

GREEN TO **GOLD**

Autumn 2023



There's always room for improvement

 **LIC**[®]
LIVESTOCK IMPROVEMENT

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Harnessing the power of Genetics



Mike Rose

It has been great to be able to connect in person again at field days, conferences and on recent tours, there appears to be a real desire for these face-to-face interactions.

Recently we were fortunate enough to host a roadshow in Tasmania with three of our New Zealand based Livestock Selection team.

The presentations provided a great overview on LIC's approach to breeding the best bulls to meet the needs of the Australian farmer, while keeping an eye on what is going to be required in the future.

The farmers attending these sessions were really impressed by the detail that goes into breeding the next generation of bulls along with the quality and quantity of data that goes into the breeding process.

Some of the key details that really stood out from these discussions were:

- To purchase 200 bulls per year, LIC individually sorts through data from 25,000 of the top performing cows and then physically inspects 900 of these to make sure conformation traits are up to scratch.

- There are 1,700 bull calves genomically screened per year which increases the reliability on the bulls purchased.
- The LIC research and development team consists of 65 people working on projects that support current and future herd improvement projects.
- LIC is one of the larger investors of R&D in the NZ dairy industry annually with a total of \$18.2 million spent in the financial year ending May 2022.
- Over 500,000 animals are being genotyped annually. Part of this is checking the polled status, which will result in more high genetic merit polled animals being identified.
- LIC is working and supporting farmers with embryo transfer programmes with 2,000 embryos created in 2023. The aim is to increase this number over time to help increase genetic gain.
- Genomics has helped increase genetic gain. This progress has come from a number of different areas, including the use of an improved model; increased reference population size, increased use and accuracy of genomic bulls on farm and increased use of genomic sires as sire of sons.

These are just some of the areas of focus and development that are seeing genetic gain improve and new traits being developed that should see the cow of the future meet the needs of the future farmer.

Happy farming,

Mike Rose
Country Manager Australia

LIC genetics roadshow a hit in Tasmania

Last year LIC Australia was thrilled by the positive feedback received from the Tasmanian roadshow held in four locations across the state in July.

The events provided a fantastic opportunity to share the latest science with Tasmanian farmers in a series of seminars covering genetic gain, the use of genomics in a breeding scheme, research on breeding for future farming challenges, and an update on fertility research in New Zealand. The Q & A sessions that followed gave attendees the chance to ask their own specific questions.

LIC had a number of key staff present from both Australia and NZ including Mike Rose – Australian Country Manager, Rowan Priest – District Manager, Tasmania, Esther Donkersloot – Scientist, Quantitative Genetics and Joyce Voogt – Technical Manager for LIC International.

At the well-attended seminars, farmers heard about genetics, genomics, fertility research, and the relationship to on-farm performance.

Esther spoke about genetic gain, herd improvement principles and LIC's genomics journey. She covered the principles of genetic gain as they apply to dairy herd breeding, along with highlights from the last 5 years in genomic research at LIC.



This included the exponential increase in the size of the genomic reference population and enhancements to the genomic model contributing to faster rates of genetic gain on farm. Esther shared insights on other areas where the genotype is being utilised to advance genetics, including the HoofPrint® index and LIC's current research programmes into production variants, the genetics of methane and nitrogen outputs, and health diagnostics.

Joyce spoke about the link between reproductive efficiency and lifetime environmental impact in dairy herds and highlighted some key outcomes from 8 years of DairyNZ led research into fertility in New Zealand.

This included the new approach to measuring genetics in BW, launched in December 2021. She related the genetic daughter Fertility gBV to phenotypic reproductive performance on farm, showing the relationship between Fertility gBV and actual 6 week in-calf, not in-calf, submission and conception rate using data from over 2.3 million cows with early-aged pregnancy records in the LIC database. This dataset showed increasing performance with increasing Fertility gBV, with the relationship being curvilinear.

Engaging with around 100 farmers the information was well received. Farmers showed a strong interest in the LIC breeding programme and in the scientific updates from across the ditch, with the team fielding plenty of great questions from the audience.

