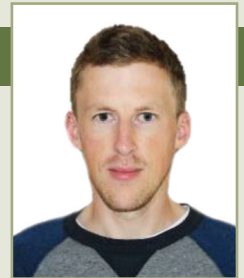


GENETIC IMPROVEMENT OFFERS HUGE POTENTIAL for organic sheep farmers

Eamon leads up the OviData EIP-Agri project and is the former lead of Ireland's sheep breed improvement programme run by Sheep Ireland. This programme has grown rapidly since it began in 2009 and Irish sheep farmers can now use the information generated by Sheep Ireland to boost farm profitability by using the best sheep genetics available. Eamon also farms part-time on his sheep and suckler farm in Co. Waterford so is well placed to identify the current day challenges facing Irish farmers.

by Eamon Wall

OviData EIP-Agri project leader, Sheep Ireland and part-time organic farmer



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine



The OviData EIP-Agri project is co-funded by the Department of Agriculture, Food and the Marine and the European Commission.

Breeding and genetics

Improvements in breeding or genetics is one of the most powerful tools available to any farmer involved in animal production. Many variables can affect such enterprises each year, weather, price volatility, input costs, etc, but if a farm has invested in better genetics they will always reap the benefits of this, in good times or in bad. Once delivered, genetic improvement will remain forever and can be built on further in following years. Farmers can benefit from

genetic improvement without even knowing about it – by buying a ram from a ram breeder actively engaged in genetic improvement, a farmer will bring better genetics into their flock whether they were looking to do so or not.

“An ounce of breeding is worth a tonne of feeding” is an adage often used by farmers interested in animal breeding. It's true! Genetic improvement sounds scary to many sheep farmers, it's actually something farmers have done for generations without even knowing it. Each time a sheep farmer selects a breeding ram to purchase, or a female to retain as a breeding animal, there are reasons behind these selection decisions. For most it's the look of the animal, its size, length, etc. Selecting on these visual traits will in turn, promote these traits – so in time the farmers sheep will eventually get bigger and longer. Unfortunately, the traits which are most influential in terms of increasing efficiency and profitability on sheep farms are impossible to select by eye.



Ewes assembled for some pre-mating data collection on one of the OviData flocks



An EID wand reader which links with the free Sheep Ireland

Take a trait like NLB (number of lambs born per ewe). This is one of the main drivers of profitability on all sheep farms. The Irish industry as a whole has made no progress on this trait for the past 40 years, remaining static at 1.3 lambs reared per ewe per year. The reason is simple, this is a trait that cannot be assessed by eye in advance of each breeding season (autumn). To improve this trait requires the collection of data over a number of years and then using this data to make breeding/culling decisions. The same process is required for other 'invisible' traits.

OviData EIP-Agri

The OviData EIP-Agri project aims to bring Irish commercial sheep breeding into the next generation. It sets out to collect performance data on Irish sheep enterprises (across 1,500 ewes) and assign parentage to all lambs born through DNA (genomics). Assigning parentage is a critical step as it unlocks the maximum value from the performance records collected on individual sheep. Without parentage information these performance records would be of far less value. Yes, they would tell us how an individual is performing, but big gains can only be made by assessing performance at a bloodline/family level. DNA also allows us to identify the sire of lambs born, an impossible task for most sheep farmers who use a 'team' of rams to protect against possible fertility issues. Knowing lamb sires is incredibly valuable. When combined with performance data we can identify the top and bottom performers very easily.

Two years have passed for the OviData project now and we've collected huge amounts of data, assigned parentage to over 5,000 lambs, identified lots of 'superstar' performers which can now be promoted within our project flocks and identified some rams that failed to impregnate any ewes at all – all of which we would be blissfully unaware of without the project. We are now building a model that can be followed by any farmer in Ireland and such a system is now in place.

