



# ABACUSBIO LIMITED

*Make a difference to food production internationally using science & technology*



# THEN & NOW 10 YEARS OF SHEEP IRELAND

*ICBF and Sheep Ireland genetics conference: 'Sustainable Farming – Progress through Genetics'*

*5<sup>th</sup> of December 2018*

*Tim Byrne*

*AbacusBio International Limited*

*Edinburgh*



# Back then

- Malone 2006
- **BALANCED** breeding goal
- **SUSTAINABLE** genetic gain



# Back then

- Development strategy put together
- 20 recommendations covering all aspects
- Start point of Sheep Ireland

Appendix 1. Interim Sheep Board Meeting 18<sup>th</sup> September 2008.

Strategy Project Team Report.



## Breeding Profitable Sheep in Ireland

### Recommendations to the Interim Sheep Board from the Strategy Project Team

A Report prepared for the Interim Sheep Board  
by

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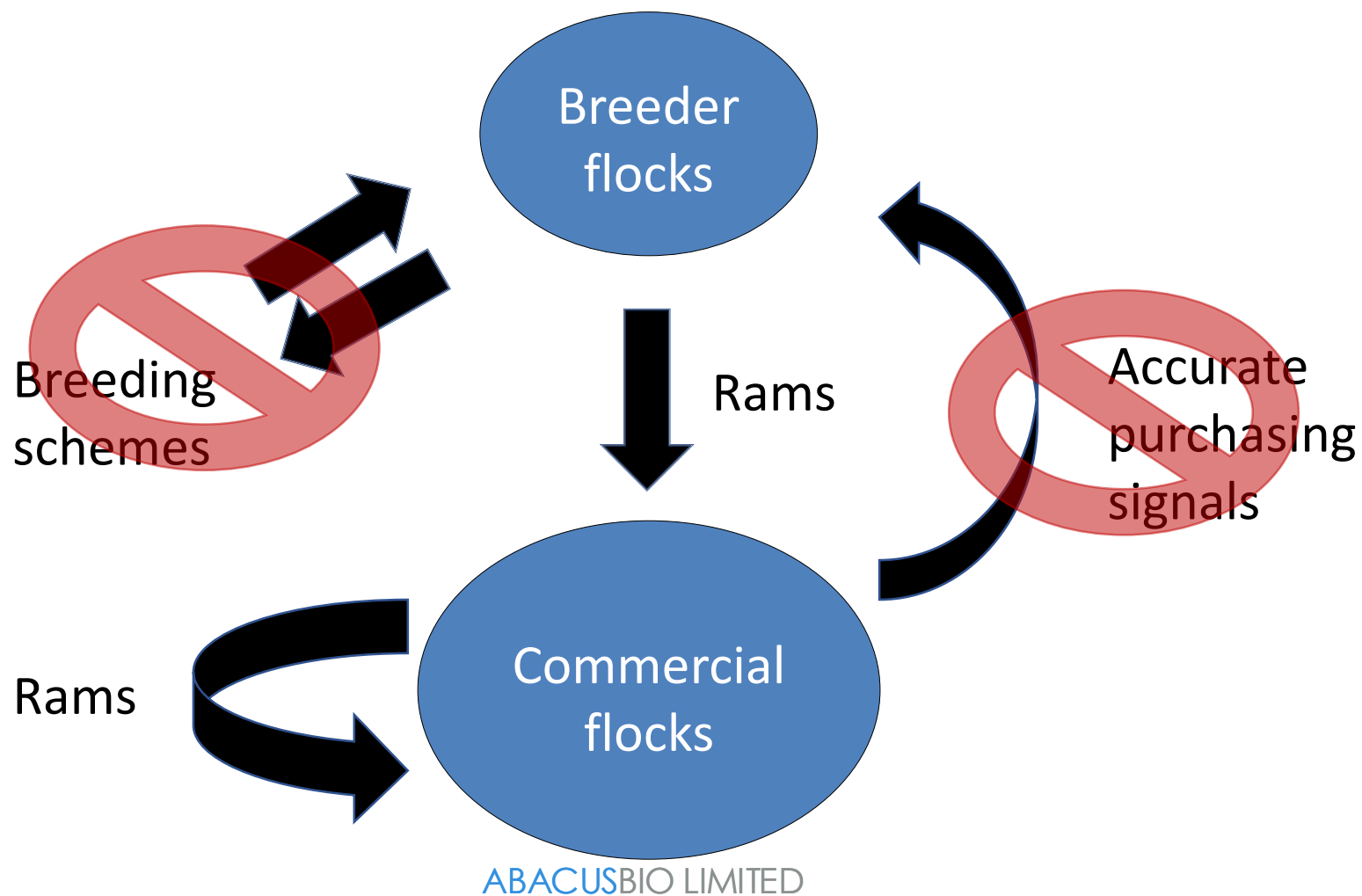
<sup>1</sup>AbacusBio Limited, <sup>2</sup>Awareka Partnership, <sup>3</sup>Teagasc, <sup>4</sup>Animal Sciences Group, The Netherlands, <sup>5</sup>ICBF

