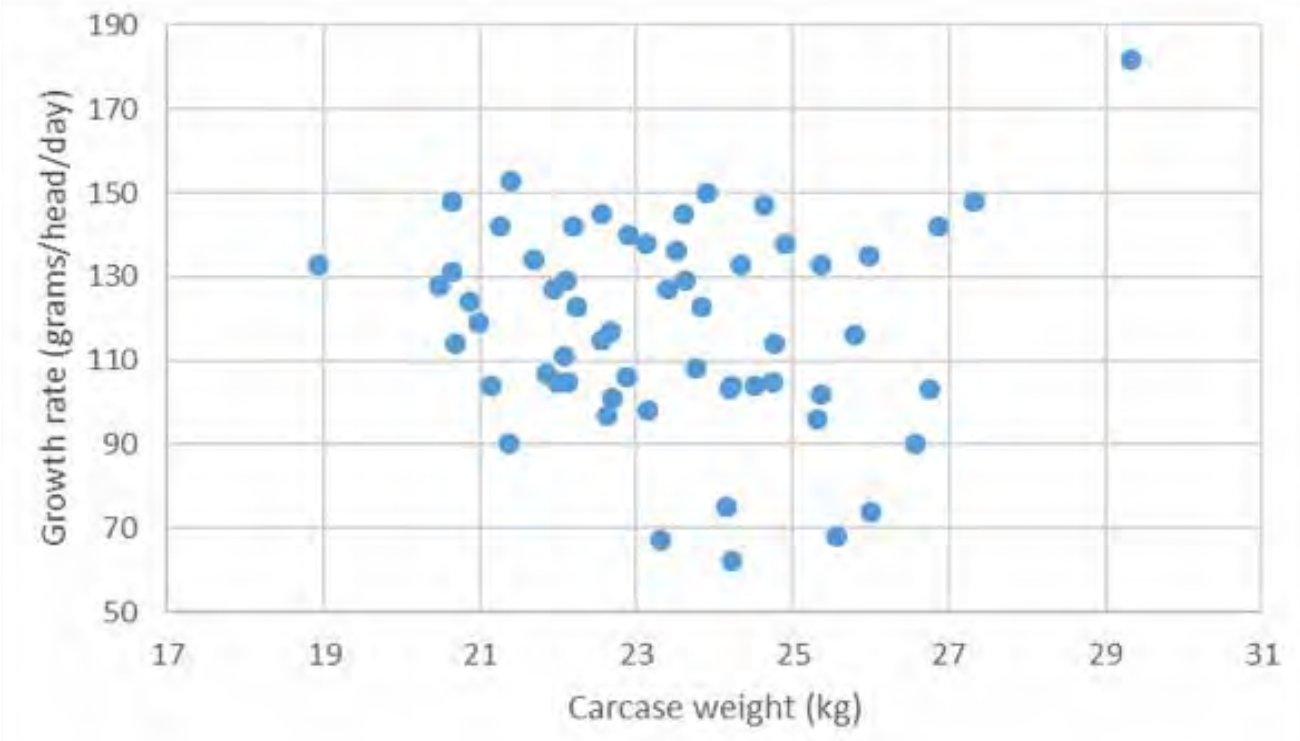


Figure 3a – Growth rate relative to carcase weight (adjusted for age) – Autumn Drop

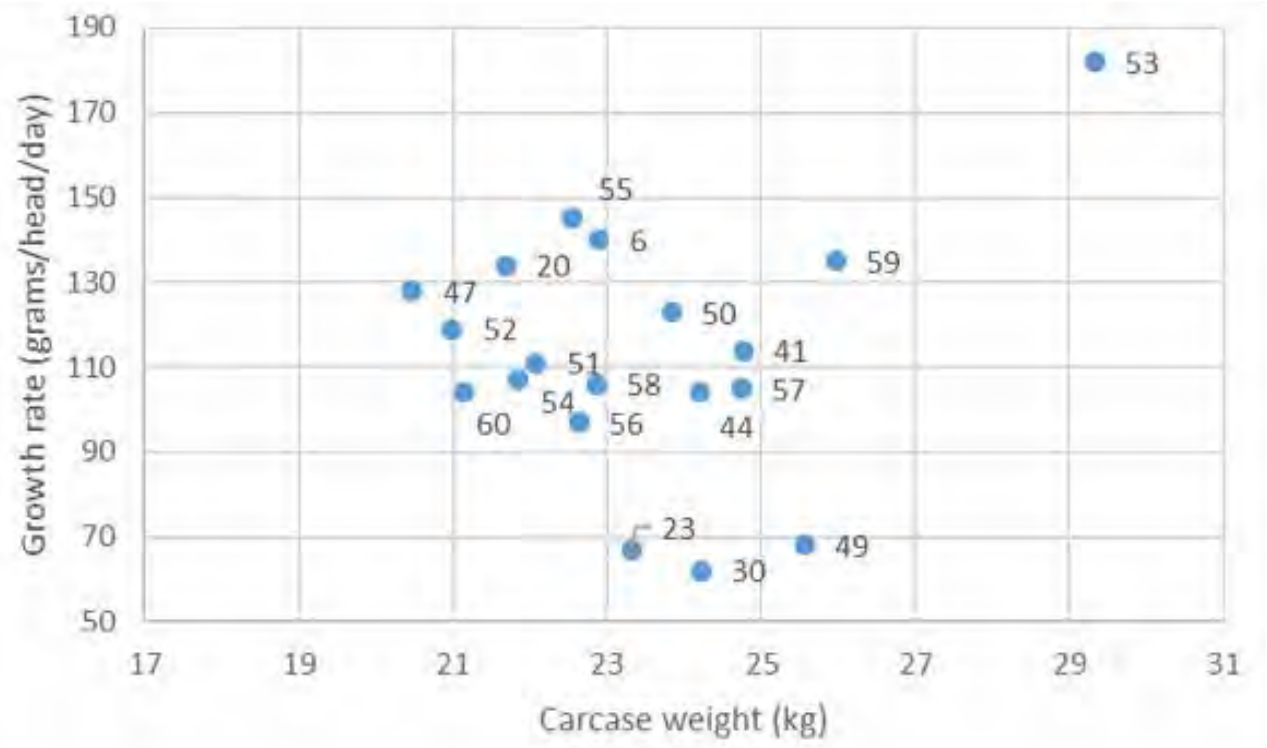


Figure 3b – Growth rate relative to carcase weight (adjusted for age) – Winter Drop

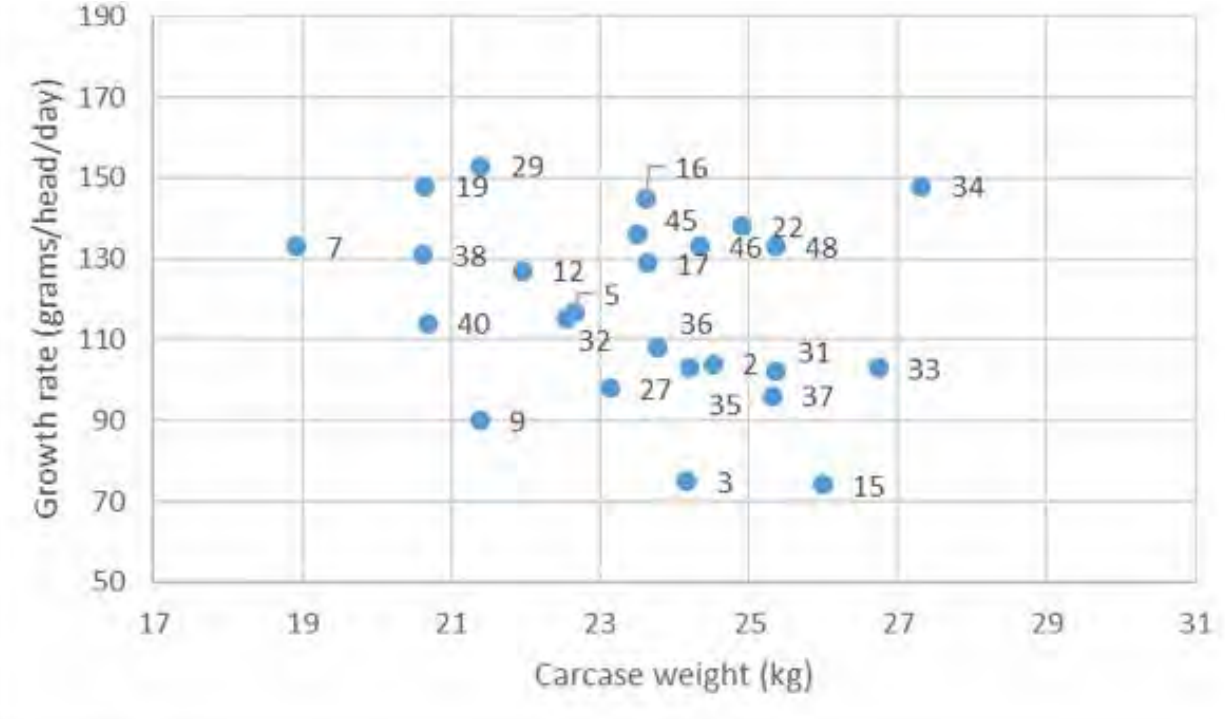
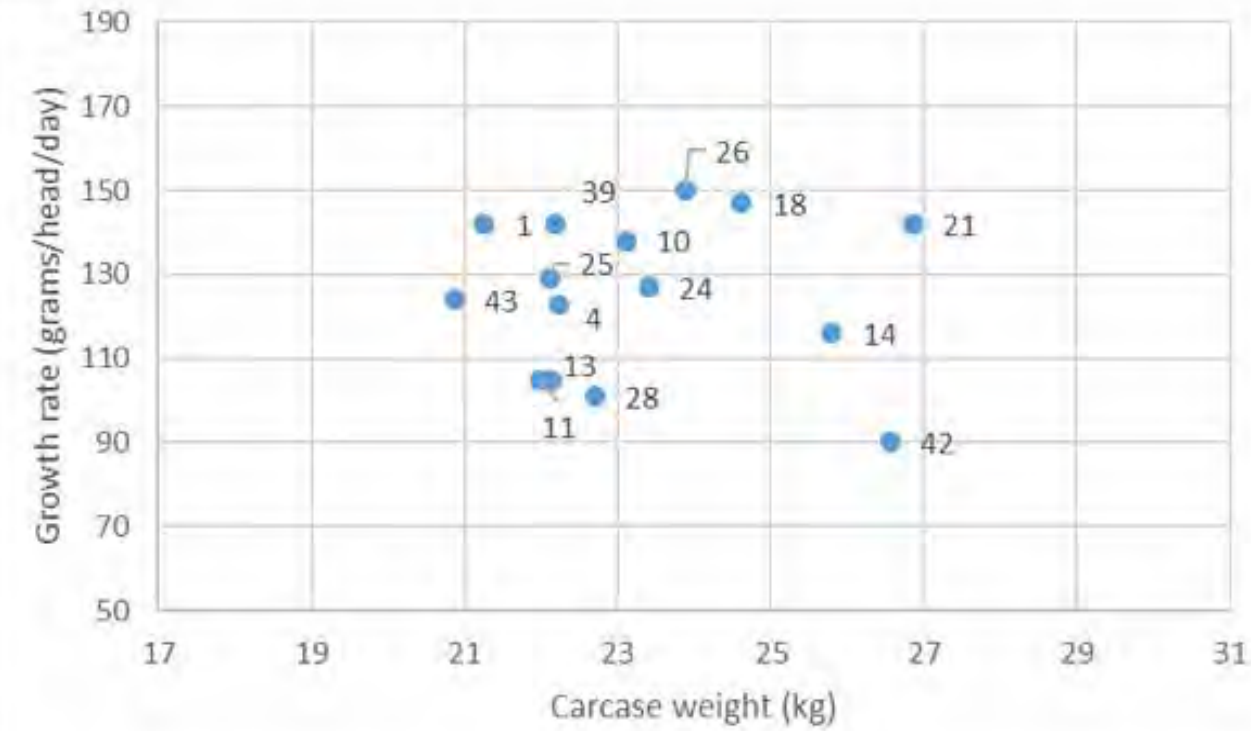


Figure 3c – Growth rate relative to carcase weight (adjusted for age) – Spring Drop



5.4 Carcase weight relative to age

Figure 4 shows the range in carcase weights relative to age. Within age groups there is a large variation in carcase weights at similar ages. Figure 4a, 4b and 4c show the same information within age groups. There is a moderate correlation (0.61) between age and carcase weight across the Meat Challenge and is consistent with previous years data.

Figure 4 – Carcase weight relative to age.

