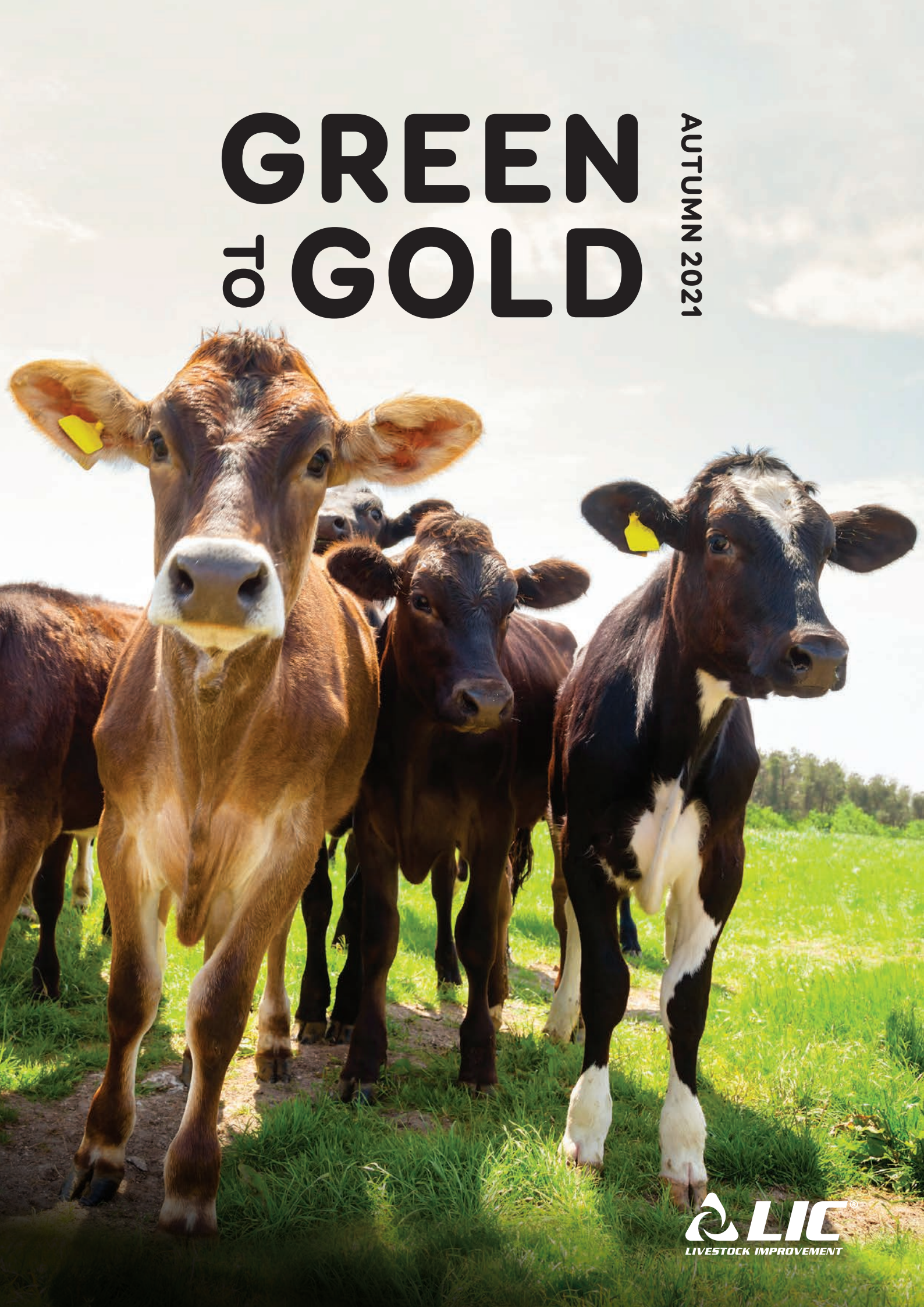
GREEN TO GOLD

AUTUMN 2021



LIC®
LIVESTOCK IMPROVEMENT

CONTENTS

LIC's commitment to sustainability

Mike Rose

The demands being placed on dairy farmers today are more than ever before.

Sustainability and climate change are two of the areas farmers are having to take greater consideration of within their businesses. While just buzz words to some, if the industry puts its head in the sand on these issues then in time politicians and others may set the direction which is what has happened in other countries.

New Zealand is one of these countries where farmers are facing greater regulatory pressure and to many farmers this is the biggest challenge their businesses face. While Australia may not be quite at that stage, it is likely to come and being prepared and having taken steps to understand how it may impact is important.

LIC has recognised this trend to lower the environmental footprint on farm, and believe that genetics can be part of the solution in reducing emissions while maintaining profitability.

LIC has for many decades focused on productivity over straight production and by doing this has naturally been doing more with less both from a production and environmental standpoint. This is reflected in research which showed that from 1990 to 2015 New Zealand dairy cows produced 12 kg/milksolids more for every ton of DM eaten (MPI Technical Paper 2017/53 (2016).

