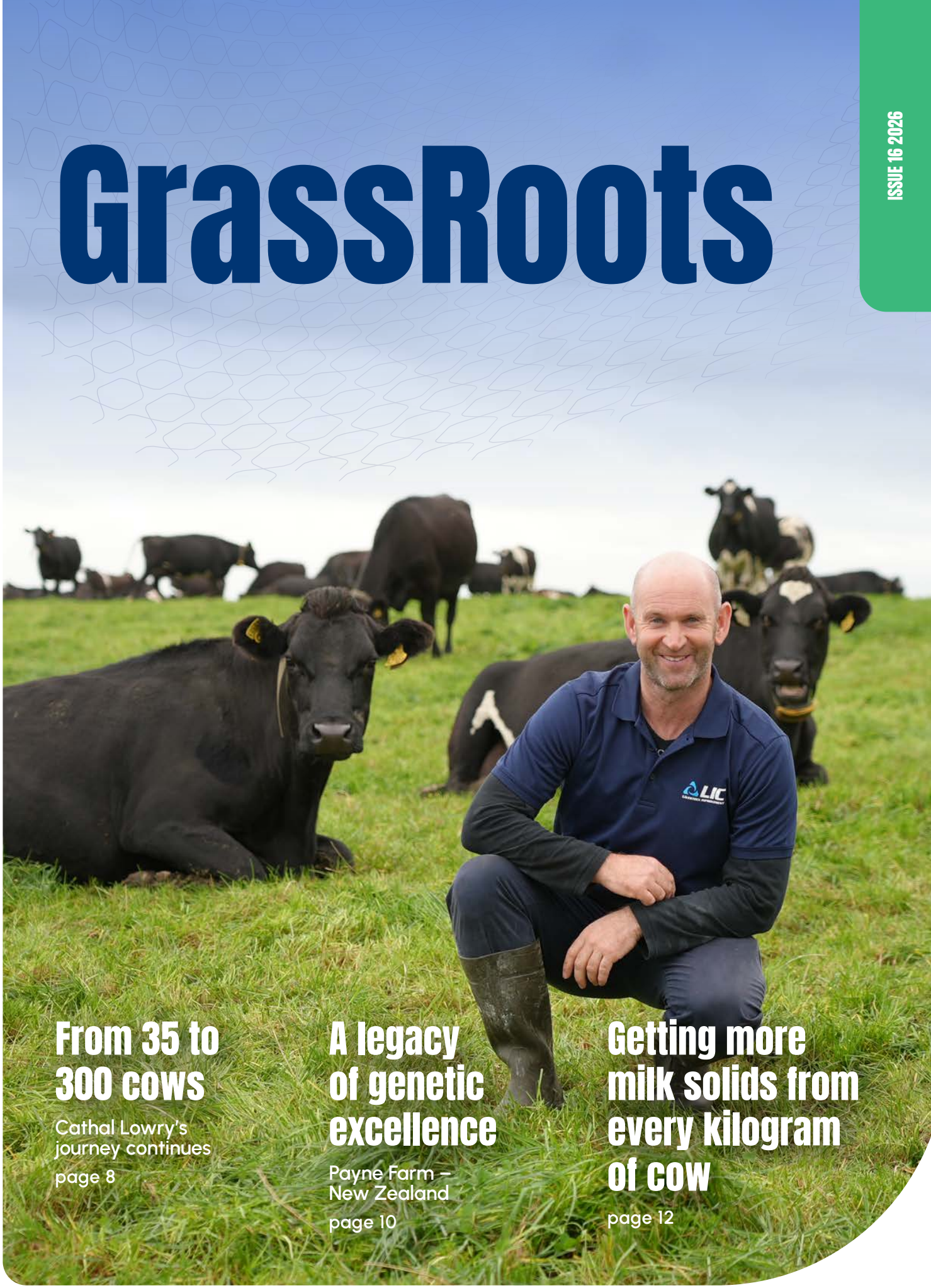
GrassRoots

ISSUE 16 2026



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LIC® LIVESTOCK IMPROVEMENT

Building better herds, season by season



James Simpson
General Manager, Europe

It's been a challenging few months for many, and as the seasons change, I hope there's an opportunity to take a step back, recharge and refine plans for the upcoming spring production season. This edition of GrassRoots offers ideas and insights that you may find useful on your own farm.

Across Irish dairy farming, one theme keeps emerging: successful farms are not chasing a single trait or silver bullet. Instead, they're building resilient, profitable systems through consistent breeding decisions, clear objectives, and a strong focus on efficiency.

The articles in this issue explore how genetics, reproductive performance and practical farm management work together to shape the next generation of dairy cows.

We look at how genetic gain is achieved through deliberate breeding decisions, from selecting the right replacement dams and building balanced sire teams to using genomic information with confidence. Herd improvement is a long-term journey driven by consistency and purpose.

Reproductive performance remains central to that journey. Strong fertility provides farmers with greater flexibility, more replacement options and the potential to improve herd profitability. Careful planning, performance monitoring and a sustained focus on fertility can help farmers achieve impressive results.

Efficiency is another key focus, whether measured through milk solids produced per kilogram of liveweight, demonstrated by Jerseys producing their own bodyweight in milk solids, or achieved through crossbred grazing systems that maximise grass utilisation. Across each example, the message is clear: productive cows must also be efficient, fertile and functional.

We have some great Irish farming stories in this edition, and we profile New Zealand farmer Brad Payne, winner of LIC's 2026 International Sire of the Year award – KiwiCross®. A prestigious award reflecting the strong global demand for New Zealand genetics and the proven value they deliver in pasture-based farming systems worldwide.

Together, these articles highlight a simple principle: when breeding, fertility, efficiency and farm fit work in harmony, long-term progress follows. It may be gradual, but season by season, it builds.

Best wishes,

James Simpson
General Manager, Europe

Cover photo: Cathal Lowry and his herd in Co. Galway.

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Better cows with LIC, one breeding season at a time



A practical guide to turning genetics into steady herd improvement on Irish farms.

Eoin Kennedy, Strategic Market Lead – LIC Ireland

The principle is simple: choose the right animals, use reliable breeding information and bring improved genetics into the herd sooner.

Most farmers are not looking for another complicated formula. They want cows that calve on time, get back in calf quickly, walk to grass, milk well and come through the parlour without drawing attention to themselves. And they want each new generation to do those things a little better than the last.

At its simplest, herd improvement is about consistently breeding better cows that suit your farm system.

