MEAT & LIVESTOCK AUSTRALIA

meatup FORUM

For the latest in red meat R&D

Practical use of eID in rangelands sheep programs

Anthony Shepherd

Sheepmatters

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

eID = opportunity

- ✓ The eID tag – an electronic number plate.
- ✓ Know your breeding objectives
- ✓ Understand what traits to capture and how.
- ✓ Doesn't have to be expensive (learn to swim).
- ✓ Back up help.
- ✓ Sheep in yards = opportunity.
- ✓ Know which employees (your sheep) are making a profit (vs not) for your business (eID = resume).
- ✓ Use objective data with subjective.
- ✓ Production, not age.

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Collect only the important traits!

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

What to collect?

- Body weights
- Condition Score
- Fleece weights
- Fleece testing
- Pregnancy scanning
- Visual sheep classing & assessment
- Fat & eye muscle depth
- Animal health records
- WEC
- Treatments
- Stock auditing and counting
- Walk Over Weighing

What to collect?

You are time poor.
Only collect data that has productive value…..and use it!

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Commercial Index %

RFID	Clean Fleece Value ($)	Index (%)	Rank	GFW (kg)	Fleece Yield (%)	Micron
940 110000511817	5988	180	1	4.86	69.47	15.95
940 110000512878	5790	174	2	4.7	64.46	15.96
940 110000507213	5581	168	3	4.53	64.65	15.87
940 110000511474	5435	163	4	4.74	66.42	16.58
940 110000511153	5416	163	5	5.2	66.12	17.61
940 110000510667	5408	162	6	4.39	66.84	16.07
940 110000512272	5323	160	7	5.11	70.14	17.95
940 110000512632	5298	159	8	4.3	66.85	16.27
940 110000511168	5218	157	9	5.01	71.38	17.67
940 110000509631	5191	156	10	5.9	71.18	19.1
951 000013604150	5187	156	11	4.21	64.03	15.49
940 110000512899	5162	155	12	4.19	66.58	16.24

- Commercial traits
- Commercial Index (index vs rank)

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

What is your wool worth?

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Clean Fleece Value($)

RFID	Clean Fleece Value ($)	Fleece Value Index (%)	Ranking	Greasy Fleece Weight (kg)	Micron	Fleece Yield (%)
940 100000227943	44.89	133.6	27	4.6	16.72	59.2
940 110000633811	**44.03**	**131.1**	**29**	5.6	20.71	65.4
940 110000672736	43.92	130.7	30	4.8	16.77	55.5
940 110000677391	43.39	129.2	39	4.6	17.12	60.0
940 110000681820	43.22	128.7	40	5.2	18..11	58.4
940 100000228532	43.21	128.6	41	6.9	20.78	52.1
940 110000678571	43.16	128.5	42	5.3	18.81	60.2
940 110000677441	32.46	96.6	370	4.7	19.37	53.5
940 110000681818	**32.41**	**96.5**	**374**	4.8	20.16	56.1
940 110000673857	32.37	96.4	375	5	20.18	53.8
940 110000684250	26.64	79.3	606	5.3	18.27	49.0
940 110000682967	26.61	79.2	608	3.4	18.51	57.9
940 110000682249	26.60	79.2	609	3.8	17.91	46.7
940 100000229676	26.30	78.3	616	3.9	20.61	56.1
940 100000223880	26.26	78.2	617	4.3	19.1	47.4

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Sheepmatters client – clean fleece value ($) over 3 years

2020				
	CFV ($)	GFW (kg)	FD (µm)	Yield (%)
AVERAGE for whole mob	52.11	5.8	18.6	63.7%
AVERAGE for top 80% of the mob	**54.46**	**6.1**	**18.7**	**65.4%**
Difference	+2.35	+0.3	+0.1	+1.7%

2021				
	CFV ($)	GFW (kg)	FD (µm)	Yield (%)
AVERAGE for whole mob	56.86	6.2	18.6	66.6%
AVERAGE for top 80% of the mob	**59.19**	**6.4**	**18.6**	**67.8%**
Difference	+2.33	+0.2	0	1.2%

2022				
	CFV ($)	GFW (kg)	FD (µm)	Yield
AVERAGE for whole mob	66.56	7.5	18.9	68.3%
AVERAGE for top 80% of the mob	**69.28**	**7.8**	**18.9**	**69.4%**
Difference	+271.70	+0.3	0	1.1%