To continue to improve and show leadership in this area, LIC has developed the HoofPrint® index. The launch of the HoofPrint® index in Australia will see farmers able to choose bulls that will produce less emissions and excretion, ultimately leading to a lower environmental footprint while still breeding profitable replacements. This index is just one small tool amongst many that may help farmers reduce their environmental footprint and keep one step ahead of the pack. On page 6, LIC environmental Manager Tony Fransen explains the HoofPrint® index in more detail and the research behind it.

I hope you enjoy this update, along with farmer articles and new graduate bull profiles in this edition of Green to Gold.

Happy farming,

Mike Rose
Australian Country Manager

Greg Peddle with his herd in Yarram - see full story on page 4

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Meander SB Arrow-ET S2F

Being bred in the deep south of New Zealand, Arrow is the pick of the 2021 Holstein Friesian bunch. He is the only one to pass the magic 300 mark for breeding worth with a colossal gap between him and the next bull.

Arrow is one of a number of quality Beamer sons coming through, as they saying goes – great bulls breed great bulls, and this is certainly case in point here. The cow family is a proven performer with the dam, Meander FMI April (pictured) an outstanding daughter of Farside M Illustrious. This girl impressed right from the very start, not only from a production standpoint, but through her very classy conformation.

Dam: Meander FMI April

She has already provided us with proven sire Wingman and we are also marketing another genomic bull Meander MG Arena-ET, with the dam Meander Beam Ash-ET being the full sister to Arrow himself.

Arrow shows consistency throughout his proof with outstanding farmer management traits. The 106 daughters TOP inspected have displayed excellent type on all counts. Positive fertility, easy calving and high milk solids are a combination that will place Arrow in with the high demand bulls for 2021. Arrow will sell out so if you like the look of him, contact us early to secure supply. See page 13 in the 2021 catalogue for full sire details.

gBW **$307/81%** REL

NEW ZEALAND DETAILS Daughter Proven

NZ Breeding Values			106 Daughters
Milk Volume (litres)	455	Fertility %	2.4
Fat kg	44	Body Condition Score	-0.01
Fat %	5.2	Total Longevity (days)	678
Protein kg	38	Calving Difficulty (cow)	-0.5
Protein %	4.2	Calving Difficulty (heifer)	1.1
SCC	0.29	Gestation Length (days)	-6.6
Liveweight	25	BetaCasin	A1A2

Tronnoco MH Samba-ET

Samba is one of two new Hothouse sons being marketed in Australia in 2021. A bull, that like his sire Hothouse, delivers moderate sized and well liked cows with strong udders. Coming from a Maximiser dam that goes back to a 10 year old Mint-Edition cow, Samba has a pedigree full of proven performers.

For farmers who are looking to increase milk volume with solid milk components, Samba is a logical choice. See page 21 in the 2021 catalogue for full sire details.

gBW **$194/80%** REL

NEW ZEALAND DETAILS Daughter Proven

NZ Breeding Values			93 Daughters
Milk Volume (litres)	1180	Fertility %	0.3
Fat kg	36	Body Condition Score	-0.04
Fat %	4.4	Total Longevity (days)	314
Protein kg	50	Calving Difficulty (cow)	4.1
Protein %	3.9	Calving Difficulty (heifer)	3.1
SCC	0.31	Gestation Length (days)	-1.5
Liveweight	33	BetaCasin	A2A2

People deliver profit for Gippsland farming couple

Greg Peddle explains how building a solid base from making the right decisions at the very start has driven profitability.

Greg and Kim have built a thriving self-sufficient dairy and fodder production business in East Gippsland during the past 34 years.

Returning to the family farm at age 21, after finishing a mechanic apprenticeship, Greg went on to purchase his family's 180 milking herd and later bought the farm. For 20 years he also worked simultaneously as a contractor.

"The biggest thing is just having a red-hot-go," Greg said. "When you are younger you just bite off more than you can chew and chew like buggery. That's how you get going and that sets you up for later in life."

The Peddle farm now includes 1650 acres, with 970 acres under irrigation – 500 acres of which includes the milking platform.

The irrigation infrastructure includes: six centre pivots, one linear move irrigator and 200 acres of bike shift lateral irrigation.

Thanks to irrigation and a vigorous fertiliser program, the Peddles have optimised on-farm pasture and forage production. Greg said irrigation has helped double the amount of topsoil on this country – they now have about 200mm and the 'spewy' unproductive layer has disappeared.

Fertiliser trucks follow the cows with applications every rotation across the milking platform. Pastures are topped during spring, summer and early autumn.

Across parts of the irrigation area, 1 tonne a hectare of magnesium potash lime is applied to boost soil health.

Perennial ryegrass dominates the dairy platform, with regular cultivation renewing pastures for maximum productivity.

Maize was included for the first time recently, with a harvest in 2019 meeting expectations for their initial crop.

They cut almost 27 tonne/hectare, installed their own weighbridge and sold about 4000 tonnes of their entire 6500 tonne haul.

