

Pingelly 2017 Drop

Overview of Professional and AMSEA Class

June 2025

Raw Data and Index

Disclaimer

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Introduction

The Pingelly site was hosted by Murdoch University at the University of Western Australia's property "Ridgefield" at Pingelly. The site committee was founded via the Federation of Performance Sheep Breeders. The site was one of five participating in the AWI-funded Merino Lifetime Productivity (MLP) Project, which was facilitated by the Australian Merino Sire Evaluation Association.

2017 Drop Key Assessments and Dates

The Pingelly 2017 drop ewes are the daughters of 15 industry sires that were joined to a ewe base made up of large-framed, plain-bodied, highly fertile animals with a moderate wool cut. The ewe base focused on genetic fat, growth, and muscling while trying to maintain wool cut and micron. The 'Ridgefield' flock was stocked at 10DSE/ha, averaged 5kg of 19µm wool, and produced weaning percentages of 100–115%. Ewes for the project were selected from four age groups from the 'Ridgefield' commercial and Maternal Efficiency Flocks.

Event	Date	Age Stage	Lactation Status	Age and Wool Growth
Birth	June 2017			
Post Weaning Assessment	March 2018	P	Dry	9.5 months, 9.5 months wool
Hogget Assessment	December 2018	H	Dry	18 months, 7.5 months wool
<i>First Joining</i>	<i>January 2019</i>			
Adult 2 Assessment	December 2019	A2	Post weaning	2 years, 12 months wool
Adult 3 Assessment	December 2020	A3	Post weaning	3 years, 12 months wool
Adult 4 Assessment	December 2021	A4	Post weaning	4 years, 12 months wool
Adult 5 Assessment	December 2022	A5	Post weaning	5 years, 12 months wool

As per the MLP protocol, the 2017 drop ewes are classed annually at each assessment for six years using two classing approaches: the AMSEA class (undertaken initially by Preston Clark and later by Mitch Crosby) and the Professional class (undertaken by Nathan King). The AMSEA Grade and Professional Classer Grade use the site's nominated breeding objective to guide classing:

Pingelly Site Breeding Objective: To breed sheep that are to be easy care based on, and because of, good conformation and constitution. Medium to large frame. Bright white, stylish wool free from colour and water faults. Wool cut to be sufficient to balance wool production with body size to ensure both add real value to the bottom line.

Classing Methodology

Professional Class Process – Nathan King

- Drop randomly presented, no measured performance is provided, animals classed to site breeding objective
- Classed 5 ways with reason for class recorded
 - Tops –Top 1% (Equivalent to sire selection or ET ewe)
 - Studs –Top 2–10% (Equivalent to special stud ewe selection)
 - 2nds –Top 10–70% (Equivalent to classed in ewe)
 - Sales –Bottom 10–30% (Equivalent to sale ewe line)
 - Culls –Bottom 10% (Equivalent to cull line)

AMSEA Grade Process – Preston Clark (Post Weaning & Hogget), Mitch Crosby (Adult 2 – Adult 5)

- Drop randomly presented, no data provided, animals classed to the site breeding objective
- Classed three ways: Top 25%, Flock 50%, Cull 25%

Glossary

Raw data is presented as lifetime performance. The ewes were shorn six times and joined four times.

- **Count or N** is the number of ewes in each grade that have full lifetime records used for reporting.
- **Average for ewes present at all 6 assessments** **CFW** = Clean Fleece Weight, **FD** = fibre diameter (um), **SL** = staple length (mm), **SS** = staple strength (N/ktex), **FAT** = fat depth (mm), **EMD** = eye muscle depth (mm), **WT** = pre-joining weight (animals with 4 pre-joining records (kg))
- **WR** = raw number of lambs weaned (for ewes that were joined 4 times)
- **MP+** = within flock selection index, selects for sheep for a production system that has a balance of wool and surplus Merino sheep sales with balanced improvement of fleece weight and fibre diameter. The reported value is the final index derived from all measured data.
- **Visual Scores:** **Dag**=Dag, **Bdwr**=body wrinkle, **Char**=wool character, **Col**=wool colour, **Flrot**=fleece rot, **Dust**=dust penetration, **Back**=shoulder/back, **Legs**=Legs/feet, **Face**=face cover, **Spig**=non fibre pigmentation, **Jaw**=jaw structure.
- When referring to classing group, the words “class” and “grade” have been used interchangeably.

Raw data has also been expressed as **deviations from the average, with CFW, WT, and WR presented as per cent (%) deviations from the lifetime average, and all other traits in their units of measurement (denoted as the trait name plus “D”)**.