FINAL REPORT SUBMITTED TO THE INTERIM SHEEP BOARD  
11 September 2008

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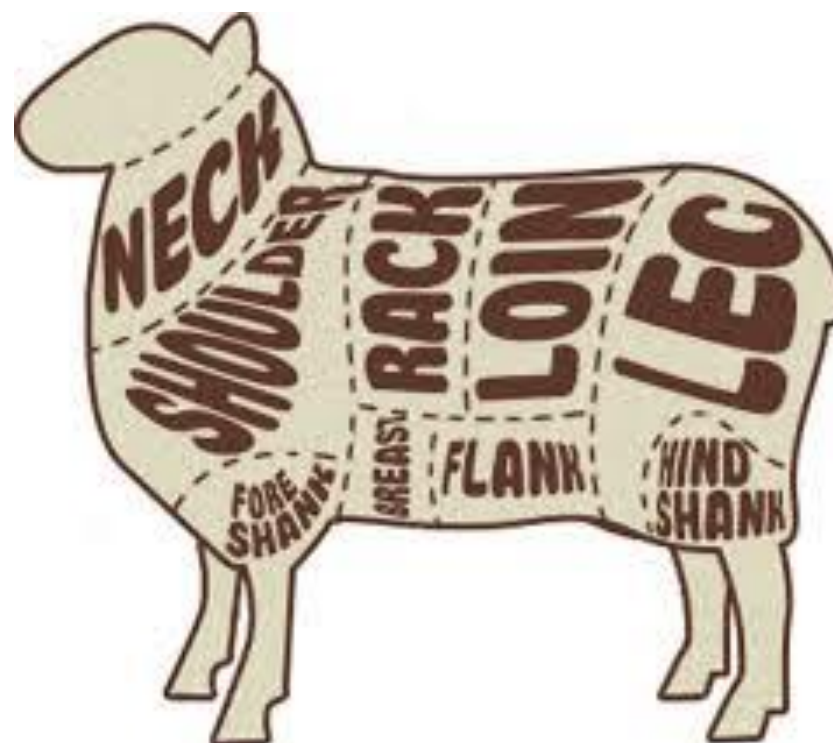
# Back then - Industry structure



# Back then – Challenges

- Part-time sheep farmers with small flocks
- Shrinking market
- Small number of breeders familiar with performance recording on a few traits
- Commercial farmers:
  - Were not involved
  - Had not supported the breeders who used performance recording

# Terminal focus







## The new focus

Maternal traits for functional and more profitable sheep  
- Needed data

# Communication



# Timeline

- 2009 – Sheep Ireland born/ MALP
- 2010 – CPT begins
- 2011 – 1<sup>st</sup> LambPlus ram sale
- 2012 – Online ram search goes live
- 2013 – STAP industry payment scheme launched
- 2014 – New Indexes released
- 2015 – New database and website launched
- 2016 – Collected 18,000 DNA Samples/ Data quality index
- 2017 – Health Index
- 2018 – Launched LambPlus App



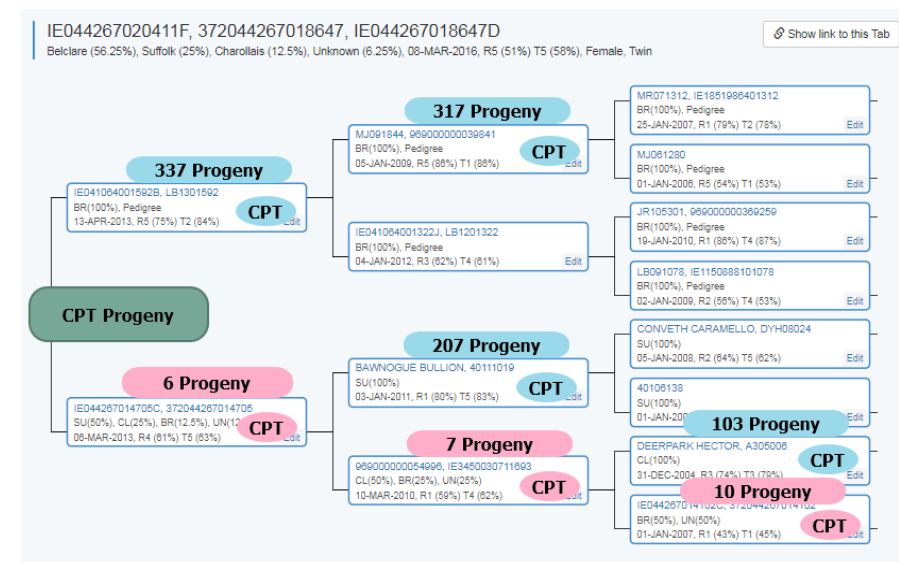


# LambPlus

- The service centre
- Add value
- Educate
- Build confidence

# Central Progeny Test (CPT)

- 4 commercial farms ~ **2,500 ewes**
  - Genetic Linkage
  - Collecting data on novel traits
  - Proving new maternal bloodlines
  - Validation

