MLP
Merino Lifetime Productivity Project

The MLP, Pingelly, Updates + Data

Dr Bronwyn Clarke – Pingelly MLP Site Manager

awi
Australian Wool Innovation Limited

Australian Merino Sire Evaluation Association
MERINO Superior Sires

Profit from Lifetime Productivity

What is the MLP?

The MLP project is:

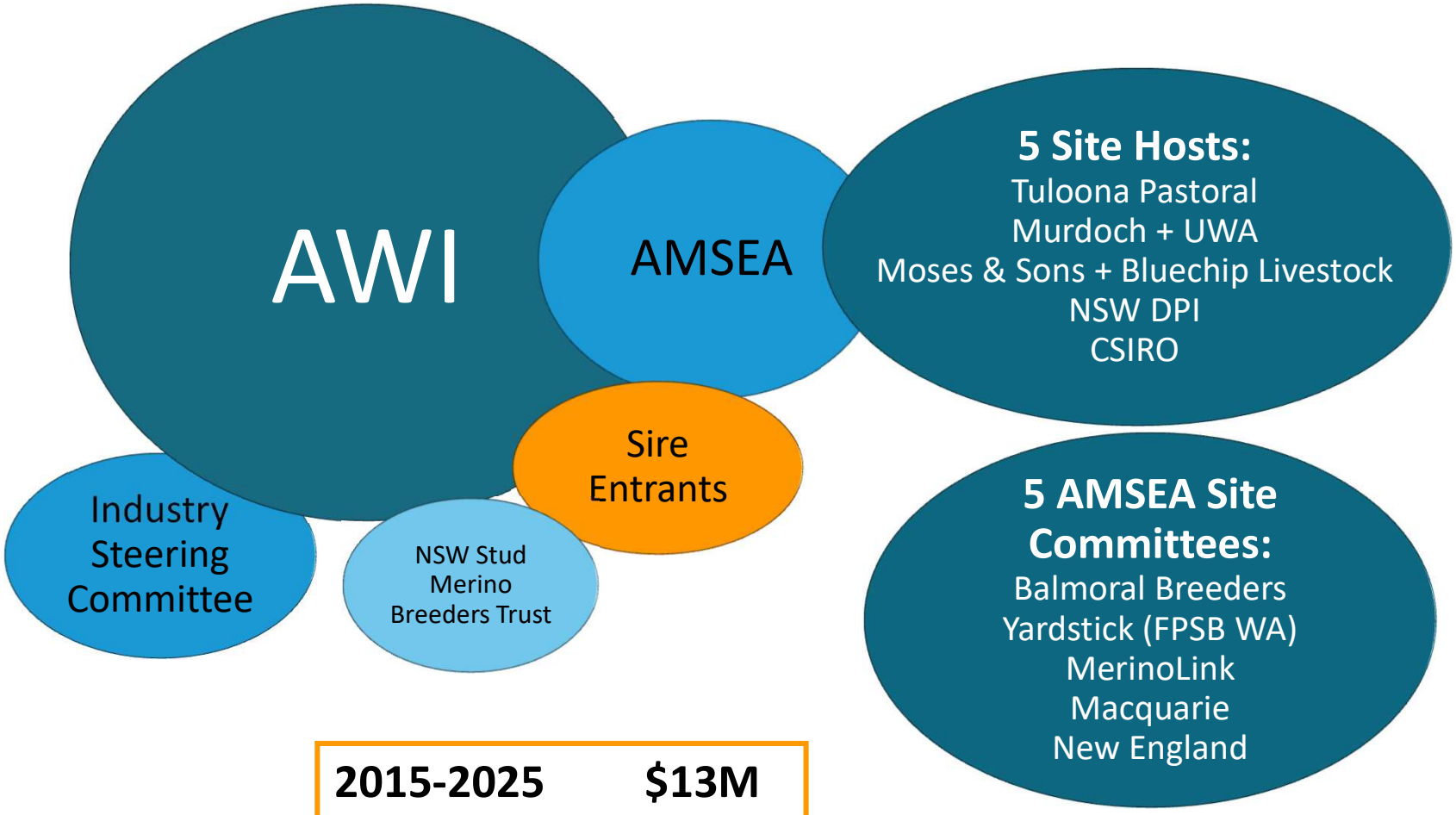
- Capturing lifetime data
- Across diverse environments, genetics and Merino types

The MLP project will deliver increased profit through:

- Better understanding of the drivers of lifetime productivity
- Refining and testing current selection tools and assessment ages

For all Merino types and environments.