Ask yourself a few practical questions. Are you breeding replacements from the right cows? Are you choosing bulls that suit your system and spreading risk across a team of sires?

Are you rearing your calves so they have the best chance to express their genetic potential? And are you using herd information to review whether your breeding plan is working?

Get those basics right, year after year, and the benefits build quietly through the herd.

Remember, it can take five years before you realise the full genetic potential of calves born this year.

Begin with the cow that suits your farm

The right breeding plan starts with your farm, your herd and your goals.

Working with your LIC breeding advisor can help translate those priorities into practical breeding decisions.

The best cow is the one that works most profitably and reliably within your farming system – not necessarily the one with the highest milk production. The clearer you are about the cow you want, the easier it becomes to select bulls that will move your herd in that direction.

On a grass-based Irish farm, that will typically mean a cow that calves within the desired window, grazes well, maintains condition, gets back in calf quickly, and produces valuable milk solids efficiently, without requiring excessive feed or labour.

Before opening a bull catalogue, establish a clear breeding objective and identify the traits that will make the greatest difference to your herd. These may include production, fertility, capacity, milk solids percentage, liveweight, temperament, milking speed and udder conformation.

LIC's breeding strategy focuses on helping farmers breed cows that thrive in pasture-based systems, efficiently converting grass into milk solids while remaining fertile, healthy and easy to manage.

Breed replacements from your better cows

One of the most practical ways to accelerate herd improvement is to become more selective about the cows that produce your replacement heifers.

Not every cow needs to breed the next generation. Identify cows that combine strong genetic merit with the traits most important to your breeding objective, that may include milk solids, fertility, capacity, liveweight, functional udders, and the ability to consistently perform within your system.

You can do this by using the filter functions on your milk recording and EBI profiles and milk recording Data on ICBF.

EBI Profile

Sep 2026

Scorecard (Sep 2026)	My Herd	National Average	Top 10%	Herd % Rank	Star Rating
Herd EBI	€177	€116	€172	94%	★★★★★
Milk	€42	€24	€39	94%	★★★★★
Fertility	€81	€44	€79	93%	★★★★★
Carbon	€8	€9	€16	43%	★★★☆☆
Calving	€27	€17	€25	95%	★★★★★
Beef	€3	€-1	€10	67%	★★★★☆
Maintenance	€11	€19	€35	16%	★☆☆☆☆
Management	€-2	€-1	€1	11%	★☆☆☆☆
Health	€8	€10	€13	12%	★☆☆☆☆

FR9817 Bellamys DM **Galant**-ET S1F

Holstein Friesian F16

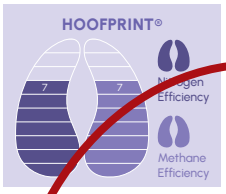
€164/73% EBI REL



Daughter of GALANT

IRELAND VALUES			
Milk Production SI	82	Calving Interval (days)	-1.34
Fertility SI	49	Survival	2.67
Carbon SI	15	Cow Calving Difficulty	2.83
Calving SI	16	Heifer Calving Difficulty	5.59
Beef SI	-75	Somatic Cell Count	-0.06
Health SI	21	Milk kg	-145
Maintenance SI	55	Fat kg/%	14/0.35
Management SI	2	Protein kg/%	5/0.18

NEW ZEALAND BREEDING DETAILS				8380 Daughters	
Volume	-126	Protein	14/4.4	Milkfat	36/5.5
Somatic Cell	-0.44	Cow CD	0.3/99	Heifer CD	8.9/91
Gestation Length	0.6	Body Cond	0.12	Func Surv	4.7
Fertility	5.9	Liveweight	53	Udd Over	0.17



$310/98% BW REL

Sire	Dicksons LG Mandate S1F
Maternal GS	San Ray FM Bl[illegible]mer-ET S2F
Maternal GGS	Fairmont Mint-Edition

NZ EVALUATION DATA		Traits other than production
MANAGEMENT	gBV	-0.50 0 0.5 1.0
Adaptability to Milking	0.03	
Shed Temperament	0.02	
Milking Speed	0.15	
Overall Opinion	0.17	
CONFORMATION		159 daughters TOP tested
Stature	0.67	
Capacity	0.62	
Rump Angle	0.21	
Rump Width	1.00	
Legs	0.10	
Udder Support	0.17	
Front Udder	0.28	
Rear Udder	0.24	
Front Teat Placement	-0.10	
Rear Teat Placement	0.05	
Teat Length	-0.25	
Udder Overall	0.17	
Dairy Conformation	0.69	

Breed cows to high-ranking dairy sires that complement their strengths and improve weaknesses. Cows further down the ranking can be considered for beef-on-dairy matings, depending on replacement requirements.

Good selection relies on good information. Milk recording, accurate parentage, fertility records, liveweight and animal health data can all help identify the cows most likely to drive future herd improvement.

Keep the process simple: measure, rank and act. Use the information available to identify your better animals and make deliberate mating decisions.

Choose balance, not one headline figure

It is easy to be drawn to a bull with standout production or a high overall ranking, but no single number tells the full story.

A high-ranking bull still needs to align with your breeding objective. If fertility is limiting herd performance, selecting only for production will not solve the problem. Likewise, if cows are becoming too large for a grass-based system, adding more size may increase maintenance requirements rather than improve efficiency.

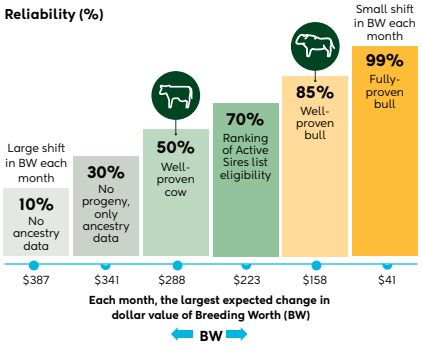
Focus on the traits that matter most to your farm and build a balanced sire team that addresses weaknesses while protecting the strengths already present in the herd.

Reliability is about confidence

Alongside a bull's breeding figures, you will often see a reliability percentage. This indicates how much information supports the genetic evaluation and therefore how much confidence can be placed in the estimate. A higher percentage means greater confidence in the estimate and less likelihood of significant change as more information becomes available. It does not mean the bull is better, only that his genetic merit is known with greater certainty.

