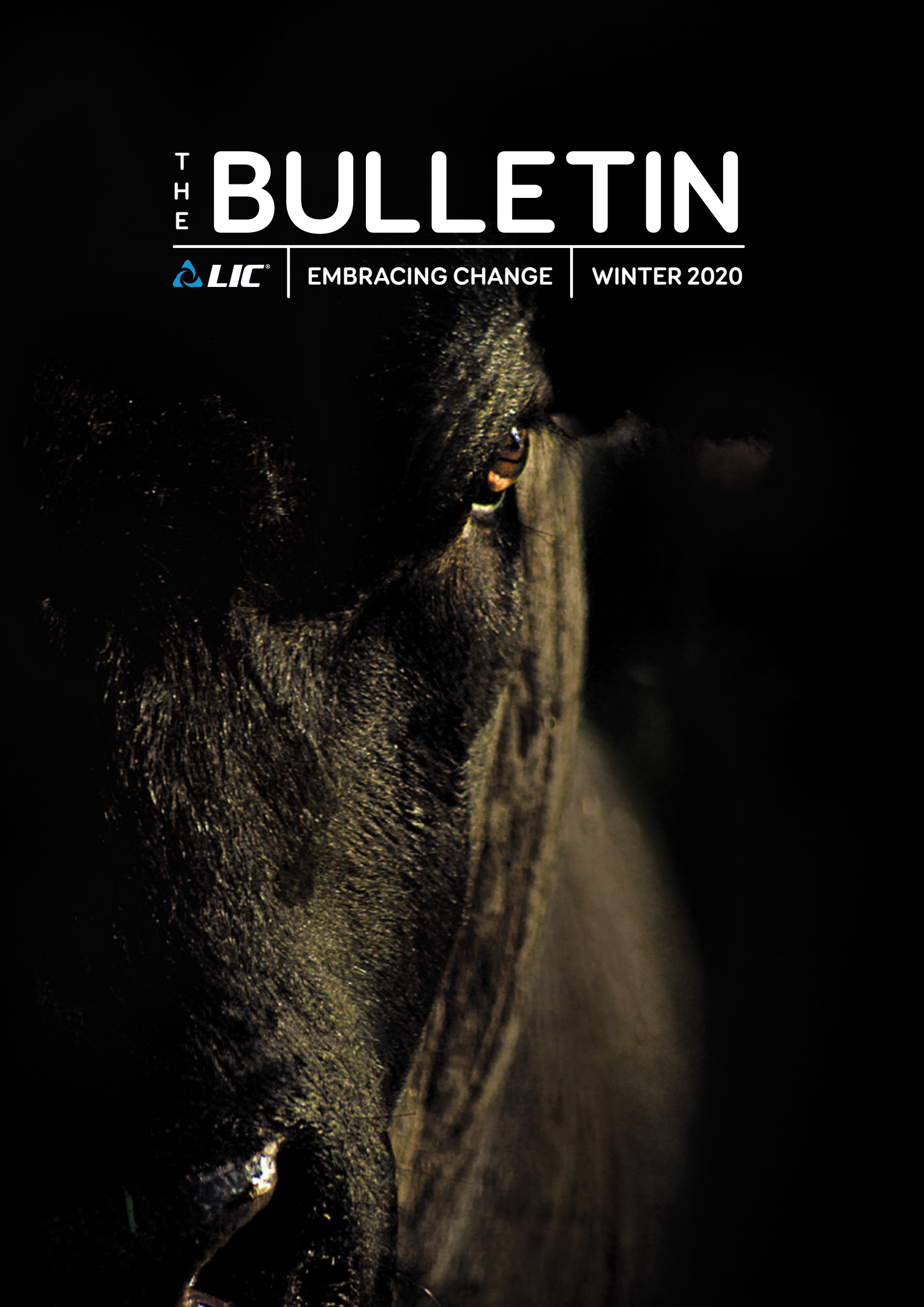
THE BULLETIN

LIC® | EMBRACING CHANGE | WINTER 2020



LIC

A TIME TO REFLECT AND A TIME TO BE PROUD OF DAIRY.

by Malcolm Ellis, LIC general manager NZ Markets

I always find this period around the June dairy season change-over to be a great time for reflection.

There's a saying that 'the only constant is change' and we certainly live and farm in a changing world.

Recently I posed a question to a group (in yet another zoom meeting……), and I will ask it again through this editorial: "Who is up for having a crack at writing the 2020 year book?"

I'm picking not too many would put their hand up, because wow, what a year we've had already!

From the challenging corner, we seem to have had our share of one-off weather events across different regions; is it just me or do these 'one-in-100-year' weather events appear to be jumping the expected frequency dynamic?

A number of areas have again been significantly impacted by drought and of course the unprecedented and wide ranging impact of COVID-19.

We have every reason to be extremely proud as New Zealanders for the way our 'can-do' country has responded to this challenge, but I am only too well aware of what is still ahead of us as we collectively deal with the significant ongoing economic and social impact.

There is a flip-side. There are some extremely positive learnings and observations to take from the last six to 12 months. As a combined sector, Dairy and Sheep & Beef, have done a marvellous job in the fight against M.bovis.

Since first contemplated in July 2017, this has not been an easy road, but we look to be positively moving toward eradication.

We appear set to round out the 2019-20 season with a milk price on the north side of $7, which will be the fourth consecutive year with a payout in excess of $6/kg MS; these represent steady, and importantly, consistent, returns.

Many held their breath at the end of May as Fonterra gave its first indication of what the 2020-21 season might look like. While a wide range was tabled, I was relieved to see the mid-point of $6.15.

Since then we've observed stability in global dairy trade (GDT) results and I think we should be proud of Dairy right now.
While other sectors are under-the-pump there is absolutely no doubt in my mind that Dairy is going to be a very big part of the recovery plan.

Today I admit nervousness about the amount of milk being produced around the world and the likely impact on supply and demand, as well as what the international consumer is going to be able to afford to pay for the richness of dairy produce, as global financial markets are reeling.

What is clear looking forward is that we will need to be collective, motivated and continue to innovate as we navigate the path for the next 12 months and beyond.

I'm proud of the innovation-led strategy our herd improvement co-operative has embarked on, and this edition of *The Bulletin* is full of examples of smart innovation, and importantly, evidence of innovation delivering on farm to enhance the productivity and prosperity of NZ dairy farmers.

LIC's traditional Breeders' Day was cancelled this year, but see pp32 & 33 for the Roll of Honour, which lists all 2019 Premier Sires breeders.

I'm positive about the future and the role of Dairy. I know herd improvement will be a significant contributor going forward and key contributions will come from a number of areas including smart reproductive performance, clever use of fresh sexed semen, and enhanced genetic evaluations through the science of genomics, all of which are covered off superbly within this edition.

As a herd improvement and breeding organisation I reserve my final comment for the significant contribution of our breeders of LIC's Premier Sires (listed as a 'Roll of Honour' within these pages, pp32, 33).

Unfortunately as a result of lockdown we were unable to host Breeders' Day at Newstead this year, but that takes nothing away from the wonderful contribution this group of farmers have made. To breed a Premier Sire is a fantastic achievement and I salute you all.

I wish you all the very best for the season ahead.

Malcolm Ellis

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SIRE PROVING SCHEME FARMERS OF THE YEAR

Profile of Larry Wetting & Raelene Allen, Galatea, Eastern BOP.

For the past 20 years Galatea couple Larry Wetting and Raelene Allen have used Sire Proving Scheme bull semen over their cows, which they say has assisted them toward milking one of the most-efficient dairy herds in the Bay of Plenty.

Knowing which of their cows to breed from is a large part of the reason Larry and Raelene have been named by LIC as the cooperative's Sire Proving Scheme (SPS) Farmers of the Year.

Nationally, there are approximately 200 SPS farmers throughout New Zealand, and LIC seeks to inseminate 95,000 cows across those herds each year.

Beside their impressive genomic Breeding Worth (139) and genomic Production Worth (174) figures, Larry and Raelene's 390-strong cow herd boasts some impressive repro stats.

Larry Wetting and Raelene Allen on farm

Larry believes good attention to repro drives herd performance more than any other factor:

"If you've got decent repro it leads to all the other outcomes like good BW and PW (Breeding Worth and Production Worth), the ability to cull with options, a low cell count, healthier cows, good production, more efficient feeding, less waste, and extra income by generating surplus stock. Good attention to repro can make you a lot of money."

Larry agrees it's important to have excellent genetics running through his herd, and with 90% of the herd going to SPS bulls, he's still got a degree of flexibility to choose other options such as LIC's Premier Sires or Alpha products.

"We've got total confidence in the semen we're getting from the Sire Proving Scheme. I'd point out that we're getting the very latest genetics before most other farmers get access to them, and some bulls will turn out to be top bulls.

"The counter to that is that people will say 'yes, but you'll get some duds too'.

"But my response is that we don't get any duds. Even if they (unproven sires) don't get proven to be the most elite, what we're given are still great bulls that have been through a rigorous screening programme, and we're getting them well ahead of the market.

"Everyone, sire proving farmer or not, has a few cows in their herd that don't perform as well as the rest, and we're no different, but I don't think that's a reflection on SPS at all."

The couple's farm is 140 effective hectares, and over the past five years the 390-odd cows have averaged 164,000kg milksolids a year (although the recent dry summer, together with expansion plans from June, meant they expected to finish the year to May 2020 somewhere in the 150,000 to 160,000 range).

Along with Raelene, Larry says they are "no-frills" farmers with a big emphasis on doing the basics right.

"We don't do any intervention, so haven't used CIDRs for about eight years," he says.

"We do about six weeks of AB and ahead of that we feed our cows well to make sure they're in good condition at calving and beyond.

"We're hot on heat detection. We use Kamars or Bulls-i together with tail paint, and of course a big part of our heat detection is observation.

"After the initial AB period we then do six weeks with (natural mate) bulls. Again, we're hot on observation, we want all the calving dates even if they're late calving cows.

"If we have a good season we'll milk those late calvers and some empties late into the season as an extra mob, so we're able to supply in all 12 months of the year. That's good for our cashflow."

The couple are staunch believers in herd testing because of the insights it gives them.

"We look forward to the herd tests because we know we're getting great information like 'what are these late-calvers doing (in milksolids)'?

"I can't believe some farmers, even corporate ones, don't regularly herd test... it's crazy not to get a full picture on the cows and not to utilise such important information."

For Larry and Raelene, the most significant advantage of the information is knowing which cows are the most- and least-efficient producers, and building a picture of the most persistent cell count offenders. The weighing of two-year-olds in the herd (required and conducted by SPS) adds accuracy and provides further insights.

In mid-January the couple use their third herd test to identify pregnancies, and they follow this up six weeks later with another milk pregnancy test in the final herd test of the season.

"It's brilliant," Larry says of the milk pregnancy test: "It's totally non-invasive and highly accurate".

"We match that up with our own information to confirm when she'll calve. Anything doubtful we'll go back and do a pregnancy test with the vet if we have to. If it's getting dry, we use that information to know which ones to cull or dry off."

"Another bonus of the SPS is getting the calves DNA-profiled every year at no cost – as this gradually works its way through our age structure; we now have a herd that are almost all profiled. We've also enjoyed getting to know the LIC team over the years and have appreciated their support and knowledge."

In the 2020/2021 season, the farm is expanding, with Larry and Raelene having purchased an extra 108ha of neighbouring land, while selling 38ha of land which was (somewhat awkwardly) not

.....continued next page

A few words from LIC:

Alister Sutton

Larry and Raelene's LIC Agri Manager is Alister Sutton, who says the couple deserved public acknowledgement for their contribution to the scheme, and for their outright farming ability:

"They're just super-stars to be fair, excellent operators.

"Larry's a real character and Raelene is very sharp on the records.

"They both excel in terms of animal husbandry and the practical aspects of dairying.

"They're always very hospitable and willing to share their knowledge. They love the Sire Proving Scheme and will bend over backwards to fulfil their obligations to it. They're an absolute pleasure to work with."

Ann Scott

Sire Proving Scheme manager Ann Scott says Larry and Raelene are great advocates for the Sire Proving Scheme, and their contribution to the dairy industry over the years has been immense: "Up to the 2019 milking season our information shows they've contributed 1177 milking daughters of SPS bulls."

joined to the main part of the farm.

That will bring the milking herd up to 600. The extra stock has been sourced mainly from 70 SPS heifers that were purchased from a friend, as well as a line of 100 rising two-year-old in calf heifers with full GeneMark profiles (these animals were initially purchased as yearlings from a sharemilker exiting the industry).

"It's an exciting development for us, which will make our operation easier to manage," Larry says.