Greg said maize sales helped make the crop viable. A year later, a lack of sunshine meant the crop only yielded 20tonne/hectare and sale demand was quieter. To counteract the fluctuation in maize purchasing, Greg and Kim are now building larger storage with plans to sell the crops every three years or so.

Owning their harvesting equipment Greg says. "We optimise our harvest and planting times, we don't have to wait for contractors or anything like that."

Spreading fertiliser and artificial insemination are the only two farm jobs outsourced. Everything else, are completed by Greg, Kim and their team including a farm manager, a milker and dairy casual, one-to-two farm workers and some casuals.

Building a solid base

While showing farmers and breeding advisors around his farm, Greg Peddle scrolls through his dairy computer program, highlighting how he puts together his cull list.

"Any slow milking cows, they are on the list. Ideally they would take about nine and a half minutes, any longer – even if its half a minute longer and they are doing 50 litres – it's still too long" the Yarram dairy farmer explains.

Later, Greg explained how he and wife Kim had selectively removed animals from their 800-850 milking herd to ensure they were left with the best and most suitable for an efficient operation.

This included those who milked long enough to have two laps on the rotary platform.

"That (culling) cost us a reasonable amount in the last few years, but we are on our way back and it is a much better work environment," Greg said.

"Milking times have dramatically reduced. We are milking 800-850 cows whereas the average person, during the same time, would only milk 650 cows."

Prioritising employee comfort and convenience by streamlining farm processes was a conscious business decision for Greg and Kim.

From the outside these choices may not make obvious economic sense, but the Peddles insist these decisions have underpinned their profitability – even during tough years.

"What's the most important asset on a farm?" Greg asked.

"People, and it is all driven by that. We have long term employees, hardly anyone leaves. Most of our decisions are based around that. Production and profitability come along as a consequence, because you make the right decisions in the first place."

Breeding the next generation

New Zealand genetics – dominated by LIC bloodlines – underpin the Peddle's split calving New Zealand Friesian dairy herd.

The decision to divide calving between autumn and spring was about maximising the value of their milk, following changes to the way dairy processors paid for the white stuff.

It's also helped manage the workload of calving and help retain staff.

"Staff can almost have full time casual work for 10 months of the year and it means you can keep your calf rearers from one year to the next," Greg said. "Otherwise, they only have work for four to five months and then they'd have to find something else."

These phenomenal heifer numbers have enabled Greg and Kim to stringently cull while maintaining high fertility and production.

It has also negated the need to buy-in cows, something they used to do as a way to measure the quality and progress of their own breeding program.

An example of how Greg and Kim have made the most of their extra heifers includes their joining program. A mature cow producing less than 30 litres a day doesn't get joined, neither does a heifer producing less than 22 litres a day. These benchmarks are climbing each year, according to Greg.

Average annual production sits at about 9000 litres a cow or about 700 kg of milk solids per cow for the average 570 to 580 kg liveweight herd.

This is lower than production had been, as the herd is relatively young following the removal of the slow milking cows, those with feet problems or any other health issues.

Fertility focus

Fertility has always been a priority for the couple and it's something they won't compromise on when they started using LIC genetics over 20 years ago.

"The main reason we swapped to LIC was we were chasing fertility but along with that came temperament," Greg said. "The first heifers from LIC was something that the workers and I will never forget. It was a very even line of heifers and their temperament was terrific. Once we got our fertility back up there and then the number of heifers, we could put pressure on the herd more and drop-off that bottom tier quicker and increase production."

Greg said he prefers to select about three bulls annually and uses them across the herd.

Their breeding program is 100 per cent artificial insemination and only proven bulls are used.

Pushing production again, following the recent clean-out of cows to increase efficiency, Greg's chasing a specific goal.

"I think the new catch phrase in the dairy industry should be 10:10," he said. "Ten per cent or under not in calf rate and 10,000 litre per cow."

On track to achieve the latter again, Greg believes the former is one of the keys to profitability as its linked to herd pressure.

Frozen sexed semen is used across all maiden heifers – plus another 60 cows in the herd Greg deems easiest to get in calf.

"Basically, we try and get every heifer to cycle," Greg said. "We use a Why WAIT program, observe and inseminate for 11-14 days...then we PG the rest and inseminate what comes on heat. Then we use a GNRH injection four days later and then if there's still a number – like this year there was 20 that didn't cycle – we keep them separate for a week, seven days later give them a PG and then inseminate with sexed semen."

The Peddles have a strong focus on heat detection, using tail paint and then drafting cows into their activity system for monitoring.

This confirms they are cycling, when they cycled last and their production 'status' at joining. This computer system allows Greg to make joining decisions.

When it comes to breeding, Greg and Kim focus on medium framed animals and longevity. This includes good vessels and the basics of production to ensure they have the capacity to reach 40-50 litres/cow/day as mature animals.