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

RFID	Clean Fleece Value ($/hd)	Clean Fleece Value Index (%)	Greasy Fleece Weight (kg)	Fleece Yield (%)	Micron
940 110000986883	72.81	172	9.6	55.48	16.97
940 110000984714	68.08	161	8.7	62.55	18.89
940 110000984720	61.58	146	7.7	59.82	17.08
940 110000984652	60.92	144	7.4	61.57	17.31
940 110000986420	60.59	143	7.5	65.89	19.37
940 110000986401	60.60	143	10	49.43	19.38
940 110000984770	59.28	140	7	67.69	18.7
940 110000986464	58.90	139	7.1	66.31	18.87
940 110000984661	58.39	138	9.3	48.97	18.22
940 110000986505	58.40	138	7.2	63.27	18.44
AVERAGE	**61.95**	**151**	**8.15**	**60.10**	**18.32**

Top 10 performing ewes

940 110000986987	42.10	100	5.2	60.56	17.39
940 110000984723	42.12	100	6.4	49.22	17.27
940 110000986906	42.12	100	5.6	58.67	18.41
940 110000986461	42.15	100	6.5	48.5	17.02
940 110000984786	42.16	100	5.8	60.63	20.15
940 110000986834	42.17	100	6.9	50.97	20.18
940 110000986484	42.20	100	6.2	54.41	18.75
940 110000986449	42.23	100	6.4	55.03	20.13
940 110000986895	42.23	100	5.6	56.4	17.12
940 110000986828	42.24	100	6.4	53.63	21.1
AVERAGE	**42.17**	**100**	**6.10**	**55.00**	**18.75**

Average 10 performing ewes

940 110000986515	27.73	66	4.8	45.07	18.39
940 110000986565	27.88	66	5.4	42.11	19.43
940 110000986425	27.60	65	5.1	43.26	18.68
940 110000986554	27.03	64	5	41.26	17.97
940 110000986922	26.68	63	4.9	40.73	17.44
940 110000986964	26.78	63	5.6	39.88	20.73
940 110000986441	26.32	62	5.4	37.21	17.93
940 110000986417	25.73	61	4.6	42.7	17.72
940 110000984704	25.85	61	4.7	47.09	22.99
940 110000986489	23.39	55	5.2	36.54	19.13
AVERAGE	**26.49**	**63**	**5.07**	**41.59**	**19.04**

Bottom 10 performing ewes

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

A difference of $35.46 hd from the top to the bottom 10 in this real example
(remember these are classed in maiden ewes)

Fertility Index (%)

RFID	Tag	Fert 17	Fert 18	Fert 19	Fert 20	Fert 21	Total Fert	Fert Index (%)
940 100000223118	64	1	1	0	1	0	3	49.2
940 100000223096	76	1	1	0	1	1	4	65.6
940 100000223094	87	0	1	0	1	0	2	32.4
940 100000223075	35	1	1	0	1	2	5	82.0
940 100000223033	20	1	2	2	1	2	8	131.1
940 100000223021	49	1	1	2	1	2	7	114.8
940 100000223005	85	1	0	2	1	1	5	82.0
940 100000222994	83	2	0	2	1	1	6	98.4
940 100000222861	16	2	2	2	2	2	10	163.9
940 100000222850	114	1	2	2	2	1	8	131.1
940 100000222831	28	2	1	2	0	2	7	114.8
940 100000222822	52	2	1	2	0	2	7	114.8
940 100000223442	104	0	0	1	0	1	2	32.4