"We're employing a contract milking couple with one team member next season, and we'll have flat, more accessible land, with two herringbone sheds that are less than 500m apart."

A view of Larry and Raelene's Galatea farm

ABOUT LIC'S SIRE PROVING SCHEME

- LIC's database (among the largest, most comprehensive bovine databases in the world) allows LIC sire analysts to identify contract mating cows.
- Once progeny are born, the database is further utilised to record and track bull calves for potential purchase by LIC.
- Utilising parentage information, cow-family knowledge, and its own genomic information, the most promising 180 of these calves officially enter LIC's Sire Proving Scheme for progeny testing.
- Participating SPS farmers of use semen from young, genomically selected bulls on their herds.
- Farmers milk and test the resulting daughters, not only for production, but for other sought-after traits by New Zealand farmers (for example, shed temperament, milking speed, liveweight, somatic cells and fertility).
- Four years later, with daughters evaluated in herds across New Zealand, young sire numbers are whittled down to about 15-20, equating to approximately 10% of the bull calves originally selected. These bulls are used in LIC's Daughter Proven Premier Sires teams.
- As part of SPS, participating farmers have full access to the genetics of tomorrow before anyone else. Additionally, they receive:
  - Excellent genetics and an LIC AB Technician service at a reduced cost.
  - A bonus payment for every SPS heifer reared through to an in-milk two year old.
  - Free DNA sire verification of SPS heifers.
  - Additional herd data: live weight, TOP, and body condition data.

Regional winners of LIC's **SPS Farmer of the Year 2020:**

Upper North Island

Peter & Dianna Morrison
Paeroa

Lower North Island

Matthew & Makaia Campbell
Eketahuna

Upper South Island

Paul & Nicola Bavin
Nelson

Lower South Island

John & Nicola Guy
Waimate

STRAWS TO SUIT THE MODERN-DAY STRATEGY

by Greg Hamill LIC genetics business manager

An exciting mating season awaits the New Zealand dairy farmer.

In February, New Zealand Animal Evaluation Limited (NZAEL) launched a new animal model with some major refinements, which was seen by many in the industry as the model's most significant improvement since the introduction of BW in 1996.

Additionally NZAEL has indicated it intends to incorporate genomic data into the national evaluation system from February 2021.

Genomics contributes additional data to both the phenotypic and ancestral information, providing a more-accurate estimate of an animal's true genetic worth, and its potential to breed profitable and efficient replacements.

On the back of an accuracy improvement of approximately 8% in LIC's own latest genomic assessment tool, we've noticed a steady increase in sales of LIC's Forward Pack and A2/A2 pack options over recent seasons.

These offerings utilise younger bulls based on their genomic information, allowing farmers the ability to capitalise on additional genetic gain (not previously accessible until a bull had been daughter proven).

Through genomic technology LIC is able to purchase and utilise younger superior bulls, and ultimately deliver more options and superior teams to our shareholders. This is highlighted by the introduction of LIC's A2/A2 teams, the growth of sexed semen teams, and the additional strength of the Forward Pack team.

Nearly 60% of LIC's sales now come from its genomically-influenced packs.

On another front, demand for LIC's sexed semen options has doubled this year. For the first time, LIC is delivering KiwiCross and Holstein-Friesian sexed sorted semen for winter mating clients.

The cooperative is also adding in a Jersey sexed team for spring, and the intention is to deliver the product for a longer period, and to more regions.

For two years in a row the non return rate on LIC's liquid sexed semen has been within 5% of the non return rate on Premier Sires conventional liquid semen. This makes liquid sexed semen a viable option for farmers to utilise on farm, especially compared to the -13.4 % variation observed through LIC's frozen sexed semen trial.

As farmers integrate sexed semen into their mating plans and generate more replacements from their best-performing cows, it allows alternative options to mate to poorer-performing cows. This strategy is seemingly catching-on, with LIC witnessing a significant lift in demand for its beef straws.

LIC continues to align itself with progressive beef breeders to ensure its farmers are well prepared with superior dairy genetics and beef genetics suitable for dairy farms.

In recognition of the growing importance of beef options, this year LIC has developed a Beef Selection Index (BSI®): This index focuses on traits important to the dairy farm like calving ease and gestation length, as well as traits important to rearers and finishers like carcass merit and feed efficiency.

Efficiency is the guiding principal behind New Zealand's national breeding objective, and it's that same principal sitting behind the environmental HoofPrint® launched in the 2020 Genetics Catalogue this year.

If an animal is more efficient at converting feed into milksolids there will be less of that feed left to contribute to methane emissions and urinary nitrogen excretion. The development of this index provides farmers with a predicted environmental footprint of various genetic products.

These are truly changing times and through innovation LIC will continue to develop products and services that will ensure farmers are in the best possible position to continue to farm productively and profitably.

by Simon Worth, LIC livestock selection manager

BREEDING FOR THE SHAREHOLDER

There's a sustained determination among the breeding team here at LIC to ensure our shareholders access the most-elite genetics that both deliver on the national breeding objective, and last within the herd.

While the motivation is to create herds that are more efficient converters of feed-to-profit, we're always mindful that a balanced approach is paramount.

The balanced approach to breeding not only delivers profit on farm, but ensures that resulting cows have good shed-attributes, the physical capacity to compete (i.e. get their share of feed), and an ability to walk, conceive, and stay in-calf.

Shareholder feedback has urged LIC to breed bulls that focused on the above balance. As a result LIC incorporated an internal index, called the Livestock Selection Index (LSI), within an already-robust breeding programme to ensure we would graduate such bulls.

The LSI is highly-correlated to Breeding Worth (BW), but it allows the selection team an ability to allocate weightings differently across specific traits - such as a heavier focus on udder conformation, for example.

Below are a few examples of bulls available through Premier Sires and / or Alpha this year. These are the sorts of bulls that epitomise our breeding philosophies - more profit from quality cows:

Date 22/05/2020

AB_code	Name	BW	Fat	Protein	Longevity	O Opinion	Udder Overall	Dairy Con	Sire_Name
315029	THORNWOOD DEGREE TRIGGER	318	35	10	409	0.01	1.25	0.71	ARRIETA NN DEGREE ET
116118	LIGHTBURN B MALBEC-ET S3F	190	34	35	330	0.49	1.21	0.93	SAN RAY FM BEAMER-ET S2F
516043	ARKANS BOOMBOX-ET	250	26	34	509	0.49	1.14	0.82	KRAAKMANS JAYDIE
114057	MAIRE FI GOLDDIGGER	175	45	42	355	0.59	1.13	0.97	FARSIDE M ILLUSTRIOUS S3F
515025	SPEAKES SLIPSTREAM ET	308	37	15	654	0.35	1.10	0.54	PUKEROA TGM MANZELLO
316007	TIRONUI LT BOSSMAN ET	313	25	10	496	0.33	0.92	0.50	LYNBROOK TERRIFIC ET S3J
115107	LIGHTBURN BLADE GUSTO	217	37	41	319	0.38	0.89	0.80	GREENWELL FI BLADE S3F
314012	KAITAKA OI LEOPARD ET	311	30	6	403	0.34	0.80	0.26	OKURA LT INTERGRITY

The LSI applies subtle differences to breeding value weightings compared to BW

Ultimately the LSI assists in the delivery of the elite genetics our shareholders want and expect.

The application of the LSI index can be powerful.

To illustrate this point, and to show how powerful the application of LIC's genomic selection tool is, the graphs above represent a snapshot of LIC's Sire Proving Scheme with respect to (i) BW and (ii) liveweight.

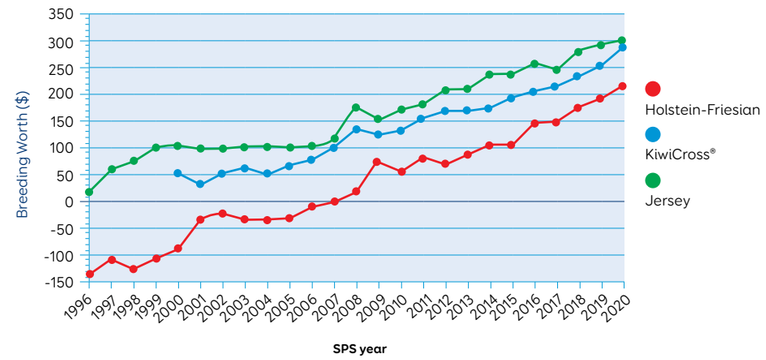
These graphs reflect a great story with an impressive trend line in BW over time, but the graphs are also an excellent example of LIC's 'shareholder voice'.

If we consider liveweight, the majority of shareholders express their ideal as a medium-sized Holstein Friesian, a consistent KiwiCross, and a larger Jersey cow.

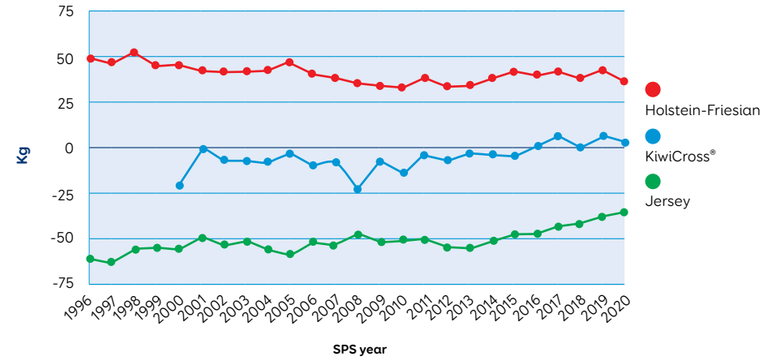
LIC

The LSI weightings reflect this desire, as indicated by the trend lines over time:

Sire Proving Scheme genetic trend:
Breeding Worth (Feb 2020 REVs)



Sire Proving Scheme genetic trend:
Liveweight BV



The LSI is continually reviewed to align with changing needs and wants of LIC shareholders: It is used in conjunction with other data that allows the breeding team to focus on quality cow families, consistent maternal performance, conformation, and longevity traits.

Add genomics to the mix and the team's tool-kit is indeed formidable.

The new genomic model (the Single Step Animal Model) now utilised by LIC is state-of-the-art and we have the utmost confidence in the tool.

Genomics continues to progress worldwide and having this 'step-change' improvement in the technology should allow the industry to move at a faster rate-of-knots.

It's interesting to note, for example, that LIC now purchases more young bulls sired by genomic sires than those sired by daughter proven genetics.

Over the next few pages LIC's selection team takes you through the various breeds, highlighting a few young bulls that look set to make an impact this year.

All the best for winter, the next update will be in spring where we look forward to the next cohort of graduates to take their place on the leader board - bring it on!

FRIESIAN TEAMS MOVING FORWARD

POWER, PRODUCTION, PERFORMANCE

by Kelli Buckley,
LIC sire analyst

Due to changes in the relative value of milk components, and other index-calculation tweaks, it might be true that Holstein Friesians have ridden a few Breeding Worth bumps over recent years, but true-to-form the black & whites continue to stand their ground and hold their place firmly within the national herd.

February's update to the index saw the inclusion of the Single Step Animal Model (SSAM), which resulted in a positive shift for the Friesian breed, with an average increase of 16 gBW.

The new model shows that genetic progress over the last 10 years has been even faster than evaluated in the past, with a continuing focus on production components and fertility, as well as strengthening breeding values in conformation. We remain as confident as ever in LIC's breeding strategy for Holstein Friesians.

The power of the breed is without question because the benefits of Friesian cows are so wide-ranging: They are economical and consistently produce high-quality milk. They're also able to sustain themselves over many lactations, and remain the highest production-breed for both fat and protein.

It's also evident that consumer desire is for the industry to reduce bobby calves, and the Friesian's ability to breed outstanding heifer replacements, stock bulls, and produce a quality dairy beef calf is an excellent means of achieving bobby-calf reduction.

The black and whites continue to prove themselves as a versatile, highly functional and profitable breed.

Genomic evaluations are providing us with more data than ever, and it should be no surprise that LIC's Premier Sires Forward Pack team consists of 60% genomic sires, with a team genomic Breeding Worth (gBW) of 247.

The Forward Pack team includes the best Daughter Proven bulls, the new graduating spring bulls (introduced to the team in mid-October), and the best genomically-selected sires. We wait in anticipation of the 17-codes adding their first daughter information. Who knows which will graduate through to 'spring bull' status but with a number of sons by the likes of Lancelot, Beamer, and Technician from impressive cow families, the team will be delivering you 'the best of the best'.

For now, however, the 18- and 19-codes are looking as formidable as ever, and below are a select few in the pipeline.

