

THE BULLETIN



EVOLVE, IMPROVE, ADVANCE

SPRING 2022



Plenty Of Advancements To Be Grateful For



by Malcolm Ellis, LIC General Manager NZ Markets

As a fourth-generation farmer I spend a bit of time looking back and cherishing some of those aspects of foundation, and equally use that history to marvel at the changes we have seen over time.

Technology on farm has been a big mover. In my early days I would have listed a motor on the backing gate and an automatic vat wash as being breakthrough moments (yes, I do recall firing the couple of 20 litre buckets of hot water into the lidded vat and jumping in with the scrubbing brush). When I was able to flick a switch, I thought I was made!

Roll forward to 2022 and advancements on farm in the tech space are significant; we now talk of a 'digitally-enabled farm'. The current wave of wearable technology is game-changing, as is the likes of the way we manage irrigation use and nutrient management via sensors.

Farm and herd sizes are getting bigger, and the farm owner is often more

removed. What this means is that the attention-to-detail and the required husbandry skill set is not always there on farm, and technology is being asked to fill the gap. The basics and the requirement to focus on the key principles have not changed, but we are creating ways to make life easier and to drive efficiencies on farm.

The same goes in the herd improvement space. I was an AB technician for LIC in the early 90's, and I carted around Daughter Proven Jersey and Daughter Proven Friesian (both celebrated contributors to the national herd's productivity and profitability by the way), but wow the tools in the toolbox have completely transformed now.

The significant value proposition of short gestation semen, the availability of fresh sexed semen to target more replacements from those better cows, and the fruits of the 20+ year investment into genomics (really delivering through the genetic merits of Forward Pack Premier Sires) are all delivering material outcomes.

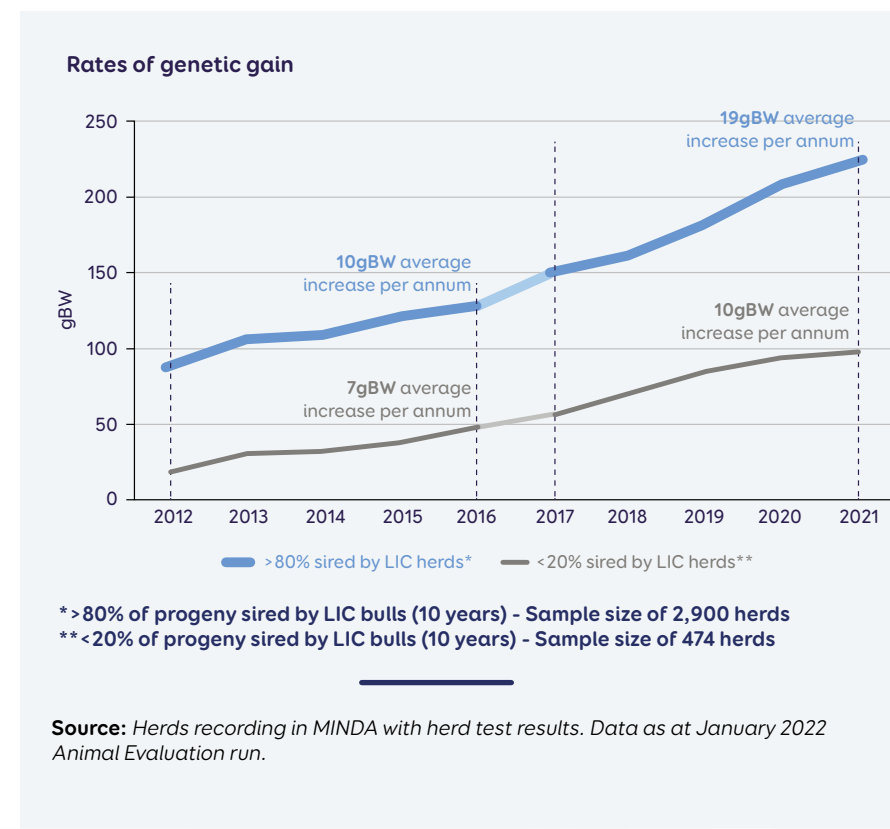
The bovine diagnostics area is also extremely impressive with its own list of advancements. Parentage verification (GeneMark) has been a game-changer for many, and today this is joined on the front line with the opportunity to genotype your replacement heifers – both adding significant selection accuracy to the puzzle.

Back in the day I often experienced frustration at the identification of a clinical case of Johne's Disease, and the frustration of having to cull a previously healthy cow; I never in my wildest dreams thought we could manage this wasteful disease via a milk sample as we do today.

The future will bring change. Environmental considerations are going to shape aspects of the dairy picture, and regulation will need to be managed and embraced. Technology and advancement in a general sense will help.

There is just no doubt that we are currently on an unprecedented wave of accelerated genetic gain. The old 10gBW/year rate of genetic gain has been replaced by 19gBW/year. This increase is coming on the back of pulling all the levers within the 'breeders equation' that fuels genetic gain (see p. 3), with the focus intense within LIC and bearing out well on farm. Add to this some of the work being done to breed a low-methane cow, and the breeding programme to assist with heat tolerance, and I have a sense of 'we have got this'.

Day-to-day we will be challenged, and we have certainly felt the brunt of a challenging spring in many parts of the country. The wider time horizon will also present challenges, as a sector we have always faced these, and I'm



proud of the manner with which New Zealand Dairy has faced key moments over time and prospered through the generations.

As I look back I'm grateful, as I contemplate the now I'm content, and as I look forward, I see a future where technology will continue to assist, and a future where the efficiency of the

New Zealand dairy cow will make a compelling contribution.

All the best,

Malcolm

Malcolm.

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Rob Turney, Canterbury farmer

Better, Better, Better by Far: How Forward Pack & Sexed Semen Can Turbo-Charge Genetic Gain.

Cutting down the generation interval is a short-circuit to better breeding and production targets.

Canterbury farmer Rob Turney says it was a recent decision to apply a more tactical approach to his mating plan that was key to turbo-charging his two farms' latest line of replacement calves.

While acknowledging he didn't necessarily know all aspects of 'the breeders equation', Rob says a combination of increased selection pressure within his herd while shortening the generation interval (in his bull team) has provided him with faster rates of genetic gain than previously achieved.

Last year Rob was convinced by

his own staff and LIC advice that faster genetic gain could come from upgrading his bull team from the traditional Premier Sires Daughter Proven team of bulls to LIC's Forward Pack.

And through strategic use of LIC's Sexed Semen teams, Rob ensured that only the best cows were inseminated for his replacement stock.

"My elder brother is an LIC Technician of about 25 years, and my contract milker at the home farm is a former LIC sales rep... I also have a long association with (LIC territory

manager) Garth Stearn, so I have a very good advisory team around me," Rob said.

"I choose the objective or direction I want for my herd's genetics, and they simply find a way on how we're going to get there."

Access to genomic bulls via Forward Pack had paid immediate dividends for Rob's latest line of genetics, because use of genomically-selected, young sires was the most-effective way of significantly reducing the generation interval (see breeders equation, opposite page).

However, it was use of Sexed long last liquid (LLL) Semen on the higher-quality cows that had further compounded the gains.

For example, in 2021 Rob's Methven property saw 211 replacement calves born at an average of 210 gBW (genomic breeding worth).

In 2022, on the same property, the 160 newborn replacement calves averaged 287gBW, a 77-point jump (to put this into context, over the previous five years the same farm's average gBW increase in its annual line of replacements was 19 gBW).

It was a simple process of ensuring the best replacements came from the best cows mated to the best bulls, Rob said.

A similar pattern exists at Rob's home farm near Ashburton.

An established, well-known pig farmer, Rob describes himself as a 'late-comer to dairy farming'.

Therefore, he felt Premier Sires was the best product for his two dairy blocks because he's "able to leave bull selection to the experts."

By experts, Rob means the combined knowledge of key staff that run his farms, together with LIC genetic experts who select the cooperative's flagship Premier Sires bull teams.

"They're vastly smarter people than myself, and they drive the mating processes and objectives so I can breed a better, more-ideal, cow."

"I'm certainly a fan of Premier Sires, Rob said.

"I'm always confident the team has been picked well because it's an established well-proven method,

that has all the great science behind it, and over time, the processes get further refined by LIC.

"They know how to pick and breed good dairy animals, that's their knitting - semen straws, AB, herd testing, and recording. They're good at that, and I know they've got the people who are interested in it."

Garth Stearn, LIC territory manager, had recently visited Rob's farm with local Agri Manager James Agnew:

"Using Rob's own herd performance data, we've helped him understand what type of cow best performs in his dairy farming system. While cows often look similar, there are cows and cow groups in the herd, that, from a genetics perspective, perform more profitably."

"These are the cows that we need to identify to become parents of the next generation."

"So our aim is to help Rob to see and understand the breeding values that best-link to the desired future direction of his dairy business. It's no surprise to learn that those desired breeding values are strongly linked to breeding an efficient, profitable, and sustainable dairy herd."

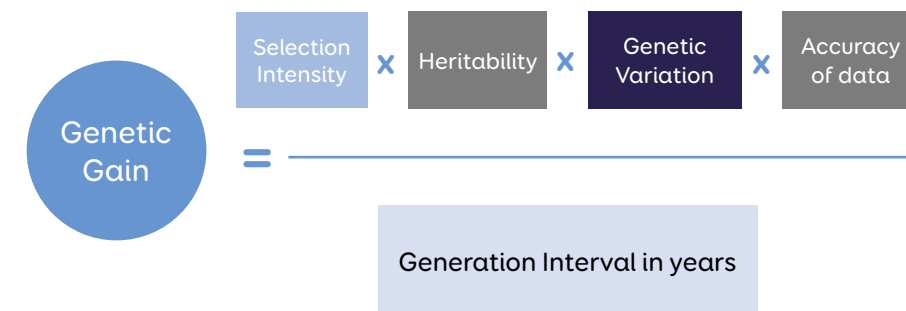
Herd testing is an essential component to any herd improvement programme, Garth said. Using herd testing data, solid reliability to the production performance of cows could be established, which ensured the breeding indices could be used with confidence in selecting cows.

Over time, calf parentage verification provided confidence that efforts made to breed the best replacements were not lost through inaccurate calf recording, Garth said.

Breeding values provided insight into ancestry, so accurate representation of family attributes was fundamental, he said.

"It's a great process to go through and connects really well with Rob's natural instinct to ensure the longer-term view is taken towards future proofing his dairy operation."

"So Rob asks, how can I get maximum genetic gain, and get ahead faster? This has led to the decision to use the best bulls available in the Forward Pack team, together with Sexed LLL to target the best cows... and he



underpins this with accurate decision making derived from parentage verification and herd testing."

Marketing of non-replacement animals provided a real challenge for farmers, and Rob was no exception, Garth said.

"When chatting with Rob some time ago he had access to an export-trading market. There was an opportunity to increase the use of Sexed Semen to meet this market potential. One spin-off was accurate parentage using the GeneMark Whole

only missed submitting seven cows across six weeks, and you have to remember it wasn't perfect at the start because we were just getting used to the new ways of doing things."

Use of Jersey Sexed Semen straws across part of Rob's Friesian-dominant herd was also significant: "I wasn't sure about the little brown calves in there, because at the end I want a 470kg cow that does 500kgs of milksolids. Traditionally I've had an export market for my excess Friesians, so I was curious to see what I could get out of a first-cross."

"But things have worked out pretty well, because it's been such a wet winter and we haven't had any calving issues."

Short gestation dairy genetics were utilised on lower-BW cows, together with cows at the tail-end of mating. "That's been more about days-in-milk," Rob says.

"Most of the cows on the two farms are close to 500kg milksolids (per year), so at 2kg of milksolids for an extra 10 days in milk at a payout of say \$8, that pays for itself, and it's dragging cows that are going to mate at week 11 toward calving in 10. There's lots of good things about SGL."

Garth said Rob's approach was a classic case of a desire to get maximum value from a carefully constructed breeding programme:

"Fundamentally Rob has great faith in the principles of herd improvement - which is through creating selection pressure on animals, using the best-quality bulls, and ensuring accuracy of recording through parentage, and good, solid herd test information."

"He's certainly applying well the basic principles of driving rates of genetic gain."



Garth Stearn

Herd analysis - this ensured he could retain the very best heifers in his business."

Rob said another closely-related 'game-changer' last year was the introduction of collar technology across both his farms, enabling business to go all-AB:

"We've also put wearables on because I need to future-proof my farm; we realise key staff may eventually move on."