A 10 Year Partnership



2015-2025 $13M

- Industry - in kind 20%
- Research sites - in kind 13%
- AWI - 64%

Diverse Ewe Bases & Environments

x 134 Diverse Sires

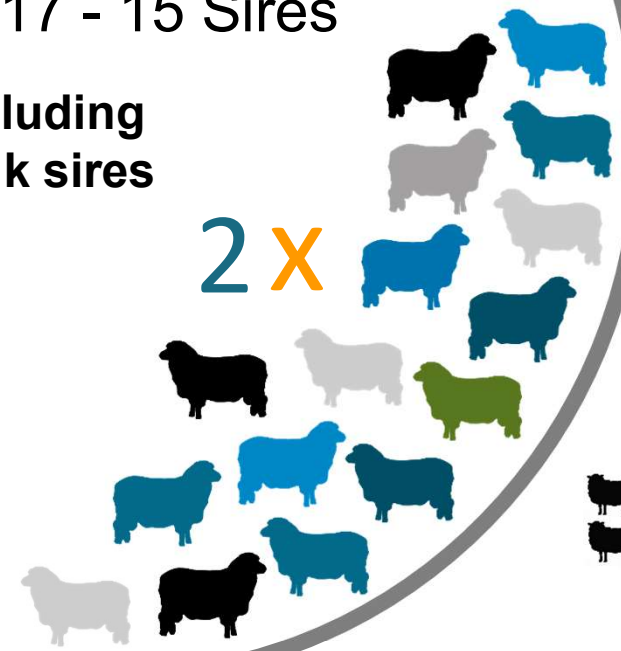
= 5,700 MLP Ewes

Pingelly

2016 - 15 Sires

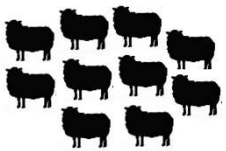
2017 - 15 Sires

Including Link sires



2 X

x Ewes



Pingelly's Environment

= 30 progeny groups

+ 4 other MLP sites!

Totaling 5,700 ewes assessed at each age stage for life!

What's being assessed annually?

Wool

- Fleece weight
- Yield
- Fibre diameter, SD, CV
- Staple length
- Staple strength
- Comfort factor
- Curvature

Joining, Pregnancy & Lambing

- Pedigree
- Preg scanning
- Number of lambs weaned (conception, litter size, ewe rearing ability)

- Body weight x 4
- Condition score x 4

Visual Conformation

- Face cover
- Jaw
- Legs/feet
- Shoulder/back
- Body wrinkle

Visual Wool

- Fleece rot
- Wool colour
- Wool character
- Dust penetration
- Staple weathering
- Staple structure

- Fibre pigmentation
- Non-fibre pigm't
- Recessive black
- Random spot

Growth & Carcase

- Body weight
- Fat depth
- Eye muscle depth
- Adult ewe size

Health & Welfare

- Worm egg count
- Faecal consistency
- Dag score
- Urine stain
- Breech cover
- Crutch cover
- Breech wrinkle
- Survival