118070 - Tafts GR Supervisor S1F

Dam of 118031 Dicksons HD Myth-ET S1F

118031 - DICKSONS HD MYTH-ET S1F, bred by Murray and Julie Dickson, is a son from the well-known Dicksons M family. He is from a seriously good cow family, and his dam is none other than Dicksons CP Margy, who sits comfortably at 291gBW with an exceptional 607PW.

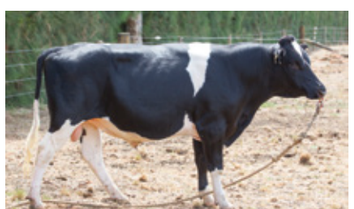
There is production behind this young sire, and with a Fertility BV of 3.3, he will breed daughters that will survive in the herd.

Myth has several half-brothers working their way through proofs, including 118042 Dicksons MH Mason, and a most recent graduate, 116065 Dicksons BG Mandate.

Holstein-Friesians remain the highest production-breed for both fat and protein

Dam of 119014 Buelin BM Equator S2F

118070 - TAFTS GR SUPERVISOR S1F is a superb addition to our Friesian line-up. Used as a sire of sons, his 291gBW, combined Fat and Protein gBV of +80 kg, and udder overall gBV 0.46, position him nicely in the team. The dedication put in by his breeders Geoff and Lynette Taft is evident, he comes from three generations of impressive cows that are sure to impact the industry. Supervisor is a natural addition when looking for long-lasting and profitable cows.



119013 Tanglewood MD Reef-ET S1F

119013 - TANGLEWOOD MD REEF-ET S1F A refreshingly different sire stack adds to this bull's attraction, being a Mandate x Lancelot x Typhoon. This young sire, bred by Murray and Nicola Hawkings, is backed by generations of proven cows having PWs over 300. Reef provides the perfect balance of production and confirmation, and his daughters are expected to be moderate-sized, efficient producers.

119014 - BUELIN BM EQUATOR S2F is the complete package. With his gBW of 261, Fat gBV 50 kg, protein gBV 30 kg, fertility BV 4.3 and an udder overall gBV of 0.60, Equator has you covered. His seriously milky dam whose Lactation Worth (LW) has continuously exceeded 400, and has for the last two season sent +1000kgmMS out the gate, 623kg of that as fat. This Maxima son, bred by Stefan Buhler, is yet another outstanding bull who is set to contribute significantly to the industry.

Given the current climate where the bottom line is more important than ever, the most versatile breed must be seriously considered, particularly for those who are looking to maximise their total on-farm returns.

by Danie Swart, LIC bull acquisition manager

THE GOLD RUSH

Coming from a gold-rich country in Africa, I associate gold with quality and high value.

Nowadays, here in New Zealand, my best 'day in the office' is driving through green farmland and seeing the golden coats of Jersey cows across Aotearoa.

And it's another great year for Jerseys. The demand for quality Jersey cows is good, and this is backed-up by recent sales results, with cows regularly fetching prices of more than $8000, with the elite selling for more than $20,000!!

I regularly see Jersey cows producing more milksolids than their liveweight.

Jerseys produce 13% more fat per kg of liveweight, 9% more milksolids per kg liveweight, and 18% better feed conversion than other breeds.

Other Jersey advantages include the fact 66% of the Jersey cow population carries the A2A2 gene, and if you are thinking about once-a-day (OAD) milking, the Jersey breed is extremely well-suited to this milking regime.

Jersey cows are the most efficient breed at converting feed into milksolids per kilogram of liveweight

The golden girls also excel in fertility and good udders, as indicated by the average current cow BVs in New Zealand.

What tools do we use for breeding the best Jersey Premier Sires teams?

Genomic selection assists LIC in identifying the best bull calves to enter the breeding programme, and the use of genomics allows for rapid acceleration of genetic gain (i.e. by cutting the generation interval).

The new Single Step Animal Model (SSAM), implemented in February, gives us a state-of-the-art model to realise those rapid genetic gains.

Using these tools, together with a focus on good solid cow families, gives LIC's livestock selection team the ability to breed high-performing bulls, a select few of which will ultimately be Premier Sires.

The 2020 Jersey Premier Sires Forward Pack team offers farmers LIC's best-of- the-best: A combination of the best daughter proven bulls; genomically selected bulls, and; the best new graduates.

Adoption of the powerful team approach is aimed at driving the necessary genetic gain in farmers' herds.

See pp18&19 for a detailed look at the likely Jersey Forward Pack team to be utilised this spring. The adjacent table highlighting the young stars, and commentary below, is part of my highlight package.

This Jersey team ticks all the boxes with high gBW, excellent production, favourable liveweight, great capacity, and good udder overall gBV's.

Focusing on a few bulls that make up this impressive team:

318021 - GLANTON DESI BANFF. From the Glanton stud in Taranaki, and out of the Glanton B family, with his dam having a Production Worth (PW) of more than 500, and Lactation Worth (LW) consistently hitting more than 600. He's an exciting young bull with high gBW and very low somatics.

319019 - GLENUI BT LIBERATION-ET. From the Glenui stud in Taranaki, and bred from the well-known high producing Glenui L family, which has multiple sons awaiting proofs. This bull is a production and type champion. Exceptional high protein and fat, combined with great capacity and good live weight.

318012 - LYNBROOK KING QUADRANT. From the reputable Lynbrook stud in Tokoroa is a true all-rounder out of the Q-family with the Goldie dam, who is a high production cow. If you're looking for good capacity, strong udders, and robust dairy conformation, this bull adds it all and is a major pillar in this powerful Premier Sires team.

WHAT ABOUT THE 17-CODES?
Bred out of impressive cow families to get their first daughter proofs, we're getting closer to the exciting time of the year where results of the 17-born bulls flow through. And there's some kind of anticipation, expectation and excitement ahead! They're part of a range of sons by exceptional sires such as Trigger, Terrific, Goldie, Strider and Hall-of-Fame inductee Integrity.

AB Code	Bull Name	gBW	Protein gBV (kg)	Milkfat gBV (kg)	Capacity gBV	Udder Overall gBV
318021	GLANTON DESI BANFF	355	5.3	30.8	0.50	0.46
319037	OKURA TIRONUI BT MARCO ET	337	12.7	32.8	0.66	0.43
319019	GLENUI BT LIBERATION-ET	322	21.3	39.1	1.02	0.60
318036	MCCALLUM BERN VERACITY S3J	318	5.2	23.4	0.01	0.91
319020	GLENUI GB LUCIAN	318	6.2	26.8	1.08	0.68
318035	SHELBY BC LOTTO ET S3J	311	13.9	28.1	0.27	0.19
319005	BRAEDENE FAV TRANSPIRE	311	11.6	34.2	0.43	0.35
318012	LYNBROOK KING QUADRANT	310	7.4	32.3	0.70	0.77
318018	FOXTON DANE COBRA S3J ET	308	15.0	27.8	0.40	0.77
318002	OKURA COYOTE LENNOX S3J	304	19.5	30.8	0.53	0.30
317041	FLAXMILL PCG GALAXIE	296	5.6	23.6	0.54	0.42

Date 22/05/2020

DAM OF 318021 GLANTON DESI BANFF

318012 - LYNBROOK KING QUADRANT

LIC's KiwiCross Premier Sires Forward Pack consists exclusively of A2A2 genetics, so combined with high-BW, your herd will be future-ready when you choose this team for your artificial breeding requirements.

by Camdon Bland, LIC sire analyst

FORGING EVEN-BETTER EFFICIENCIES

The KiwiCross® quest continues...

When it comes to breeding the best, LIC shares the pride-and-joy in your cows.

And when we think efficiencies, three characteristics in particular come to mind:

i. Fertility;

ii. maintenance, and;

iii. production.

In general, farmers want to see cows in-calf sooner, while maintaining good production and holding on to body condition.

At the same time there's a need to gain more from feed inputs, with more milk solids per unit of liveweight.

And what better way to achieve these efficiencies than with a great KiwiCross team?

This year LIC boasts an awesome array of KiwiCross bulls in its Forward Pack team. And there's no need to trade-off A2/A2 over genomic Breeding Worth (gBW), because LIC has merged the two teams with no compromise on the gBW front, giving us the simplest solution possible and providing peace-of-mind into the future.

519011 SANDERS ACCOLADE

The KiwiCross team is highlighted by some outstanding young bulls, including **519011 SANDERS ACCOLADE** (324 gBW), sired by Snapper (who will himself feature in the Daughter Proven team), and is out of a magnificent Solaris cow.

Also high on the BW agenda is **518072 DEANS PROFESSIONAL** (g360 BW), again sired by a high ranking Jersey bull Besiege and out of a high-producing Esteem cow.

In the mix this year are bulls with great udder genomic breeding values (gBVs), coming from cow lines that pride themselves on exceptional udders from dam-to-dam.

518015 SMITHS HERALD's 7 year old dam

The likes of **518015 SMITHS HERALD**, being sired by Bounty, just add to that udder confidence. Also adding value and doing extremely well to maintain the high udder gBVs are **518076 GREENWELL BLACKHAWK** and **518069 TOTARA VIEW NAVIGATOR**, meaning we can expect a real treat in 2020.

When it comes to the all-important fertility trait, two bulls contribute nicely to the impressive 3.2 average gBV of the team: **519062 ARKANS BARRIER** (6.5 Fertility gBV) is sired by the outstanding young bull Arkans Patriarch-ET, and is out of a Kamahi King cow coming from the renowned Arkan's B Family, a family proven on fertility with an awesome udder.

Joining him is **518038 WERDERS PREMONITION**, sired by the well-known Priests Sierra, not only impressive on fertility (4.0) but also excelling on udder (0.83) and dairy conformation (0.72) gBVs.

The Forward Pack is about the best-of-the-best, so it's no surprise to see the team will be influenced by some outstanding daughter proven bulls in **516066 WALTON INFERNO** (302 gBW) and **516074 CROSSANS CRITICAL-ET**, who are proving to be two of the great all-round, industry-leading bulls.

518038 WERDERS PREMONITION

Add some real quality in the likes of **511011 PRIESTS SIERRA** and **514017 GLEN KORU BECKON**, and it's little wonder that confidence rides high when it comes to this team.

2020 is shaping up to be one of excellent potential given the quality of the young sires soon to graduate.

In these ranks of young sires (and adding to the finishing touches to this elite team) is **517026 HOWSES SPRINGFIELD**.

Springfield is sired by Drysdale Sovereign and is out of a cow with wonderful udder attachment and soundness; she's high on index which reflects her worth in the herd.

Springfield himself also has four sons in the mix and offers sizable capacity, strong udder support, and stunning fertility.

517026 HOWSES SPRINGFIELD

Another one to look out for is **517043 GLEN KORU PROCLAIMER-ET** (326 gBW), out of the amazing Nevron Showman Cow, FLO, who is just pumping with production. Proclaimer is a nice tidy all round bull with 11 sons in the pipeline.

517042 LUCK-AT-LAST INSPIRED-ET, a Beamer son with spectacular udder (0.80). His dairy conformation (0.63) gBVs also look very promising. Together with top-class milksolids he's bound to shine, with his hard-working dam sired by Terrific.

With all the above on offer from the KiwiCross Forward Pack team it's a group of bulls truly worth considering when making your artificial breeding decisions this year.