The milking herd's diet includes a grain base of about 4 kg/cow/day – traditionally wheat – but this year its barley due to the $70 a tonne price difference. On top of this is 500g/cow/day of a Ridley mineral pellet, the same volume of canola meal and about 125g/cow/day of Calciprill – a source of calcium.

Maize silage has further boosted the herd's in-calf rate and is fed for nine months of the year.

These immediate and obvious results are what Greg loves about dairy farming.

For him, its satisfying working with the next generation and those looking to learn more about the industry, such as high school and overseas students.

Greg was happy to outline details of his business for those who will take the industry into its next phase.

"Being able to influence or inspire some young fellas to have a go, it's a bit of a rush," he said.

Environmental efficiency on dairy farms

Are you concerned about the footprint your dairy cows are leaving on the environment? LIC has been working hard to develop a modelling system that can be used to quantify emissions and excretion, the result is their HoofPrint® index.

Tony Fransen

Tony Fransen, environment and welfare manager, explains how it works:

Enteric methane and urinary nitrogen loss from a dairy farm to the environment is inefficient. It can be damaging to water courses, contributes to greenhouse gas emissions and has a negative impact on the community and consumer perception of agriculture, wherever you farm in the world.

Enteric methane makes up around three-quarters of agricultural greenhouse gas emissions on a pastoral dairy farm. Enteric methane is directly proportional to the amount of feed consumed by the animal. This means to drive efficiency for methane we want to maximise milk production for every kilogram of feed consumed on farm.

Managing nitrogen, particularly in a high quality, high nitrogen pasture diet enjoyed by cattle in New Zealand for example, has challenges. There are times of the year when the high nitrogen content of pasture means that the cow's nitrogen intake significantly exceeds her physiological demands, and the excess is excreted, primarily through her urine.

Nitrogen cannot be created or destroyed by the cow, whatever she ingests must be either partitioned into productive outputs or excreted. Nitrogen enters the cow through her diet, with a lactating cow on average over a full season partitioning approximately 50% in urine, 20% in milk and 30% in her dung.

Across the year the daily level of nitrogen intake and output will change as pasture protein and cow milk production levels fluctuate. Maintaining the balance between N in and N out is important.

Increasing N use efficiency and reducing urinary nitrogen leaching is a key goal for the dairy sector, and much current research, including Dairy NZ's seven-year Low Nitrogen Livestock programme is looking at ways to help achieve this.

Using genetic information and recognised agricultural greenhouse gas emissions modelling methodology, LIC can assess and rank bulls for the expected environmental impact of their progeny in this index. This will, alongside LIC's leading genetic options and management tools, help farmers to reduce their environmental impact per kg of milk solids while maintaining productivity.

It's a 10-point rating system based on the modelled lifetime production relative to lifetime emissions and excretion generated. This system models the predicted lifetime environmental footprint for all AE enrolled AI dairy bulls born since 1 January 2009. In 2020 this represented 4415 bulls.

Represented across all dairy breeds, it gives accurate insights to help farmers breed cows with a lighter environmental footprint, and to produce less methane and nitrogen per kg milk solids.

Six individual breeding values are used to calculate the expected levels of production, growth, calving events, and the removal of each animal. These are liveweight, milk volume, milkfat, protein, fertility and total longevity.

Higher genetic merit animals, on average, perform better when ranked under the HoofPrint® index and the modelling has been based on the 'Methodology for calculation of New Zealand's agricultural greenhouse gas emissions' developed by NZ scientists in line with the Kyoto protocol requirements.

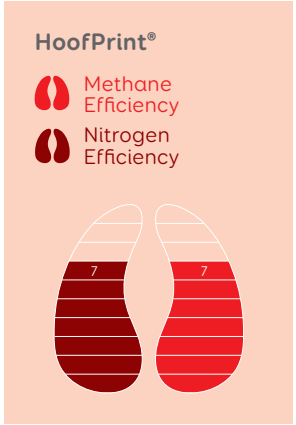
The ranking system is from 10 to 1 with 10 being the highest ranking (lowest environmental impact per kg product) and 1 being the lowest (highest environmental impact per kg product). And to ensure only the very best bulls are able to achieve a 10 point ranking, only 2% of all bulls in this elite reference population can be awarded a 10 point rating at any one time.

And it's worth pointing out that increases in BW correlate with lower methane and urinary nitrogen output per kg of milk solids produced. Genetic gain has already delivered significant environmental efficiency benefits to the sector. For example, every NZ$10BW increase gives 1.7g less urinary N/KgMS and 2.0g less methane/KgMS. Over 30 years of LIC Premier Sires (a team of bulls used by most NZ dairy farmers) has given 13% reduction in methane/KgMS and 16% reduction in urinary N/KgMS."

The main focus areas for NZ research are:

- Dietary changes to balance nitrogen intake
- Breed to partition or distribute nitrogen with lower risk to the environment
- Methods to manage the urine patch after deposition

LIC's new HoofPrint® index will, for the first time, provide farmers with accurate insights for bulls on the relative lifetime urinary nitrogen and enteric methane efficiency of their progeny.



