The power of on-farm data: What and when

Sally Martin

Sheep MetriX

meatup FORUM zoetis

mla MEAT & LIVESTOCK AUSTRALIA

What is the power of on-farm data?

- What data will benefit your business / enterprise?
- What and when you collect data? Will influence how useful it is.
- How you use the data is where you will find the power…..
  - Finding the good and/or poor performers – then what do we do with them?
  - The timing of our decisions.
- Can you use the data more than once?

RFID / EID

The eID tag is the enabler.

meatup FORUM

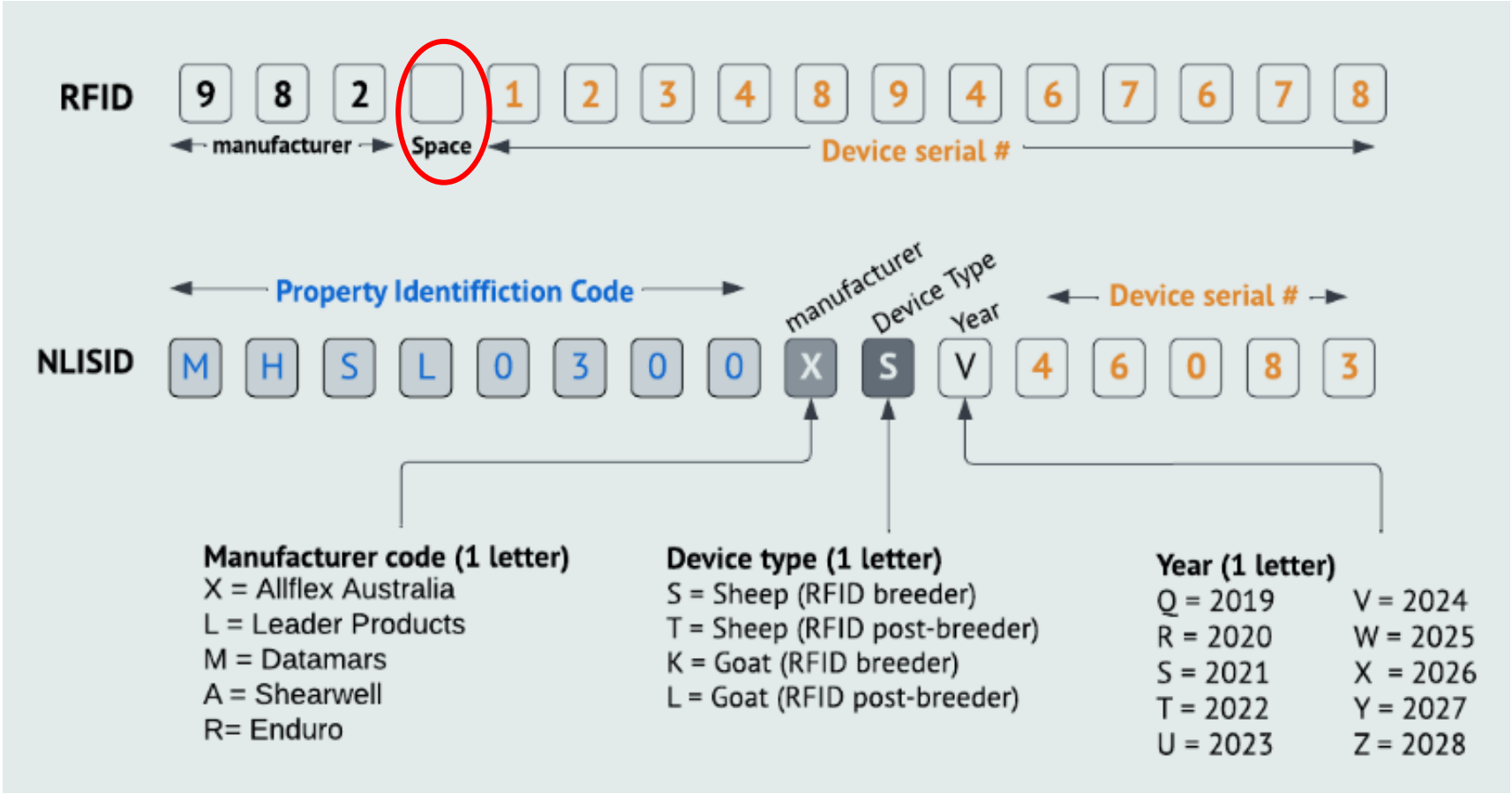
mla MEAT & LIVESTOCK AUSTRALIA

Some eID Terms

- NLIS – National Livestock Identification
- VID – Visual tag identification (tag number)
- eID – Electronic Tag (RFID)
- Stick Reader
- Indicator – scale head; weigh scale
- Panel reader
- Bucket file - eID and VID paired in excel
- Connectivity – do you need this?
- Digital literacy……