PREMIER SIRES®

Potential Spring 2020 Holstein-Friesian **Daughter Proven** Team

Sire		gBW/Rel%
116019	WERDERS DE OVERTIME S1F	269/80
116015	PAYNES BG ARCHIE S1F	258/81
115021	GORDONS AM LANCELOT S3F	253/92
115080	WESTEDGE VHR SWEET AS S2F	245/87
116036	ARKAN MGH BACKDROP-ET S2F	240/84
114007	BUSY BROOK WTP VECTOR S3F	236/86
115132	COSTERS POLARISE-ET S3F	232/86
111037	SAN RAY FM BEAMER-ET S2F	226/98
116122	SPRING TRALEE BASS-ET S2F	224/83

Sire		gBW/Rel%
115046	TRALEE GB RESONATE-ET S3F	224/87
116078	MEANDER SB ALAMO S2F	218/82
115107	LIGHTBURN BLADE GUSTO	217/86
112032	JACLES BOY JAKS S2F	211/92
116114	LIGHTBURN GB DYLAN-ET S3F	211/81
116001	FOOTEHILLS BG LINCOLN S1F	196/80
116108	BUSY BROOK MGH MORDOR S2F	194/82
115023	TANGLEWOOD MT KAURI S2F	178/85
116060	ON-DER-REY MA APPROVE S2F	176/81

WEIGHTED AVERAGES OF PREMIER SIRES - $227/99%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.31				quickly
Shed Temperament	0.31				placid
Milking Speed	0.18				fast
Overall Opinion	0.42				desirable

Conformation	-0.5	0	0.5	1	
Stature	0.54				tall
Capacity	0.48				capacious
Rump Angle	-0.05				sloping
Rump Width	0.36				wide
Legs	0.00				curved
Udder Support	0.44				strong
Front Udder	0.40				strong
Rear Udder	0.25				high
FrontTeat Placement	0.14				close
Rear Teat Placement	0.24				close
Udder Overall	0.41				desirable
Dairy Conformation	0.51				desirable

gBW/Rel%	227/99
Milkfat gBV	37 kgs
Protein gBV	34 kgs
Milk gBV	656 Litres
Liveweight gBV	40 kgs
Total Longevity gBV	496 days
Milkfat gBV%	4.9%
Protein gBV%	4.0%
Heifer Calving Dif gBV	2.0%
Cow Calving Dif gBV	0.7%
Fertility gBV	2.3%
SCC gBV	0.06
BCS gBV	0.14

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

PREMIER SIRES®

Potential Spring 2020 Holstein-Friesian **Forward Pack** Team

Sire		gBW/Rel%
116019	WERDERS DE OVERTIME S1F	269/80
116015	PAYNES BG ARCHIE S1F	258/81
115021	GORDONS AM LANCELOT S3F	253/92
115080	WESTEDGE VHR SWEET AS S2F	245/87
116036	ARKAN MGH BACKDROP-ET S2F	240/84
115046	TRALEE GB RESONATE-ET S3F	224/87
118070	TAFTS GR SUPERVISOR S1F	289/56
119013	TANGLEWOOD MD REEF-ET S1F	282/54
117068	MEANDER SB ARROW-ET S2F	281/65

Sire		gBW/Rel%
119014	BUELIN BM EQUATOR S2F	261/60
118068	BAGWORTH GI ORIGINAL S3F	250/62
118031	DICKSONS HD MYTH-ET S1F	250/60
119004	IONIC GB CLUEDO S1F	235/60
119043	LIGHTBURN DM GLYCOL S2F	233/54
119035	TAFTS RHR ORDAIN S3F	229/59
117061	ALLANS SB ANTIDOTE S2F	220/62
119018	PEMBERTON MA POTION S2F	216/50
118033	PAYNES RHD PRODIGY-ET S3F	206/57

WEIGHTED AVERAGES OF PREMIER SIRES - $248/98%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.29				quickly
Shed Temperament	0.28				placid
Milking Speed	0.15				fast
Overall Opinion	0.41				desirable

Conformation	-0.5	0	0.5	1	
Stature	0.56				tall
Capacity	0.36				capacious
Rump Angle	-0.05				sloping
Rump Width	0.46				wide
Legs	0.01				curved
Udder Support	0.50				strong
Front Udder	0.44				strong
Rear Udder	0.34				high
FrontTeat Placement	0.09				close
Rear Teat Placement	0.29				close
Udder Overall	0.45				desirable
Dairy Conformation	0.43				desirable

gBW/Rel%	248/98
Milkfat gBV	40 kgs
Protein gBV	34 kgs
Milk gBV	574 Litres
Liveweight gBV	37 kgs
Total Longevity gBV	528 days
Milkfat gBV%	5.0%
Protein gBV%	4.0%
Heifer Calving Dif gBV	2.1%
Cow Calving Dif gBV	0.8%
Fertility gBV	2.1%
SCC gBV	-0.03
BCS gBV	0.06

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

Date 22/05/2020

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

PREMIER SIRES®

Potential Spring 2020 Holstein-Friesian **A2A2** Team

Sire		gBW/Rel%
118001	WAIMATA SB RANSOM-ET S2F	264/57
119002	BELLAMYS DM GALANT-ET S1F	257/55
118071	GLENMEAD SB TRAPEZE S1F	251/57
119065	MEANDER TD AZURE-ET S1F	245/62
118042	DICKSONS MH MASON-ET S2F	239/63
118016	WERDERS MH OPTIMAL S2F	228/63
119049	WITTENHAM MG ALPINE S2F	216/58
117082	MULLINS SB REVOLUTION S2F	209/62
118014	DEANS MH ATLANTIS S2F	207/64
119034	TAFTS RHD OFFICER-ET S2F	205/55

Sire		gBW/Rel%
117035	BELLAMYS MH GAMBIT-ET S2F	203/64
119097	SPRING RIVER SCOOTER S1F	200/59
119016	MONTE VISTA TP MARINE S2F	198/52
119010	JOHNSONS HF RYDER-ET S2F	189/61

WEIGHTED AVERAGES OF PREMIER SIRES - $222/97%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.32				quickly
Shed Temperament	0.31				placid
Milking Speed	0.10				fast
Overall Opinion	0.41				desirable

Conformation	-0.5	0	0.5	1	
Stature	0.55				tall
Capacity	0.41				capacious
Rump Angle	-0.14				sloping
Rump Width	0.42				wide
Legs	-0.05				curved
Udder Support	0.42				strong
Front Udder	0.33				strong
Rear Udder	0.29				high
FrontTeat Placement	0.18				close
Rear Teat Placement	0.24				close
Udder Overall	0.41				desirable
Dairy Conformation	0.42				desirable

gBW/Rel%	222/97
Milkfat gBV	35 kgs
Protein gBV	36 kgs
Milk gBV	668 Litres
Liveweight gBV	39 kgs
Total Longevity gBv	530 days
Milkfat gBV%	4.8%
Protein gBV%	4.0%
Heifer Calving Dif gBV	1.4%
Cow Calving Dif gBV	0.9%
Fertility gBV	1.5
SCC gBV	0.00
BCS gBV	0.07

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

PREMIER SIRES®

Potential Spring 2020 Holstein-Friesian **Sexed** Team (A2A2)

Sire		gBW/Rel%
118053	GREENWELL GR GOVERNOR S1F	279/58
119048	RIVERBANK BBL STATION S1F	237/50
119030	BAGWORTH DM LEAGUE-ET S1F	224/54
118013	SPRING RIVER GR SURGE S1F	218/56
119081	BUSY BROOK CONVICT-ET S1F	216/58
118049	DICKSONS DM LEVI-ET S1F	213/56
119019	PAHIA BG WINDBREAKER S1F	212/61
116076	MEANDER BR ABRAXAS-ET S2F	206/81
119033	LIGHTBURN FREE RANGE-ET	201/61
119064	MEANDER MG ARENA-ET S3F	200/59

Sire		gBW/Rel%
119012	FANANA BM EXCELLENT S2F	191/60
117088	SPRING RIVER OL SCOUT S2F	190/60

WEIGHTED AVERAGES OF PREMIER SIRES - $220/96%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.39				quickly
Shed Temperament	0.38				placid
Milking Speed	0.07				fast
Overall Opinion	0.45				desirable

Conformation	-0.5	0	0.5	1	
Stature	0.58				tall
Capacity	0.50				capacious
Rump Angle	-0.05				sloping
Rump Width	0.47				wide
Legs	0.00				curved
Udder Support	0.69				strong
Front Udder	0.61				strong
Rear Udder	0.52				high
FrontTeat Placement	0.35				close
Rear Teat Placement	0.54				close
Udder Overall	0.70				desirable
Dairy Conformation	0.55				desirable

gBW/Rel%	220/96
Milkfat gBV	34 kgs
Protein gBV	33 kgs
Milk gBV	600 litres
Liveweight gBV	38 kgs
Total Longevity gBV	523 days
Milkfat gBV%	4.9%
Protein gBV%	4.0%
Heifer Calving Dif gBV	1.1%
Cow Calving Dif gBV	0.6%
Fertility gBV	1.8%
SCC gBV	-0.08
BCS gBV	0.06

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

Date 22/05/2020

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Potential Spring 2020 KiwiCross® **Daughter Proven** Team (F9J7)

Sire		gBW/Rel%
516066	WALTON INFERNO	315/82
515025	SPEAKES SLIPSTREAM ET	308/86
514017	GLEN KORU BECKON	294/87
516074	CROSSANS CRITICAL-ET	282/82
511011	PRIESTS SIERRA	281/99
516015	HYJINKS SNAPPER	276/83
516025	ARRIETA BREW-ET	269/82
515068	WOODWARDS SPOT ON	265/84
516070	BALDRICK TRIXSTER-ET	260/82
515017	LYNBROOK KARTELL	252/84

Sire		gBW/Rel%
516043	ARKANS BOOMBOX-ET	250/80
515036	TANIWHA HANDFORD ET	249/86

WEIGHTED AVERAGES OF PREMIER SIRES - $281/99%

Management	-0.5	0	0.5	1	
Adapts to Milking	**0.38**				quickly
Shed Temperament	**0.38**				placid
Milking Speed	**0.16**				fast
Overall Opinion	**0.40**				desirable

Conformation	-0.5	0	0.5	1	
Stature	**-0.03**				tall
Capacity	**0.61**				capacious
Rump Angle	**-0.13**				sloping
Rump Width	**0.15**				wide
Legs	**0.05**				curved
Udder Support	**0.46**				strong
Front Udder	**0.48**				strong
Rear Udder	**0.42**				high
FrontTeat Placement	**0.17**				close
Rear Teat Placement	**0.43**				close
Udder Overall	**0.49**				desirable
Dairy Conformation	**0.56**				desirable

gBW/Rel%	**281/99**
Milkfat gBV	**39 kgs**
Protein gBV	**28 kgs**
Milk gBV	**376 Litres**
Liveweight gBV	**3 kgs**
Total Longevity gBV	**473 days**
Milkfat gBV%	**5.2%**
Protein gBV%	**4.1%**
Heifer Calving Dif gBV	**-0.1%**
Cow Calving Dif gBV	**-0.3%**
Fertility gBV	**2.8%**
SCC gBV	**-0.10**
BCS gBV	**0.10**

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Potential Spring 2020 KiwiCross® **Forward Pack** Team (F9J7) (A2A2)

Sire		gBW/Rel%
516066	WALTON INFERNO	315/82
515025	SPEAKES SLIPSTREAM ET	308/86
514017	GLEN KORU BECKON	294/87
516074	CROSSANS CRITICAL-ET	282/82
511011	PRIESTS SIERRA	281/99
515068	WOODWARDS SPOT ON	265/84
518072	DEANS PROFESSIONAL	360/56
517026	HOWSES SPRINGFIELD	329/61
517043	GLEN KORU PROCLAIMER-ET	326/62
519011	SANDERS ACCOLADE	324/56

Sire		gBW/Rel%
518015	SMITHS HERALD	314/61
517042	LUCK-AT-LAST INSPIRED-ET	307/63
518076	GREENWELL BLACKHAWK	302/56
519013	BUSY BROOK OUTLAW	302/58
518001	ARKANS BALMORAL	298/64
519062	ARKANS BARRIER	284/51
518069	TOTARA VIEW NAVIGATOR	282/62
518061	INNOVATION HOMEBREW	277/57
519063	ARKANS BREAK-AWAY	275/49
519038	SHEPHERDS RADAR	271/50

WEIGHTED AVERAGES OF PREMIER SIRES - $300/98%

Management	-0.5	0	0.5	1	
Adapts to Milking	**0.37**				quickly
Shed Temperament	**0.38**				placid
Milking Speed	**0.11**				fast
Overall Opinion	**0.39**				desirable

Conformation	-0.5	0	0.5	1	
Stature	**-0.06**				tall
Capacity	**0.60**				capacious
Rump Angle	**-0.06**				sloping
Rump Width	**0.16**				wide
Legs	**0.05**				curved
Udder Support	**0.52**				strong
Front Udder	**0.51**				strong
Rear Udder	**0.49**				high
FrontTeat Placement	**0.18**				close
Rear Teat Placement	**0.43**				close
Udder Overall	**0.55**				desirable
Dairy Conformation	**0.58**				desirable

gBW/Rel%	**300/98**
Milkfat gBV	**38 kgs**
Protein gBV	**26 kgs**
Milk gBV	**209 Litres**
Liveweight gBV	**2 kgs**
Longevity gBV	**544 days**
Milkfat gBV%	**5.4%**
Protein gBV%	**4.2%**
Heifer Calving Dif gBV	**-0.1%**
Calving Dif gBV	**-0.2%**
Fertility gBV	**3.0%**
SCC gBV	**-0.17**
BCS gBV	**0.12**

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

Date 22/05/2020

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Potential Spring 2020 KiwiCross® **Sexed** Team (F9J7) (A2A2)