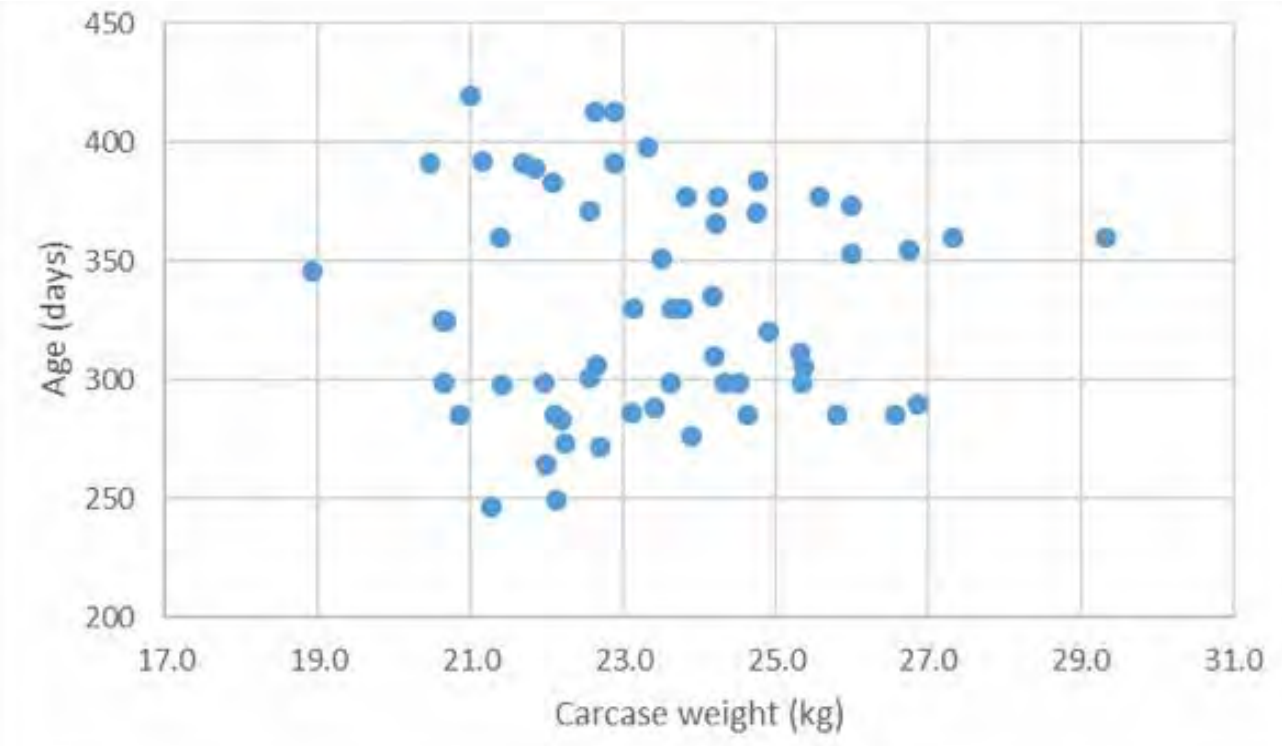


Figure 4a – Carcase weight relative to age – Autumn Drop

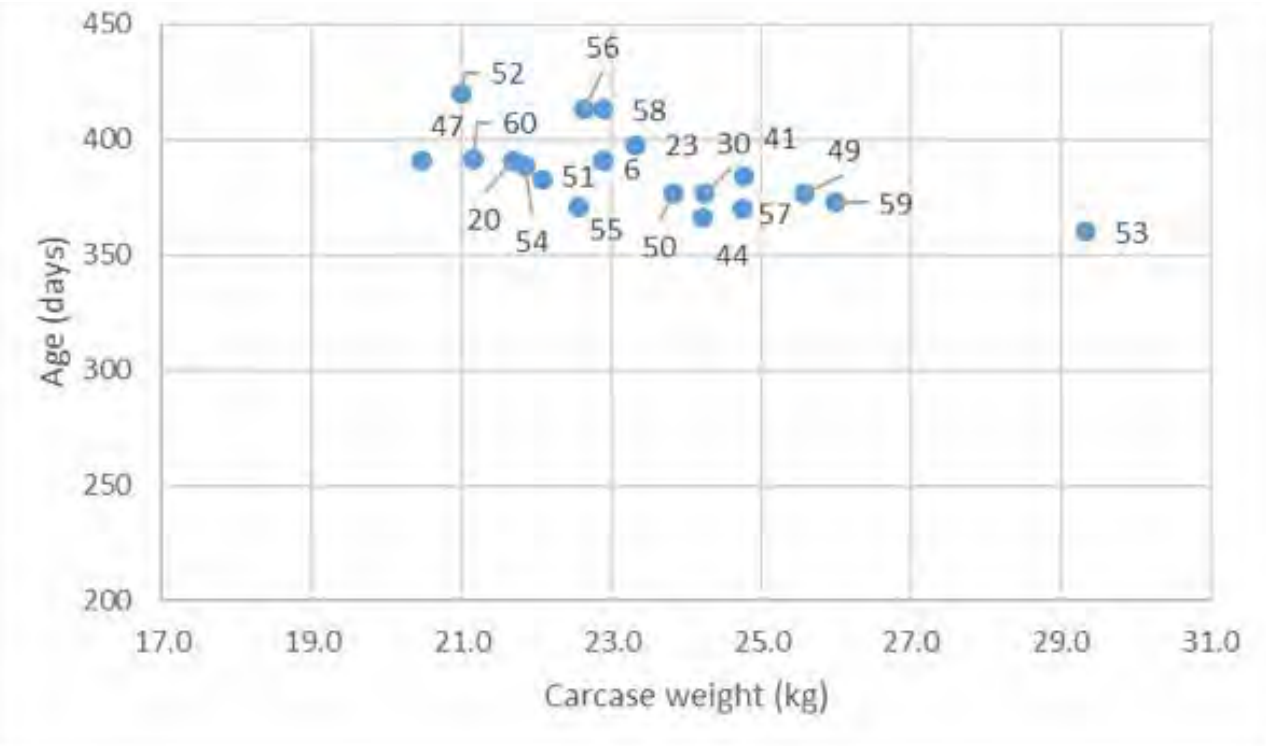


Figure 4b – Carcase weight relative to age – Winter Drop

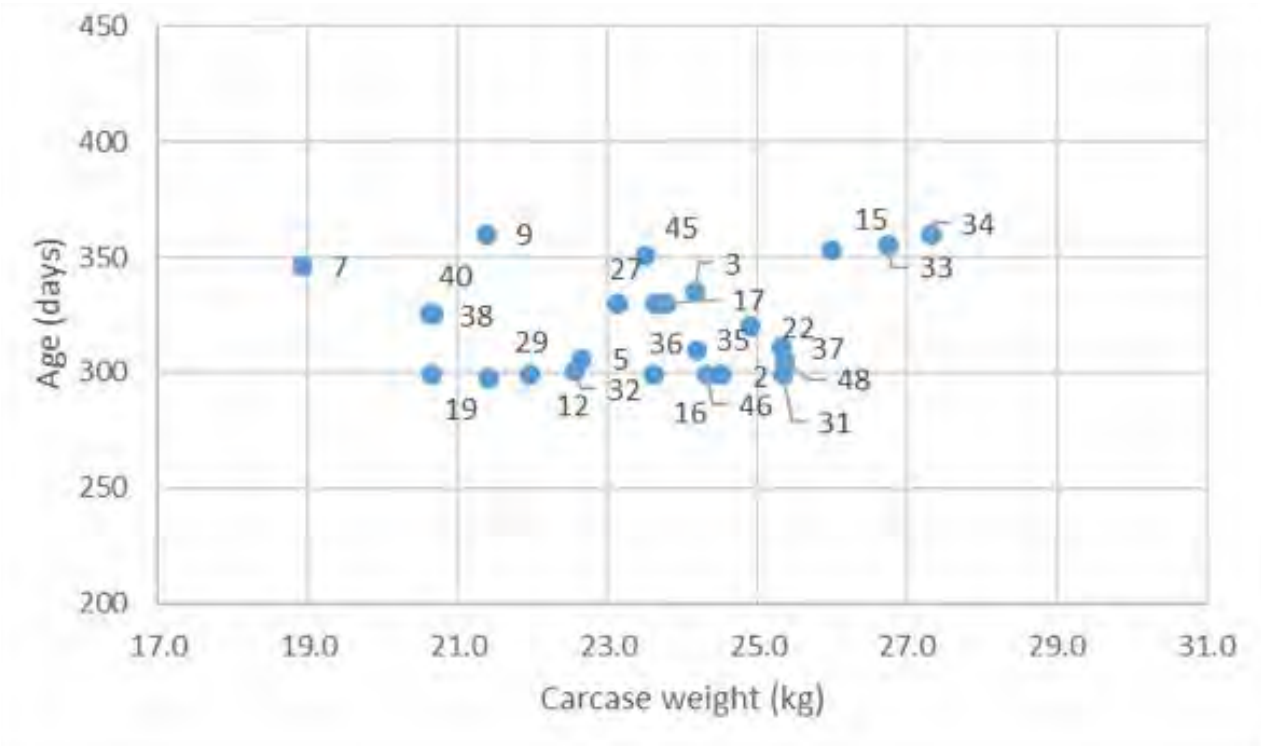
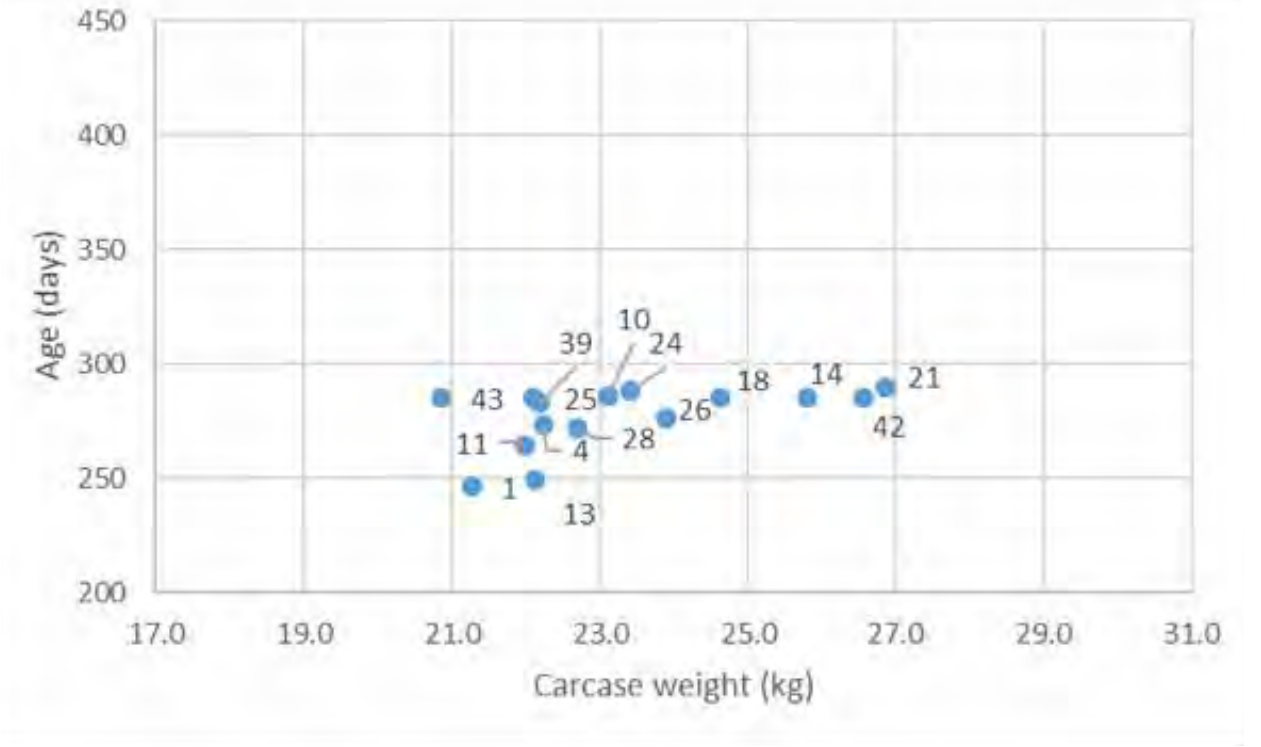


Figure 4c – Carcase weight relative to age – Spring Drop



5.5 Team production traits

Tables 9a, 9b and 9c show the team final live weight, growth rate, carcase weight and deviations within age groups.

Table 9a – Team Production Trait Deviations – Autumn Drop

Team	Growth g/hd/day Dev	GR Fat (mm) Dev	Scanned Fat (mm) Dev	Body Length (cm) Dev	Dressing % Dev	Scanned EMD (mm) Dev	Final Weight %	Carcase Weight %
6	27	-0.5	0.1	-0.3	-0.4	0.3	101%	98%
20	21	-0.3	-0.2	-0.7	-0.3	-0.9	97%	93%
23	-46	2.0	0.4	-2.0	0.8	0.6	101%	100%
30	-51	1.4	0.0	0.9	-0.5	-0.9	99%	103%
41	1	0.5	0.2	0.4	-0.3	1.0	105%	106%
44	-9	0.3	-0.1	0.6	0.5	0.3	99%	103%
47	15	-2.0	-0.3	-2.8	-1.5	-0.8	96%	87%
49	-45	-0.4	0.2	2.5	1.3	1.5	104%	109%
50	10	-1.1	-0.2	1.4	0.1	-0.5	101%	102%
51	-2	-0.9	0.0	-1.6	-0.2	-0.9	96%	94%
52	6	-1.4	0.2	-0.6	-1.1	0.6	100%	90%
53	69	4.1	0.7	2.0	2.5	1.8	108%	125%
54	-6	-0.8	-0.3	-0.8	-0.8	-1.2	97%	93%
55	32	-0.9	-0.1	-1.7	-0.3	0.7	95%	96%
56	-16	-0.5	-0.3	-0.8	0.5	-0.5	100%	97%
57	-8	-0.8	-0.1	2.6	0.2	-0.5	101%	106%
58	-7	1.3	0.3	-1.1	0.5	-0.4	101%	98%
59	22	1.0	0.0	3.0	0.1	1.0	105%	111%
60	-9	-1.1	-0.4	-0.9	-1.2	-1.2	96%	90%
Average	**113**	**12.2**	**4.1**	**68.2**	**46.6**	**27.9**	**58.0**	**23.4**

Table 9b – Team Production Trait Deviations – Winter Drop

Team	Growth g/hd/day Dev	GR Fat (mm) Dev	Scanned Fat (mm) Dev	Body Length (cm) Dev	Dressing % Dev	Scanned EMD (mm) Dev	Final Weight %	Carcase Weight %
2	-14	0.9	0.4	0.4	0.6	0.8	104%	104%
3	-43	-0.9	0.0	1.9	-0.5	0.6	104%	103%
5	-1	0.0	-0.1	0.3	0.8	-0.1	95%	97%
7	15	-1.1	-0.4	-3.7	-1.5	-1.4	83%	81%
9	-28	-1.8	-0.4	-2.2	-1.0	-0.4	92%	91%
12	9	-0.8	-0.4	-1.3	-1.3	-0.5	98%	94%
15	-44	1.8	0.2	2.3	0.3	0.1	108%	111%
16	27	0.9	0.1	0.6	1.0	-0.2	99%	101%
17	11	0.4	-0.1	-1.0	0.3	0.5	100%	101%
19	30	-1.6	-0.3	-2.7	-1.3	-0.8	92%	88%
22	20	0.5	0.1	0.7	1.0	-0.3	104%	106%
27	-20	1.2	0.5	-0.6	1.5	-0.2	95%	99%
29	35	-0.9	-0.4	0.2	-0.8	-1.3	94%	91%
31	-16	0.4	0.6	0.7	0.2	1.2	108%	108%
32	-3	0.7	-0.2	-0.5	0.2	0.2	97%	96%
33	-15	0.8	0.1	3.0	0.6	-0.2	110%	114%
34	30	0.6	0.0	2.3	1.1	0.1	111%	116%
35	-15	-0.3	0.0	1.3	0.4	0.6	103%	103%
36	-10	0.6	0.2	0.4	0.8	0.4	99%	101%
37	-22	0.4	0.5	1.4	0.6	0.5	107%	108%
38	13	-2.0	-0.2	-1.7	-1.1	-1.0	91%	88%
40	-4	-1.3	-0.3	-2.8	-1.1	-1.5	91%	88%
45	18	0.8	-0.2	-0.9	-0.2	0.7	99%	100%
46	15	0.3	0.2	0.1	-0.3	0.8	105%	104%
48	15	0.2	0.2	1.4	-0.2	1.3	110%	108%
Average	**118**	**12.3**	**3.3**	**68.3**	**46.7**	**24.3**	**50.5**	**23.5**

