Working to **secure your future**

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# GRASSROOTS



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LIVESTOCK IMPROVEMENT

# EBI changes announced in Ireland

**November saw the launch of new changes to the EBI, the Economic Breeding Index, which has played a major role in the success of the Irish dairy sector since its introduction in 2001. Below we look at some of the changes and consider how they will affect breeding decisions moving ahead.**

**The key improvements announced include the introduction of:**

- A new carbon sub-index
- A new age at slaughter trial
- An updated somatic cell count (SCC) trait
- An updated female fertility sub-index


Laurence Shalloo, Teagasc, Michael Doran, Chairman ICBF, Andrew Cromie, Technical Director, ICBF and Minister for Agriculture, Food and the Marine, Charlie McConalogue launching the Carbon Sub Index in the EBI at the ICBF event in Corrin Mart, Fermoy, Co Cork. Photographer Donal O'Leary


Cows grazing on Martin Kinane's farm

"The new carbon sub-index is aimed at ensuring the rate of genetic gain in the national herd is maintained but also futureproofed by breeding more environmentally friendly dairy cows.

Ireland has set itself the goal of reducing greenhouse gas emissions from agriculture by 25% by the year 2030. Of the 5.75Mt of $CO_2e$ that agriculture must reduce, genetic gain has been challenged to reduce 1.2Mt$CO_2e$ or 20% of this - with the dairy herd contributing 60% of this reduction.

ICBF says its newest updates for the EBI will be the spark that will help reduce the national herd's total emissions.

The changes have been made through extensive research and collaboration between ICBF, Teagasc and Abacus Bio, and they were explained by Teagasc's Dr Jonathan Herron who also emphasised the fact that Ireland was the first country in the world to incorporate carbon directly into their national breeding index.

"Concentrating on total emissions rather than emissions intensities will enable us to have a bigger impact on our 2030 goal of a 25% reduction in total emissions. Until now, emissions have been calculated as emission intensities, whereas total emissions are a more accurate measure," he said.

The new carbon sub-index will increase the economic weight of traits that increase emissions (milk, fat and protein), he added, saying that it'll account for 10% of the overall EBI, aiding the breeding of a more efficient animal and system.

Dr Herron pointed out that the new Index will favour cows that are more fertile and are slightly lighter (ie, animals that have a lower maintenance cost, but this also needed to be considered in the context of beef coming from the dairy herd.

"This new move is welcomed by LIC and Eurogene who have long argued that New Zealand genetics produce fertile efficient cows best suited to grazing systems. The smaller Friesian X Jersey cow is ideal, allowing higher stocking rates while maintaining productivity and efficiency," said Mark Ryder, LIC Europe general manager.

Also on the agenda were updates to the beef sub-index which will work towards producing a higher spec carcass from the dairy herd destined for slaughter while also improving efficiency in getting animals to slaughter.

Dr Alan Twomey from Teagasc led on this topic, pointing out that there has been a 5kg reduction in carcass weight over the past 10 years, and since the dairy herd accounts for 57% of Irish beef production, there is a need for better beef and dairy integration in order to improve our overall sustainability, and breeding is one way to help address the issue.

The Beef sub-index will work towards producing a carcass weight of between 280kg and 380kg while also improving efficiency of getting animals to finish earlier, by including age at slaughter within the beef sub-index and Dairy Beef Index.

## "These will help increase the number of animals reaching slaughter weight and specification at a younger age.

The updated SCC trait will mean a move to the Test Day Model (TDM) which uses every test day record on each cow rather than the previous 305-day model which used a standard lactation curve for each cow regardless of the number of milk recordings in a year. The TDM is better able to account for environmental factors on the day of milk recording, such as weather, feed levels and grass quality, and its overall impact on EBI on average is estimated to be + 3euro for AI sires and +2euro for cows. The TDM will allow for more accurate prediction of an animal's Estimated Breeding Value for SCC and will bring it in line with the SCC Breeding Value within Breeding Worth.

