

Working to **secure your future**

Issue 03 2021

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Understanding the data behind the KPI's driving your repro rates

Here LIC Ireland's systems manager John Tobin takes a look at results from New Zealand and discusses the importance of looking at calving pattern and calving rate.

There are two benefits of a tight calving pattern. Firstly, days-in-milk and secondly, the cows have longer to recover and start cycling again before the start of mating.

Cows that have cycled once before mating have a better chance of getting back in-calf. In Ireland, the main reproductive KPI used is the 6-week calving rate (how quickly the herd calves down) and the target is 90%.

In New Zealand, the main KPI is the six-week in-calf rate (how quickly the herd gets in calf) and the target is 78%. These two are clearly linked. The difference between the two measures is that the 6-week calving rate includes new stock entering the main herd at calving, eg: first calving heifers.

The six-week in-calf rate doesn't include these, as it measures how quickly the milking cows get back in calf. Something I hear often is: herd fertility is good, as I'm hitting the six-week calving rate target'. This is only true if you're also hitting the numbers behind the target, so we need to look deeper.

Table A compares the top and bottom quartile of New Zealand herds with detailed reports by reproductive performance over the last three years.

In NZ, Fertility BVs have been improving. It's good to see BVs improving on paper, and even better to see this coming through from on-farm data, which shows year-on-year improvements.

Let's look at the differences between top and bottom quartiles on the two metrics.



- The six-week calving rate is **5-7% higher** in top compared to bottom quartile herds
- The six-week in-calf rate is **19 - 20% higher** in top compared to bottom quartile herds

The six-week in-calf rate shows the vast room for improvement in the bottom quartile herds.

Why the difference?

This can best be explained using two example herds in Table B.

	Six-week calving rate %	Six-week in-calf rate %	% of two year-old heifers
Herd A	96	76	20
Herd B	89	59	30

Table B: Reproductive performance and replacement rate in two example herds

Both example herds have a high six-week calving rate, but when we look beyond the calving rate, we get a more complete picture of the reproductive performance of the two herds.

	Table A: 3 Years New Zealand Herd Reproduction Results								
	2017			2018			2019		
	TOP 25%	BOTTOM 25%	DIFFERENCE	TOP 25%	BOTTOM 25%	DIFFERENCE	TOP 25%	BOTTOM 25%	DIFFERENCE
6 week calving rate	85	79	6	86	81	5	86	79	7
6-week in-calf rate	76	56	20	77	57	20	77	58	19

Table A: Six-week calving rate and six-week in-calf rate for the top and bottom quartile of approx. 4000 herds in New Zealand.



Your Irish LIC team for 2021

LEFT TO RIGHT: John Tobin, Aiden Cunningham, Leonard Gavin, David Power, Jeremiah Daly, Mairead Hayes, Angela Kennedy

Herd A has hit the six-week in-calf target and the six-week calving rate with a 20 percent replacement rate. This is a good result all round.

- Herd B has a high 30% replacement rate
- 17% fewer cows in herd B are conceiving in the first six weeks of mating
- Herd B would have a longer calving interval

The calving pattern in poorer performing herds can look good until you look beyond the calving rate. Two year-old heifers tend to calve down quickly in NZ. The higher replacement rate in Herd B masks the poor reproductive performance of the cows in the herd. The fact is that in Herd B 17% fewer cows are getting

back in calf within the first six weeks of mating. Their cows would have a longer calving interval, poorer longevity and the herd would have a lower proportion of mature cows performing at peak production.

Measuring performance helps you manage for improvement.

Although they look reasonably good on a six-week calving rate, using the six week in-calf rate as a KPI allows Herd B to better identify the opportunity to improve herd reproductive performance. They could then reduce heifer replacement

costs and have better cow survival and production, winning on all fronts.

Improved fertility performance doesn't happen overnight but, with proven fertility BVs and the right KPIs to inform management decisions, better herd reproductive performance can come.

New Zealand data shows how a good six-week in-calf rate helps drive a tight six-week calving pattern, which can improve profitability and help secure your future.



To calculate your six-week in-calf rate:

$\frac{\text{No. of cows pregnant}}{\text{by 42 days after Mating Start Date}}$

$\times 100 =$

six-week in-calf rate No. of cows calved in the calving block & still present in the herd at the start of mating

Get more out of your herd through weighing

Pasture to Profit consultant Sean Chubb explains why weighing is so important.



“ I’m often asked where the value in weighing stock is - or I’m told that farmers don’t need to weigh stock because they have a good eye for this sort of thing and would be able to tell if their calves were not performing as expected, writes Pasture to Profit consultant Sean Chubb.

My response and belief remains the same, it doesn’t matter whether you’re running a dairy farm, a calf rearing operation, or running sheep and beef. The information you gain from weighing will have a positive effect on your business profitability.

With age of puberty and longevity within the herd linked to the liveweight of heifers, it’s for this reason that as an industry we’ve set liveweight targets throughout the rearing process. Through a regular weighing programme, you’re giving each dairy replacement the best chance of joining the herd and having a long production life, maximising your profit from her.