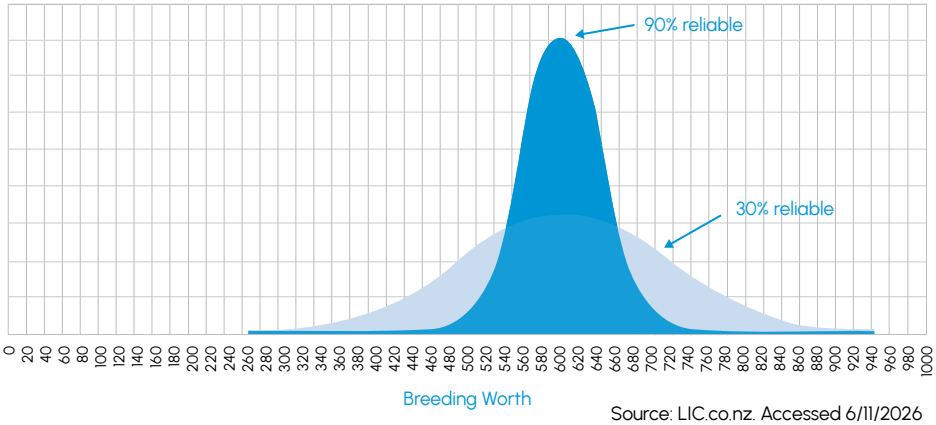
LIC's breeding programme places selection pressure on multiple traits important to farmers.

Figure 1. Progression of reliability % with additional phenotypic records.



Source: dairynz.co.nz. Accessed 6/11/2026

Figure 2. Potential true BW spread for an animal of 30% versus one of 90% reliability.



Source: LIC.co.nz. Accessed 6/11/2026

The result is a herd that is very well suited to commercial pasture-based systems – production efficient, robust and a pleasure to milk.

Young sires naturally begin with less daughter information than established daughter-proven bulls. Genomic evaluation helps build confidence earlier by combining DNA information with ancestry and population data.



LIC Team - L to R: Enda Phelan, Sean Chubb, James Simpson, Tom Smith, Karen Delaney, Eoin Kennedy

As daughters begin milking and contribute performance records, reliability increases. This allows farmers to balance certainty with genetic progress.

Use a team of bulls

Using a team of bulls helps spread risk. If one bull's evaluation changes as more information becomes available, only a portion of the breeding programme is affected. The objective is for the team to deliver the desired average outcome across the replacement group.

The team approach is particularly valuable when using genomic sires. LIC estimates show that increasing a team from one genomic bull to three can lift overall team reliability from approximately 55% to 90% (Table 1).

Table 1. Estimated team gBW reliability for varied numbers of young genomic bulls (*approximations only)

Number of Young Genomic Bulls	1	2	3	4	5
Team gBW Reliability (%)*	55	78	90	95	98

While approximate, the figures demonstrate the value of spreading matings across several sires.

More is not always better. Choose a sufficiently broad team of high-ranking, complementary sires that align with your breeding objective.

Look at what stands behind the straw

The bull you see in the catalogue is the result of an extensive breeding programme and intensive selection pressure. Each year, LIC genomically evaluates large numbers of young Jersey, Jersey-Friesian cross and Holstein Friesian bulls from New Zealand's national herd of more than 6 million females. Candidate bull calves and their dams are physically assessed, with only a small number progressing to sire proving and being marketed.

This robust selection system is supported by contract mating programmes, genomic data, parentage verification and real-world performance information from daughters in commercial dairy herds. With around 82% of New Zealand cows milk recorded, LIC can draw on extensive performance data to identify bulls with the greatest potential to deliver genetic gain.

Why should this matter to an Irish farmer?

The quality of a genetic evaluation depends on the information behind it.

Make breeding an annual routine

Herd improvement does not require a complicated master plan. It requires consistency.

1. **Review your breeding objective.** Focus on the traits that influence profitability, resilience and workload on your farm. Remember to be consistent with your breeding strategy long-term.
2. **Rank potential dams.** Breed dairy replacements from the cows most likely to move the herd forward.
3. **Choose a balanced sire team.** Consider overall genetic merit, reliability and prioritisation of traits as well as genetic diversity.
4. **Use genomic genetics wisely.** Gain earlier access to genetic progress while managing risk across several sires.
5. **Review the results.** Assess the heifers entering the herd and refine the next breeding plan accordingly.

Genetic improvement does not happen overnight, but decisions made this season shape the heifers entering the herd in future years.

Keep your objective clear, breed from your best cows and use a strong, balanced team of bulls.

Over time, the breeder's equation becomes less about the formula and more about consistently building the kind of herd you want.

Your LIC breeding advisor can help tailor these principles to your breeding objective and farm system.

Beyond the small cow:

Breeding Jerseys to do more with less



Donal O'Loughlin



Farming neighbours John Moore and Donal O'Loughlin milk approximately 450 NZ Jersey cows between them on similar hillside farms along the Tipperary-Waterford border.

Their once-a-day (OAD), grass-based systems produce approximately their own liveweight in milk solids annually, while maintaining strong fertility performance. Stocking rates are adjusted to match seasonal grass growth.

John and Donal share a breeding strategy prioritising production, genetic appetite – combining body condition score and capacity – fertility and overall efficiency.

The focus is a commercially efficient, aggressive grazing cow with the appetite, structural capacity and high bite rate to consume large quantities of grass and convert it into high-value milk solids under Irish grazing conditions.

Producing their liveweight in milk solids

Donal's production fell in 2026 after he exited a partnership with his nephew, who took the older cows. Donal retained younger cows and reduced cow numbers, with genetic appetite being central to his 75 ha farm's improving efficiency strategy.

	Total liveweight (t)	Milk solids (t)	Meal (t)	Efficiency
2025	94	92	120	0.94
2026	76	77	100	1.01
2028	72	86	70	1.20

On John's 80 ha farm, his approximately 90% Jersey herd produces its own liveweight in milk solids, with cows walking up to 3 km. His herd's progress is shown below.

	Total liveweight (t)	Milk solids (t)	Meal (t)	Efficiency
2017	100	39.5	120	0.39
2024	117.5	79.5	120	0.67
2025	110	96.6	120	0.88
2026	103	104	130	1.01
2028	100	120	100	1.20

A cow matched to the farm

On both farms, once-a-day milking is a deliberate system choice rather than simply a labour-saving strategy.

The farms contain steep terrain, with cows walking 2-3 km in some areas. The hardier, lighter Jersey is well suited to these conditions.

A 400-420 kg cow has considerably less bodyweight to carry up and down hills than a 500-600 kg cow, while also requiring less energy for maintenance.