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA



meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Tags

Colour	Red	Blue	Black	White	Orange	Green	Purple	Yellow
Year	2022	2023	2024	2025	2026	2027	2028	2029

- eID tags options
  - Allflex – Rapid Tag
  - Datamars – Zee Tag
  - Leader – Multitronic
  - Shearwell – eID
  - Enduro

- **Tag placement** – super important
- Put your order in **after pregnancy scanning**
  - Tag numbering – Year + Number eg 230001

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Hardware

- Stick readers
- Panel readers
- Indicator
- Handlers/weigh crates

meatup FORUM

mla
MEAT & LIVESTOCK AUSTRALIA

What data should you collect?

- Depends on your breeding or production objective
- What type of enterprise(s) are you running?
  - Meat Focused
  - Fibre Focused
- Only collect data you are going to use
- Be able to compare across years/seasons/enterprises/time
  - Per head
  - Per hectare
  - Per kg
  - g/head/day

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Breeding objective

- It is really important to capture your breeding objective and have a clear goal on how you are going to use your data.

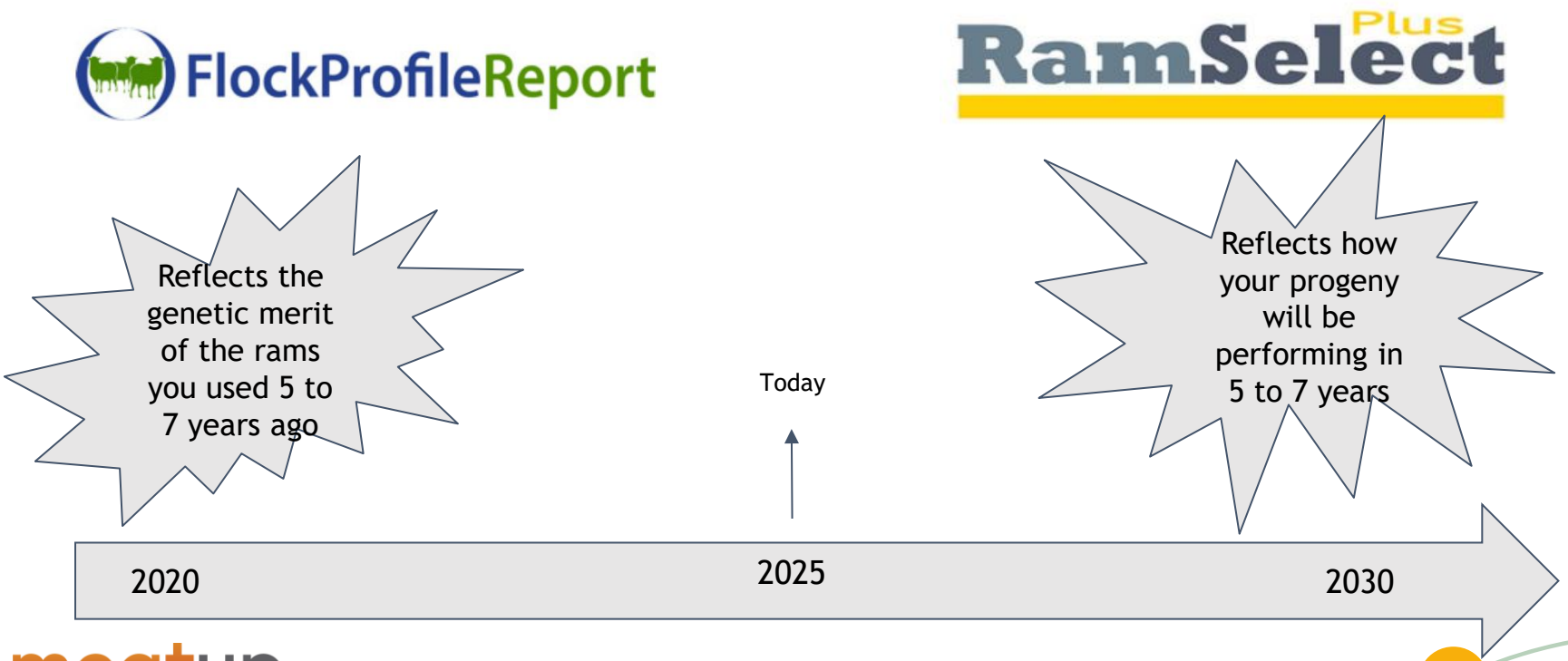
- SMART
  - Specific
  - Measurable
  - Attainable
  - Relevant
  - Time Based

