

Working to **secure your future**

Issue 06 2021

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# Dairy Exports to boost returns

NFU chief dairy advisor talks us through the new NFU Dairy Export strategy

“ The issues caused by international trade rarely seem to be out of the headlines of the farming press at the moment. Ever since the UK’s departure from the EU, the trading environment has been an uncertain one. This has caused some issues for the dairy sector, alongside the Covid pandemic, and the usual challenges of the weather and animal diseases. Yet through all this, the industry has found ways to continue to drive forward, exploring opportunities, innovating and collaborating.

As the longer term relationship with the EU becomes more certain and as we start to form more of our own free trade agreements, we could see some threats to our sector – a point you will know has been made very well over the past few years by the industry. But these trade deals could also bring opportunity, which we also need to look carefully at.

At UK Dairy Day, 15th September, The NFU launched a new document, the Dairy Export Strategy, which aims to double the value of British dairy exports over the next 10 years.

The global demand for dairy is significant. With the ever-increasing global population and increasing wealth in developing nations it is driving the demand for dairy up significantly every year. Predictions are for global dairy demand to increase 35% by 2030. We have a role to play in meeting demand for both volume and value, which creates multiple opportunities.

The UK’s production system runs on very high standards for food safety and environmental protection as well as world leading animal welfare. With more than 95% of dairy farmers assured by Red Tractor Standards, we can be confident in the commitment our industry has to producing

safe, traceable food, that is farmed with care. Red Tractor can certainly provide an assurance platform for growth in the export market for British food, ensuring our high value exports have robust assurance supporting traceability claims. We also have a history and reputation as one of the finest manufacturers of dairy products in the world such as Cheddar, Stilton and Wensleydale.

We believe that exports hold the key to balancing the volatility of the domestic market. We have a large base of loyal dairy consumers in the UK, and that will always be our principal market. Exporting more dairy will not detract from the domestic market, but rather, complement it. Allowing for more innovation, investment, and products to be developed. It also encourages a diversity of marketplace and resilience to market volatility which has been present for many years in the dairy sector. Many of our competitors in Western Europe have managed to achieve this successfully. For example, France has a very strong domestic market, but also thriving exports which account for around 40% of their milk production and is worth around €6.6billion.

In order to achieve this ambitious target, we have a number of asks, outlined below. From our work analysing the export development work in the UK and around the world, it is clear that our competitors are a long way ahead of us. But we do have some fantastic products and a great story to tell, which coupled with some investment by Government and the industry, can lead us to achieve our targets.

## KEY ASKS:

- For the entire British dairy sector to collaborate on forming a new taskforce which aims to grow dairy exports.
- To encourage government investment, in partnership with the industry, to drive dairy exports through activities such as beneficial trade deals, agriculture counsellors, and market development work.
- To ensure that future trade deals do not allow our domestic standards of production to be undermined.
- To encourage investment in domestic processing capacity and innovation to take advantage of emerging markets.
- To provide a stable regulatory environment for dairy farmers to thrive.
- To develop an increased focus and build on existing work by AHDB and Red Tractor on dairy exports and market development.

With an increased political focus on free trade and export, the new NFU Dairy Export Strategy provides a perfect talking point to engage with your local MPs. So why not send them a copy, invite them out to see a farm or a dairy processing business and use the opportunity to talk about the British Dairy sector.



# The Changing world of Dairying

LIC's lead Pasture to Profit consultant, Sean Chubb, talks about changes needed to be ready to face a changing future



“ Over the next three to five years the landscape of British farming is set to see many changes, and dairying will not be immune to them. The removal of single farm payments, environmental rules and regulations, taxes around methane, carbon, nitrogen and other fertilisers, potential changes to milk payment structures – these are just a few of the changes we can expect.

Increasing the resilience within your business will reduce the impact on your profitability when your farm is met with these changes. Irrespective of the system you're running, this simply means producing milk more efficiently to keep costs down, while meeting the milk makeup from your milk buyer to maximise your income.

To offset the loss in single farm payments or the increase in costs, reducing the overall cost of production is one way of overcoming this. Often the single largest cost on farm is feed, adding in price fluctuations can open farmers up to large swings in costs. Through reducing the cost per tonne of dry matter being fed, you'll lower your risk from price changes, and lower your total cost. Increasing your milk from home grown forages and feeds gives you greater control on your feed costs.

The most cost-efficient feed available to farmers today is grazed grass. Looking at grazing farmers in the long term, the cost of grass grown averages around £60 per tonne of dry matter. To get the full benefit out of this low cost of dry matter, farmers need to maximise days at grass, achieve a high level of utilisation when grazing, and make top quality silage.

As grazed grass has high levels of protein (greater than 20%), this allows for reduced imported proteins to balance out feeds like maize. To get the most out of grass all year round, the stocking rate needs to be set correctly and efficient cows must be milked. This principle was demonstrated by Ron Pellow at the LIC 2019 conference where he talked about Lincoln's reduction in cow numbers and how this lowered the maintenance requirements on farm, lifting per cow production, making the farm more profitable.

Cow fertility and longevity is also a key area to focus on to improve efficiency on farm. Having a herd of cows that can get in calf and one that calves every 365 days means a tight calving block and more days in milk for block calving herds. A tight calving block narrows the age range within replacement calves, this helps to ensure all heifers are at the right weights for mating and entering the herd. Another advantage of increasing the fertility within a herd is the reduction of replacement heifers that need to be kept. This will lower rearing costs and will enable farmers to put more selection pressure on both the heifer replacements kept as well as the cows. This selection pressure will help to retain the cows that are making you the most money, while costing the least to achieve that production.

Not all of the changes that are coming to farmers are going to impact negatively on profit margin. Dairy consultants have talked about the potential for milk processors to give greater rewards for farmers who are supplying higher fat, protein and lactose, having greater haulage efficiency, lowering carbon footprints, increasing grazing and the introduction of regenerative/ biodiversity farming practises. Farmers need to look at these bonus incentives and take advantage of the low hanging fruit right away, assessing the profitability of the rest

in the long term. By low hanging fruit I'm talking about incentives such as putting a larger connection point on your milk vat. While this has a small set up cost, with little to no on-going costs, you will receive incentives going forward.