At the same time, the Jersey's high milk constituents allow her to produce significant quantities of milk solids from a relatively low liveweight.

The result is a cow that fits both the physical farm and the production system: light and mobile, but with the capacity to maintain high milk solids production under OAD milking.

Breeding for appetite and capacity

Bull selection on both farms focuses on appetite, feed capacity, body condition, udder quality, strength and longevity.

Priests Solaris and Integrity helped establish the genetic foundations of both herds, with 90% of cows currently sired by Integrity, Dexter and Gallivant.

The aim is a cow with the appetite and physical capacity to turn genetic potential into production from grazed grass.

The breeding philosophy is straightforward: cows must have the appetite and capacity to turn genetic potential into production.

This breeding approach is also being put into practice in their younger stock.

Younger Jerseys are predominantly by Montage and Lexicon, selected for body capacity, udder characteristics and appetite.

In-calf heifers also include daughters of the same bulls, selected for capacity and positive body condition to support high grass intakes.





John Moore and his two children, Tiernan and Kaelyn

Pushing efficiency further

Perhaps the most interesting aspect of the breeding programme is that neither farmer sees the current level of performance as the end point.

John's younger cows show the gains being made on this farm. The goal is 1.2 kgMS per kgLWT of efficiency. His 2026 heifers are approximately 20 kg lighter than his 2025 heifers while producing around 40 kg more milk solids.

The longer-term objective on both farms is to breed cows capable of producing around 450 kg milk solids while maintaining liveweights closer to 400 kg.

These are targets rather than performance already achieved, but they illustrate the direction of the breeding programme: increasing milk solids output and feed efficiency without increasing cow size.

Fertility at the centre

Importantly, the drive for production efficiency has not come at the expense of fertility.

Donal's herd recorded a 6% empty rate in 2026, a 96% six-week calving rate and a 366-day calving interval. Calving begins on February 1, with the aim of having the herd calved by St Patrick's Day.

John's herd recorded a 6% empty rate, a 97% six-week calving rate and a 365-day calving interval, demonstrating strong fertility on his farm also.

Strong fertility also means relatively few cows need to be bred to Jersey to generate sufficient replacements.

Sexed Jersey semen can therefore be targeted at cows considered most suitable to produce the next generation, while the majority of the herd can be bred to beef genetics.

Sexed Jersey and Belgian Blue

The 2026 breeding programme saw approximately 20% of cows in calf to sexed Jersey semen, with the remaining 80% bred to triple-mix British Blue.

The strategy avoids producing surplus Jersey calves while allowing the farm to be highly selective about which cows produce the next generation of dairy replacements.

Producing good-quality beef-cross calves is a key part of the breeding programme. British Blue-cross-Jersey offspring demonstrate the characteristics of the terminal beef sires, and are of good quality.

The combination of sexed Jersey semen and selected beef genetics allows the farmers to breed replacements from their preferred cows while producing good-quality beef-cross calves from the remainder.

More than simply a small cow

There will never be one cow that suits every Irish dairy farm. The results being achieved by Donal and John demonstrate the importance of matching the cow to the land and the production system.

On these farms, steep terrain, long walks, grass-based production and once-a-day milking create a clear requirement for a fertile, mobile and highly efficient grazing cow.

The pure and high-percentage Jersey fits that system particularly well, but the breeding objective goes beyond simply producing a light cow.

The aim is a 400-420 kg commercial grazing cow with the appetite and capacity to consume large quantities of grass, produce more than her liveweight in milk solids, maintain excellent fertility and body condition, and remain productive over multiple lactations.

On these farms, the Jersey is a purpose-bred commercial grazing cow, selected to make the most of Irish pasture and deliver exceptional milk solids, fertility and efficiency under once-a-day milking.

To learn more about John and Donal's farming systems, contact LIC for their contact details.

From 35 to 300 cows:

Cathal Lowry's journey continues

When Cathal Lowry's father rang him in Australia in 2000, land adjoining the family farm near Loughrea, Co. Galway was coming up for sale. He agreed to buy it on condition that Cathal return home to farm. Cathal returned in 2001, taking over the farm on a lease from his father and starting out with 35 cows.

Today, with his wife Sylvia, two sons and a daughter, he milks 300 cows. The herd is one of the highest-performing LIC herds in Ireland: in 2025 the cows delivered 555 kg of milk solids per cow, with milk averaging 5.04% fat and 4.09% protein.

Cathal believes the herd has yet to reach its full potential. Having spent much of his career building numbers, he can now be more selective about the cows he keeps and breeds replacements from.



Building the farm

Growth was gradual, as parcels of land became available to lease. The most significant addition came in 2012, when he secured 85 acres on a 20-year lease, giving him the land base to reach around 300 cows in 2023.

During expansion, the need to build numbers influenced herd management. Any cows that were in calf were retained. Culling based on performance or flaws were not an option.

With numbers established, Cathal has more freedom to remove cows that fall short and breed replacements from his best performers. This leaves him particularly optimistic about what comes next.

Committing to crossbreeding

Cathal began crossbreeding in 2003 but describes his early approach as "dabbling".

His biggest regret is not committing fully from the beginning; he believes he would be further ahead today had he been more decisive.

Since around 2014 he has used LIC genetics exclusively, and the results have strengthened his belief in the process. The crossbred cow has also proven well suited to the system, handling longer walks, less farmer contact and greater herd competition with ease. The robust, durable KiwiCross® sired cow performs well with minimal fuss.

Solids driving performance

In 2025, milk supplied averaged 555 kg milk solids per cow, with 5.04% fat and 4.09% protein. Cathal's average milk price was 63c/l, compared with an Aurivo average of 54.7c/l a difference of 8.3c/l.

Cathal fed 1.3 tonnes of meal per cow. Grass growth was good and the strong milk price justified additional meal; the cows responded with a substantial increase in milk solids.

For 2026, he expects meal feeding of around 800 kg per cow, and believes his cows can perform from grass at lower inputs and on additional feed when the expected return justifies it.

The January-June 2026 report records milk supplied at 4.88% fat and 3.91% protein, with 230 kg of milk solids per cow, compared with an Aurivo average of 211 kg. Full-season figures will clarify performance at the lower feeding level, and Cathal expects constituents to be higher than in 2025.

Mature cows showing their potential

With fewer heifers needed to build numbers, the herd is maturing. At the August 2026 milk recording,



more than two-thirds of recorded cows were in their third lactation or older.