Now I know many of you reading this will be questioning the need for weighing your heifers given their performance, to which my response is, what’s the added value from catching heifers dropping to the bottom of the group or picking up on health issues earlier? This is what weighing will add for you. If you’re

transitioning systems, or changing the size of your cows, then weighing your heifers is the only way to know whether you’re feeding them correctly, as you’re likely to have a wide range of heifer sizes.

To drive the profitability of your herd forward, it’s essential to have efficient cows. In a grazing system, efficiency is linked to liveweight given the limited amount of dry matter that can be obtained out of grazed grass. It’s for this reason that farms with different contours, walking lengths and feeding plans will have different optimum liveweight levels.

When you’re not weighing your cows how do you know you’re picking the correct bulls for your farm and system? Through combining the cows’ weights with her production information you’ll be able to identify the average size of cows that make up the top 25% of your herd. By targeting your breeding to try and replicate these cows, and continual monitoring, you’ll be able to find the ideal cow size for your farm.

With the increased use of sexed semen and beef semen off the back of that, what can you do to maintain profitability from the sale of dairy beef animals through this increase in supply?

Information could be your answer. Could you gain more interest in your stock if you

could provide liveweight gains? Buyers are wanting animals that will grow to a desired size and as quickly as possible, so put yourself in their shoes. If you had the option of two different sources of calves - one had information on liveweight gains and the other did not - which are you more likely to go for?

Could you achieve a higher price across the entire range of your calves through grouping the calves, so each group has the same liveweight gains? When you’re taking your dairy beef through to finishing, weighing could see you achieve a higher price and when you know the range of growth rates you can work out whether it’s worth continuing to carry certain beef animals if the price is dropping.

For example: if the liveweight gain is 0.90Kg per day and the price per kg is dropping by £0.05 a month then the animal is still growing in value, but if the drop in price is £0.07 then you’re not and you’ll be better off selling it earlier.



To discuss your weighing and rearing options with Pasture to Profit consultant Sean Chubb pick up the phone and call him on 07833 228501 or drop him an email on schubb@liceurope.com.

Teamwork makes the dream work

Weighing cows is simple and certainly, when combined with LIC's herd improvement tool, the best way to boost the quality of your dairy cows. David Williams, his wife Carol, Carol's sister Sue and their daughter Vicky make up the team running a 300 head herd in Mold and believe the quickest way to increase the efficiency of their animals is by following this trusted route.

The Friesian and Jersey crossbred cows at Clawdd Offa Farm are a predominantly young herd, milked once a day, on a 80ha grazing platform with a 40ha support block a couple of miles away used for rearing the youngstock and cutting silage.

"We started weighing our calves over 15 years ago," explains David. "We wanted to monitor progress, and any that didn't thrive we would cull. They were weighed every five weeks, as well as at birth and weaning."

The business has invested in a Gallagher weigh platform, and now sets up a race beside the parlour so, as each cow has finished milking, she walks down the race and over the platform, under a crush, before walking on out to graze. "It couldn't be an easier operation, it probably takes around 30 seconds a head."

The farm runs a range of crossbreds from pure Friesian to pure Jersey and wanted to be able to accurately compare the performance of all, pitching production against weight.

"You must milk record, that's the starting point," he says. "We've used NMR for more than 10 years, and you soon start to see patterns emerging. We put a Jersey bull on the cows producing lower milk solids and vice versa."

The herd improvement tool, which adds weights to the milk solids and yield information, allows for a league table of cows to be prepared, with the most efficient at the top, and least efficient at the bottom.

Sometimes there are some surprises, and one recording, from the weighing completed in late November, saw one cow that had been ranked 77th move up to 13th once her weight was added.

Average milk solids for the herd are 406kgs with an average yield of 4462kgs. With average liveweight at 527kgs, the cows were delivering an overall performance of 77%. The top 25%

were giving 514kgs/MS and the bottom 285kgs/MS, a difference of 229kgs, something that should improve as the cows mature and poor performers are removed.

While the average liveweight is 527kgs, David would like the herd to be closer to 500kgs, with his first lactation heifers achieving this and averaging between 470 and 490kgs. "They were slightly heavier than we expected, but there are some purebred Friesians in there that would move the average up."

He says that just looking at one aspect of performance can lead you to make some poor decisions. "You have to look at everything in the round. This tool is another step up from milk recording, and the quickest way for me to boost efficiency is to take out the bottom 5% every year."

While he sees milk solids as a key selection driver, he also looks at udder type and TOP traits, if the team aren't keen on a particular cow it will be culled.

"We're hoping for more rapid progress now we are using the tool," he says. "Our second calvers did 107% of the herd average this time, so we are definitely heading in the right direction. When we get to a position where we have a surplus of AI bred heifers we can start to look at the efficiency of the dams."



David

A day in the life of... Jeremiah Daly

Covering the counties of Limerick and Kerry, area manager Jeremiah Daly loves his job. Whether he's milking his own cows, supporting another team member or going up a farm drive, no two days are the same.

New Zealand breeding has always held a fascination, along with the opportunity to maximize grass intake for his own 60-cow herd. "Improving grass utilization, getting the most milk from your cheapest farm feed, has always been my ambition," he says. And these days, through local discussion groups, he loves hearing about other people's experiences and taking their ideas home.