Classing

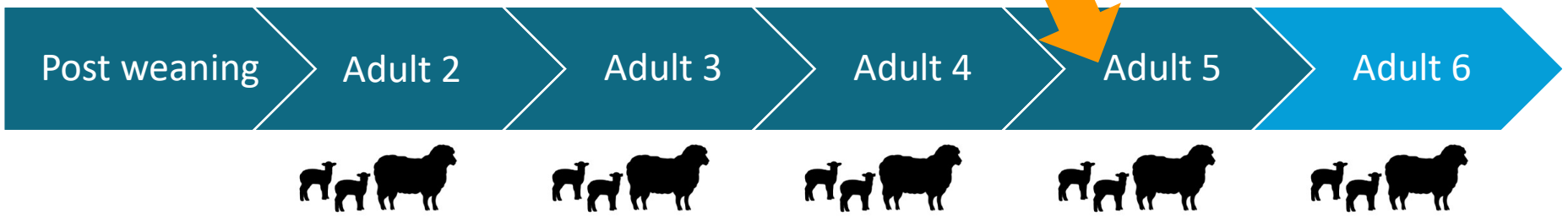
- Flock classing
- Stud classing
- AMSEA Grade

Pingelly Site

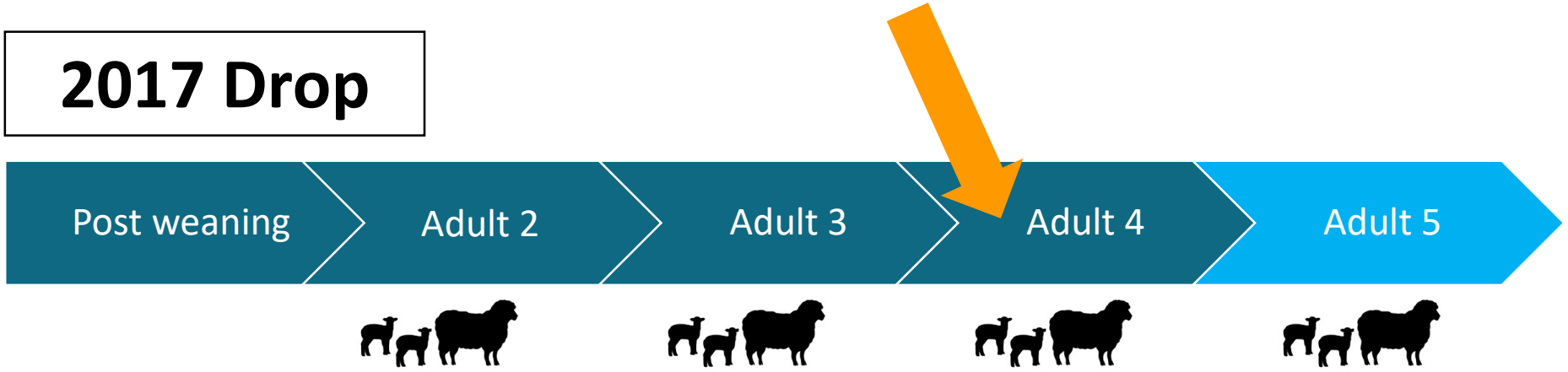
Site Snapshot

15 sires for each drop
6 link sires
1 ewe source
Pingelly WA

2016 Drop



2017 Drop



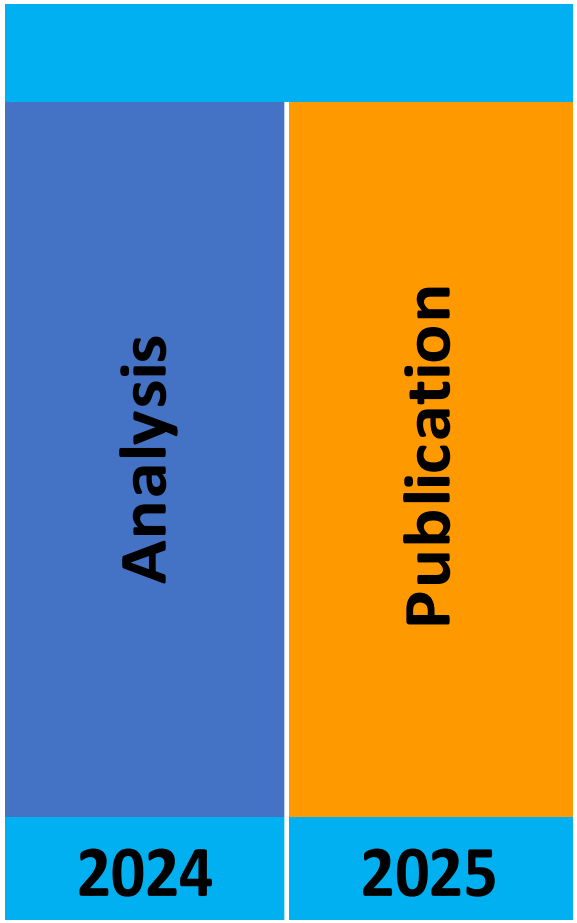
Full Project Timeline

Site	F1 Ewe Drop at Each Site						Last Lambing at Each Site				
Balmoral	✔	✔		A2			✔			Analysis	Publication
Pingelly		✔	✔		A2			✔			
MerinoLink		✔	✔		A2			✔			
Macquarie			✔	✔		A2			✔		
New England			✔	✔		A2			✔		
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

Data collection years

Interim reporting years

Data Analysis



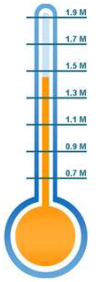
Site Reports

- **Site Reports** for every site every year
- **Early interesting info**
  - Elite performers
  - Ram mating success
  - Bi paternal twins
- **Need to resist 'results' until all data collected**

Analysis commencing in 2021

- Needed consent to use Ovis software
- **$1M, 4.5yr project** approved
- AGBU contracted for MLP R&D
- Currently contracting AGBU for general genetic benchmaking R&D