Sire ID	Sire name	Sire Abbreviation
609147–2014–140474	Anderson Poll, 140474	ANDER 140474
601370–2014–140027	Barloo Poll, 140027 (Eureka)	BARLOO 140027
600571–2015–151280	Billandri Poll, 151280	BILL 151280
600553–2013–130660	Coromandel Poll, 130660	CORO 130660
500153–2013–132051	Cranmore, 132051	CRANMORE 1310
504358–2010–0Z266K	Edale, 10Z266K	EDALE 10Z266K
609154–2015–150087	Ingle Poll, 150087	INGLE 150087
601394–2014–140540	Mianelup Poll, M00540 (Expo)	MIANELUP M00540
504637–2012–120652	Moojepin, 120652	MOOJEPIN 120652
601502–2015–150073	Moorundie Poll, NE73	MOORUNDI NE73
609152–2011–110264	Nearra Poll, 110264	NEEARRA G264
600636–2015–150680	Rangeview Poll, 5–680	RV 5680
609251–2014–140477	Trigger Vale Poll, 140477	TV 140477
601236–2011–110004	West Plains Poll, 110004 (Mercenary)	WEST PL 110004
500412–2015–150329	Woodyarrup, 150329	WOODY 150329

Overview of Results Presented

The following classer results capture the performance by grade of the 2017 drop Pingelly ewes based on the Professional and AMSEA classing approaches.

The results for the Professional and AMSEA grade are packaged at the drop level and show the average lifetime performance of animals based on their classer grades at each stage of classer assessment. Following the average performance tables, results show how the animals change in grades over time.

When comparing classer versus index selection, we recognise that some animals are allocated to lower classer grades based on a fault rather than their observed fleece or carcase performance. We also recognise that a classer is evaluating considerably more traits than the number of traits used to generate an index.

An appended report (page 13) evaluates ewe long-term productivity based on their first two AMSEA and Professional classer grades. By analysing the lifetime performance of animals designated as either 'retained' or 'removed' during early assessments, this work illustrates the impact of visual selection on flock performance.

Factors to Consider:

- Change in classer has impacted results
- Site has an even ewe base, although some new ewes were introduced into the second joining
- Query whether a change in the shearing date means that wool length has influenced classing

Best time to do an early Class:

- Professional – at the second or third assessment (full wool)
- AMSEA – at the second assessment prior to first lamb

Classers are selecting for:

- Professional – selecting for CFW, FD, SS, SL, WT, focus on better wool character and colour with lower dust and good feet/legs.
- AMSEA – selecting for CFW, SL, SS, WT, some emphasis on FD, focus on better wool character and colour with lower dust and good feet/legs.

Impact of ewe's reproduction status on classing:

- Professional – impacted classing
- AMSEA – impacted classing

Change over time:

- Professional – approx 50% repeatability between classings
- AMSEA – approx 55% and over of animals stay in the same grade between classings

<p>AMSEA Class – Post Weaning to Hogget</p> <ul style="list-style-type: none"> • 53% Stay in the same grade • 97% Stay in the same or change by one grade • 3% of animals change by two grades 	<p>Professional Class – Post Weaning to Hogget</p> <ul style="list-style-type: none"> • 45% Stay in the same grade • 82% Stay in the same or change by one grade • 16% of animals change by two grades
<p>AMSEA Class – Hogget to Adult 2</p> <ul style="list-style-type: none"> • 60% Stay in the same grade • 98% Stay in the same or change by one grade • 2% of animals change by two grades 	<p>Professional Class – Hogget to Adult 2</p> <ul style="list-style-type: none"> • 54% Stay in the same grade • 91% Stay in the same or change by one grade • 8% of animals change by two grades

Professional Classer Grade Results

Pingelly 2017 Drop - Professional Class - Nathan King Measured LIFETIME Performance by Grade (Drop Level) -Average Lifetime CFW, FD, SL, SS, WT, EMD, WR, A5 MP+ Index - followed by Average Lifetime Scored Dag, Bdwr, Char, Col, Flrot, Dust, Legs, Back, Face, Spig, Jaw

<i>Age: 9.5m Wool: 9.5m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Post Weaning Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	12	3.7	19.0	103	32	62	2.7	24	4.4	100	113	0.6	5.1	1.4	104	-0.1	-0.2	99	-0.2
Stud	48	3.4	18.3	99	32	63	2.8	25	4.6	103	104	-0.2	1.2	1.4	105	0.0	-0.1	102	3.5
Seconds	218	3.3	18.3	98	31	61	2.8	25	4.7	101	101	-0.1	0.1	0.4	101	0.0	0.0	105	1.2
Sale	125	3.2	18.5	98	30	60	2.9	25	4.3	99	99	0.1	-0.1	-0.3	100	0.1	0.3	97	-0.6
Cull	83	3.1	18.5	97	29	57	2.8	24	4.0	95	95	0.1	-1.2	-1.6	95	0.0	-0.4	90	-4.2
Total/Ave	486	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											<i>18</i>	<i>0.5</i>	<i>6.3</i>	<i>3.0</i>	<i>8</i>	<i>-0.1</i>	<i>0.3</i>	<i>9</i>	<i>4</i>