Coming from a farming background, Jeremiah inherited his farm from his parents in 1992. He made the decision to move out of dairying in 1999, it was a tough time with milk quotas a huge

restriction on growth. For the next 10 or so years he reared stock for local farmers, and took a job milk recording.

"I learnt a lot more about dairying when I was out of it," he says. "Looking from the outside in I could see where I could go. It led me to think out of the box and to get ahead. I realized I needed to watch others and learn."

He decided to go back into dairying in 2010, and says he was 'much wiser' second time around.

"The key change was to decide to milk once a day, 5am in the summer and 6am in the winter. This has completely changed our lifestyle. I can be back in the farmhouse working or on the road from 9am and for the first time we can go out for days - to watch rugby, or visit friends, for example. It's been a complete game changer."

His cows are comprised of Jerseys, crossbreds and Friesians. His average milk price over the past 12 months has been 43 cents/litre when the co-op base price has been 30 cents/litre. The extra is the high protein and fat percentages his cows return - an average of 400kg/MS/cow from just 370kg/meal.





They're spring calving, and he usually calves over 90% within a six-week window. "This means a lot of hard work but once it's over, life gets easier again." He has the cows out at grass as long as he can - usually from mid-February to mid-November. His aim is to get 250 to 270 days at grass.

"In the discussion groups we talk a lot about grass utilisation. Every time we've made changes here, my profitability has improved. We make a plan for everything, and keep things as simple as possible. Plus we grass measure all the time."

Farming as a team in Scartaglin, Killarney in Co. Kerry as , Jeremiah and Maria have four children Donnacha (20), Bryan (18), Diamuid (16) and Marie (14). The whole family are also musical, playing a wide variety of instruments, from the traditional tin whistle to keyboards, guitar, accordion and concertina.

His Eurogene and LIC role is a very mixed one. He's busy developing his own customer base with over 10 years experience in the AI industry. He works with farmers building their breeding plans, helps with technical issues and

keeping technicians up-to-date with the latest bulls.

He said the role really suits him, as he's been using LIC genetics for many years, and he loves meeting people, giving advice, support and building relationships. "I enjoy the challenge. And I love the opportunity I have to give people the latest, most up-to-date information."

Will his children follow him into farming? "I'm honestly not sure at the moment. Now our lifestyle has changed with the once-a-day milking, they've got more interested. But I'm really keen for them to travel and see more of the world before they settle down into a job," he says.

Asked which bulls he thinks have been making a difference on Irish farms, he mentions Overtime, Lancelot and Backdrop as the NZ Friesians, Gallivant, Flint and Misty for the Jerseys and Sierra, Proclaimer and Critical for the KiwiCross™ bulls. But there's no hesitation when we ask which is his favourite bull - OKT aka Integrity.

Away from the farm Jeremiah loves traditional Irish music and dancing. A

keen set-dancer, he and his wife Maria have enjoyed many a night out on the dancefloor. "I've been dancing for about 40 years and it gives me an opportunity to meet a completely different set of people."

He also loves sport - mostly ball sports such as football, hurling, basketball and rugby. He is a big Munster supporter and is hoping to be able to go back to see some games in 2021.

"I really love my job" he says. "I meet farmers and their families from quite different backgrounds, and they make my job enjoyable . We work as a team, share everything, and support one another. That's been particularly important in the last 12 months when it's been really hard, and people have felt very isolated."

Breeding for fertility in the modern dairy cow

By Joyce Voogt, LIC Technical Manager

Every herd has a range of cow types and performance within it. Every year brings forward a new crop of calves and an offering of elite bulls. The herd's 'cycle of life' gives an annual opportunity to improve important genetic traits, herd quality and farm profitability and sustainability.

Traits important to farmers commonly include production, fertility, longevity and workability traits. Not all traits are equally heritable but those with sufficient genetic variation provide scope to improve. Research demonstrates that even in low heritability traits such as fertility, annual gains are cumulative and can make a significant difference over time.

For detailed information on genetic fertility, refer to page 39 of the InCalf book for New Zealand Dairy Farmers.

The principles apply everywhere, including Ireland and the UK, so let's take a look at what's been happening of late in New Zealand with:

- DairyNZ fertility research,
- Performance of cows by fertility BV in commercial herds, and
- The latest national reproduction statistics

Fertility Research Update:

Recent research by Dairy NZ has focused on understanding the performance and physiology of cows with divergent fertility breeding values (BV), with the aim to accelerate genetic fertility through improved accuracy of prediction. The research has confirmed that the fertility BV does work in practice. Initial findings include:

- Large differences in 3-week submission rate, 6 week in-calf rate and not in-calf rate in the purpose-bred research animals made up of two extreme fertility BVs groups (BV +5 and -5).
- Discernible differences were seen between the two groups as yearling heifers. High fertility BV heifers achieved puberty earlier and at a lower percentage of their own expected mature liveweight.
- Modelling research also suggested that genetic fertility delivers more benefit in lower-performing herd environments.
- To find ways of identifying high genetic fertility animals earlier in life, new candidate predictor traits are being investigated.