10	Top 2 %
9	Top 7.5 %
8	Top 17.5 %
7	Top 32 %
6	Top 50 %
5	Bottom 50 %
4	Bottom 32 %
3	Bottom 17.5 %
2	Bottom 7.5 %
1	Bottom 2 %

Can low-methane bulls be bred?

Lorna McNaughton, LIC reproduction scientist, looks at the importance of low-methane bulls as we move towards reducing emissions.

Ruminant livestock emit methane, mostly through burps, as part of the digestion process, and the amount produced depends on how much feed is eaten and what type.

It's estimated dairy bulls burp every 90-120 seconds, so reducing this 'gassy' emission is a focus for many New Zealand breeding companies, including LIC.

Breeding is one tool that could be used to help dairy farmers reduce emissions on their farms. Methane emissions have been shown to be heritable (0.10 to 0.20), a necessary step on the pathway to develop a breeding value. The degree of heritability is similar to that of somatic cell score (0.15), but lower than milk traits (0.31 to 0.36).

A joint project between LIC and CRV, funded by the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), aims to measure methane from dairy bulls entering the sire proving schemes of both breeding companies.

A significant trial is now taking place, part of it at LIC's Chudleigh Farm at Tauwhare, east of Hamilton. The project's first stage was to design and develop methods that enabled the emissions of 300 to 350 bulls to be measured each year. To do this, a single pen was set up with a Greenfeed machine to measure methane, and feed bins allowed each bull's intake to be measured.

Selection of feed type was important. The low dry matter of grass, or grass silage, together with variations in quality, meant that alternative feeds needed to be identified. Lucerne hay cubes were selected because they were a forage high in dry matter.

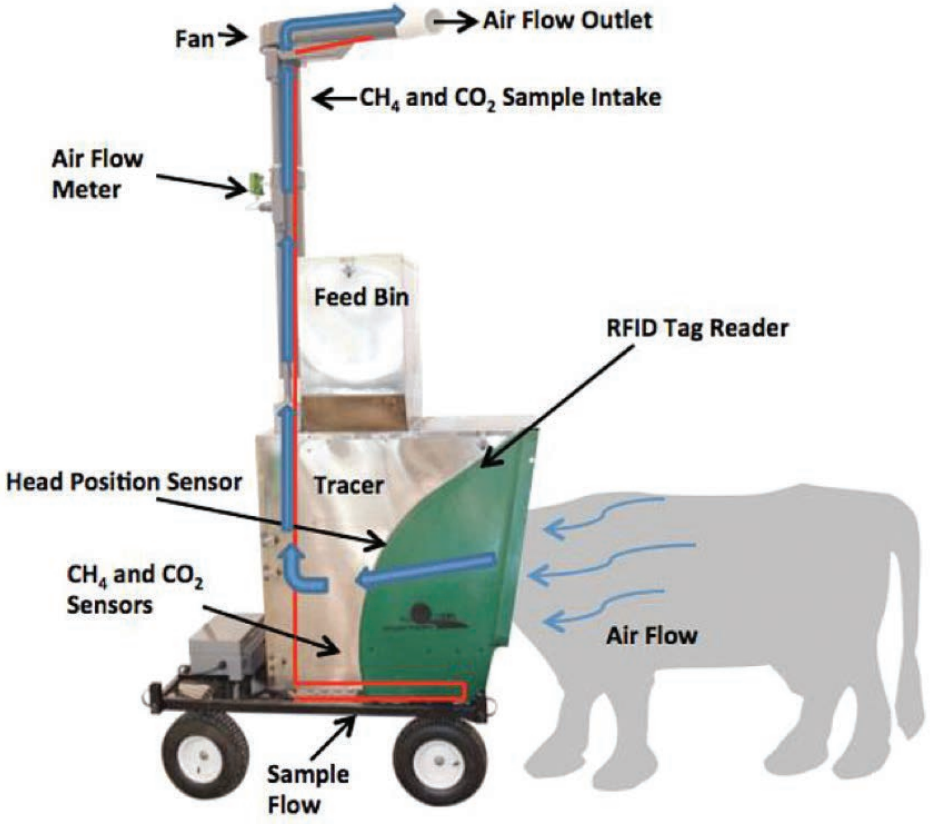
This also meant bulls only needed their feed bins topped up once or twice per day, with quality relatively consistent from year-to-year. A small quantity of pelleted feed was available in the Greenfeed machine to entice the bulls to visit the machine.

When bulls initially put their head in the machine, pellets 'dropped', and kept dropping at specified intervals, to keep the bull's head in the machine for at least two minutes. Air was then sucked into the Greenfeed machine to ensure all of the bull's breath was captured, with sub-samples analysed for methane.

The bulls were allowed to visit the Greenfeed up to five times a day. The diagram on the right shows the key parts of the Greenfeed machine. Two pilot trials took place at both LIC's Chudleigh Farm and at a CRV property. After minor adjustments of methods and practice in using the machines, both LIC and CRV are confident that the planned trial design will work.

