

Updating the economic values

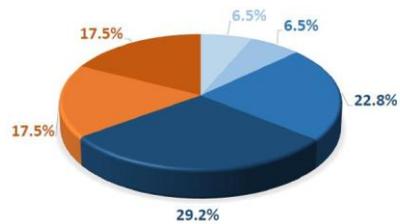


E. O' Connor, J. Herron, L. Shalloo, P. Creighton, F. McGovern, J. Anderson, L. Chipondoro and N. McHugh
Sheep Ireland Industry Meeting
11th December 2025

Indexes internationally

1. Desired gains

- Canada, UK



- Lamb survival dir (6.5%)
- Birth weight dir (6.5%)
- 50d weight dir (22.8%)
- Gain 50-100d (29.2%)
- Fat (17.5%)



	Terminal Sire (CT Index)	Terminal Sire (Non-CT Index)	Maternal Index
Eight Week Weight EBV	0.1	0.9	2.8
Scan Weight EBV	0.85	0.8	0.1
Muscle Depth EBV	0.8	2.5	2
Fat Depth EBV	0.5	0.5	0.5
Litter Size Born EBV	0	0	14
Litter Size Reared EBV	0	0	37
Maternal Ability EBV	0	0	5
CT Lean Weight EBV	4.5	0	0
Ct Fat Weight EBV	1	0	0
CT Gigot EBV	0.1	0	0

2. Economic values

- UK, New Zealand, Australia

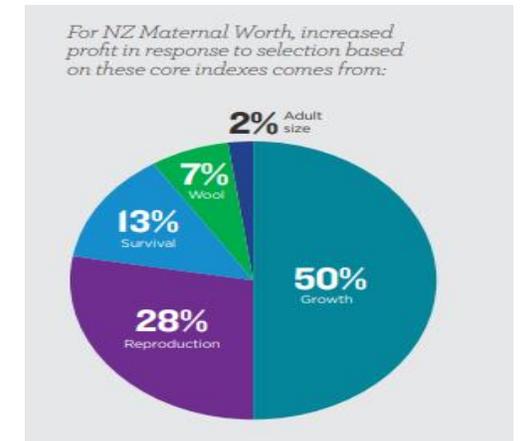
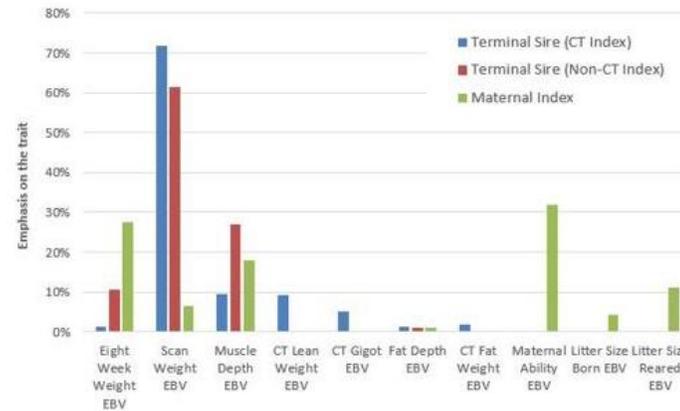
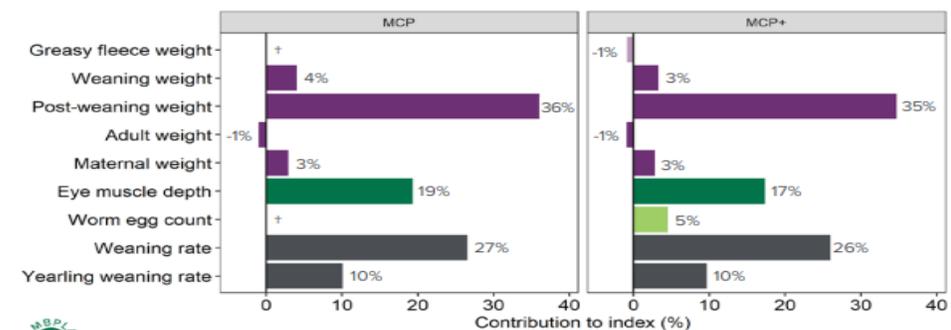