Sire		gBW/Rel%
518038	WERDERS PREMONITION	312/61
518016	HORIZON ASCOTT	304/59
519078	BURGESS PRESTIGE-ET	302/60
518056	JACKSONS BOCELLI	300/57
519023	PAYNES PUBLISHER-ET	293/51
518017	HORIZON BARNSTORMER-ET	288/63
519049	CLOVERLEA TILSON	278/59
518029	ROUBROEKS AMMUNITION	278/61
518063	VAN STRAALENS SAFARI	276/60
519005	BURMEISTERS BUSHWHACKER	273/50

Sire		gBW/Rel%
518044	JUFFERMANS ENDURANCE-ET	273/61
518009	ARKANS BENSON-ET	271/62

WEIGHTED AVERAGES OF PREMIER SIRES - $290/96%

Management	-0.5	0	0.5	1	
Adapts to Milking	**0.31**				quickly
Shed Temperament	**0.30**				placid
Milking Speed	**0.17**				fast
Overall Opinion	**0.37**				desirable

Conformation	-0.5	0	0.5	1	
Stature	**-0.06**				tall
Capacity	**0.47**				capacious
Rump Angle	**-0.21**				sloping
Rump Width	**0.12**				wide
Legs	**0.08**				curved
Udder Support	**0.47**				strong
Front Udder	**0.39**				strong
Rear Udder	**0.49**				high
FrontTeat Placement	**0.19**				close
Rear Teat Placement	**0.41**				close
Udder Overall	**0.51**				desirable
Dairy Conformation	**0.48**				desirable

gBW/Rel%	**290/96**
Milkfat gBV	**36 kgs**
Protein gBV	**26 kgs**
Milk gBV	**84 Litres**
Liveweight gBV	**2 kgs**
Total Longevity gBV	**519 days**
Milkfat gBV%	**5.4%**
Protein gBV%	**4.3%**
Heifer Calving Dif gBV	**0.5%**
Cow Calving Dif gBV	**0.0%**
Fertility gBV	**2.6%**
SCC gBV	**0.02**
BCS gBV	**0.08**

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Potential Spring 2020 Jersey **Daughter Proven** Team

Sire		gBW/Rel%
316009	TIRONUI LT BESIEGE ET	349/83
315008	PUKEROA AND BARATONE ET	336/87
316039	ULMARRA TT GALLIVANT	329/82
313023	CRESCENT EXCELL MONOPOLY	326/86
315045	GLENUI DEGREE HOSS ET	322/87
316035	FOXTON LT FIXATION	321/82
314052	CRESCENT EXCELL MISTY ET	320/87
315029	THORNWOOD DEGREE TRIGGER	318/91
314012	KAITAKA OI LEOPARD ET	311/91
316051	CLUAIN GOLDIE JACOB ET	302/82

Sire		gBW/Rel%
314039	FOXTON MANZ CLAYTON	288/92
315009	RIVERVIEW AND DEXTER S2J	285/86

WEIGHTED AVERAGES OF PREMIER SIRES - $315/99%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.19				quickly
Shed Temperament	0.20				placid
Milking Speed	0.16				fast
Overall Opinion	0.27				desirable

Conformation	-0.5	0	0.5	1	
Stature	-0.79				tall
Capacity	0.43				capacious
Rump Angle	-0.09				sloping
Rump Width	-0.06				wide
Legs	0.06				curved
Udder Support	0.40				strong
Front Udder	0.55				strong
Rear Udder	0.60				high
FrontTeat Placement	0.16				close
Rear Teat Placement	-0.02				close
Udder Overall	0.61				desirable
Dairy Conformation	0.42				desirable

gBW/Rel%	315/99
Milkfat gBV	32 kgs
Protein gBV	11 kgs
Milk gBV	-336 Litres
Liveweight gBV	-44 kgs
Total Longevity gBV	403 days
Milkfat gBV%	5.9%
Protein gBV%	4.3%
Heifer Calving Dif gBV	-1.7%
Cow Calving Dif gBV	-1.1%
Fertility gBV	2.9%
SCC gBV	-0.24
BCS gBV	0.14

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Potential Spring 2020 Jersey **Forward Pack** Team (A2A2)

Sire		gBW/Rel%
316009	TIRONUI LT BESIEGE ET	349/83
315008	PUKEROA AND BARATONE ET	336/87
313023	CRESCENT EXCELL MONOPOLY	326/86
315045	GLENUI DEGREE HOSS ET	322/87
318021	GLANTON DESI BANFF	356/60
319037	OKURA TIRONUI BT MARCO ET	338/59
319060	WEE BURN DESI DON	336/61
319019	GLENUI BT LIBERATION-ET	323/58
319020	GLENUI GB LUCIAN	318/51
318036	MCCALLUM BERN VERACITY S3J	317/59

Sire		gBW/Rel%
318012	LYNBROOK KING QUADRANT	310/62
319005	BRAEDENE FAV TRANSPIRE	310/57
318018	FOXTON DANE COBRA S3J ET	309/59
318035	SHELBY BC LOTTO ET S3J	306/61
318002	OKURA COYOTE LENNOX S3J	304/56
317041	FLAXMILL PCG GALAXIE	295/63

WEIGHTED AVERAGES OF PREMIER SIRES - $323/98%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.30				quickly
Shed Temperament	0.32				placid
Milking Speed	0.24				fast
Overall Opinion	0.38				desirable

Conformation	-0.5	0	0.5	1	
Stature	-0.83				tall
Capacity	0.47				capacious
Rump Angle	-0.07				sloping
Rump Width	-0.04				wide
Legs	0.10				curved
Udder Support	0.35				strong
Front Udder	0.44				strong
Rear Udder	0.53				high
FrontTeat Placement	0.09				close
Rear Teat Placement	-0.14				close
Udder Overall	0.52				desirable
Dairy Conformation	0.43				desirable

gBW/Rel%	323/98
Milkfat gBV	30 kgs
Protein gBV	11 kgs
Milk gBV	-409 Litres
Liveweight gBV	-44 kgs
Total Longevity gBV	476 days
Milkfat gBV%	5.9%
Protein gBV%	4.4%
Heifer Calving Dif gBV	-2.0%
Cow Calving Dif gBV	-0.8%
Fertility gBV	2.8%
SCC gBV	-0.16
BCS gBV	0.16

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

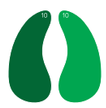
Date 22/05/2020

Shaded bulls include daughter information

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency



Potential Spring 2020 Jersey **Sexed** Team (A2A2)

Sire		gBW/Rel%
317023	SHEPHERDS LT FLINT ET S3J	339/65
318009	TIRONUI SUPERMAN ET	338/63
319008	ARKAN BT ASTEROID-ET S3J	330/59
319003	BAILEY LW DETECTIVE -ET	322/60
318034	SHELBY BC LUNAR ET S3J	300/61
319013	TIRONUI BASTILLE MINISTER	274/50

WEIGHTED AVERAGES OF PREMIER SIRES - $316/95%

Management	-0.5	0	0.5	1	
Adapts to Milking	0.27				quickly
Shed Temperament	0.28				placid
Milking Speed	0.22				fast
Overall Opinion	0.34				desirable

Conformation	-0.5	0	0.5	1	
Stature	-0.58				tall
Capacity	0.47				capacious
Rump Angle	-0.18				sloping
Rump Width	0.09				wide
Legs	0.11				curved
Udder Support	0.35				strong
Front Udder	0.40				strong
Rear Udder	0.53				high
FrontTeat Placement	0.05				close
Rear Teat Placement	-0.02				close
Udder Overall	0.49				desirable
Dairy Conformation	0.45				desirable

gBW/Rel%	316/95
Milkfat gBV	32 kgs
Protein gBV	15 kgs
Milk gBV	-331 Litres
Liveweight gBV	-33 kgs
Total Longevity gBV	451 days
Milkfat gBV%	5.9%
Protein gBV%	4.4%
Heifer Calving Dif gBV	-2.4%
Cow Calving Dif gBV	-0.6%
Fertility gBV	1.9%
SCC gBV	-0.04
BCS gBV	0.14

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

Date 22/05/2020

HOOFPRINT®

Methane Efficiency

Nitrogen Efficiency

Sexed semen boosts replacements and frees up alternative mating options.

by Taylor Connell, LIC genetics product specialist

IT'S NEVER BEEN EASIER to get a HEIFER!

Liquid is better than frozen.

Remember that should you elect to go with sexed semen this spring.

Research* shows that liquid, fresh, sexed semen is the only heifer-producing solution of its type to reach near-normal conception rates (i.e. a three-to-five percent lower conception rate compared to non-sexed conventional semen).

By comparison, similar research** conducted by LIC showed the frozen sexed product resulted in a non-return rate that fell 13.4% short of conventional frozen straws.

LIC firmly holds the view that the reduction in reproductive performance that results from usage of the frozen product is simply too great for its farmers to risk using. That's why LIC is investing in wider distribution of the liquid product across New Zealand this spring.

With wider distribution than ever, LIC's long last liquid (LLL) sexed semen offering is being made available to almost all dairy regions this year, covering all three major dairy breeds.

Jumping on the sexed semen bandwagon has never been easier: With the advantages of significantly fewer bobby calves on farm, the prospect of surplus heifers, and promising repro and productive efficiencies, it's certainly a bandwagon worth catching a ride on.

Both Owl Farm (St Peter's School, Cambridge) and Lincoln University have recently used Sexed Semen as part of their herd improvement strategies.

With a highly-targeted approach to mating, both farms have achieved superior mating (conception and non-return) results compared to conventional liquid semen.

Tailoring your mating programme to include sexed semen is likely to result in:

- Reduction of bobby calves: Sexed semen has a 90% heifer ratio, compared to 50% in conventional semen. This means more heifers generated on farm, and a resulting reduction in bulls bobbied. Surplus heifers can be on-sold, generating an additional revenue stream.
- Increased genetic gain: Using sexed semen over a herd's highest Breeding Worth (BW) cows on any given day ensures higher genetic merit of heifers born, reared, and eventually milked. On the sire side, LIC uses high BW,A2A2 sires in its sexed semen teams to secure farmer access to some of the best up-and-coming genetics in the industry.
- Usage of beef breeds for increased stock sales: With heifer replacement numbers already sorted through sexed semen use, a larger proportion of lower genetic merit animals will be available to mate to non-dairy breeds. Utilising bulls selected for easy-calving such as SGL Hereford and Angus create calves that not only help reduce bobby numbers, but are potentially worth more from a stock sale viewpoint.
- No increase in calving spread: By combining sexed semen with one of LIC's Short Gestation Length (SGL) products, calving doesn't have to go any longer than it has to! This also helps mitigate the marginally lower conception rate of LLL sexed semen.

Don't forget, with an average annual difference of 160kg of milksolids per cow between the top- and bottom-quartiles of the typical New Zealand herd***, there's a lot of sense in making sure your future animals are coming from the very best: Sexed semen helps you achieve this, while opening up a number of options.

Getting a heifer calf has never been easier! To tailor a plan for your mating period this spring, get in touch with your LIC Agri Manager.

- LIC IS OFFERING SEXED SEMEN FOR HOLSTEIN-FRIESIAN AND KIWICROSS BREEDS IN **WINTER 2020.**
- LIC IS OFFERING SEXED SEMEN FOR HOLSTEIN-FRIESIAN, KIWICROSS, AND JERSEY IN **SPRING 2020.**
- SUBJECT TO FINAL DEMAND, SEXED SEMEN FOR ALL THREE MAJOR BREEDS WILL BE AVAILABLE FROM **20 SEPTEMBER TO 30 NOVEMBER 2020.**
- LIC ALSO OFFERS SEXED SYNCHRONY OPTIONS, WITH MULTIPLE BULLS BEING SUPPLIED FOR PROGRAMMES EXCEEDING 50 STRAWS.

*LIC research, 2019, including case study results on Owl Farm (St Peter's School, Waikato) and Lincoln University Dairy Farm (Canterbury)

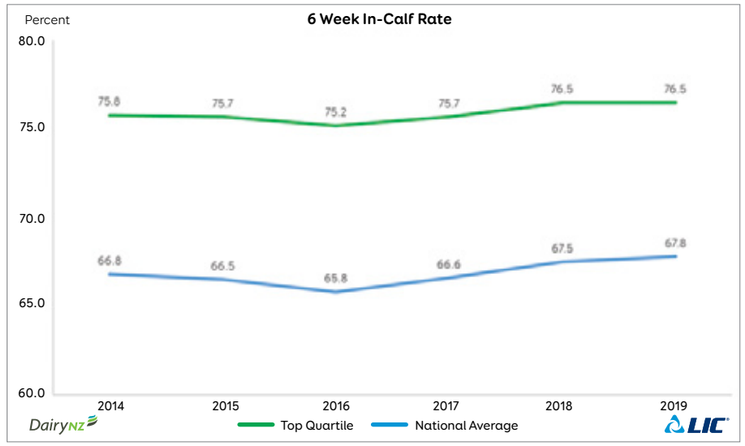
** LIC frozen sexed trial, 2017.