On-farm cow performance by Fertility BV

At an individual cow BV level, figures from over 2.3 million cows with early aged pregnancy testing results support the research herd findings.

Figure 1 shows a significant difference in performance at the extremes of cow fertility; BVs of +5 and -5. It appears from this dataset that the relationship is not linear. Gains in 6 week in-calf rate appear to taper off as BVs increase, particularly at BV +3 and beyond.

It is important to keep things in context as well. Few cows have extreme +/-5 BVs in the NZ national herd, as illustrated in Figure 2 which plots the Fertility BV distribution of the 2.38 M cows analysed.

The majority of cow Fertility BVs sit between -1 and +2. The figure also shows the average fertility BVs of balanced index LIC bull teams marketed in the same year. This illustrates, at a national level, the potential scope for improvement of cow genetic fertility while keeping focus on other important traits. The scope within individual herds will depend on the herd's own spread of BVs. While creating and maintaining a high herd level of genetic fertility is important, the impacts of increasing BV may eventually taper off.

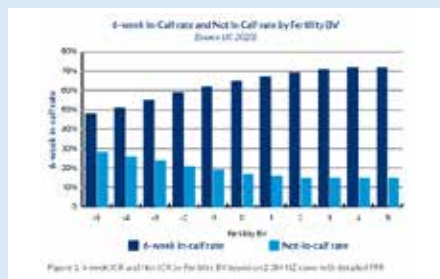


Figure 1. 6-week in-calf rate and Not in-calf rate by Fertility BV based on 2.38M NZ cows with detailed PRS

Farmers with high fertility herds may wish to set minimum thresholds for bull teams or to focus effort on their lowest fertility BV cows. Of the things you can influence on farm, picking the right straw is the easiest to implement.

When selecting genetics for UK & Ireland from elite daughter-proven New Zealand bulls, LIC Ireland focuses on breeding

values for important traits including fertility. Use LIC's elite bulls to underpin your herd reproductive performance as you implement the other 7 key management areas; calf and heifer management, calving pattern, body condition and nutrition, heat detection, AI practices, cow health and stock bull management.

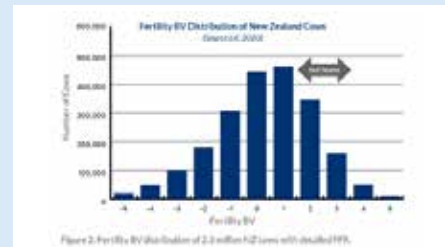


Figure 2. Fertility BV Distribution of 2.38 million NZ cows with detailed PRS

Latest NZ national stats set new records

Latest industry stats from NZ show genetic fertility and phenotypic reproductive performance are trending positively in the national herd. Fertility Focus report-based statistics are setting a few new records since monitoring started 10 years ago. By breed, genetic daughter fertility BV remains high for Jerseys and it is pleasing to see both HF and F X J cows now closing the gap as high fertility BV bull teams make an impact. (see figure 3) On the phenotypic side, the national 6 week in-calf rate hit another high point in 2019 at 67.8% 6 week in-calf rate. This increase followed on from gains in the previous 2 seasons. Average total joining length has now reduced to 10.7 weeks, the shortest on record. These latest season's repro results are based on 2,377,370 cow records in 4430 seasonal calving herds throughout New Zealand with a detailed Fertility Focus Report in LIC's MINDA™ herd recording software.

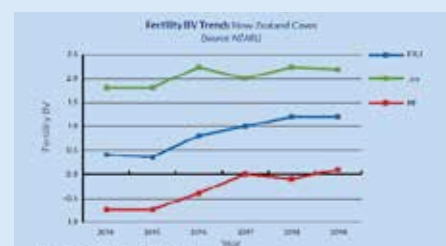


Figure 3. NZ cows Fertility BV by Breed



Figure 4. 6 week in-calf rate by year, NZ herds with detailed PRS

Your LIC sales team can advise on the bulls available and their fertility BVs - contact your LIC rep today.



Dairy cow body condition – is your ‘eye’ometer calibrated?

There’s a lot to manage in modern dairy farming. With farmers being pulled in so many directions sometimes it’s the simple things that can be overlooked. And I believe body condition scoring is one of these.

“ Dairy cow body condition is fundamental to herd health, which in turn results in productivity, fertility, longevity, and ultimately profitability. If we get body condition right, many other challenges can be avoided or limited.

First it’s important that all dairy farmers have some understanding around body condition score (BCS) and what this should look like for their herd. The most well-known condition scoring system in the UK was developed in the USA based on a Holstein cow and assesses four key areas of her body.

With modern dairy cows coming in all shapes and sizes this system may not be the best fit for your herd, so upskilling on an across-breeds system of condition scoring may be more applicable. These assess more areas of a cow’s body, as different breeds carry fat in different places.

Secondly, it’s important to understand the acceptable levels of body condition for the different stages of lactation. All stock loses body condition after giving birth as they mobilise their own body fat for energy to lactate. Dairy cows have been genetically bred to over-emphasise this milk response and lose a significant amount of weight post-calving.

We cannot stop this happening as it’s governed by genetics. What we can do, however, is ensure weight loss post-calving is within the realms of ‘normal’ (that which is genetically programmed). For example, using the New Zealand across-breed BCS system, on average a herd (or cow) should lose no more than 1.0 BCS post-calving.