Improving cow fertility has been a key focus for many dairy farmers and the last update to female fertility evaluation was in 2010. ICBF has previously talked about adding CR42 (likelihood of cows calving down in the first six weeks) into the fertility sub-index, because of the seasonality of Irish dairy farming and the focus on six weeks in calf and calving rates for profitable spring-based systems. It is believed that these changes will not be made in the short term rather they have been put on hold.

Since the updates went live, we have heard from several farmers about the new changes and what they have seen happen to their own herds and what might change about their breeding policy going forward.

Martin Kinane, who bred BOPURU BRO and more recently BOPURU PAL has seen his herd jump from €202 to €222. While Denis O'Donovan, from our recent webinar has seen his herd EBI increase from €186 to €202, Noel Griffin from Waterford has seen an increase of €25 going from €193 to €218. Andrew Dineen, who bred LIC KILVOIGE AARON and STEPHEN has seen his herd jump from €203 to €215, and his genotyped heifers going from €243 to €255. And Pat Ryan, Co, Waterford has seen an increase of €20 in EBI and now sits at €208, Pat noted that his calves were averaging €180 but his cows in 3+ lactations were averaging €230 with some cows up around €380, proving to him the bulls he has been using, while low on EBI will produce high EBI cows. All these farmers have seen substantial gains, and reflective of the type of gains we are seeing within our customers herds.


Martin Kinane

Talking with farmers using LIC genetics, they are pleased to see their breeding choices being rewarded with a lift in EBI due to their herd's efficiency, fertility and longevity, these traits contribute not only to a profitable herd but also a carbon efficient one. Some farmers have noticed that with each lactation their cows are increasing in EBI.

None of the farmers spoken to over the last few weeks are looking to change their breeding policy. They still want an efficient cow that will produce her bodyweight in milk solids, will get back in calf and has good longevity, and they know this is what will contribute to environmentally efficient animals with a high carbon index. So instead of focusing on changing the cow, they are focusing on the type of beef sires they are using on their cows. They will focus on using beef sires that firstly have good values for short gestation and easy calving, but also have good traits for carcass weight and age at slaughter. By doing this they are ensuring they are breeding a profitable, environmentally efficient cow but also a beef calf of quality."

# Have we got it wrong?

## Lead pasture to profit consultant (Sean Chubb) asks an important question here...

**In September, LIC was fortunate to be able to take part in an open day in France that saw dairy and beef farmers come together with the goal of obtaining greater collaboration and synergy between their industries, along with improving their management decisions on farm.**

The day was a huge success, being fully booked with 250 farmers in attendance. These farmers came from all over France with a few attending from other European countries. There was roughly a 50/50 split between dairy and beef farmers, who were either already farming in a pasture-based system or looking to move to this system.

The day was split into two sessions, the morning saw farmers rotate around seven speaking stations offering demonstrations and technical exchanges. LIC and our French distributors were speaking on how beef straws help with herd improvement and what our beef options provide to both the dairy as well as the beef farmer. These being low birth weight and short gestation for the dairy farmer, and carcass quality and growth rates for the beef farmers.

Following the morning session, all in attendance were provided with a proper French lunch (5 courses served over two hours with local wine), all cooked by renowned chef Gueuleton val de Loire, where the theme of the day continued with the Jersey x Angus meat supplied by one of the speakers and other produce supplied by the host farmer.

After lunch there were an additional eight speakers, consisting of farmers, farm consultants and industry representatives (for example, the largest meat processor in France). The topics up for discussion were focused on dairy beef and how to make the most out of these animals. The largest meat processor was talking about how they see dairy beef being a more marketable product, so they are actively trying to secure supply of dairy beef through providing contracts at time of conception. These contracts provide a guaranteed price for the cattle when they are killed, in the hope that this gives farmers confidence that there would be a margin for them.

The presentation that excited all the dairy farmers in attendance and what led to the title of this article, was from a farmer and a high-end butcher out of Paris (Guillaume and Maison). These two are working together to provide consistent supply of meat to a three-star Michelin restaurant in Paris, the twist is that the meat has to be 100% Jersey bred.