<i>Age: 9.5m Wool: 9.5m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Post Weaning Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	12	2.4	1.5	2.3	2.5	1.0	2.5	1.6	2.5	2.2	2.3	1.0
Stud	48	2.5	1.5	2.5	2.5	1.0	2.5	1.8	2.4	2.2	2.3	1.0
Seconds	218	2.6	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.1	2.2	1.0
Sale	125	2.4	1.5	2.8	2.6	1.1	2.7	1.8	2.3	2.1	2.1	1.0
Cull	83	2.6	1.5	2.8	2.7	1.1	2.8	1.9	2.2	2.2	2.2	1.0
Total/Ave	486	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		<i>-0.2</i>	<i>0.1</i>	<i>-0.5</i>	<i>-0.2</i>	<i>0.0</i>	<i>-0.3</i>	<i>-0.3</i>	<i>0.3</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>

<i>Age: 17m W: 7.5m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Hogget Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	14	3.5	18.0	97	32	63	2.7	24	4.6	107	107	-0.4	-1.8	1.2	104	-0.1	-0.2	103	7.5
Stud	57	3.5	18.5	100	32	62	2.8	24	4.3	104	109	0.1	1.6	1.4	103	-0.1	-0.2	97	4.0
Seconds	301	3.2	18.4	99	31	61	2.8	25	4.6	100	99	0.0	0.6	0.0	100	0.0	0.0	102	0.4
Sale	79	3.2	18.5	97	30	60	2.9	25	4.4	98	99	0.1	-1.4	-0.5	100	0.1	0.3	98	-2.0
Cull	42	3.0	18.6	95	29	56	2.7	24	3.9	93	92	0.1	-3.4	-1.4	93	-0.1	-0.4	88	-6.5
Total/Ave	493	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											<i>16</i>	<i>-0.6</i>	<i>1.5</i>	<i>2.6</i>	<i>10</i>	<i>0.0</i>	<i>0.2</i>	<i>14</i>	<i>14</i>

<i>Age: 17m W: 7.5m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Hogget Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	14	2.6	1.8	2.4	2.5	1.1	2.5	1.7	2.4	2.2	2.4	1.0
Stud	57	2.6	1.6	2.4	2.4	1.0	2.5	1.8	2.4	2.2	2.5	1.0
Seconds	301	2.5	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.1	2.2	1.0
Sale	79	2.5	1.4	2.9	2.7	1.1	2.7	1.8	2.3	2.1	2.1	1.0
Cull	42	2.6	1.4	3.0	2.9	1.1	2.9	2.0	2.3	2.2	2.1	1.0
Total/Ave	493	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.0	0.4	-0.6	-0.4	-0.1	-0.4	-0.3	0.1	0.0	0.3	0.0

<i>Age: 2.5y W: 12m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Adult 2 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	17	3.6	18.3	100	34	64	2.7	24	4.4	109	111	-0.1	2.1	3.7	107	-0.1	-0.2	99	9.1
Stud	48	3.5	18.2	99	30	64	2.9	25	4.2	103	107	-0.2	0.9	-0.2	105	0.0	0.0	94	3.1
Seconds	312	3.3	18.4	98	31	60	2.8	25	4.4	100	101	0.0	0.0	0.1	100	0.0	0.0	99	0.5
Sale	87	3.0	18.5	98	30	59	2.9	25	4.7	97	94	0.1	-0.1	-1.0	98	0.1	0.2	105	-3.1
Cull	29	2.8	18.5	95	31	57	2.9	25	4.7	93	87	0.1	-2.9	0.1	94	0.1	0.1	105	-6.6
Total/Ave	493	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>		24	-0.2	5.0	3.5	12	-0.2	-0.4	-5	16									

<i>Age: 2.5y W: 12m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Adult 2 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	17	2.8	1.6	2.2	2.3	1.0	2.4	1.7	2.5	2.2	2.1	1.0
Stud	48	2.5	1.6	2.4	2.4	1.1	2.5	1.8	2.4	2.2	2.3	1.0
Seconds	312	2.6	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.1	2.2	1.0
Sale	87	2.5	1.4	3.0	2.7	1.1	2.8	1.9	2.3	2.1	2.3	1.0
Cull	29	2.3	1.5	3.2	2.9	1.1	3.0	2.0	2.2	2.1	2.0	1.0
Total/Ave	493	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.5	0.1	-1.0	-0.6	-0.1	-0.6	-0.3	0.3	0.1	0.2	0.0

<i>Age: 3.5y W: 12m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Adult 3 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	14	3.6	17.8	102	32	65	2.9	25	3.9	113	112	-0.7	3.9	1.3	107	0.1	0.1	88	13.4
Stud	43	3.5	18.4	98	32	62	2.8	25	4.0	103	109	0.0	0.2	1.0	104	0.0	-0.1	89	3.0
Seconds	277	3.3	18.5	98	31	61	2.8	25	4.4	100	102	0.0	-0.1	0.1	101	0.0	0.0	99	0.4
Sale	123	3.1	18.4	98	30	59	2.7	25	4.8	99	95	0.0	-0.1	-0.1	97	-0.1	-0.1	107	-0.7
Cull	37	2.9	18.5	98	28	59	2.9	25	4.3	90	89	0.1	-0.7	-2.2	97	0.1	0.2	97	-9.4
Total/Ave	494	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											23	-0.7	4.6	3.5	10	0.0	-0.1	-9	23