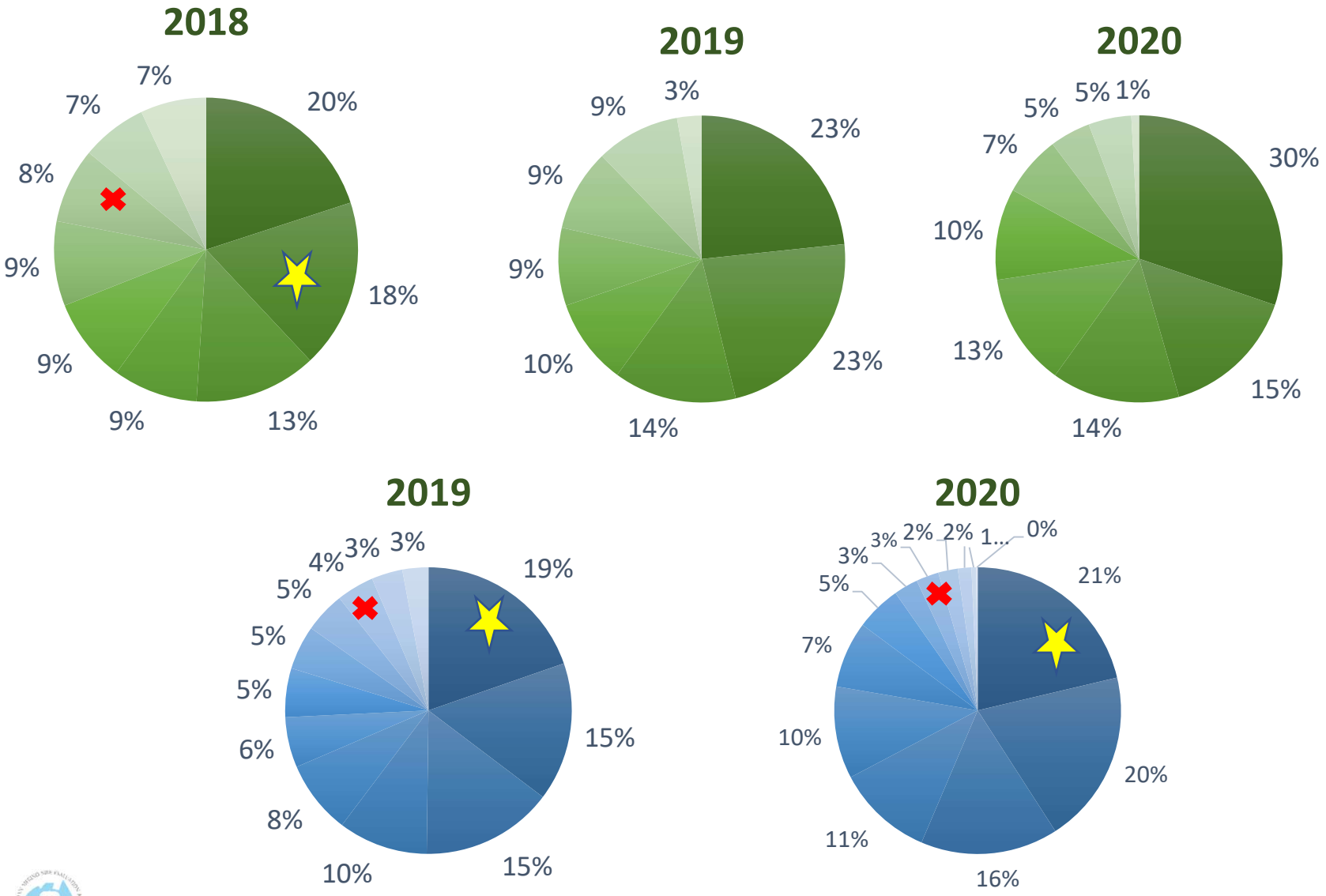
Data-to-Date



Start → **1,456,227 results** → **≈ 1,900,000**

