

Fast tracking genetic progress – The latest tools and technology to maximise gain

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The 1955 Flood and how it relates to genetics



Picture Gilgandra - Gilgandra Shire Library





The 1955 Flood and how it relates to genetics



↓ DOHNE+ ⓘ	PWT ⓘ	YCFW ⓘ	YFD ⓘ	YEMD ⓘ	YFAT ⓘ
196.56	6.73	7.94	-0.23	0.55	-0.43
ACC. 58	ACC. 74	ACC. 70	ACC. 83	ACC. 68	ACC. 65
TOP 5%	TOP 20%				



Today's Presentation - Fast-tracking genetic progress

1. Tomorrow's World of Genetics: A Preview

2. Genetics Research and Development:
Building the Future Today

3. Genetic Products: From Theory to Practice

Genetics Research and
Development

Accessing and
delivering genetic tools

Practical Products
for on-farm use

Genetics
R&D and
New Trait
Capture

Developing
the Engine
behind
Sheep
Genetics

agbu

Delivery of
breeding values

sheep GENETICS

Users of
breeding values

Seedstock
breeders

Ram Buyers

1. Tomorrow's World of Genetics: A Preview

1.1. What does the future look like for sheep breeding



“To describe the genetic merit of ALL sheep using world-leading genetic products that facilitate genetic progress”

1.2 What does that mean: at a ram sale



What traits?

*What animals can we
compare?*

*What will our indexes
look like?*

1.3 What does that mean: on-line, in the saleyards, with processors?

		
10011242 - 180 Store Wether Lambs BATHURST, New South Wales NAJAKY PTY LTD • 100% Merino / Merino • 37.4kg live • 180 Store Merino Wether Lambs. 39.4kg Full at assessment. Roseville Park blood. Vendor bred. November shorn. 2 inch skin. Suitable feeder lambs, restockers or wool growing producers. Assessed	10011277 - 550 Mixed Sex Store Lambs NIMMITABEL, New South Wales MACLAUGHLIN RIVER PASTORAL COMPANY • 50% Poll Dorset / COMPOSITE • 38.6kg live • 2ND X LAMBS BY POLL DORSET & WHITE SUFFOLK RAMS. THESE LAMBS ARE AUGUST / SEPTEMBER DROP, JANUARY SHORN AND PRESENT IN IDEAL FRESH CONDITION TO TAKE FORWARD. WHP/ESI Assessed	10011208 - 28 Ewes HERMIDALE, New South Wales KR & NA SPEARS • 82% White Dorper / White Dorper • 45.4kg live • 28 WHITE DORPER EWE LAMBS. JULY 2024 DROP. UNJOINED. AVG 48KG. AMARULA, BURRAWANG & DUSTY DOWNS GENETICS. Assessed
 BOWLER & LIVERMORE PTY LTD	 ELDERS COOMA	 GRANT DANIEL & LONG CUNNAMULLA