Table 9c – Team Production Trait Deviations – Spring Drop								
Team	Growth g/hd/day Dev	GR Fat (mm) Dev	Scanned Fat (mm) Dev	Body Length (cm) Dev	Dressing % Dev	Scanned EMD (mm) Dev	Final Weight %	Carcase Weight %
1	17	0.2	-0.1	-2.7	-0.3	0.0	93%	91%
4	-2	0.0	-0.2	-0.8	-0.6	-0.7	97%	95%
10	13	0.4	0.0	-0.1	-0.2	-0.4	100%	99%
11	-20	-0.5	-0.2	-1.6	0.1	-0.5	95%	94%
13	-20	-0.8	-0.3	-0.3	-1.1	-1.5	98%	95%
14	-9	1.2	0.5	2.3	0.6	1.1	108%	111%
18	22	0.9	0.2	0.9	-0.1	0.1	105%	106%
21	17	0.4	0.5	3.7	0.5	2.1	114%	115%
24	2	-0.1	0.2	-0.3	0.1	0.3	100%	100%
25	4	-1.1	-0.3	-0.9	-0.6	-0.6	96%	95%
26	25	0.9	0.3	-0.2	0.7	-0.1	101%	102%
28	-24	-0.4	-0.3	-0.6	1.3	0.0	95%	97%
39	17	0.1	0.0	-1.2	0.3	0.1	94%	95%
42	-35	1.0	0.0	2.8	0.2	1.4	113%	114%
43	-1	-2.3	-0.5	-0.9	-1.0	-1.4	91%	89%
Average	**125**	**12.1**	**3.3**	**68.1**	**46.5**	**24.4**	**51.4**	**23.3**

5.6 Eye muscle depth results

Fat and eye muscle depth measures were done by LAMBPLAN accredited ultra sound scanner, Trevor Pearce Scanning Services. The ultra sound is taken at the C Site (45mm from the midline at the 12/13th rib) and is used in the seed stock industry to generate Australian Sheep Breeding Values for FAT and EMD (eye muscle depth).

The variation between teams for EMD ranged 22.8 to 29.7mm (adjusted for carcase weight). The range between individual lambs was 21.0 to 35mm, highlighting the variation.

Figure 5a and 5b show the EMD relative to carcase weight. There is a high correlation between carcase weight and eye muscle depth for both the Autumn and Winter/Spring drops. Tables 9a, 9b and 9c present the team deviations for the key production traits (Section 5.5).

Figure 5 – Eye muscle depth relative to carcase weight (all teams – adjusted for age).

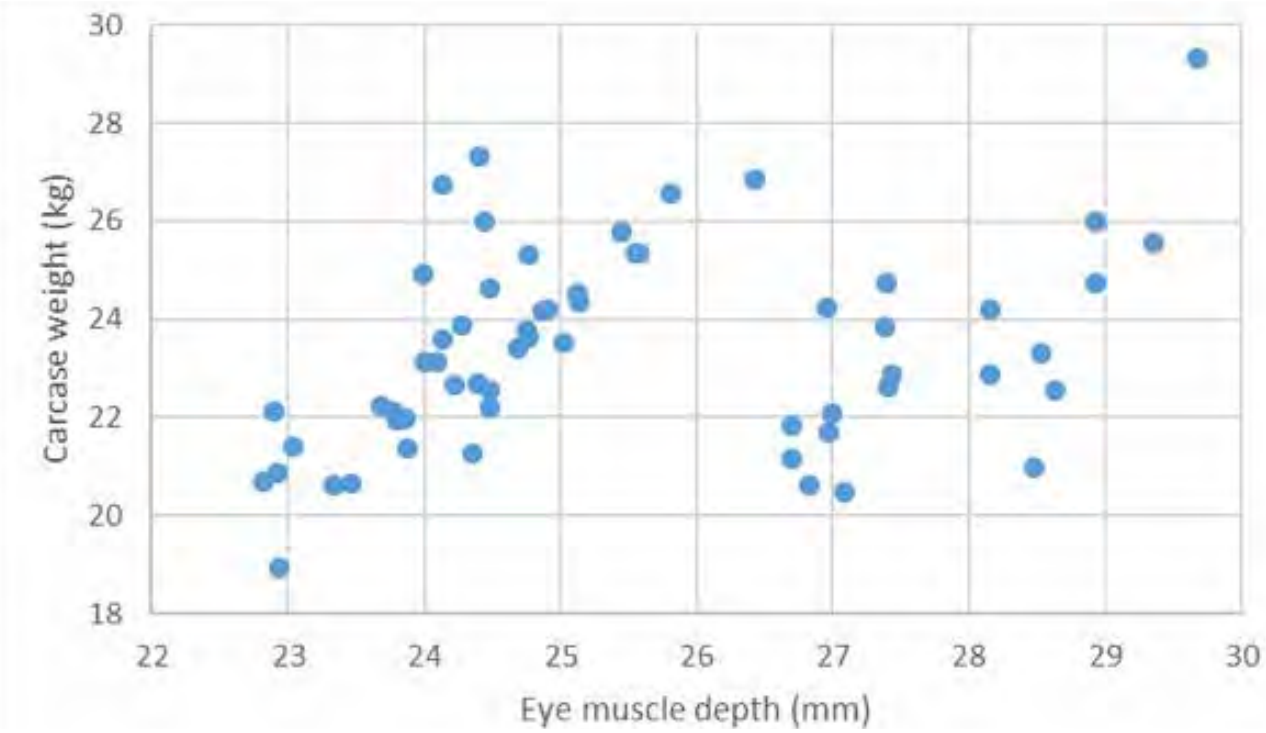


Figure 5a – Eye muscle depth relative to carcase weight (Autumn Drop – adjusted for age).

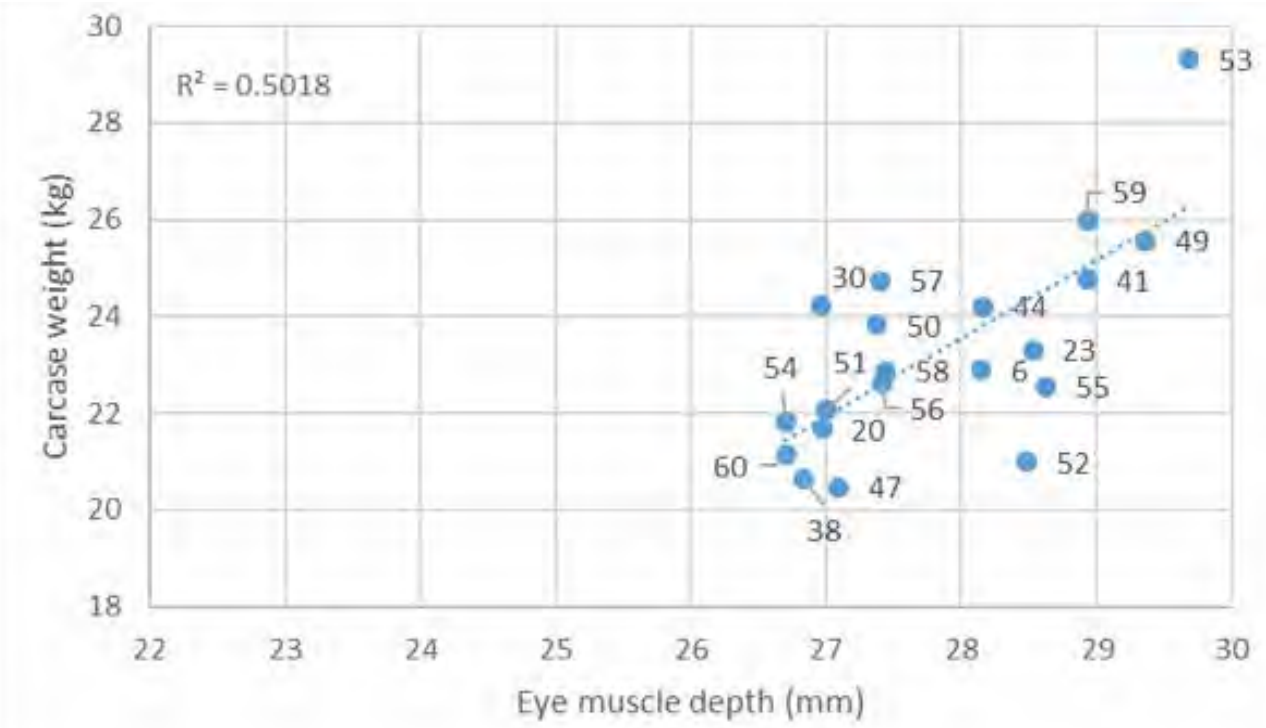
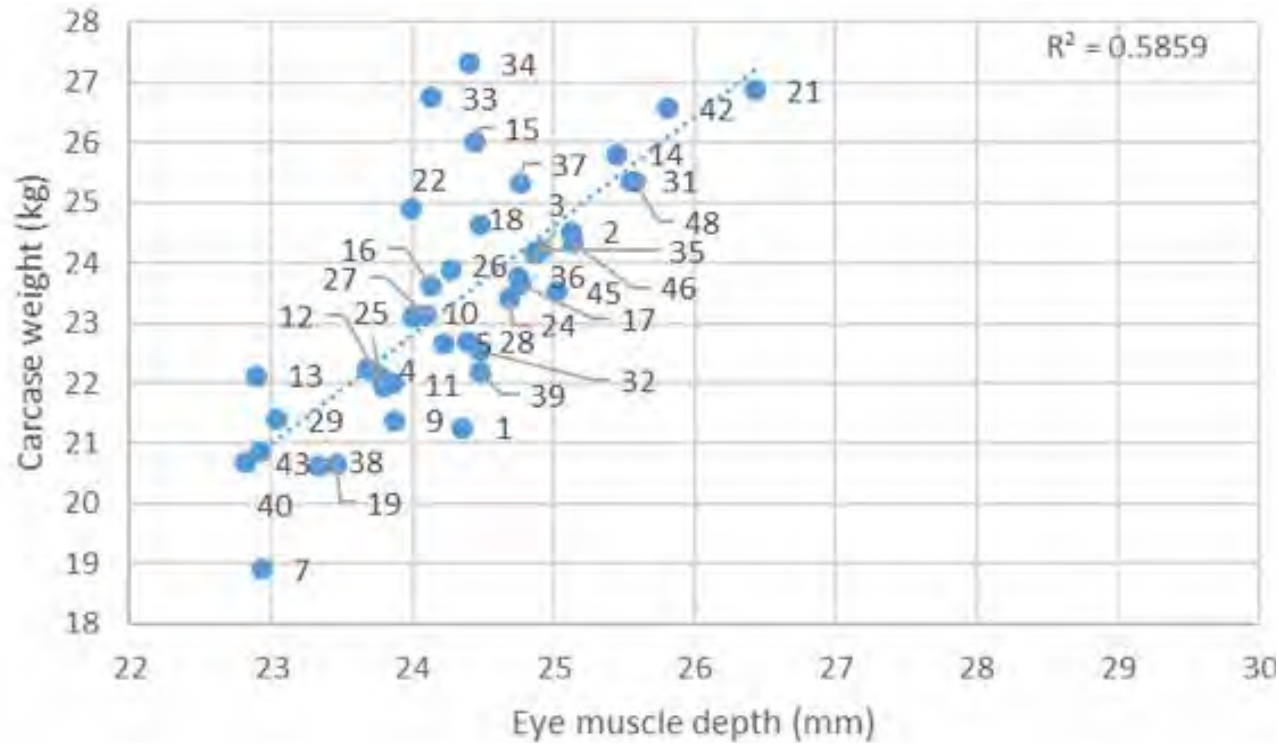
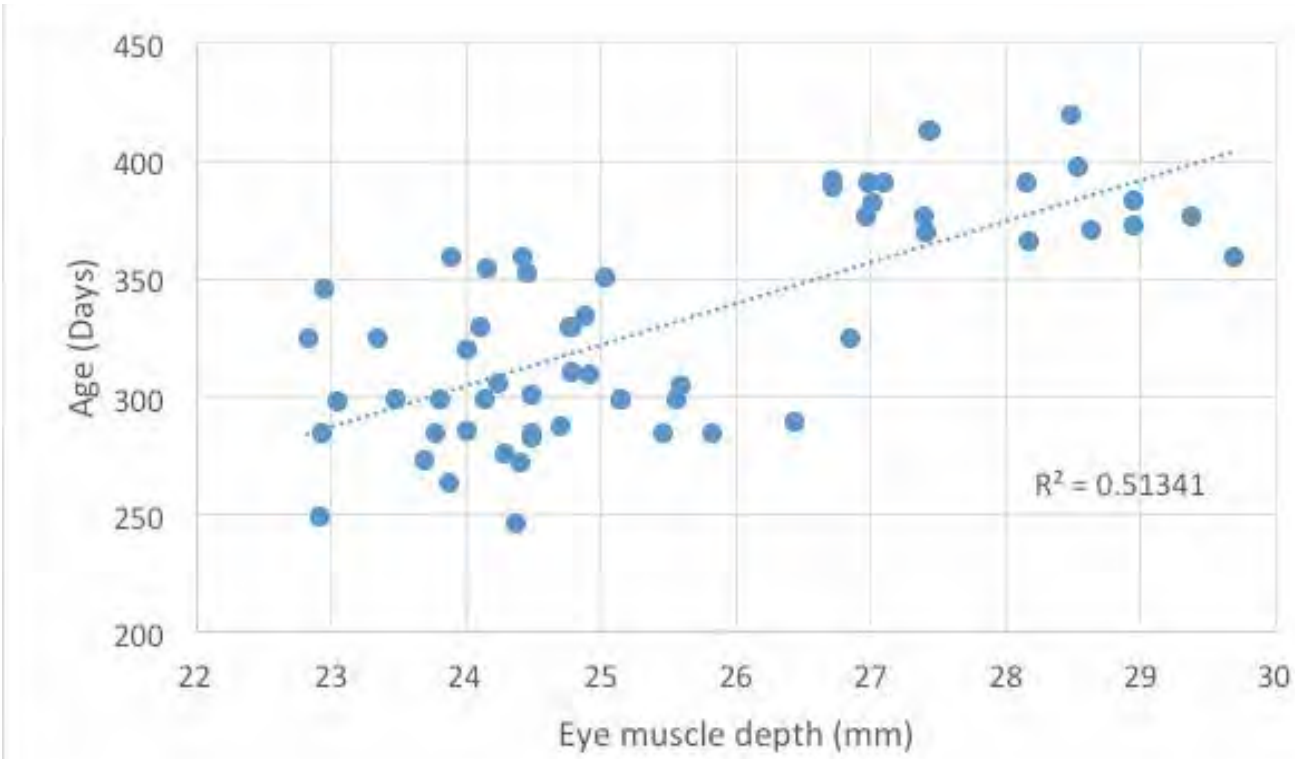


Figure 5b – Eye muscle depth relative to carcase weight (Winter & Spring Drops – adjusted for age)



There was a high correlation (0.72) showing that as animals increased in age so did their eye muscle depth, Figure 5c show the overall trial trend. This was not evident within age groups.