<i>Age: 3.5y W: 12m</i>		Raw Data - Average Lifetime Performance - Visual Scores										
Adult 3 Grade	Count	Dag	Bdwr	Char	Col	Flot	Dust	Legs	Back	Face	Spig	Jaw
Top	14	2.8	1.5	2.2	2.3	1.0	2.4	1.8	2.3	2.3	2.2	1.0
Stud	43	2.5	1.6	2.4	2.3	1.1	2.5	1.8	2.4	2.3	2.2	1.0
Seconds	277	2.5	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.2	2.2	1.0
Sale	123	2.5	1.5	2.9	2.7	1.1	2.8	1.9	2.4	2.1	2.2	1.0
Cull	37	2.6	1.4	3.0	3.0	1.1	2.9	1.9	2.3	2.1	2.2	1.1
Total/Ave	494	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.2	0.1	-0.8	-0.7	-0.1	-0.5	-0.2	0.0	0.2	0.0	-0.1

<i>Age: 4.5y W: 12m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Adult 4 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	9	3.7	18.3	101	32	66	3.1	26	3.9	109	115	-0.1	3.0	1.6	109	0.2	1.0	87	9.5
Stud	31	3.5	18.4	101	31	64	2.9	25	4.1	104	107	0.0	2.4	0.6	107	0.1	0.4	91	4.0
Seconds	262	3.3	18.5	99	31	61	2.8	25	4.4	101	103	0.0	0.2	0.3	101	0.0	-0.1	98	1.0
Sale	127	3.1	18.3	97	30	59	2.9	25	4.8	99	95	-0.1	-0.8	-0.3	99	0.1	0.2	107	-0.7
Cull	64	3.0	18.6	98	29	57	2.7	24	4.4	94	92	0.1	-0.7	-1.5	95	-0.1	-0.2	100	-6.2
Total/Ave	493	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											23	-0.2	3.7	3.0	15	0.3	1.2	-12	16

<i>Age: 4.5y W: 12m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Adult 4 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	9	2.9	1.6	2.2	2.2	1.1	2.4	1.8	2.4	2.3	2.3	1.0
Stud	31	2.5	1.5	2.4	2.4	1.1	2.6	1.8	2.3	2.2	2.1	1.0
Seconds	262	2.6	1.5	2.6	2.5	1.1	2.6	1.8	2.3	2.2	2.2	1.0
Sale	127	2.5	1.5	2.8	2.7	1.1	2.7	1.9	2.3	2.1	2.2	1.0
Cull	64	2.4	1.5	2.9	2.9	1.1	2.8	1.9	2.3	2.1	2.2	1.0
Total/Ave	493	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.5	0.1	-0.7	-0.7	0.0	-0.5	-0.2	0.1	0.3	0.1	0.0

<i>Age: 5.5y W: 12m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Adult 5 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	9	3.6	17.7	96	30	63	2.8	25	3.7	106	111	-0.7	-2.4	-0.9	105	0.0	0.3	82	6.6
Stud	21	3.6	18.0	100	34	63	2.9	25	3.8	108	111	-0.4	1.9	3.0	105	0.1	0.7	86	8.7
Seconds	280	3.3	18.5	98	31	61	2.9	25	4.3	100	102	0.0	-0.3	0.2	101	0.0	0.0	98	0.7
Sale	129	3.1	18.4	98	30	60	2.8	25	4.7	99	97	0.0	-0.4	-0.5	99	-0.1	-0.1	106	-1.1
Cull	55	2.9	18.5	100	30	57	2.8	24	4.7	95	90	0.1	2.0	-1.0	95	-0.1	-0.2	107	-5.1
Total/Ave	494	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											21	-0.8	-4.4	0.1	10	0.1	0.5	-24	12

<i>Age: 5.5y W: 12m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Adult 5 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	9	2.8	1.5	2.2	2.1	1.0	2.4	1.7	2.5	2.3	1.9	1.1
Stud	21	2.7	1.6	2.4	2.3	1.0	2.5	1.7	2.4	2.1	2.4	1.0
Seconds	280	2.6	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.2	2.2	1.0
Sale	129	2.5	1.5	2.8	2.7	1.1	2.7	1.8	2.2	2.2	2.2	1.0
Cull	55	2.4	1.4	2.9	3.0	1.1	2.9	2.0	2.3	2.0	2.4	1.0
Total/Ave	494	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.4	0.1	-0.6	-0.8	0.0	-0.5	-0.3	0.2	0.2	-0.5	0.1