While there are many avenues for farmers to take to offset - or take advantage of - changes coming their way, the biggest factor that needs to be thought about is the timing of when to take action, not the cost of taking the action.

Anything involving the breeding of cows will take around three years before any animals enter the herd, and it'll take another three years before half of the herd have these new characteristics coming through (working on a 20% replacement rate each year). Likewise, moving towards regenerative/ biodiverse leys will take 10 years to reach across the whole farm if you're only reseeding 10% each year.

On top of this there's the time required to upskill and be able to manage these new species, and the cows eating them. For this reason, farmers need to be thinking ahead so they can be in the position to take advantage of the changes coming - and not be reactive to them.





# Fertiliser prices - what can we do?

Pasture to Profit consultant Piers Badnell looks at fertiliser price and availability - and asks what we can do with the current volatility in the market.

“ Unfortunately, I’ve no insight into when fertiliser price or supply will ease, but with gas in short supply and winter coming it’s probably later rather than sooner. In grass-based dairy systems grazing as a percentage of the diet is what drives profit. So, with one of our major tools to drive grass growth limited are we snookered?

Maybe not completely, but we have to evolve as we’ve no control over input prices. But we do have total control over our reaction to them. A quick straw poll round a couple of discussion groups demonstrates that most have enough fertiliser in stock for the first round, some for a second and then it drops off. So, what we can do? The obvious answer is go organic. Maybe for some, but not all. To use more organic principles isn’t going to help everyone’s grass growth next spring, when your herd demand requires growth. One of the obvious solutions is clover utilisation, but unless you have it now in sufficient quantities this means introducing the clover next spring and waiting about a year for it to establish and supply nitrogen of its own. So, what route should we take?

Potentially we have a limited supply of nitrogen, so we should have a look at response rates to nitrogen and how and when do we get the most growth for our spend. Below is a table from DairyNZ Facts and Figures as a guide showing response rates to nitrogen. I say a guide because we should look in a little more detail at the subject as soils and growth potential are very different across the country.



## Impact of pasture growth rate on response rates to N fertiliser (N applied at optimal rates)

Pasture growth rate	Pasture growth (Kg/DM/Ha/day)	Response (KG DM/Kg N)	Time for full response (weeks)
Slow	10	5	10-14
Moderate	20-40	10	6-8
Fast Rapid	80	20	3-4

Source: Facts & Figures Booklet, DairyNZ

Something to consider is that soils with low soil nitrogen levels, and low organic matter levels, will get a greater response from nitrogen than soils with higher soil nitrogen and organic matter levels. Further information and detail on recommendations and grass requirements and the potential of reducing nitrogen can be found in RB209 Nutrient Management Guide section 3 grass and forage crops which can be ordered or downloaded from AHDB.

Which of your paddocks are the best performers? These will give you the greatest response to fertiliser input, so maybe apply variable rates depending on paddock potential. Following on from this, why are the poor performers poor and what can you do to increase their performance?

March and April are not the time to pull nitrogen too much, but mid and late season have potential. To read more on this, search online for Chris Duller’s work for Farming Connect at the Mountjoy Demo Farm near Haverfordwest.

In purely grazing terms do you require such a spring flush of over 100 growth? If this is luxurious maybe apply a little less nitrogen here, and use the savings later. Another good internet search

that would be Dr George Fisher’s work on sulphur and phosphorus.

Moving on from response rate, the other side of the calculation is how much is the input and what is the economic return? As an example, I’m using 34.5% Nitram at £500/t which makes 1kg of nitrogen £1.44. My example uses 8p and 10p costs of grazed grass per kg dry matter (I would suggest you work your own figure out to truly understand the implications).

## Return on investment for 1 Kg N at differing response rates

Response kgs/ DM/ kg	Grass cost to grow p/ kgs/DM	Value of grass p/ kg/DM from 1kg N
10:1	8	80
10:1	10	100
15:1	8	120
15:1	10	150
20:1	8	160
20:1	10	200

So, at 10: 1 response the kgs of nitrogen costs £1.44 and the grass value grown is £0.80 to £1, does this make good sense?

In this example it’s only above a response rate of 15:1 that it starts stacking up.

But you must feed the cow, and grass percentage of the diet drives profit. So, if we feed less grass, we’d feed more supplements of varying quality with associated extra costs... more on this later.

Urea works best in the cool and wet. With drying soils in warm conditions, you’ll lose nitrogen through volatilisation, so think about what product you have and when to use it.

These calculations are all well and good but to achieve any of this, have we got our timing right? Apply nitrogen too early and this will lead to leaching, too late and we miss the boat. Grass starts growing when the soil temperature at 10cm is 5°C for five days, so this is your starting point. A meat

thermometer from any supermarket does a really good job for very little money.

A big influence on the effectiveness and return on your investment of fertiliser is soil health, be that biologically, chemically or structure, but that can't be fixed today. One thing that can be done is pH, liming can be done anytime but a good time is autumn. The table below shows the efficiency of fertiliser use at varying soil pH levels. Soils are very complex so there is more to it than liming to hit the correct pH and all is good. Some soils buffering capacity mean it is hard or impossible to get to high pH's, so we need to look at the relative efficiencies of soils compared to each other. The point being the better the pH, the higher the efficiency of uptake and the less waste. For further info look on the PDA website Truog at their pH chart.

**Effects of pH on fertiliser efficiency**

Soil Acidity (pH)	Nitrogen	Phosphorus	Potash	Avg Fertiliser wasted
4.5	30%	23%	33%	71.34%
5	53%	34%	52%	53.67%
5.5	77%	48%	77%	32.69%
6	89%	52%	100%	19.67%
7	100%	100%	100%	0%



Lime is relatively cheap and offers good returns on an investment. For further information, look at the AHDB Nutrient Management Guide (RB209) page 13.

Check for compaction - go and dig some holes this autumn. When you find you have compact areas, do something about it.

One resource that we have that many underutilise is slurry. Standard cattle slurry is 6% dry matter and has 2.6kg N/m<sup>3</sup> of which 40% is available to the plant if spread between February and April (phosphate 1.2kg/m<sup>3</sup> 50% available, potash 2.5kg/m<sup>3</sup>, 90% available) – source: AHDB



Slurry injected into grass

Nutrient Management Guide (RB209).