For 30 years the head chef at this restaurant refused to have beef on his menu as he couldn't find a breeder or outlet that could supply him regularly with beef that met his requirements for flavour and marbling of the meat. Over this period, he looked at all the beef breeds to see if any of them could meet his standards, but none could. This was until he was introduced to Jersey meat three years ago by Maison, the flavour and marbling met his requirements, and the yellow fat offering an additional selling point as it could be differentiated from other breeds of cattle.

It took another 2 years before beef got on the menu; this was to ensure that the quality of meat from cow to cow would be consistent. This was the issue found with the other breeds that were looked at. Angus, well known as a breed for high levels of marbling, had too great a fluctuation from animal to animal to consistently meet his standards.

This fluctuation in marbling of the meat, impacted on the supply of meat from farm to restaurant. What they have found is the fluctuation in the meat from 100% Jersey cattle is very small, meaning little to no disruption through the supply chain. The cattle have to be strictly 100% Jersey, as even a 50% Jersey and 50% Angus will have too much fluctuation in meat quality to meet the standards set for the Michelin chef. This means that farmers who have

crossbred cows or have put any other breeds over Jersey cows will not be able to access this niche market.

Currently they are killing eight head a week but have the goal of lifting this up to 25 head by 2025. To meet the current killing rate, Guillaume is having to buy in Jersey cows not only from France but also sourcing them from the Netherlands. To be able to scale up this enterprise they are needing to secure further supply of Jersey cattle. Currently they have contacts in Ireland and after this open day there are more farmers in France who are wanting to supply cattle for this market. Fortunately, for farmers who have 100% Jersey cows, the butcher will take cows, bulls, steers, and heifers to meet the order requirements from the restaurant.

While, as far as I am aware, no prices were given during their presentation on how much a farmer would get for their Jersey cattle on a €/Kg basis, it was not lost on the farmers present that Guillaume had moved away from traditional beef farming into buying Jersey cattle to finish and supply Maison to obtain greater profits.

This caused much debate and conversation after the event between farmers around their breeding decisions going forward. With milk contracts in France being similar to that of Arla (litre price with increases in payments for fat and protein above a base value), farmers were thinking if they could obtain just as much income from milk through milking 100% Jersey cows but obtain a higher value for all of the cattle sold from the farm through supplying Guillaume and Maison, it would be worthwhile moving 100% to Jersey cows.

So, going back to the title, have we got it wrong? Is it time for block calving farmers in the UK and Ireland to start looking for niche markets like this? The large meat processors are set up in essence to feed the world; they want large animals, as this maximises the amount of meat per cutting hours. The problem here is that 1, they are fighting other processors to supply supermarkets and chain restaurants, so they are in a downward pulling market for pricing of their products, and 2, this makes it harder for grazing based progeny to obtain the top grades as they are generally smaller so reduces the amount of meat processed per cutting hour, which gets these animals downgraded.

When you combine the story of grass-fed cattle with distinct marbling and fat colour from cattle that have Jersey in the breeding, there is a very unique story and value proposition. With eight 3 star Michelin restaurants in the UK at the beginning of 2022, it's possible to replicate what is being done in France.

But surely there are other opportunities out there for farmers to increase the value of the cattle they are selling from their farms without having to increase their size or change their breeding to achieve this?

For the grazing-based community to take advantage of the potential niche markets out there, a lot of work is going to need to be undertaken, and some farmers are already making good progress.

Farmers that are working on niche markets are doing it for themselves, not for the betterment of the dairy beef sector or the grazing sector. So, are you happy feeding the masses or do you want to feed the richest 10%?

# High stocking rates with impressive mating figures on this farm

**"I'm passionate about dairy cows and grass," says farm manager Breiffni Daly, who looks after 1500 cows and 1000 youngstock on the Sansaw Estate at Sheepcotes, Hadnall on the outskirts of Shrewsbury.**

"Working closely with LIC he's had a great year with impressive mating figures for both cows and heifers and puts most of his success down to using top New Zealand AI technicians, quality semen and identifying bulling heats efficiently.