"The wearables have been a success. Out of 620 cows on the home farm we

GeneMark®

Whole Herd

CASE STUDY

Each calving season Canterbury's Rakaia Island group of farms uses DNA verification to identify and match the parentage thousands of calves born across its six dairy farm units.

Then, in spring, the farms use the parentage information to manage the genetic choices of more than 12,500 cows.

Here, Courtney Churstain, Rakaia Island's business improvement analyst, describes in more detail how the GeneMark information is gathered and utilised.

Total Farms:
6 dairy units and support blocks

Farm Staff:
50-60, expanding by about 15 during calving. Includes seven office staff, located near Southbridge (main office) and Woodstock, Oxford.

Total Cows on Farms:
8500

Replacement Heifers Reared:
2200

Calves/R1s, R2s (dry stock):
4400

Parentage:
100%

Mating:
9 weeks, all-AB (yearlings have 3 weeks AB followed by Jersey natural mating bulls).



Courtney Churstain on one of the six Rakaia Island Dairy Units

"We use GeneMark (parentage) identification in combination with collars, which makes management of our animals efficient and reliable – the technology gives us a better insight into every individual cow... at the end of the day that's why we're farmers, because we love the animals, we want them to perform the best they can, and we want to treat them the way a small (scale) farmer would. We want to avoid managing them all the same with blanket approach."

Courtney says Rakaia Island has used GeneMark parentage identification service for many years, dating back to before she started with the farming organisation five years ago.

"We use DNA because we have a large number of animals. Our calving spread is condensed, meaning we reach our heifer replacement numbers within 3-4 weeks. We have one specialised calf team that looks after all the new animals, so everything (calves from across all six farms) gets dropped at the one location for us, where the team feeds and manages the (young stock) growth. It would be very hard to manually match the parentage in terms of who-had-what out in the paddock, and even harder when they come in as one bulk lot. So we use the service for ease of identification during calving."

Rakaia Island also uses the GeneMark data to match its best heifers and cows to Sexed Semen and Premier Sires Forward Pack, as well as choosing the lower-end cows that are more appropriate to go to beef straws.

A spreadsheet is used that splits the organisation's most-desirable genetics for replacement semen from the genetics that it doesn't want replacements from, with Breeding Worth a key part of the criteria.

The process for collecting DNA samples is straight-forward, Courtney says.

"We tag the calves at 7-days-old and we take the (GeneMark) samples at the same time as the vets are doing de-budding, so the calves are asleep at the time which makes it really easy because they're nice and still and the ears aren't moving."

Once parentage results are received, and the Rakaia Island farms have an accurate record of what's on-the-ground, staff input weight results against the young replacements, with weights tracked until they become a dairy cow, Courtney says.

The rising one-year-olds (R1s) get their weights recorded monthly for 12 months, and as an R2 the stock gets weighed quarterly.

Why the emphasis on recording weights?

"It's all about growing a good animal," Courtney says. "While we might have great genetics, we know the formula $P = G + E$ (phenotype equals genetics plus environment), and if you don't have the environment right, that's going to trump your genetics."

"It would be a real shame not to get the best out of the animals through something that's under our influence, so it's almost like a check on ourselves – to make sure we're doing the best we can for them, and their growth rates are an integral part of that."

Accurate parentage ensures calves are measured and monitored against their correct liveweight target, helping to improve oversight of the animal's expected performance.

"Bringing them through the yard, we get a close-up look at them, and they get all their minerals and vaccines at the same time, so it all works in quite well."

"In summary I suppose the biggest advantage of GeneMark is that we have (close to) 100% ancestry, so the data we have is reliable and this makes for accurate decisions. When we have key focuses or objectives, we know the data we're looking at is spot-on. For example, if we're trying to improve our BW, obtaining accurate parentage information from GeneMark allows us to decide what our bottom-line is."

IMPORTING WEIGHTS TO MINDA LIVE: AS EASY AS 1-2-3

Weighing your animals even just once in a lifetime can make a significant difference to the breeding values and production values of individual animals.

Accurate weight data will allow you to identify more efficient converters of feed into profit.

Recording liveweights in MINDA LIVE is simple when you use the import wizard tool.

The suite of import wizards has been expanded to include not just the existing liveweight file import wizard, but a wizard for BCS, tagging, and most-recently, uploading pregnancy diagnoses. This allows for a comprehensive view of your herd's reproductive performance, and will support more-educated herd improvement decisions (breeding and culling, for example).

Use the QR-code here for a step-by-step guide.



Trevor & Deirdre Dawson, Waikato Farmers

Two farms: Orini/Taupiri, 420 cows on 162ha, run by son and lower-order sharemilker Greg and; Horsham Downs, split calving, 330 cows on 125ha, run by son and lower-order sharemilker Matt.

Friesian herds, averaging 600kg milksolids per year per cow (system 5).

Both farms have adopted cow wearable technology, linking with the automatic drafting system.

Mating: 9 weeks, all-AB. Synchrony is done within first two weeks. LIC Fresh Sexed Semen and Premier Sires Forward Pack is utilised on the top cows each day, with the lower-end cows going to beef or Short Gestation Dairy.

Use of SGL results in 222 extra days-in-milk at the Taupiri/Orini farm, and 314 extra days-in-milk at the Horsham Downs farm. Extra revenue aside, use of SGL allows cows more recovery time before cycling at next season's mating.

Trevor Dawson, Waikato farmer

Sexed Semen Over the Best Cows Ramps Up Replacement Numbers & Selection Pressure...

... Waikato farmer says Sexed Semen also suits him well for yearling matings!

Waikato farmer Trevor Dawson made sure he got his order in early for fresh Friesian Sexed Semen this spring - he knew supply was limited and was keen to get a share of LIC's 300,000-odd straws that went out during the early weeks of mating.

"Sexed has a number of benefits and is worth the investment in our view," Trevor says. "We always put it over our better cows - the best ones on the day - mainly to increase our chances of getting a heifer calf and to avoid getting the bull calf."

Use of LIC's Fresh Sexed Semen shows an average 90% chance

of a heifer calf being born, at near-normal conception rates (compared to use of conventional semen); figures are based on data from field-trial work, together with data collected since the product's release to the general market two years ago.

This spring Trevor's Orini farm took about 120 straws, about the same number as it did in 2021.

A similar pattern exists at Trevor's Horsham Downs farm, a split-calving operation that saw 143 Sexed Semen straws ordered last season, up from 112 in 2020, and 28 straws in 2018 (70 have been

ordered for spring 2022, with more to be ordered next autumn).

The idea is for the farms to ratchet-up the number of quality replacement calves, bringing about selection pressure on each emerging cohort within the herd.

"We're also using it for our yearling mating," Trevor says.

"Friesian-over-Friesian, because we've noticed, over time, that a significant portion of our first-calving difficulties are when the calf is born a male. It seems the

female calves are easier on the young heifer giving birth.

"It's worked very well, we've seldom had difficulty with Sexed Semen heifer calves.

"We'd only do Friesian-over-Friesian with Sexed; if it wasn't Sexed we'd use the KiwiCross.

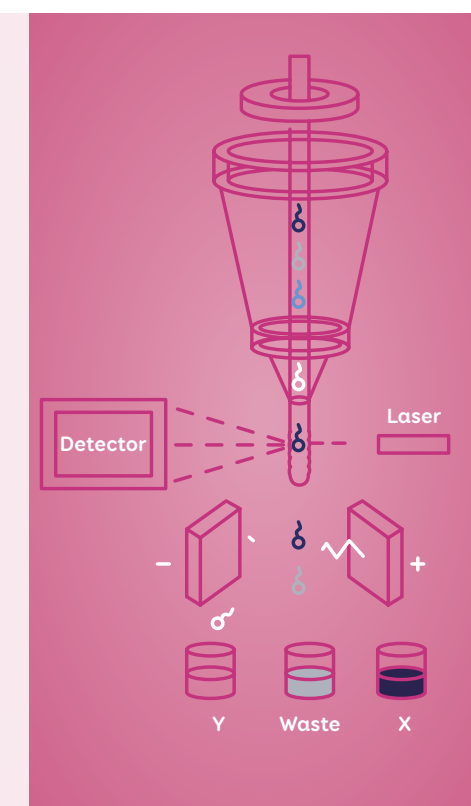
"And if we can get a top-BW (breeding worth) female calf out of a yearling, we're shortening our generation interval by a year."

Shortening the generation interval is one of the most-effective ways to increase the rate of genetic gain within a herd.

Premier Sires Forward Pack, which provides access to genomically-selected bulls, is the other main way of reducing the generation interval, and ramping up the rate of genetic gain: Today the ratio of Premier Sires farmers using LIC's Forward Pack over the Daughter Proven option is three-to-one.

FRESH SEXED SEMEN

1. Sperm is collected fresh from LIC's elite bulls.
2. The sperm cells are checked for quality before being stained and run through specialised technology, which involves the use of a laser.
3. The technology identifies the gender of the cells and undesirable cells are removed.
4. The final product is Fresh Sexed Semen with a 90% heifer accuracy.





Genetically-gifted KiwiCross bull Priests Sierra receives LIC Hall of Fame Honour

LIC bull Priests Sierra has sired more than 150,000 daughters on New Zealand dairy farms, and was recently inducted into LIC's elite Hall of Fame for his outstanding contribution to dairy herd improvement within the industry.

Well-known to farmers for delivering cows characterised by high production and good fertility, Priests Sierra is the 59th inductee to be displayed on impressive signage outside LIC's boardroom at its Newstead headquarters near Hamilton.

Hall of Fame recognition is reserved exclusively for bulls that have had, and will continue to have, a significant influence on the shape of the New Zealand dairy herd.

LIC Livestock Selection Manager Simon Worth said Sierra's impact essentially came down to the production efficiency of his progeny: "Breeding the best cows faster is key to helping farmers solve the challenge of being both profitable and sustainable, and elite bulls like Sierra help farmers do exactly that."

Sierra's high genetic merit (Breeding Worth) meant he was part of the

Premier Sires artificial breeding bull team for eight years, a record-stint jointly held with just one other bull.

Worth said for a bull to secure a place in a Premier Sires bull team, in itself, was no easy feat; on an annual basis, LIC's Premier Sires teams (10 teams across three breeds, including specialist A2/A2 and Sexed Semen teams) were responsible for siring up to 75 per cent of New Zealand's national dairy herd.

"There's a lot of boxes a bull needs to tick to earn a spot in one of our teams and they can be quickly superseded by the next generation of elite young bulls from our breeding programme; for Sierra to have held a place on the team for eight years on the trot is extremely impressive."

Sierra was bred by Rowan Priest (pictured above), a former Waikato dairy farmer now employed by LIC in Tasmania, Australia.

Rowan said it was a dream honour among breeders to have a bull in the Hall of Fame: "What a bull, I'm so very proud of all his achievements and success," and this extended beyond New Zealand shores.



About Priests Sierra

Sire pathway: Fairmont
Mint-Edition x Ingrams Ramrod

Born in 2010.

As a top-ranked yearling, Sierra was utilised in Premier Sires in 2011, the same year he was in the Sire Proving Scheme.

Premier Sires Year/s: 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

Total inseminations: 797,207

Herd tested daughters: 151,937 (to date)

Premier Sires sons: 8

Exported around the world, Sierra built his reputation on fertility, efficient production, and daughter management traits.

Breeder Rowan Priest is the first-ever breeder to have had two bulls enter LIC's Hall of Fame, with Priests Solaris having received the honour in 2018.

"In Australia, Sierra was our top-selling bull for a number of years, and the name Sierra still comes up for me on a daily basis.

"He's also extremely popular in other international markets, namely UK and Ireland."

Rowan thanked LIC's sire selection team for the work it had done in selecting Sierra for its Premier Sires teams over the years.

"As a family we've had a long farming association with LIC, originating in Stratford, Taranaki, where my grandfather started dairying, where he established and showed Pedigree Jersey cows, and eventually our story ended up in the Waikato where the family farm was sold in 2018."



A single, late-lactation herd test can still be ordered, acting as the start-point toward selective Dry Cow Therapy.

Use Herd Test Information To Improve Udder Health And Milk Quality

by Taryn Barnett, LIC Herd Test business manager

Mastitis can permanently depress production, so it's imperative that new infections are identified and tracked.

The solution is easy, however.

Herd Test information can pinpoint individual animals that are causing the bulk milk somatic cell count (SCC) to rise, and thousands of farmers across New Zealand currently use their data as an early indicator that enables them to keep a tight lid on SCC.

Herd test SCC is widely accepted as the dairy industry's best-available

tool for selecting which animals need antibiotics. Key information from the Herd Test is illustrated in the Somatic Cell Count report within MINDA LIVE, and is straight-forward to interpret.