Teagasc recommends early March applications of 28 cubic metres/ha application (2500 gallons/acre) to 30% of paddocks with the lowest covers with the rest having bagged nitrogen. At this application this would mean 29kgs/N applied from slurry. These are using standard figures from RB209, slurry does vary depending on system, for greater accuracy stir your pits well and take samples and get it analysed.

Make yourselves aware of regulations around slurry use, so you don't contravene any of the regulations where you live. Search DEFRA and NFU.

Having looked at the growing side, how does grazing compare in terms of relative to other feeds? The table below is an illustration - I would urge you to calculate your costs and do your own relative cost analysis.

**Relative Feed Costs**

Feed	p/Kg DM	ME	CP%	p/MJ ME	p/%CP
Grazing	8p	12+	20+	0.67	0.40
Grass silage	12p	11	14	1.09	0.86
Grass silage	12p	11.5	15	1.04	0.08
Concentrate	24p	12.5	18	2.21	1.33

Grazing stacks up and, from David Beca's work, pasture harvest is a key determinant of profit in a grass-based system. Look at David Beca's Profitability of International Pasture Based Dairying – what can the UK learn. Pasture to Profit Insight 2021.

Also take account of the cost of feeding supplements. It's not just the cost of the supplement (£/tonne) but also the cost

of feeding those supplements, so if you feed extra - for example adding 1p/litre to feed costs - this isn't just 1p/litre added to total cost of production, it's more. AHDB Milkbench+ work showed the true cost was 1.3 - 1.6p/litre on total costs, because there are associated costs in feeding the supplement... machinery, labour, fuel etc. Your additional cost may or may not be 1.3-1.6p/litre but there will be extra to be calculated.

Fertiliser costs are going up, but a little bit of context is needed as a snapshot of 2020 CFPs in the groups I work with indicate average fertiliser cost was 3.2% of total costs, with only a 1-2% swing either side. This is taking a narrow view, however, as inflation is apparent in the overall economy, and this will have implications for all of our businesses.

There are many things we don't have control over, for example the current energy situation, but there are things we can do to increase our resilience to them. My first suggestion is soil pH. Even when you're a little below optimum, there are big returns for getting this right today. Application accuracy - make sure your spreader is accurate and serviced and base timings on soil temperatures, moisture and travelability. Fully utilise slurry and take account of it when planning bagged fertiliser. We then must make sure our utilisation is spot on - which comes back to correct average cover all year, accurate allocation and entry covers to hit residuals optimising the grass plant.

In this article I've concentrated on what you can do today, but further thoughts for the future around better use of clovers and lower bagged nitrogen systems, diverse swards and the use of digestates from AD plants are the next steps.



**Sources of information:**

AHDB RB209 & Healthy Grassland soils  
Phosphate Development Association  
MANNER - NPK

Lincoln University Dairy Farm (LUDF) New Zealand – LUDF transitioned from a high inputs of N to a lower N inputs 2015/15 to 2018/19

Thanks to Chris Duller & Elaine Jewkes



## Reproductive and Labour Efficiencies round out keys to success

Joyce Voigt, Technical Manager, LIC International talks about reproductive efficiency and the easy-care cow in the second of her two articles for GrassRoots



The quest for greater efficiency is an ongoing focus for many UK farms. Efficiency affects all aspects of the farm business and contributes to improved profit through reducing farm costs or effort per unit of product sold. An efficient farm produces more from less, gets things done with less energy and effort, and has less wastage.

At a herd and farm level, efficiency has many aspects and can include:

- **Feed efficiency** (e.g. the amount of feed utilised to produce a unit of milk)
- **Reproductive efficiency** (e.g. the success in establishing pregnancies from AI matings)
- **Labour efficiency** (e.g. time taken to run the farm, or cows managed per staff member)
- **Environmental efficiency** (e.g. the environmental impact per unit of milk produced)

In a previous article I discussed efficiency in relation to production and the environment. In this article the focus turns to labour and reproductive efficiency and how animal breeding

can help.

As a genetics company, LIC are helping farmers improve efficiency by breeding bulls whose daughters are fertile and easier to get in calf, easy-care and pleasant to manage, and healthier, requiring less intervention.

### Reproductive Efficiency

The benefits of reproductive efficiency are enormous and well worth pursuing. They include a compact calving pattern, more pregnancies and lower final empty rate, fewer inseminations used per pregnancy, more early-born calves and more days in milk in block-calving systems. It increases the ability to drive herd improvement and milk quality, generate more revenue from milk and stock sales, and implement shorter breeding periods.

Reproductive efficiency on-farm depends on both genetic and environmental factors, and gains can be accrued in both areas. Non-genetic factors such as calf rearing and heifer management, body condition score, heat detection efficiency, animal health and AI practices have the greatest

impact. Accounting for more than 90% of the outcome. Between 3-7% can be attributed to genetic fertility.

Despite the low heritability of fertility, significant genetic variation exists in the population, giving the ability to breed for it. That is why fertility is included in balanced indexes like BW, EBI, SCI and ACI.

The fertility of NZ genetics has long been known, and genetic trends have been positive in our NZ cow populations since 2015. It is important to track reproductive performance on farm as well.

Large numbers of high-quality reproduction records in the LIC database allowed us to explore the relationship between fertility BV and phenotypic performance, as measured by the 6 week in-calf rate, in NZ dairy herds for the 2019 season.



By analysing over 2.3 million cow records, we saw that, on average, cows with a higher Fertility BV got in-calf better and earlier than those with a lower Fertility BV.

The relationship was not linear, tapering off at higher BVs. It appears the incremental benefits of increasing cow fertility BV beyond BV 1 or 2 at a herd level are small.

NZ research suggests that low genetic fertility herds and those in poorer farm environments will gain proportionately more from high fertility BV bulls.

Crossbreeding can also deliver a boost to reproductive performance, but it is important to remember that heterosis is not heritable (passed on).

Genetics is important, but beyond that, identifying key non-genetic areas for improvement on individual farms is vital for capturing ongoing gains. To uncover the best opportunity to drive reproductive performance on-farm talk to your LIC Farm Solutions Manager or our Pasture to Profit consultant team. For additional reading see the [AHDB's InCalf Guide](#).