24% to go

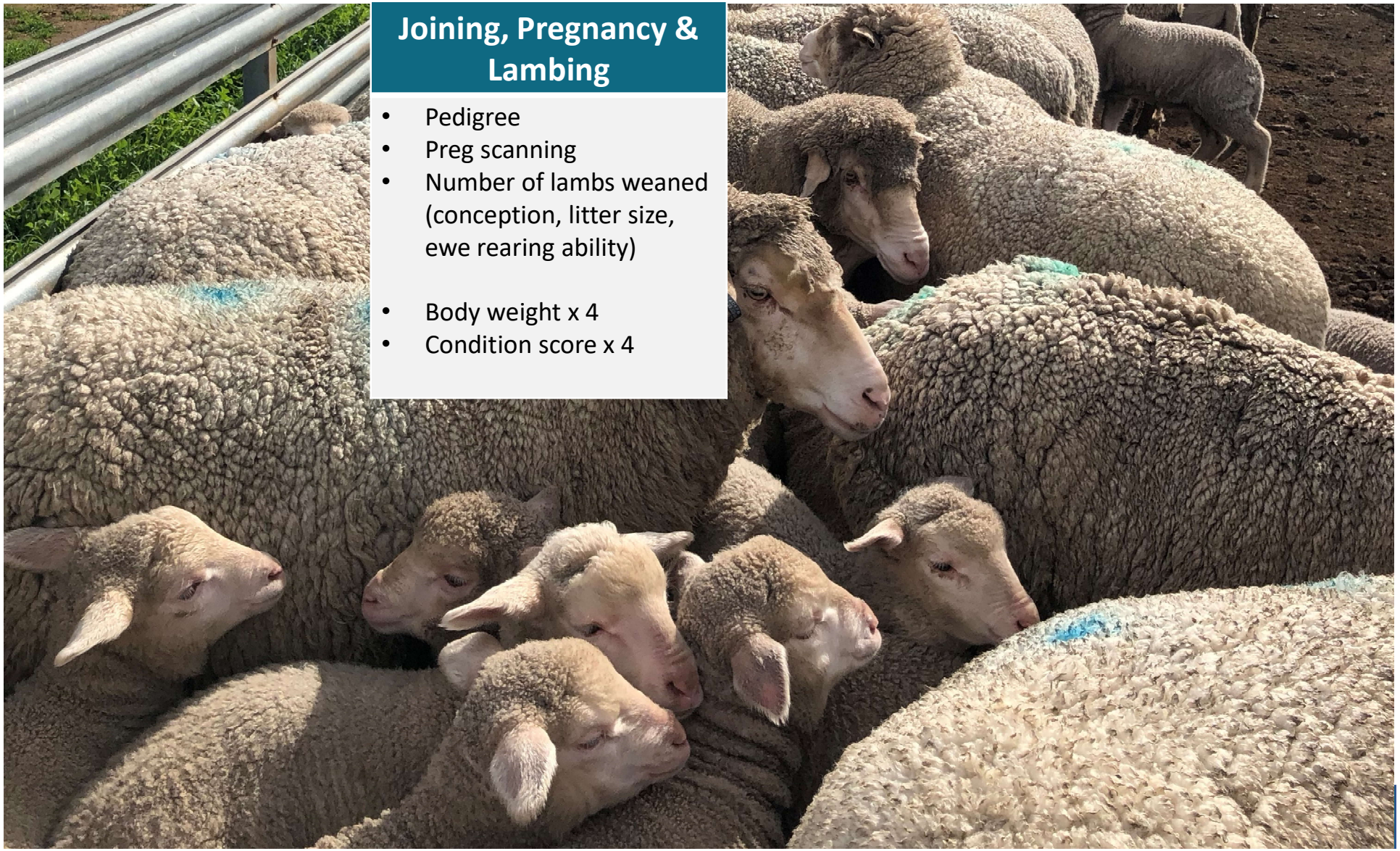
Which Pingelly rams are doing all the work?