The report displays which animals repeatedly exceed the SCC threshold (150,000 cells m/L for cows or 120,000 cells m/L for first-lactating heifers), extending back to as many as the previous 10 herd tests.

Regular herd testing helps identify animals that are likely to need treatment, together with the cows that have already received intervention

An example of the Somatic Cell Count report within MINDA LIVE.

ANIMAL			LACTATION		HERD TEST RESULTS									
Animal ID	Year Born	PW	Previous SCC Exceeded	Current SCC Exceeded...	Sep 2022 SCC (000)	Apr 2022 SCC (000)	Feb 2022 SCC (000)	Dec 2021 SCC (000)	Sep 2021 SCC (000)	May 2021 SCC (000)	Feb 2021 SCC (000)	Dec 2020 SCC (000)	Oct 2020 SCC (000)	Apr 2020 SCC (000)
10	2018	400/73	0/4	0/1	13	34	18	15	22	55	18	505	15	
11	2017	23/84	1/4	0/1	46	162	91	44	21	67	42	111	21	
12	2016	329/87	0/4	0/1	18	34	20	18	12		18	91	18	34
13	2015	111/89	1/4	0/1	7	346	63	18	15	252	96	411	69	345
14	2018	288/70	0/4	0/1	15	34	14	4	16	22	16	476	20	
15	2013	124/87	2/4	0/1	19	452	413	46	38	365	254	319	34	176
16	2016	241/87	1/4	0/1	23	94	48	287	22	178	27	471	181	243
18	2016	390/85	0/4	0/1	26					92	11	85	7	39
19	2020	206/38		0/1	23									
20	2014	219/89	2/4	0/1	76					157	375	57	6	43

throughout the lactation – and how well those cows are responding to the treatment plan.

The information should also assist later in the season when it comes to drying off – for example, working with your vet for selective dry cow treatment decisions.

The recent focus on reduced antibiotic use within both the health and dairy sectors is forcing healthcare professionals (such as doctors and vets) to shift away from proactively issuing antibiotics, instead promoting alternative treatments.

The dairy industry is acutely aware of doing its part in reducing on-farm antibiotic use.

If your farm is not currently herd testing, LIC encourages a single, late-lactation herd test: At the very least, this could enable the farmer to work with their vet, so a start can be made in working toward a selective dry-cow strategy.

For more information, go to LIC's Herd Test page on its website, or contact your local LIC Agri Manager.

**Better information.
Better knowledge.
Better decisions.**

Better herd test.

- Herd testing provides farmers with certified quality animal production information.
- It identifies high - and low-producing animals.
- It helps clarify health issues.
- It assists with management decisions.
- On average, most farmers herd test three to four times throughout the season.
- Herd test data is translated into a comprehensive range of animal performance reports.



L to R: Malcolm Ellis, Liz McKerchar, Abbey & Hamish McKerchar, and John McKerchar at the Shrimpton Hill annual sale in late-September.

Shrimpton's Hill Hereford & LIC: A Decade-Long Partnership Celebrated

South-Canterbury based Shrimpton's Hill Hereford Stud hosted senior members of LIC's genetics team at its annual sale in late-September, marking the 10-year anniversary of the partnership between the two businesses.

"It was a real pleasure to attend their annual sale," said Malcolm Ellis, LIC's general manager NZ Markets.

"I was honoured to be asked to speak ahead of the sale. The partnership has been a classic win-win business relationship, and I have great respect for the McKerchar family."

John & Liz McKerchar, who own the stud, echoed the sentiment:

"The mutual trust and friendship is the strength of our relationship, not only with Malcolm Ellis but has continued over the years with Casey Inverarity, Charlotte Grey, Greg Hamill and now Jen Campbell.

"Their wonderful advice and encouragement has greatly enhanced our breeding programme, especially in recent years.

"The 10-year relationship has changed our business dramatically. Initially we had a small SGL breeding programme, along with marketing bulls to the beef industry, but with LIC on board we totally focused on supplying elite genetics to the dairy industry in both semen and bulls."

"LIC gave us the encouragement to begin embryo transfer work with our very best females, which rapidly improved our elite animals, which has subsequently been proven by progeny testing over dairy cows.

"With the growth of the SGL semen sales and the confidence our supply contract gave us, we've expanded our land area and herd size, now wintering 1500 registered Herefords.

"In 2020 we became the first Hereford Stud in the world to sell 1 million straws, with more than 50,000 exported to all over the world.

"Our on-farm bull sale (at the end of September) has grown to be the largest registered sale in NZ, with around 200 bulls being sold annually."

From the Breeding Desk

Once again, we're witnessing a phenomenal start to the graduation process!



by Simon Worth, LIC livestock selection manager

Graduating this year are the 19-code boys who are now averaging more than 80 herd-tested daughters (at least one Herd Test), with nearly half of the daughters already weighed and inspected for conformation.

Of the top-50 bulls for 'All Breeds' in the official *Ranking of Active Sires* (RAS) list, three of these new graduates sit within the top-5, including the occupation of the number 1 and 2 spots.

It doesn't stop there. Across the top-50 (All Breeds), already 20 are from just this one-cohort. In fact, LIC markets the top-25 bulls on that same list!

A record-setting 27 graduates have been added as 'Spring Bulls' to LIC's various Premier Sires teams, with some also made-available through Alpha Nominated: The addition of these bulls is based on extreme indexes, a wonderful balance of high production and, in many cases, simply outstanding conformation.

As always, our appreciation goes out to the farmers who have worked closely with LIC to help deliver these outstanding sire teams.

We look forward to the bulls' significant contribution, both on-farm and across the wider industry.

Enjoy!

New Graduates From Great Cow Families



by Danie Swart, LIC bull acquisition manager

From a breeding perspective, nothing provides more of a buzz than seeing a top line of great new heifers with good udders and conformation walking to the shed.

Last year, LIC saw a tremendous team of 2018 Sire Proving Scheme graduates, and although it's early days, there are great signs this season of some exciting 2019 graduates out of good cow families.

It's my privilege to profile three proven 19-code bulls, together with the top-ranked Jersey bull:

319035 Careys CM Lexicon S2J: Lexicon's dam was farmed by Okura, but owned by Gavin and Kathryne Carey. Sired by Monopoly, his dam is out of the LIC Hall Of Fame bull Integrity. By adding a good number of herd test daughters, Lexicon has had a significant improvement in BW, mainly increasing his Protein and Fat gBVs.



Tironui Integ Meg



319066 Tironui GB Montage ET

With a well-balanced TOP profile, he is surely a great allrounder with big production, and good stature, capacity, and udder overall BVs. His maternal line exhibits high production with PWs consistently greater than 400. Available as a spring bull in Premier Sires Forward Pack.

319037 Okura Tironui BT Marco ET: Lyna Beehre from the Okura stud was spot-on in selecting Triplestar as the ET sire when she flushed the well-proven, high profile cow Tironui Integ Meg, owned by the Tironui stud of Murray and Janet Gibb. Meg is also the dam of Montage (profiled below), and she is currently one of the most prominent cows in the Jersey breed. Big production and good liveweight are standouts for Marco. Production in this pedigree is phenomenal, with PWs exceeding 600. Marco features in Premier Sires Forward Pack.

319066 Tironui GB Montage ET: The legacy of Tironui Integ Meg continues with another of her sons from the Tironui stud, Montage, sired by the great bull Glanton SS Bastille. Montage's pedigree is a combination of two of the very best cow families in the industry, from Tironui and Glanton. He's also a good allrounder, with high

production, and excellent liveweight, capacity, dairy conformation and udder overall gBVs. Montage is available in Premier Sires Forward Pack.

318021 Glanton Desi Banff: The highest-ranking proven Jersey sire at LIC, Banff is well-liked by farmers. Out of the well-proven B family from the Glanton Stud of Rob and Alison Thwaites, Banff added 649 herd testing daughters in October (for a total of 1025). Many farmers comment that Banff daughters are the standout production two-year-old daughters in their herds; this comes as no surprise with his combined protein and fat gBV of more than 70kgs. Banff is available in Premier Sires Forward Pack and Daughter Proven.

Some of the best cow families are behind these bulls, and many genomic young sires of these cows are currently being used in contract mating and LIC's embryo transfer programme.

The legacy of these great cows will continue, we await with excitement the proofs of their future sons over the next few years.

These bulls graduating emphasise the importance of generations of great cow families.

I WANT IT ALL, AND I WANT IT NOW!

I could be biased, but this must be one of the strongest line ups of Friesian graduates in quite some time! Acknowledgement must be given to our breeders for delivering such a suite this spring.

The 2019 cohort sees no fewer than 13 Friesian graduates selected for a Premier Sires team.

Sired by eight different bulls, half of which were genomic sires at the time of mating, this impressive line-up of graduates holds true to the value of genomics-on-genomics - illustrating the gains that can be made with successive reduction in generation intervals.

If choice is what you're after, we have it in abundance! No longer needing to choose one trait over another, for example fertility or udders, this line up of graduates offers the complete package.

119018 Pemberton MA Potion S2F: Coming in hot at 470 gBW, Potion is our most-potent new Friesian graduate!

This Asset-ET son offers a dollar-each-way for fat and protein, at 56 kgs and 57 kgs respectively.

Delivering these solids with a 61 kg liveweight gBV and positive fertility, Potion daughters are sure to add solid production to any herd.

Bred in Matamata by Sandra and Stephen Pemberton, LIC offers its congratulations on such an achievement.

119041 Royson MG Currency S3F:

As a Gauntlet son, it should come as no surprise that Currency boasts an udder overall gBV greater than 1. This Gauntlet x Hothouse combination ensures that Currency isn't type-cast, delivering enormous production and an A2A2 status to go with it.

Thank you to Eddie and Kath Lambert of the Royson stud in the Bay of Plenty for providing such a combination.

An outcross option for many, farmers who utilise the Forward Pack team can expect daughters that will



by Michele van der Aa,
LIC sire analyst

deliver on the whole package: production, fertility, udders and type.

Currency is a sire you certainly do not want to go past!

119014 Buelin BM Equator S2F: Used generously as a sire-of-sons and no stranger to Premier Sires, Equator has more than cemented his place in the Forward Pack team. A Maxima son, Equator comes in solid at 459 gBW, bringing absolutely everything to the table. F16, strong production, high fertility, good somatics, stable type - the list simply goes on! Coming from a dam carrying a whopping Production Worth of 928, it's easy to see where Equator daughters get their commanding production from.

Hailing from the CView stud owned by Stefan Buhler, compliments to you for breeding such a balanced sire.

119034 Tafts RHD Officer-ET S2F and 119035 Tafts RHR Ordain S3F: A round of applause to Geoff and Lynette Taft of Seaspray in Te Puke, who have given us a double-dose of graduates this year in the form of Officer and Ordain, both of who are A2A2.



Poppy, the dam of Potion

A Dude son, Officer has quite the story to tell when it comes to efficiency. Delivering 128kg combined solids through more than 1500 litres milk, you can have confidence in the udders to support such production with an udder overall gBV of .98!

Offering a healthy dose of sibling rivalry, maternal half-brother Ordain provides similar accolades.

Bringing a very credible 414 gBW to the table and sacrificing nothing to do so, this Rogue son was a no-brainer for inclusion!

119064 Meander MG Arena-ET

S3F: Rarely profiled is a bull who is unavailable in any capacity, but given the strength of the proof coming through, Arena was impossible to omit.

For those of you lucky enough to have used Arena when he was alive, you'll be relishing the rewards of taking a punt on him early, as is Livestock Selection. Used extensively as a sire-of-sons, we take comfort knowing he has 11 active sons in the pipeline.

One of the four Gauntlet sons graduating in this line up, Arena brings balanced fat and protein via his 1600 volume gBV with udders that will stand up to that pressure, with an udder overall gBV of 0.99.

Robert and Annemarie Bruin of the Meander stud should be justifiably proud.