Average 6.1 lambs Conceived over 5 years

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

RFID	2018 Status	2019 Status	2020 Status	Total lambs conceived for 3 years	Lambs Index (%)	Total Conception Value (at lamb marking)*($/hd)
940 110000986906	Twin	Twin	Twin	6	171.4	288
940 110000986464	Twin	Twin	Twin	6	171.4	288
940 110000986417	Twin	Twin	Twin	6	171.4	288
940 110000984786	Twin	Twin	Twin	6	171.4	288
940 110000984652	Twin	Twin	Twin	6	171.4	288
940 110000986915	Twin	Single	Twin	5	142.9	240
940 110000986441	Twin	Twin	Single	5	142.9	240
940 110000984714	Single	Twin	Twin	5	142.9	240
940 110000984661	Twin	Single	Twin	5	142.9	240
940 110000986987	Single	Twin	Twin	5	142.9	240
AVERAGE	**1.8**	**1.8**	**1.9**	**5.5**	**158.4**	**264**
940 110000986883	Single	Twin	Single	4	114.3	192
940 110000986828	Single	Twin	Single	4	114.3	192
940 110000986461	Single	Twin	Single	4	114.3	192
940 110000986425	Single	Single	Twin	4	114.3	192
940 110000984770	Twin	Single	Single	4	114.3	192
940 110000986964	Single	Single	Single	3	85.7	144
940 110000986922	Single	Single	Single	3	85.7	144
940 110000986834	Single	Single	Single	3	85.7	144
940 110000986565	Single	Single	Single	3	85.7	144
940 110000986554	Single	Single	Single	3	85.7	144
AVERAGE	**1.1**	**1.3**	**1.1**	**3.5**	**100**	**168**
940 110000986449	Single	Dry	Single	2	57.1	96
940 110000984720	Dry	Twin	Single	2	57.1	96
940 110000984704	Single	Dry	Single	2	57.1	96
940 110000986420	Single	Single	Dry	2	57.1	96
940 110000986484	Single	Dry	Dry	1	28.6	48
940 110000984723	Dry	Single	Dry	1	28.6	48
940 110000986895	Dry	Dry	Dry	0	0.0	0
940 110000986505	Dry	Dry	Dry	0	0.0	0
940 110000986489	Dry	Dry	Dry	0	0.0	0
940 110000986401	Dry	Dry	Dry	0	0.0	0
AVERAGE	**0.4**	**0.4**	**0.3**	**1**	**34.8**	**48**

Top 10 performing ewes

Average 10 performing ewes

Bottom 10 performing ewes

- Average lamb marking weight 16kg, 50% yield @ $6.00kg / dressed

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Body weight – an individual important trait

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Body weight at joining

Fert Status Groups by Body Weight – Commercial Merino Flock								
Group	**Status**	**Body Weight (kg)**	**No**	**Total Twins**	**Total Singles**	**Ewes Pregnant**	**Potential Lambs**	**Lambs per Ewe**
Top 25%. 64.5kg	Twin early	64.8	40	64	87	151	215	1.42
	Single Early	64.8	54					
	Twin Late	63.9	24					
	Single Late	63.4	33					
2nd 25%. 58.7kg	Twin early	58.8	29	45	105	150	195	1.30
	Single Early	58.6	67					
	Twin Late	59.2	16					
	Single Late	58.5	38					
3rd 25%. 55.2 kg	Twin early	55.4	23	37	113	150	187	1.25
	Single Early	55.0	69					
	Twin Late	55.5	14					
	Single Late	55.2	44					
Bottom 25% 49.7kg	Twin early	50.7	16	31	120	151	182	1.21
	Single Early	49.6	73					
	Twin Late	49.9	15					
	Single Late	49.5	47					

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Weight and weight gain critical for $ return