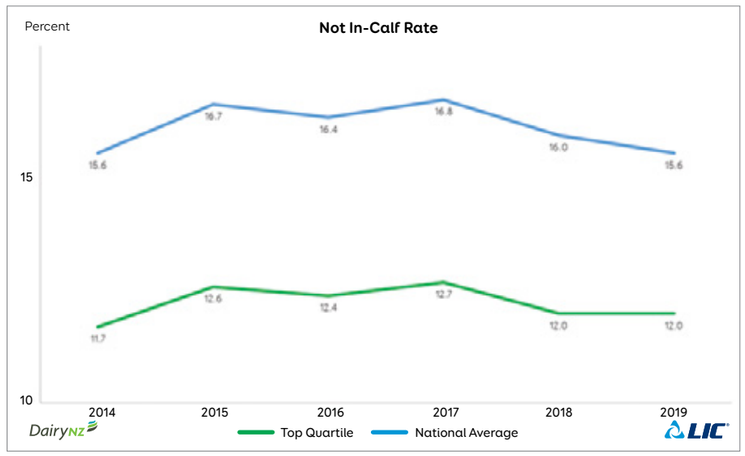
*** In 2017 LIC researched millions of herd test results, taking out 2 & 3-year-old cow information (these animals were deemed not to have reached mature production), as well as 9+year-old cow information: Information among all 4- to 8-year-old cows was split into quarters. Results showed the variation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

Sexed semen provides plenty of on-farm options

REPRODUCTIVE PERFORMANCE IN THE NEW ZEALAND DAIRY INDUSTRY.

Jair Mandriaza, LIC senior reproduction solutions advisor





Nationally, spring 2019's artificial breeding results show dairy farmers achieved an industry-best Six Week In-Calf rate since measurements started being formally recorded by LIC in 2009.

The 10-year-record of 67.83% may only be a marginal increase of 0.3% compared to the 2018 result, but it remains a record, and just-as-importantly, it illustrates consistency.

Encouragingly, the Not In-Calf rate was also the best on-record after the 2019 mating season, which stood at 15.6% over an average mating length of 10.7 weeks (mating length was also the shortest-ever on record).

Note the latest season's repro results are based on 2,377,370 cow records in seasonal calving herds throughout New Zealand (i.e. 4430 herds with a detailed *Fertility Focus Report*).

The last time the industry's 'repro' was in such good shape was in 2012, when similar results showed an overall strong performance.

But after 2012 the industry suffered four consecutive years of a drop in performance which coincided with a dairy downturn (when many farmers had to find areas to reduce spending on).

The lowest ebb came in 2016 (a 65.7% 6 week in-calf rate and a 16.4% not in-calf rate), during which time significant changes in practice were implemented, such as elimination of on-farm inductions, for example.

WHAT'S THE RUB?

In looking at trends over the past 10 years, what's clear is that farms in top-quartile of reproductive performance are seemingly less prone to performance variations (dropping just 1% in 6 week in-calf rate, compared to a 2% drop across the rest of farmers during the same period).

The risk now lies in the signals that point toward a lower-than-

Jair says body condition & nutrition is one of eight key areas of focus to improve repro on-farm

anticipated forecast payout for the upcoming season; it would be disheartening to witness a drop in performance similar to what occurred post-2012.

But it's important to be realistic, and many farmers throughout our traditionally-strong dairy regions have coped with drought or near-drought conditions in the first half of this year.

If there are fewer inputs in any farm system, we can't possibly expect repro performance improvement (given all other factors remain the same). Another significant factor for consideration is the need to account for extra feed-demand from animals that are genetically better than their predecessors: While they may be more efficient, they do require extra energy to bring out their best.

The upshot is that, every season, change is inevitable.

MEASURE MEASURE MEASURE

Focus on basics, and build on reliable and repetitive processes and practices.

The above should come from a robust plan that can be constantly monitored against key performance indicators (KPIs), specifically set for the farm (alternatively, follow industry standards).

Measure key aspects of repro so you give yourself as many proactive decision making opportunities as possible. Importantly, don't compromise on the big plays - it might be tempting to extend lactation to drive cash flow on the farm but more often than not that will have an negative effect on the ability to meet body condition score (BCS) targets at calving, for example. Know the 'big' decisions that might cost you the following season (in both productive and reproductive performance).

WHERE'S THE LOWEST-HANGING FRUIT?

DairyNZ's In-Calf publication identifies eight key areas that affect reproductive performance: Calving Pattern, Heifer Management, Body Condition & Nutrition, Heat Detection, Genetics, Cow Health, AB Practices, and Bull Management.

Use trusted friends, neighbours, or consultants to help you identify the easiest opportunities for the biggest gains, and be sure to focus on one or two of the above areas; address a few key aspects well so you can make gains that are both repetitive and cumulative over time.

Consider a change to traditional goals too, because a fresh approach can bring about an increase in motivation. Keep in-mind that producing more does not necessarily equate to more profit:

"I want to beat the record productive performance of my 500 cow-herd of 200,000kg milksolids."

A better, more realistic goal, could be:

"I want to achieve the same productive performance with 20 fewer cows."

SGL Hereford is New Zealand's leading short gestation product. Farmers can expect additional days in milk and a well-marked, saleable, beef calf

BEEFED UP FOR DAIRY

by Charlotte Gray, LIC beef product specialist

In what is a significant shift forward in the animal welfare space, dairy farmers are more focused than ever on reducing the number of bobby calves leaving their properties.

This has coincided with a more targeted approach to artificial breeding (AB), with farmers being more selective about which cows they're choosing to mate to elite dairy bulls.

After all, when the average difference in milksolids production between the top and bottom quarters of the herd is 160 kg milksolids per cow*, some serious questions hang over any decision to retain replacements from the herd's bottom end.

So when she's not going to produce a calf worth keeping, and a reduction in bobby calves can be achieved, progressive dairy farmers are thinking beef.

The ideal synergy is to reduce the number of bobby calves while increasing the value of the calves born - calves must be profitable and saleable, and born with minimal risk to the cow.

LIC believes beef sales are set to increase significantly over the next decade.

With many farmers sharing this view, it's a natural progression for the cooperative to complement its strong dairy offering by providing quality beef options.

The recent dairy market shift in understanding that "beef isn't just beef" means dairy farmers are looking for genuine value-add in their beef genetics.

The intent of LIC's beef offering is to deliver value-add in several forms, be it short gestation length, striking coat colours, rapid growth to weaning age/finishing age, or the ability to lock in contracts.

LIC has aligned itself with trait and breed leaders in the beef space to ensure that the beef genetics offered will tick the boxes for our dairy farmers and maintain appeal to the beef finisher.

LIC is proud to say it now offers its widest-ever variety of beef options, providing all types of dairy farmers the opportunity to diversify their revenue streams while taking a more targeted approach at mating time.

Speckle Park, the Profit Maker® composite, Wagyu, and Simmental were just a few of the breeds that in 2020 will share the limelight with the traditional Hereford and Angus duo.

Understanding the differences between the breeds is key, and farmer selection for breed should always come back to the desired outcome.

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

To discuss what might best suit your farm, call your Agri Manager.

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

An example of LIC's wider range of beef options include Speckle Park. Speckle Park progeny are polled, medium framed animals (mature cow 650-800kg and mature bull 1000-1200kg) and early maturing.

Profit Maker® combines the fleshing ability, marbling, and moderate size of the British breeds with the muscle and growth of European breeds.

BEEF SELECTION INDEX (BSI®) FOR NZ!

New Zealand dairy farmers are fortunate to have an Animal Evaluation system that compares dairy animals across breeds (in that you can compare a Jersey to a Friesian on the same scale, for example).

In New Zealand's beef industry, between-breed comparisons have traditionally not been possible, making it difficult for dairy farmers to select the best beef genetics for their dairy cows.

However, the situation is set to change: Through ongoing collaboration with Leachman Cattle of Colorado, and Rissington Cattle Company in the Hawke's Bay, LIC is marketing a Beef Selection Index (BSI®), designed to help dairy farmers choose the best beef bulls across breeds, with specific focus on traits that appeal to both the dairy farmer and the beef farmer.

Calving ease, gestation length, growth rates, feed intakes, and carcass characteristics are some of the key traits being incorporated.

The beauty of the BSI® is its flexibility - if our farmers' needs or market demands change, so too can the index.

CLOSING THE SYSTEM:

All-AB response to increased biosecurity risk

Two seasons ago Waikato farmer Brendon O'Leary decided to 'close the system' on his home farm.

"For mating we dropped the natural-mate bull and went to a total AI (artificial insemination) 10-week programme," he says.

That was in direct response to the increased biosecurity risk on farm.

"We'd overcome a significant Johne's Disease problem on the farm which we'd battled against for more than five years. We were also mindful of the threat of BVD, so we're always doing all we can - bulk milk testing and ear-notching our animals - we keep an eye on that.

"And of course in the background there's always the concern about Mycoplasma bovis and the impact that might have."

ALL AB RESPONSE TO INCREASED BIOSECURITY RISK

To minimise the risk of contamination that live bulls arriving from outside the farm system might present, it made sense to try going with artificial breeding (AB) for the entire mating programme, Brendon says.

THE NUTS & BOLTS

"We went for the Premier Sires Forward Pack genetics over our early, higher-performing cows, and then went with SGL Hereford over our lower PW (Production Worth) cows."

The decision to go with Forward Pack rather than the traditional Daughter Proven option was driven by a desire to keep up with the rates of genetic gain being achieved by other farmers: "The use of younger bulls cuts the generation interval," Brendon says.

Brendon O'Leary on his home farm near Gordonton.

"I knew we'd start getting left behind the average if we didn't use Forward Pack, so we've taken the punt. We've used it, we'll watch how the calves and heifers progress. Certainly the differentials of the bull teams are significant enough."

SUCCESS FACTORS

Mating results following the first season of all-AB were highly satisfying, Brendon says. "We had 8% empties out of the winter mating, and we had a 78% six-week in calf rate."

The employment of teaser bulls were a big part of that success, Brendon says. "We've grown our own bulls; at nine months we vasectomise them.

"It's actually an old practise we've re-introduced; I think the most value in the teasers came after week-three, when, for example, you've got a cow that's been mated in the first week but she comes around again in week-four. In these cases you'd observe that she's not showing strong signs, but the teaser bull is following her and won't let her out of his sight."

Observation was a large part of the farm's heat detection programme, Brendon says, but so too were heat detection aids.

"We apply them two or three times during the mating period. Every cow that's been mated gets a new-coloured heat patch."

BACKGROUND BIO

Brendon farms 400 autumn-calving dairy cows at his 88 hectare (ha) home farm, but owns a further 64ha at nearby Orini which milks 200 spring-calving dairy cows, together with a 69ha runoff in the same district.

The Orini farm is part of LIC's Sire Proving Scheme, so uses semen from young bulls that are in the process of proving their industry worth.

In 2013 Brendon's operation was one of several 'pilot' farms selected by the-then Johne's Disease Research Consortium (the consortium) to try new ideas to minimise the risk of exposure and spread of the bacterium Mycobacterium avium subspecies paratuberculosis (MAP).

MAP causes the clinical stages of Johne's Disease (JD).

Infection affects the small intestine in ruminant animals including dairy animals, with the intestinal wall progressively thickening, before inflammation kicks in to prevent the uptake of essential nutrients.

According to DairyNZ, Johne's Disease annually costs New Zealand farmers $40-88 million in lost production.

Brendon notes additional, less obvious, costs include lost opportunities for genetic gain in cattle, as well as costs associated with breeding, feeding, and raising young stock that can end up being culled.

"A lot of cows can have Johne's and they can get through life and have it not go clinical on them. Other cows will come to a stress time, such as calving, and that's enough to trigger the Johne's to the clinical state, and they'll start wasting away," Brendon says.

THE LONG ROAD BACK

LIC offers a Johne's Disease test on herd test samples. Cows are categorised based on the level of JD antibodies detected. Categories include: i) high-positive; ii) positive; iii) suspect; iv) no antibodies detected.

"When we delved into things what we found was that there were a lot of my 2- and 3-year-olds with Johne's that were high-positive or positive. When you've got it positive in that age group, it tells you the disease is chronic in your herd."