Erica, the dam of Equator



Dam of Ordain and Officer

A full list of the 2019 Friesian graduates named in Premier Sires teams:

AB code	Name	gBW	Fat gBV	Prot gBV	Milk gBV	Fert gBV	UO gBV	DC gBV	A1/A2	Team
119018	PEMBERTON MA POTION S2F	470	56.1	57.2	1300	6.5	0.36	0.06	A1/A2	Forward Pack
119014	BUELIN BM EQUATOR S2F	454	66.3	39.9	1074	7.9	0.36	0.36	A1/A2	Forward Pack
119041	ROYSON MG CURRENCY S3F	430	53.8	67.2	1751	5.3	1.09	0.72	A2/A2	Forward Pack
119035	TAFTS RHR ORDAIN S3F	414	61.6	48.0	1437	2.3	0.25	0.29	A2/A2	Forward Pack
119015	BUELIN MG GLACIER	405	56.4	39.6	706	0.5	0.67	0.56	A1/A2	Forward Pack
119074	BALANTIS MG TIGER-ET S2F	404	52.2	55.9	1275	1.1	0.92	0.60	A2/A2	Sexed
119034	TAFTS RHD OFFICER-ET S2F	401	65.4	62.7	1587	-1.0	0.98	0.68	A2/A2	Daughter Proven
119002	BELLAMYS DM GALANT-ET S1F	388	50.5	31.1	178	1.8	0.13	0.69	A2/A2	Sexed
119094	TRONNOCO BBV SNIPER	388	63.2	47.6	1348	2.1	0.74	0.73	A1/A2	Daughter Proven
119081	BUSY BROOK CONVICT-ET S1F	386	60.0	35.1	834	0.5	0.69	0.78	A2/A2	Daughter Proven
119079	BUSY BROOK DEALER-ET S2F	383	57.7	43.9	1185	1.1	0.54	0.31	A1/A2	Daughter Proven
119012	FANANA BM EXCELLENT S2F	350	34.0	21.7	494	8.0	1.32	0.40	A2/A2	A2 - reserve
119008	POTO GR CHOICE S1F	329	36.1	29.0	638	8.3	0.51	0.34	A2/A2	Yearling



The Cream Of The Crop Rises To The Top!



by Adrian Young, LIC senior sire analyst

A teaser for you to ponder as you read: 49/50... what could that represent?

LIC's sire selection team is delighted to ensure farming shareholders have access to the best possible bulls, with a handful of bulls trucked to Newstead from the Manawatu (Feilding and Awahuri). A quick mention

to the LIC farm staff – who make the logistics work no matter the challenge!

Nine spring bulls have entered the Premier Sires teams and make no mistake, they'll make their mark immediately.

Below are the updated team weighted averages for KiwiCross teams available this spring.

As illustrated by the table below, there's a massive lift in team averages in production traits and fertility, with udder gBV holding firm and liveweight lifting slightly giving farmers (chasing Premier Sires KiwiCross) a slightly bigger cow.

Team	gBW/Rel %	Combined fat & protein gBV	Fertility gBV %	Udder Overall gBV	Liveweight gBV (kg)
Forward Pack	458/98	84	3.6	0.49	13
Sexed Semen	428/97	69	5.5	0.70	15
Daughter Proven	448/99	89	2.3	0.56	12
Average of 2022 teams	445/98	81	3.8	0.58	13

Evaluation date: 14/10/2022

Average of 2021 teams	303/98	64	3	0.48	2
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Evaluation date: 14/10/2022

519034 Gordons Flash-Gordon is the man of the hour, and he sits atop of the Ranking of Active Sires (RAS) list for KiwiCross and All Breeds at 564gBW.

Given Flash Gordon's A1/A2 status, he enters the Daughter Proven KiwiCross team.

He was reared in the same calf pens as the famous Gordons AM Lancelot S3F (who still commands his place in the Daughter Proven Holstein-Friesian team).

In fact, Flash Gordon's dam is a half-sister to Lancelot. This again shows us that, even in this era of genomics and technology, just how important strong cow families are.

Bred by Stu and Sarah Gordon in Morrinsville, the Gordons are making an outstanding contribution to the dairy industry, and this Linan Integrity Winston simply continues that trend.

519020 Paynes Professor- ET: Another powerhouse of a bull who is now part of the Forward Pack team.

A result of embryo work carried out by Brad and Claire Payne on their farm in Cambridge, Professor daughters have all the answers to running a profitable farm system: The combined fat and protein kgs of 137kg complement a capacity gBV of 0.84, which keeps the engines of these deep-bodied animals running exactly how any farmer would want and need.

A Horizon Boulevard son from a Mourne Grove Hothouse cow who has never dropped below 700kg milksolids after her first lactation (where she reached 500kgs).

The Paynes have had an excellent graduation, with four bulls from their stable entering Premier Sires teams (Paynes Platinum-ET enters KiwiCross Daughter Proven, and Paynes Publisher-ET enters the KiwiCross Forward Pack team).

Casting an eye over the younger bulls, **521072 Baldricks Spectacular** catches the eye, not least of all because he's an A2 son of the earlier-mentioned Flash Gordon.

All the way from Rai Valley from Baldrick and Charlotte O'Donnell's stable, Spectacular is aptly named: Fat kilograms like a Holstein-Friesian with percentages like a Jersey.

Spectacular sits in the Premier Sires Sexed team and has plenty to offer anyone lucky enough to get some daughters from him. He offers an excellent mix of traits such as Fertility at 5.2%, Udder Overall gBV at 0.91, and a Dairy Conformation gBV at 0.79.

Spectacular's daughters should be long-lasting, good conformation animals (reflecting the cows in his pedigree), and there's little doubt they'll be high-producing, profitable, cows.

His dam was sired by Hall of Fame bull San Ray Beamer.

So, based on his strength of pedigree, it's no surprise LIC's sire selection team has great belief in this young bull.

Let's return to the teaser at the top: 49 is the representation LIC has in the top-50 Crossbred bulls on the RAS list (as at NZAEL run 14/10/2022).

The profiles above are merely scratching the surface.

It's a clear-cut choice in our eyes: These KiwiCross Premier Sires teams are bound to be highly sought-after in the industry, it's in these teams you'll find the bulls profiled on these pages.



Grandam of Flash Gordon, pictured as a 7-year-old

2022 Spring Holstein-Friesian Daughter Proven Team

Sire	Sire			
118053	GREENWELL GR GOVERNOR S1F	117068	MEANDER SB ARROW-ET S2F	
119034	TAFTS RHD OFFICER-ET S2F	115077	TAFTS WM TRANQUIL-ET	
118076	MEANDER TT FEATURE-ET S2F	115107	LIGHTBURN BLADE GUSTO	
119094	TRONNOCO BBV SNIPER	115021	GORDONS AM LANCELOT S3F	
119081	BUSYBROOK CONVICT-ET S1F	118068	BAGWORTH GI ORIGINAL S3F	
119079	BUSYBROOK DEALER-ET S2F	118056	LIGHTBURN MG RELIC S2F	
118103	WOODCOTE BG VICTORY S1F			
118052	GREENWELL MH CANYON S2F			
115062	PAALVASTS MT CYCLONE S2F			

WEIGHTED AVERAGE OF DAUGHTER PROVEN PREMIER SIRES gBW/Rel% **\$368/99%**

Management	-0.5	0	0.5	1
Adapts to Milking	0.36			quickly
Shed Temperament	0.36			placid
Milking Speed	0.18			fast
Overall Opinion	0.44			desirable
Conformation	-0.5	0	0.5	1
Stature	0.69			tall
Capacity	0.33			capacious
Rump angle	-0.08			sloping
Rump width	0.35			wide
Legs	-0.12			curved
Udder support	0.53			strong
Front udder	0.50			strong
Rear udder	0.38			high
Fr teat	0.23			close
Rr teat	0.18			close
Teat length	-0.02			long
Udder overall	0.56			desirable
Dairy conf	0.42			desirable

gBW/Rel%

Milkfat

Protein

Milk

Liveweight

Functional Survival

Milkfat %

Protein %

Heifer Calving Dif

Cow Calving Dif

Fertility

SCC

BCS

50 kgs

42 kgs

908 Litres

57 kgs

3.0%

4.9%

3.9%

2.5%

0.6%

1.4%

0.06

0.14

NB: the reliability of a team of bulls is always higher than using just one bull.

Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring Holstein-Friesian A2A2 Team

Sire	Sire			
120035	MAH SUPER STARDUST S1F	121062	CHISHOLM BROKER S1F	
120002	MILL-RIDGE TS FLEX-ET S1F	121063	MARCHEL WM JACKPOT-ET S2F	
121069	TAFTS TRADESMAN S2F	120088	BALDRICKS WD INTEL-ET S2F	
120001	MILL-RIDGE TS FINN-ET S1F	121054	BUSYBROOK MA SWISH-ET S1F	
121076	HOWSES GG ECLIPSE S1F	121026	MAH FBE YARDMASTER S1F	
121043	MAHAREE TO NIRVANA S2F			
120015	ASHDALE GE HIGHRISE S2F			
121007	SANSONS GG VIRIDIAN S1F			
121032	MEANDER TR ALADDIN-ET S1F			

WEIGHTED AVERAGE OF A2A2 PREMIER SIRES gBW/Rel **\$406/97%**

Management	-0.5	0	0.5	1
Adapts to Milking	0.34			quickly
Shed Temperament	0.35			placid
Milking Speed	0.14			fast
Overall Opinion	0.44			desirable
Conformation	-0.5	0	0.5	1
Stature	0.65			tall
Capacity	0.23			capacious
Rump angle	0.05			sloping
Rump width	0.39			wide
Legs	-0.10			curved
Udder support	0.33			strong
Front udder	0.30			strong
Rear udder	0.20			high
Fr teat	0.17			close
Rr teat	0.18			close
Teat length	-0.06			Long
Udder overall	0.34			desirable
Dairy conf	0.32			desirable

gBW/Rel%

Milkfat

Protein

Milk

Liveweight

Functional Survival

Milkfat %

Protein %

Heifer Calving Dif

Cow Calving Dif

Fertility

SCC

BCS

54 kgs

40 kgs

743 Litres

49 kgs

2.6%

5.1%

4.0%

2.2%

0.9%

3.6%

-0.09

0.07

NB: the reliability of a team of bulls is always higher than using just one bull.

Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring Holstein-Friesian Forward Pack Team

Sire	Sire			
118053	GREENWELL GR GOVERNOR S1F	119035	TAFTS RHR ORDAIN S3F	
118076	MEANDER TT FEATURE-ET S2F	119015	BUELIN MG GLACIER	
118103	WOODCOTE BG VICTORY S1F	121083	MAIRE TS JAGER-ET S1F	
118052	GREENWELL MH CANYON S2F	120073	MEANDER TS ALLOY-ET S1F	
115062	PAALVASTS MT CYCLONE S2F	121053	BUSYBROOK BE IMPLY-ET S2F	
117068	MEANDER SB ARROW-ET S2F	121057	TRONNOCO E SAINI-ET S3F	
119018	PEMBERTON MA POTION S2F	121005	PEMBERTON GG PROPANE S1F	
119014	BUELIN BM EQUATOR S2F	121011	LOMBARDI MAVERICK S3F	
119041	ROYSON MG CURRENCY S3F	121049	AWAKAU MYTH NOTABLE S1F	

WEIGHTED AVERAGE OF FORWARD PACK PREMIER SIRES gBW/Rel% **\$420/98%**

Management	-0.5	0	0.5	1
Adapts to Milking	0.34			quickly
Shed Temperament	0.34			placid
Milking Speed	0.16			fast
Overall Opinion	0.43			desirable
Conformation	-0.5	0	0.5	1
Stature	0.74			tall
Capacity	0.17			capacious
Rump angle	-0.12			sloping
Rump width	0.46			wide
Legs	-0.17			curved
Udder support	0.53			strong
Front udder	0.49			strong
Rear udder	0.40			high
Fr teat	0.22			close
Rr teat	0.19			close
Teat length	-0.01			long
Udder overall	0.56			desirable
Dairy conf	0.29			desirable

gBW/Rel%

Milkfat

Protein

Milk

Liveweight

Functional Survival

Milkfat %

Protein %

Heifer Calving Dif

Cow Calving Dif

Fertility

SCC

BCS

54 kgs

45 kgs

957 Litres

54 kgs

2.9%

4.9%

4.0%

3.0%

0.6%

3.5%

-0.18

0.10

NB: the reliability of a team of bulls is always higher than using just one bull.

Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring Holstein-Friesian Sexed Team (A2)

Sire	Sire			
121046	BELLAMYS RS GADSBY-ET S1F	121024	MAH FBE STUPENDOUS-ET S2F	
121040	SPRING RIVER GG SPYRO S1F	121023	PAHIA GG GALEFORCE S1F	
121036	BALANTIS TR TONTO-ET S1F	121045	BELLAMYS GLADIATOR-ET S3F	
119074	BALANTIS MG TIGER-ET S2F	120060	OAKLINE DEED FIXER S1F	
121077	CHATFIELDS TS ZINGER S1F	121081	TULLAGAIN BC GENEROUS S1F	
119002	BELLAMYS DM GALANT-ET S1F	121093	GIFT WA BREAKAWAY S2F	
120055	DICKSONS VR MERGER-ET S1F			
121013	STONEYS GG STAND-OUT S1F			
121079	WAIU KEGZY ROYALE-ET S1F			

WEIGHTED AVERAGE OF SEXED TEAM (A2) PREMIER SIRES gBW/Rel **\$372/97%**

Management	-0.5	0	0.5	1
Adapts to Milking	0.27			quickly
Shed Temperament	0.27			placid
Milking Speed	0.19			fast
Overall Opinion	0.38			desirable
Conformation	-0.5	0	0.5	1
Stature	0.63			tall
Capacity	0.39			capacious
Rump angle	-0.12			sloping
Rump width	0.51			wide
Legs	0.01			curved
Udder support	0.40			strong
Front udder	0.45			strong
Rear udder	0.21			high
Fr teat	0.20			close
Rr teat	0.24			close
Teat length	-0.14			long
Udder overall	0.41			desirable
Dairy conf	0.45			desirable

gBW/Rel%

Milkfat

Protein

Milk

Liveweight

Functional Survival

Milkfat %

Protein %

Heifer Calving Dif

Cow Calving Dif

Fertility

SCC

BCS

\$ 372/97

46 kgs

37 kgs

550 Litres

48 kgs

2.6%

5.2%

4.1%

2.1%

0.4%

3.1%

-0.12

0.08

NB: the reliability of a team of bulls is always higher than using just one bull.

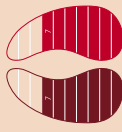
Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring KiwiCross® Forward Pack Team (A2) F9J7

Sire	Sire
518038	WERDERS PREMONITION
518019	DIGGS HARDCOPY
516066	WALTON INFERNO
518016	HORIZON ASCOTT
518061	INNOVATION HOMEBREW
518044	JUFFERMANS ENDURANCE-ET
519023	PAYNES PUBLISHER-ET
519089	SCHRADERS TRADER
519020	PAYNES PROFESSOR-ET
519078	BURGESS PRESTIGE-ET

WEIGHTED AVERAGE OF FORWARD PACK TEAM PREMIER SIRES gBW/Rel

\$458/98%

Management	-0.5	0	0.5	1	gBW/Rel%	\$ 458/98
Adapts to Milking	0.34			quickly	Milkfat	50 kgs
Shed Temperament	0.34			placid	Protein	34 kgs
Milking Speed	0.19			fast	Milk	324 Litres
Overall Opinion	0.41			desirable	Liveweight	13 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	3.4%
Stature	-0.09			tall	Milkfat %	5.5%
Capacity	0.52			capacious	Protein %	4.2%
Rump angle	-0.08			sloping	Heifer Calving Dif	-0.1%
Rump width	0.11			wide	Cow Calving Dif	-0.5%
Legs	0.03			curved	Fertility	3.6%
Udder support	0.47			strong	SCC	-0.14
Front udder	0.45			strong	BCS	0.12
Rear udder	0.42			high	NB: the reliability of a team of bulls is always higher than using just one bull.	
Fr teat	0.16			close		
Rr teat	0.26			close		
Teat length	-0.16			long		
Udder overall	0.49			desirable		
Dairy conf	0.49			desirable	NB: the reliability of a team of bulls is always higher than using just one bull.	

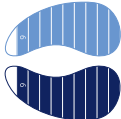
Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring KiwiCross® Daughter Proven Team F10J6

Sire	Sire
519034	GORDONS FLASH-GORDON
518038	WERDERS PREMONITION
519074	RHANTANA OUTBOUND
519021	PAYNES PLATINUM-ET
519069	VAN STRAALENS DEFENDER
518019	DIGGS HARDCOPY
516066	WALTON INFERNO
518053	PAYNES PROMINENCE-ET
518051	DICKSONS TRADITION
517073	LYNBROOK KNOCKOUT

WEIGHTED AVERAGE OF DAUGHTER PROVEN PREMIER SIRES gBW/Rel%

\$448/99%

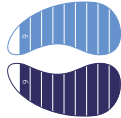
Management	-0.5	0	0.5	1	gBW/Rel%	\$ 448/99
Adapts to Milking	0.26			quickly	Milkfat	51 kgs
Shed Temperament	0.26			placid	Protein	38 kgs
Milking Speed	0.11			fast	Milk	619 Litres
Overall Opinion	0.38			desirable	Liveweight	12 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	3.3%
Stature	0.02			tall	Milkfat %	5.2%
Capacity	0.50			capacious	Protein %	4.1%
Rump angle	0.09			sloping	Heifer Calving Dif	-0.3%
Rump width	0.12			wide	Cow Calving Dif	0.0%
Legs	-0.01			curved	Fertility	2.3%
Udder support	0.55			strong	SCC	-0.16
Front udder	0.44			strong	BCS	0.08
Rear udder	0.59			high	NB: the reliability of a team of bulls is always higher than using just one bull.	
Fr teat	0.11			close		
Rr teat	0.36			close		
Teat length	-0.26			long		
Udder overall	0.56			desirable		
Dairy conf	0.54			desirable	NB: the reliability of a team of bulls is always higher than using just one bull.	

Date 14/10/2022

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring KiwiCross® Sexed Team (A2) F8J8

Sire	Sire
521072	BALDRICKS SPECTACULAR
521015	PAYNES STAMINA-ET
521038	SPRING RIVER JUPITER
521002	PAYNES MANOEUVRE-ET
521059	HACKER ADVANTAGE-ET
521035	WIFFENS CENTURION
521041	ARKANS POTENTIAL-ET
520007	JULIAN STRAIGHT UP
521020	MACFARLANES POWERPLAY
521057	LAING KNIGHTHAWK

WEIGHTED AVERAGE OF SEXED TEAM (A2) PREMIER SIRES

\$428/97%

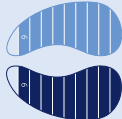
Management	-0.5	0	0.5	1	gBW/Rel%	\$ 428/97
Adapts to Milking	0.29			quickly	Milkfat	44 kgs
Shed Temperament	0.30			placid	Protein	25 kgs
Milking Speed	0.16			fast	Milk	47 Litres
Overall Opinion	0.35			desirable	Liveweight	15 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	3.9%
Stature	-0.05			tall	Milkfat %	5.7%
Capacity	0.65			capacious	Protein %	4.3%
Rump angle	0.02			sloping	Heifer Calving Dif	0.3%
Rump width	0.19			wide	Cow Calving Dif	-0.4%
Legs	0.02			curved	Fertility	5.5%
Udder support	0.65			strong	SCC	-0.04
Front udder	0.72			strong	BCS	0.20
Rear udder	0.66			high	NB: the reliability of a team of bulls is always higher than using just one bull.	
Fr teat	0.12			close		
Rr teat	0.26			close		
Teat length	-0.34			long		
Udder overall	0.70			desirable		
Dairy conf	0.60			desirable	NB: the reliability of a team of bulls is always higher than using just one bull.	

Date 14/10/2022

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Jersey Forward Pack Team (A2)

Sire	Sire
318021	GLANTON DESI BANFF
318015	GLENUI SUPER LAMAR
318009	TIRONUI SUPERMAN ET
318066	LITTLE RIVER OI SAMURAI
319035	CAREYS CM LEXICON SZJ
319066	TIRONUI GB MONTAGE-ET
319037	OKURA TIRONUI BT MARCO ET
320020	THORNWOOD BANFF TITUS
321205	POSTERITY BANFF DESIRE
320027	CHARLTONS MISTY MAGNIFY

WEIGHTED AVERAGE OF FORWARD PACK TEAM PREMIER SIRES gBW/Rel

\$442/98%

Management	-0.5	0	0.5	1	gBW/Rel%	\$ 442/98
Adapts to Milking	0.29			quickly	Milkfat	43 kgs
Shed Temperament	0.29			placid	Protein	15 kgs
Milking Speed	0.14			fast	Milk	-308 Litres
Overall Opinion	0.37			desirable	Liveweight	-29 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	2.8%
Stature	-0.68			tall	Milkfat %	6.1%
Capacity	0.59			capacious	Protein %	4.4%
Rump angle	-0.21			sloping	Heifer Calving Dif	-2.0%
Rump width	0.05			wide	Cow Calving Dif	-0.8%
Legs	0.09			curved	Fertility	3.1%
Udder support	0.37			strong	SCC	-0.23
Front udder	0.46			strong	BCS	0.12
Rear udder	0.57			high		
Fr teat	0.13			close		
Rr teat	-0.02			close		
Teat length	-0.03			long		
Udder overall	0.53			desirable		
Dairy conf	0.52			desirable		

NB: the reliability of a team of bulls is always higher than using just one bull.

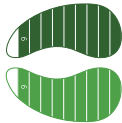
Date 14/10/2022

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Spring Jersey Daughter Proven Team

Sire	Sire
318021	GLANTON DESI BANFF
318001	OKURA PEPPER LUCCA
318015	GLENUI SUPER LAMAR
318009	TIRONUI SUPERMAN ET
318066	LITTLE RIVER OI SAMURAI
318035	SHELBY BC LOTTO ET SJJ
316039	UL MARRA TT GALLIVANT
318063	GLENUI PEPPER SHAKER
319023	CRESCENT MISTY DAWSON
319013	TIRONUI BASTILLE MINISTER

WEIGHTED AVERAGE OF DAUGHTER PROVEN PREMIER SIRES gBW/Rel%

\$432/99%

Management	-0.5	0	0.5	1	gBW/Rel%	\$ 432/99
Adapts to Milking	0.33			quickly	Milkfat	42 kgs
Shed Temperament	0.34			placid	Protein	17 kgs
Milking Speed	0.17			fast	Milk	-151 Litres
Overall Opinion	0.41			desirable	Liveweight	-31 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	2.5%
Stature	-0.64			tall	Milkfat %	5.9%
Capacity	0.51			capacious	Protein %	4.3%
Rump angle	-0.30			sloping	Heifer Calving Dif	-2.2%
Rump width	0.07			wide	Cow Calving Dif	-0.7%
Legs	0.09			curved	Fertility	4.4%
Udder support	0.29			strong	SCC	-0.10
Front udder	0.48			strong	BCS	0.09
Rear udder	0.48			high		
Fr teat	0.14			close		
Rr teat	-0.05			close		
Teat length	0.02			long		
Udder overall	0.47			desirable		
Dairy conf	0.46			desirable		

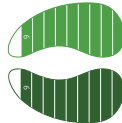
NB: the reliability of a team of bulls is always higher than using just one bull.

Date Date 14/10/2021

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



2022 Jersey Sexed Team (A2)

Sire	Sire
321008	GLANTON FLYNN BRISBANE
321018	BELLS PC FELLOW
321039	FOXTON OM FIRST GLASS ET
321002	PURIRI MATUA SABRE
321045	CARATACUS TB DUKE
320028	LOCHREA GL INSULATOR
321025	ARKAN MARCO GROUNDBREAKER
320030	GLENUI CM LAZARO
321206	GLANTON PUNCH BAXTER ET
321204	HAWTHORN GROVE GH OGANEEV

WEIGHTED AVERAGE OF SEXED TEAM (A2) PREMIER SIRES

\$398/96%

Management	-0.5	0	0.5	1	gBW/Rel%	\$ 398/96
Adapts to Milking	0.28			quickly	Milkfat	35 kgs
Shed Temperament	0.28			placid	Protein	13 kgs
Milking Speed	0.16			fast	Milk	-308 Litres
Overall Opinion	0.35			desirable	Liveweight	-30 kgs
Conformation	-0.5	0	0.5	1	Functional Survival	2.7%
Stature	-0.75			tall	Milkfat %	5.9%
Capacity	0.61			capacious	Protein %	4.4%
Rump angle	-0.15			sloping	Heifer Calving Dif	-2.0%
Rump width	0.00			wide	Cow Calving Dif	-1.2%
Legs	0.11			curved	Fertility	4.5%
Udder support	0.41			strong	SCC	-0.18
Front udder	0.46			strong	BCS	0.12
Rear udder	0.63			high		
Fr teat	0.13			close		
Rr teat	0.03			close		
Teat length	-0.06			long		
Udder overall	0.56			desirable		
Dairy conf	0.56			desirable		

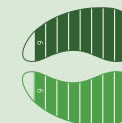
NB: the reliability of a team of bulls is always higher than using just one bull.