Twins?

Site	Dam year of birth	F2 Progeny year of birth	No. Multiple Litters	No. Split Sires	Percent Split Sires
Pingelly	2016 drop	2018	48	31	65%
		2019	108	60	56%
		2020	142	74	52%

Let’s look @ Reproduction



Joining, Pregnancy & Lambing

- Pedigree
- Preg scanning
- Number of lambs weaned (conception, litter size, ewe rearing ability)

- Body weight x 4
- Condition score x 4

Reproduction Culling Strategies

- **When is the best time to cull for increased reproduction?**
  - Dry Maiden
  - Lambed and Lost Maiden (LOL Maiden)
  - Double Dry
  - Double Lambed and Lost (Double LOL)
  - Failed to Rear at 1st and 2nd Lambing (Failed twice)

- **Average Lambs Weaned / Ewes Joined (%)**
  - Number of lambs weaned per ewes joined over the 3 years

    Note: **Does not include dead ewes or ewes that did not present each year**

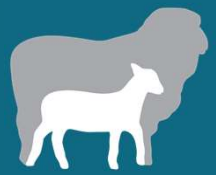
3 MLP Sites

Selection Approach*	MerinoLink (308 maiden ewes joined)		Balmoral (724 maiden ewes joined)		Pingelly (357 maiden ewes joined)	
	No. Ewes Removed	Lambs Weaned/ Ewes Joined (%)	No. Ewes Removed	Lambs Weaned/ Ewes Joined (%)	No. Ewes Removed	Lambs Weaned/ Ewes Joined (%)
No culling	-	106	-	94	-	114
Dry Maiden	53	111	99	95	21	115
LOL Maiden	20	105	110	94	35	114
Double Dry	25	107	17	95	5	114
Double LOL	2	106	27	94	3	114
Failed Twice	33	107	68	95	12	114

Analysis for Industry

- Do current indexes reflect profitability well?
- Should mature ewe survival traits be added to indexes?
- At what age(s) can accu… productivity be made?
- Ram breeders: H… ce, carcase, health and re… reduce collection co…
- Can we impr… y? With / without DNA…
- What's the righ… For both accuracy and cost…
- What impact do different site… we bases have on trait expression?

Analysis = Answers for Levy Payers



Better lifetime productivity

Keeping in Touch

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Acknowledgements

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Thanks especially to the site partners and hosts.