Provided she calved at the correct BCS, this leaves her with enough body condition to resume cycling and get back in-calf in the optimal time period. Identifying if your cows are losing too much body condition, and finding the cause of this, will do a lot to improve subsequent challenges (including the cost of the extra energy she will need to regain condition: energy that won’t go into milk production)

All herds have some skinny cows and some fat cows, again genetics has a role to play. But this only goes so far. Knowing



Photo one

the percentage of your herd that is outside the target range for their stage of lactation can help pinpoint a link for multiple problems.

For example, if more than 15% of your herd is too fat when they calve, there’s something wrong with the management of these animals in the months preceding calving that needs to be addressed, both from a cow welfare and an economic perspective. On farm this ‘over-conditioning’ is often seen in other ways, for example difficult calvings, high proportion of milk fever, ketosis or retained cleansings; even excessive post-calving weight loss – all exacerbated by excessive BCS at calving.

If there’s a best time to target getting BCS right, it’s at calving. This will set cows up for the greatest chance of a productive lactation and getting back in-calf regularly. This means a real focus in late lactation when you can most economically influence cow BCS.

It can be difficult to see subtle changes in BCS over time when you work with stock on a daily basis, so using someone independent to assess your herd’s BCS at key times will result in an unbiased, more accurate view. We all like to think it’s not a problem, that we ‘know our stock’ but sometimes we all need to recalibrate what a healthy dairy cow should look like.

To upskill yourself, or your staff, on BCS or if you think BCS may be linked to issues you’re experiencing, get in touch with Bess, one of our P2P consultants, for a no obligation chat. Bess can also come out and do the BCS scoring for you. You can email her on bjowsey@liceurope.com or call her on **07717 732324**. We have consultants nationwide to BCS your herd or provide upskilling if Bess doesn’t work in your area.

Examples of body condition scores

Photo one is in the 4.4-4.5 range and photo two 4.5-4.7. In both photos the backbone is nice and flat but some ridges are visible, they have nice cover over short rib and long but are scolloped in hind leg and dip in the rump.



Photo two

Elite LIC bulls creating elite EBI cows

Andrew gets the recipe right in Macroom

A cow that offers great efficiency, excellent fertility, is easy on the environment and produces more than her bodyweight in milk solids, that's the type of cow most Irish farmers would want to see in their herd. And Cork farmer Andrew Dineen is achieving this.



Running 131 cows on a grazing platform of 48ha outside Macroom, Co. Cork, he has spent the last decade following Irish research data about what is the most profitable cow for a grazing system. These results have been driving his breeding decisions. While he doesn't select high genomic EBI bulls, the reality is that he's using 'lower' EBI bulls yet breeding high EBI cows.

His latest co-op performance report shows his herd's EBI is €193, compared with the top 10% of their producers at €156 and the all-Ireland top one per cent figure which is €178. "When I look at the report, at the bottom it says I'm using low EBI bulls but I've ended up with a high EBI cow, so I must be doing something right," says Andrew.

In addition, he has great milk solids figures - his herd's protein stands at 3.99% and fat at 4.46% giving him a return of 37.2cpl and is worth an extra €40,000. His herd produces on average 570kg/milk solids from a 560kg cow.

Andrew's been farming all his life, taking over his parent's farm and managing to rent an adjoining unit four years ago. One of his challenges is that both farms are long and thin, meaning cows must walk up to 1.5 miles to the parlour when grazing the outlying fields.

"We've spent a lot on infrastructure improvements," he says. "The rented land was poor and had to be reclaimed. There's drainage in almost every field and it took four years to get it up to scratch. We've concentrated on the cow tracks too, paying particular attention to the 60 per cent nearest the parlour that are always walked on.

"We do have to look at traits such as udder depth, legs, feet and hooves as the walk, at times, can be quite demanding."

But the real changes on the farm started nearly 10 years ago when he decided

to move away from the larger Holstein cow, known for her yield rather than milk solids, capacity and fertility, and decided to go crossbreeding. Today his herd is between 75-80% crossbred.

"Once milk price moved to A+B-C, rather than being on a pure yield basis, it was an obvious choice," he says. "I suppose I was a bit nervous to begin with, which is why I went slower than perhaps I should, but now I'm reaping the benefits and frankly can't understand any farmer still going for yield alone."

His hard work is really beginning to pay off. As an example, he has recently weighed all his cows, and found to his surprise that his most productive animal was the lightest. "It was a bit of a eureka moment," he says. "She was probably the cow you would look at and might think was one of your poorer cows.

"She's all LIC genetics and weighed 390kgs but is giving 472kgs of milk solids from 4557kgs of milk. Her fat is 5.76% and her protein 4.58%. When I look at her I just see how little maintenance she needs when she's eating when compared to one of my bigger 700 kgs Holsteins still left in the herd."

Andrew says he is never happy to stand still, or accept where he is, and while he can't increase his stocking rate unless he was lucky to get more land, he does aim to select bulls for fertility and for milk solids. This spring the main bulls used were Integrity, Sierra, Cairo, Gallivant, and Dexter. G-Force is the sire of the bull, Aaron he's submitted into the IBB (Irish Bull Breeding) programme.