Breeding Objective				
Traits	Increase	Maintain	Decrease	Measure
Fleece Weight		✓		Maidens
Micron			✓✓	Maidens
Growth Rates	✓✓✓			All up to 300 days
Mature Size		✓		Joining Wts
Reproduction	✓✓✓			Preg; Wet & Dry
Muscle & Fat	✓	✓		Rams
Worms			✓✓	Rams
Wrinkle			✓✓✓	Marking

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

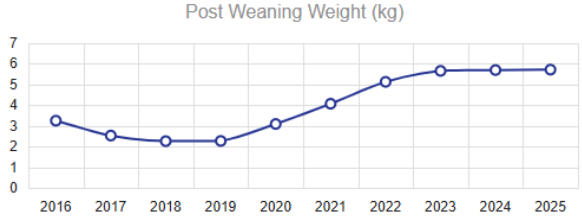
Ram Team Manager & Flock Profile

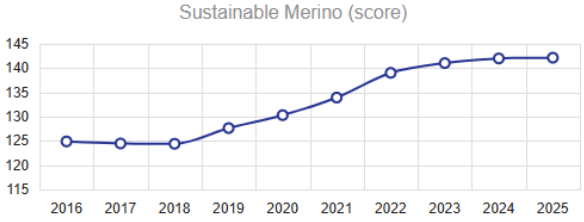


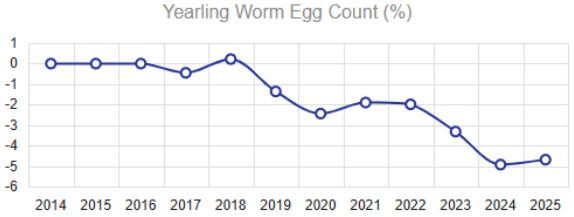
meatup FORUM

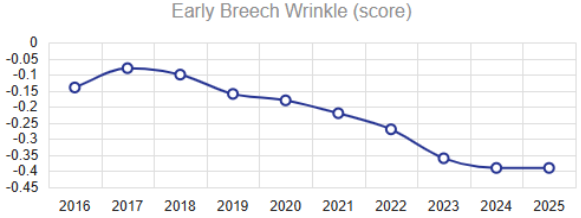
mla MEAT & LIVESTOCK AUSTRALIA

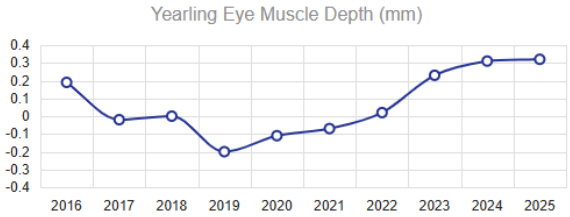
Ram Team Manager – genetic trends

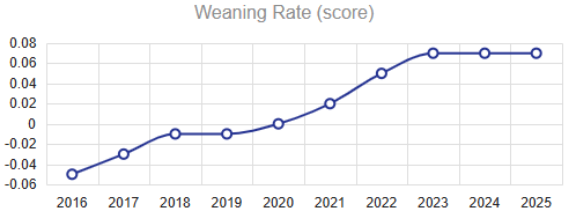


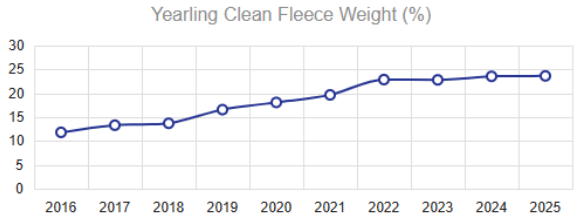


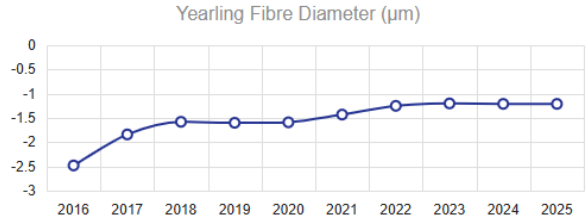












meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

When to collect data?

- When do you need data to make a decision
  - Classing/Selection
  - Joining; Pre lambing; Pre-sale
- What does your calendar look like normally?
- Can you fit data collection into your current program?
- Do you have the gear and capacity to DIY?
- Do you need to get someone in to do it for you?

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Month	2024	2025	2026	2027
January	Joining (24 Drop)	Joining (2025 Drop)	Joining (26 Drop)	Joining (2027 Drop)
February				
March				
April	Main Shearing (Collect GFWs on 2023 drop) + Preg Scan	Main Shearing (Collect GFWs on 2024 Drop + Preg Scan	Main Shearing (Collect GFWs on 2025 drop) + Preg Scan	Main Shearing (Collect GFWs on 2026 Drop) + Preg Scan
May				