A full trial is now being planned to kick off in March 2021 at LIC and will get underway in June 2021 at CRV. Preliminary breeding values are expected after one year, although three years of data will be needed to estimate breeding values with a suitable degree of confidence.

Genetic improvement is a slow game, but the process has begun, and the rewards are potentially significant for both farmers and other countries in the world.



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.

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 you a greener footprint.

Talk to your District Manager about the HoofPrint® index today.

There's always room for improvement

LIC®
LIVESTOCK IMPROVEMENT

Building a herd by getting the most out of genetics

North or south of the highway? It's a question almost every dairy farmer in south west Victoria has been asked at least once. It's a loaded query and generally asked with the purpose of generating a hypothesis about the type of farming conditions, and system, someone might operate.

The Princes Highway, running from Melbourne, divides the low and high rainfall areas of the region. Warren and Leann Martin milk cows north of the highway in the lower rainfall country. But despite the challenges mother nature has thrown at them, the couple have reaped the fertility and production benefits of well-fed cattle.

Warren Martin is just finishing the evening milking.

Cup removers whip away the last few machines, as the animals back out of the rotary.

It's a warm spring evening, perfect for cutting silage, but Warren doesn't want to be anywhere else.

"If you have got a herd that you enjoy milking it is not difficult," the Glenormiston North dairy farmer said.

"It is easy, they don't kick, their temperament is good. I'd milk any day rather than sit on a tractor.

I don't like sitting on tractors and going round and round, but I'll stand and milk no problem."

Warren and his wife Leann developed their 320-crossbred herd using LIC genetics after purchasing cows from about nine different farms 15 years ago.

Mostly black, their cows and heifers now have a striking uniformity of size and weight.

Even the heifers were hard to pick from the mature cows. Different coloured ear tags are the only distinguishing feature.

"I focus big time on making sure the heifers are as well grown as possible, so when they come into the herd they are nearly as big as the cows," Warren said.

"If you feed them well, the heifers are not far off the cows when it comes to production. We can get 500 kg of milk solids from a heifer."

The Martin's herd averages 580 kg of milk solids per cow per year. For the bulk of the 300-320 herd, this milk production represents about 120 per cent of their body weight.

"At the largest they are about 500 kg, but they average 480 kg (liveweight)," Warren said. "We have one super-efficient older crossbred who's about 450 kg. Going back four years ago, she produced just shy of 800 kg of milk solids. She's now nine and still doing 700 kg milk solids thanks to her 4.5 per cent protein and 6 per cent fat test."

These small-framed cows are not only good feed converters, but also suit the 550mm rainfall country. Their lighter frames limit pasture damage on the black loam soils and heavy black flats when it does get wet during winter.

This season has been one out of the box for Warren, Leann and their children Maurice 17, Denva 15 and Corbyn 14. The family's herd was still grazing an abundance of pasture in late November.

"It has been a fantastic season and the best I've seen since we have been here."

Ending on a high, this will be the last year the Martin's milk cows. The family have sold their dairy farm with the cows due to be dispersed in the autumn.

This year couldn't be more different to the start of Warren and Leann's Australian dairy farming career.

Moving from New Zealand to purchase a farm, they had a trying start to milking cows in Western Victoria.

"It was a big shock to us when we came here in 2006," Warren said. "It was a really dry year and we had to spend a huge amount of money, $250,000 on hay. It was tough. It gave us a hell of a shock and soon we realised we were milking too many cows."

Warren and Leann started with 400 acres and 300 cows. This was quickly revised to 200 cows due to the weather conditions.

In the years since, and thanks to the addition of 250 acres, the farm's stocked at two cows to the acre.

Most of the herd's hay and silage requirements come from the property with the milking platform around 445 acres.

Having learnt from the first year at the farm, Warren said he prefers to remain slightly understocked to make sure there's ample feed for all animals.

Pasture, homegrown silage and hay as well as some summer crop form most of the herd's diet with grain feeding in the bail adjusted to match the season.

In July and August bail feeding can get up to about 6 kg a cow/day before the dial is turned back to about 4.5 kg/cow/day for the rest of the year. This equates to about 1.3 tonne/cow/lactation, according to Warren.

Nutrition complements breeding when it comes to production and fertility. Warren won't hesitate to spend to maintain body condition.

"We buy two to three loads of good hay a year," he said. "I just feed them. When it is in the autumn and you have mating around the corner, I do not hesitate.

If it costs me money, it costs me money, because at the end of the day, it is going to end up costing more money – just in a different way."

High fertility and low empty rates have enabled them to fast-track their herd's genetic gain by culling cows on their production. They herd test four times a year, don't have many empties and many cows continue to perform well into their later years.

The Martin's herd calves seasonally from the middle of May for about 11 weeks. This year they did eight weeks of artificial insemination, mostly using calving-ease Friesian bulls, before the bull's mopped-up for four weeks. In late November, they were yet to pregnancy test, but Warren and Leann generally have a 7-9 per cent empty rate.