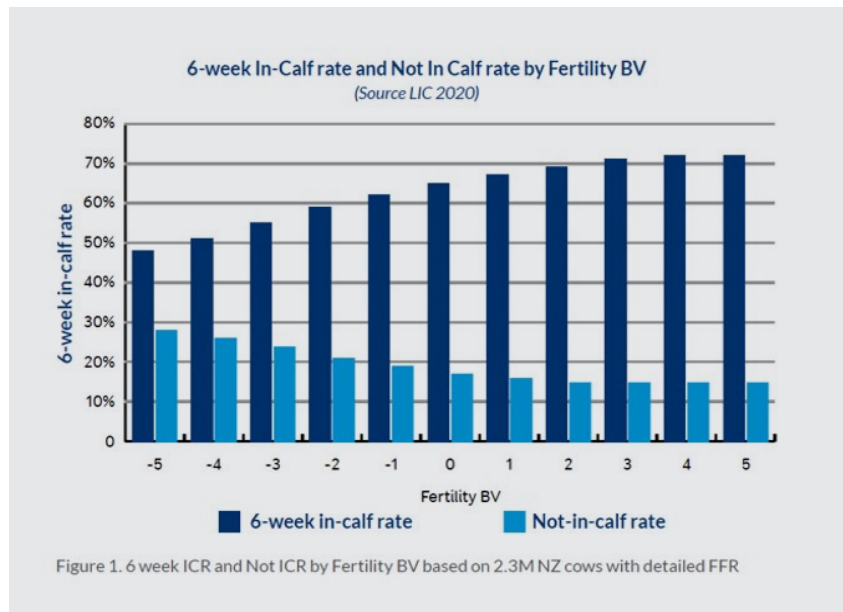
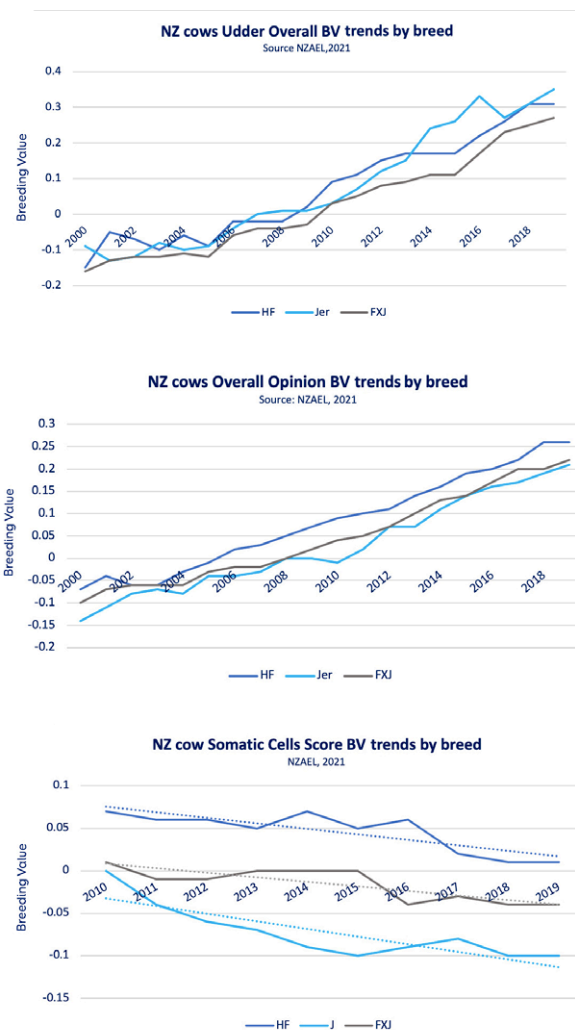


Figure 1. 6 week ICR and Not ICR by Fertility BV based on 2.3M NZ cows with detailed FFR



## Labour efficiency and the easy-care cow

Herd sizes are increasing around the world; in the 1990's the average New Zealand herd size was 180 cows, now it is 440 cows. Staffing levels per cow are decreasing as farm size increases, highlighting the need for robust, easy-care, healthy and adaptable cows.

Because of this, LIC puts extra emphasis on management and conformation traits over and above the main production and robustness traits listed in BW.

Milking Speed, Overall Opinion and Calving Difficulty (heifer and cow) are some of the traits assessed in animal evaluation that can help farmers breed more cows that are desirable to manage. These traits are also related to cow survival, which is no coincidence.

Progress is tracked and genetic trends are positive. New phenotypes such as teat length are also being collected as traits of interest are identified by the industry.

Farmers want to enjoy milking their cows, so it's comforting to know that LIC's Sire Proven bulls have all had daughters assessed by NZ farmers for temperament, milking speed, adaptability to

milking and overall opinion.

Calving ease is important for cow, calf and farmer. Parent average and genomic information gives initial calving difficulty breeding values (BVs). In New Zealand, LIC's young dairy bulls are entered into its Sire Proving Scheme. Their calving difficulty BV reliability lifts prior to them being widely used in the national herd, as calving information from their offspring flows in.

Differences between farms demand adaptable cows. Innovative approaches to milking frequency are helping farmers in NZ and abroad find solutions for their own specific challenges, from labour or infrastructure issues to seasonal climatic challenges.

It may come as a surprise that over half of New Zealand farmers no longer follow traditional full season twice-a-day milking models of farming, so their cows need to be adaptable across a wide range of farm systems. To find out more about these flexible milking regimes and the cows that are best suited to them, talk to a Pasture to Profit consultant and your FSM.

Efficiency has many aspects. Whether the focus is production, environment, reproduction or management, breeding for efficiency can help you achieve your goal.



# Two herds become one with great success in Durham

**Combining two dairy herds, one Jersey and one Friesian, and developing a successful ice cream business as a farm diversification, has helped boost farm profitability on a County Durham dairy farm.**

Tim Archer farms a total of 350 acres with his sister Jess and father John, with all the jobs across the unit shared between them. Jess is in charge of herd health, bull selection and calf rearing, while father John, partly retired, takes care of office work and procurement. That leaves foot trimming, management of the grassland, nutrition and the out-wintering programme down to Tim.