As well as the seminars, the team got out on farm to deliver mating workshops, listen to farmers and learn more about Tasmanian dairying.

Joyce added, 'It's always great to get out and about and meet our customers in Tasmania, to receive their input and gain insights into their farming operations and herd breeding needs. We appreciate the time they took out of their busy schedules to meet with us.'





HoofPrint® index reduces environmental impact in Tasmania

Breeding dairy cows that produce less methane and nitrogen is helping one Tasmanian farm group meet its sustainability goals.

And thanks to a focus on efficient milk production, the businesses network of six farms on Australia's Island state has proven environmental stewardship can work together with profitable dairying.

"Robust" and efficient cows are at the heart of this connection, closely followed by pasture growth, consumption, people, and sustainability.

At Cressy, in Tasmania's Northern Midlands, farm manager Troy Ainslie said the business's breeding philosophy made achieving these targets easier.

"Breeding is huge, it's right up there with feeding and they go hand-in-hand," he said. "Then if you have a good team and good management with good cows, it's a match made in heaven."



Troy manages Compass' smallest Tasmanian dairy operation a 540-cow spring calving farm, where the herd produces 1.02kg of milk solids per kilogram of liveweight.

The business uses LIC genetics to breed replacements, focusing specifically on developing low maintenance and capacious dairy cows with good stature, feet, legs, fertility, and low somatic cell counts.

For the past three seasons, this Cressy farm – along with the other five properties operated by Compass Agribusiness in Tasmania have also used LIC's HoofPrint® index to guide bull selections.

The HoofPrint index is a 10-point ranking system designed for farmers to choose bulls to breed progeny for dairy herds with a lighter environmental footprint.

The index ranks sires according to predicted methane emissions and urinary nitrogen excretion – two major contributors to the dairy industry's environmental impact, and is one of the many tools Compass uses to improve its environmental standing.

It complements agronomic practices such as soil testing – to guide fertilizer applications – and soil moisture monitoring for maximum water use efficiency.

Soil testing at the Cressy farm in late 2021 revealed perennial ryegrass roots down into the soil profile as far as 1.2 metres, something Troy attributed to managing irrigation and water sustainably.

For example, irrigating little and often and understanding that any rainfall or irrigation that exceeds 8mm at a time is run-off.

Last season the farm used 5 megalitres/ha of irrigation water and in January Troy said they were on-track for a similar usage this year. In the drier 2018-19 season irrigation was 8.3ML/ha.

Maintaining the quality and integrity of pasture has also been crucial for environmental goals and cost management.

Troy said the Cressy farm maintained most of its original pasture from seven years ago. Last year only 3 per cent of the farm was resown, while the maximum amount completed in a year has been 5 per cent.

Compass Agribusiness, Agribusiness specialist Ryan Ashby, who is based in Tasmania, said operating a closed model on its dairy farms – limiting the amount of bought in feed – also helped reduce the business’s environmental footprint.

“Every kilogram of feed we are putting down our cows’ throats has a nitrogen loading in regard to what goes through the cow and comes back out on the soil,” he said. “That’s something we are aware of and work to manage.”

All Compass Tasmanian dairy farms are pasture-based with homegrown silage or grain filling feed gaps.

At the Cressy farm last season, the herd was fed 900kg of grain in the bail per cow and pasture growth – across the 152-hectare irrigated property – was an average 15.3tonne/ha.

The farm is stocked at 3.6cows/ha and the milking herd is wintered off the farm to develop a bank of pasture for the beginning of calving.

Fodder beet is a substantial part of the herd’s diet from April to dry-off in the first week of June, with the crop providing a cheap source of homegrown feed yielding up to 30 tonnes or more per hectare.

With a sole focus of turning grass into milk, Ryan said this provided Compass with flexibility to manage market or seasonal volatility.

The most recent example included monitoring the rising costs of fertilizer on a weekly basis.