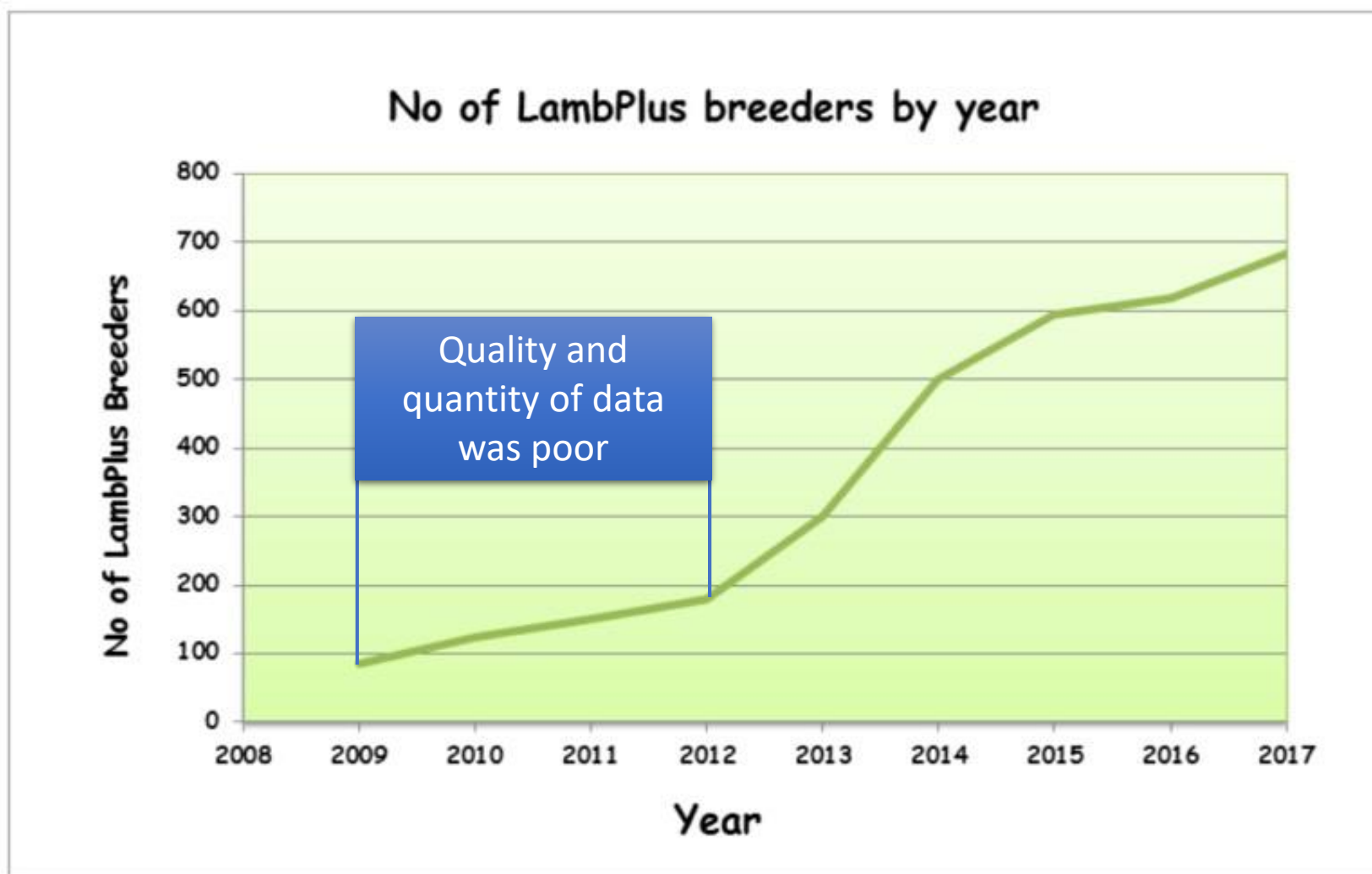


# Maternal Lamb Producer Groups

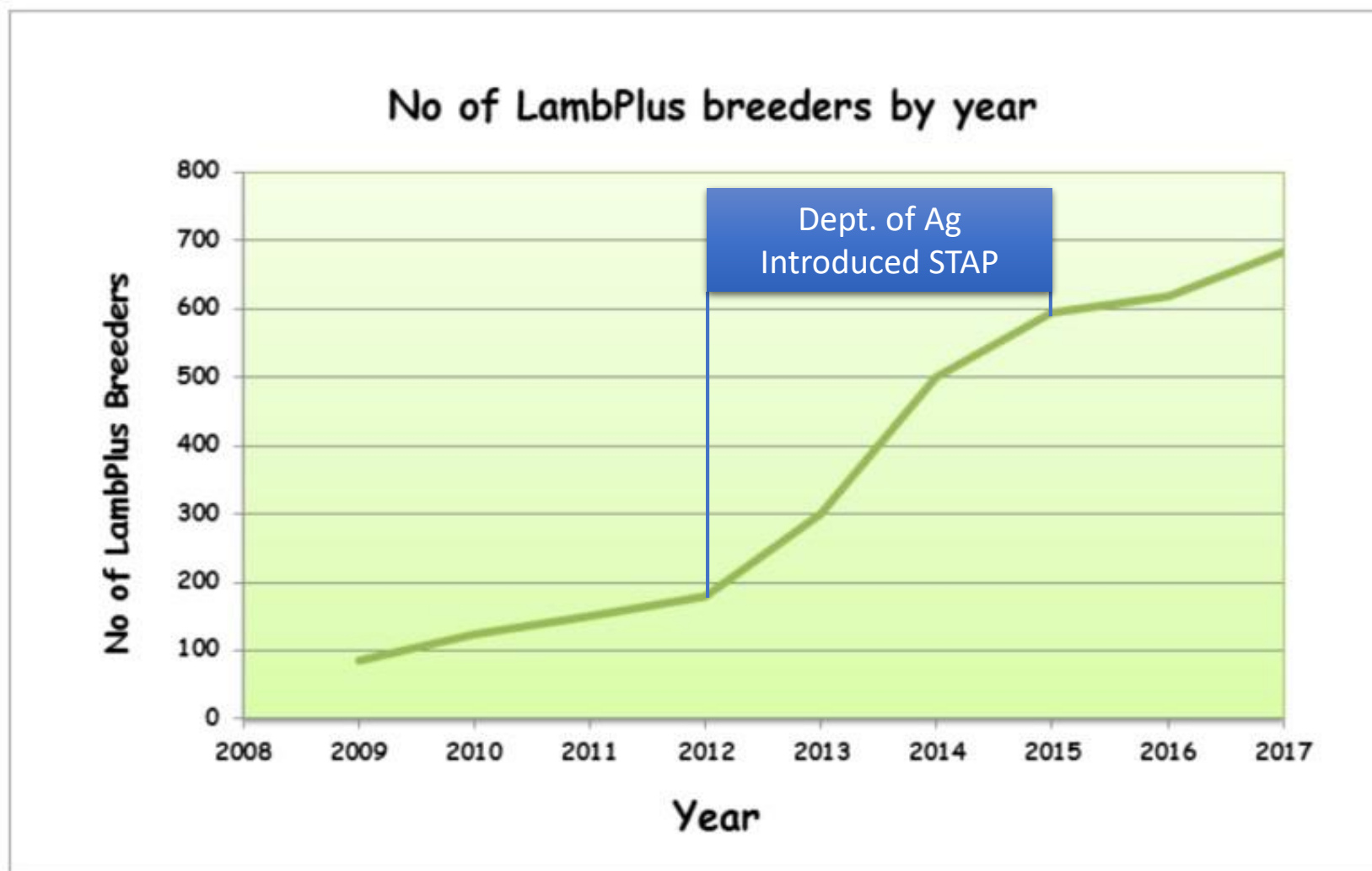
- 22 commercial flocks
- Source of Commercial data
- DNA-based parentage technology