The 162 cows in their fourth lactation or older averaged 22.4 kg of milk at the 6 August recording, delivering 2.01 kg of milk solids per cow per day. Their reported 305-day milk solids figure was 587 kg, compared with 549 kg for the herd overall.

Cathal reports some mature cows producing well in excess of 1.4 times their own liveweight in milk solids, crediting the genetics and the management that allows them to express their potential. This reinforces the value of retaining cows that keep producing and going back in calf, and he sees further scope to lift output as younger cows develop.

Aurivo Co-operative Society Ltd.

Dairy Herd Performance Report

Jan - Dec 2025

icbf

Herd Owner: CATHAL LOWRY
Designator: G2750278
Supplier Number: 521035 / Manufacturing

Phone 023-8820452

Table 1: Aurivo/ICBF Performance Score Card

	Your Herd	Aurivo Average	Aurivo Top 10%	Your Rank out of 100	Your Star Rating
Milk performance for 2025 (Jan - Dec) based on Aurivo data					
Fat + Protein (Kg/cow) Average Fat and Protein yield per cow for your herd	**555**	442	560	89%	★★★★★
Litres per Cow per Day Avg litres of Milk per cow from Jan - Dec 2025	**16.18**	14.63	18.2	71%	★★★★
Fat % to end December 2025 Weighted average Fat % from Jan - Dec 2025	**5.04**	4.39	4.78	98%	★★★★★
Protein % to end December 2025 Weighted average Protein % from Jan - Dec 2025	**4.09**	3.67	3.89	100%	★★★★★
Average Milk Price (cpl) Incl. VAT Average milk price received from Jan - Dec 2025, (Includes Bonuses/Penalties, Excludes Levies)	**63.0**	54.7	59.4	98%	★★★★★
SCC (,000 cells/ml) The weighted average Somatic Cell Count for Jan - Dec 2025	**133**	188	90	72%	★★★★
Fertility & Calving data based on HerdPlus 2025 Calving Report					
Calving Interval (days) Average number of days between successive calvings for cows calved during the period	**375**	390	**364**	60%	★★★
Spring 6 Week Calving Rate Number of cows/heifers calved within the first 6 wks **(280)** as a proportion of all cows calved during the Spring **(330)**	**85%**	67%	91%	78%	★★★★
% with known Sire and Calving Survey recorded Calves where sire **(334)** and calving survey **(334)** are recorded as a proportion of all births during the period **(334)**	**100%**	73%	100%	100%	★★★★★
%AI bred replacements Calves born in the period from dairy AI **(73)** as a proportion of dairy females born **(73)**	**100%**	65%	100%	100%	★★★★★
% of Heifers Calved at 22-26 months No. of heifers calved **(57)** that were between 22 & 26 months of age **(59)**	**97%**	64%	100%	77%	★★★★
EBI Statistics based on the latest HerdPlus EBI report 2026					
Herd EBI (2026) Average EBI for Cows **(317)** with EBI data	**€153**	€104	€169	79%	★★★★
EBI of 2026 Inseminations Weighted Average EBI of dairy AI bulls recorded in Spring 2026	**€161**	€201	€252	21%	★★

Table of Terms	
Aurivo Average	The average performance of all Aurivo Suppliers
Aurivo Top 10%	The top 10% cut off point of all Aurivo Suppliers
Your Rank out of 100	Your performance expressed across all Aurivo herds eg. 1% = Bottom Supplier, 50% = Average Supplier 100% = Top Supplier
Your Star Rating	Your performance is displayed in stars e.g. 1 star is bottom 20% and 5 stars = top 20%
Eligible Cows	Number of dairy cows in the herd on December 2025

★ = 0 - 20% ★★ = 21 - 40% ★★★ = 41 - 60% ★★★★ = 61 - 80% ★★★★★ = 81 - 100%

A clear breeding direction

For about six seasons, Cathal has worked with LIC breeding adviser Leonard Gavin. They first assessed the herd and mapped out where Cathal wanted to take it, then developed a breeding plan to guide bull selection.

Cathal now trusts Leonard to select the bulls that will achieve those goals, providing continuity in the breeding programme and allowing each season to build on the last. The strongest reassurance comes when the resulting heifers enter the milking herd; where their performance continues to exceed his expectations.

Confidence reinforced in New Zealand

Cathal's belief in his breeding decisions was strengthened by a trip to New Zealand with LIC in November 2025, where he exchanged ideas with like-minded farmers and saw New Zealand cows and systems firsthand.

He returned more confident. Seeing KiwiCross® sired cows performing so well in their home environment reinforced his belief in LIC's genetics and their potential to deliver further gains in his herd.

The next stage

After more than two decades of expansion, Cathal's focus is changing. The emphasis is now on getting more from the herd through careful selection, consistent breeding and retention of productive mature cows.

A herd delivering 555 kg of milk solids per cow, with over 5% fat and 4% protein, has already shown its potential, and Cathal is focused on how much further it can improve.

The journey from 35 cows to 300 has taken 25 years. For Cathal, the next phase of herd improvement is only beginning.

Paynes Farm

A generational legacy of genetic excellence

The Payne family's dairying legacy began in Huntly, Waikato, New Zealand in 1972, when Rex Payne purchased a neighbour's herd of cows. From those humble beginnings, the family developed a passion for unlocking the genetic potential of their herd, a commitment that now spans generations.



L to R: Archie, Claire, Brad and Austin Payne

In 2003, the Paynes relocated to the heart of Cambridge, Waikato, purchasing the farm they still operate today. Over the past two decades, the herd's transformation has been nothing short of remarkable.

The family's farm has continued to evolve under Rex's son, Brad Payne, who inherited both the herd and his father's passion for breeding. Through selective breeding, embryo transfer work and a strong understanding of cow families, Brad has elevated the herd to a new level. The herd's success is a reflection of generations of dedication, with father and son sharing a commitment to breeding better cows, season after season.

Today, the Payne farm milks close to 800 cows at peak, with the herd continuing to grow each year. Operating primarily as a System 4 farm, supplementary feed helps cows reach their genetic potential throughout the year.

The operation remains very much a family affair. Brad and his wife, Claire, oversee the day-to-day running of the farm, while Rex lends a hand during peak times, particularly calving. Together with one part-time staff member, they manage the unique demands of the business.

Calving is a major undertaking, with more than 500 calves, both male and female, reared each season. The scale of the operation reflects the family's commitment to breeding and genetic progress.