"We are a strong grass dairy farm, with all the land in one block," explains Tim. This year they've grown 2ha of fodder beet to increase dry matter and got a 20tonne crop. This is new to the farm, and will be strip grazed alongside large silage bales and tops up autumn/winter grazing for the in-calf heifers until the end

of December. The calves have a field of turnips on which they will outwinter from mid-October.

The herd is now 350 milkers, around 80 are pure Jersey, 120 Friesians, and the rest crossbreds. In addition, the farm has 75 in-calf heifers and 83 calves. Beef calves are sold off the farm to a grass-fed beef farm shop who raises them for their customers. "We've no additional space here to rear these, and we're happy with the arrangements we have," explains Tim.

Grazing efficiency is key to this dairy unit, and the objective is, weather permitting, for the cows to be outdoors for as long as possible. They go out to graze in February and come in late November – so are only housed for December and January. "Our soils allow this as most of the farm is heavy clay, while 50 acres is quite light and sandy.

"I walk the farm once a week and measure grass height. The information goes on to Agrinet and this allows us to manage where we graze and where we cut for silage. We do buffer feed silage and try to keep the milkers out day and night through October, switching to once-a-day milking as we start to dry off. In November they are still out during the day but come in at night."

Tim says the cows milk out better when he switches to once-a-day and limits



them walking on tracks that can get bad in the winter.

Yields average 4600litres/cow in the past year, from 800kgs concentrate, with solids offering 5% butterfat and 3.9% protein. As he is on a solids contract with Lanchester Diaries, this adds valuable bonuses to his milk cheque.

The unit aims for a 12-week mating season and has an annual empty record of between 8 and 10%. "I'm not using sexed semen at the moment as I can't risk raising the empty rate. This is a vital performance record here." For the first three weeks he uses pure Jersey bulls as he wants the pure Jersey's born as early as possible. For the next three he uses crossbreds and Friesians, carrying on with the Friesians and using a Hereford sweeper bull to complete the plan.







"We run a grass-based system so we want a really good grazing cow," he says. "The genetics we get through using LIC's Jersey bulls and crossbreds give us an easy-care cow that really suits our system. They're hardy, produce good solids, and are great grazers." In 2018 he used Integrity, Sierra and Misty and is already seeing the impact of these daughters in his herd. "We have retained 98% into their second lactation... they fit our system and get into calf easily."

Tim is about to weigh all his cows again, the last time was a couple of years back when the smaller Jerseys were 380kgs and the larger Friesians 550kgs. Average across the herd was 500kgs. At the moment milk solids are averaging about 81% of bodyweight, but one of the key drivers is to get this over 100%.

"We were running a spring and autumn herd until 2013, one was Jersey and one Friesian. At that point we had a contract with Morrisons, but when that came to an end we decided to combine the two and move to all spring calving. Since then, yields have been steadily rising."

Joining a local grazing group has really helped the farm improve its grassland management. They've successfully extended their grazing system, and added to a strength they already had, making the management even better. In the past year the herd has eaten 11 tonnes/ha enabling a reduction to 16% of imported feed into the ration. "Our plan is to reduce this even further," he says.

Field size varies from 2ha to 10ha, with the herd given access to fresh grazing

after each milking. They start in the spring with a long round length of 60 days which reduces to 21 days across the summer. "All the fields are managed in the same way – by the covers we record – and the spring grazing planner tells us where we should graze and cut."

Jess manages the bull selection and is primarily looking for a good grazing cow which can offer good capacity, is hardy and healthy. Fertility is also a big driver, alongside good feet and legs as some of the cows, usually the heifers, have to walk a fair distance to the parlour.

In 2004 came the family's decision to diversify and move into the ice cream business. Archers Ice Cream is now very firmly on the map in Darlington and Richmond, their shop is attracting a lot of visitors over the weekends and in the summer.

Developed by mum Sue, there's a massive range of different flavours, including the newer Black Forest chocolate cake, passion fruit, tiramisu and mango. "It's been a great success and is hugely popular," says Tim. We now have three full-time people making it here on the farm and in Richmond. It utilizes less than 5% of our milk, about 40,000 litres, but has added substantially to our income. We spent a couple of years trying to open some more shops but soon realised how important it was to be in the right area. So, we're sticking to the two we have, and we're busy developing trade to local restaurants and cafes."

Tim is very committed to both New Zealand genetics and the importance of grassland management and grazing animals.



**"We know we can push ourselves even further in the future. We need to be tougher with our selection of breeding animals, and continue to push for solids as that's where the bonuses are. The more grass we can include in the diet, the lower our feed costs. We have an exciting future."**



# The Forwards® sire team: Going from strength-to-strength

We are now in the fourth year of the Irish Bull Breeding (IBB) program and have been working with farmers all over Ireland to produce the next generation of The Forwards® bulls. During this time, we have seen a lot of exceptional cows doing in excess of 600-700kg milk solids from less than 0.5 Tonne of meal. These cows are still calving down in the first 3 weeks giving the holy grail of fertility and milk with no compromise!



Aaron

Name	EBI	Fertility SI	Milk SI	Milk kg	Fat kg/%	Protein kg/%	gBW	Fertility BV	Milk Volume BV (l)
LIC MOOREHILL MAX	279/55	126	100	24	19 / 0.31	11 / 0.17	337/58	4.0	539
LIC BOPURU BRO	279/55	124	116	152	25 / 0.33	13 / 0.14	296/55	3.2	397
LIC CLOHANE CRACKER	271/53	113	102	-168	20 / 0.48	8 / 0.24	264/55	2.5	176
LIC NEXT GEN IMPOSSIBLE	252/53	101	107	-245	20 / 0.54	7 / 0.29	234/55	2.8	-318



Breeding these proven cows with top-ranked proven sires gives the best chance of producing some very good young bulls for selection as sires.

IBB genomic bulls stand out from the others:

- The Forwards are a genomic team sired by top LIC daughter-proven bulls.
- Genomic selection advances in New Zealand allow us to screen the DNA of our Irish bulls against the NZ reference population in a single step model to obtain a unique genomic BW (gBW). This gives us confidence in the bulls we secure for our program.
- gBW assesses fertility differently, using phenotypes that are more relevant in seasonal calving systems, where early-calving cows are highly valued.