**Pingelly 2017 Drop – Professional Grade Change
Between Grade & Next Grade – Nathan King**

	Grade	Hogget					
		Top	Stud	2nd	Sale	Cull	Total
Post Weaning	Top		3	7	2		12
	Stud	1	14	31	2		48
	2nd	8	20	152	31	6	217
	Sale	3	10	70	28	14	125
	Cull	2	8	37	14	22	83
	Total	14	55	297	77	42	485
45% stayed the same							
	Grade	Adult 2					
		Top	Stud	2nd	Sale	Cull	Total
Hogget	Top	3	4	5	2		14
	Stud	7	16	30	2		55
	2nd	6	26	210	45	10	297
	Sale		1	47	23	6	77
	Cull			16	14	12	42
	Total	16	47	308	86	28	485
54% stayed the same							
	Grade	Adult 3					
		Top	Stud	2nd	Sale	Cull	Total
Adult 2	Top	5	4	7			16
	Stud	6	13	25	3		47
	2nd	3	25	197	69	15	309
	Sale			40	35	11	86
	Cull			5	13	10	28
	Total	14	42	274	120	36	486
53% stayed the same							
	Grade	Adult 4					
		Top	Stud	2nd	Sale	Cull	Total
Adult 3	Top	3	4	5	2		14
	Stud	3	8	29	1	1	42
	2nd	2	17	185	57	13	274
	Sale	1	1	40	53	24	119
	Cull		1	1	9	25	36
	Total	9	31	260	122	63	485
56% stayed the same							
	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Adult 4	Top	2	4	2		1	9
	Stud	2	3	22	3	1	31
	2nd	1	13	191	50	5	260
	Sale	2	1	53	49	17	122
	Cull	1		9	23	30	63
	Total	8	21	277	125	54	485
57% stayed the same							

**Pingelly 2017 Drop – Professional Grade Change
Between Grade & Adult 5 Grade – Nathan King**

	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Post Weaning	Top	1	1	7	2	1	12
	Stud	1	8	31	8		48
	2nd	4	8	128	54	24	218
	Sale	1	3	78	33	10	125
	Cull	1	1	33	29	19	83
	Total	8	21	277	126	54	486
39% stayed the same							
	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Hogget	Top	2	1	9		2	14
	Stud	2	10	32	8	3	55
	2nd	3	9	184	74	27	297
	Sale	1	1	41	28	6	77
	Cull			11	15	16	42
	Total	8	21	277	125	54	485
49% stayed the same							
	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Adult 2	Top	2	5	8	1		16
	Stud	4	6	31	4	2	47
	2nd	2	10	196	78	23	309
	Sale			37	33	16	86
	Cull			5	10	13	28
	Total	8	21	277	126	54	486
51% stayed the same							
	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Adult 3	Top	4	2	6	1	1	14
	Stud	1	5	28	7	1	42
	2nd	2	11	191	56	14	274
	Sale		3	49	50	18	120
	Cull	1		3	12	20	36
	Total	8	21	277	126	54	486
56% stayed the same							
	Grade	Adult 5					
		Top	Stud	2nd	Sale	Cull	Total
Adult 4	Top	2	4	2		1	9
	Stud	2	3	22	3	1	31
	2nd	1	13	191	50	5	260
	Sale	2	1	53	49	17	122
	Cull	1		9	23	30	63
	Total	8	21	277	125	54	485
57% stayed the same							

AMSEA Classer Grade Results

Pingelly 2017 Drop – AMSEA Grade – Preston Clark/Mitch Crosby Measured LIFETIME Performance by Grade (Drop Level) –Average Lifetime CFW, FD, SL, SS, WT, EMD, WR, A5 MP+ Index followed by Average Lifetime Scored Dag, Bdwr, Char, Col, Flrot, Dust, Legs, Back, Face, Spig, Jaw

<i>Age: 9.5m Wool: 9.5m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Post Weaning Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	33	3.5	18.3	99	33	59	2.5	24	4.4	104	108	-0.2	-0.1	2.3	98	-0.3	-0.7	97	5.0
Flock	324	3.3	18.5	99	31	61	2.8	25	4.5	101	103	0.0	0.2	0.7	102	0.0	0.0	101	1.9
Cull	125	3.0	18.2	97	29	59	2.9	25	4.2	97	94	-0.3	-1.7	-1.9	99	0.1	0.1	94	-1.9
Total/Ave	482	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											14	0.1	1.5	4.2	-2	-0.4	-0.8	3	7

<i>Age: 9.5m Wool: 9.5m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Post Weaning Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	33	2.7	1.6	2.4	2.5	1.0	2.5	1.8	2.5	2.2	2.4	1.0
Flock	324	2.6	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.2	2.2	1.0
Cull	125	2.4	1.4	2.9	2.7	1.1	2.8	1.9	2.3	2.1	2.3	1.0
Total/Ave	482	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.2	0.1	-0.5	-0.2	0.0	-0.3	-0.1	0.2	0.1	0.1	0.0