Running from 1 May through to the end of September, the calving season differs from the traditional spring-calving model. However, the approach is deliberate, allowing the Paynes to spread their workload and target a manageable number of calves each month.

Brad says the decision to calve around 150 cows each month is about practicality.

"If we had a normal spring calving and had to rear 550 calves all at once it'd be a massive workload. The feeders just wouldn't cope, and teaching calves to feed would be chaos."

To manage the volume, the farm uses automated calf feeders, which have become an essential part of the system. Each feeder can accommodate up to 150 calves, and with three units on-site, including a high-capacity feeder capable of handling up to 250 calves, the farm is well equipped for the task.

"Teaching five calves a day is manageable. Teaching 40 in one go? That's a whole different story. Everything we do here is tailored to what works for us."

While the calving system is carefully designed for efficiency, Brad's real passion lies in the breeding programme. He invests heavily in embryo transfer (ET) work to create more opportunities to breed replacements from his top-performing cows each season.



Brad is also a trained AB technician, meaning he not only inseminates all his own cows but also operates a local mini-AI run. His passion for breeding extends through every stage of the reproduction cycle, from getting cows in calf to rearing the next generation. "I draft

the cows and immediately I can inseminate them, just another way to be as efficient as possible in our layered system."

An added benefit of the Payne farm's early calving schedule is the opportunity to rear and observe daughters from LIC SPS bulls ahead of many other SPS farmers. "It's really neat to have that slight head start," Brad says. "We get to see which of those bulls produce what daughters before most others do, helping bulls get there proofs as early as possible."

The ET programme sits at the heart of Brad's breeding strategy. Each year, he carefully selects the top 60 dams based on their genomics, production records, and overall health. Using embryo transfer (ET), he implants embryos into his own herd to increase the number of calves born from his elite dams. This technique allows him to produce multiple offspring from his very best cows each year, accelerating genetic progress compared to traditional breeding.

The results speak for themselves. With this intensive focus, the compounding ripple effect on his herd is unmistakable, better cows means higher production, and more efficiency. "The real reward is seeing each new group of heifers come into milk better than the last, that's when you know the breeding is working."

"Dad often says you can clearly see how far the herd has come, the cows we're milking now are just on another level."

Brad's enthusiasm for breeding has led him to develop an intricate system. "The ET work started as a bit of a hobby over a decade ago, and now... well, I guess you could say it's out of control to a degree, but I just really enjoy it."

His understanding of top cow families also gives him a significant advantage. Each year, Brad undertakes contract matings with LIC, allowing the co-operative to purchase resulting bull calves for future breeding programmes. He is also a key contributor to LIC's elite heifer ET programme, which currently includes 160 heifers supporting our three core breeding programmes: Holstein Friesian, Jersey and KiwiCross®.

One of Brad's most influential cow families traces back to a standout dam named Sonia, the matriarch of what is known as the S family. Although Sonia's life was short, her genetic legacy has been extraordinary. At the time, she held the distinction of being the highest BW cow in New Zealand, and her influence continues through generations of descendants.

Sonia is the dam and granddam of several standout bulls, including Stamina and Sublime, both of which have made a lasting mark on breeding programmes in New Zealand and overseas. Stamina has sold particularly well in Ireland, while Arkans Gambler, a son of Sublime, has also gained popularity with Irish farmers.

Production records across the Payne herd highlight the long-term impact of disciplined breeding decisions. The crossbred herd consistently averages around 600 kgMS per lactation, while maintaining impressive component levels – currently averaging 5.31% fat and 3.92% protein. The results reflect Brad's focus on breeding efficient, balanced cows that convert feed into profit.

Claire and Brad remain grounded when it comes to the future. There is no expectation that their sons, Archie and Austin will take over the farm one day, but they are proud that both boys have already shown an interest and enjoy lending a hand on the farm. Brad often reflects on the day his father handed him the reins, recognising how difficult that transition must have been. "When the kids bring me ideas of what they'd like to do with the farm, I'll listen. Dad did that for me, and I'll do that for my boys too."

Whether Archie and Austin choose farming or a different path, Brad and Claire will support them wholeheartedly. For now, though, they're quietly confident that the Payne Family's dairying legacy is in safe hands.

Payne bulls making their mark

Paynes Stamina

One of the most influential bulls to emerge from the Payne breeding programme, Stamina has gained recognition for his contribution to profitable, efficient cows. His impact extends beyond New Zealand, with strong uptake in Ireland.

Paynes Dallas

Paynes Dallas stands out for his exceptional milk component percentages, transmitting around 6.2% milk fat and 4.7% protein. Those traits are paired with outstanding capacity, making him one the most capacious bulls available through LIC.





Brad Payne at Paynes farm

Getting more milk solids from every kilogram of cow

Eoin Kennedy, Strategic Market Lead – LIC Ireland

The kilogram of milk solids produced per kilogram of liveweight (kg MS / kg LWT) measure gives farmers a practical way to compare how efficiently cows convert feed into milk solids, while keeping fertility, condition and longevity firmly in the picture.

LIC Ireland herd analysis

Over the past 18 months, the LIC Ireland team has developed a tool to help farmers identify which groups of cows are performing best within their herd. The main measure used is kilograms of milk solids produced per kilogram of liveweight.

Using reports from the farmer's ICBF HerdPlus account, the team generates an analysis that groups cows by lactation number. Within each lactation group, it compares cohorts based on whether they have New Zealand pedigree and their percentage of Jersey genetics.

This allows farmers to compare animals at a similar stage of maturity and identify which combinations of breeding and breed composition are delivering the strongest performance within their own herd.

What efficient cows looked like

Strong interest from farmers wanting to understand which cows were most efficient has enabled the LIC Ireland team to analyse data from thousands of cows. The results revealed a consistent pattern: cows with 40-60% and some with 60-87% Jersey genetics were the more efficient groups in every herd, measured by kilograms of milk solids per kilogram of liveweight.

These cows produced lower milk volumes with higher fat and protein concentrations, had lower liveweights, and also produced more total milk solids per cow than cows of other breed compositions.

The analysis also identified a consistent trend towards greater production efficiency among cows with a higher proportion of New Zealand parentage.

Putting the measure into practice

Having this information is valuable, but the crucial step is using it to guide future breeding decisions.

For Irish farmers, the key takeaway is to use their own herd's results to make breeding decisions this year that will produce more replacements with the characteristics of the cows already performing best on their farm.

That starts with identifying which cows should breed the next generation of replacements, then choosing bulls that complement those animals.