Aaron's dam is doing more than her weight in production and is predicted to do almost 500kg/ms in her first lactation. Andrew is excited to have two bulls in the IBB programme this year. "It's good to see LIC taking the initiative, and it'll be interesting to see how the IBB develops and contributes to the national and international herd in the future," says Andrew.

"Grass is our key input here," he continues. "When the grass stops growing, the parlour stops. When the grass starts growing again in the spring, the parlour opens up." His rationale behind a 10-week breeding season is to keep to a six week in-calf rate and give himself time to have a break between breeding and calving.

All youngstock - both calves and in-calf

heifers - are contract reared away from the farm. This allows the herd to make the most of the grass and offers Andrew the best return per hectare.

"We were wary when we started out, it's true," he says. "But we bred some fantastic animals for a grass-based system with tremendous hybrid vigour. Since those first heifers started joining the herd we haven't looked back. You need to breed an animal that fits your system, and with grass so important in Ireland, it's obvious that New Zealand genetics have a huge role to play."

In late September he sold eight empty cows, and it wasn't until he looked through the catalogue that he realised seven of them were Friesians. "That tells a story in itself," he says. "The crossbreds are much more fertile, and fertility is a key when it comes to building a cost-efficient herd."



"I'm very happy with my results and how they compare with others. I'm sure there's still further to go, and I look forward to producing even better cows."

Herd size	131	
Milking platform	48Ha	
Kgs/MS/cow	570	
Cow liveweight	560	
Concentrates per cow	800-1,000kg	
Empty rate (10 week breeding)	10% cows	0% heifers
6 week in-calf rate	77%	
Calving interval	369 days	

2021 IBB bulls

Name	gBW	gBW rel %	Fertility BV	Milk Volume BV (l)	Fat % BV	Protein % BV	EBI	EBI Rel %	Fertility SI	Milk SI	Milk kg	Fat %	Protein %	Sire	Breed Split
LIC Coolhull Daly	218	60	2.3	651	4.7	4	228	55	93	92	-57	0.28	0.21	ARKANS BEAUT ET	F11J5
LIC Kilvoige Aaron	297	54	4.8	-70	5.8	4.2	269	48	105	109	-200	8	0.27	VAN STRAALENS G-FORCE	J10F6
LIC Brooklawn Eclipse	265	56	2.8	142	5.2	4.2	268	49	94	114	88	15	0.21	GLEN KORU EPIC	F8J8
LIC Kilvoige Stephen	198	56	1.2	529	5	3.9	260	47	95	108	-75	9	0.21	PRIESTS SIERRA	F12J4
LIC Newbawn Lily	152	50	5.1	257	5.1	3.9	268	47	99	110	-88	9	0.21	CRESCENT EXCELL MISTY ET	F8J8
LIC Moorehill Max	345	58	4.7	479	5.2	4	266	50	109	100	58	12	0.17	CARSONS FM CAIRO S3F	F12J4
LIC Moorehill Galaxy	205	55	6.5	118	5	4.1	253	48	87	120	11	14	0.24	GLEN KORU EPIC	F9J5O2
LIC Ahabeg Defender	174	52	6.1	197	5.1	3.8	232	50	74	100	-36	8	0.16	VAN STRAALENS G-FORCE	F11J5
TEAM AVERAGE	232	55	4	288	5.1	4.0	256	49	95	107	-37	9.41	0.21		

Sexed semen - mate the right cow to the right bull at the right time

Mark Ryder and Joyce Voogt



As a push towards increased use of sexed semen in the dairy herd builds momentum, there is much discussion over what product will deliver the greatest benefit on farm. At LIC we have plenty of experience with sexed semen options and the many considerations for their use in breeding programmes.

These considerations actually boil down to a fairly simple concept - **breeding heifers that will suit your farm system by mating the right cow to the right bull at the right time.**



When buying a straw of semen, remember you are doing more than just getting a cow in-calf, you are buying a heifer to milk in 3 years' time. Hence the appeal of sexed semen - you can mate your ideal bull to the best cows, with a 90% chance that the calf will be a heifer. By selecting bulls who carry the genetic traits you need and cows who perform well in the herd, you can produce a heifer that genuinely suits your farm system.

Let's drill down a bit more.

The right bull - LIC has the cream of New Zealand pasture-based genetics at our fingertips. Many of these bulls are now available in Ireland in a sexed product. They will deliver the sort of heifer you know will suit your system when she hits the herd in 3 years. Irish farmers can use our sexed semen throughout the breeding season to suit their individual plan.

The right cow - You'll want that top heifer to come from a top cow, not just whoever happens to be cycling on the day. With our bulls, you have the choice to use a sexed straw or a conventional straw depending on the cows that present for mating each day.



Mark Ryder

Best practice recommendations are to pre-select cows and breed those with the highest fertility rating to sexed semen. If she's of lower fertility status (e.g. a first heat or an older cow) it may be prudent to use a conventional straw. If she's from the lower end of the herd for production, a beef straw may be the better option for her.