Instead of calving interval, the 6-week calving rate (CR42) is currently used and further enhancements to fertility genetic evaluation are coming soon. This is more appropriate because calving interval can potentially penalise the early-calved fertile cow.<sup>1</sup>

Stachowicz, Berry, Cromie and others addressed this issue in their 2018 paper ‘Changes to the Genetic Evaluation of Fertility in Irish Dairy Cattle’, which concluded -

‘For seasonal herds, the introduction of calving rate and conception rate traits offers an opportunity to further enhance the fertility evaluation by better extracting information from calving and mating date phenotypes in seasonal calving herds.’

gBW includes NZ genomic information, which increases reliability of later-expressed traits such as fertility and longevity.

- LIC breeding experts examine the candidate bull’s pedigree, physical attributes and cow family information to increase the accuracy of delivering genetics to further improve the genetic merit of your herd.

## The 2020 intake:

Last year’s intake of bulls has been well received by farmers not just in Ireland but also the UK, France and beyond. Farmers are showing confidence in our genomic evaluation and selection process via demand for The Forwards sexed semen product.

In 2022, The Forwards bull team will be available in sexed for the UK market, including LIC KILVOIGE AARON (J10F6) with 301 gBW and 257 gEBI. Aaron is sired by the well-known VAN STRAALENS G-FORCE. He is impressive on fertility at 5.2 gBV. His dam is second lactation and is on course to produce 635kgms from 800kg cake and grass.

Our programme manager, John Tobin proudly presents the latest test bulls to join The Forwards team adding,

“This year’s new recruits are shaping up nicely with some exciting new bulls coming on-stream. For the first time the 2021 intake will have something for everyone, offering Holstein Friesian, Jersey and KiwiCross® sires to choose from. Again, these bulls are from herds that are doing the business on farms reflective of the typical grass-based, spring calving herds of Ireland and New Zealand.

So, let’s take a look at these bulls.”

### Holstein Friesian:

“Martin Kinane’s herd outside Tipp town has been the home to the one of the highest EBI herds in Ireland for a long number of years. Martin Kinane has been using LIC genetics for decades, so it is no wonder he has a bull like LIC BOPURU BRO coming through. The prefix for this bull is what The Forwards and Martin’s herd are all about. Bopuru is made of Bo (Irish for cow) and Puru (Maori for bull). The dam itself is Martin’s favourite cow and he calls her “superb”. This cow has achieved 645kgms/yr and 359-day CI over 8 lactations. Bopuru Bro himself sired by Cairo has an €279 gEBI with Milk €116 and Fert €124 and \$296 gBW with a 3.2 Fert BV. Solids are high for the F15 bull. At 540kg liveweight, this bull will fit into any breeding program.”



### KiwiCross®:

“LIC CLOHANE CRACKER’S dam has been on the radar for the last two years, as she had all the attributes of a bull mother that you would like to see. She is a hardworking cow in a large commercial herd and doing the production with no special treatment. The 536kg liveweight dam is producing 600kgms/lactation on average over the last 6 lactations, while still achieving 364 CI. And now to top it off, this West Cork cow has bred Clohane Cracker. Sired by Riverview and Dexter, Cracker has an €271 gEBI with Milk €102 and Fert €113, and \$264 gBW with 2.5 Fert gBV.”

### Jersey:

“The NZ Jerseys have been making noise since they arrived in Moorepark in 2018. Nextgen Hillstar Penny is the dam of LIC NEXT GEN IMPOSSIBLE. Penny by name but pounds by production, Penny has produced 505kgms/lactation as a mature 454kg cow while holding onto a 369-day CI. Impossible will increase your solids without increasing litres over the Irish base cow and is ideal for farmers who want more solids but want to supply less litres. Sired by Irish favourite Gallivant.”

Just a taste of the bulls coming through our breeding programme and the values that drive our selection process.



**For advice on how to use The Forwards® bulls as part of your breeding programme or to order, contact your Farm Solutions Manager.**

Fat KG/% BV	Protein KG/% BV	Sire	Breed Split	A2 Status
46/5.1	31/4.0	CARSONS FM CAIRO	F12J4	A2/A2
45/5.3	27/4.0	CARSONS FM CAIRO	F15J1	A1/A2
36/5.3	21/4.1	RIVERVIEW AND DEXTER	J9F7	A2/A2
23/5.6	9/4.3	ULMARRA TT GALLIVANT	J16	A2/A2

1. Stachowicz, K., Jenkins, G.M., Amer, P.R., Berry, D.P., Kelleher, M.M., Kearney, F.F., Evans, R.D., and Cromie, A.R. 2018. Changes to Genetic evaluation of Fertility in Irish Dairy Cattle. Proceedings of the Interbull Meeting in Auckland, New Zealand. February 10-12 2018. Interbull Bulletin 53, 57-62



## A day in the life of... Bess Jowsey

**As a Pasture to Profit consultant, Bess Jowsey loves having the chance to be a catalyst for positive change on dairy farms across the north and Scotland, helping farmers improve their efficiency and profitability through a particular emphasis on grassland management.**

Originally from New Zealand, she trained as a secondary school teacher in design and technology but moved into farming when she met her then husband Nik, who was a farm manager in the Canterbury area of the South Island. Dairy farming there gave the couple the opportunity to grow a business, and as farm accommodation was included with the job, they were able to buy a rental property and start to grow some wealth.

Making a move to Ireland in 2008, to County Wexford, the timing was bad, as a couple of months after they arrived the recession hit and Bess found it hard to find a job. She helped out on the farm her husband was managing, to keep her busy, and was delighted when, through a chance meeting with kiwis working for LIC at a local discussion group, she had the opportunity to apply for a job with LIC in the UK. After an interview, both were offered sales team positions, Nik in Scotland and Bess in the north west.

It was 2010 when they moved to Cumbria to take up these positions and, after two years of unemployment, Bess

was ready to rebuild some form of a career.