June	Lambing (24 Drop) + Marking (EBWR, Age, BCOV, Paddock)	Lambing (25 Drop) + Marking (EBWR, Age, BCOV, Paddock)	Lambing (26 Drop) + Marking (EBWR, Age, BCOV, Paddock)	Lambing (27 Drop) + Marking (EBWR, Age, BCOV, Paddock)
July				
August				
September	Weaning (2024 Drop) + Classing	Weaning (2025 Drop) + Classing	Weaning (2026 Drop) + Classing	Weaning (2027 Drop) + Classing
October				
November				
December				

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Month	2023	2024	2025	2026	2027
January	Main Shearing **(Tip shear on 22 drop)**	**Joining (24 Drop)**	Main Shearing **(Tip shear on 2024 Drop)**	**Joining (26 Drop)**	Main Shearing **(Tip shear on 2026 Drop)**
February	Preg scan		Preg scan		Preg scan
March					
April	Lambing **(23 Drop) + Marking (EBWR, Age, BCOV, Paddock)**	Main Shearing **(Collect GFWs on 2023 drop) + Preg Scan**	Lambing **(25 Drop) + Marking (EBWR, Age, BCOV, Paddock)**	Main Shearing **(Collect GFWs on 2025 drop) + Preg Scan**	Lambing **(27 Drop) + Marking (EBWR, Age, BCOV, Paddock)**
May					
June		Lambing **(24 Drop) + Marking (EBWR, Age, BCOV, Paddock)**		Lambing **(26 Drop) + Marking (EBWR, Age, BCOV, Paddock)**	
July	**Weaning (2023 Drop)**		**Weaning (2025 Drop)**		**Weaning (2027 Drop)**
August	Main Shearing **(Collect GFWs on 2022 Drop)**		Main Shearing **(Collect GFWs on 2024 Drop + Tip shear on 2025 Drop)**		Main Shearing **(Collect GFWs on 2026 Drop + Tip shear on 2027 Drop)**
September	**Classing**	Weaning **(2024 Drop) + Classing**	**Classing**	**Weaning (2026 Drop) + Classing**	**Classing**
October					
November		**Joining (2025 Drop)**		**Joining (2027 Drop)**	
December					