Figure 5c – Eye muscle depth relative to age



5.7 Fat (GR and C Site) results

GR Fat depth (mm) is used as the fat grading system in Australia. The GR site is 110mm out from the back bone at the 12/13 rib. GR Fat affects price, too lean (Fat Score 1 – 0-5mm) effects presentation of the final meat product and too fat (Fat Score 5 – 21mm +) costs the processor due to excess trimming costs. Table 10 presents the GR Fat description, measurement and score.

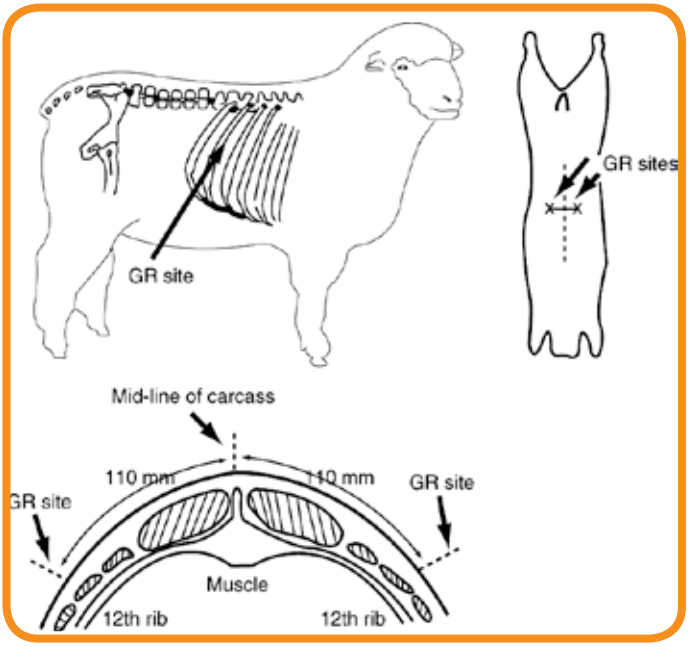
C Site Fat depth (mm) trait is a measure of the depth of fat taken at the C site (see diagram below). The C Fat trait has been shown to influence lean meat yield and the GR Fat tissue depth.

The Meat Challenge average GR Fat was 12.2mm (Fat Score 3) for an average carcase weight of 23.4kg. GR Fat ranged between teams from 9.8 to 16.3mm adjusted for age, the range between individual lambs was 3mm to over 25mm.

Figure 10a shows the GR Fat relative to carcase weight across the Meat Challenge and Figures 10a, 10b and 10c show the GR Fat relative to carcase weight within age groups. Across all age groups there was a high correlation between GR Fat and carcase weight.

Table 9: GR Fat description.

Description	Fat Score (GR)
Individual ribs are easily felt and no tissue can be felt (sliding) over the ribs. Depressions are quite obvious between ribs.	1 (0-5mm)
Individual ribs are felt with some tissue able to be felt over the ribs. Depressions between ribs are obvious.	2 (6-10mm)
Individual ribs can still be felt but they are more rounded, with tissue movement being felt over the ribs. The depression between ribs is less obvious.	3 (11-15mm)
The ribs are less obvious to feel, with only some depression between ribs. Tissue movement over the ribs is apparent.	4 (16-20mm)
It is difficult to feel ribs, or any depression between ribs. Sliding over the ribs is very easy.	5 (+20mm)
Source: PROGRAZE Manual	



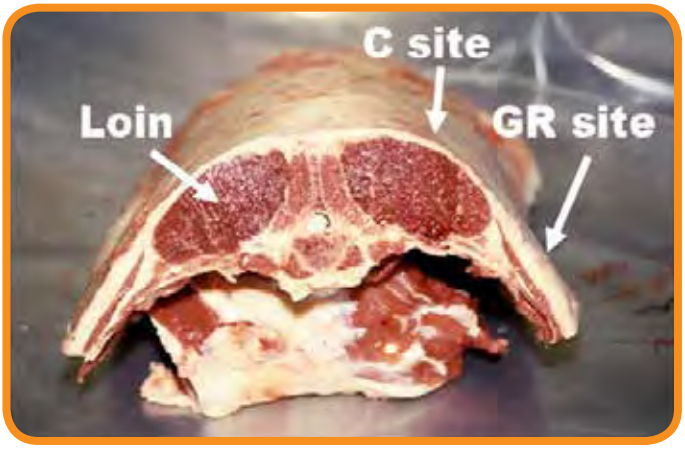


Figure 10 - GR Fat relative to carcase weight (all teams).