The right time - Timing is important. Sexed semen allows you to follow a specific mating plan, mating the right cow to the right bull at the right time. And if that top cow is bulling

slightly ahead of AI start date, you can use a sexed straw, get a heifer calf and gain some extra days in milk. Likewise, well-grown yearling heifers can be inseminated with sexed semen 2-3 weeks ahead of the herd mating start date, and their returns will still fall in the first round of breeding.

What about conception rates?

Maintaining a compact calving is important in seasonal farming systems. Results of trials comparing sexed and conventional semen performance in pasture-based herds show sexed semen has, on average, a lower relative conception rate and that results can be more variable than conventional semen^{1,2}.

Production processes vary between companies, so farmers should seek information from suppliers on controlled trials relevant to their product before purchasing.

Getting the best possible results with sexed semen

Some very good advice in the industry has been assisting farmers to get the most from their investment in sexed semen to date. This advice includes cow pre-selection - i.e. using the straw in the cow that is most likely to conceive - (cows calved >50 days², displaying a 2nd or 3rd strong heat since calving, younger cows, in good body condition and in excellent health), and following the product guidelines for semen handling and insemination.

We have seen farmers who follow these steps achieve better results than those achieved in blind trials where no preselection was exerted on the cows, and is exactly as you would expect. Variation exists however. Research suggests sexed semen is more affected by herd, cow, bull and technician factors than conventional semen and that more research is required to reduce herd to herd variation on performance^{2,4}.

Good management practices and processes on farm will provide the best outcomes regardless of semen type.

Talk to your LIC representative to help you develop the best breeding plan to meet your goals.



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Beefed up for dairy

By Charlotte Gray

In what is a significant shift forward in the animal welfare space, dairy farmers are more focused than ever on minimising the number of, and getting the most value-add return from their surplus calves.



“ This has coincided with a more targeted approach to artificial insemination with farmers being far more selective about which cows they're choosing to mate to elite dairy bulls.

After all, when the average difference in milk production between the top and bottom quarters of the herd is about NZ\$960(€550) per cow*, some serious questions hang over any decision to retain replacements from the herd's bottom end.

So when she's not going to produce a heifer replacement worth keeping, a reduction in surplus calves can be achieved, or the value from these surplus calves can be maximised, progressive farmers are thinking beef.

The ideal synergy is to increase the value of the calves born which must be profitable and saleable - with minimal risk to the cow.

First and foremost a dairy farmer's prosperity comes from milk income, but LIC believes beef sales worldwide are set to increase significantly over the next decade, and with many farmers sharing this view, it's a natural progression for LIC to complement its strong dairy offering by providing quality beef options.

LIC has aligned itself with trait and breed leaders in New Zealand's beef space to ensure that the beef genetics offered will tick the boxes for both dairy and beef farmers.

LIC's beef offering delivers value-add in several forms, be it short gestation length, polled, marbling, rapid growth to weaning or slaughter, or extremely feed efficient genetics.

LIC is proud to say it now offers its widest-ever variety of beef options,

providing all types of dairy farmers the opportunity to diversify their revenue streams by taking a more targeted approach at mating time.

High growth, feed efficient Profit Maker™ composites, well-marbled Wagyu, and short gestation Angus are just a few of the breeds that are sharing the limelight with the traditional Hereford.

LIC's short gestation Hereford product is the highest-use beef product in New Zealand. Ranked on gestation length, a massive 75% of the 75 shortest gestation Hereford bulls in New Zealand were bred by Shrimpton's Hill - LIC's exclusive supplier and partnership for short gestation Hereford genetics. Having sold in excess of one million short gestation Hereford straws into the industry, Shrimpton's Hill are renowned as short gestation specialists, and continue to provide low birthweight, easier-calving genetics tailored specifically to the dairy farmer.

LIC's relationship with Rissington Cattle Company is yielding its own efficiencies. A tale of three brothers - these astute farmers recognised the importance of measurable feed efficiency across breeds, and through accurate feed intake recording, have bred bulls that eat significantly less feed whilst still achieving exceptional gains. Feed grown or imported into the system is one of the biggest limiting factors to production in both dairy and beef. With Rissington able to demonstrate that two yearling bulls of the same liveweight and age grow at the same rate per day, yet one eats less than half the amount of dry matter compared to the other, why wouldn't you utilise the most feed efficient of the two.

Rissington's feed efficient short gestation Angus, Simmental, and Profit Maker™ - a composite made up mostly of Angus and Simmental genetics - are sharing the limelight now with the traditional and trusted Hereford product.

Understanding the differences between the breeds and bulls within breed is key, and farmer selection of beef genetics should always come back to the desired outcome.

Dairy farmers know more than anyone that bulls of one breed are not the same, and the same goes for beef. That Angus bull down the lane may look the part, but will he deliver on your non-negotiable traits.

Rissington's bulls are compared on a global database that contains over 1,000,000 animal records, so you can have confidence in their genetics, and some of Shrimpton's Hill Hereford bulls have in excess of 50,000 dairy-born progeny in New Zealand, testament to their calving ease.

Some breeds and bulls may suit one farm system better than others. Factors such as herd size, cow breed, staff, and the ability to take the beef-cross calves through to processing, or at what age the farm might opt to sell instead, will all have a bearing on the farmers decision.