"I can still do better," he says. "I always strive to do the best, so while I am happy with these results, I know I can set more stringent goals and reach them."

The Sheepcotes farm is a total of 800ha and carries a high stocking rate of a total of 2500 animals and 40 bulls. There's a 500ha milking platform and a 300ha support block used for rearing the youngstock and for cutting silage.

Almost all the farm is down to grass, with approximately 40ha of fodder beet for winter grazing, up to 25ha on the support block and 15ha on the grazing platform.

Fodder beet is used to graze the dry cows over the winter, and to add to the ration of the 750 cows outwintered each year.

"We invested in a new cubicle building for 800 cows a couple of years back, so the herd is split into two with those animals housed and the remainder outwintered."

In his first year of running Sansaw Estate, some 1100 heifers were imported from Ireland also UK and wales/Scotland united nations we put together to grow the herd. Since then, apart from one year when a different semen supplier was used (and resulted in bigger animals than Breiffni likes) he has stuck with LIC for all the herd's genetics.

**"My ideal cow is one that weighs about 500kgs and has a mixture of New Zealand Friesian Irish Friesian and Jersey," he says. "Because of the layout of the farm they need to walk between 4 and 4.5kms a day from the parlour to the fields and back, so a smaller animal is vital."**

His aim is to get liveweight and milk solids production the same, or even better, so with a 500kgs cow is looking for 500kgs milk solids. At the moment his solids' yield is around 440kgs with a protein level of 3.8 and fat of 5. "There's room for improvement here," he admits.

The grazing platform is all paddock-based and with a total of some 160 paddocks, each approximately 6ha each, there's always plenty of fencing to be done. The paddocks are grazed with either 12 or 36 hour breaks depending on covers and while the farm takes two to three big cuts of silage for the clamps each May and June, a further 3000 large round bales are made for the outwintered herd and youngstock.

A brand new 70 bale Waikato rotary was installed in 2012 and with more currently tenanted land coming back in hand in the near future, there are already more plans for future investment that could include a satellite unit on the edge of the existing land area.

"I'd like to get up to 1800 milkers," he says, "but that will only be possible with more land. So we'll wait and see."

Fertility is top of the traits Breiffni seeks when looking at the genetics of his herd. Asked to quantify that, he says he would select 60% for fertility and 40% for yield. Overall yield is around 5000 litres/cow and as he's on an Arla 360 liquid contract, he's currently getting a return of 63p/litre, one of the best prices on offer at the moment.

Other traits include good feet and legs and he plans to look at udder health and teat alignment more in the future.

As the herd is spring calving, breeding starts in the last week of April, the last Monday, with the heifers, and in the first week of May, again on a Monday, with the cows.

This year he had 1400 cows eligible for mating and carried out a total of 2037 inseminations between May 2 and June 12. His three-week submission rate was 92% against his target of 90%. His non-return rate was 65%, 5% below the industry target of 70% at six weeks.

Aged pregnancy diagnosis is by far the best tool for identifying in-calf and empty cows and the PD scanning results showed 75% of the cows at six weeks scanned in calf, and 87% of the heifers.

"With the cows our average insemination rate was just under 1.5 straws per cow," he says. "While I believe the industry average is nearer 2, I would like to get this below 1.2 in the future. We want to be the best - that's what we're always striving to be.

**"We use AI for the first six weeks and then the bulls will go in. I don't concentrate too much on the six-week calving rate, I just want pregnancies."**

All cows are scanned in September and usually about 180, a bit over 10%, will end up being separated out as cull cows and fed up to go to market in the first week of November. "We should do better here and keep these numbers below 10%, I'd rather be closer to 6%."

Of the 387 heifers, 361 were submitted with a total of 384 inseminations. The three-week submission rate was 97%, but always aiming higher, Breiffni says he wants this to increase to 100%.

He buys 1000 straws of sexed semen each year and uses this on all the heifers and 550 on the cows. "I think we've still got quite a lot to learn here and we are improving our results every year. Cow selection is key."