*Animals sold with
descriptions of genetic
merit
...and valued accordingly*

1.4 What does that mean: for individual animals

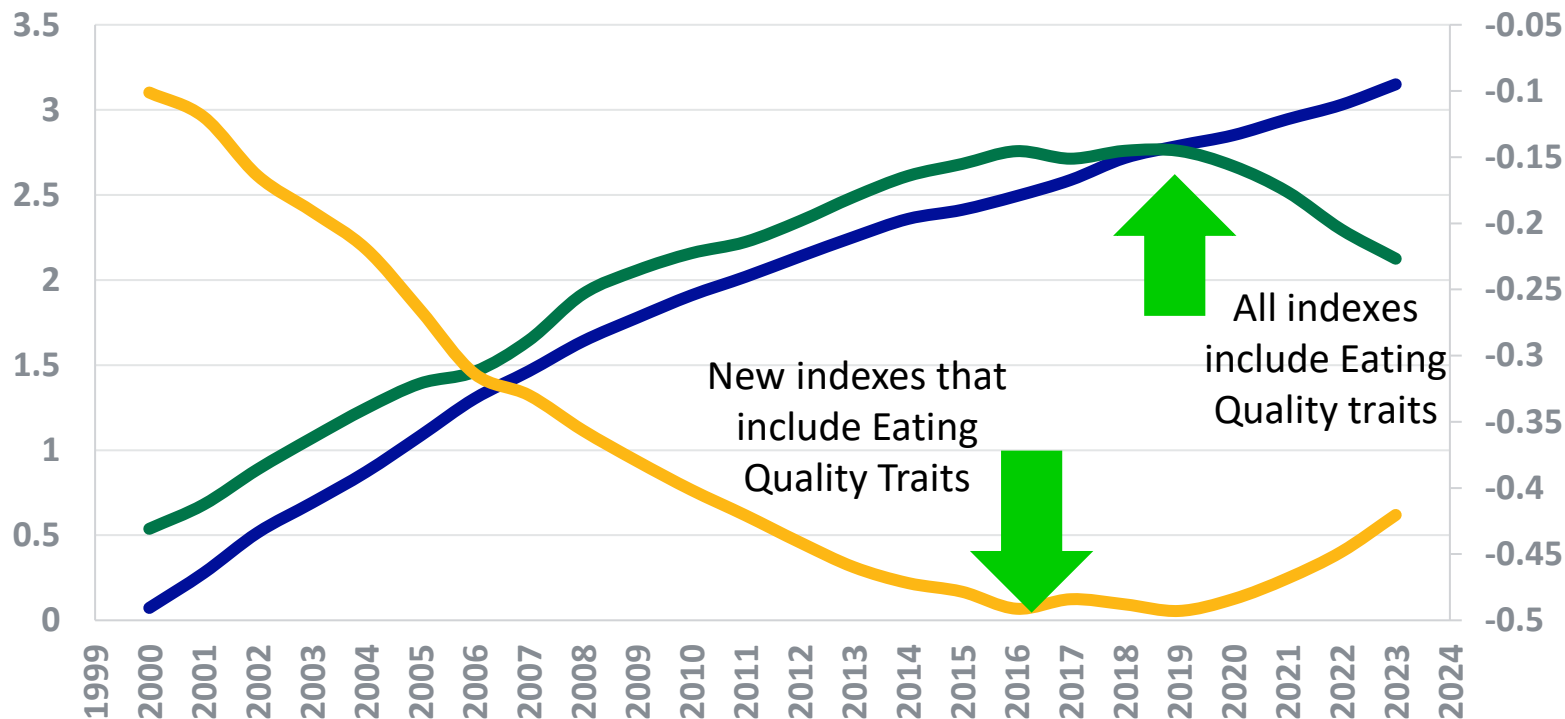


*Within flock selection of
future parents*

*Utilising data from on-
farm collection to inform
genetic decisions*

2. Genetics Research and Development: Building the Future Today

2.1 What have we been able to do with ASBVs for Eating Quality (EQ) Indicator Traits?



2.1 Future Eating Quality Traits