Ceased in 2015

# Phase 1: Setting up

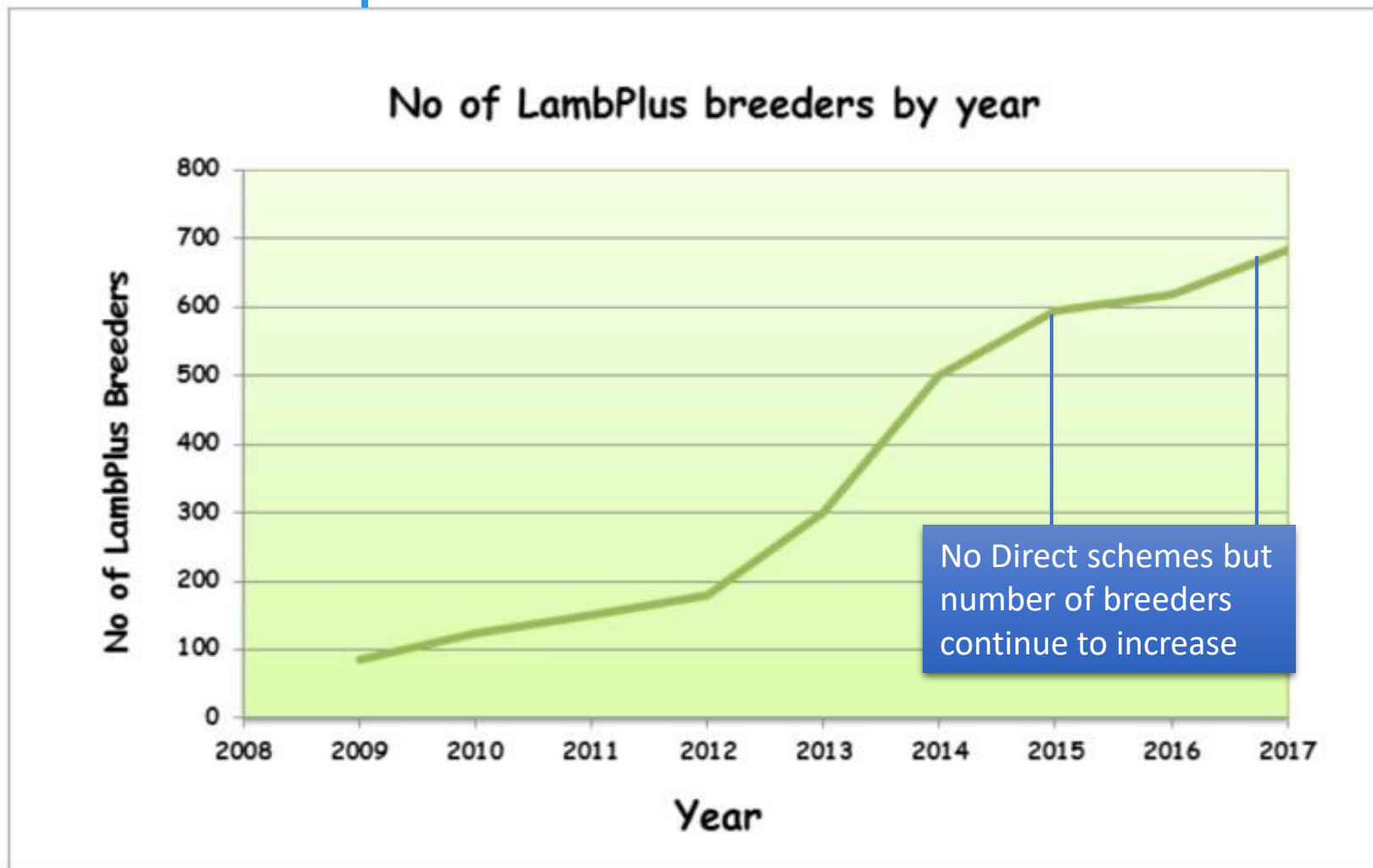


# Phase 2: Substantial data flow

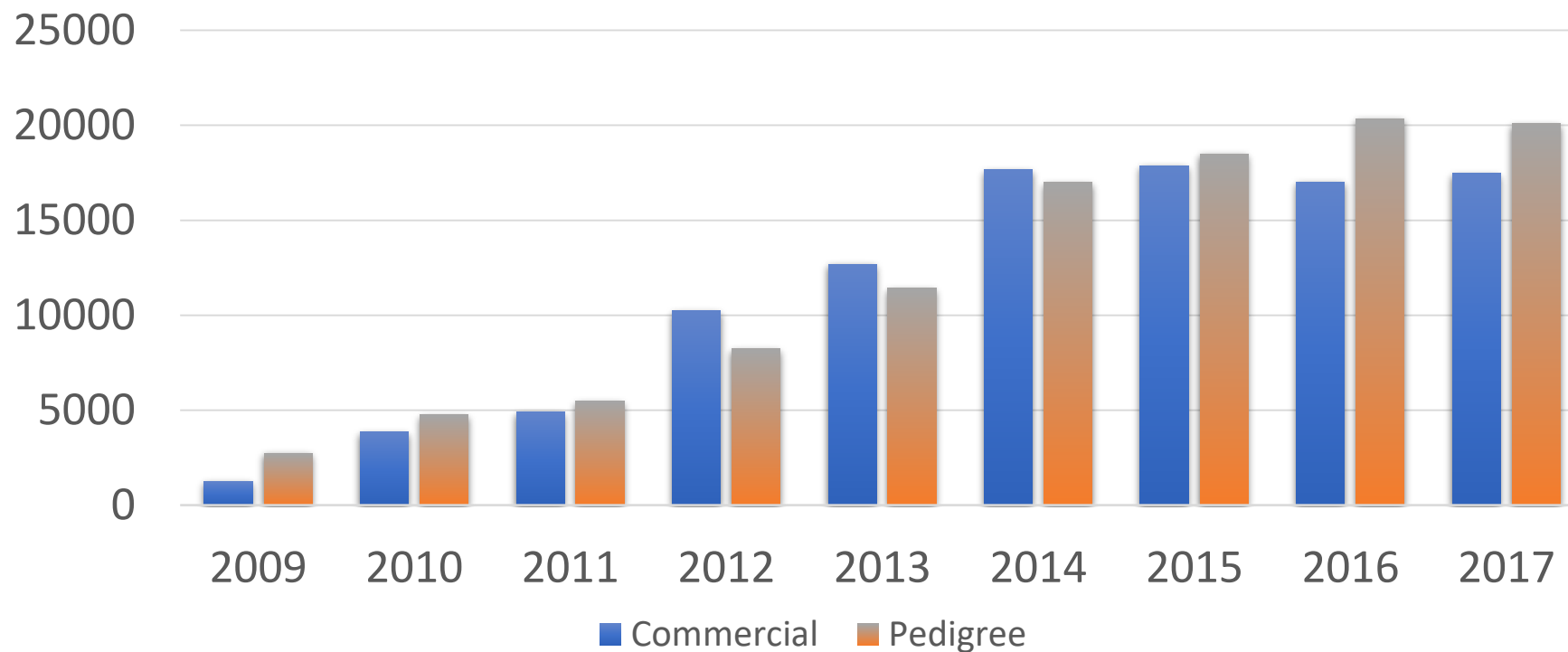




# Phase 3: Expansion



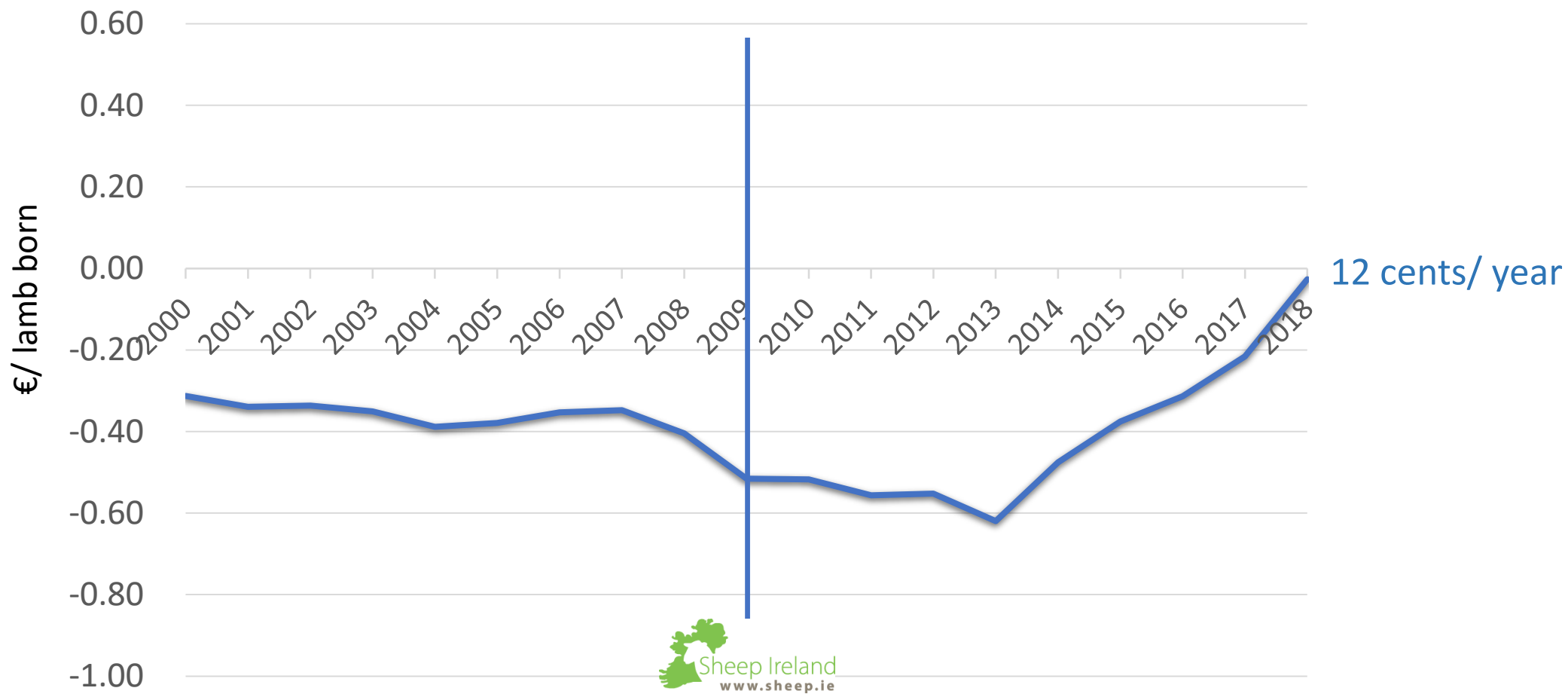
# Growth in data – lambs recorded



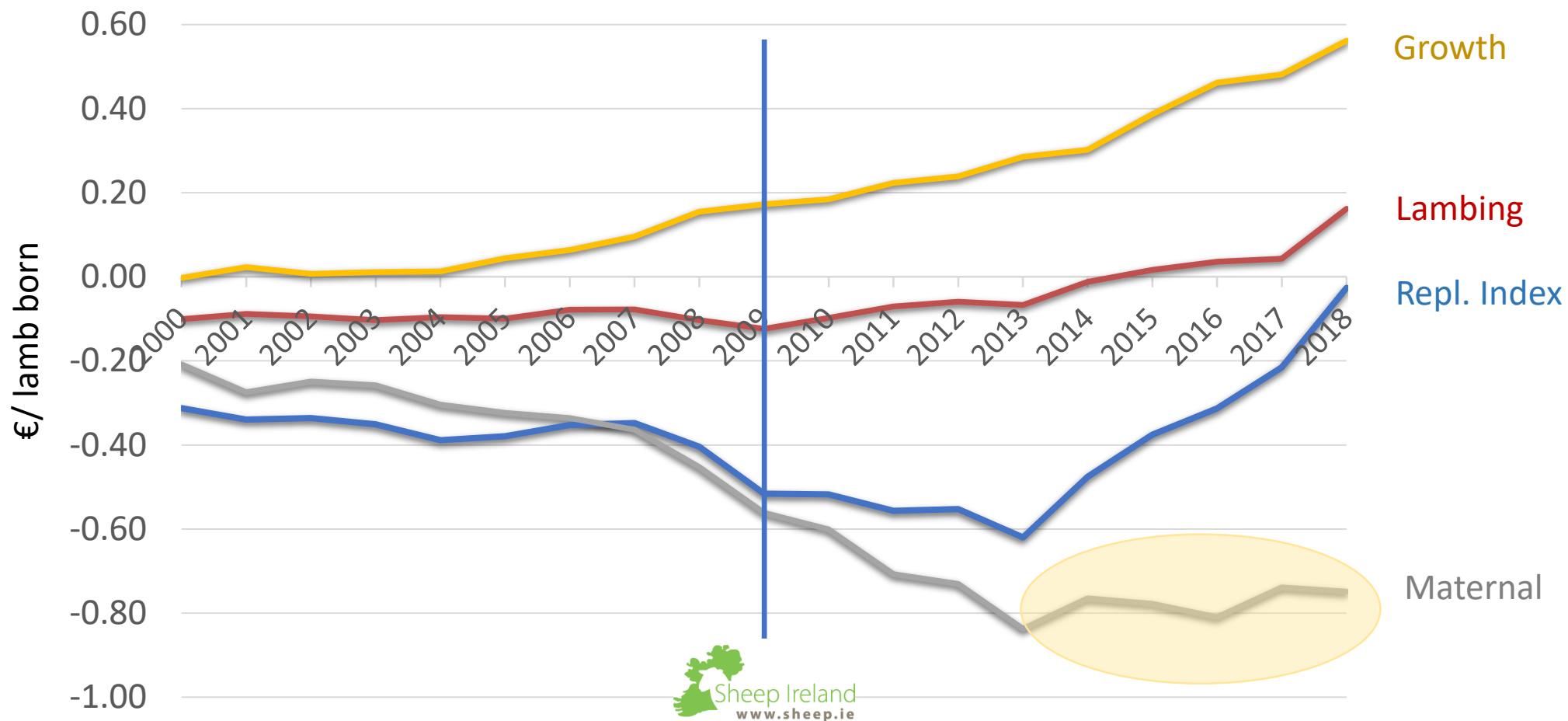
# Terminal index trend



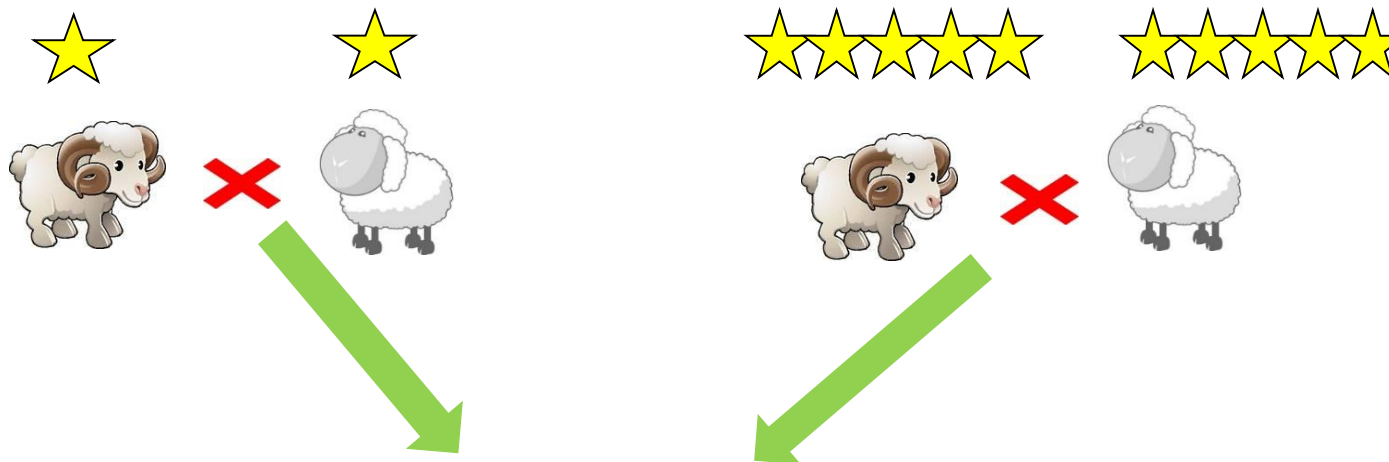