Where the strongest-performing cohorts combine moderate liveweight, high milk constituents and strong milk solids production, the breeding programme should aim to build on those characteristics while maintaining fertility, health and longevity.

The aim is not simply to breed a smaller cow or increase the percentage of Jersey genetics. It is to breed a cow that delivers more for her size and is well suited to the feed, management and conditions on that particular farm.

Breed composition and New Zealand parentage can help guide those decisions, alongside the performance of individual cows and the genetic merit of the bulls selected.

Breeding progress takes time. Decisions made this season will influence the replacements entering the herd in the years ahead.

Using this information gives farmers a clearer direction, helping them build a herd around the cows that are already proving their worth within their own system.

The bottom line

The goal is a cow that fits the farm system: productive, fertile, durable and efficient. Using kg MS/kg LWT alongside wider herd records helps farmers identify their most and least efficient animals and make breeding decisions that support long-term productivity and profitability. Contact your local LIC breeding advisor to find out how this analysis could be applied within your own herd.

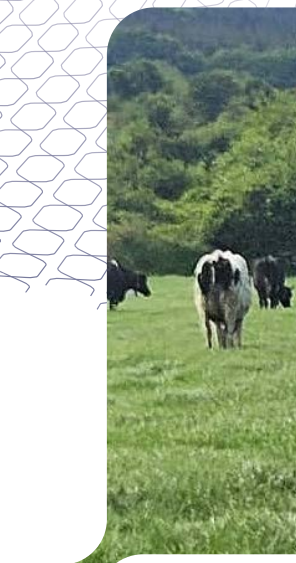
The Herd Analysis report shown compares cow groups by lactation, Jersey genetics and New Zealand pedigree, showing which groups produce the most milk solids per kilogram of liveweight within the herd.

Herd Analysis: Milk Solids per Kilogram of Liveweight

Cow Groups	No.	Expected Calving Date	Average CI	Current CI	Milk (kgs)	Fat (%)	Prot (%)	F+P (kgs)	Weight (predicted)	Efficiency (predicted)
1st LACTATION										
0-5%	5	11/02/2027			4435	4.97	3.87	390	538	0.72
6-18%	35	21/02/2027			4369	4.94	3.95	386	549	0.71
19-39%	16	21/02/2027			4276	5.14	4.06	394	528	0.75
40-59%	2	10/03/2027			4497	4.89	3.99	396	489	0.81
60-87%	0									
88+%	0									
Average	58	23/02/2027			4394	4.98	3.97	391	526	0.75
NZ Sire	0									
NZ MGS	7	05/02/2027			4508	5.42	4.17	432	528	0.83
None	54	22/02/2027			4362	4.94	3.94	385	541	0.71
Average	61	13/02/2027			4435	5.18	4.06	409	535	0.77
2nd LACTATION										
0-5%	3	01/02/2027	391	391	5087	5.04	3.76	450	533	0.84
6-18%	18	16/02/2027	370	370	5276	4.93	3.92	466	528	0.88
19-39%	19	21/02/2027	370	370	5201	5.14	4.01	474	522	0.91
40-59%	12	09/03/2027	372	372	5521	5.17	4.15	511	496	1.03
60-87%	6	10/03/2027	377	377	5105	5.74	4.07	491	446	1.10
88+%	0	23/02/2027	376	376	5238	5.20	3.98	478	505	0.95
Average	58	23/02/2027	376	376	5238	5.20	3.98	478	505	0.95
NZ Sire	16	14/03/2027	373	373	5498	5.22	4.12	509	484	1.06
NZ MGS	5	15/02/2027	376	376	4678	5.58	4.08	446	516	0.87
None	33	18/02/2027	370	370	5324	5.06	3.95	479	519	0.92
Average	54	25/02/2027	373	373	5167	5.29	4.05	478	506	0.95
3rd LACTATION										
0-5%	4	06/03/2027	368	369	5889	4.39	3.81	478	503	0.95
6-18%	25	24/02/2027	371	369	5912	4.68	3.83	500	521	0.96
19-39%	13	24/02/2027	374	376	5546	5.13	3.98	502	509	0.98
40-59%	16	25/02/2027	370	370	5581	5.24	4.03	517	484	1.07
60-87%	0				4394	4.98	3.97	391	526	0.75
88+%	0				4394	4.98	3.97	391	526	0.75
Average	58	27/02/2027	371	371	5732	4.86	3.91	499	504	0.99
NZ Sire	15	25/02/2027	369	360	5744	5.30	4.02	531	481	1.10
NZ MGS	7	21/02/2027	369	367	5559	4.91	3.87	484	511	0.95
None	37	27/02/2027	372	369	5776	4.81	3.89	499	517	0.97
Average	59	24/02/2027	370	365	5693	5.00	3.93	505	503	1.01
4th LACTATION										
0-5%	5	02/03/27	370	365	5999	4.78	3.84	517	516	1.00
6-18%	29	06/03/27	369	361	5949	4.79	3.9	514	510	1.01
19-39%	10	26/02/27	369	368	5395	4.96	3.97	480	492	0.98
40-59%	11	08/03/27	372	372	5568	5.32	4.18	527	488	1.08
60-87%	4	26/02/27	367	366	5999	5.09	4	545	497	1.10
88+%	0									
Average	59	02/03/27	369	366	5782	4.99	3.98	517	501	1.03
NZ Sire	13	09/03/27	372	370	5825	5.32	4.11	547	497	1.10
NZ MGS	5	22/02/27	373	382	6018	4.63	3.93	513	513	1.00
None	43	02/03/27	369	362	5836	4.87	3.92	510	507	1.01
Average	61	02/03/27	372	371	5893	4.94	3.99	523	505	1.04
5th LACTATION										
0-5%	19	24/02/27	368	376	6685	4.61	3.68	552	517	1.08
6-18%	35	02/03/27	368	369	6455	4.68	3.80	545	509	1.08
19-39%	37	28/02/27	369	368	6302	4.82	3.83	543	501	1.09
40-59%	25	03/03/27	369	369	6540	4.88	3.92	574	478	1.21
60-87%	4	28/03/27	367	347	6361	4.41	3.91	525	426	1.25
88+%	0									
Average	120	06/03/27	368	366	6469	4.68	3.83	548	486	1.14
NZ Sire	18	08/03/27	368	362	6524	5.00	3.96	584	480	1.22
NZ MGS	30	25/02/27	368	364	6218	4.92	3.86	543	502	1.09
None	68	01/03/27	367	367	6528	4.66	3.77	548	501	1.10
Average	116	02/03/27	368	364	6423	4.86	3.86	558	495	1.14
OVERALL HERD										
0-5%	36	23/02/27	370	375	6056	4.70	3.75	508	520	0.98
6-18%	142	25/02/27	369	367	5593	4.80	3.88	482	523	0.93
19-39%	95	24/02/27	370	370	5542	5.00	3.94	492	510	0.97
40-59%	66	04/03/27	370	370	5898	5.09	4.03	535	485	1.11
60-87%	14	12/03/27	371	365	5719	5.17	4.00	516	455	1.14
88+%	0									
Average	353	01/03/27	370	369	5762	4.95	3.92	506	499	1.03
NZ Sire	62	06/03/27	370	366	5924	5.20	4.04	544	485	1.12
NZ MGS	54	20/02/27	370	368	5750	5.02	3.93	509	509	1.01
None	235	26/02/27	369	367	5616	4.84	3.88	486	517	0.95
Average	351	27/02/27	370	367	5763	5.02	3.95	513	504	1.03