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

RFID	Lamb Marking Weight (kg) 10.06.21	Lamb Weaning Weight (kg) 15.07.21	Daily Weight Gain 35 days (g / day)	Total Weight Gain (kg)	Weight Gain Index	Value of Weight Gain** ($/hd)	
900 013000044700	10.7	25.4	420	14.7	257.9	44.1	Top 10 performing lambs
900 013000044434	20.9	34.4	386	13.5	236.8	40.5	
900 013000044414	21.2	34.1	369	12.9	226.3	38.7	
900 013000044540	19.3	32	363	12.7	222.8	38.1	
900 013000044564	17.9	30.5	360	12.6	221.1	37.8	
900 013000044391	17.2	28.9	334	11.7	205.3	35.1	
900 013000044344	26.2	37.9	334	11.7	205.3	35.1	
900 013000044562	23.6	35.2	331	11.6	203.5	34.8	
900 013000044719	17	28.4	326	11.4	200.0	34.2	
900 013000044725	19.1	30.4	323	11.3	198.2	33.9	
AVERAGE	**19.3**	**31.7**	**354**	**12.4**	**217.7**	**37.2**	
900 013000044660	13.4	19.2	166	5.8	101.8	17.4	Average 10 performing lambs
900 013000044259	13.4	19.2	166	5.8	101.8	17.4	
900 013000044325	14.7	20.4	163	5.7	100.0	17.1	
900 013000044767	17.7	23.4	163	5.7	100.0	17.1	
900 013000044744	19.7	25.4	162	5.7	100.0	17.1	
900 013000044511	14.6	20.3	162	5.7	100.0	17.1	
900 013000044462	9.1	14.8	162	5.7	100.0	17.1	
900 013000044624	18.2	23.9	162	5.7	100.0	17.1	
900 013000044338	17.3	22.9	160	5.6	98.2	16.8	
900 013000044504	20	25.6	160	5.6	98.2	16.8	
AVERAGE	**15.8**	**21.5**	**163**	**5.7**	**100.0**	**17.1**	
900 013000044659	14.8	16	34	1.2	21.1	3.6	Bottom 10 performing lambs
900 013000044733	17.8	19	34	1.2	21.1	3.6	
900 013000044589	19.2	20.3	31	1.1	19.3	3.3	
900 013000044551	20.7	21.7	29	1	17.5	3	
900 013000044586	20.6	21.4	23	0.8	14.0	2.4	
900 013000044488	11.4	12.2	17	0.8	14.0	2.4	
900 013000044587	13.9	14.5	16	0.6	10.5	1.8	
900 013000044455	23.1	23.6	14	0.5	8.8	1.5	
900 013000044493	12.3	12.6	9	0.3	5.3	0.9	
900 013000044611	12.6	12.8	6	0.2	3.5	0.6	
AVERAGE	**16.6**	**17.4**	**23**	**0.8**	**13.5**	**2.3**	

* Carcase value, dressed at 50%, receiving $6/kg

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

RFID	Clean Fleece Value ($/hd)	2021 Status	Lamb Marking	$ of lambs/ ewe *	Total Value of Ewe Production
940 110000986883	72.81	Twin	1.42	76.68	149.49
940 110000984714	68.08	Twin	1.42	76.68	144.76
940 110000984552	60.92	Twin	1.42	76.68	137.60
940 110000986464	58.90	Twin	1.42	76.68	135.58
940 110000986828	42.24	Twin	1.42	76.68	118.92
940 110000984786	42.16	Twin	1.42	76.68	118.84
940 110000986461	42.15	Twin	1.42	76.68	118.83
940 110000986906	42.12	Twin	1.42	76.68	118.80
940 110000984720	59.21	Single	0.9	59.4	118.61
940 110000986420	59.09	Single	0.9	59.4	118.49
AVERAGE	**54.55**	**1.8**	**1.36**	**67.84**	**131.67**
940 110000984770	57.89	Single	0.9	59.4	117.29
940 110000984661	57.78	Single	0.9	59.4	117.18
940 110000986441	26.32	Twin	1.42	76.68	103.00
940 110000986417	25.73	Twin	1.42	76.68	102.41
940 110000986834	42.17	Single	0.9	59.4	101.57
940 110000984723	42.12	Single	0.9	59.4	101.52
940 110000986987	42.10	Single	0.9	59.4	101.50
940 110000986401	76.56	Dry	0	0	76.56
940 110000986505	73.56	Dry	0	0	73.56
940 110000986565	27.88	Single	0.9	59.4	87.28
AVERAGE	**44.30**	**1.0**	**0.82**	**50.98**	**97.67**
940 110000986515	27.73	Single	0.9	59.4	87.13
940 110000986425	27.60	Single	0.9	59.4	87.00
940 110000986554	27.03	Single	0.9	59.4	86.43
940 110000986964	26.78	Single	0.9	59.4	86.18
940 110000986922	26.68	Single	0.9	59.4	86.08
940 110000986449	42.23	Dry	0	0	42.23
940 110000986895	42.23	Dry	0	0	42.23
940 110000986484	42.20	Dry	0	0	42.20
940 110000984704	25.85	Dry	0	0	25.85
940 110000986489	23.30	Dry	0	0	23.30
AVERAGE	**31.16**	**0.5**	**0.45**	**29.70**	**60.86**

Top 10 performing ewes

Bottom 10 performing ewes

*Assume 18kg for twins, 22kg for singles, 50% yield, $6.00kg dressed

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Difference in value from top 10 to bottom 10 ewes in total annual production

$70.81 every ewe

Decision time

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Draft List

HR5 Can be populated with draft on say bottom 25%, Middle 50% and Top 25% or similar.