Date 14/10/2022

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



519034 Gordons Flash-Gordon



Breeding Details			
Breeder	S & S Gordon	Dam	Gordons Number Five
Sire	Linan Integrity Winston	MGS	Gydeland Excel Inca S3F

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
61 kg	69 kg	1312 l	7 kg	-0.8 %
4.0%	4.9%			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
3.4%	0.14	-1.0 / 69%	-0.2 / 68%	0.02

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel \$564/81%

TOP Traits					113 Daughters 51 Herds
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	-0.03				
Shed Temperament	-0.05				
Milking Speed	0.10				
Overall Opinion	0.24				
Stature	0.22				
Capacity	0.42				
Rump Angle	-0.19				
Rump Width	-0.05				
Legs	-0.04				
Udder Support	0.40				
Front Udder	0.34				
Rear Udder	0.87				
Front Teat Placement	-0.27				
Rear Teat Placement	-0.31				
Teat Length	-0.16				
Udder Overall	0.48				
Dairy Conformation	0.68				

A2 Protein	A1A2	TOP Daughters	28
Gestation Length	3.2 Days	VMSI	1513

KiwiCross® F8J8
Evaluation Date: 14/10/2022

519023 Paynes Publisher-ET



Breeding Details			
Breeder	B Payne	Dam	Paynes Petra
Sire	Horizon Boulevard-ET	MGS	Mourne Grove Hothouse S2F

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
57 kg	70 kg	933 l	63 kg	0.6 %
4.2%	5.2%			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
4.4%	0.12	3.6 / 87%	-0.6 / 85%	0.26

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel \$543/80%

TOP Traits					89 Daughters 34 Herds
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	0.20				
Shed Temperament	0.19				
Milking Speed	0.20				
Overall Opinion	0.41				
Stature	0.37				
Capacity	0.57				
Rump Angle	-0.02				
Rump Width	0.55				
Legs	0.00				
Udder Support	0.48				
Front Udder	0.21				
Rear Udder	0.58				
Front Teat Placement	-0.09				
Rear Teat Placement	-0.09				
Teat Length	-0.33				
Udder Overall	0.45				
Dairy Conformation	0.60				

A2 Protein	A2A2	TOP Daughters	45
Gestation Length	-3.1 Days	VMSI	1484

KiwiCross® F11J5
Evaluation Date: 14/10/2022

519021 Paynes Platinum-ET



Breeding Details			
Breeder	B Payne	Dam	BGKN-16-2
Sire	Arkans Bounty	MGS	Mourne Grove Hothouse S2F

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
58 kg	56 kg	1460 l	18 kg	1.1 %
3.8%	4.5%			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
3.2%	0.39	0.8 / 36%	2.8 / 74%	0.11

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel \$463/81%

TOP Traits					88 Daughters 39 Herds
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	0.43				
Shed Temperament	0.43				
Milking Speed	0.14				
Overall Opinion	0.56				
Stature	-0.18				
Capacity	0.55				
Rump Angle	-0.11				
Rump Width	0.65				
Legs	-0.11				
Udder Support	0.51				
Front Udder	0.52				
Rear Udder	0.72				
Front Teat Placement	-0.30				
Rear Teat Placement	-0.32				
Teat Length	0.09				
Udder Overall	0.51				
Dairy Conformation	0.65				

A2 Protein	A1A2	TOP Daughters	30
Gestation Length	1.8 Days	VMSI	1430

KiwiCross® F9J7
Evaluation Date: 14/10/2022

119018 Pemberton MA Potion S2F



Breeding Details			
Breeder	S & S Pemberton	Dam	Pemberton RC Poppy-ET S3F
Sire	Meander TT Asset-ET S2F	MGS	Ridgetop Format Capri S3F

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
57 kg	56 kg	1300 l	60 kg	6.5 %
3.9 %	4.7 %			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
3.2%	-0.33	3.4 / 20%	0.7 / 91%	0.07

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel \$470/78%

TOP Traits					86 Daughters 38 Herds
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	0.15				
Shed Temperament	0.13				
Milking Speed	0.32				
Overall Opinion	0.44				
Stature	0.87				
Capacity	-0.09				
Rump Angle	0.15				
Rump Width	0.30				
Legs	-0.21				
Udder Support	0.34				
Front Udder	0.28				
Rear Udder	0.46				
Front Teat Placement	-0.03				
Rear Teat Placement	0.04				
Teat Length	0.28				
Udder Overall	0.36				
Dairy Conformation	0.06				

A2 Protein	A1A2	TOP Daughters	30
Gestation Length	-0.5 Days	VMSI	1434

Holstein-Friesian F16
Registered Pedigree (Supplementary)
Evaluation Date: 14/10/2022

119041 Royson MG Currency S3F



Breeding Details			
Breeder	E & K Lambert	Dam	Royson Hot Cybyl 1-ET S2F
Sire	Maire IG Gauntlet-ET	MGS	Mourne Grove Hothouse S2F

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
67 kg	54 kg	1751 l	96 kg	5.3 %
3.8 %	4.3 %			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
1.1%	-0.05	2.3 / 32%	0.5 / 79%	0.24

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel **\$430/82%**

TOP Traits		140 Daughters 52 Herds			
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	0.64				
Shed Temperament	0.65				
Milking Speed	0.19				
Overall Opinion	0.74				
Stature	1.59				
Capacity	0.51				
Rump Angle	-0.23				
Rump Width	0.98				
Legs	-0.12				
Udder Support	0.88				
Front Udder	0.92				
Rear Udder	0.81				
Front Teat Placement	0.57				
Rear Teat Placement	0.38				
Teat Length	-0.48				
Udder Overall	1.09				
Dairy Conformation	0.72				
A2 Protein	A2A2	TOP Daughters	36		
Gestation Length	-2.3 Days	VMSI	1440		

Holstein-Friesian F16
Registered Pedigree (Supplementary)

Evaluation Date:
14/10/2022



319035 Careys CM Lexicon S2J



Breeding Details			
Breeder	G & K Carey	Dam	Okura OI Nettie
Sire	Crescent Excell Monopoly	MGS	Okura LT Integrity

Production gBVs				
Protein	Milkfat	Milk	Liveweight	Fertility
16 kg	47 kg	-520 l	-12 kg	1.9 %
4.7 %	6.5%			
Functional Survival	Somatic Cell Count	Heifer Calving Difficulty	Cow Calving Difficulty	Body Condition
2.9%	-0.11	-1.8 / 37%	-2.1 / 73%	0.22

INDIVIDUAL PRICE	\$32.35 +GST	SPRING PACK FROM	\$23.99* +GST
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*If 10% InvestaMate discount applies

gBW/Rel **\$466/80%**

TOP Traits		94 Daughters 35 Herds			
Management	gBV	-0.5	0	0.5	1.0
Adapts to Milking	0.12				
Shed Temperament	0.12				
Milking Speed	0.08				
Overall Opinion	0.35				
Stature	-0.76				
Capacity	0.70				
Rump Angle	-0.03				
Rump Width	-0.26				
Legs	0.10				
Udder Support	0.56				
Front Udder	0.57				
Rear Udder	0.63				
Front Teat Placement	0.15				
Rear Teat Placement	0.20				
Teat Length	-0.25				
Udder Overall	0.64				
Dairy Conformation	0.58				
A2 Protein	A2A2	TOP Daughters	48		
Gestation Length	-4.5 Days	VMSI	1379		

Jersey J16
Registered Pedigree (Supplementary)

Evaluation Date:
14/10/2022



Francois Tillard - Southland farmer who uses LIC's Female Genotyping Service

WAIT: TWO YEARS UNTIL THEIR FIRST HERD TEST
DON'T WAIT: DISCOVER THE BEST-CANDIDATE CALVES NOW

Find out who your best performers will be at a younger age to fast-track your herd's genetic gain.

When selecting the right bulls for its Sire Proving Scheme, LIC has, for the past decade or so, used DNA information to complement ancestry information – making for more accurate decisions on which young bull progeny should best-serve the industry in future.

But now the same leading-edge genomic technology is being offered to farmers who are interested in knowing who their best heifer calves are likely to be, long before the young stock steps-up to the milking platform.

Knowing the DNA make-up of young progeny, including how key traits are shaping up, provides improved reliability of the young animals' breeding values, together with an opportunity to breed from the best animals earlier (to breed the next generation of replacements at a younger age).

Farmers using the technology can utilise the same tissue sample sent to LIC for DNA parentage testing.

North Otago farmer Francois Tillard is among hundreds of farmers who have signed up for the female genotyping service:

"For years it's been all very well to access the best bulls through genetics suppliers like LIC, and they produce very good outcomes," Francois said.

"But what we as farmers control are the cows, and we just want to look after that side of the genetic equation. I want to create the very best cow I can on-farm, and I'll do that through the breeding choices I make... I'll do that by looking at the traits I want my cows to express the most."

Francois is a system 5 farmer whose crossbred cows weigh between 500-520kg and produce an average of 650kg milksolids a year. He wants

to breed a better cow, taking that average up to 700kg milksolids a year, without adding to the average liveweight of the cows.

"We started by getting rid of our bottom cows," says Francois. "Our next step has been nominating a bull for every cow, using Customate Plus. Once we've done that, we go in with genotyping and embryo transfer, and when you're down that path there's a fair bit of money involved, so you want to put all chance on your side to only get your above-average performers."

Francois exclusively uses AB replacement semen to mate the top-50% of his 800-strong, split-calving, herd. The new genotyping service helps him to make more-secure decisions about what cows and yearlings should be used for breeding. To form an overall picture for final decisions, Francois says he still relies on cow-family information, which he rates as highly as the genotype information

"I have a really good daughter of a cow, 1066... all her daughters have been really good, she's been amazing. She's had a heifer and the genotyping is looking really good; that heifer has gone straight away into our ET programme before she has even been mated, because I know she's going to be fine... there's no way her progeny will be under performers."

"There's about 400 cows we don't keep progeny from. In the autumn and spring, we produce 100 embryos from ET activity, so usually 40-50 of those cows will be carrying embryos."

Remaining non-replacement stock are mated to beef or short gestation dairy (final 10 days of AB).

In terms of what he wants from his replacements, Francois says he's ruthless: "I want a cow that looks perfect, if there's any suspicion about

About the Female Genotyping Service

- When a calf is born its breeding values are determined by its parent average (½ sire and ½ dam), however the reliability of this is relatively low (around 30%) until herd test data can be incorporated.
- Genomic evaluation fast-tracks this process and provides a more accurate prediction of a young animal's performance, backed by your co-op's 30-year investment in genomic science and technology.
- By adding an animal's DNA information to its evaluation, the reliability of its breeding values will significantly increase. The higher the reliability, the closer the breeding value is to the animal's true genetic merit.
- Animal example (table below): This table shows how an animal's breeding values deviate from its parent average once its own DNA information is added to the evaluation.

Heifer calf

This animal's DNA information below indicates that overall she is better than parent average – particularly for fat, liveweight and somatic cell count; fertility, on the other hand, drifted back.

Although some breeding values go up and some go down, the outcome is a more accurate prediction of this animal's genetic merit (represented by an increase in reliability).

Trait	Parent average (½ Sire + ½ Dam)	Following Genomic Evaluation (½ Sire + ½ Dam + DNA information)
gBW	278.5/32	373.2/51
Fat gBV	43.0/35	54.5/52
Protein gBV	29.8/35	30.0/52
Volume gBV	561/36	513/53
Liveweight gBV	24.4/26	11.7/45
Somatic Cell gBV	0.06/31	-0.30/55
Fertility gBV	-1.4/34	-2.7/52
BCS gBV	-0.03/29	0.01/43
Functional survival gBV	0.9/16	1.0/24

cows that are under 2-years-old they get culled in the autumn."

Francois chases strong udders, strong capacity, and high fat and protein breeding values.

Methane Research Progresses to Next Stage



Peter van Elzakker (CRV grass-fed genetics manager), Shane Cooper (farm manager) and Lorna McNaughton (LIC senior scientist) check out the Pamu herd before mating kicks off.

This mating season a herd of cows will be inseminated with bulls identified as low- and high-methane emitters to test whether the variation is passed on to their daughters.

The major research programme, funded by the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), measures methane emissions from the burps of Sire Proving Scheme bulls with the aim of providing farmers the ability to breed lower methane-emitting cows in the future.

Results from year one found there is genetic variation in the amount of methane emitted after accounting for the feed eaten by the bulls, with the lowest bulls emitting around 15-20% less methane than the average.

LIC chief Scientist Richard Spelman says the next step in the research is to see if the genetic variation responsible for methane emissions in

growing young bulls is replicated in their daughters.