meatup FORUM

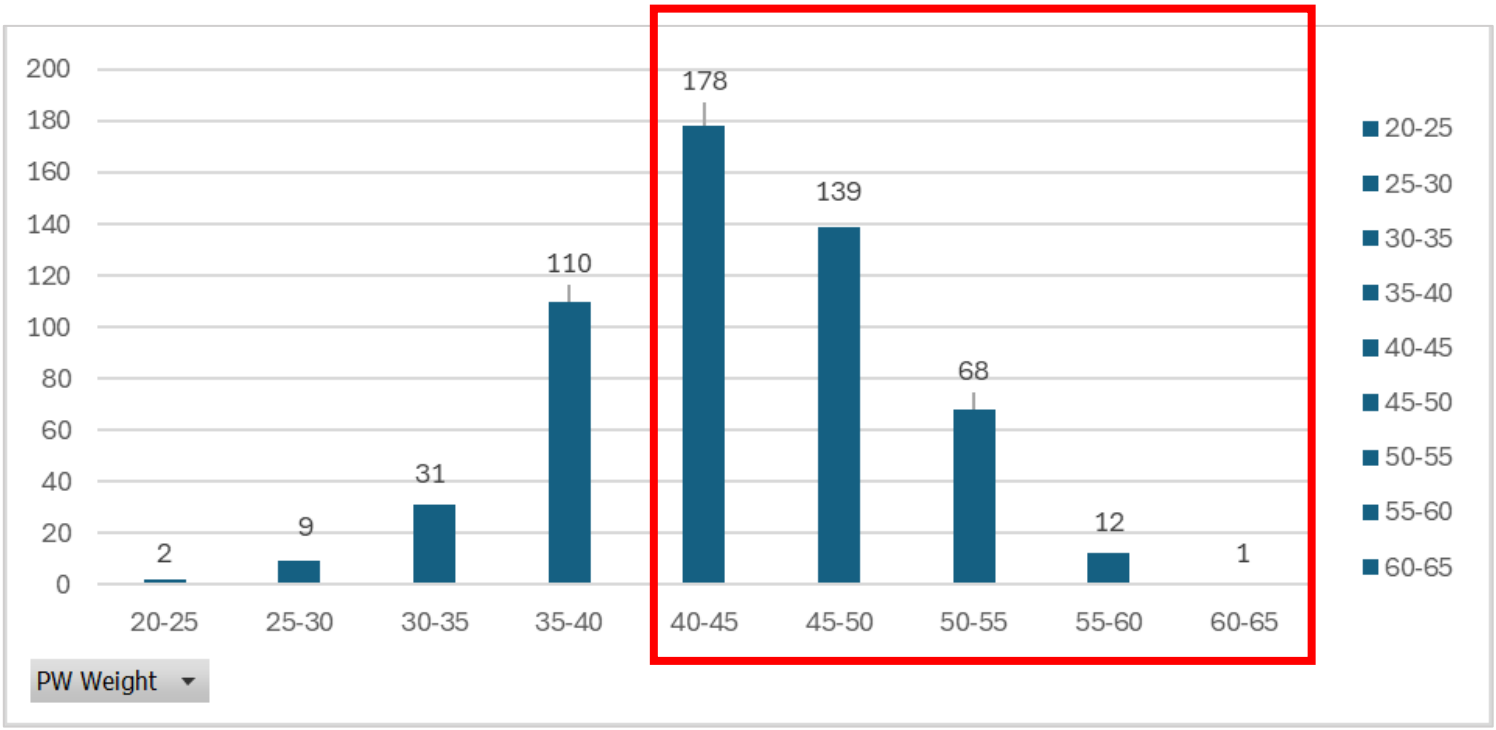
mla MEAT & LIVESTOCK AUSTRALIA

When to collect data?

Ewe Lamb Group	Count	Ave. Body Weight (kg)	ADG Weaning to 28/02/2025 (kg/hd/day)
Ewe Lamb Lambs	39	37.2	0.175
Purchased in ewes	124	47.4	0.153
MA Dam Lambs	383	42.8	0.100
Total / Average	**546**	**43.4**	**0.118**

- **Example – Joining ewe lambs**
  - Look at your calendar – what month will you join them?
  - Weaning – collect a weaning weight
  - Growth rates – set dates to weigh lambs and monitor growth rate
  - Joining weight
  - Preg scan weight
  - Pre lambing weight

Are we meeting our targets?