Sheep Ireland (www.sheep.ie) offer a free flock recording service to Irish sheep farmers. The learnings from the OviData EIP project are being put into practice via this national flock recording resource. Sheep Ireland is an industry wide, non profit making organisation funded by the Irish Department of Agriculture and Irish sheep farmers via a levy on slaughtered sheep.

Sheep Ireland produce genetic indexes (EuroStar indexes) for pedigree ram breeders all over Ireland and commercial sheep farmers can use these indexes (using the Terminal index) to find rams that will breed faster growing lambs that have a higher survival rate than the average sheep.

Farmers can also use these EuroStar indexes (using the Replacement index) to breed better female replacements thus delivering a more profitable future for their sheep enterprise. Ewes that have two lambs, lamb down without intervention and do a great job rearing their lambs is what the vast majority of sheep farmers desire – the Replacement index in the EuroStar evaluations will help you achieve this objective.

Owner: John Farmer (DQI: 31%); Castletroy, Tully, Co. Kerry		Breeder: John Farmer; Castletroy, Tully, Co. Kerry		EuroStars		15/07/2020
Lot: 1	Animal IE041234503204B DEF1901585 Tully Tank	Ancestry Stonehill Wagner CAT15003 Star Wonder FAN13095 Opel Yemen Boy (CPT Sire) DAB16069 Bally Dam ABC14013 Castle Eugene (CPT Sire) CAS13008 Bally Superstar ABC11088		Replacement (€2.39) Acc 52% Rank Top 3%	Terminal (€1.93) Acc 53% Rank Top 4%	
DOB: 04-Mar-2019	Texel	M & F Scanned: Yes		★★★★★ ★★★★★ ★★★★★		
Male	Twin	Comment:		Lamb Survivability (0.7%)	0% ——— Top 10% V 100%	Acc 53% A
Parentage DNA Verified				Days to Slaughter -11.96 days	0% ——— Top 2% V 100%	Acc 62% A
				No. of Lambs Born (€0.24)	0% ——— Top 6% V 100%	Acc 53% A
				Daughters Milk (€1.72)	0% ——— Top 6% V 100%	Acc 54% A

An example of EuroStar evaluations for a ram from a sale catalogue

Can recording flock data be beneficial to organic sheep farmers?

Further to the use of high EuroStar index rams to mate with your ewes, the recording of data on your ewes can deliver major gains. These potential gains are even more relevant to organic lamb producers given that the safety net of artificial fertilisers, cheap concentrates and/or routine anthelmintic treatments are not available in times of poor animal performance. It is important to note that flock performance recording can occur in many different forms, from the use of simple management tags/cull tags to identify problem ewes (and their offspring), right up to very detailed records on an individual ewe level. The introduction of EID can now make data recording a much easier process than the traditional pen and paper methods employed by many in the past. Making use of EID tags does however require some investment to purchase some form of EID tag reader. The Department of Agriculture have made this equipment available for grant funding via TAMS and for those interested this funding should be availed of.



Collecting lamb and ewe weaning weight data on a hill flock in the West of Ireland under the OviData EIP project

How can organic flocks get involved in performance recording?

There are many different EID packages and systems on the market from basic EID tag readers (that will read a list of tags) up to a system that will allow you to record a huge array of data on an individual sheep over its lifetime. Sheep Ireland have developed a free smartphone app that any Irish sheep farmer can download for use. To set your flock up on this app, you need to contact Sheep Ireland directly (023 88 20 451 or email query@sheep.ie). This app offers a fantastic 'entry level' system for flock performance recording and will provide your flock with lots of very useful online flock performance reports.

Maximising genetic improvement in organics in summary

At the minimum, organic flocks should consistently use high index EuroStar rams. This approach has been proven to improve flock performance and profitability. In addition to this some level of flock performance recording can be employed to increase the performance of the flock. For anyone interested in discussing how performance recording could be applied to your flock, contact Sheep Ireland today. For updates on the OviData EIP project follow us on Twitter: [@DataOvi](https://twitter.com/DataOvi)

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