RFID	Draft	CFV ($)	CFVI (%)	GFW (kg)	MIC	Yield (%)
951 000010207288	Top	5961	147	7.9	19.48	58.4
951 000012059413	Top	5706	140.7	6.2	17.71	64.27
951 000013302165	Top	5642	139.1	6.6	17.92	59.7

RFID	Draft	CFV ($)	CFVI (%)	GFW (kg)	MIC	Yield (%)
951 000015748125	Bottom	2574	63.5	4.5	21.02	47.36
951 000010399287	Bottom	2544	62.7	4.4	20.25	46.77
951 000012689228	Bottom	2331	57.5	3.8	20.32	49.62

Lamb Survival MLA funded PDS SW QLD

2022 start to program……but

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Lamb Survival MLA funded PDS SW QLD

meatup FORUM

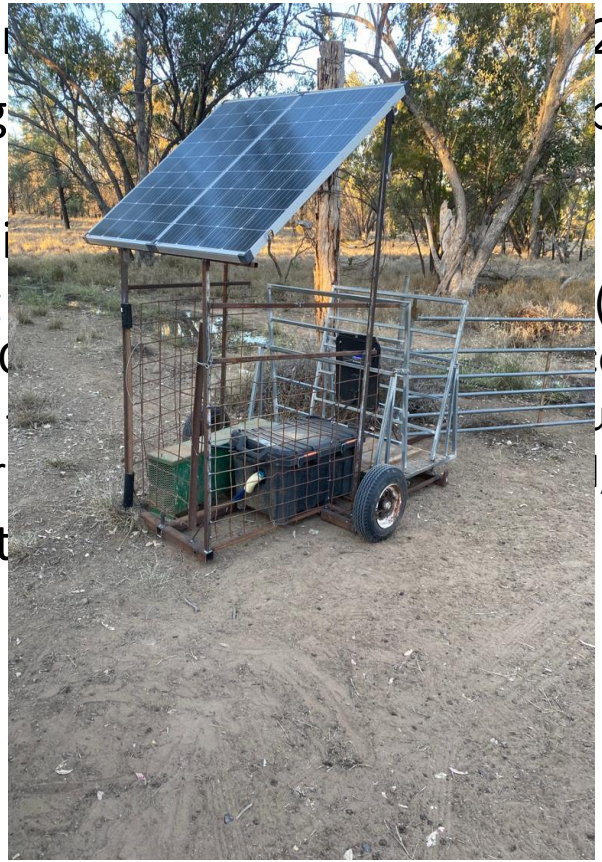
mla MEAT & LIVESTOCK AUSTRALIA

Lamb Survival MLA Funded PDS SW QLD

- Dirranbandi / St George – Start 2023 Finish 2025
- With the aid of using practical technologies improve lambs weaned % to ewes joined.
- Repeatable Information collected against ewes eID tag using
  - Walk Over Weighing – ID weight gain / weight loss (moving weight)
  - Condition Scoring – CS 2.7 to 3.5 = low maintenance ewe
  - Pregnancy Scanning – Manage ewes to energy requirements, repeatable fertility?
  - Udders at Lamb Marking – Influence lambs marked, repeatable?
- Preventive (not reactive) management.
- Practical?
- Cost effective?

Lamb Survival MLA Funded PDS SW QLD

- Dirranbandi / St Geo 25
- With the aid of using prove lambs weaned % to ewes joined.
- Repeatable Informati eID tag using
  - Walk Over Weighing (moving weight)
  - Condition Scoring – e ewe
  - Pregnancy Scanning uirements, repeatable fertility?
  - Udders at Lamb Mar , repeatable?
- Preventive (not react
- Practical?
- Cost effective?



meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Take home messages

- Only collect data that has commercial value to your sheep program.
- eID identifies which sheep to manage (in good and bad nutritional years).
- Spending $/HD in supplementary feed, health products, your time on good employees vs bad employees!
- eID doesn't have to be expensive.
- Make sure you have someone in your corner!
- If you collect the data, use the data (if you don’t use it, then don’t collect it!)
- Use subjective with objective.