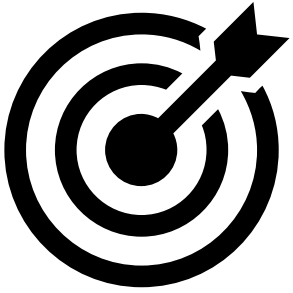


meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Data collection timing and protocols

- **Based around your calendar of operations you should have**
  - When you carry out current management/husbandry
  - This can then inform when you collect the data on the traits that are important to you breeding objective
  - And when you need the data to make decisions eg classing/mating
- **Protocols**
  - Body weights – 2 hours off feed, collect as quickly as possible
  - Fleece – min 9-10 months of age; 5 mths wool FD; 6 mths wool GFW
  - Be consistent eg mid side sample – pin bone or midside; condition scoring
  - Visual Scores – follow the score guide



meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Data capture without scanning a tag

- At lamb marking capture the tag number sequence for each mob
  - Example record birth type, dam age, paddock
    - Tags 240001 to 240250 – Twins out of Maiden ewes; Hill Paddock
    - Tags 240251 to 240700 – Single out of MA ewes; Dam Paddock
- Add these columns in your bucket file – BT, Dam Age, Paddock

	A	B	C	D	E	F
1	EID	VID	YOB	BT	DAM AGE	BT PDK
2	940 110029951161	220001	2022	2	Maiden	HILL
3	940 110029951162	220002	2022	2	Maiden	HILL
4	940 110029951163	220003	2022	2	Maiden	HILL
5	940 110029951166	220251	2022	1	MA	DAM
6	940 110029951167	220252	2022	1	MA	DAM

Data capture example cont.

- The data captured at marking can be used later – you can even draft on this information
  - Example
    - When you class the ewes you can draft and class them separately
      - Twins out of maidens, twins out of MA, single etc
      - Classing the twins first so they are not disadvantaged due to size
- Data that will require scanning a tag at marking
  - Collect the above +
    - Sex
    - Breech scores
    - Age score (eg 1 – 5)

Using the data

Class	Count	WT	CFW	FD	FLC Val	RP MP+ Index
Top	112	62.1	5.1	17.2	$104.59	110.4
2nd	112	58.9	4.8	17.6	$92.29	105.6
3rd	261	56.2	4.6	17.8	$85.89	100.7
4th	187	55.8	4.5	18.0	$81.28	94.2
CULL	74	52.8	4.5	18.6	$74.84	88.0
Total/Ave	**746**	**57.0**	**4.7**	**17.8**	**$87.41**	**100.0**

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Data use multiple times eg Preg Scanning

- Manage pre lambing; lambing paddock allocations
- Link across years
  - = Collate over time eg 0, 1, 2, 2, 0 …….01220
- How responsive is my flock (+ with condition score at joining)
- Birth type (on lambs)
  - Born in single or twin paddock
- Paddock analysis – lambing and weaning %
- Cross reference to WET & DRY @ Marking

Financial benefits of scanning for multiples

- Selling the dry sheep
- Better allocation of feed
  - Less feed to singles
  - More feed to multiples
- Better paddock to twins
  - + ewes lambs
- Use birth type when selecting your replacement ewes
- ROI = 474%

Management options	Scanning for multiples	$/ewe
Sell the passengers	✓	$1.85
Feed allocation:		
✓ to pregnant ewes	✓	$0.80
✓ to multiples	✓	$1.00
Paddock allocation	✓	$0.95
Replacement selection	✓	$0.95
Total value per ewe	**$5.55**	

Source: AWI & MLA(2014)

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Questions from clients

- How to upload data
  - Minor details eg headings – case sensitive
  - FD, fd, micron or BT, birth type, Birth Type
- Using the data
  - Pulling data together – multiple sources
  - Reporting – what format do you want it in?
- Essential
  - Have an idea of what you want to achieve or
  - What question(s) are you trying to answer
  - Then make a plan

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Take home messages

- You don’t have to do everything yourself.
- You do need to be clear why you want to collect data & when you need it.
- Keep it simple, start small and build confidence.
- Stage your approach, there are varying levels of Tech.
- Look for other ways to use the same data.
- Review progress over time.

Tools and resources

- SheepMetriX – eID Implementation on Farm Workshop – www.sheepmetrix.com.au/eid-courses
- Excel for eID – Back to basics https://www.youtube.com/watch?v=zVZN0qfKiXs&t=157s
- Excel for eID – using your data effectively
- https://www.youtube.com/watch?v=Fq5C0op6NKk
- Excel for eID – building your data over time https://www.youtube.com/watch?v=7OJv5FwOpHE