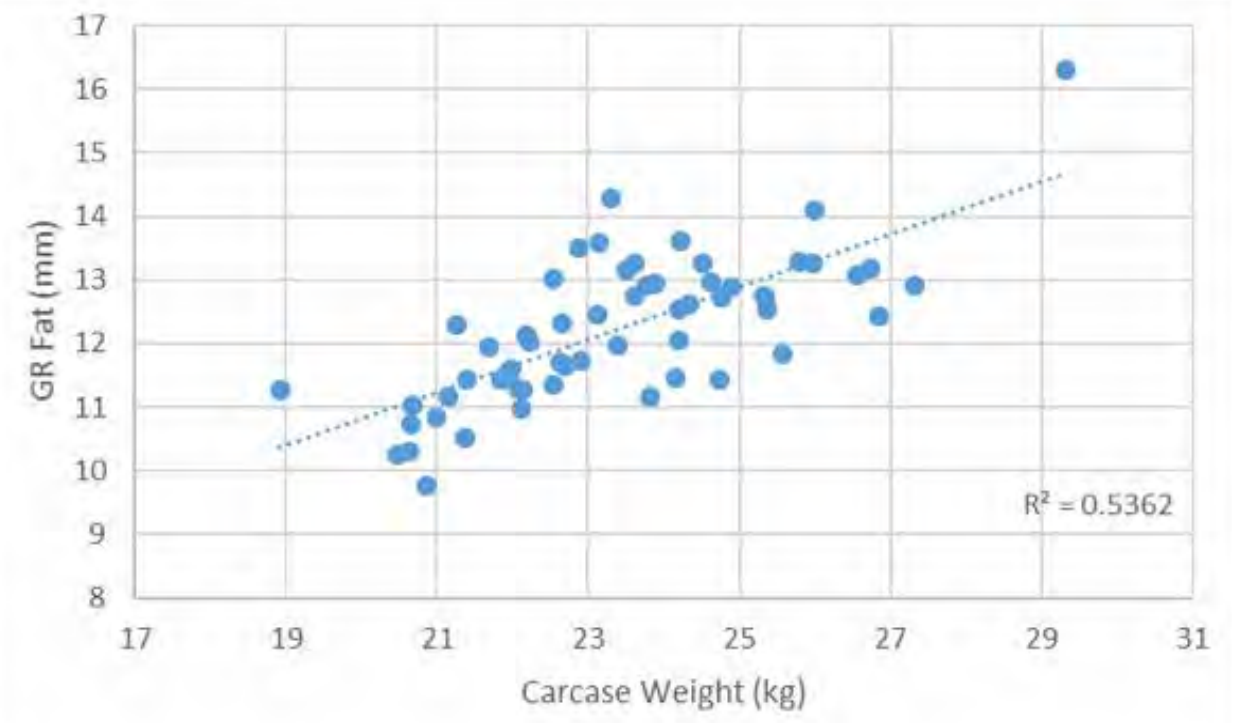


Figure 10a – GR Fat relative to carcase weight – Autumn Drop

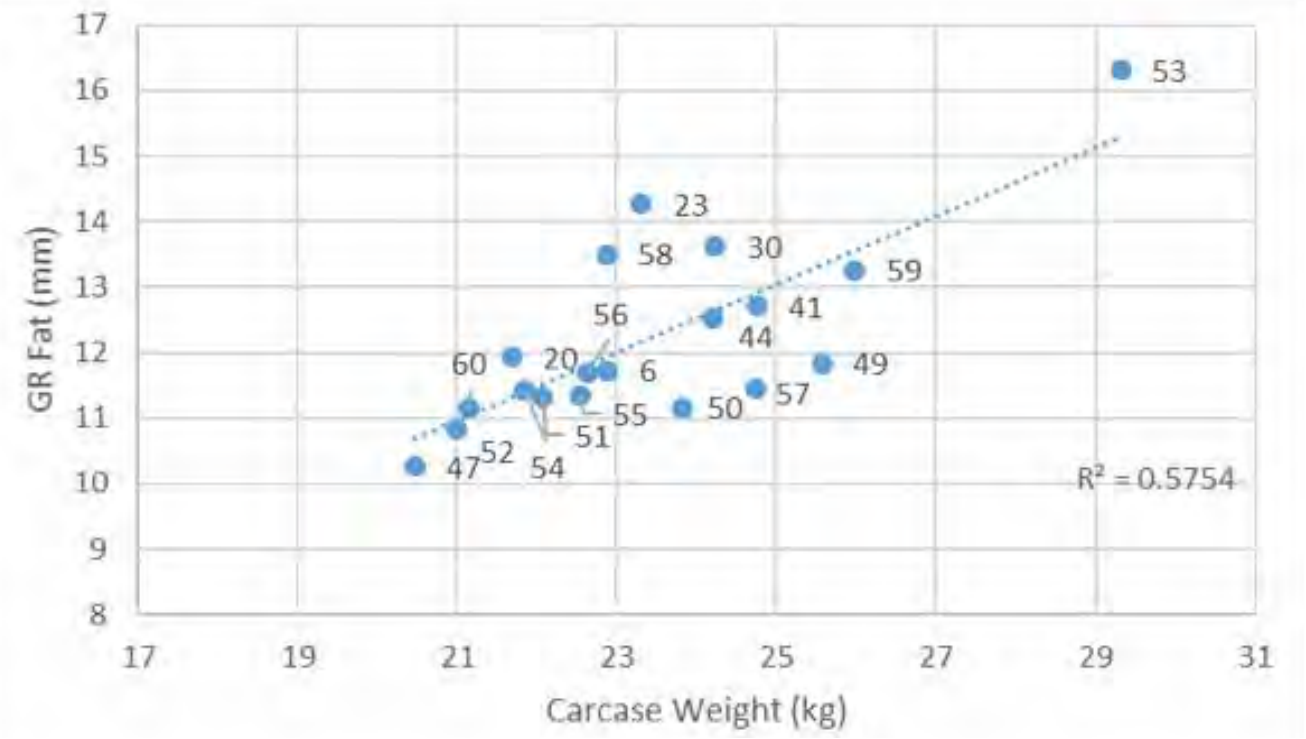


Figure 10b – GR Fat relative to carcase weight – Winter Drop

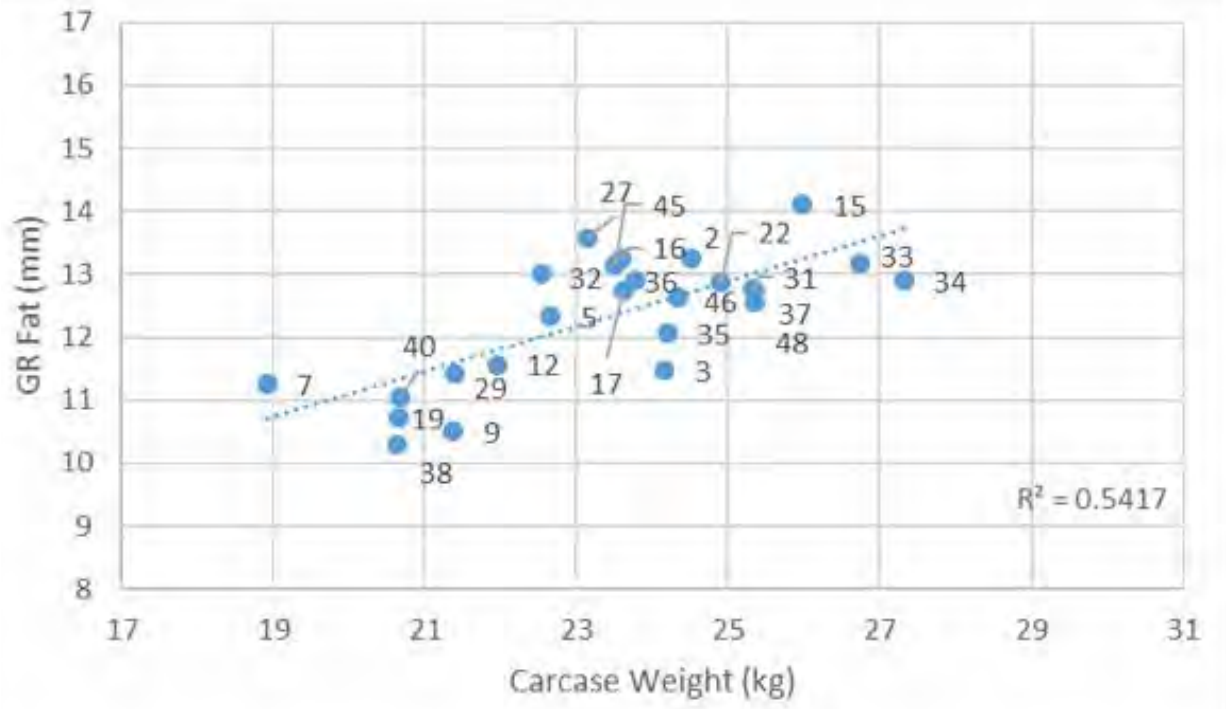


Figure 10c - GR Fat relative to carcase weight – Spring Drop

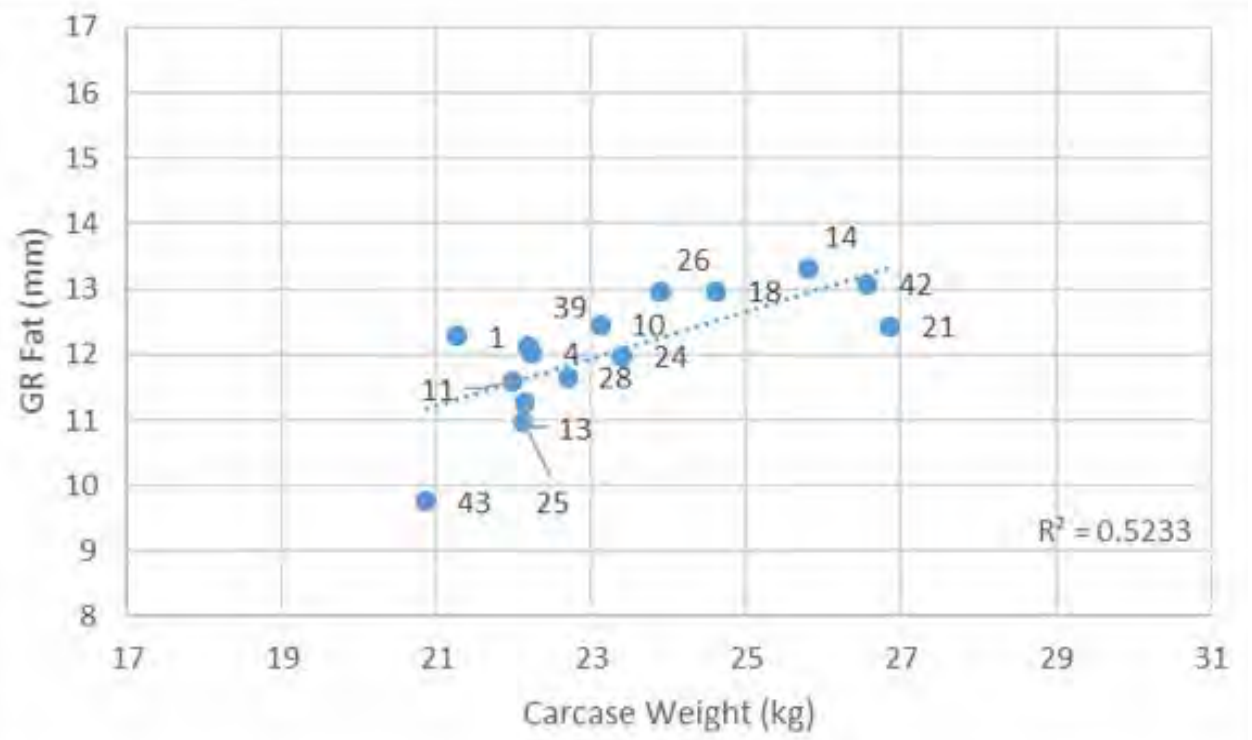


Figure 11 shows the scanned fat at the C Site relative to carcase weight across the Meat Challenge and Figures 11a, 11b and 11c show the same information within age groups. The results show a low correlation overall across the trial between C Fat and carcase weight, however a moderate correlation within the Autumn drop, moderate to high correlation in the Winter drop and a high correlation in the Spring drop between C Fat and carcase weight. This can partly be explained as a result of the lower carcase weights of the Winter and Spring drops compared to the Autumn drop.

Figure 11 – C Fat relative to carcase weight (all teams)

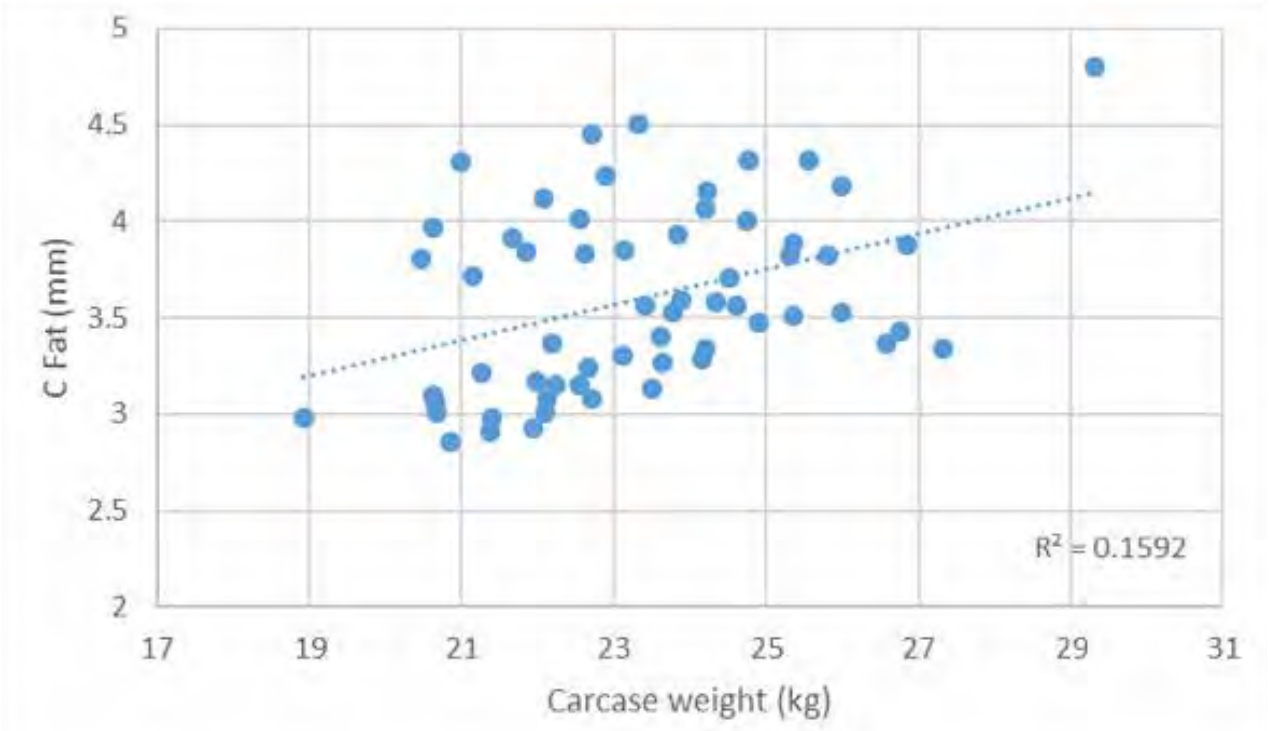


Figure 11a – C Fat relative to carcase weight – Autumn Drop

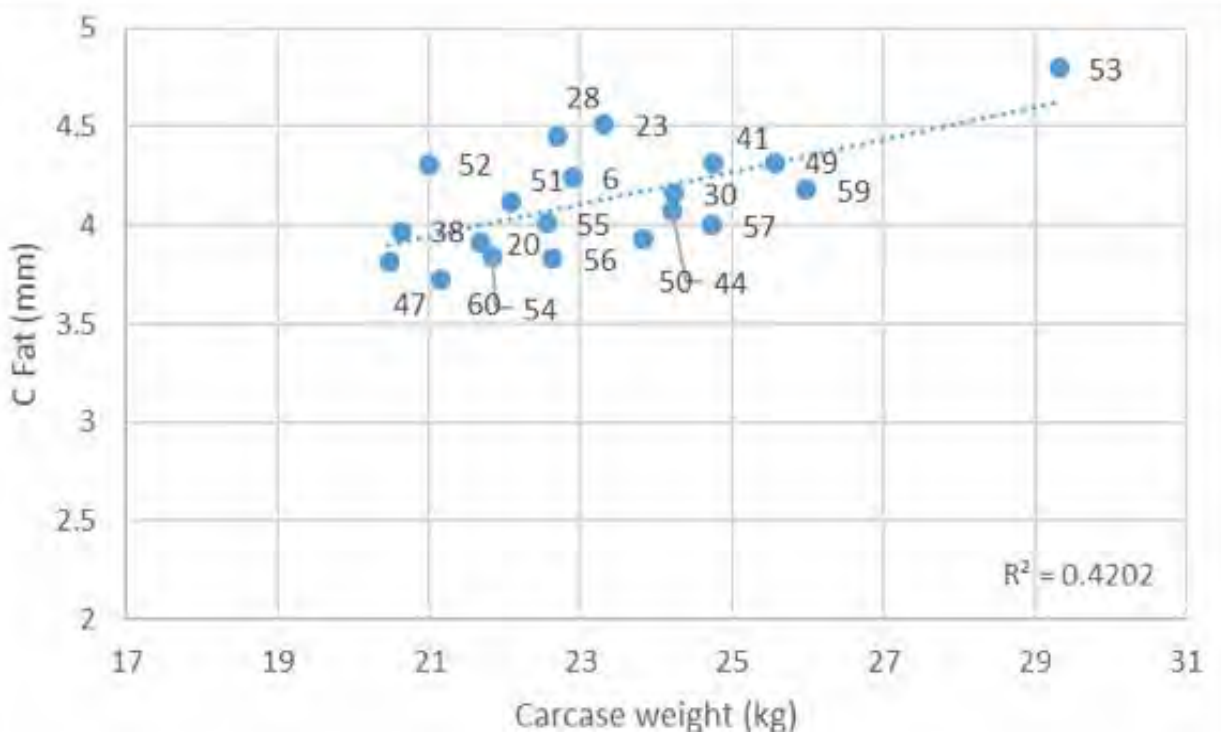


Figure 11b – C Fat relative to carcase weight – Winter Drop

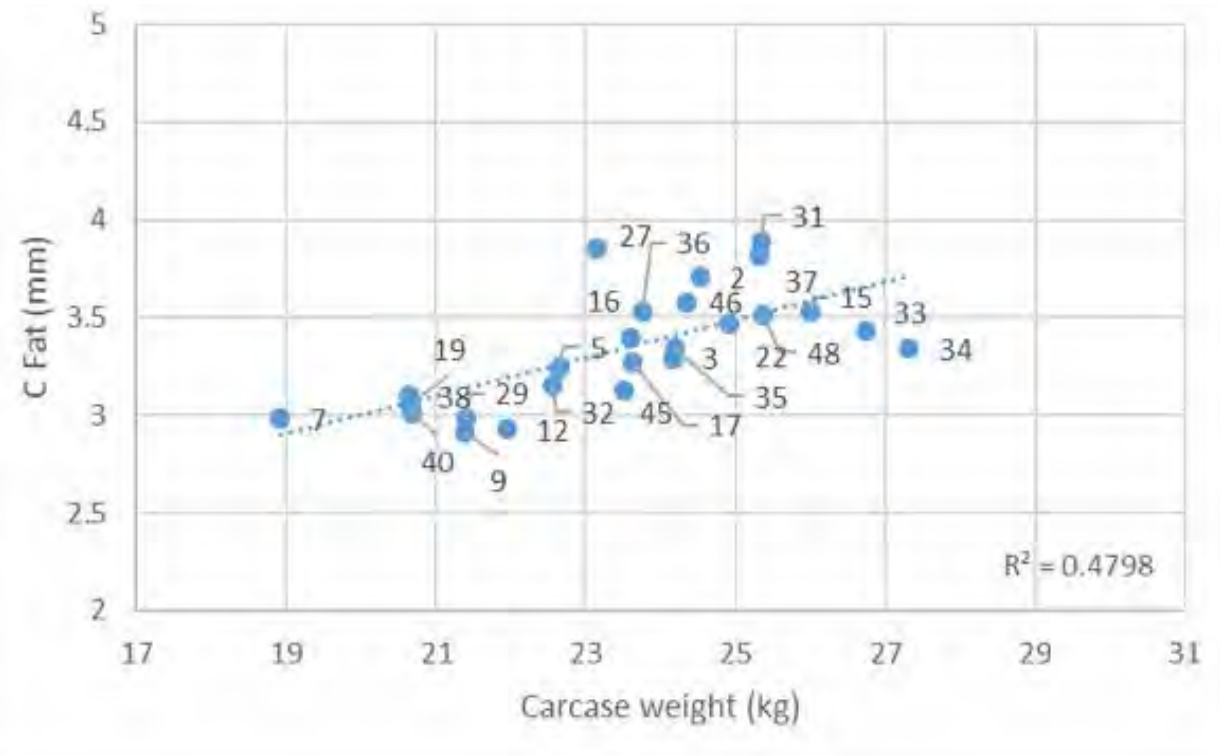
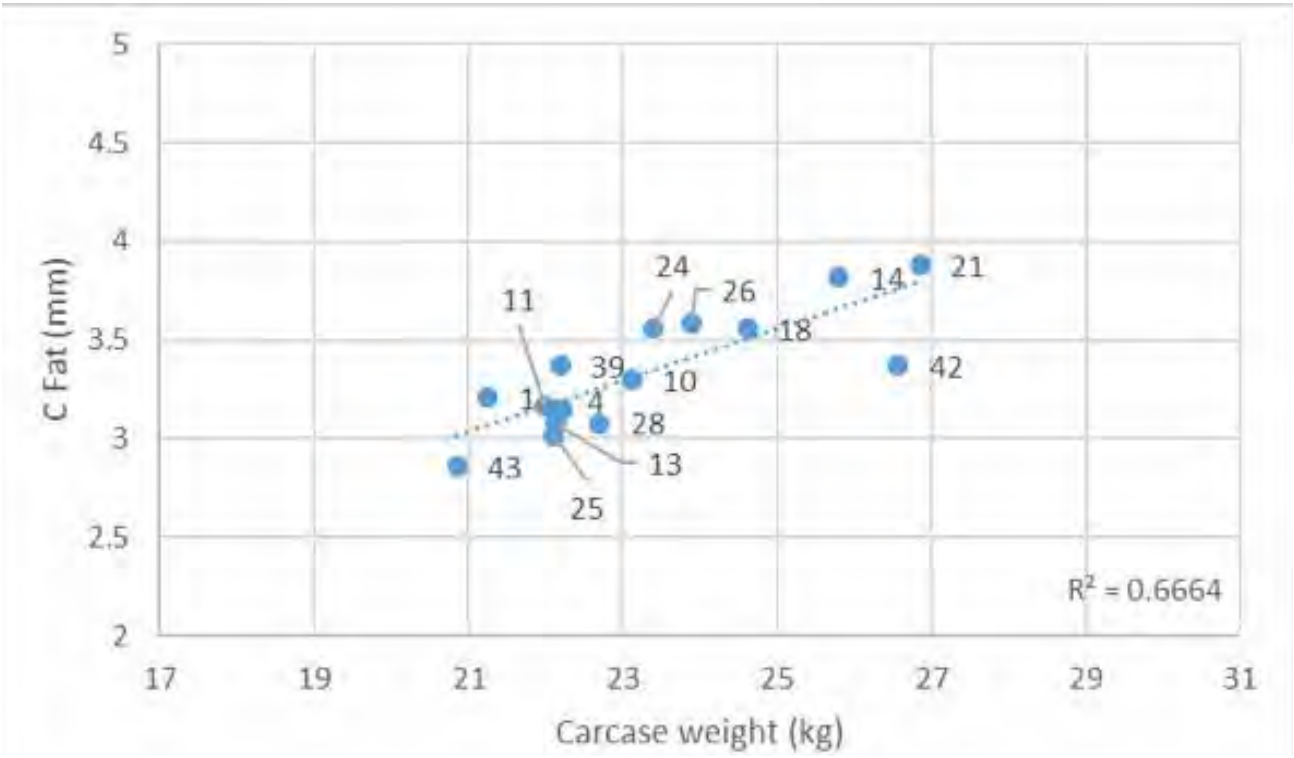


Figure 11c – C Fat relative to carcase weight – Spring Drop



6.0 Economic analysis

The Meat Challenge economic value for each team has been calculated using a rolling five year average Merino lamb price, the carcase weight and GR fat measurement. Table 11 presents the price grid used. Discounts were applied to carcase that did not meet the market specification of 22 to 26kg (adjusted for age) and 2 to 4 fat score. No discounts have been applied for hoggets as only 3% of the lambs had cut their teeth at the time of processing.