In 2012 the couple moved across the border to Scotland when Nik moved back into farm management, and Bess took over the Scotland area as well as that for Cumbria, Lancashire and parts of Yorkshire. When after a few years Nik chose to move back to New Zealand the couple separated, and Bess set about building a fresh start around her new career and hobbies. She saw an opportunity to move into a consultancy role and shadowed one of the existing P2P consultants for six months eventually taking up the enhanced role. "I was really keen to move into consultancy because of my teaching skills," she says. "First of all I took over the facilitation of the discussion groups and then moved on to offering consultancy."

"This was quite a change, but I much preferred it. I've been in the consultancy role for almost seven years now and while I started with two discussion groups, I now have seven that meet monthly or bimonthly. Many in those groups are the same members

from when I took them on, which goes to show how highly they value this knowledge transfer model. On top of that I have one-on-one consultancy with individual farmers right across my area.

"With individual farmers, grass is a central theme we would always discuss. But we also do financial planning and physical performance benchmarking through to day-to-day herd management and helping farmers transition from a more traditional high input, high output system to block calving and grass. Put simply, it's about grass, cows and block calving to optimise profitability."



Her 'normal' day nearly always involves a lot of driving. She says her car is her office as she drives to farms across a wide distance. She tries to use some of the time to catch up on phone calls, but says much of her patch is affected by bad cell coverage and she gets very frustrated trying to have calls while on the road.

"I try to have a regular structure to discussion group meetings, and we generally start by discussing the current situation, what's gone well, what not so well, and share problems. Advice is shared, and it's amazing how many farmers come forward with good ideas on how to solve particular issues. There is a real 'let's help' attitude. This is generally followed with a farm walk to see the herd and youngstock and discuss grazing management. All sorts of other things are discussed, from where to put cow tracks and troughs, stocking rates and use of purchased feed, a change towards more multi-species swards, how to rein in on the use of nitrogen to meet challenging environmental controls.

"Perhaps above all, it's about the need to adapt thinking to manage what's coming in the future."

The day is completed with key action points to implement before Bess' next visit or group meeting, and recommendations from previous meetings are reviewed.

"We are continuously reviewing, planning, doing and reviewing."

Obviously the Covid pandemic put paid to quite a bit of her travel, but in a normal year she would clock up



between 30 and 35,000 miles, travelling as far north as the Orkneys and down towards Manchester and York. She jokes that she's waiting for driverless cars to become normal so she can literally do her office work on the way home. "Once I learn to trust the technology!"

Bess recently moved to a small village a few miles from Carlisle which she describes as a typical traditional English town. Away from her job she loves playing netball and is a player, coach and manager at Harraby Netball Club in Carlisle. She also squeezes in time to umpire and plays between five and six matches a month. She started playing when she was five, at primary school, and it's a passion and interest that has lasted across the years.

She's also a lover of good food and dining and says she's lucky to have a great gastropub a short walk from her house. "I'm there quite a bit, it's great to be able to walk there and enjoy an evening out again."

As with many of the LIC team, she's also a keen traveller, and can't wait to get on a plane again. Her ideal holiday is a 50:50 split between adventure and relaxation, and she enjoys discovering new places that are off the beaten track. "I love to get smashed in the face by culture, and my partner John and I had a trip planned to India before Covid hit - hopefully we can get there soon."

As Bess was chatting she started talking about a new member of her family, a stray cat she has just adopted called Truffle. She's just two years old, and Bess is keen to have a pet again, being brought up in New Zealand around sheep, cats and dogs. "I also want to get back into horse riding again, I did a lot when I was younger. I feel it's time to get back into the saddle."

**Turning back to her job, its clear that's where her passion lies. "I'm always thinking of my farmers. They're always under pressure as most have families and many find it hard to leave the farm. When I can show them the value of block calving, and they realise they can actually have a holiday, and leave the farm for a week or more, without everything collapsing, their whole attitude changes. The only negative I face is that I feel no job is ever finished. When I was teaching, you finish a unit and move on. My job will never be like that - and nor is life on a farm."**



# Flexible milking regimes are growing fast

Thanks to LIC's FarmWise consultant Brent Boyce, flexible milking regimes have been growing in popularity within the New Zealand dairy industry. This increase in popularity has drawn the attention of Dairy NZ who, over the past two years, has been undertaking trials to highlight the key performance requirements of this system for it to be a success.



“ Brent first used a variable milking regime in November 2001 - due to tough climatic conditions and laminitis - and has been advocating it ever since with his clients. With less than 50% of New Zealand farmers now milking twice a day all year-round, the term 'flexible milking' is appropriate as farmers change their milking frequency throughout the year.

The trial that was undertaken by Dairy NZ looked at four different applications of milking frequency to see the impact on milk production. These different applications were full season twice a day, moving to 3 in 2 in March providing 64 days at this frequency, moving to 3 in 2 in December providing 155 days at this frequency and finally having cows on 3 in 2 milking frequency for the full season.

The trial saw a 22KgMS/cow difference between the full twice a day system and full 3 in 2 system with the majority of this loss in solids coming from protein production (8kg drop in fat 14kg drop in protein). It should be noted here that this trial was undertaken on the Lincoln university research dairy farm, which is a 72ha irrigated farm, so the cows were never put under pressure from walking or feed quality of the grass. It's for these reasons that Brent has seen the opposite results when his clients have changed milking frequency. The energy saved through cutting out one trip to and from the parlour every two days has resulted in an increase in milk production on a farm level - and more importantly at a cow level.

Brent is now of the opinion that farmers can implement even greater levels of flexibility into their milking regimes as cows are very resilient and adaptive to change. While Dairy NZ is looking at real farm implications of undertaking a milking frequency of

10 in 7 (this regime sees a set milking time for each day on the 3 in 2, but with all milking across the weekend once a day). Now Brent is taking this further as there are a number of different milking frequencies between fully twice a day and fully once a day. This thinking has resulted in farmers changing their frequency to suit their farms, and this could mean that some paddocks are designated as once a day paddocks due to their contour or the steepness or distance of the tracks to access these paddocks. It is through this implementation of this concept that Brent is seeing an increase in production.

An issue that is met by dairy farmers the world over is about attracting and keeping labour. This is partially due to the fact that farming is a seven day a week business and that we live in a weekend oriented society. To compete against other industries, dairy farmers need to provide their staff with competitive work hours. This can be met through either increasing labour levels to allow for all staff to get regular time off, or by reducing the workload to free up time for all staff to get regular time off. So is implementing a flexible milking regime the answer going forward to provide a better work life balance for staff?