This year he used 5 LIC bulls: Seifion Cardi, Trapeze, Hard Copy, Safari and Professional and used the short gestation Hereford bulls from Shrimptons Hill.

There's a heavy reliance on grass at Sansaw Estates, and to an extent that, and forward buying through a buying group, is helping them to face the ever-increasing costs of fertiliser and feed.

"We do watch the markets and try to buy carefully," he says. "We are looking at reducing fertiliser use, usually around 180kgs/ha across the farm. This year, we made more silage early on and, we went up to 190kgs/ha this year but next year would aim to be around 150kgs/ha.

"We're moving towards this by stitching in clover and I must admit to doing a little experimenting in this area. It didn't work so well last autumn, but we have gone a bit earlier this year and at the moment it looks better."

**What does Breiffni like the most about his job?**

**"As I said at the beginning, I'm passionate about grass and cows. We have a team of 13 here and have great team spirit. There's so much more we can achieve, we are all excited about the future."**

# The size of the prize

**New LIC research reveals a staggering variation in milk production and efficiency between the 'top-quartile' and 'bottom-quartile' of cows.**

As part of LIC's commitment to faster genetic gain, its science team recently investigated the full spectrum of MINDA herds in search of the 'best cows', which included whether a clear correlation existed between breeding worth (BW) and production efficiency.

The research re-affirmed high BW cows were more efficient milk producers than low BW cows, and that long-term users of LIC genetics continued to achieve faster rates of genetic gain than other farmers.

Close to 1 million cows, from current MINDA and Herd Tested herds aged between 4 -8 years-old, were grouped by breed and split into quartiles based on BW rank: The average (per-cow) milk production, liveweight, and fertility breeding value (BV) from each quartile was calculated.

Results showed a staggering variation in milk production and efficiency between the 'top-quartile' and 'bottom-quartile' of the cows, at an average of 65kg of milksolids, per cow, per season.

The top quartile, high-BW, cows also had a lower liveweight BV, and a better fertility BV, compared to their lower BW herd mates.

David Chin, LIC chief executive said the data showed the progress farmers have made since turning their focus to improving cow quality on their farms.

And there was plenty of opportunity that was still there for the taking, Chin said.

"This data shows that high-producing, climate-friendly cows aren't just a hope for the future. They exist in the national herd today.

"If we're going to meet our sector's goals, we must sharpen our focus on only breeding these highly efficient cows that sit at the top, and not create replacements that sit at the bottom. We've got the tools and the data to show further improvements in production efficiency are well within reach for every dairy farmer - and some herds are already doing it."

## Long-term users of LIC genetics are breeding these better cows, faster

The research also took a closer look at the rates of genetic gain that long-term users of LIC genetics were achieving.

To calculate the 'rate of genetic gain', the difference in gBW between one year of replacements versus the following year was compared.

Between 2017 - 2021, LIC 'long-term users' (herds with more than 80% progeny sired by an LIC bull over the last 10 years), had achieved almost double the rate of genetic gain per year compared to herds with less than 20% progeny sired by an LIC bull (19 gBW vs. 10 gBW).

Chin said the findings confirmed the kind of gains that could be made with a strong focus on herd improvement and consistent use of high-BW bull teams.

"It's really encouraging to see that farmers that have predominantly been using LIC bulls are achieving markedly higher rates of genetic gain in their herds. The bigger jumps in BW between each year of replacements, the faster you're moving towards milking more emissions efficient cows."

Alongside farmers' herd management decisions, genomics has been the key contributor to the increased rate of genetic gain, Chin said.

"It's no coincidence that the increased utilisation of genomics in our breeding programme and increased farmer

uptake for young, genomically selected sires has gone hand in hand with higher rates of genetic gain in farmers' herds.

"By drawing on information from a bull's DNA, we're able to more-accurately identify high genetic merit sires at a young age and make these elite genetics available to farmers to breed from as early as possible."

If the industry's average rate of genetic gain increased to match herds that are long-term users of LIC genetics, it would go a long way to minimise any decline in national milk production with a declining cow population.