Table 11 – Five year rolling average Merino lamb price grid.

Grid	1 (0-5 mm)	2 (6-10 mm)	3 (11-15 mm)	4 (16-20 mm)	5 (21-25+ mm)
<16 kg	-$1.80	-$1.60	-$1.60	-$1.60	-$1.80
16.1-18.0	-$0.60	-$0.40	-$0.40	-$0.40	-$0.60
18.1-20.0	-$0.40	-$0.20	-$0.20	-$0.20	-$0.40
20.1-22.0	-$0.30	-$0.10	-$0.10	-$0.10	-$0.30
22.1-24.0	-$0.20	$4.11	$4.11	$4.11	-$0.20
24.1-26.0	-$0.20	$4.11	$4.11	$4.11	-$0.20
26.1-28.0	-$0.40	-$0.20	-$0.20	-$0.20	-$0.40
>28 kg	-$0.40	-$0.20	-$0.20	-$0.20	-$0.40

Table 12 presents the Merino Lamb prices as a percentile band table. The average five year price was $4.11 (60th Percentile). The current 12 month average Merino lamb price is $4.64 (40th Percentile) and the spot price at processing time was $5.41c/kg (top 10 Percentile).

Table 12 – NSW Merino Lamb Price Percentile Band Table.

NSW Merino Lamb Prices (5 years) Percentile Band Table Data Included 1 July 2011 to 31 July 2016	
HIGHEST PRICE ON RECORD	607.0
10%	531.0
20%	503.0
30%	481.0
40%	461.0
50% (MEDIAN PRICE)	445.0
60%	412.0
70%	384.0
80%	347.0
90%	310.0
100% OF THE TIME PRICES WERE ABOVE	193.0

The Meat Challenge carcase values ranged between team total sheep value ranged from $74 to $115, across all age groups. Tables 15a, 15b and 15c present the carcase values and deviations for the three age groups.

Table 15a – Carcase value – Autumn Drop

Team	Carcase Weight (kg)	GR Fat (mm)	Total Carcase Value ($/head)	Carcase Value Dev
6	22.9	11.7	$94.08	-$1.34
20	21.7	11.9	$86.94	-$8.48
23	23.3	14.3	$95.80	$0.39
30	24.2	13.6	$99.59	$4.17
41	24.8	12.7	$101.76	$6.35
44	24.2	12.5	$99.50	$4.09
47	20.5	10.3	$82.08	-$13.33
49	25.6	11.8	$105.09	$9.68
50	23.8	11.2	$97.94	$2.53
51	22.1	11.3	$90.75	-$4.67
52	21.0	10.8	$84.17	-$11.25
53	29.3	16.3	$114.64	$19.23
54	21.8	11.4	$87.58	-$7.84
55	22.6	11.4	$92.68	-$2.73
56	22.6	11.7	$93.01	-$2.41
57	24.7	11.4	$101.68	$6.27
58	22.9	13.5	$94.00	-$1.42
59	26.0	13.3	$106.78	$11.36
60	21.2	11.2	$84.81	-$10.60
Average	**23.4**	**12.2**	**$95.41**	

Table 15b – Carcase value – Winter Drop				
Team	Carcase Weight (kg)	GR Fat (mm)	Total Carcase Value ($/head)	Carcase Value Dev
2	24.5	13.3	$100.78	$5.41
3	24.2	11.5	$99.30	$3.93
5	22.7	12.3	$93.13	-$2.23
7	18.9	11.3	$73.98	-$21.39
9	21.4	10.5	$85.73	-$9.63
12	22.0	11.6	$88.02	-$7.34
15	26.0	14.1	$106.82	$11.46
16	23.6	13.3	$97.04	$1.67
17	23.6	12.7	$97.12	$1.76
19	20.7	10.7	$82.81	-$12.56
22	24.9	12.9	$102.38	$7.02
27	23.1	13.6	$95.11	-$0.26
29	21.4	11.4	$85.81	-$9.55
31	25.4	12.7	$104.19	$8.83
32	22.6	13.0	$92.68	-$2.68
33	26.8	13.2	$104.59	$9.23
34	27.3	12.9	$106.82	$11.46
35	24.2	12.1	$99.46	$4.10
36	23.8	12.9	$97.69	$2.33
37	25.3	12.8	$104.07	$8.70
38	20.6	10.3	$82.73	-$12.64
40	20.7	11.0	$82.93	-$12.44
45	23.5	13.2	$96.63	$1.26
46	24.3	12.6	$100.04	$4.67
48	25.4	12.5	$104.23	$8.87
Average	**23.5**	**12.3**	**$95.36**	

Table 15c – Carcase value – Spring Drop

Team	Carcase Weight (kg)	GR Fat (mm)	Total Carcase Value ($/head)	Carcase Value Dev
1	21.3	12.3	$85.25	-$9.43
4	22.2	12.0	$91.37	-$3.32
10	23.1	12.5	$95.02	$0.34
11	22.0	11.6	$88.18	-$6.51
13	22.1	11.3	$90.95	-$3.73
14	25.8	13.3	$106.04	$11.35
18	24.6	13.0	$101.19	$6.50
21	26.9	12.4	$105.02	$10.34
24	23.4	12.0	$96.17	$1.49
25	22.1	11.0	$90.87	-$3.81
26	23.9	13.0	$98.19	$3.50
28	22.7	11.7	$93.30	-$1.39
39	22.2	12.1	$91.20	-$3.49
42	26.6	13.1	$103.89	$9.20
43	20.9	9.8	$83.65	-$11.04
Average	**23.3**	**12.1**	**$94.69**	

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Weighing of the PWMMC 2016 - 2018 Wool Challenge wethers, December 2016

Team Number	1					
Entrant Details						
Town	Taralga					
State	NSW					
Bloodline	Mixed					
Years on Bloodline						
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	142	16.6	118	106	118	125
Initial Body Wt (kg)	38.1	89%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	47.5	93%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.3	91%	23.4	23.3	23.5	23.3
Dressing %	46.2	-0.31	46.6	46.5	46.7	46.5
GR Fat (mm)	12.3	0.22	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.4	-0.01	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.2	-0.12	3.5	4.1	3.3	3.3
Body Length (cm)	65.4	-2.67	68.2	67.9	68.3	68.1

Team Number	2					
Entrant Details	[illegible]					
Town	Stockinbingal					
State	NSW					
Bloodline	Pastora					
Years on Bloodline						
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	104	-14.1	118	106	118	125
Initial Body Wt (kg)	45.8	107%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	52.8	104%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.5	104%	23.4	23.3	23.5	23.3
Dressing %	47.3	0.60	46.6	46.5	46.7	46.5
GR Fat (mm)	13.3	0.93	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.1	0.82	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.7	0.37	3.5	4.1	3.3	3.3
Body Length (cm)	68.7	0.43	68.2	67.9	68.3	68.1

Team Number	**3**					
Entrant Details						
Town	**The Rock**					
State	**NSW**					
Bloodline	**Pastora**					
Years on Bloodline	**30**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	75	-43.1	118	106	118	125
Initial Body Wt (kg)	47.6	111%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	52.5	104%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.2	103%	23.4	23.3	23.5	23.3
Dressing %	46.2	-0.48	46.6	46.5	46.7	46.5
GR Fat (mm)	11.5	-0.86	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.9	0.56	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.3	-0.05	3.5	4.1	3.3	3.3
Body Length (cm)	70.2	1.90	68.2	67.9	68.3	68.1

Team Number	**4**					
Entrant Details	--					
Town	**Bigga**					
State	**NSW**					
Bloodline	**Mixed/Grassy Creek**					
Years on Bloodline	**3**					
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	123	-2.4	118	106	118	125
Initial Body Wt (kg)	40.9	95%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	49.7	97%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.2	95%	23.4	23.3	23.5	23.3
Dressing %	46.0	-0.55	46.6	46.5	46.7	46.5
GR Fat (mm)	12.0	-0.03	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.7	-0.69	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.2	-0.18	3.5	4.1	3.3	3.3
Body Length (cm)	67.2	-0.84	68.2	67.9	68.3	68.1

5 & 6

Team Number	5					
Entrant Details						
Town	Goulburn					
State	NSW					
Bloodline	Leahcim					
Years on Bloodline	7					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	117	-1.1	118	106	118	125
Initial Body Wt (kg)	40.3	94%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	48.0	95%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.7	97%	23.4	23.3	23.5	23.3
Dressing %	47.5	0.83	46.6	46.5	46.7	46.5
GR Fat (mm)	12.3	0.00	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.2	-0.09	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.2	-0.10	3.5	4.1	3.3	3.3
Body Length (cm)	68.6	0.33	68.2	67.9	68.3	68.1

Team Number	6					
Entrant Details						
Town	Lockhart					
State	NSW					
Bloodline	Pastora					
Years on Bloodline	20					
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	140	32.5	118	106	118	125
Initial Body Wt (kg)	39.7	93%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.5	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.9	98%	23.4	23.3	23.5	23.3
Dressing %	46.2	-0.31	46.6	46.5	46.7	46.5
GR Fat (mm)	11.7	-0.46	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.2	0.31	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.2	0.12	3.5	4.1	3.3	3.3
Body Length (cm)	67.9	-0.23	68.2	67.9	68.3	68.1

Team Number	**7**					
Entrant Details						
Town	**Gunning**					
State	**NSW**					
Bloodline	**Collingwood**					
Years on Bloodline	**20**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	133	14.9	118	106	118	125
Initial Body Wt (kg)	32.5	76%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	42.1	83%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	18.9	81%	23.4	23.3	23.5	23.3
Dressing %	45.2	-1.52	46.6	46.5	46.7	46.5
GR Fat (mm)	11.3	-1.07	12.2	12.3	12.3	12.1
Scanned EMD (mm)	22.9	-1.37	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.0	-0.36	3.5	4.1	3.3	3.3
Body Length (cm)	64.6	-3.70	68.2	67.9	68.3	68.1

Team Number	**9**					
Entrant Details						
Town	**Tallimba**					
State	**NSW**					
Bloodline	**Pastora**					
Years on Bloodline	**22**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	90	-28.1	118	106	118	125
Initial Body Wt (kg)	40.3	94%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	46.5	92%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.4	91%	23.4	23.3	23.5	23.3
Dressing %	45.7	-0.96	46.6	46.5	46.7	46.5
GR Fat (mm)	10.5	-1.82	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.9	-0.43	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	2.9	-0.43	3.5	4.1	3.3	3.3
Body Length (cm)	66.1	-2.16	68.2	67.9	68.3	68.1

10 & 11

Team Number	10					
Entrant Details						
Town	Dalgety					
State	NSW					
Bloodline	Mixed					
Years on Bloodline						
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	138	12.6	118	106	118	125
Initial Body Wt (kg)	41.9	98%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	51.1	100%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.1	99%	23.4	23.3	23.5	23.3
Dressing %	46.3	-0.18	46.6	46.5	46.7	46.5
GR Fat (mm)	12.5	0.40	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.0	-0.37	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.3	-0.03	3.5	4.1	3.3	3.3
Body Length (cm)	67.9	-0.13	68.2	67.9	68.3	68.1

Team Number	11					
Entrant Details						
Town	Cooma					
State	NSW					
Bloodline	Hazeldean/Greendale					
Years on Bloodline						
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	105	-20.4	118	106	118	125
Initial Body Wt (kg)	41.8	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	48.6	95%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.0	94%	23.4	23.3	23.5	23.3
Dressing %	46.6	0.09	46.6	46.5	46.7	46.5
GR Fat (mm)	11.6	-0.47	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.9	-0.50	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.2	-0.16	3.5	4.1	3.3	3.3
Body Length (cm)	66.5	-1.58	68.2	67.9	68.3	68.1

Team Number	12					
Entrant Details						
Town	Lindenow South					
State	VIC					
Bloodline	Emu Park					
Years on Bloodline	30					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	127	8.9	118	106	118	125
Initial Body Wt (kg)	40.7	95%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	49.4	98%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.0	94%	23.4	23.3	23.5	23.3
Dressing %	45.3	-1.35	46.6	46.5	46.7	46.5
GR Fat (mm)	11.6	-0.76	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.8	-0.51	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	2.9	-0.41	3.5	4.1	3.3	3.3
Body Length (cm)	67.0	-1.27	68.2	67.9	68.3	68.1

Team Number	13					
Entrant Details						
Town	Cooma					
State	NSW					
Bloodline	Greendale					
Years on Bloodline	10					
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	105	-20.4	118	106	118	125
Initial Body Wt (kg)	43.9	102%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	50.5	98%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.1	95%	23.4	23.3	23.5	23.3
Dressing %	45.4	-1.12	46.6	46.5	46.7	46.5
GR Fat (mm)	11.3	-0.78	12.2	12.3	12.3	12.1
Scanned EMD (mm)	22.9	-1.47	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.1	-0.25	3.5	4.1	3.3	3.3
Body Length (cm)	67.8	-0.28	68.2	67.9	68.3	68.1

14 & 15

Team Number	14
Entrant Details	
Town	Galong
State	NSW
Bloodline	Hazeldean
Years on Bloodline	5
Age Group	Spring