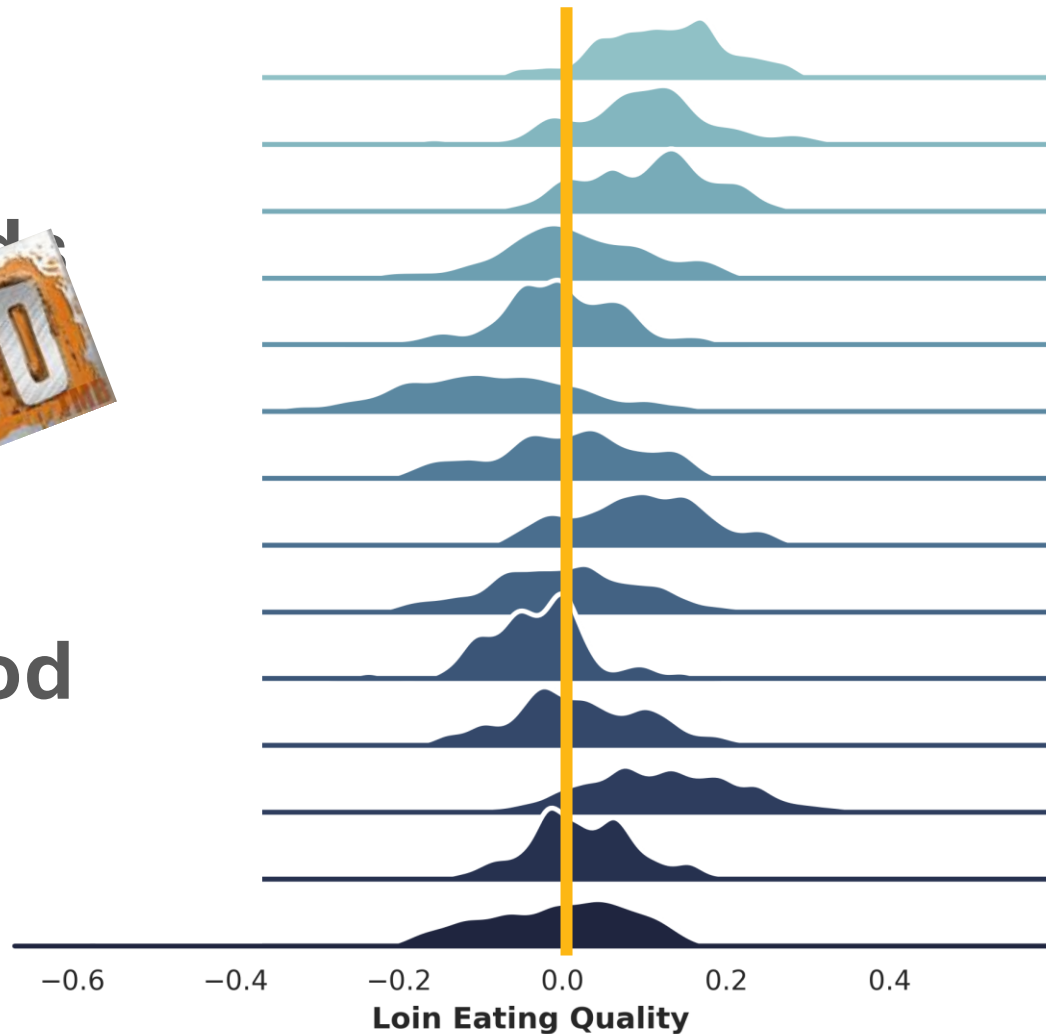
**Intramuscular
Fat (IMF)**

**Shear Force
(SF5)**

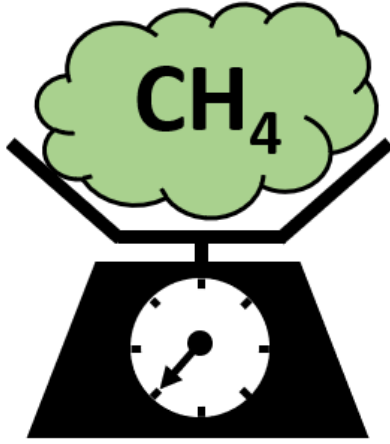
**Consumer
Satisfaction
Australian Sheep
Breeding Value
(ASBV)**

Myth: Some breeds
are much better
eating quality than
others from
breed X I have good
eating quality.

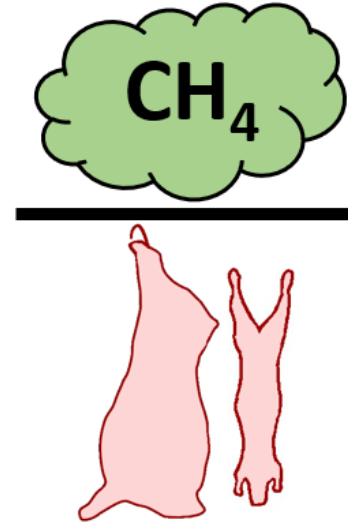
MYTH BUSTED



2.2 Breeding Efficient Animals



Methane
Production

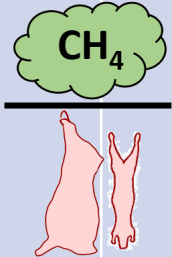
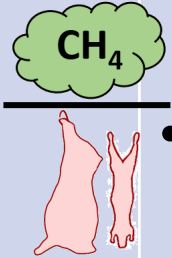