Figure 2: The traits in the MCP and MCP+ indexes and how they contribute to the overall balance of the indexes in the top 10% of current maternal breed and composite progeny



Euro-Star indexes

EuroStars		02-DEC-2025
REPLACEMENT: €5.02	TERMINAL: €2.70	
Top 1% Acc 100%	Top 2% Acc 74%	
★★★★★	★★★★★	
Lamb Survivability: 1.42%		Top 1%
Days to Slaughter: 104 days		

Economic Value

Genetic Component



Breeding Values



Bio-economic model

Teagasc Lamb Production Model

Computer simulation of a sheep farm

To determine the effect of system changes on profitability

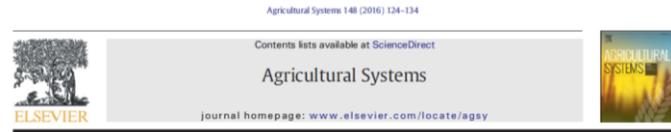
Whole-farm model

Stimulates a 12 month production cycle – beginning at mating



Bio-economic model

Validated against Teagasc e-profit monitor flocks



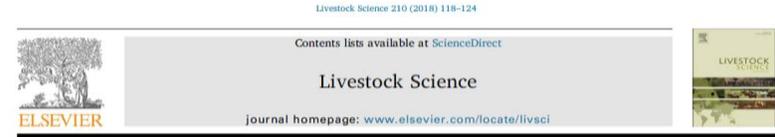
Description and validation of the Teagasc Lamb Production Model

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ARTICLE INFO ABSTRACT

Effect of stocking rate and prolificacy



Investigating the role of stocking rate and prolificacy potential on profitability of grass based sheep production systems

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Effect of genetic merit



Article
Investigating How Genetic Merit and Country of Origin Impact the Profitability of Grass-Based Sheep Production Systems

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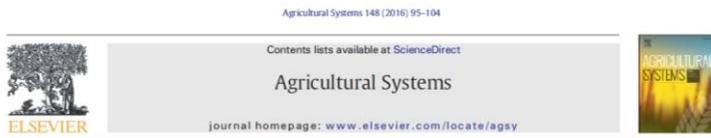


Modelling the production, profit, and greenhouse gas emissions of Irish sheep flocks divergent in genetic merit

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Carbon modelling



A life cycle assessment of the effect of intensification on the environmental impacts and resource use of grass-based sheep farming

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Generation of economic values



Deriving economic values for national sheep breeding objectives using a bio-economic model

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Bio-economic model



Flock net energy

Grass, silage,
concentrates

- Lambing pattern
- Land and capital
- Livestock
- Production
- Animal health
- Sales
- Variable costs
- Fixed costs
- Labour

Inputs



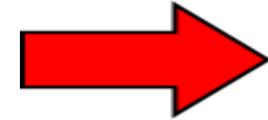
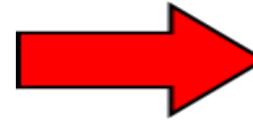
Outputs

Financial

Economic

Physical

Net profit



Objective

1. Update the model including variable costs



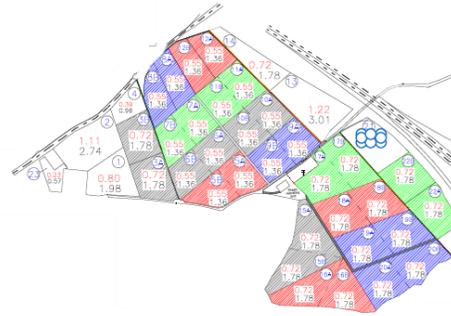
2. Recalculate the economic values for key traits within the indexes

EuroStars		12-AUG-2024
REPLACEMENT: €2.52	TERMINAL: €2.89	
Top 7% Acc 79%	Top 7% Acc 80%	
★★★★★	★★★★★	
Lamb Survivability: 1.80%	██████████	Top 4%
Days to Slaughter: -18.9 days	██████████	Top 13%
No. Lambs Born: -0.05	██████████	Top 44%
Daughter Milk: 0.1 kg	██████████	Top 13%