“The past six to eight weeks we have cut our application rate back,” Ryan said in January.

“Our nitrogen use is now going on according to our round length. This means a tonne of urea is now going from being spread across 12.5ha to 20ha.”

Last year the Cressy farm used 130kg/ha of urea.

Looking ahead, Ryan said Compass was confident in the dairy industry and Tasmanian agriculture.

He said the state’s seasonal conditions suited low-input dairy farming which underpinned business and environmental sustainability.

Doing this well – with good cows and people – defined success.

“We have a happy team who we know want to get out of bed every day, produce grass and turn it into milk and have some fun along the way,” Ryan said.

“While making sure we leave the environmental side of it better for the next person to come along.”

Compass Agribusiness Tasmania snapshot

- Six dairy farms including five managed as part of the Compass Tas Dairy entity.
- 1680 hectares of effective farm area.
- Largest farm milks 950 cows.
- 32 employees in Tasmania.

Troy Ainslie - Woodrising Farm
Manager & Ryan Ashby -
Compass Agribusiness Specialist



Holstein Friesian - Hitting their stride

119002 Bellamys DM Galant-ET S1F

Coming in as the number one proven Breeding Worth Holstein Friesian at \$420, Galant is one to watch. An extreme component bull with 4.2% Protein and 5.5% Fat, these types of numbers are very rare to find in a black and white bull and are a real reflection on the efficiency that the Galant daughters bring. A real health and fertility improver, Galant has low SCC at -0.65 and positive fertility at 2.8% gBV. Galant will deliver moderate size cows with some great strength being a real feature. Capacity and rump width are also both real standout traits.

Hailing from the far north of New Zealand, the dam was a strong performer in the herd. The pedigree has a star-studded line-up with Dicksons BG Mandate, the sire of Galant and hall of famer San Ray FM Beamer, being the dam's sire.



Daughter of 119002 Bellamys DM Galant-ET S1F

119012 Fanana BM Excellent S2F

Excellent should get the tick of approval as a Holstein Friesian bull producing crossbred size cows with very tidy udders. Our highest rated Holstein Friesian bull for udder overall at 1.29 gBV and liveweight sitting at just 24kg.

Excellent is a bull that would be a great fit for those farmers who are wanting to reduce the size of their cows but keep them black and white; he will also do a great job of increasing components and fertility while maintaining a strong udder. He delivers lower SCC and looking at the farmer opinion traits they love having them in the herd.

It's pleasing that Excellent has come through so strong as he was one of a small number of genomic sires used in Australia, which is great for those customers who previously used him.



119012 Fanana BM Excellent S2F

He is a real mini-me of his sire Maxima who has been a popular choice for many. With a rock-solid pedigree, his dam averaged 5.5% fat & 3.7% protein across 5 lactations. Having no Mint Edition in the first three generations of the pedigree is a real bonus for many.

119014 Buelin BM Equator S2F

If production, fertility & udders is what you're looking for, then Equator is the bull for you. Bred by the award winning production herd of Stefan Buhler in Taranaki, Equator's dam is an outstanding Mint-Edition cow with a production worth in the top 1% at over 900.

She was a bought in cow from the Glen Koru stud and since arriving at the high production farm, has excelled with her production blowing past the 1,000 milk solids in a season coming in at a whopping 1,122 kgMS in 305 days! She is still going strong at seven years of age. Equator offers a massive combined solids of almost 100kg, plus the advantage of positive fertility and shorter gestation at -7.8 days.



Dam of 119014 Buelin BM Equator S2F

On top of this, Equator is sired by Bothwell WT Maxima who was a popular bull in Australia offering excellent udders and smaller stature.

Equator will be available in both conventional and sexed semen.

119041 Royson MG Currency S3F

If production and type is your focus, then look no further. Currency comes in as the leading new Holstein Friesian sire for production with combined solids of 107kg. The daughters not only have the will to milk but the dairy type and udders to carry it with udder overall at over 1 gBV, great wide rumps and capacity. At 94kg for liveweight, the Currency daughters have the size to push production to the next level. His management traits show that the farmers milking them have been impressed to date.