	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	116	-9.4	118	106	118	125
Initial Body Wt (kg)	48.3	113%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.7	108%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	25.8	111%	23.4	23.3	23.5	23.3
Dressing %	47.2	0.65	46.6	46.5	46.7	46.5
GR Fat (mm)	13.3	1.24	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.5	1.08	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.8	0.49	3.5	4.1	3.3	3.3
Body Length (cm)	70.3	2.25	68.2	67.9	68.3	68.1

Team Number	15
Entrant Details	
Town	Beckom
State	NSW
Bloodline	Pastora
Years on Bloodline	10
Age Group	Winter

	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	74	-44.1	118	106	118	125
Initial Body Wt (kg)	50.4	118%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	54.7	108%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	26.0	111%	23.4	23.3	23.5	23.3
Dressing %	47.0	0.27	46.6	46.5	46.7	46.5
GR Fat (mm)	14.1	1.77	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.4	0.13	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.5	0.19	3.5	4.1	3.3	3.3
Body Length (cm)	70.6	2.33	68.2	67.9	68.3	68.1

Team Number	16					
Entrant Details						
Town	Galong					
State	NSW					
Bloodline	Wallaloo Park					
Years on Bloodline	15					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	145	26.9	118	106	118	125
Initial Body Wt (kg)	40.3	94%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	50.2	99%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.6	101%	23.4	23.3	23.5	23.3
Dressing %	47.6	0.95	46.6	46.5	46.7	46.5
GR Fat (mm)	13.3	0.92	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.1	-0.18	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.4	0.06	3.5	4.1	3.3	3.3
Body Length (cm)	68.9	0.61	68.2	67.9	68.3	68.1

Team Number	17					
Entrant Details						
Town	Wongarbon					
State	NSW					
Bloodline	Pastora					
Years on Bloodline	21					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	129	10.9	118	106	118	125
Initial Body Wt (kg)	41.9	98%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	50.4	100%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.6	101%	23.4	23.3	23.5	23.3
Dressing %	47.0	0.27	46.6	46.5	46.7	46.5
GR Fat (mm)	12.7	0.41	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.8	0.46	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.3	-0.07	3.5	4.1	3.3	3.3
Body Length (cm)	67.3	-0.98	68.2	67.9	68.3	68.1

18 & 19

Team Number	**18**					
Entrant Details						
Town	**Campbell**					
State	**TAS**					
Bloodline	**Kenilworth**					
Years on Bloodline	**25**					
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	147	21.6	118	106	118	125
Initial Body Wt (kg)	43.9	102%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	54.1	105%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.6	106%	23.4	23.3	23.5	23.3
Dressing %	46.4	-0.13	46.6	46.5	46.7	46.5
GR Fat (mm)	13.0	0.91	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.5	0.11	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.6	0.23	3.5	4.1	3.3	3.3
Body Length (cm)	68.9	0.87	68.2	67.9	68.3	68.1

Team Number	**19**					
Entrant Details						
Town	**Hamilton**					
State	**VIC**					
Bloodline	**Mixed**					
Years on Bloodline						
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	148	29.9	118	106	118	125
Initial Body Wt (kg)	36.0	84%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	46.4	92%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	20.7	88%	23.4	23.3	23.5	23.3
Dressing %	45.4	-1.28	46.6	46.5	46.7	46.5
GR Fat (mm)	10.7	-1.61	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.5	-0.85	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.1	-0.28	3.5	4.1	3.3	3.3
Body Length (cm)	65.6	-2.68	68.2	67.9	68.3	68.1

Team Number	**20**					
Entrant Details						
Town	**Carrathool**					
State	**NSW**					
Bloodline	**Hazeldean**					
Years on Bloodline	**16**					
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	134	26.5	118	106	118	125
Initial Body Wt (kg)	37.8	89%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	56.4	97%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.7	93%	23.4	23.3	23.5	23.3
Dressing %	46.3	-0.16	46.6	46.5	46.7	46.5
GR Fat (mm)	11.9	-0.26	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.0	-0.87	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.9	-0.21	3.5	4.1	3.3	3.3
Body Length (cm)	67.4	-0.67	68.2	67.9	68.3	68.1

Team Number	**21**					
Entrant Details						
Town	**Lake Bolac**					
State	**VIC**					
Bloodline	**Bundilla**					
Years on Bloodline	**6**					
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	142	16.6	118	106	118	125
Initial Body Wt (kg)	48.6	113%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.4	114%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	26.9	115%	23.4	23.3	23.5	23.3
Dressing %	47.0	0.52	46.6	46.5	46.7	46.5
GR Fat (mm)	12.4	0.37	12.2	12.3	12.3	12.1
Scanned EMD (mm)	26.4	2.06	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.9	0.55	3.5	4.1	3.3	3.3
Body Length (cm)	71.8	3.69	68.2	67.9	68.3	68.1

22 & 23

Team Number	**22**					
Entrant Details						
Town	**Jugiong**					
State	**NSW**					
Bloodline	**Hazeldean**					
Years on Bloodline	**8**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	138	19.9	118	106	118	125
Initial Body Wt (kg)	43.6	102%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	52.5	104%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.9	106%	23.4	23.3	23.5	23.3
Dressing %	47.7	1.02	46.6	46.5	46.7	46.5
GR Fat (mm)	12.9	0.55	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.0	-0.32	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.5	0.13	3.5	4.1	3.3	3.3
Body Length (cm)	69.0	0.69	68.2	67.9	68.3	68.1

Team Number	**23**					
Entrant Details						
Town	**Goolgowi**					
State	**NSW**					
Bloodline	**Pastora**					
Years on Bloodline	**20**					
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	67	-40.5	118	106	118	125
Initial Body Wt (kg)	43.4	102%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.6	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.3	100%	23.4	23.3	23.5	23.3
Dressing %	47.4	0.88	46.6	46.5	46.7	46.5
GR Fat (mm)	14.3	2.08	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.5	0.69	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.5	0.39	3.5	4.1	3.3	3.3
Body Length (cm)	66.1	-1.96	68.2	67.9	68.3	68.1

Team Number	24					
Entrant Details						
Town	Yass					
State	NSW					
Bloodline	Cavan					
Years on Bloodline	15					
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	127	1.6	118	106	118	125
Initial Body Wt (kg)	42.8	100%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	51.3	100%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.4	100%	23.4	23.3	23.5	23.3
Dressing %	46.6	0.09	46.6	46.5	46.7	46.5
GR Fat (mm)	12.0	-0.09	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.7	0.32	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.6	0.23	3.5	4.1	3.3	3.3
Body Length (cm)	67.7	-0.34	68.2	67.9	68.3	68.1

Team Number	25					
Entrant Details						
Town	Yass					
State	NSW					
Bloodline	Bogo					
Years on Bloodline	20					
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	129	3.6	118	106	118	125
Initial Body Wt (kg)	39.9	93%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	49.4	96%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.1	95%	23.4	23.3	23.5	23.3
Dressing %	45.9	-0.63	46.6	46.5	46.7	46.5
GR Fat (mm)	11.0	-1.08	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.8	-0.60	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.0	-0.32	3.5	4.1	3.3	3.3
Body Length (cm)	67.2	-0.87	68.2	67.9	68.3	68.1

26 & 27

Team Number	**26**
Entrant Details	
Town	**Gunning**
State	**NSW**
Bloodline	**Mumblebone**
Years on Bloodline	**15**
Age Group	**Spring**

	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	150	24.6	118	106	118	125
Initial Body Wt (kg)	41.8	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	51.9	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.9	102%	23.4	23.3	23.5	23.3
Dressing %	47.2	0.69	46.6	46.5	46.7	46.5
GR Fat (mm)	13.0	0.89	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.3	-0.09	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.6	0.26	3.5	4.1	3.3	3.3
Body Length (cm)	67.8	-0.24	68.2	67.9	68.3	68.1

Team Number	**27**
Entrant Details	,
Town	**Merriwa**
State	**NSW**
Bloodline	**AMM**
Years on Bloodline	**20**
Age Group	**Winter**

	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	98	-20.1	118	106	118	125
Initial Body Wt (kg)	41.8	98%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	47.9	95%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.1	99%	23.4	23.3	23.5	23.3
Dressing %	48.2	1.51	46.6	46.5	46.7	46.5
GR Fat (mm)	13.6	1.25	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.1	-0.21	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.9	0.51	3.5	4.1	3.3	3.3
Body Length (cm)	67.6	-0.62	68.2	67.9	68.3	68.1

Team Number	28					
Entrant Details	-					
Town	Ando					
State	NSW					
Bloodline	Mixed					
Years on Bloodline						
Age Group	Spring					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	101	-24.4	118	106	118	125
Initial Body Wt (kg)	42.3	99%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	48.7	95%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.7	97%	23.4	23.3	23.5	23.3
Dressing %	47.8	1.33	46.6	46.5	46.7	46.5
GR Fat (mm)	11.7	-0.41	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.4	0.02	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.1	-0.25	3.5	4.1	3.3	3.3
Body Length (cm)	67.4	-0.63	68.2	67.9	68.3	68.1

Team Number	29					
Entrant Details	. .					
Town	Cumnock					
State	NSW					
Bloodline	Mixed					
Years on Bloodline						
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	153	34.9	118	106	118	125
Initial Body Wt (kg)	37.6	88%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	47.7	94%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.4	91%	23.4	23.3	23.5	23.3
Dressing %	45.8	-0.85	46.6	46.5	46.7	46.5
GR Fat (mm)	11.4	-0.91	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.0	-1.27	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.0	-0.36	3.5	4.1	3.3	3.3
Body Length (cm)	68.4	0.18	68.2	67.9	68.3	68.1

30 & 31

Team Number	**30**					
Entrant Details						
Town	**Gidginbung**					
State	**NSW**					
Bloodline	**Woolaroo**					
Years on Bloodline	**27**					
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	62	-45.5	118	106	118	125
Initial Body Wt (kg)	48.7	114%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	57.3	99%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.2	104%	23.4	23.3	23.5	23.3
Dressing %	46.0	-0.45	46.6	46.5	46.7	46.5
GR Fat (mm)	13.6	1.43	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.0	-0.88	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.2	0.04	3.5	4.1	3.3	3.3
Body Length (cm)	69.1	1.01	68.2	67.9	68.3	68.1

Team Number	**31**					
Entrant Details						
Town	**Wagga Wagga**					
State	**NSW**					
Bloodline	**Winyar**					
Years on Bloodline	**10**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	102	-16.1	118	106	118	125
Initial Body Wt (kg)	48.2	113%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	54.8	108%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	25.4	108%	23.4	23.3	23.5	23.3
Dressing %	46.9	0.24	46.6	46.5	46.7	46.5
GR Fat (mm)	12.7	0.40	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.6	1.24	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.9	0.55	3.5	4.1	3.3	3.3
Body Length (cm)	69.0	0.69	68.2	67.9	68.3	68.1

Team Number	32					
Entrant Details						
Town	Harden					
State	NSW					
Bloodline	Demondrille/Bundilla					
Years on Bloodline						
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	115	-3.1	118	106	118	125
Initial Body Wt (kg)	41.2	96%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	48.9	97%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.6	96%	23.4	23.3	23.5	23.3
Dressing %	46.9	0.22	46.6	46.5	46.7	46.5
GR Fat (mm)	13.0	0.68	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.5	0.17	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.2	-0.19	3.5	4.1	3.3	3.3
Body Length (cm)	67.8	-0.50	68.2	67.9	68.3	68.1

Team Number	33					
Entrant Details						
Town	Gnowangerup					
State	WA					
Bloodline	Barloo/Woodyarrup					
Years on Bloodline	15					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	103	-15.1	118	106	118	125
Initial Body Wt (kg)	49.5	116%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.8	110%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	26.8	114%	23.4	23.3	23.5	23.3
Dressing %	47.3	0.58	46.6	46.5	46.7	46.5
GR Fat (mm)	13.2	0.84	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.1	-0.17	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.4	0.09	3.5	4.1	3.3	3.3
Body Length (cm)	71.3	3.04	68.2	67.9	68.3	68.1

34 & 35

Team Number	**34**					
Entrant Details						
Town	**Esperance**					
State	**WA**					
Bloodline	**Pyramid**					
Years on Bloodline	**8**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	148	29.9	118	106	118	125
Initial Body Wt (kg)	46.4	109%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.8	111%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	27.3	116%	23.4	23.3	23.5	23.3
Dressing %	47.7	1.05	46.6	46.5	46.7	46.5
GR Fat (mm)	12.9	0.57	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.4	0.10	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.3	0.00	3.5	4.1	3.3	3.3
Body Length (cm)	70.5	2.25	68.2	67.9	68.3	68.1

Team Number	**35**					
Entrant Details						
Town	**Pleasant Hills**					
State	**NSW**					
Bloodline	**Pooginook**					
Years on Bloodline	**50**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	103	-15.1	118	106	118	125
Initial Body Wt (kg)	45.2	106%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	52.0	103%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.2	103%	23.4	23.3	23.5	23.3
Dressing %	47.0	0.36	46.6	46.5	46.7	46.5
GR Fat (mm)	12.1	-0.27	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.9	0.60	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.3	0.00	3.5	4.1	3.3	3.3
Body Length (cm)	69.6	1.31	68.2	67.9	68.3	68.1

Team Number	36					
Entrant Details						
Town	Tottenham					
State	NSW					
Bloodline	Centre Plus					
Years on Bloodline	20					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	108	-10.1	118	106	118	125
Initial Body Wt (kg)	43.3	101%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	50.0	99%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.8	101%	23.4	23.3	23.5	23.3
Dressing %	47.5	0.80	46.6	46.5	46.7	46.5
GR Fat (mm)	12.9	0.57	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.8	0.44	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.5	0.19	3.5	4.1	3.3	3.3
Body Length (cm)	68.7	0.39	68.2	67.9	68.3	68.1

Team Number	37					
Entrant Details						
Town	Trundle					
State	NSW					
Bloodline	Centre Plus					
Years on Bloodline	28					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	96	-22.1	118	106	118	125
Initial Body Wt (kg)	47.9	112%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	53.9	107%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	25.3	108%	23.4	23.3	23.5	23.3
Dressing %	47.3	0.64	46.6	46.5	46.7	46.5
GR Fat (mm)	12.8	0.43	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.8	0.46	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.8	0.48	3.5	4.1	3.3	3.3
Body Length (cm)	69.7	1.44	68.2	67.9	68.3	68.1