System modelled



107 ewes



13.27 ha - stocked at 7.50 ewes/ha



Scanning rate: 1.70 lambs per ewe



Mean lambing date: Early March



Weaning rate: 1.48 lambs per ewe

Updating Variable Costs

Current version: average costs of 5 years from 2010 to 2014

New version: average costs of 4 years from 2020 to 2023

Costs in line with Teagasc Dairy and Beef models

Variable cost	Source
Silage harvesting	FCI contracting charges guide, Teagasc reports
0-7-30 cost per tonne	CSO
18-6-12 cost per tonne	CSO
CAN cost per tonne	CSO
Urea cost per tonne	CSO
Lime cost per tonne	Co-ops
Reseeding cost per ha	Teagasc reports
Labour (per hour)	Job advertisements

All increased

Updating Variable Costs

Sheep specific variable costs

Variable cost		Source
Opportunity cost of land		Teagasc/SCSI Agricultural Land Market Review & Outlook 2025
Concentrates lamb		CSO
Concentrates ewes		CSO
Wool price per kg		Wool reports
Lamb price		European Commission

Traits investigated

Trait Group	Objective trait	Unit
Maternal	Number of lambs born	lamb born
	Ewe mature weight	kg
	Ewe barrenness	%
Lambing	Lambing difficulty single	%
	Lambing difficulty single - maternal	%
	Lambing difficulty multiple	%
	Lambing difficulty multiple - maternal	%
	Lamb survival to birth	lamb surviving at birth
	Lamb vigour	Score from 1 to 5
Production	Days to slaughter	days
	Ewe milk	kg
	Carcass conformation	grade
	Carcass fat	score from 1 to 5
Health	Lameness ewe	%
	Lameness lamb	%
	Dag score	dag score from 1 to 5
	FEC	eggs per gram

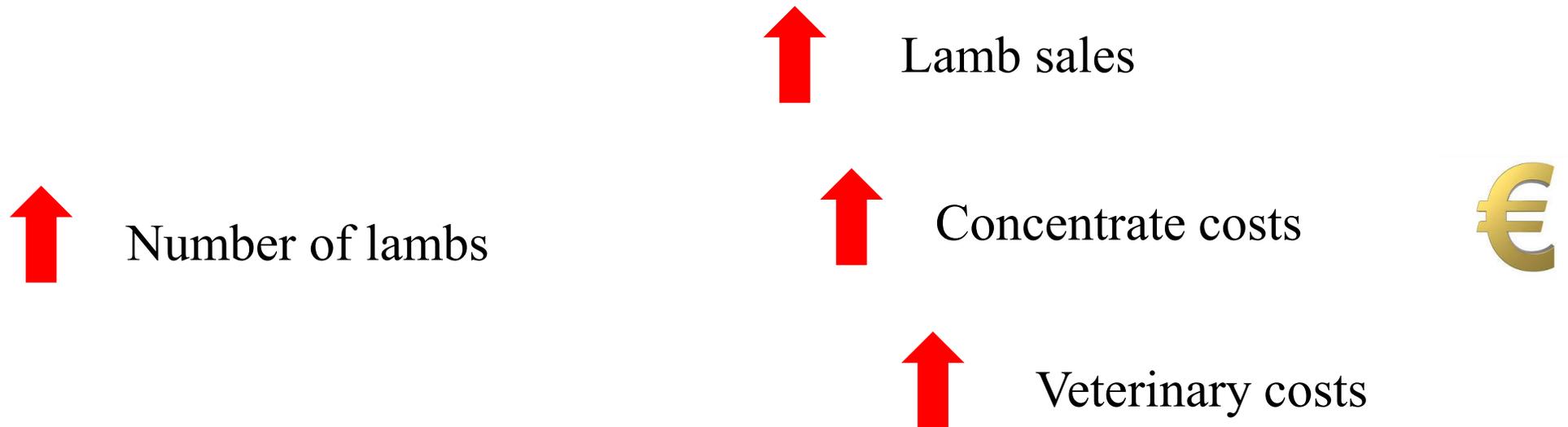
Economic value



- Modelled a one unit increase in each individual trait independently while holding all other traits constant
- The difference in net profit between the changed and default scenario

Number of lambs born

- Measurement of all the lambs the ewe gives birth to including dead and alive lambs per lambing
- **The value of one additional lamb surviving past 48 hours**





Conclusion

- Economic values have increased
- Increased production costs and lamb price are driving the increase