"There are a number of factors influencing a farm's productivity and environmental efficiency, but the contribution made by genetic gain cannot be underestimated," Chin said.

"Our data shows there are already herds in New Zealand that are achieving substantial gains in genetic merit which are delivering noticeable value to these farms in the form of increased production efficiency and improved environmental efficiency.

**"The genetics and technology to help farmers breed better cows, faster is here now and we're proud of the role we play in helping farmers achieve just that."**

## The cow quartile data

Close to 1 million cows, from current MINDA and Herd Tested herds aged between 4 -8 years-old, for the 2020/21 season, were grouped by breed and split into quartiles based on BW rank: The average (per-cow) milk production, liveweight, and fertility breeding value (BV) from each quartile was calculated.

Results showed a staggering variation in milk production and efficiency between the 'top-quartile' and 'bottom-quartile' of the cows.

**Holstein Friesian**

| BW Quartile | Animal Count | Average gBW | Average KGMS | Average LWGT gBV | Average FERT gBV |
|---|---|---|---|---|---|
| Q1 | 51,375 | 163 | 518 | 37 | 0.8 |
| Q2 | 51,375 | 102 | 486 | 37 | -0.2 |
| Q3 | 51,375 | 60 | 467 | 37 | -1 |
| Q4 | 51,375 | -0.8 | 445 | 38.6 | -2.1 |

**Jersey**

| BW Quartile | Animal Count | Average gBW | Average KGMS | Average LWGT gBV | Average FERT gBV |
|---|---|---|---|---|---|
| Q1 | 18,988 | 252 | 431 | -50A | 2.9 |
| Q2 | 18,988 | 202 | 404 | -50.9 | 2.2 |
| Q3 | 18,988 | 166 | 387 | -51.2 | 1.5 |
| Q4 | 18,988 | 87 | 382 | -51.7 | 0.1 |

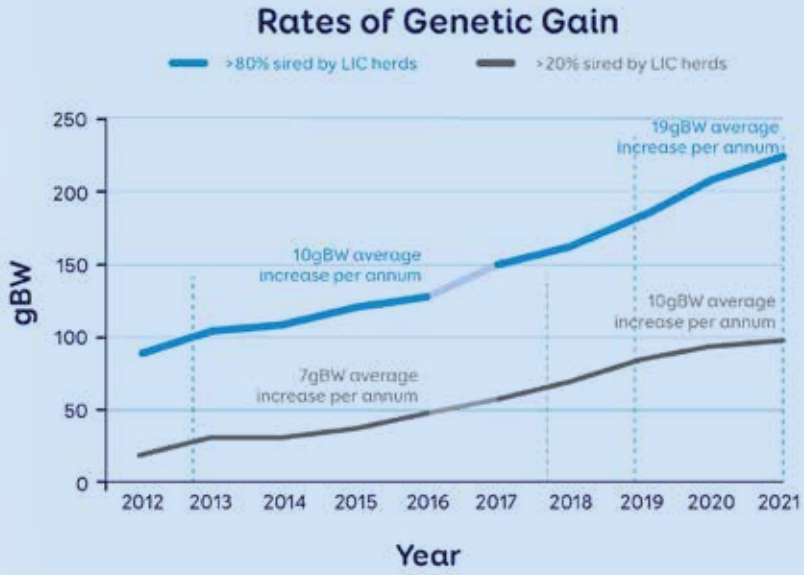
**KiwiCross**

| BW Quartile | Animal Count | Average gBW | Average KGMS | Average LWGT gBV | Average FERT gBV |
|---|---|---|---|---|---|
| Q1 | 146,050 | 208 | 505 | -4.1 | 1.3 |
| Q2 | 146,050 | 152 | 478 | 0.7 | 0.5 |
| Q3 | 146,050 | 110 | 464 | 5.2 | -0.2 |
| Q4 | 146,048 | 47 | 442 | 10.7 | -1.2 |