Heifers are also artificially inseminated, synched using prostaglandin. This breeding program delivers ample heifers and provides Warren and Leann with plenty of options.

"Most years from AI we end up with more than 100 heifer calves," Warren said. "We have sold some extra heifers as calves at two weeks old to other dairy farmers."

Surplus Friesian heifers have also been sold to export to diversify the businesses' income.

Leann selects all the bulls, with crossbred sires playing a large role in maintaining herd uniformity and size at 480-500 kg liveweight.

If some animals start to become too large, crossbred bulls are used to reduce the stature of the herd, but Friesian sires are preferred for the consistency of black animals.

Calves which look like Jerseys are generally sold to maintain the herd's consistent appearance.

Ease of management is one of the highest breeding priorities for the couple.

"We like temperament, stature and love easy calving, we pick our bulls a lot by calving ease," Warren said. "These crossbred cows will calve reasonably big calves if they are in good order. The cattle have got to be in good order, it makes a big difference when they calve."

Warren said the calm temperament of his herd was something he valued, and it helped with staff training.

"I employ back packers, so someone who has never milked cows before can come and be doing it within a week," Warren said. "It just shows you how good the cows are. The thing about LIC cows is their temperament that's why I love them, their temperament is fantastic."

LIC Western Victoria and South Australia District Manager Mike Waite has worked with the Martin's for eight years.

"I've always been impressed with the Martin's herd," he said. "They have such an even line, and it is great to see a herd that has been put together with LIC genetics over a long time. For someone testing the waters using LIC for the first time, the Martin's herd is a great example of what can be achieved."

Williams PCG Tenor

The Williams name doesn't need any introduction, with the Williams Jersey delivering quality Jersey bulls for use in AI for over 40 years. The Tabby cow family that Tenor descends from delivers type and longevity. With the Dam and Grandam both scoring as excellent and still producing well as 8 and 13 year-old cows, respectively. Having Goldie as his sire, Tenor displays those classic Goldie traits of high production and plenty of strength.

With production that would rival many of the KiwiCross® sires, Goldie has the udder strength to carry this extra milk. On the 31 farms that the Goldie daughters are milked, farmers have rated the Tenor daughters with farmer overall opinion scores at 0.44. Tenor is one of the few sires to hold the honour of a spot in the over 300 breeding worth club, reflecting their high profitability. See page 39 in the 2021 catalogue for full sire details.

gBW $308/80% REL

NEW ZEALAND DETAILS — Daughter Proven

NZ Breeding Values			87 Daughters
Milk Volume (litres)	144	Fertility %	3.2
Fat kg	30	Body Condition Score	0.10
Fat %	5.2	Total Longevity (days)	564
Protein kg	19	Calving Difficulty (cow)	-1.7
Protein %	4.1	Calving Difficulty (heifer)	-1.5
SCC	0.12	Gestation Length (days)	0.5
Liveweight	-51	BetaCasin	A2A2

Glenui Degree Hoss ET

Hoss offers daughters with the complete package.

His Bowie dam, (pictured) like her dam, completed nine lactations, is classified excellent, and in 2014 was described by Malcolm Ellis (LIC NZ Markets GM) as the 'best conformation cow seen in Taranaki'. Not only does she have the looks, but she backs this up with plenty of production. Hoss, at 324gBW is among the top bulls across breed and is set to deliver daughters which improve in every TOP trait.

Dam: Glenui Bowies Honeydew

For example, he offers the ever-desirable larger stature, solid capacity, great udder conformation, teat placement, and rump angle correction.

Not only does Hoss rank well in New Zealand but is a stand out in Australia coming in at 243 BPI, 104 for fertility and above average for liveweight.

Only the best bulls get to be the Sire of sons, and Hoss has easily earnt his place in this prestigious group. Available in both sexed and conventional semen. See page 35 in the 2021 catalogue for full sire details.

gBW $324/88% REL

NEW ZEALAND DETAILS — Daughter Proven

NZ Breeding Values			109 Daughters
Milk Volume (litres)	-400	Fertility %	4.7
Fat kg	32	Body Condition Score	0.24
Fat %	6.0	Total Longevity (days)	415
Protein kg	9	Calving Difficulty (cow)	-0.7
Protein %	4.4	Calving Difficulty (heifer)	-1.5
SCC	-0.36	Gestation Length (days)	2.3
Liveweight	-37	BetaCasin	A2A2

Tralee GB Resonate-ET S3F

A bull that has run under the radar for a number of years, Resonate was too good to leave out for the 2021 year. Being an easy calving, higher fertility sire, Resonate works well in most breeding programs. If it is as a sexed sire on yearlings, in a crossbreeding program or to reduce the size down on larger Holsteins, Resonate would be ideal.