The attached table shows the number of milkings that are saved and the associated hours for different milking regimes. When we focus on the red column, this regime reduces the number of milkings by 133 within a year, and of these, 52 will be at the weekends. If these only required one relief milker then there's a saving of £1,300 (at £25 per milking). For those who struggle to get relief milkers this reduces your reliance on them, and also has the ability to move your milking times to a time of day that opens you up to more potential workers.

The benefits are not only felt by the staff but also the cows. Through undertaking a milking regime shown in the 10in7 column in the attached table, you'll also have the benefit of improved body condition score of the cows, and mating performance. With over half of the herd having a period of once-a-day milking, this will help to reduce the level of condition score loss at the beginning of the season. Leaving these cows better placed to meet required condition score come mating and therefore get in calf. Moving the cows to 10 in 7 and then once-a-day will help to ensure cows are at the correct body condition score come drying off, as they'll naturally put on more condition under these regimes. In turn this could result in achieving more days in milk.

For many, these innovative approaches to structuring milking times and work levels have not impacted on production as much as you might expect. Some of this can be explained by the geography and layout of the farm as mentioned above, the rest has come down to science. LIC scientist, Steve Davis, explains that at about 16 hours after milking, milk production starts to decline and then recovers slowly when the cows



Steve Davis

			MILKINGS PER PERIOD				
Months	Days	Period	TAD all season	OAD TAD 10in7 OAD	TAD then OAD	OAD all season	
<b>Production vs TAD</b>			<b>100%</b>	<b>100%</b>	<b>95%</b>	<b>90%</b>	
1 to 21	Aug	21	42	21 OAD	42 2AD	21	
22 to 31	Aug	10	20	20 TAD	20	10	
All	Sept	30	60	60	60	30	
All	Oct	31	62	62	62	31	
All	Nov	30	60	60	60	30	
1 to 20	Dec	20	40	40	40	20	
21 to 31	Dec	11	22	16 10in7	11 OAD	11	
All	Jan	31	62	44	31	31	
All	Feb	28	56	40	28	28	
All	Mar	31	62	44	31	31	
1 to 15	April	15	30	21	15	15	
16 to 30	April	15	30	15 OAD	15	15	
All	May	31	62	31	31	31	
<b>Total Milkings</b>			304	608	475	446	304
Hours per milking*				3	3.1	3.2	3.5
Milkings saved vs TAD					133	162	304
Total Hours Milking				1824	1472	1427	1064
Hours saved vs TAD				-	352	397	760
Total Days Milking				76	61	59	44
Days saved vs TAD				-	15	17	32

\*Includes getting cows and washup

are next milked. So, on a once-a-day regime, milk production is slowing in the last 8 hours of the 24 hours but then recovering for the first 8 hours of the next 24 hour interval.

In addition, the rate of loss of udder tissue increases which 'locks in' the

yield loss for that lactation. The advantage of 3-in-2, or its variations, is to keep the milking interval as short as possible (usually 16-18 hours), which minimizes the loss in production.



On November 17 we will be hosting a webinar with Brent and Steve speaking on their respective experience and knowledge around flexible milking regimes, followed with a live question and answer session. If you have any questions in the meantime, please contact your local Pasture to Profit consultant, FSM or Breeding Advisor. Look out for the invite on the LIC UK and LIC Ireland Facebook and Twitter pages or email [schubb@liceurope.com](mailto:schubb@liceurope.com) for the UK or [jtobin@liceurope.com](mailto:jtobin@liceurope.com) if you are in Ireland and would like to join.



## Webinar on repro

Tune in to our latest webinar which went live on October 26. Follow this link to watch. <https://youtu.be/8gGYlsXv6Tc>

We discussed how Joe Kirwan tweaked his system to improve his repro and also his culling strategy.

His goals for the coming year were set as:

- fertilizer
- meal
- litres
- solids from grass
- DIM

Joe, who farms with his wife Kathleen in Tipperary, Ireland, is joined by Lucy Coleman, a reproduction solutions advisor for LIC, and Joyce Voogt, LIC's international technical manager. Also on the panel is David Power, Ireland's senior breeding advisor. LIC has a long tradition of advising its farmers on how to improve their repro performance both in NZ and across the world, and when you look at the figures - an average CI of 370 days and 82% calving rate, you can see why.

## Free consultation offer in Britain

LIC is delighted to announce that it is able, through AHDB, to offer one free consultation to support farmers as part of DEFRA's Future Farming Resilience Fund. This fund is designed to highlight the impact of the loss of BPS payments and to put together a plan to help with profitability in a post BPS world.

If you want to take advantage of this programme please get in contact with your local pasture to profit consultant below.

Please note that as this is being funded by DEFRA the offer is only available in England, Scotland and Wales. Each has its own programme, so please refer to their agriculture departments if you are looking for support in these countries.

## Walford College open day

Put the date of Wednesday November 17 in your diary to attend our latest open day at our monitor farm, Walford College in Shropshire. We'll be starting at 10:30 and finishing at 2pm, with topics covered including calf rearing, mating management, cubicle housing options and their winter feeding strategy. Please email [schubb@liceurope.com](mailto:schubb@liceurope.com) to register and ensure we cater for you for lunch. Covid regulations will be followed.

## Webinar on variable milking regimes

With less than 50% of New Zealand farmers now milking twice a day all year, the term flexible milking regime is a big discussion topic as farmers change their milking frequency throughout the year. Join Brent Boyce, LIC's Farmwise consultant, and Steve Davis, LIC's scientist, to hear the latest thoughts on this topic and what opportunities these could offer UK farmers. This webinar will go live at 8pm on November 17, and you'll have a chance to ask questions of both speakers. Hear how both udder health and milk volumes can change, and what this means in terms of profitability and labour savings. Go to [https://us02web.zoom.us/webinar/register/WN\\_dqYdSE6TgaCK9WRyKs4Ag](https://us02web.zoom.us/webinar/register/WN_dqYdSE6TgaCK9WRyKs4Ag) to sign up to join us on the night. This is a webinar you won't want to miss.



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