**Weighted Averages across the three breeds**

| BW Quartile | Animal Count | Average gBW | Average KGMS | Average LWGT gBV | Average FERT gBV |
|---|---|---|---|---|---|
| Q1 | 216,413 | 201 | 502 | 2 | 1 |
| Q2 | 216,413 | 145 | 473 | 5 | 0 |
| Q3 | 216,413 | 103 | 458 | 8 | 0 |
| Q4 | 216,411 | 39 | 437 | 12 | -1 |

Source: LIC, 2022




## The genetic gain data

- To calculate the 'rate of genetic gain', the difference in genomic Breeding Worth between one year of replacements versus the following year was compared.
- Average rate of genetic gain for herds with more than 80% of their progeny sired by LIC bulls over the last 10 years (2,900 herds)
  **2012-2016 - 10 gBW per annum**
  **2017-2021 - 19 gBW per annum**
- Average rate of genetic gain for herds with less than 20% of their progeny sired by LIC bulls over the last 10 years (474 herds)
  **2012-2016 - 7 gBW per annum**
  **2017-2021 - 10 gBW per annum**

# 2022: Another **outstanding year** for the IBB programme says David Power

**The Irish Bull Breeding (IBB) programme is going from strength to strength. Starting off in 2020 we now have some of our stalwarts sitting high up on the ranks.**

Both Moorehill Max & Bopuru Bro have been widely used over the last two seasons. With Max getting his second crop of daughters this coming spring and Bro excitingly getting his first crop on the ground.

Max is still sitting high on the active bull list with a current EBI of €292 and a gBW of $425. An F12 with a good blend of milk and fertility. Max has a total of 28kg of solids with PTA's for fat and protein percentages of 0.32 and 0.18. This puts the bull well over the 5% fat and 4% protein target.

While Bro, the full NZ Friesian pedigree bull is sitting at €311 EBI and a massive gBW for a Friesian of $410. Bro again like Max, has a good balance of milk and fertility. Both sitting at €120 and €144 respectively. On top of this Bro has a massive 38kg of solids, mainly coming from percentages with PTA's of 0.36 for fat and 0.17 for protein. The ideal bull for farmers who are aiming to increase kilos of solids through percentages.

## So how does the IBB process work?

It begins by screening calves born on a weekly basis throughout February & March. From this over 400 calves were selected to be genotyped for EBI. Based on these EBI's around 60 calves were selected. These calves get ear notched so we can get a wet tissue sample, which allows us to produce a gBW on the 60 bull calves.

Once the gBW's come back on these calves we drop the number down to 15 calves. From these all the dams are inspected and TOP scored. This removes dams with poor udders, feet or confirmation traits. Following on from this we make our final selection of calves for our annual intake.

From this I am pleased to introduce the class of 2022 bulls.

## Boporu Pal:

Pal is our highest ever bull to come through the ranks on EBI, with a massive EBI of €374 and gBW of $276. With a total of 38kg solids and PTA's for fat and protein percentages of 0.34 & 0.21, Pal is a bull that should be in every bull team this coming season. On top of his outstanding production Pal definitely has longevity and fertility on his side. Sired by Tanglewood Kauri who now has a massive fertility BV of 8.2, bred from a Hazael Light Detector cow who's now in her 9th lactation. It's clear to see that Pal really has it all!

## LIC Killingley Hustler:

If F12 is what you're looking for then Hustler is the bull for you. Bred by John Kingston, Ballygarvan, Co. Cork. Hustler has a high gBW of $424 with a combined solids of 77kg at 5.4% fat and 4.2% protein, it's clear to see there are solids in this pedigree especially when you look at his Sierra dam who's averaging 10.7% solids. On top of his high gBW figures, Hustler is also sitting nicely on EBI at €303 which is balanced out nicely with a milk SI of €120 and fertility of €123. Hustler definitely looks like another F12 to rival Moorehill Max.