There is plenty to like about the pedigree with his sire Maire IG Gauntlet being well proven and his dam being a top performing Hothouse cow with a production worth of 741.



Daughter of 119041 Royson MG Currency S3F

Currency will be a popular choice for 2023 so get your orders in early, he is available in both conventional and sexed semen.

AB code	Name	gBW	Fat gBV	Prot gBV	Milk gBV	Lwt gBV	Fert gBV	Capacity gBV	Udder Overall gBV	Dairy Conformation gBV	Sire Name
119002	BELLAMYS DM GALANT-ET S1F	420	51	34	298	57	2.8	0.78	0.39	0.86	DICKSONS BG MANDATE S1F
119012	FANANA BM EXCELLENT S2F	278	32	17	362	24	2.1	0.37	1.29	0.33	BOTHWELL WT MAXIMA S2F
119014	BUELIN BM EQUATOR S2F	407	65	34	900	60	1.4	0.33	0.38	0.41	BOTHWELL WT MAXIMA S2F
119041	ROYSON MG CURRENCY S3F	348	45	62	1684	94	2.1	0.44	1.08	0.64	MAIRE IG GAUNTLET-ET

LIC hosts Australian study tour - Huge success!

LIC were delighted to host a group of 14 Australian dairy farmers over a five day intensive study tour, visiting a range of dairy systems and LIC facilities in the North Island of New Zealand. The tour was a great opportunity for the visitors who hailed from Victoria, Tasmania and South Australia to enjoy the company of other progressive farmers while seeing dairying from different perspectives and to learn new things that could help them improve their dairy farming business.

With an action packed few days, the group visited various dairy farms in the Waikato and Bay of Plenty area and even had the opportunity to take a close look at a recently converted sheep milking farm and a Kiwifruit Orchard.

"We saw some excellent herds of cows doing solid production with limited inputs" adds Mike Rose, LIC Australia's Country Manager.



The group visits Malcolm Edwards sheep milking farm - Tahuna, Waikato



The group visit Owl Farm - a demonstration farm based in Cambridge

An important aspect of the tour was to provide some great insights into how research and advancements in technology can have a positive impact on the industry. The group were really taken by the technology being adopted on farm with the Halter system of virtual fencing being a real highlight.

The system trains cows to understand and respond to sound and vibration cues from the collar where they can then recognise and remain within virtual fences. LIC are thrilled to now partner with Halter as a wearables partner in NZ and being able to provide more farmers with access to data and insights via MINDA™.

With the future of agriculture continuing to change, the tour also really highlighted the regulation and environmental challenges that farmers are facing and how this is requiring large capital investment and human resource to comply.

The group also paid a visit to LIC's Chudleigh Farm to review a joint research venture with CRV and funded by the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC).

The research programme 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.

A visit to LIC's Head Office at Newstead allowed the chance to view the bull collection facilities, learn about the strict quarantine protocols and understand the research that goes on there.

With presentations providing a great overview of LIC, the NZ dairy industry, reproduction and also LIC's Breeding Scheme.





The group was treated to an interesting visit to Owl Farm in Cambridge, which is a joint venture between St Peters School and Lincoln University, and is one of three demonstration farms in New Zealand.

Owl Farm is a 400 cow, 160 hectare farm created for the benefit of the school, the local community and dairy sector. To round off the trip, the group's last full day was spent exploring the NZ National Fieldays, which was held in summer for the first time in its 54-year history due to Covid disruptions.

The show is the Southern Hemisphere's largest agricultural event and the ultimate launch platform for cutting edge technology and innovation.

Overall feedback from the group was around how much they learned from the tour, how it was a great opportunity to access and visit operations first-hand and to ask questions relevant to their farming operations back home. The group were also very impressed with the scale of the National Fieldays and how everything dairy-related was all at the one event.

Dominic Conheady who was part of the tour, stated "LIC took us to some sharp operations, all with an eye on the future. There's plenty to learn in New Zealand".