38 & 39

Team Number	**38**					
Entrant Details						
Town	**Walpa**					
State	**VIC**					
Bloodline	**Mixed**					
Years on Bloodline						
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	131	12.9	118	106	118	125
Initial Body Wt (kg)	36.2	85%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	45.7	91%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	20.6	88%	23.4	23.3	23.5	23.3
Dressing %	45.6	-1.07	46.6	46.5	46.7	46.5
GR Fat (mm)	10.3	-2.03	12.2	12.3	12.3	12.1
Scanned EMD (mm)	23.3	-0.98	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.1	-0.24	3.5	4.1	3.3	3.3
Body Length (cm)	66.6	-1.68	68.2	67.9	68.3	68.1

Team Number	**39**					
Entrant Details						
Town	**Larras Lee**					
State	**NSW**					
Bloodline	**Claremont**					
Years on Bloodline	**60**					
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	142	16.6	118	106	118	125
Initial Body Wt (kg)	38.9	91%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	48.4	94%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.2	95%	23.4	23.3	23.5	23.3
Dressing %	46.8	0.33	46.6	46.5	46.7	46.5
GR Fat (mm)	12.1	0.07	12.2	12.3	12.3	12.1
Scanned EMD (mm)	24.5	0.11	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.4	0.04	3.5	4.1	3.3	3.3
Body Length (cm)	66.9	-1.20	68.2	67.9	68.3	68.1

Team Number	40					
Entrant Details						
Town	Peel					
State	NSW					
Bloodline	Blink Bonnie					
Years on Bloodline						
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	114	-4.1	118	106	118	125
Initial Body Wt (kg)	39.1	92%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	45.9	91%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	20.7	88%	23.4	23.3	23.5	23.3
Dressing %	45.5	-1.15	46.6	46.5	46.7	46.5
GR Fat (mm)	11.0	-1.29	12.2	12.3	12.3	12.1
Scanned EMD (mm)	22.8	-1.49	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.0	-0.33	3.5	4.1	3.3	3.3
Body Length (cm)	65.5	-2.79	68.2	67.9	68.3	68.1

Team Number	41					
Entrant Details						
Town	Condobolin					
State	NSW					
Bloodline	Pooginook					
Years on Bloodline	25					
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	114	6.5	118	106	118	125
Initial Body Wt (kg)	45.6	107%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	60.8	105%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.8	106%	23.4	23.3	23.5	23.3
Dressing %	46.3	-0.24	46.6	46.5	46.7	46.5
GR Fat (mm)	12.7	0.52	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.9	1.09	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.3	0.20	3.5	4.1	3.3	3.3
Body Length (cm)	68.5	0.43	68.2	67.9	68.3	68.1

42 & 43

Team Number	**42**					
Entrant Details						
Town	**Junee**					
State	**NSW**					
Bloodline	**Willandra**					
Years on Bloodline	**30**					
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	90	-35.4	118	106	118	125
Initial Body Wt (kg)	52.2	122%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.3	113%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	26.6	114%	23.4	23.3	23.5	23.3
Dressing %	46.7	0.23	46.6	46.5	46.7	46.5
GR Fat (mm)	13.1	1.02	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.8	1.44	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.4	0.04	3.5	4.1	3.3	3.3
Body Length (cm)	70.9	2.83	68.2	67.9	68.3	68.1

Team Number	**43**					
Entrant Details						
Town	**Galore**					
State	**NSW**					
Bloodline	**Hazeldean**					
Years on Bloodline						
Age Group	**Spring**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	124	-1.4	118	106	118	125
Initial Body Wt (kg)	38.2	89%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	46.8	91%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	20.9	89%	23.4	23.3	23.5	23.3
Dressing %	45.6	-0.95	46.6	46.5	46.7	46.5
GR Fat (mm)	9.8	-2.31	12.2	12.3	12.3	12.1
Scanned EMD (mm)	22.9	-1.45	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	2.9	-0.47	3.5	4.1	3.3	3.3
Body Length (cm)	67.2	-0.87	68.2	67.9	68.3	68.1

Team Number	44					
Entrant Details						
Town	Warren					
State	NSW					
Bloodline	Pooginook					
Years on Bloodline	4					
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	104	-3.5	118	106	118	125
Initial Body Wt (kg)	43.6	102%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	57.7	99%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.2	104%	23.4	23.3	23.5	23.3
Dressing %	47.1	0.64	46.6	46.5	46.7	46.5
GR Fat (mm)	12.5	0.34	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.2	0.32	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.1	-0.05	3.5	4.1	3.3	3.3
Body Length (cm)	68.7	0.62	68.2	67.9	68.3	68.1

Team Number	45					
Entrant Details						
Town	Coonamble					
State	NSW					
Bloodline	Pooginook					
Years on Bloodline	5					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	136	17.9	118	106	118	125
Initial Body Wt (kg)	41.4	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	50.2	99%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.5	100%	23.4	23.3	23.5	23.3
Dressing %	46.5	-0.20	46.6	46.5	46.7	46.5
GR Fat (mm)	13.2	0.82	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.0	0.71	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.1	-0.21	3.5	4.1	3.3	3.3
Body Length (cm)	67.4	-0.86	68.2	67.9	68.3	68.1

46 & 47

Team Number	**46**					
Entrant Details						
Town	**Young**					
State	**NSW**					
Bloodline	**Bundilla**					
Years on Bloodline	**9**					
Age Group	**Winter**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	133	14.9	118	106	118	125
Initial Body Wt (kg)	44.1	103%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	53.3	105%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.3	104%	23.4	23.3	23.5	23.3
Dressing %	46.4	-0.28	46.6	46.5	46.7	46.5
GR Fat (mm)	12.6	0.29	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.1	0.83	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.6	0.24	3.5	4.1	3.3	3.3
Body Length (cm)	68.4	0.11	68.2	67.9	68.3	68.1

Team Number	**47**					
Entrant Details						
Town	**Young**					
State	**NSW**					
Bloodline	**Yarran/Greenland**					
Years on Bloodline	**80**					
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	128	20.5	118	106	118	125
Initial Body Wt (kg)	36.3	85%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.4	95%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	20.5	88%	23.4	23.3	23.5	23.3
Dressing %	45.1	-1.36	46.6	46.5	46.7	46.5
GR Fat (mm)	10.3	-1.93	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.1	-0.75	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.8	-0.31	3.5	4.1	3.3	3.3
Body Length (cm)	65.4	-2.72	68.2	67.9	68.3	68.1

Team Number	48					
Entrant Details						
Town	Rand					
State	NSW					
Bloodline	The Yanko					
Years on Bloodline	12					
Age Group	Winter					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	133	14.9	118	106	118	125
Initial Body Wt (kg)	46.8	110%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.6	110%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	25.4	108%	23.4	23.3	23.5	23.3
Dressing %	46.4	-0.25	46.6	46.5	46.7	46.5
GR Fat (mm)	12.5	0.21	12.2	12.3	12.3	12.1
Scanned EMD (mm)	25.6	1.27	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.5	0.17	3.5	4.1	3.3	3.3
Body Length (cm)	69.7	1.42	68.2	67.9	68.3	68.1

Team Number	49					
Entrant Details						
Town	Hay					
State	NSW					
Bloodline	Tupra					
Years on Bloodline	20					
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	96	-12.0	118	106	118	125
Initial Body Wt (kg)	45.1	106%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	59.4	102%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.7	106%	23.4	23.3	23.5	23.3
Dressing %	47.3	0.82	46.6	46.5	46.7	46.5
GR Fat (mm)	11.5	-0.69	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.4	0.53	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.1	0.01	3.5	4.1	3.3	3.3
Body Length (cm)	70.1	2.03	68.2	67.9	68.3	68.1

50 & 51

Team Number	**50**					
Entrant Details						
Town	**Hay**					
State	**NSW**					
Bloodline	**Tupra**					
Years on Bloodline	**20**					
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	123	15.5	118	106	118	125
Initial Body Wt (kg)	42.9	101%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.6	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	23.8	102%	23.4	23.3	23.5	23.3
Dressing %	46.7	0.20	46.6	46.5	46.7	46.5
GR Fat (mm)	11.2	-1.03	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.4	-0.46	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.9	-0.19	3.5	4.1	3.3	3.3
Body Length (cm)	69.6	1.49	68.2	67.9	68.3	68.1

Team Number	**51**					
Entrant Details						
Town						
State	**NSW**					
Bloodline						
Years on Bloodline						
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	111	-3.2	118	106	118	125
Initial Body Wt (kg)	42.3	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.4	96%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.1	94%	23.4	23.3	23.5	23.3
Dressing %	46.4	-0.15	46.6	46.5	46.7	46.5
GR Fat (mm)	11.3	-0.90	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.0	-0.84	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.1	0.00	3.5	4.1	3.3	3.3
Body Length (cm)	66.6	-1.58	68.2	67.9	68.3	68.1

Team Number	52					
Entrant Details						
Town						
State	NSW					
Bloodline						
Years on Bloodline						
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	119	4.8	118	106	118	125
Initial Body Wt (kg)	40.5	93%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	57.7	100%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.0	90%	23.4	23.3	23.5	23.3
Dressing %	45.5	-1.09	46.6	46.5	46.7	46.5
GR Fat (mm)	10.8	-1.38	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.5	0.64	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.3	0.19	3.5	4.1	3.3	3.3
Body Length (cm)	67.6	-0.56	68.2	67.9	68.3	68.1

Team Number	53					
Entrant Details						
Town						
State	NSW					
Bloodline						
Years on Bloodline						
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	182	67.8	118	106	118	125
Initial Body Wt (kg)	50.6	116%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	62.4	108%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	29.3	125%	23.4	23.3	23.5	23.3
Dressing %	49.1	2.55	46.6	46.5	46.7	46.5
GR Fat (mm)	16.3	4.10	12.2	12.3	12.3	12.1
Scanned EMD (mm)	29.7	1.84	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.8	0.68	3.5	4.1	3.3	3.3
Body Length (cm)	70.1	2.00	68.2	67.9	68.3	68.1

54 & 55

Team Number	**54**					
Entrant Details						
Town						
State	**NSW**					
Bloodline						
Years on Bloodline						
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	107	-7.2	118	106	118	125
Initial Body Wt (kg)	42.5	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	56.1	97%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.8	93%	23.4	23.3	23.5	23.3
Dressing %	45.8	-0.76	46.6	46.5	46.7	46.5
GR Fat (mm)	11.4	-0.79	12.2	12.3	12.3	12.1
Scanned EMD (mm)	26.7	-1.14	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.8	-0.28	3.5	4.1	3.3	3.3
Body Length (cm)	67.4	-0.75	68.2	67.9	68.3	68.1

Team Number	**55**					
Entrant Details						
Town						
State	**NSW**					
Bloodline						
Years on Bloodline						
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	145	30.8	118	106	118	125
Initial Body Wt (kg)	42.4	97%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.4	96%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.6	96%	23.4	23.3	23.5	23.3
Dressing %	46.3	-0.22	46.6	46.5	46.7	46.5
GR Fat (mm)	11.4	-0.86	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.6	0.79	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.0	-0.11	3.5	4.1	3.3	3.3
Body Length (cm)	66.5	-1.65	68.2	67.9	68.3	68.1

Team Number	56					
Entrant Details						
Town						
State	NSW					
Bloodline						
Years on Bloodline						
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	97	-17.2	118	106	118	125
Initial Body Wt (kg)	42.9	98%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.1	100%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.6	97%	23.4	23.3	23.5	23.3
Dressing %	47.1	0.56	46.6	46.5	46.7	46.5
GR Fat (mm)	11.7	-0.52	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.4	-0.43	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.8	-0.29	3.5	4.1	3.3	3.3
Body Length (cm)	67.4	-0.77	68.2	67.9	68.3	68.1

Team Number	57					
Entrant Details						
Town						
State	NSW					
Bloodline						
Years on Bloodline						
Age Group	Autumn					
	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	105	-9.2	118	106	118	125
Initial Body Wt (kg)	48.4	111%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.6	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	24.7	106%	23.4	23.3	23.5	23.3
Dressing %	46.8	0.25	46.6	46.5	46.7	46.5
GR Fat (mm)	11.4	-0.77	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.4	-0.44	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.0	-0.12	3.5	4.1	3.3	3.3
Body Length (cm)	70.8	2.66	68.2	67.9	68.3	68.1

58 & 59

Team Number	**58**					
Entrant Details						
Town						
State	**NSW**					
Bloodline						
Years on Bloodline						
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	106	-8.2	118	106	118	125
Initial Body Wt (kg)	43.8	100%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	58.5	101%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	22.9	98%	23.4	23.3	23.5	23.3
Dressing %	47.1	0.50	46.6	46.5	46.7	46.5
GR Fat (mm)	13.5	1.29	12.2	12.3	12.3	12.1
Scanned EMD (mm)	27.4	-0.40	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.5	0.33	3.5	4.1	3.3	3.3
Body Length (cm)	67.0	-1.11	68.2	67.9	68.3	68.1

Team Number	**59**					
Entrant Details						
Town						
State	**NSW**					
Bloodline						
Years on Bloodline						
Age Group	**Autumn**					
	Actual	**Deviation**	**Meat Challenge Average**	**Autumn Average**	**Winter Average**	**Spring Average**
Growth Rate (g/day)	135	20.8	118	106	118	125
Initial Body Wt (kg)	50.7	116%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	60.8	105%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	26.0	111%	23.4	23.3	23.5	23.3
Dressing %	46.6	0.09	46.6	46.5	46.7	46.5
GR Fat (mm)	13.3	1.05	12.2	12.3	12.3	12.1
Scanned EMD (mm)	28.9	1.09	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	4.2	0.06	3.5	4.1	3.3	3.3
Body Length (cm)	71.2	3.07	68.2	67.9	68.3	68.1

Team Number	**60**
Entrant Details	
Town	
State	**NSW**
Bloodline	
Years on Bloodline	
Age Group	**Autumn**

	Actual	Deviation	Meat Challenge Average	Autumn Average	Winter Average	Spring Average
Growth Rate (g/day)	104	-10.2	118	106	118	125
Initial Body Wt (kg)	42.9	98%	42.8	42.5	42.7	42.9
Final Body Wt (kg)	55.7	96%	52.2	58.0	50.5	51.4
Carcase Wt (kg)	21.2	90%	23.4	23.3	23.5	23.3
Dressing %	45.4	-1.17	46.6	46.5	46.7	46.5
GR Fat (mm)	11.2	-1.05	12.2	12.3	12.3	12.1
Scanned EMD (mm)	26.7	-1.14	25.0	27.9	24.3	24.4
Scanned C Fat (mm)	3.7	-0.40	3.5	4.1	3.3	3.3
Body Length (cm)	67.2	-0.92	68.2	67.9	68.3	68.1