JOHNE'S DISEASE - FAST FACTS

- Johne's bacteria are commonly spread from the dam or other adult cows to the calf, usually through faeces, colostrum, or milk.
- Because the bacteria may persist in the environment, its spread through infected pastures and waterways may also be significant.
- The bacteria are robust and can survive for up to 18 months in the environment.
- Infection can only be limited by preventing exposure to the bacteria; this requires good hygiene practices - separating calves from dams after initial feeding of colostrum, and minimising contact between young and old animals.
- Keeping uninfected animals separate from potentially infected herd mates is important.
- Diseased animals should be removed from the herd as soon as possible and new animals coming to the farm should be tested to show they are free of infection.
- Due to the protracted nature of the subclinical stages of Johne's disease infection, the full effect of changed management practices that reduce transmission will only be seen after several years.

DairyNZ website

After discovering the extent of JD in the herd, Brendon was forced to immediately cull 8% of his herd (all the JD clinical and high-positive cows).

Trends were monitored over the subsequent four years and many positives (initially 5% of the herd) eventually progressed to high-positives over subsequent seasons, so were also culled.

"It was a very challenging time, very heart-breaking," Brendon says.

Through a combination of targeted mating, separation of mobs, and careful feeding and management regimes of calves, Brendon nowadays feels he's finally back to running a normal farm.

by Rachel Bloxham, LIC herd improvement technical manager

SINGLE STEP ANIMAL MODEL

February 2020 saw one of the biggest changes in genetic evaluations for the New Zealand dairy industry since the introduction of Breeding Worth in 1996.

Not only did New Zealand Animal Evaluation Limited (NZAEL) release a new and improved evaluation system (called NZAEL 2.0), LIC released its latest version of a genomic evaluation system called Single Step Animal Model (SSAM).

The two systems utilise the same pedigree and phenotypic information available from the 30 million-plus animals recorded on the Dairy Industry Good Animal Database (DIGAD). The key difference is that the SSAM also incorporates more than 200,000 genotypes - approximately 46,000 males and 180,000 females.

What is genotyping?

Genotyping is the process of determining differences in the genetic make-up (genotype) of an individual by examining the individual's DNA.

The result of average genetic gain across the national herd is assessed at an extra 2.7 kg of mildsolids per cow per year

DNA is the genetic code that determines how an organism grows, what it looks like, and how it performs in a specific environment.

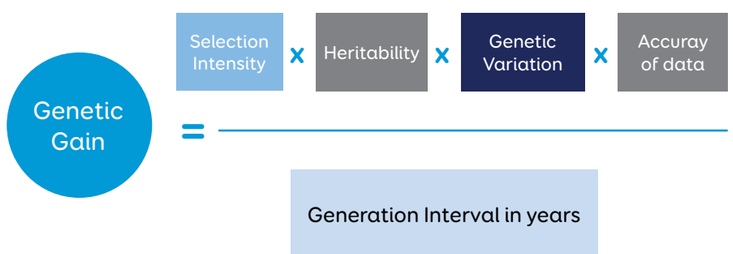
Knowing the alleles an individual has inherited from their parents gives LIC sire selection staff the ability to assess their potential genetic merit with more accuracy (than just parent average), and at a younger age.

The information obtained from a genotype for a single animal is estimated to be equivalent to having information on 10-15 daughters. This is a feat that generally isn't achieved for a bull until he is three-years-old, when his first crop of daughters start producing.

What value does genomic information add?

The use of genomic information can drive improved genetic merit for a herd by influencing a number of the attributes that contribute to genetic gain (see Figure One below).

Figure One: Breeders Equation



The use of young genomic bulls in any breeding objective will enhance the rate of genetic gain through greater accuracy of data, and most importantly, reducing the generation interval (the average age of the parents when their offspring are born).

The bull teams marketed have also been intensely selected, with LIC's top sires chosen from thousands of genotyped potential bulls, with only the elite selected for widespread use.

The average rate of genetic gain for the national herd is currently $10 BW/cow/year, or, in terms of production, 2.7 kg mildsolids per cow per year.

Increased use of young genomic sires, and in future-genotyped female replacements, has the potential to drive better rates of herd improvement on farm.

Genomic information is also advantageous for traits that take a lot longer to obtain daughter information on, such as fertility and total longevity.

This is clearly demonstrated in the adjacent graphics (Figures Two & Three), which represent a snapshot of the influence that genomics has on breeding values for protein and total longevity (at different stages of a bull's proof over the past 10 years).

Historically, once a bull reaches four years of age, he would be considered proven, because his first crop of daughters would have completed their first lactation. This may well be the case for production traits, but it takes another four years before data filters through on how long the bull's daughters last in the herd (i.e longevity). Genomics therefore continues to play an important role in the estimation of these slower-maturing traits.

It's important to note the influence that genomics has will vary, depending on the amount of genomic information contributed by the pedigree. For example, as we increase the use of genomic sires-of-sons, we would expect the influence of genomics to increase in the early years until a bull begins to get his proof.

Genomics has a very important role to play in the future for dairy cattle breeding in New Zealand. Across the world, genomics has transformed the cattle breeding industry over the past number of years, and this will be no different in New Zealand as the uptake of this technology continues to grow.

Through genotyping, significant genetic gain can be achieved, animals' potential can be determined earlier and more-accurately, and new, economically important traits can be identified.

Figure Two: Genomic contribution for the estimation of protein breeding values

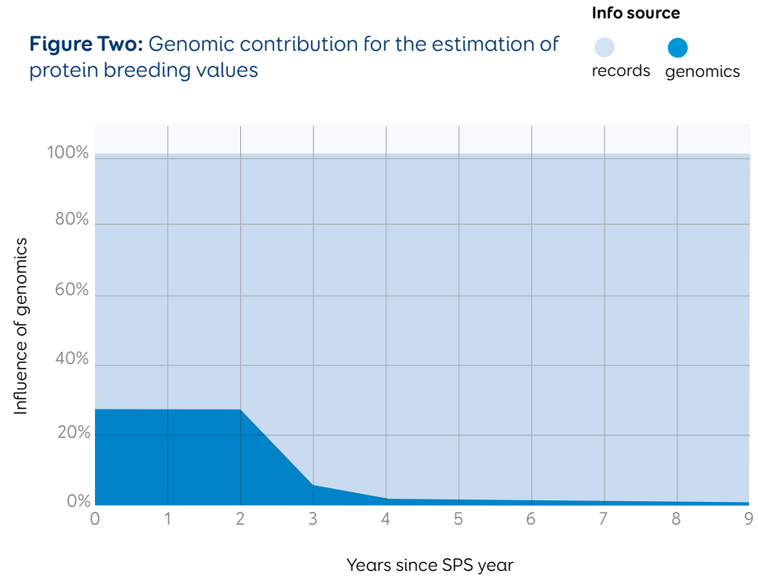
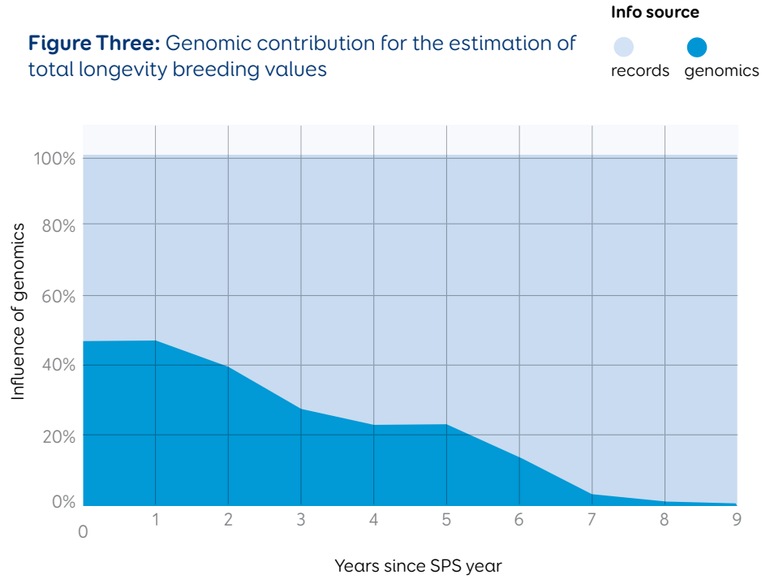


Figure Three: Genomic contribution for the estimation of total longevity breeding values



Explore new options if necessary and keep an open mind

THE WISE GUY

by Mike Bailey, LIC FarmWise consultant

Here, FarmWise consultant Mike Bailey talks through the issues many farmers are facing, and provides some guidance on how to approach the first part of the season, as many in the industry prepare for calving and beyond.

For many farmers throughout New Zealand cows are now dried off, having been milked through a relatively positive payout season.

And for many farmers, the final milk price was about all that was good about autumn.

Because the reality of what's facing most of us can't be ignored and we need to prepare for what lies ahead. The early part of autumn saw floods in the deep-south and ongoing drought in the north, and this lies against the bleak economic backdrop brought on by the global COVID-19 pandemic.

Keep in-mind however, that food is a basic necessity, and New Zealand remains among the greatest world exporters of high-quality, pasture-fed, dairy products. There is good reason to keep one eye firmly fixed on the medium- to long-term prospects of what you're doing.

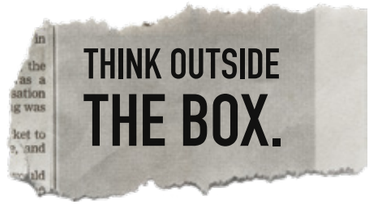
However, for now pasture covers are down and in need of repair; supplements on-hand are less than expected; cow condition is declining, and; palm kernel prices are rising fast amid talk of interrupted supplies.

Irrespective of your calving system, time must be dedicated now to review the season and assess what went well, where you might have been exposed, and how things can be improved next time around.

TIME FOR A CHANGE?

While it's true many factors have been out of your immediate control, it's important to critically assess your own decision making and performance.

- Is your system robust enough to handle a one-off season like we've had?
- Does the level of risk versus reward warrant a system change or at least some modelling of what it might look like under a different setup?



If you're serious about making a system change, take advantage of a rural professional who should be able to offer an objective, independent view - consultants have the advantage and knowledge of what works elsewhere. They're also able to tap in to the professional advice of their colleagues and other network contacts, and they have some excellent tools and resource at their disposal.

Examples of tools and resource include the FarmWise ScenOpti® and the Farmax programmes (Farmax Ltd) for reviewing farm system scenarios and optimising operations.

SMALL GAINS ADD UP

Change does not necessarily need to be complex or significant.

Subtle actions or a renewed focus can play an important role in making your business more profitable, and frequently the small things don't require massive capital investment.

Examples of simple change that have proven to have long-term profitability benefits include:

- Employment of a share- or contract-milker
- A reduction in cow numbers
- Changes to the calving date
- Going all-AB or changing the sire selection and a more targeted approach to mating
- A change to the heat detection regime or a renewed focus on another aspect of repro
- Becoming self-contained

BITE THE BULLET - A TRADE OFF MAY BE REQUIRED

Both North Island and South Island farmers face similar feed pressures, despite their problems stemming from differing issues (drought in the north, and flooding and freezing works capacity in the south).

Winter grazing contracts have been cancelled in parts of the South Island, and some culls are not expected to be gone from farm before the end of June. Meanwhile the price of supplements throughout the country is rising, and is expected to remain high, with autumn growing conditions in the north previously stunted by low rainfall in March and April.

The upshot is that there's now immense pressure on systems and people.

In many cases this will force an exercise in accepting the least damage, for instance, cow condition versus feed on hand at calving, or paying a greater price for solid feed simply to ensure those extra cows are maintained.

The answers won't have been simple or inexpensive. For some, it may have meant some capital stock have joined the culls in a bid to manage the situation.

From my recent observation, feed budgets have shown significant holes, particularly in the lead-up to June 1.

Low pasture covers and lack of supplements available (to hold cows' condition and milk) has prevented many farmers from building feed ahead. Financial budgets have been under pressure, but it's still imperative to work hard to build feed reserves - even at the expense of a perfectly conditioned herd.

FEED BUDGETS A FUNDAMENTAL

Feed management comes back to what's best-practise, and what you need to get right from now on. The clichés might come out in earnest here, but they really do ring true: Get measuring and keep monitoring.

It's imperative the feed budget is organised and that grass is measured weekly.

Tap in to the knowledge of consultants, neighbours, and your own experience to understand the implications of the current growth rates and what you might expect in the next fortnight, based on current conditions; then be decisive: What's cow demand on grass?; what paddocks are growing, and what's the growth rate?; based on those metrics, where should your cover be in 10 days time?

Make sure all staff know how important it is to allocate feed correctly - use the scales or at least find a consistent way of determining what you're actually offering the cows. Events like break-outs just cannot happen - every blade of grass or kilogram of swede, kale, and silage counts. Be accurate in everything you do.

Managing mobs early-on based on body condition score (BCS) will enable feed to be allocated correctly and should avoid overfeeding of fat cows.