Of course, other highlights which received a big thumbs up from all, were taking in the sights at Rotorua and getting to experience the famous mudpools and Redwood forest.

Customer Feedback

"Their pasture management is well ahead of the game. It's different country, their ground seems to handle the rain and the heavy traffic from heavier stocking rates. One farmer we visited said they'd had two metres of rain since May and you could still drive a truck on the paddocks. Over here, we've had nearly a metre and we get bogged."

Jack has long had an interest in New Zealand farming systems and has started breeding with crossbred bulls from New Zealand using LIC genetics.

Jack Hutt, dairy farmer and DemoDAIRY Foundation scholarship recipient

"NZ seems to be ahead of the environmental space in farming. They have a lot of nitrogen use restrictions and can only have so many units per hectare. I was also fascinated by the use of collars, it's like putting up a virtual fence so you can increase the pasture the herd can consume and it also does heat detection."

Max Bond, dairy farmer and DemoDAIRY Foundation scholarship recipient

"An intriguing idea I saw when we visited St Peters Owl farm in Cambridge, was how they had planted wetland areas with multiple trees and plants at the bottom of the hill to help absorb nitrogen runoff into the waterways."

Sam Kermond, dairy farmer and DemoDAIRY Foundation scholarship recipient

"New Zealand was a fantastic opportunity to see different styles of pasture-based management with varying levels of input and intensity. A couple of farms we visited have reduced milking to once-a-day or adapting the 10 milking's in 7 days routine for different reasons like joining or putting condition on cows pre dry off. I really enjoyed learning about this, as this is not common in Southwest Victoria."

"Something I also noticed and what seemed to be a pressing issue for farm management in New Zealand, was getting cows in calf on time. As they only have one period to join the herd with split calving not being an option."

William Rea, dairy farmer and DemoDAIRY Foundation scholarship recipient



Jersey - A trio of Aces

318001 Okura Pepper Lucca

Lucca is bred from the well-known Okura stud in Northland, who are the breeders of LIC Hall of Fame bull Integrity. You will find the magic combination of Degree and Integrity, two of the most influential Jersey sires over the past ten years, in this pedigree. The cow family as the maternal line of Lucca stand out for big production and good type.

At \$495, Lucca is the highest Breeding Worth Jersey on offer for 2023, and as the second highest overall, Lucca was one of the easier selections to be made. Offering huge production for a Jersey at 57kg fat and 19kg protein, Lucca is also one of the higher volume sires. He still delivers on fertility at 3.4% gBV and with type traits completing the total package, which farmers obviously like, his farmer overall opinion trait sits high at 0.72 gBV.



Dam of 318001 Okura Pepper Lucca

319030 Grantz BC Hendrix ET S3J

There has been a clear focus on breeding larger Jersey sires with strong production, and this is plain to see with the 2023 Jersey bulls coming through. Their size and production is right up there with many of the KiwiCross® bulls, with fertility scores significantly higher than the other breeds.

Hendrix is a classic example of this with his liveweight coming in at 3 gBV. At over 500kg in liveweight and with stature at -0.18 gBV, this makes him the tallest jersey in the 2023 line up. He has production to match with combined fat and protein of 64kg and is in the positive for volume, which is very rare for a Jersey. The fertility at 7.1% gBV is in the top group of new bulls and is a reflection of his sire, Bells Conrad who has been a high fertility bull for many years. Hendrix's pedigree is stacked with great sires of the past two decades with Manhattan and Degree featuring. Adding Conrad to the mix, you can expect high production and good size.



319030 Grantz BC Hendrix ET S3J

320020 Thornwood Banff Titus

If you are looking to get hold of the next big thing, then Titus is as good as they come. Out of a maternal line of excellent cows and the well-liked proven sire Banff, you find that Titus is bred from two of the most influential studs in NZ, Thornwood and Glanton. Thornwood Goldies Trix is a stunning cow with massive production, and she has multiple sires in the AI schemes in New Zealand. Titus is also related to the late bull Trigger, one of the best udder BV bulls in New Zealand and from the same stud and family.