Take home messages

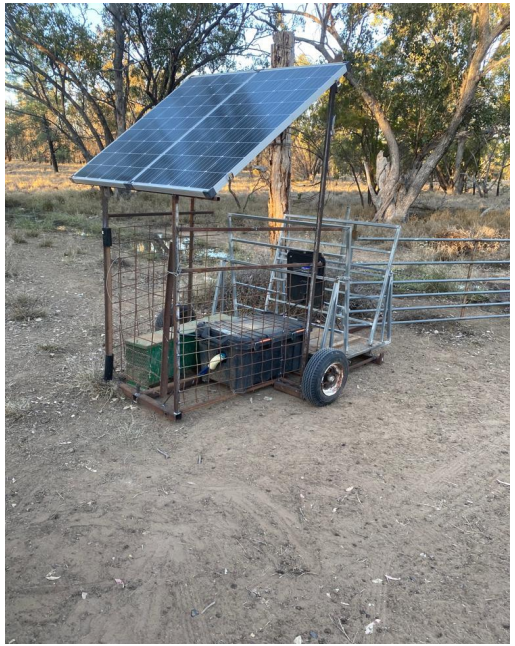
And this

meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Take home messages

With the help of these



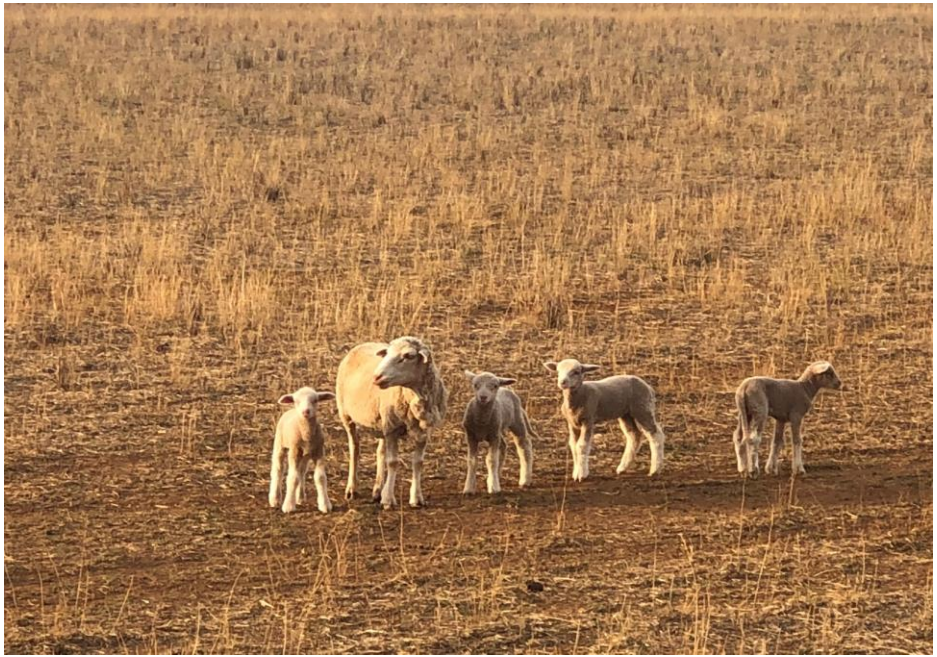
meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Take home messages

To help you get this (or not!)

Thank you



meatup FORUM

mla MEAT & LIVESTOCK AUSTRALIA

Tools and resources

- Lamb Survival – SE Queensland Rangelands (PDS):
  https://www.mla.com.au/extension-training-and-tools/search-pds/pds-data/lamb-survival---se-qld-rangelands/
- SW Queensland Lamb Survival Facebook group
- MLA Final Report: Maximising the value of eID technology for sheep producers
  https://www.mla.com.au/research-and-development/reports/2019/maximising-the-value-of-eid-technology-for-sheep-producers/
- MLA PDS: Using eID to improve ewe performance
  https://www.mla.com.au/research-and-development/reports/2021/pds-using-eid-to-improve-ewe-performance/
- Making More from Sheep
  https://www.makingmorefromsheep.com.au/module-index.html