# Replacement index trend



# Replacement sub-index trends

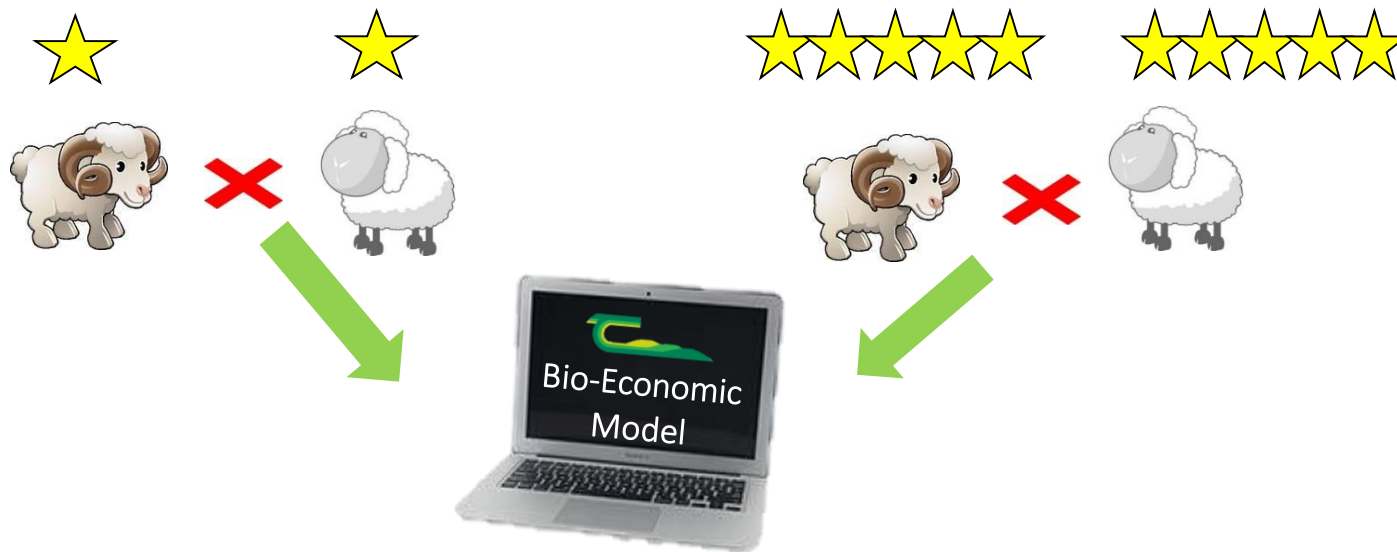


# What's it worth?



Index	Trait	★	★★★★★	Difference
Replacement	Lamb Mortality (%)	10.7%	9.5%	-1.20%
	Number of lambs born	1.92	1.97	0.05
	Ewe mature weight (kg)	78.7	76.8	-1.9
Terminal	Lambing Difficulty (%)	23.1%	18.2%	-4.9%
	40 Day weight (kg)	18.1	20.2	2.10