If you have been thinking of giving New Zealand Jersey's a try, then this bull would be a great start. Ticking all the boxes, this genomic sire offers fat and protein components at 10.7%, extreme fertility at 6.5% gBV and udder overall at 0.70 gBV. At above average for liveweight and positive capacity, Titus will deliver strong cows. Available in conventional, get ahead of the pack and get some Titus into your 2023 breeding program.



Dam of 320020 Thornwood Banff Titus

AB code	Name	gBW	Fat gBV	Prot gBV	Milk gBV	Lwt gBV	Fert gBV	Capacity gBV	Udder Overall gBV	Dairy Conformation gBV	Sire Name
318001	OKURA PEPPER LUCCA	495	57	19	-21	-30	3.4	0.69	0.48	0.68	ROMA DEGREE PEPPER
319030	GRANTZ BC HENDRIX ET S3J	412	42	22	19	3	7.1	0.07	0.46	0.12	BELLS CM CONRAD S2J
320020	THORNWOOD BANFF TITUS	431	29	12	-513	-32	6.5	0.57	0.70	0.65	GLANTON DESI BANFF

LIC helps support industry with AI Tech training

As with many industries the herd improvement industry has found it challenging to source enough qualified artificial insemination (AI) technicians through the COVID-19 pandemic period, with overseas AI techs also difficult to bring in to Australia.

With AI being performed on 87% of Australian dairy farms and the resulting genetic gain providing a significant portion of the productivity gains on farm, having the right people at the right time to inseminate the cows is vital for the industry.

This period highlighted the shortage of locally trained AI technicians and as a result a large piece of work has been led by Dairy Australia to train more DIY and Professional AI technicians.

This project has led to a number of courses being developed with TAFE's that target entry level and DIY technicians. For the professional AI technicians National Herd Improvement Association (NHIA) has also re-instituted the AI Technician accreditation program.

LIC has also got involved to assist the industry by training and up-skilling existing AI techs. Country Manager, Mike Rose explains "With LIC employing over 800 AI technicians operating in New Zealand, we saw an opportunity to utilise some of our expertise by providing further options for training within Australia. LIC is now supporting NHIA refresher courses with the artificial cow "Henryetta" along with one-week DIY courses held in NZ for Australians". Both courses offer the same comprehensive training and principles.

The two initiatives have been well received with a number of refresher courses being held at service providers throughout Victoria and Tasmania and with the first full week AI course being held in early March since before Covid. The one-week course is for new AI technicians and DIY participants and focuses on gaining confidence with each person performing over 200 inseminations. The high number of actual inseminations is what makes the LIC course unique and students come away with the ability to take the next step.

A recent refresher course with Herd Improvement Co-Operative (HICO) in Maffra was held which allowed new staff the opportunity to get a feel for AI and for the more experienced AI techs, a chance to refresh their skills. Jo De Moel who manages the HICO branch says "The session we had with LIC was a great success, having access to Henryetta allowed the visual side of the process to be studied prior to participants moving to more hands on AI. Hilary Lunn's (LIC District Manager) presentation was very professional, it opened up conversations and questions that were answered thoroughly."

The refresher courses have been held free of charge for NHIA members as part of the Herd Improvement Industry Funding Program which LIC receives funding through.



Methane Research Progresses to Next Stage



L to R - 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.

As the climate changes - are we?



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:

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?'

KiwiCross® bulls: Punching above their weight

519020 Paynes Professor-ET

A powerhouse of a bull who makes his debut in the Australia sire team line-up for 2023.

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 112kg and volume over 1398 litres makes him our highest marketed production bull across all breeds! This is complemented by a capacity of over 1 gBV, which keeps the engines of these deep-bodied animals running exactly how any farmer would want. He also has strong udders, and while rear teats may be wider than average for most farmers, rear teats are becoming too close so a bull that is slightly wider is a positive.