"This mating season, in partnership with Pāmu, we will breed from bulls that we've identified to be high or low methane emitters. After their daughters are born, we'll measure their emissions as growing yearlings and during their first milking season to ensure they're representative of their fathers. This is where the rubber will really hit the road in our aim to offer farmers a low-methane breeding solution."

Pāmu chief executive, Mark Leslie, said Pamu was excited to be part of the research, and it was vital the sector continued to move forward on emission reduction initiatives.

Project timeline:

- **2020:** Pilot trial measuring methane from 20 young bulls completed.
- **2021:** Methane measured from approximately 300 young bulls (LIC and CRV's 2021 Sire Proving Scheme bulls) completed.
- **2022:** Methane measured from approximately 300 young bulls (LIC and CRV's 2022 Sire Proving Scheme bulls) underway. Group of cows mated with high- and low-methane bulls from 2021 Sire Proving Schemes.
- **2023:** Methane measured from approximately 300 young bulls (LIC and CRV's 2023 Sire Proving Scheme bulls).
First offspring from high- and low-methane bulls born.
- **2024:** Methane measurements taken from yearling daughters.
- **2025:** Daughters from high- and low-methane bulls lactating – methane measurements taken from daughters to ensure they're representative of the methane measurements captured in trial and validate heritability e.g. low methane-emitting bulls produce low methane-emitting offspring, high methane-emitting bulls produce high methane-emitting offspring. If this is successful, then:
- **2026:** Final step! All artificial breeding bulls from LIC and CRV can have a methane breeding value, allowing farmers to select bulls that will produce lower methane-emitting cows.

Timeline Toward Dedicated AB Facilities

May 2023: LIC's AB Technician service will not be offered if required to work from the pit of a herringbone shed on a trolley.

May 2025: LIC's AB Technician service will not be offered if required to work from the pit of a herringbone shed on a platform.

LIC's AB Technician service will only be supplied to farms with compliant dedicated AB facilities, this includes compliant platforms in rotary sheds.

regional AB manager who will help you find the best solution for your farm.

www.lic.co.nz/abfacilities

Last mating season for trollies

This mating season will see the end of AB technicians inseminating cows on trollies in herringbone sheds.

LIC's AB facilities standard provides farmers with a phased timeline to provide a dedicated AB facility, starting with the removal of LIC's AB technician service from trollies by May 2023.

Dave Hale, LIC's national AB manager, said his team had contacted more than 1000 affected farmers who used trollies; the team was keen to help these farmers find a cost-effective alternative for their farm. "It's been

great to see the vast majority of farmers support this initiative and work with us to provide a work environment that's safe and fit for purpose so AB technicians can focus solely on their job of getting cows in-calf," Dave said.

"Getting cows in-calf when first presented is hugely important to all farming operations, so providing a work environment that will help AB technicians achieve this is a win-win for technicians and farmers."

Want to know more about LIC's AB Facility Standard? Check out the LIC website and have a chat with your

As the climate changes - are we?

1. Calving date

Moving to either split-calving or all-autumn calving has been increasing in the North Island. I think this trend will continue, but farmers will need increasing levels of compliance capital to manage the risks for the environment and animals.

However, with the lateness of the droughts breaking in mid-April to mid-May, even calving in the autumn has its challenges. That's why many are slowing bringing the calving date to a winter calving event, with mid-June being not uncommon. The question to ponder is 'what happens when a real rough and cold winter arrives back as an anomaly?'

2. Stocking rates

As a way to reduce the effects on feed pressure from calving earlier, a small reduction in stocking rate can help offset this. Industry observers (and farming neighbours!) would agree that many herds miss an opportunity to express their full potential in 'annual milksolids produced' due directly to underfeeding.

When was the last time you looked at your comparative stocking rate (CSR)?

To maximise the efficiencies of cost-of-cows and cost-of-land, you're looking for a CSR of 80 kgs of liveweight per tonne of feed supplied.

Another sweet spot is to look at whether you're reaching annual milksolid production targets that are equivalent to 90% of liveweight?

If you're not reaching those levels, and have kind-enough contour to manage surplus feed in spring with mowers, then lowering the stocking rate can help through the drier months.

3. Crops and alternative pasture species

Also worth investigating is to question what pasture species and crops are better than ryegrass to buffer through the dry summers and autumns? A lot of good research is going on in this space, proving what can be grown either as a mono-culture crop or as a multi-species pasture.

Again, there is merit in moving our thinking to:

- 'how can I retain and farm the little water I have through these dry months?'
- 'how can I retain the moisture I have, and what species have the ability to drag moisture from deeper than that of ryegrass and clover?'

There is still a lot to learn in the agronomy of these alternative species; for example, what combination can be planted, and then how is it best to graze and manage these species so that the full potential of them (individually, and collectively) are realised?

We are in the early stages of this journey.

I think there is benefit in creating cropping blocks on set areas of the farm that will suit certain crop rotations and repeated cropping (using no-till), simultaneously finding the best match of soil type to crop type.

This approach gives the best chance of creating maximum yield potential, rather than rotating the same crop in a different paddock each year.

For now, the above offers three key areas for strategic review in the farming business – at the very least, they should provoke the thought 'am I trying to solve current problems with historical tools?'



by Darren Sutton, Waikato FarmWise consultant

I've been reading a book recently, written by a farmer, that questions how we deal with (or react to) our changing seasonal climates.

The author's challenge was that, as farmers, we try to solve current and future problems using historical methods and thinking.

Well, that certainly got me thinking!

Whether (or weather!, pun-intended!) we like it or not, the seasons are changing, and we're getting intense seasonal patterns more often.

Total rainfall over the past years has been close-to-average, but the spread in the months has become extremely dry in autumn and very wet in winter. We now have seasons occurring where, here in the Waikato, we can grow more in June than we can from February to April combined.

As a consultant I try to provide solutions to problems, and adapt these to the physical and human capital available. This varies widely farm-to-farm.

With the advent of cheap supplements being able to be delivered within 48 hours of making a phone call, many seem content to solve the lack of pasture growth with that quick option. Some are making money doing that, and some know they are merely running to stand still.

Some alternative way to adapt to climate change that I see farms moving toward are:

Breeders' Day 2022:

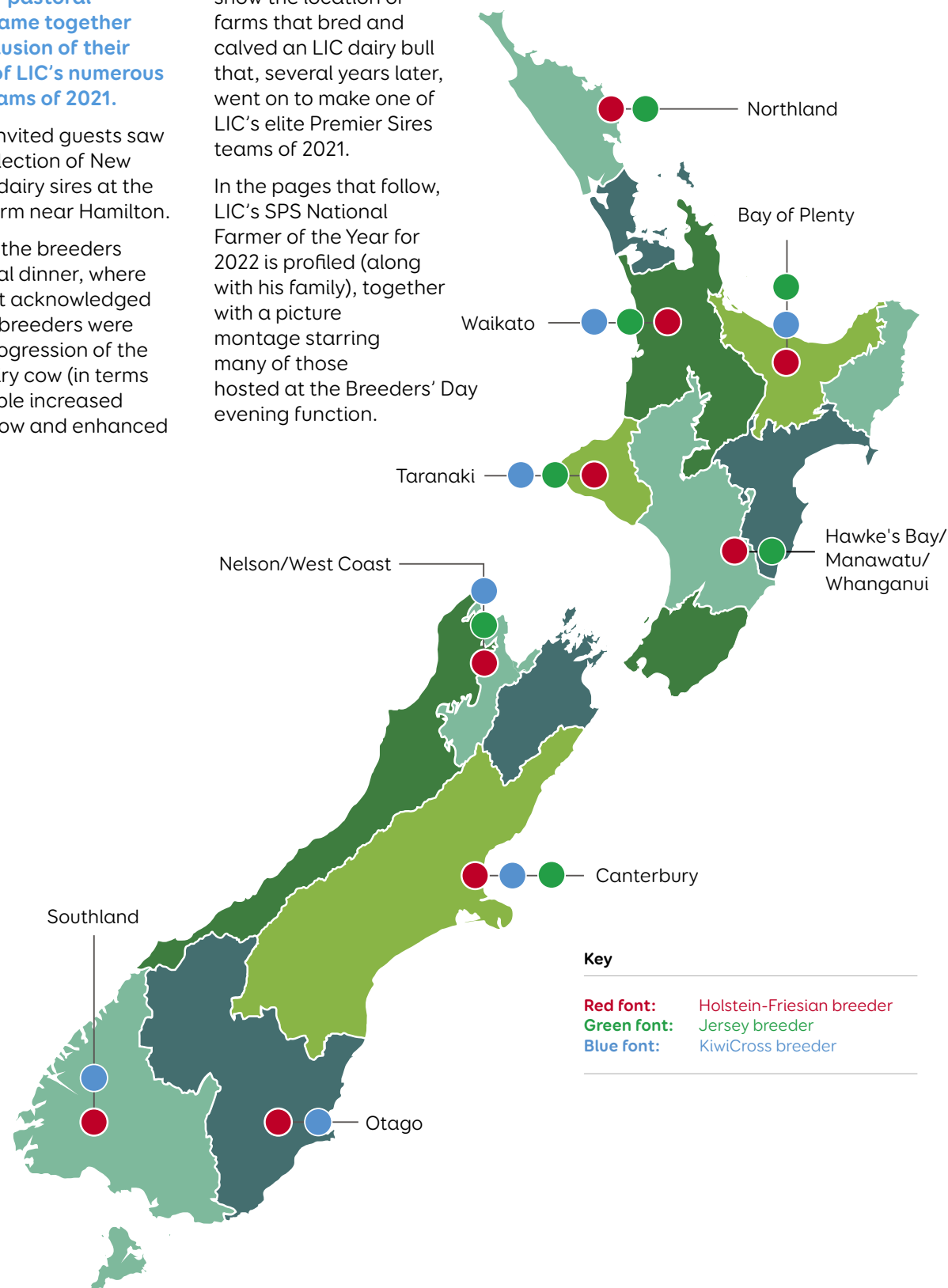
In July scores of New Zealand's best breeders of pastoral dairy genetics came together to celebrate inclusion of their progeny in one of LIC's numerous Premier Sires teams of 2021.

During the day, invited guests saw a parade of a selection of New Zealand's finest dairy sires at the Newstead bull farm near Hamilton.

Later that night, the breeders attended a formal dinner, where LIC management acknowledged the contribution breeders were making to the progression of the New Zealand dairy cow (in terms of both sustainable increased production per cow and enhanced cow efficiency).

This map, and the adjacent list, show the location of farms that bred and calved an LIC dairy bull that, several years later, went on to make one of LIC's elite Premier Sires teams of 2021.

In the pages that follow, LIC's SPS National Farmer of the Year for 2022 is profiled (along with his family), together with a picture montage starring many of those hosted at the Breeders' Day evening function.