Methane
Intensity

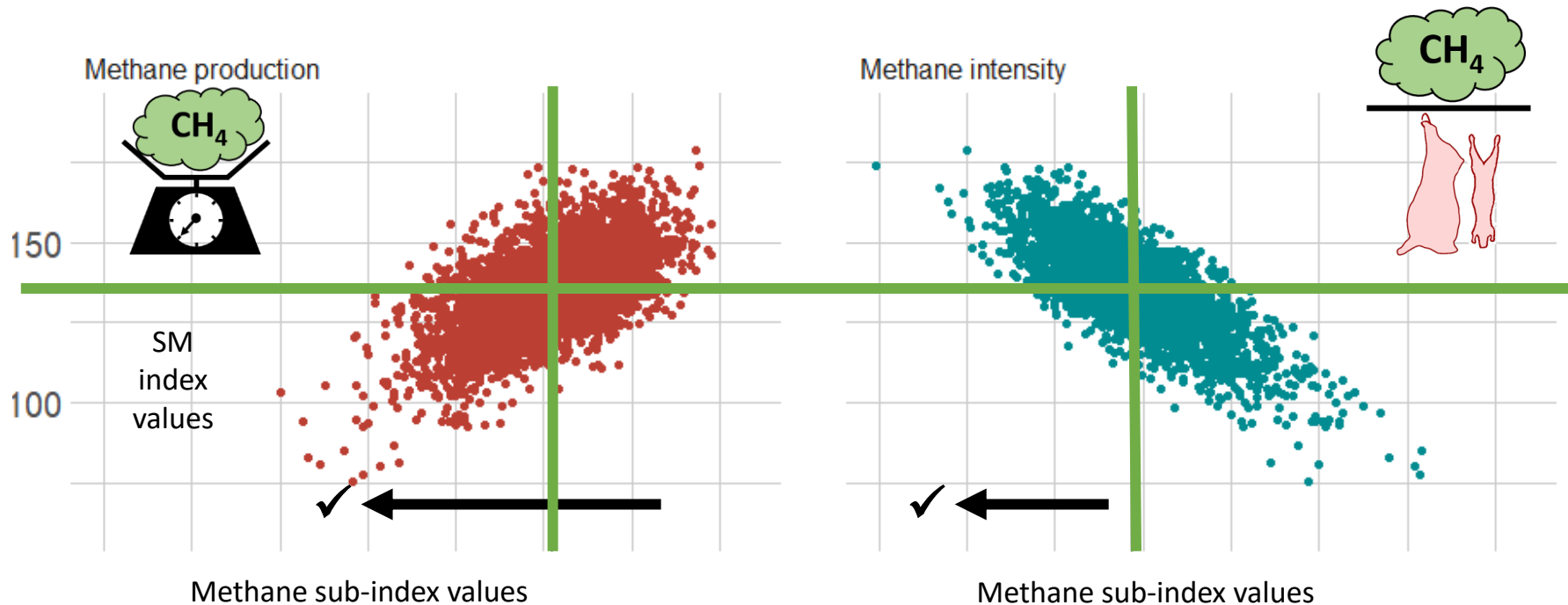
2.2 The Journey to create a breeding value