The Phelan family:

Breeding for fertility, efficiency and the future



For more than two decades, John Phelan has been refining a crossbred herd in Co. Waterford to produce fertile, efficient cows that thrive in a grass-based system.

Milking 280 cows on the family farm, John's approach is built around moderate-sized, highly fertile animals that convert grass into milk solids efficiently. Developed alongside his wife Siobhan, their children and wider family, that long-term thinking now underpins every breeding decision on the farm.

Today, the entire herd is run through a structured mating programme. The top 60% of cows, along with all heifers, are bred to sexed semen for the first three weeks, with the remainder going straight to dairy beef. From week four onwards, all cows are mated to beef, tightening the calving pattern and adding value to non-replacement stock.

From winter milk to a spring system

When John returned home from agricultural college in 1999, the farm looked very different. At the time, it operated a winter milking system focused on volume.

"We were paid on litres, not solids," he says. "You could roll cows from one season to the next."

But as Ireland moved towards seasonal spring calving, fertility became a pain point, with empty rates climbing into the high teens and mating periods stretching out to 15 or 16 weeks.

"Fertility was a big issue. Once rolling cows stopped, we had to solve that problem."

John says the solution wasn't a quick fix, it was a rethink of their breeding strategy.

"You're hoping to get eight or nine lactations out of a cow. So, a wrong decision can live with you for a long time."

Breeding seasons have tightened to 10–11 weeks, with John now disappointed if empty rates creep above 10%.

"Since we've started using LIC genetics, it's very rare that we wouldn't be in single figures for empty rates. If we were in double figures now, something's going wrong," he says.

A turning point: Kiwi genetics

While carrying out AI work on other farms, John noticed some herds using New Zealand genetics. Curious, he decided to try a small amount over his own herd.

"I saw a bull called Hugo in an LIC catalogue. He looked balanced, so I gave him a go."

What began as a small trial quickly grew. Jerseys, Norwegian Red and Friesian crosses followed, and when the first crossbred heifers calved, the difference was obvious.

"I remember looking at them and thinking, 'Geez, I've missed a trick here.' They were giving us everything we wanted."

By the mid 2000s, John had committed fully to crossbreeding, replacing a large proportion of his herd with crossbred heifers.

Adapting to a changing environment

Today, John milks 280 cows across two farms, stocked at around 2.9 cows per hectare – which is a deliberate step back from higher stocking rates.

"We were up around 3.6 cows per hectare at one point. But the summers have changed. We could have two months in the summer where we might have to start feeding silage, which can get expensive."

More frequent droughts have reduced grass growth from 14-16 tonnes, to closer to 10-12 tonnes annually. On the farm's dry, shallow soils, that shift has real consequences.

"It dries out very quickly here, so you have to match your stocking rate, and your cow, to that."

That's where KiwiCross® genetics continue to prove their worth.



"Solaris is one of the first KiwiCross bulls we used, and they were just brilliant stock. I couldn't say enough good things about them. Since then, we've been trying to keep the cows somewhere in the middle of the road. If one gets too Friesian, we'll put a Jersey on her, and vice versa."

Smaller cows, more output

The move to KiwiCross genetics has delivered gains well beyond fertility.

Calving ease, animal health and milk composition have all improved significantly.

"About 97% of the herd calves unassisted. It's a very healthy system."

John says milk quality has also lifted, with averages now exceeding 5% fat and close to 4% protein, levels that were out of reach in the old system.

"We would never have seen that with the black and white cows we had before. You'd have days in spring where you were struggling to hit 3% protein."

At the same time, cow size has reduced dramatically. The herd now averages 480-490 kg liveweight, more than 100 kg lighter than previous generations, while producing around 530 kg of milk solids per cow.

"They're a very efficient cow for their size."

At one point, John admits, he had a "speed wobble" – briefly stepping away from his LIC programme.

"I used Irish sired bulls on some of the cows, and when those cows calved, I was disappointed straight away because there was no uniformity. Some were big, some were small, they were everywhere."

Two years later, when those animals entered the milking herd, the gap widened.

"They were easily standing 70 or 80 kilos heavier as heifers, than our LIC bred counterparts. And I'd say in 90% of cases, they produced less."

John is quick to point out it's not a criticism of Irish genetics, but rather the system they're bred for.

"A lot of those bulls come from herds that are housed for long periods and heavily fed. Their figures look great, but it's a different environment."

For his grazing system, he says, the fit simply wasn't there. "The LIC bulls seem to be more tapered towards the proper grazing cow."

"That was probably the only speed wobble I ever had, and it only lasted about five minutes. I knew straight away I'd made a mistake."

The proof is in the pudding

John says some farmers who followed a similar breeding path and made the same detour are now seeing the consequences.

"There are other local farmers who have followed the same breeding programme as ourselves for years," he says. "They probably had the same speed wobble, but let it last longer."

"The production has dropped on their systems, trying to do the same thing as us, and a lot of those guys are back using LIC genetics again."

"The proof is in the pudding. I'm very happy with what we have at the moment. The selection of bulls is excellent. For obvious reasons, I keep going back because I like what I have. All I'd say is, keep the good bulls coming."

Fast facts

Herd Size	280
Stocking Rate cows/ha	2.9
Production/cow kgMS	530
Fat %	5.12
Protein %	3.99
6 week In-calf Rate %	76
Mating Length (weeks)	11
Empty Rate %	9



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