## Lauragh Marty:

From the renowned Lauragh herd who've bred both Evert and Obsidian to name just two. Pat and Pauline Ryan have bred this $376 gBW F8J8, Slipstream son from an outstanding Sierra cow averaging over 10% solids across 4 lactations. Marty has a combined solids of 80kg at 5.3% fat and 4% protein. On top of this Marty has an udder overall of 1.03%, in the top 1% of bulls, the longevity of this cow family is there to be seen.

## Bopuru Lad:

Yet another bull bred by Martin Kinane, Ballyglass, Co.Tipperary, Lad again has high EBI and gBW of $329 and €311 respectively. Sired by the high fertility sire Tanglewood Kauri, Lad has a nice balance of milk and fertility of €119 for milk and €142 for fertility. With a total kg of solids of 36kg, it's fair to say that the three Boporu bulls would be among the top bulls of any team. Especially when you look at Lad's gBW figures, a total of 70kg solids from 600kg milk and a massive fertility figure of 8.5. Lad is a bull that should be in every bull team!

## LIC Muinemor Tanavalla:

Another year and another bull bred by the Dwyer family in Borris-in-Ossory, Co. Laois. Tanavalla a J10 Hoss son, bred from an outstanding Sierra cow would look the part in any bull team this year. With a gBW of 385 and a combined solid of 60kg from a liveweight of 502kg, Tanavalla will be extremely efficient.

## LIC Nodstown Hawk:

With a gBW of $459 and EBI of €305, Hawk is the highest gBW bull available for the coming year. Bred by Martin Ryan in Nodstown, Co. Tipperary, Hawk is a F9J7 Inferno son out of a Superstition dam. Hawk has total solids of 72kg combined with a fertility of 6.9 and a liveweight of 492kg, it's easy to see why this bull's gBW is so high. On top his gBW, Hawk is also well balanced on EBI with a Milk SI of 105 and fertility SI of 124.

From the bulls selected above, it's clear to see the IBB program is coming into fruition, now and into the future. These bulls will be in limited supply for the coming year as they are only yearlings. For more information and which bulls may be available in sexed, please contact your breeding advisor early.

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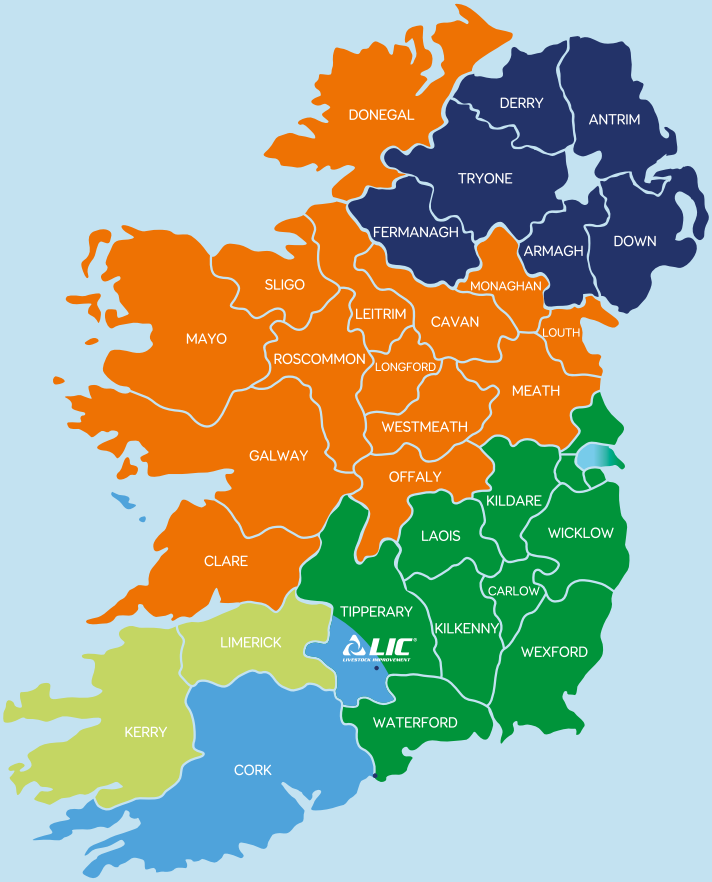


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