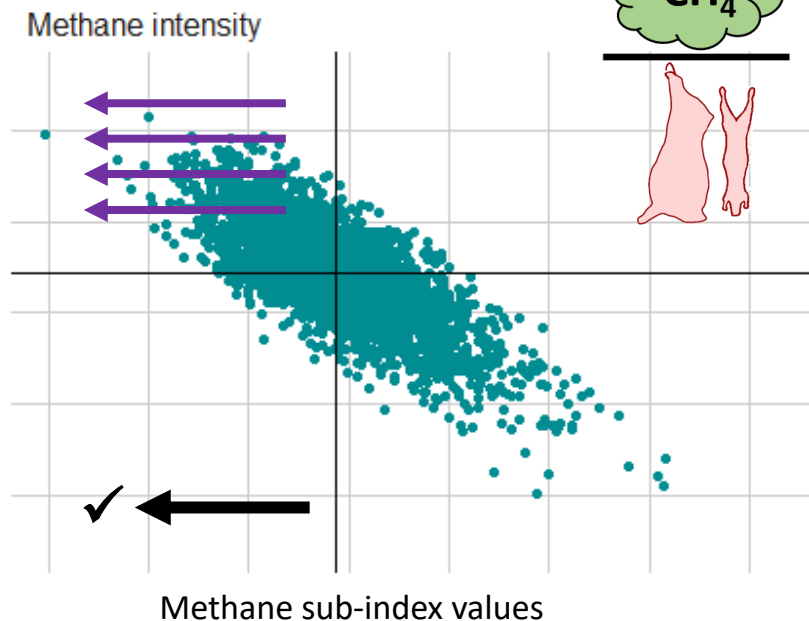
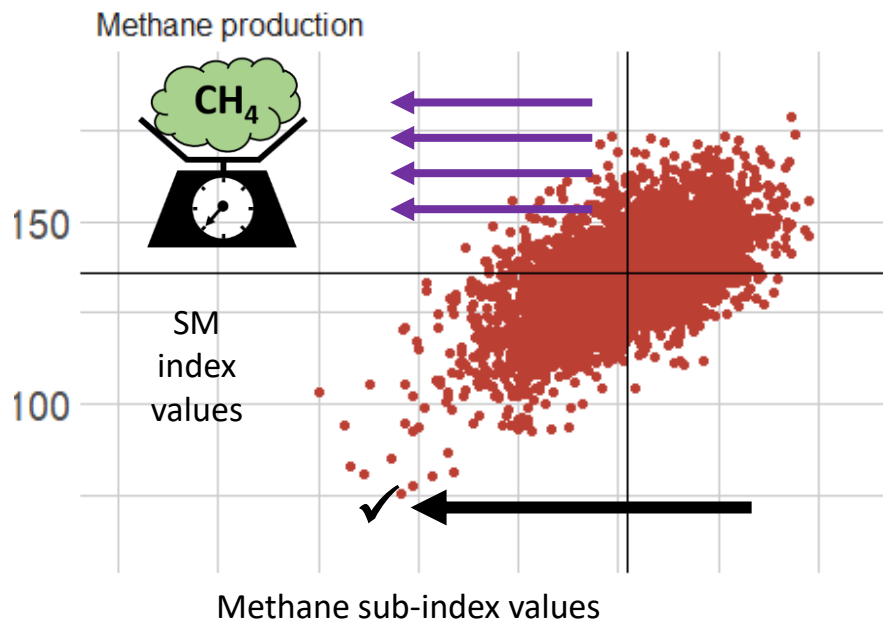
2.2 What are we doing now with our indexes?

Terminal Sire Breeds	Maternal Sire Breeds	Merinos
• Faster growth • Improved Lean Meat Yield • Better Quality Meat  	• Faster growth • Lower mature size • Improved reproduction  	• Faster growth • Improved reproduction • Improved wool quality and quantity • Mature size? 

2.2 What are our new MERINOSELECT indexes doing?

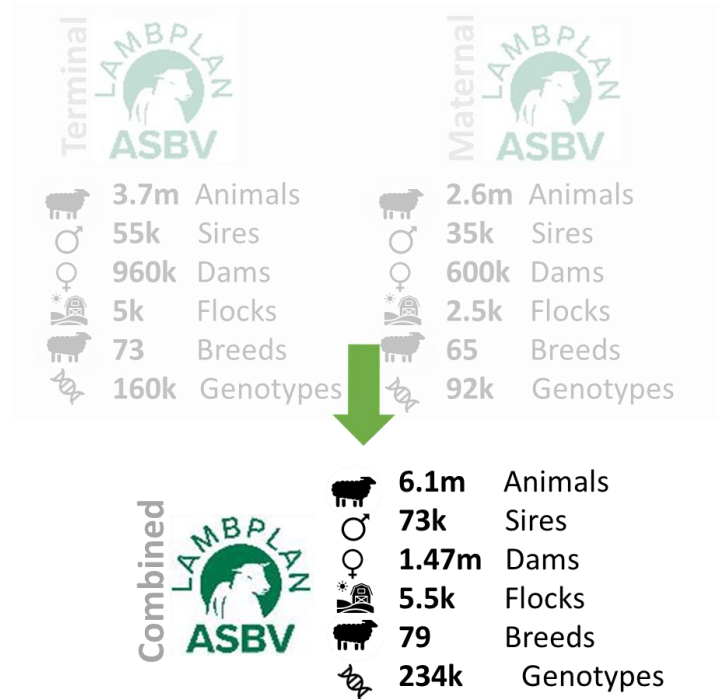


2.2 What will we be able to do with methane breeding values?



2.3 A Combined LAMBPLAN Analysis

- Completely comparable ASBVs for Terminals and Maternals
 - Simplify for commercial ram buyers
- Research results available in 2025
- 2026 rams sales will be using the new analysis