<i>Age: 17m W: 7.5m</i>		Raw Data - Average LT Performance									Raw Data - Deviation from Average LT Performance								
Hogget Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D
Top	137	3.5	18.3	100	32	62	2.8	25	4.4	104	108	-0.2	1.1	1.2	104	0.0	0.0	97	5.4
Flock	288	3.2	18.5	99	30	60	2.8	25	4.5	99	100	0.0	0.0	0.0	100	0.0	0.0	100	0.0
Cull	60	2.8	18.2	93	29	59	2.9	25	4.4	94	88	-0.3	-5.5	-1.9	99	0.1	-0.1	98	-4.3
Total/Ave	485	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100
<i>Diff Top to Bottom</i>											19	0.1	6.5	3.1	5	-0.4	0.1	-1	10

<i>Age: 17m W: 7.5m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Hogget Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	137	2.5	1.6	2.5	2.4	1.0	2.5	1.8	2.4	2.2	2.3	1.0
Flock	288	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
Cull	60	2.5	1.4	3.1	2.9	1.1	2.9	1.9	2.3	2.1	2.1	1.0
Total/Ave	485	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.1	0.1	-0.6	-0.5	-0.1	-0.4	-0.2	0.1	0.1	0.1	0.0

<i>Age: 2.5y W: 12m</i>	Raw Data - Average LT Performance										Raw Data - Deviation from Average LT Performance									
Adult 2 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D	
Top	80	3.6	18.5	100	31	63	2.7	25	4.0	105	113	0.0	1.7	0.2	105	-0.1	-0.1	89	5.9	
Flock	336	3.2	18.5	99	31	61	2.9	25	4.5	99	100	0.0	-0.1	0.1	101	0.0	0.0	100	0.7	
Cull	77	2.9	18.1	95	30	57	2.7	25	4.7	96	90	-0.4	-3.3	-0.3	95	-0.1	0.0	104	-2.6	
Total/Ave	493	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100	
<i>Diff Top to Bottom</i>											24	0.4	5.0	0.5	10	0.0	-0.1	-15	8	

<i>Age: 2.5y W: 12m</i>	Raw Data – Average Lifetime Performance – Visual Scores											
Adult 2 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	80	2.6	1.6	2.4	2.4	1.0	2.5	1.7	2.4	2.2	2.3	1.0
Flock	336	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.1	2.2	1.0
Cull	77	2.5	1.5	2.9	2.8	1.1	2.8	2.0	2.3	2.1	2.1	1.0
Total/Ave	493	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.1	0.2	-0.5	-0.4	0.0	-0.4	-0.3	0.1	0.1	0.2	0.0

<i>Age: 3.5y W: 12m</i>	Raw Data - Average LT Performance										Raw Data - Deviation from Average LT Performance									
Adult 3 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D	
Top	81	3.6	18.3	100	31	64	2.8	25	4.2	107	112	-0.2	1.4	1.0	106	0.0	0.1	94	8.5	
Flock	325	3.2	18.5	98	31	60	2.8	25	4.5	99	101	0.0	-0.3	0.2	100	0.0	0.0	100	0.8	
Cull	87	2.9	18.3	96	29	58	2.9	25	4.5	94	91	-0.2	-2.2	-1.1	98	0.0	0.0	100	-4.7	
Total/Ave	493	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100	
<i>Diff Top to Bottom</i>											21	0.1	3.6	2.1	9	0.0	0.1	-7	13	

<i>Age: 3.5y W: 12m</i>	Raw Data – Average Lifetime Performance – Visual Scores											
Adult 3 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	81	2.5	1.6	2.5	2.4	1.1	2.5	1.7	2.4	2.3	2.3	1.0
Flock	325	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
Cull	87	2.5	1.4	3.0	2.8	1.1	2.8	2.0	2.2	2.1	2.2	1.0
Total/Ave	493	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		0.0	0.2	-0.5	-0.3	0.0	-0.3	-0.3	0.2	0.2	0.2	0.0

<i>Age: 4.5y W: 12m</i>		Raw Data - Average LT Performance										Raw Data - Deviation from Average LT Performance									
Adult 4 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D		
Top	81	3.5	18.4	99	31	63	2.8	25	3.8	102	109	-0.1	0.8	0.3	105	0.0	0.2	85	3.6		
Flock	307	3.2	18.5	98	31	61	2.9	25	4.5	100	100	0.0	-0.2	0.2	101	0.1	0.1	100	1.0		
Cull	104	3.1	18.3	97	30	58	2.7	24	4.8	98	96	-0.2	-1.7	-0.6	96	-0.2	-0.5	107	-1.1		
Total/Ave	492	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100		
<i>Diff Top to Bottom</i>											<i>13</i>	<i>0.1</i>	<i>2.5</i>	<i>0.9</i>	<i>9</i>	<i>0.1</i>	<i>0.7</i>	<i>-22</i>	<i>5</i>		