To discuss what might best suit your farm, call your LIC representative.

* In 2017 LIC researched millions of milk recording results, taking out 2 & 3-year-old cow information (these animals were deemed not to have reached mature production), as well as 9+ year-old cow information: Information among all 4- to 8-year-old cows was split into quarters. Results showed the variation between the 'top-quartile' and 'bottom-quartile' of the production engine room, 4 to 8 year-olds, was a staggering difference of 160kgs/MS (on average).

Are you utilising your grass to its full potential?

Ireland has come a long way with its grassland management. The focus is now all about turning grass into milk. We often use lines like ‘making a profit from turning the green stuff into the white stuff’. But there is more to getting good utilisation than getting low residuals at every grazing. What about improving grass utilisation after it enters the cow’s mouth?

What percentage of your grass goes towards milk production and how much goes towards maintenance. Depending on the cow, there can be, more than a 20% variation on her maintenance requirement with the cow’s liveweight playing a large role in this. This ‘wastage’ of feed that could otherwise be used for production happens more often than we might realise. Here is a real life example -

Table A comes from a farm in Co. Tipperary and shows Cow A producing 577kg/MS and Cow B producing 493kg/MS. Cow A has been doing a great job of turning grass into as much milk as possible. In fact, Cow A has produced 19kgs/MS more per tonne of dry matter pasture eaten¹ than Cow B, resulting in €360 more profit. Her efficiency, as



measured by milk solids production per kilogram of liveweight, is impressive too, at 1.3kg/MS/kg/Lwt. Cow B is only achieving 0.8kg/MS/kg/Lwt.

Components and volume aside, liveweight costs alone likely explain a significant part of the difference. Cow B weighs in at 640kg, 200 kg heavier than Cow A, who weighs 439kg.

Cow B has roughly a 25% greater liveweight maintenance and pregnancy requirement than Cow A. She requires 635kg/DM, or over 10% more feed (at 11MJ/ME/kgsDM), than Cow A each year that is not going into milk. It’s enough to produce the 80kgs/MS extra that Cow A has achieved.² Extrapolate the

revenue difference out to a 100-cow herd and at €4.40/kgs/MS it would mean an estimated €36,000 extra in the milk cheque.

Cow A has good genetics behind her and more importantly, the data shows she is the right type of cow for a grass-based system. A robust, smaller cow with higher milk components percentage, who really will turn pasture into profit; a cow that generates €360 more revenue while saving €60 on feed costs.

It is important to note that this extra income is achieved without increasing your stocking rate, changing your management style or any kind of extra spending. It is achieved by changing your AI straw to a sire that is going to give you the right cow who is suited to getting the most efficient production from pasture; cows that can graze all the pasture while diverting less into growth, pregnancy and maintenance and more into milk production.

This Tipperary farmer knows Cow A is right for his farm and has focused his goals towards breeding this type of cow. If you want to turn grass into profit, allocating as much grass as possible towards milk production instead of maintenance needs to be priority.

1. At 11 MJ/ME/kg/DM

2. Energy requirements based in Facts & Figures for NZ Dairy Farmers (2017) DairyNZ



Cow ID	Milkfat	Protein	Volume	Liveweight	Kgs/MS/cow	Efficiency (Kgs MS/kgs/lwt)	Revenue/cow (€)	Intake/cow (tonnes/DM)	Efficiency (KgMS/DM eaten)	Milk revenue/t DM eaten (€)
A	335	242	6052	440	577	1.3	2550	5.4	107	473
B	279	218	5860	640	493	0.8	2190	5.6	88	388
Difference	56	24	192	-200	64	0.5	360	-0.2	19	85

CONTACTS

LIC Ireland Ltd

Carrigeen Industrial Estate
Cahir, Co Tipperary, Ireland
T 052 744 2517
F 052 744 5731



Eurogene AI Services (IRL) Ltd

Carrigeen Industrial Estate
Cahir, Co Tipperary, Ireland
T 052 744 2517
F 052 744 5731



 **AI Services (NI) Ltd**
T 028 9083 3123
F 028 9084 2640
E info@ai-services.co.uk

 **DAVID POWER**
LIC Snr Breeding Advisor - Midlands South East
T 087 937 2553
E dpower@liceurope.com

 **LEONARD GAVIN**
LIC Breeding Advisor - Midlands North East & West
T 086 142 8830
E lgavin@eurogeneaiservices.com

 **AIDEN CUNNINGHAM**
LIC Breeding Advisor - Cork & South Tipperary
T 086 174 5666
E aiden@eurogeneaiservices.com

 **JEREMIAH DALY**
LIC Breeding Advisor - Kerry & Limerick
T 087 399 5967
E jdaly@eurogeneaiservices.com

 **MAIREAD HAYES**
Telesales
T 052 744 2517
E mairead@eurogeneaiservices.com

 **ANGELA KENNEDY**
Telesales
T 052 744 2517
E angelak@eurogeneaiservices.com

 **JOHN TOBIN**
System Manager - LIC Ireland
T 086 410 7786
E jtobin@liceurope.com



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