3. Genetic Products: From Theory to Practice

3.1 The Sheep Genetics Offering is expanding

ASBVs and Indexes

- Across Flock Comparison
- Use to purchase rams/semen

Genomic Only Commercial Products (Merino)

- Within Flock Ranking Only
- Less information contributing
- Use to select rams (and potentially ewes)

Flock Profile (Merino)

- Flock level snapshot
- Not individual animal
- Use to help select rams to bring in

3.2 Genomic Only Commercial Animal Products

C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
VID	ycfw	ycuv	ysl	pwt	ywt	yfat	yemd	DP	MP	FP	yfd	ydcv	ebwr	pfec
220143	1	8	9	8	8	8	9	8	4	6	6	10	10	1
220178	10	8	7	10	10	1	2	10	10	10	10	8	4	7
220076	6	5	4	10	10	2	4	10	9	8	7	1	9	3
220224	10	1	9	4	5	3	3	4	7	7	3	8	7	3
220043	8	2	8	10	10	3	4	10	10	10	5	10	10	3
220054	4	9	1	7	7	1	1	8	7	8	9	6	1	6
220187	7	4	7	2	2	1	3	4	8	9	10	8	3	8
220217	5	7	10	6	8	7	3	6	5	4	6	7	6	10
220124	7	1	8	2	2	3	2	2	3	4	2	3	5	5
220077	5	2	8	10	9	5	2	10	8	8	3	9	10	4
220139	9	2	3	9	8	1	3	10	9	8	3	4	1	2
220211	4	4	1	4	4	4	3	7	9	10	10	4	3	10
220182	10	2	2	8	7	6	4	7	9	9	6	6	6	7
220221	8	4	6	7	8	1	2	9	9	9	7	7	7	6
220045	6	8	10	5	4	2	5	4	5	7	5	10		
220069	8	5	4	9	8	3	4	9	9	8	3	9	4	3
220205	10	2	7	7	7	8	1	9	10	8	2	4	10	4
220006	7	5	9	10	9	1	1	9	9	10	8	10	7	7
220193	5	6	7	9	8	2	3	8	6	6	7	2	4	8
220006	7	5	9	10	9	1	1	9	9	10	8	10	7	7
220002	7	3	5	4	5	5	5	7	8	9	7	9	5	10
220149	3	10	1	2	4	6	7	5	6	8	10	2	2	9
220133	5	7	2	3	5	4	3	5	6	8	8	8	4	6
220164	10	2	8	7	7	1	2	7	6	3	1	1	7	3
220056	5	8	2	7	7	1	3	8	9	10	8	10	1	8
220078	10	3	3	2	2	3	4	4	10	10	9	1	1	8
220158	7	9	2	10	10	5	3	10	10	9	5	4	3	2
220023	3	7	7	10	10	4	7	10	7	7	8	4	5	4

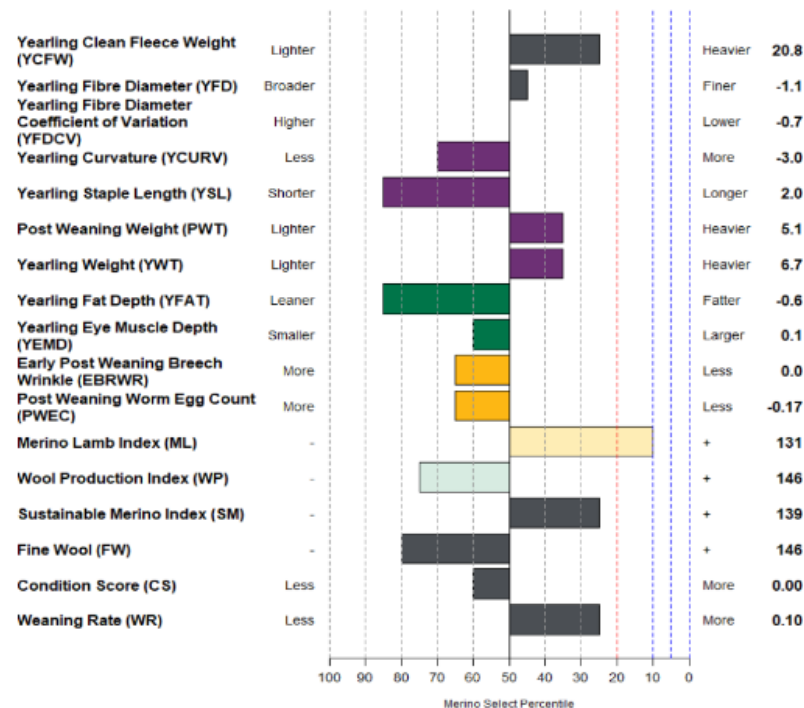
ID	Fleece Weight	Index
220143	1	8
220178	10	8
220076	6	5
220224	10	1
220043	8	2
220054	4	9
220187	7	3