<i>Age: 4.5y W: 12m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Adult 4 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	81	2.6	1.5	2.5	2.4	1.0	2.5	1.8	2.3	2.2	2.3	1.0
Flock	307	2.5	1.5	2.7	2.5	1.1	2.7	1.8	2.3	2.1	2.2	1.0
Cull	104	2.5	1.4	2.8	2.8	1.1	2.8	1.9	2.4	2.2	2.2	1.0
Total/Ave	492	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		<i>0.1</i>	<i>0.1</i>	<i>-0.3</i>	<i>-0.4</i>	<i>-0.1</i>	<i>-0.3</i>	<i>-0.2</i>	<i>-0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>

<i>Age: 5.5y W: 12m</i>		Raw Data - Average LT Performance										Raw Data - Deviation from Average LT Performance									
Adult 5 Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+	CFW%	FDD	SLD	SSD	WT%	FATD	EMDD	WR%	MP+D		
Top	69	3.5	18.3	99	31	61	2.9	25	3.5	102	109	-0.2	0.1	0.9	103	0.1	0.4	79	2.9		
Flock	305	3.3	18.4	98	31	60	2.8	25	4.5	100	101	-0.1	-0.4	0.2	100	0.0	-0.1	99	1.7		
Cull	118	3.0	18.4	98	30	60	2.8	25	4.9	97	95	-0.1	-0.5	-0.7	101	0.0	-0.1	110	-2.1		
Total/Ave	492	3.2	18.4	98	31	60	2.8	25	4.5	100	3.2	18.4	98	31	60	2.8	25	4.5	100		
<i>Diff Top to Bottom</i>											<i>14</i>	<i>-0.1</i>	<i>0.6</i>	<i>1.6</i>	<i>2</i>	<i>0.1</i>	<i>0.4</i>	<i>-31</i>	<i>5</i>		

<i>Age: 5.5y W: 12m</i>		Raw Data – Average Lifetime Performance – Visual Scores										
Adult 5 Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Legs	Back	Face	Spig	Jaw
Top	69	2.5	1.6	2.4	2.2	1.0	2.4	1.7	2.3	2.2	2.1	1.0
Flock	305	2.6	1.5	2.7	2.5	1.1	2.6	1.8	2.3	2.2	2.2	1.0
Cull	118	2.4	1.5	2.8	2.9	1.1	2.8	2.0	2.3	2.1	2.3	1.0
Total/Ave	492	2.5	1.5	2.7	2.6	1.1	2.7	1.8	2.3	2.2	2.2	1.0
<i>Diff Top to Bottom</i>		<i>0.1</i>	<i>0.2</i>	<i>-0.5</i>	<i>-0.7</i>	<i>0.0</i>	<i>-0.4</i>	<i>-0.2</i>	<i>0.0</i>	<i>0.2</i>	<i>-0.1</i>	<i>0.0</i>

Pingelly 2017 Drop –AMSEA Grade Change Over Time – Preston Clark Post Weaning & Hogget /Mitch Crosby Adult 2 to Adult 5

	Grade	Hogget			
		Top	Flock	Cull	Total
Post Weaning	Top	16	14	3	33
	Flock	108	195	15	318
	Cull	10	73	40	123
	Total	134	282	58	474
53% stayed the same					

	Grade	Adult 2			
		Top	Flock	Cull	Total
Hogget	Top	48	78	8	134
	Flock	30	212	40	282
	Cull		34	23	57
	Total	78	324	71	473
60% stayed the same					

	Grade	Adult 3			
		Top	Flock	Cull	Total
Adult 2	Top	34	40	5	79
	Flock	40	234	55	329
	Cull	6	43	24	73
	Total	80	317	84	481
61% stayed the same					

	Grade	Adult 4			
		Top	Flock	Cull	Total
Adult 3	Top	28	40	12	80
	Flock	48	218	50	316
	Cull	4	45	35	84
	Total	80	303	97	480
59% stayed the same					

	Grade	Adult 5			
		Top	Flock	Cull	Total
Adult 4	Top	24	43	13	80
	Flock	38	197	66	301
	Cull	5	57	35	97
	Total	67	297	114	478
54% stayed the same					

Pingelly 2017 Drop –AMSEA Grade Change Over Time – Preston Clark Post Weaning (P) & Hogget /Mitch Crosby Adult 2 to Adult 5

	Grade	Adult 5			
		Top	Flock	Cull	Total
Post Weaning	Top	7	20	6	33
	Flock	49	203	70	322
	Cull	12	75	38	125
	Total	68	298	114	480
52% stayed the same					

	Grade	Adult 5			
		Top	Flock	Cull	Total
Hogget	Top	33	78	22	133
	Flock	32	183	66	281
	Cull	2	33	23	58
	Total	67	294	111	472
51% stayed the same					

	Grade	Adult 5			
		Top	Flock	Cull	Total
Adult 2	Top	24	41	13	78
	Flock	38	215	75	328
	Cull	6	41	26	73
	Total	68	297	114	479
55% stayed the same					

	Grade	Adult 5			
		Top	Flock	Cull	Total
Adult 3	Top	26	40	13	79
	Flock	38	213	66	317
	Cull	4	45	35	84
	Total	68	298	114	480
57% stayed the same					

	Grade	Adult 5			
		Top	Flock	Cull	Total
Adult 4	Top	24	43	13	80
	Flock	38	197	66	301
	Cull	5	57	35	97
	Total	67	297	114	478
54% stayed the same					

Appendix – Exploring Consolidated AMSEA and Professional Class Grades

This appendix evaluates the long-term productivity of ewes based on their first two AMSEA and Professional classer grades. By analysing the lifetime performance of animals designated as either 'retained' or 'removed' during early assessments, this work illustrates the impact of visual selection on flock performance over the lifetime of that flock.