Looking slightly further ahead, nitrogen and Pro-Gibb are additional tools that should help kick-start the spring. If ground conditions and temperature are in the correct range apply a decent amount (40-45 kg of nitrogen per hectare), or nitrogen and sulphur in wetter colder areas.

Protect the pastures. If wet, standing cows off on loafing or feed pads is another best practise strategy. You need every square meter of pasture growing to its potential.

SET IT UP

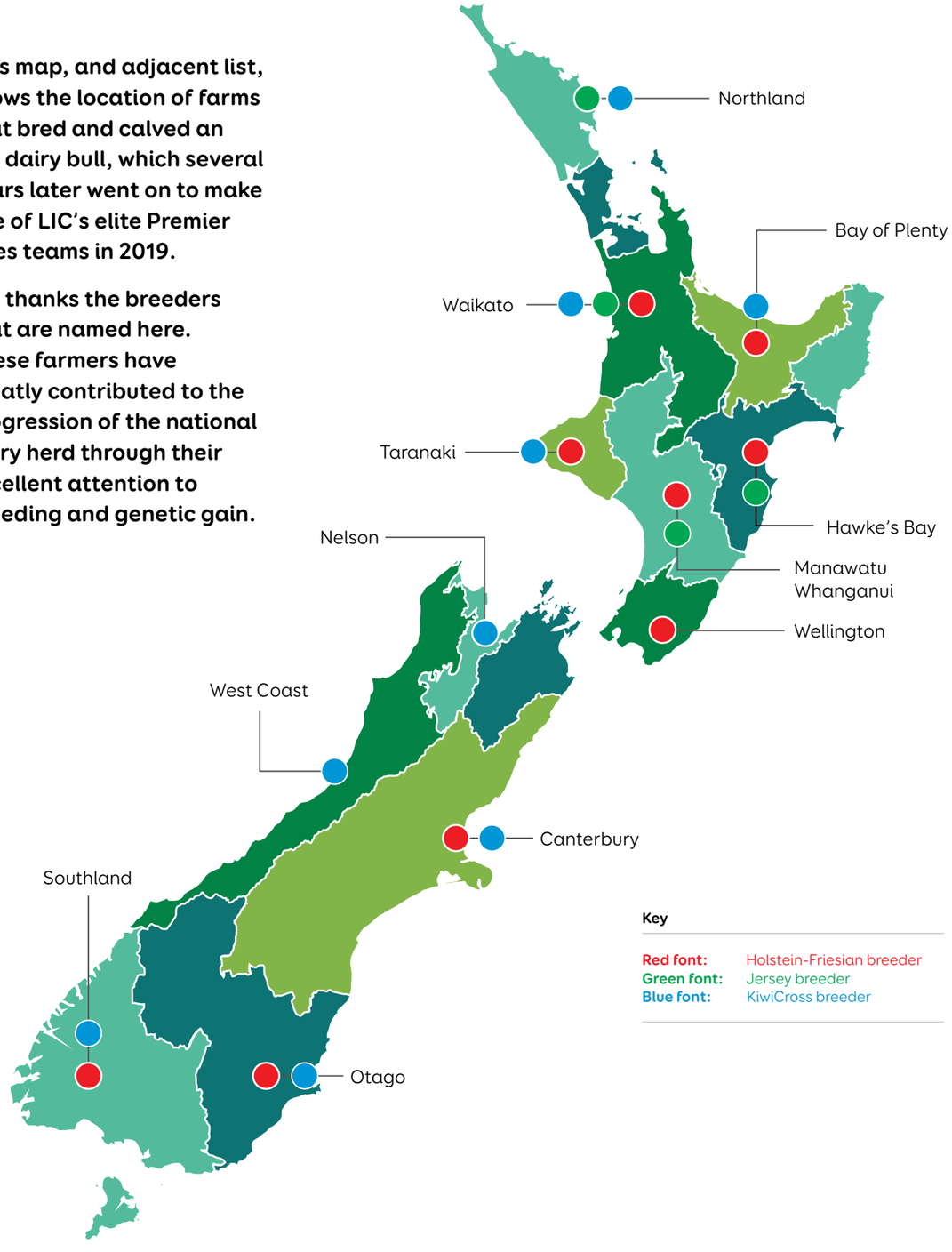
The spring rotation planner set-up, and followed through calving, is a must. Continue with the feed budgeting and pasture assessment even if simply by eye over the busy period. SPACE™ can save you many hours, so if you aren't already using the tool, I recommend you try it.

Cow condition may not be at optimum given the lead in to calving, so the importance of minerals and good transition management from dry through colostrum, and to the milking mob, is essential. Have a plan in place that staff can follow. Ensure minerals are supplied and metabolic remedies are on-hand.

BREEDERS OF LIC PREMIER SIRES TEAMS 2019:

This map, and adjacent list, shows the location of farms that bred and calved an LIC dairy bull, which several years later went on to make one of LIC's elite Premier Sires teams in 2019.

LIC thanks the breeders that are named here. These farmers have greatly contributed to the progression of the national dairy herd through their excellent attention to breeding and genetic gain.



Key

Red font:	Holstein-Friesian breeder
Green font:	Jersey breeder
Blue font:	KiwiCross breeder

DISTRIBUTION OF ORIGINATING FARMS

Northland

Luke & Lyna Beehre, Hikurangi
Roger Shepherd, Whagarei

Roger Shepherd, Whangarei

Waikato

John & Sarah Charlton, Hamilton
David Stoupe & Tracey Wallace, Hamilton
Murray & Nikki Hawkings, Matamata
Steve & Sandra Pemberton, Matamata
Stu & Sarah Gordon, Morrinsville
Jennie Elliot, Otorohanga
David & Maria Klaus, Otorohanga
Stewart & Kathryn Anderson, Otorohanga
Gary & Sarah Carson, Putaruru
Lance & Marianne Dearlove, Te Aroha
Murray & Julie Dickson, Te Awamutu
Angela Fullerton, Andrew Fullerton, & Glenn Clarke, Te Awamutu
Robert & Anne Siddens, Thames
Aidan & Sarah Stevenson, Waitoa
Goodright Family, Waiuku

Alan & Vivenne Lockwood-Geck, Cambridge
Mark & Diane Townshend, Ngatea
Richard Snodgrass & Cathy Foley, Ohaupo
Des Hickey, Ohinewai
Murray & Janet Gibb, Taupiri
Graham & Glenys Bell, Te Aroha
Kevin Ireland, Tokoroa
Robert & Louisa Lowe, Waiuku

Graham & Maureen Shaw, Cambridge
Mark & Fiona Speake, Cambridge
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Daniel Jefferies & Casey Inverarity, Hamilton
Roger & Glenys Ellison, Hamilton
Barry & Wendy Howse, Matamata
Jim & Judy Jackson, Morrinsville
Stewart & Kathryn Anderson, Otorohanga
Steve & Debbie Smith, Otorohanga
Rowan Priest, Paeroa
Richard & Sue Woodward, Te Awamutu
David & Rochelle Van Straalen, Te Awamutu
Dave & Karen Camp, Thames

Bay of Plenty

Leo & Susanne Paalvast, Mt Maunganui
Alan, Anne, & Paul Looney, Opotiki
Bruce & Debbie Dean, Rotorua
Peter & Kerry Coster, Tauranga
Geoff & Lynette Taft, Te Puke
John & Annemiek Langeveld, Waihi
Kevin & Felicity Clark, Waimana
Paul & Jill Langdon, Whakatane

Ian & Joyce Noble, Katikati
Alan, Anne & Paul Looney, Opotiki
Bruce & Debbie Dean, Rotorua
Peter & Johanna Crossan, Te Puke
Mark & Patricia Scott, Waihi

Taranaki

Aaron & Colleen Hodges, New Plymouth
Chris & Kerry Mullin, New Plymouth
Peter & Joyce Adams, Opunake
Tom & Courtney Werder, Patea

Greg & Helen McCallum, Hawera
Tony & Lesley Landers, Hawera
Rob & Alison Thwaites, Hawera
Colin & Linda Megaw, Waitara

Stuart & Vanessa Clarke, Hawera
James Jufferman, New Plymouth
Paddy & Philly Mullin, Oakura
Tom & Courtney Werder, Patea
Eddie & Diane Jenkins, Stratford

Hawke's Bay/Manawatu/ Whanganui

Bryan & Jo Guy, Feilding
John & Wendy Allan, Palmerston North
Craig & Chantelle Rowe, Palmerston North

Huzziff Family, Foxton
Troy Hughes, Paihiatua
Emslie Family, Norsewood

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Peter & Susan Allan, Featherston

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Fraser & Christine Macbeth, Nelson

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Tony & Wendy Roubroeks, Invercargill
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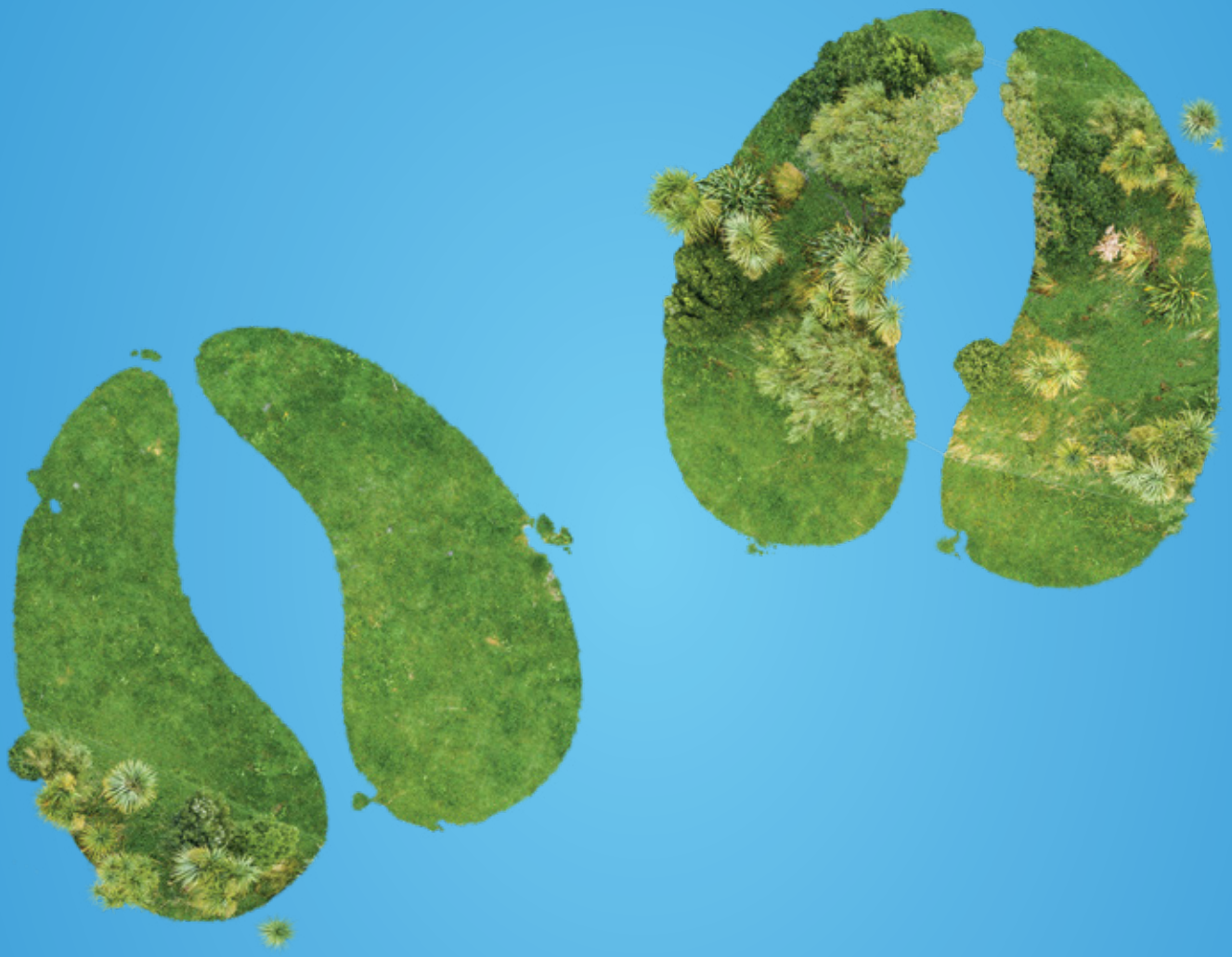

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LIC's new HoofPrint index assigns bulls a score based on their progeny's estimated methane and nitrogen efficiency. The higher the score, the more improvement on your farm and the environment. And that could give NZ, a greener footprint.

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