	Weaning weight (kg)	31.9	34.5	2.60

# What's it worth?



## Fully recorded flock

- 1 Star X 1 Star
- 5 Star X 5 Star

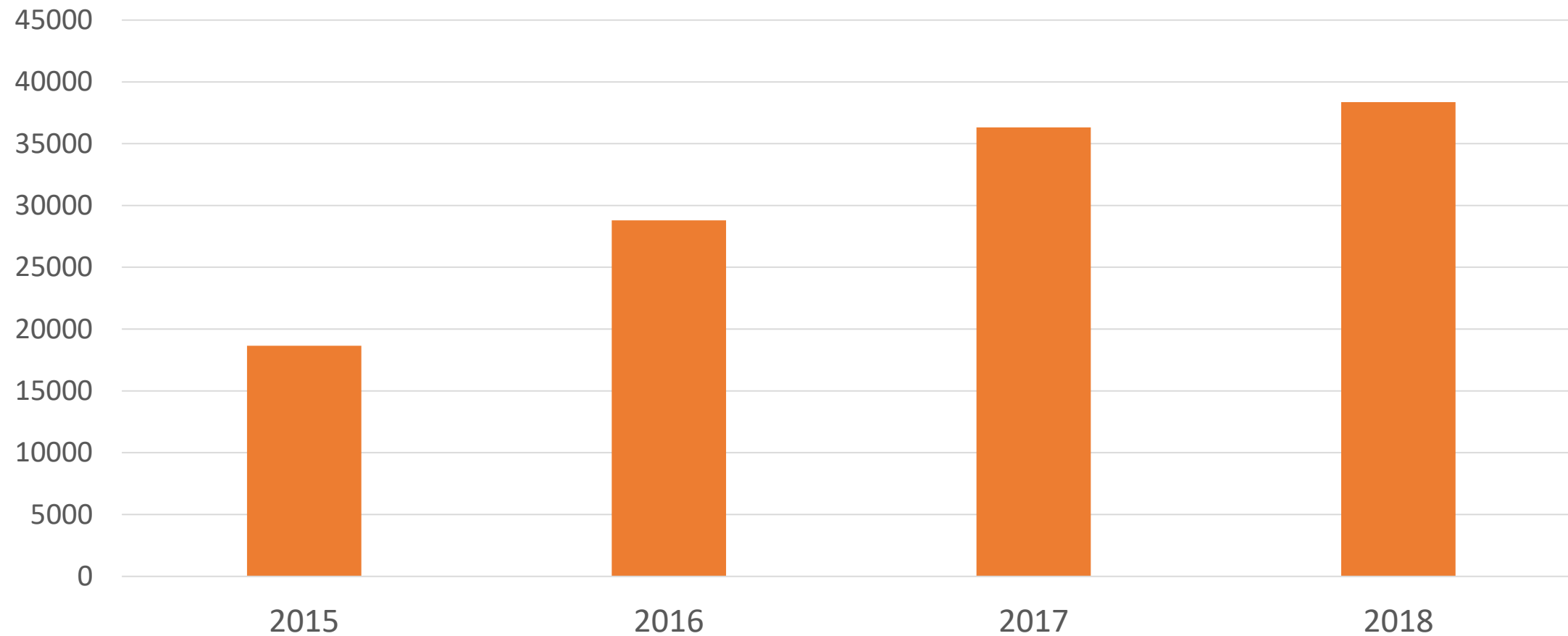
Difference in profit of **€20/ewe**

## Commercial Flock

- Non-recorded
- Using 5 Star rams VS 3 Star

Difference in profit of **€5/ewe**

# Searches on RamSearch.ie





# The future - New traits

- Age at slaughter
- Lamb vigour
- Mothering ability
- Mastitis
- Ewe productivity (number of lambings)
- GHG emissions



## The future

- Inclusion of more traits
- Routine genomic parentage assignment
- International EBVs
- Across-breed evaluations
- Maternal sub-index gains
- Genomic Evaluations
- ...

# New challenges

- Overcome use of non-recorded rams (est. to be 75% of rams used)
- Labour costs
- Global market uncertainty
- Lack of factory data from commercial animals
- Consumer traits (e.g. eating quality)
- Overall industry direction - a new “Malone” report?
  
- **The hippo is still chasing**



 Sheep Ireland  
[www.sheep.ie](http://www.sheep.ie)



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