Pingelly 2017 Drop – AMSEA Grade – Preston Clark Measured LIFETIME Performance by Grade (Drop Level) – Average Lifetime CFW, FD, SL, SS, WT, EMD, WR, A5 MP+ Index - followed by Ave LT Scored Dag, Bdwr, Char, Col, Flrot, Dust, Back, Legs, Face, Spig, Jaw

AMSEA Class – Post Weaning

Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+
Top/Flock	357	3.3	18.5	99	31	61	2.8	25	4.5	101
Cull	125	3.0	18.2	97	29	59	2.9	25	4.2	97
Total	482	3.2	18.4	98	31	60	2.8	25	4.5	100

Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Back	Legs	Face	Spig	Jaw
Top/Flock	357	2.56	1.51	2.65	2.53	1.06	2.60	2.34	1.82	2.16	2.19	1.01
Cull	125	2.44	1.43	2.86	2.67	1.08	2.81	2.26	1.89	2.13	2.26	1.01
Tot/Ave	482	2.54	1.49	2.71	2.57	1.06	2.66	2.33	1.83	2.16	2.21	1.01

AMSEA Class – Hogget

Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+
Top/Flock	416	3.3	18.5	99	31	61	2.8	25	4.5	100
Cull	58	2.8	18.2	93	29	59	2.9	25	4.4	94
Total	476	3.2	18.4	98	31	60	2.8	25	4.5	100

Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Back	Legs	Face	Spig	Jaw
Top/Flock	419	2.54	1.49	2.66	2.52	1.05	2.62	2.32	1.82	2.17	2.22	1.01
Cull	59	2.47	1.45	3.05	2.90	1.15	2.88	2.33	1.95	2.06	2.14	1.02
Tot/Ave	478	2.54	1.49	2.71	2.57	1.06	2.66	2.33	1.83	2.16	2.21	1.01

Pingelly 2017 Drop – Professional Class – Nathan King Measured LIFETIME Performance by Grade (Drop Level) – Average Lifetime CFW, FD, SL, SS, WT, EMD, WR, A5 MP+ Index - followed by Ave LT Scored Dag, Bdwr, Char, Col, Flrot, Dust, Back, Legs, Face, Spig, Jaw

Prof Class – Post Weaning

Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+
Top Stud Second	278	3.3	18.4	99	31	61	2.8	25	4.6	101
Sale	125	3.2	18.5	98	30	60	2.9	25	4.3	99
Cull	83	3.1	18.5	97	29	57	2.8	24	4.0	95
Total	486	3.2	18.4	98	31	60	2.8	25	4.5	100

Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Back	Legs	Face	Spig	Jaw
Top Stud Second	278	2.56	1.50	2.63	2.53	1.05	2.61	2.36	1.81	2.16	2.24	1.01
Sale	125	2.43	1.46	2.80	2.59	1.08	2.67	2.29	1.82	2.10	2.14	1.00
Cull	83	2.61	1.48	2.82	2.67	1.07	2.80	2.25	1.93	2.23	2.21	1.02
Tot/Ave	486	2.54	1.49	2.71	2.57	1.06	2.66	2.33	1.83	2.16	2.21	1.01

Prof Class – Hogget

Grade	Count	CFW	FD	SL	SS	WT	FAT	EMD	WR	MP+
Top Stud Second	366	3.3	18.4	99	31	61	2.8	25	4.5	101
Sale	77	3.2	18.5	97	30	60	2.9	25	4.4	98
Cull	42	3.0	18.6	95	29	57	2.7	24	3.9	93
Total	485	3.2	18.4	98	31	60	2.8	25	4.5	100

Grade	Count	Dag	Bdwr	Char	Col	Flrot	Dust	Back	Legs	Face	Spig	Jaw
Top Stud Second	366	2.54	1.51	2.64	2.51	1.05	2.61	2.33	1.82	2.16	2.24	1.01
Sale	77	2.52	1.43	2.86	2.69	1.08	2.74	2.32	1.83	2.12	2.13	1.00
Cull	42	2.58	1.37	2.97	2.90	1.14	2.88	2.30	1.97	2.18	2.10	1.00
Tot/Ave	485	2.54	1.49	2.71	2.57	1.06	2.66	2.33	1.83	2.16	2.21	1.01