3.3 Merino Flock Profile

Client:
Date: 06/03/2022
Flock Drop: 5 2022



Flock Profile



Your Flock Profile values are displayed in the far right hand column. The diagram shows how your flock compares to flock averages in the MERINOSELECT database. Note that the 100th percentile is the bottom value, 50th percentile is the average and zero percentile is top value of flocks in MERINOSELECT. If you do not see a bar for a trait or index, your Flock Profile sits in the 50% percentile. To achieve gain in desired traits or indexes, select rams with ASBVs higher than your Flock Profile value. Results are subject to change slightly as predictions update over time.

3.4 How they all fit together



Nutrition Information		
	Per 100 g	*Reference Intakes
Energy	2196 kJ 525 kcal	8400 kJ 2000 kcal
Fat	29 g	70 g
of which Saturates	16 g	20 g
Carbohydrate	61 g	260 g
of which Sugars	56 g	90 g
Fibre	1.6 g	-
Protein	3.8 g	50 g
Salt	0.36 g	6 g

*Reference intake of an average adult



ASBVs and
Indexes
meatup
FORUM

Genomic Only
Products

Flock Profile

3.4 What about the future of these products

ASBVs and Indexes

- 2027 there will be just 2 evaluations
- Latest and new BVs

Genomic Only Products

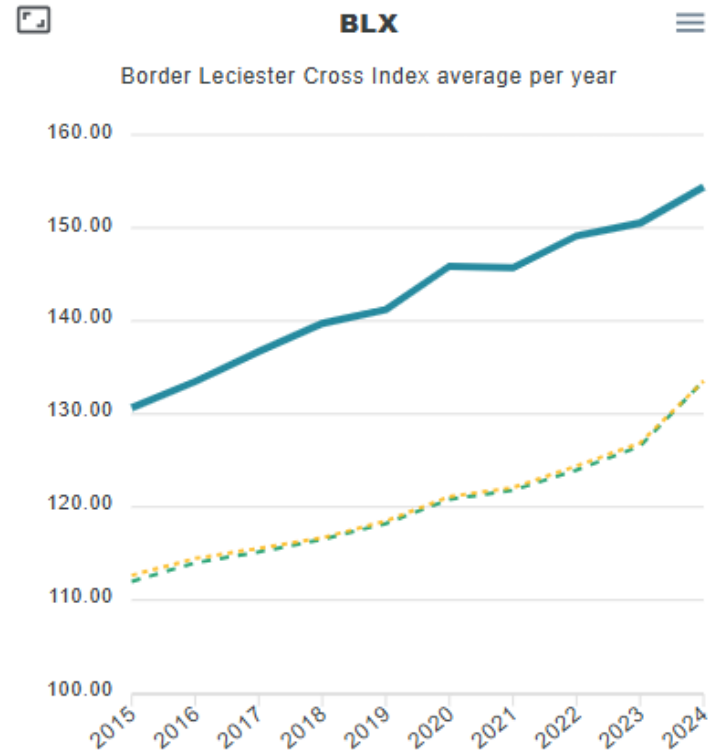
- Will be expanded to new breeds

Flock Profile

- Will be expanded to new breeds

3.5 What can you do now!

1. Have a breeding objective
2. Purchase rams with a label (ASBVs and Indexes)
3. TRACK YOUR RAM TEAM!



Key Take Homes

1. Consider the future state and make selection decisions now that set your business up for success

2. A combined LAMBPLAN evaluation is part of the journey to enable genetic products for all breeds for a range of traits

3. There are a suite of genetic products available for all businesses – ASBVs, Genomic Breeding Values, Flock Profile and ram team tracking

Reaching out and keeping up-to-date

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