Daughter of 519020 Paynes Professor-ET

A Horizon Boulevard son from a Mourne Grove Hothouse cow who has never dropped below 700kg milk solids after her first lactation. The Payne's bulls are making a real name for themselves with Prominence another top option who graduated in 2022. Professor will be available in both conventional and sexed semen but with the figures he offers will be in short supply, so please place your orders early.

519034 Gordons Flash-Gordon

Everyone loves a good superhero and Flash Gordon lives up to his lofty name. Being the number one gBW sire at \$496 in the 2023 Australia catalogue, Flash Gordon deserves his super hero status.

Coming from a cow family that is making a habit of producing winners, Flash Gordon's grand-dam is the dam of once top of the charts bull, Gordons Lancelot. Flash Gordon's sire, Linan Integrity Winston was a high production Jersey bull and with a dam going back to Inca, both bulls were not marketed in Australia making Flash Gordon a really solid outcross option.

Production is right up in the top few bulls across breed, with a total 112kg combined fat and protein and over 1000 litres of milk.



Daughter of 519034 Gordons Flash-Gordon

His daughters are moderately sized at 16kg liveweight and he's suitable to be put over both cows and yearlings. With traits other than production being solid throughout and udders being nice and strong to hold all the milk that the daughter will deliver. Being the number one proven sire Flash Gordon will be in hot demand and we only have limited supplies so if you are looking to push your genetic gain this year then make the call on Flash Gordon early as he is bound to sell out.

519062 Arkans Barrier

Coming from the Arkans Stud in Otorohanga, this stud needs no introduction, producing dozens of popular bulls for the Australian industry with names such as Bounty, Buster and Beaut.

Barrier is even sired by another Arkans bred bull in Arkans Patriarch who is still a top seller here in Australia. Barrier himself has a lot to offer being one of the higher fertility sires available at 3.4% gBV.

Coming in at over 10% for fat and protein these cows will really help lift the components within your herd.

At the smaller end of the liveweight band for a KiwiCross® bull, they may not be tall, but they are certainly strong with capacity nudging close to 1 gBV.



Dam of 519062 Arkans Barrier

519072 Rhantana Outlook-ET

If you are looking for cows with strength and capacity, then Outlook should be on your list. With capacity at over 1 gBV and rump width at 0.9 gBV, Outlook daughters certainly have the power to handle all that is thrown at them. Fertility is in the top handful of KiwiCross® sires at 5.4% gBV, it's just another reason to include Outlook in your breeding plan for 2023.

Strong udders and positive management traits combined with high production is always a recipe for success. Sire Horizon Boulevard was never used in Australia and so Outlook can be used as an outcross option for most herds. The cow family who Outlook hails from, oozes longevity and fertility with the first three females in the maternal line averaging over nine years old. The farm they come from is a top performing commercial operation that allows good genetics to thrive.



Daughter of 519072 Rhantana Outlook-ET

Outlook will be available in both conventional and sexed semen and will likely be one of the most popular sires this year.

AB code	Breed 16ths	Name	gBW	Fat gBV	Prot gBV	Milk gBV	Lwt gBV	Fert gBV	Udder Overall gBV	Dairy Conformation gBV	Sire Name
519020	F11J5	PAYNES PROFESSOR-ET	374	58	54	1398	81	-0.4	0.48	0.99	HORIZON BOULEVARD-ET
519034	F8J8	GORDONS FLASH-GORDON	488	59	53	1015	16	-1.6	0.47	0.50	LINAN INTEGRITY WINSTON
519062	F9J7	ARKANS BARRIER	347	35	18	-122	24	3.4	0.68	0.81	ARKANS PATRIARCH-ET
519072	F11J5	RHANTANA OUTLOOK-ET	390	41	54	820	63	5.4	0.13	1.07	HORIZON BOULEVARD-ET



Improve your footprint with HoofPrint®

Selecting bulls for your future progeny has always been about herd efficiency, sustainability and improvement. Now we're making the sustainability part a little easier.

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