BREEDERS OF LIC PREMIER SIRES TEAMS 2020: DISTRIBUTION OF ORIGINATING FARMS

Northland

Peter & Trixie Foote, Whangarei
Pat & Karen Baker, Paparoa
John & Jan Bellamy, Ruawai

Brian, Gillian & Mary Williams, Hikurangi
Lyna & Luke Beehre, Hikurangi
Evan & Shirleen Smeath, Hikurangi
Gavin & Kathryn Carey, Dargaville

Waikato

Goodwright Family, Waiuku
Stu & Sarah Gordon, Morrinsville
Wim & Maria Makker, Morrinsville
Sarah & Aidan Stevenson, Waitoa
Murray & Nikki Hawkings, Matamata
Craig & Alison Griffin, Matamata
Michael McGiven, Waharoa
Tony & Alison Van Der Heyden, Tokoroa
Brad & Claire Payne, Cambridge
Robert & Anne Siddins, Thames
Ian & Mary Cullen, Waihi
Murray & Julie Dickson, Te Awamutu
Angela & Glenn Fullerton, Te Awamutu
Andrew Fullerton, Te Awamutu
Stephen Fullerton & Ben Fullerton, Ohaupo
Stewart & Kathryn Anderson, Otorohanga

Robert & Louisa Lowe, Waiuku
John & Sarah Charlton, Hamilton
Graham & Glenys Bell, Te Aroha
Kevin Ireland, Tokoroa
Alan & Vivienne Lockwood-Geck, Cambridge
Mark & Diane Townshend, Ngatea
Brewster Family, Paeroa
Ross & Theresa Goudie, Waihi
Murray & Janet Gibb, Taupiri
Glenn & Chantal Wilson, Te Awamutu
John & Thelma Bailey, Te Awamutu
Richard Snodgrass & Cathy Foley, Ohaupo
Brett Thompson, Ohaupo
Nigel & Julz Riddell, Otorohanga
Stewart & Kathryn Anderson, Otorohanga
Shaun Good & Michelle Adam, Otorohanga
Matthew & Emma Darke, Aria

Joel Riwhi & Rowan Parkin, Hamilton
Jim & Judy Jackson, Morrinsville
Kurt Gaskell, Morrinsville
Mark & Patricia Scott, Te Aroha
Graham & Glenys Bell, Te Aroha
Barry & Wendy Howse, Matamata
Michelle & Bill Burgess, Matamata
Sarah Green & Justin Sanson, Putaruru
Graham & Maureen Shaw, Cambridge
Mark & Fiona Speake, Cambridge

Brad & Claire Payne, Cambridge
Richard & Sue Woodward, Thames
David & Rochelle Van Straalen, Te Awamutu
Stewart & Kathryn Anderson, Te Awamutu
Perry & Kate Henderson, Otorohanga
Kevin & Rachel Julian, Atiamuri

Bay of Plenty

Susanne & Leo Paalvast, Mount Maunganui
Geoff & Lynette Taft, Te Puke
Kevin & Felicity Clark, Waimana
Alan & Anne & Paul Looney, Opotiki

Nick & Mary Dowson, Tauranga
Peter & Johanna Crossan, Te Puke
Kevin & Felicity Clark, Waimana
Alan & Anne & Paul Looney, Opotiki

Bruce & Debbie Dean, Rotorua

Taranaki

Shaun & Michele Gardner, Urenui
Jeanette & Brendon McKenzie, Waitara
Ross Hancock, Stratford
Thomas & Courtney Werder, Patea
Matthew & Judy Brady, Hawera
Richard & Kurt Johnson, Hawera
Stefan Buhler & Amanda Linders, Hawera
Ian & Lynette Diack, Hawera
Dean & Aimee Perrett, Hawera
Allan & Leonie Campbell, Opunake

Maxwell Family, New Plymouth
Lawrence & Caroline Charteris, New Plymouth
Ben Burmeister, New Plymouth
Maurice & Lorraine Pedley and Lindsay & Claire Pedley, Palmerston North
Gregory & Helen McCallum, Hawera
Tony & Lesley Landers, Hawera
Rob & Alison Thwaites, Hawera

Lynn & Toni Vincent, New Plymouth
Philip & Terese Fleming, New Plymouth
Luke Edgecumbe & Donna Murray, Inglewood
Eddie & Debbie Jenkins, Stratford
Neil Bailey, Stratford
Vaughan & Trudy Keegan, Stratford
Greg & Hannah Topless, Stratford
Thomas & Courtney Werder, Patea
Daniel & Julie Morgan, Opunake

Hawke's Bay/Manawatu/Whanganui

John & Wendy Allen, Palmerston North
Shaun & Anna Baxter, Dannevirke

Matthew & Suzanne Jackson, Woodville

Huzziff Family, Foxton
Iain & Greame Emslie, Norsewood
Troy Hughes & Victoria Scott, Pahiatua

Robert & Colleen Irvine, Palmerston North
Peter & Barbara Tennant, Palmerston North

Nelson/West Coast

Hamish & Charlotte O'Donnell, Rai Valley

Fraser & Christine Macbeth, Nelson

Fraser & Christine Macbeth, Nelson
Hamish & Charlotte O'Donnell, Rai Valley
Andrew & Kate Wiffen, Hokitika

Canterbury

Phil & Donna Lowe, Ashburton
Toni & Keri O'Connor, Timaru

Steve & Nina Ireland, Temuka

Phil & Donna Lowe, Ashburton
Pam & Paul Snoxell, Waimate

Otago

Paul & Jillian Crawford, Balclutha
Nathan & Amanda Bayne, Oamaru

Gary Sanders, Milton
Grant & Gaynor Scott, Cromwell
Neil Hamilton & Rhys Hamilton, Oamaru
Matt & Julie Ross, Oamaru

Southland

Robert & Annemarie Bruin, Otautau
Todd & Fleur Anderson, Winton
Michael & Cherie Berkers, Riverton

Harman Singh, Wyndham

SPS Farmers of the Year Changing Up a Gear:

BIG Strides in BW/PW; Collaring the All-AB Approach

Since joining the Sire Proving Scheme nine years ago, Masterton farmer Jason Christensen has almost doubled his herd's Breeding and Production Worth, simultaneously increasing the farm's cow numbers from 260 to 380 cows.

This was a major factor in LIC awarding Jason (supported by partner Sandra Burles) the SPS National Farmer of the Year title for 2022.

The couple, along with Jason's parents Henry and Dorothy, who also have a long association with SPS, were formally recognised with the accolade at LIC's Breeders' Day earlier this year.

The 'information and data' disciplines, along with close attention to traits-other-than-production (TOP), had driven much of their herd's progress, Jason said.

Today, the herd's breeding worth (BW) sits at 240 (124 when the herd first joined SPS), which is among the top-quartile of national BW statistics.

Unique insights into individual cows, coming from regular TOP scoring – together with a recorded ancestry that had leapt from 88% to 100% – had driven quality decisions relating to replacement stock, Jason said.

Regular weighing and monitoring of young stock had also given all replacements the opportunity to thrive once they hit the milking platform.

"Being part of the scheme means



L to R: Sandra Burles, Jason Christensen, Dorothy and Henry Christensen, Ann Scott (LIC SPS manager).

we need to really look into our animals, along with their associated genetics, their health, and their performance (through regular herd testing) and really consider how they're contributing," Jason said.

"Being a sire proving farm, we still get the odd heifer that doesn't work out, but that's very rare and we identify them very quickly and ensure they don't stay in the herd long.

"And sure, it's a bit more work recording observations around calving and doing the traits-than-production (TOP) process, but on the flipside this can throw up some interesting insights into cows – like who's milking out the fastest. You get to know your cows really well."

This spring, with 360 calvings done, Jason only had to assist with three calvings.

"As an SPS farm we're also committed to DNA'ing our animals, so we're pleased about that because mis-mothering isn't a problem.

"Previously, we knew some mis-mothering was occurring because the data wouldn't match what was happening on the ground – we'd get a supposedly high-BW cow not producing, for example, or a supposedly low-BW one doing great production – it just didn't make sense. Being in the scheme, we know our data is reliable, and our cows reflect that."

Jason's herd improvement journey doesn't stop: This mating season, which begins on November 1, is the

second consecutive year he's going all-AB, thanks to the purchase of collars for the herd, which virtually eliminates the fatigue factor and makes heat detection simple.

"We also count on the collars for metri-checking – that tells us who's not cycling.

"Being in SPS is great... (once our quotas for replacements are done) we finish with some SGL Angus and we're also part of an LIC SPS trial of KiwiBeef, so it's giving us a more-marketable animal at the end.

"We've had a closed-gate policy since 2016 when Mycoplasma bovis arrived, so going all-AB suits that too."

COLLARING AN ALL-AB APPROACH:

Among the 6,898 herds LIC has mating plan information for:

- 1,097 have a consecutive mating plan length greater than 62 days (i.e. 15.9% of the herds are suspected as going 'no-bull').

Among the 514 herds with wearable technology that have a mating plan with LIC:

- 288 have a consecutive mating plan greater than 62 days (i.e. 56% of the collar-wearing herds are suspected as going 'no-bull').

This shows that, according to LIC data, wearable technology users are five times more likely to go all-AB than farmers who don't use wearable collar technology.



Jason Christensen with parents Dorothy & Henry Christensen in background



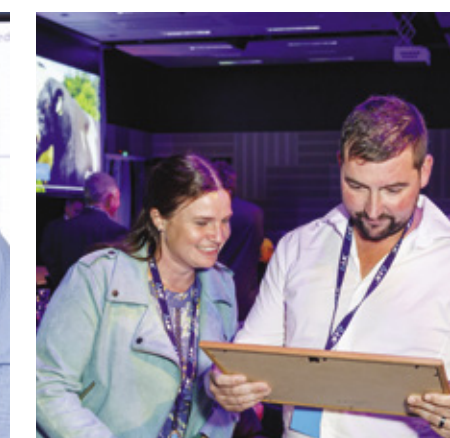
Manpreet Singh, Harman Singh



L to R: John Allen, Kevin Clark



L to R: Aimee & Dean Perrett



L to R: Donna & Luke Edg ecombe



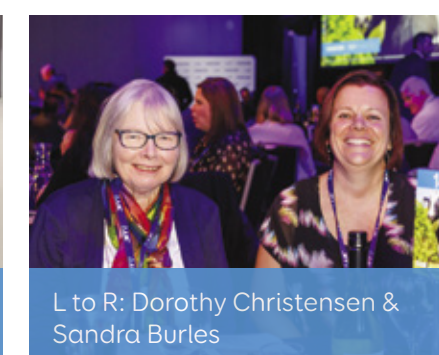
L to R: Theresa Goudie, Ross Goudie, Dorothy Christensen, Sandra Burles



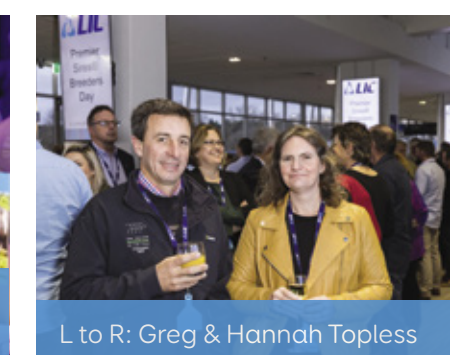
L to R: Dorothy Christensen & Henry Christensen



L to R: Graham & Glenys Bell and Jim & Judy Jackson



L to R: Dorothy Christensen & Sandra Burles



L to R: Greg & Hannah Topless



L to R: Andrew Wiffen, Shaun Gardner, Michele Gardner, Janette McKenzie



L to R: Henry Christensen, Jason Christensen, Graham Shaw, Maureen Shaw



Rob Thwaites



Sarah Stevenson



L to R: Lynn Vincent & Toni Vincent



L to R: Danie Swart, Murray Dickson, Julie Dickson



L to R: Ian Cullen, Mary O'Donoghue, Alison Van Der Heyden, Tony Van Der Heyden



Ian Diack, Lynette Diack



L to R: Leonie Campbell, Allan Campbell, Alison Thwaites



L to R: Paul Snoxell, Tracey Polson, Pam Snoxell



L to R: Peter Tennant, Maurice Pedley, Lorraine Pedly, Peter Crossan, Johanna Crossan, Barbara Tennant



Malcolm Ellis LIC general manager NZ Markets



L to R: Lorraine Pedley, Maurice Pedley, Peter Crossan & Johanna Crossan



L to R: Claire Payne, Brad Payne, John Allen



Robert Ervine, Colleen Ervine



Vaughan Keegan, Murray Hawkings



L to R: Matt Ross, Julie Ross, Paul Crawford



Michelle Adam, Shaun Good, Luke & Donna Edgecombe



L to R: Jan Bellamy, Kate Henderson, Perry Henderson

BREEDERS' DAY 2022, CLAUDELANDS ARENA, HAMILTON.

A WHO'S-WHO OF DAIRY ANIMAL BREEDING IN NZ.

During winter, LIC hosted 160 leading dairy animal breeders from around New Zealand at the cooperative's annual Breeders' Day. The day is a recognition and celebration of farmers who have bred a genetically-superior sire that has gone on to make LIC's 2021 Premier Sires team (as a member of its Forward Pack, A2/A2, Sexed, or Daughter Proven stable).

Invited guests of honour also included: Jason and Sandra Christensen of Masterton, who were LIC's national Sire Proving Farmers of the Year; Rowan Priest, breeder of Priests Sierra, LIC's Hall of Fame inductee for 2022, and; the South Canterbury McKerchar family, industry-leading short gestation Hereford breeders.

The breeders were treated to a parade of about 20 bulls at LIC's Newstead Bull Barn, where semen collections take place all-year-round. Afternoon tea followed, before guests retired to their central Hamilton hotel accommodation. Then it was off to the main event, a formal drinks, dinner, and presentation evening at nearby Claudelands Arena.

More pictures inside....



Premier Sires 2021 - Breeders Day Dinner - May 2022



L to R: Emma Darke, Matthew Darke, Rob Thwaites



L to R: Kelli Buckley, Stewart Anderson, Kathryn Anderson



L to R: Liz, Hamish, Abby,
John McKerchar



L to R: Mary Williams, Evan Smeath, Shirleen
Smeath, Brian Williams, Danie Swart



L to R: Rachel Julian, Kevin Julian,
Suzanne Jackson & Matthew Jackson