While not the largest production bull in the stable, what he lacks in horsepower he makes up for in efficiency and health, delivering moderate sized cows that are fertile and lower SCC. With positive farmer opinion with strong udders, the 574 days longevity shows that Resonate daughters last in the herd. Available in sexed and conventional semen.
See page 25 in the 2021 catalogue for full sire details.

gBW **$219/87%** REL

NEW ZEALAND DETAILS — Daughter Proven

NZ Breeding Values			92 Daughters
Milk Volume (litres)	255	Fertility %	3.8
Fat kg	28	Body Condition Score	0.24
Fat %	5.1	Total Longevity (days)	574
Protein kg	22	Calving Difficulty (cow)	-0.3
Protein %	4.0	Calving Difficulty (heifer)	0.4
SCC	-0.16	Gestation Length (days)	-3.3
Liveweight	32	BetaCasin	A1A2

Bellamys MH Gambit-ET S2F

Another Hothouse son that delivers the full package. Strong production, A2A2, positive fertility and type scores, with huge longevity at 766 days, will see Gambit become one of the most popular Holstein Friesians for 2021. Longevity is a hallmark of this cow family with the average age of 9 years seen across the 3 generations. Gambit's dam, sired by Applause was an outstanding production cow.

LIC has purchased two other younger sons of hers and a total of 10 genomic bulls out of the G-family from John and Janine Bellamy in Northland. With no Mint-Edition in the pedigree Gambit makes a good outcross for farmers who don't have Hothouse daughters milking in the herd. See page 19 in the 2021 catalogue for full sire details.

gBW **$211/80%** REL

NEW ZEALAND DETAILS — Daughter Proven

NZ Breeding Values			98 Daughters
Milk Volume (litres)	756	Fertility %	2.2
Fat kg	31	Body Condition Score	0.30
Fat %	4.7	Total Longevity (days)	766
Protein kg	34	Calving Difficulty (cow)	2.3
Protein %	3.9	Calving Difficulty (heifer)	2.0
SCC	0.19	Gestation Length (days)	-3.8
Liveweight	54	BetaCasin	A2A2

Howses Springfield

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

LIC should see the potential in Springfield early, with four sons already in the sire proving scheme. He offers sizeable capacity, strong udder support, stunning fertility and stunning low SCC.

Available in both conventional and sexed semen. See page 45 in the 2021 catalogue for full sire details.

$327/80% gBW REL

Springfield will be in hot demand in New Zealand and around the world, with supplies being limited. If he looks like your type of sire, then get in early and lock in some straws.

NEW ZEALAND DETAILS Daughter Proven

NZ Breeding Values			109 Daughters
Milk Volume (litres)	-234	Fertility %	4.6
Fat kg	35	Body Condition Score	0.13
Fat %	5.1	Total Longevity (days)	544
Protein kg	25	Calving Difficulty (cow)	-0.7
Protein %	4.1	Calving Difficulty (heifer)	-0.8
SCC	-0.02	Gestation Length (days)	-1.9
Liveweight	6	BetaCasin	A2A2

Luck-at-Last Emperor-ET

Looking for a KiwiCross® with diversity in his pedigree, then Emperor could be a perfect fit. With no Mint-Edition or Solaris in his pedigree, Emperor can be used in most herds comfortably.

He is one of the best uddered KiwiCross® sires this year at 1.14 for udder overall, which is no mean feat. The udders coming through now are the best we've seen in many years.

Available in both conventional and sexed semen. See page 54 in the 2021 catalogue for full sire details.

$247/80% gBW REL

A bull that's strong across the board and with a real solid proof from the 109 daughters that have been tested in 42 herds. All this combined with a popular breed mix of F10J6, and Emperor will be on many peoples list this year.

NEW ZEALAND DETAILS Daughter Proven

NZ Breeding Values			109 Daughters
Milk Volume (litres)	304	Fertility %	1.0
Fat kg	32	Body Condition Score	0.27
Fat %	5.1	Total Longevity (days)	401
Protein kg	25	Calving Difficulty (cow)	-0.1
Protein %	4.1	Calving Difficulty (heifer)	1.0
SCC	-0.02	Gestation Length (days)	-1.9
Liveweight	6	BetaCasin	A1A2

Luck-at-Last Inspired-ET

A new KiwiCross® bull on the scene that has a lot going for him. With gBW over 300 and conformation that are all heading in the right direction, Inspired will be an easy fit in many breeding programmes in 2021.

He is on the Holstein Friesian side with his breed mix being F9J7, however these cows are highly efficient at around the 485 kg liveweight mark, delivering production more like a Holstein Friesian with fat and protein at 69 kg combined.

A combination destined to produce great offspring. See page 50 in the 2021 catalogue for full sire details.

$301/81% gBW REL

The dam is still going strong as a 9 year old and is sired by Beamer with the dam coming from the hall of fame Jersey bull Lynbrook Terrific ET.

NEW ZEALAND DETAILS Daughter Proven

NZ Breeding Values			108 Daughters
Milk Volume (litres)	476	Fertility %	1.4
Fat kg	41	Body Condition Score	0.09
Fat %	5.1	Total Longevity (days)	444
Protein kg	28	Calving Difficulty (cow)	-0.7
Protein %	4.0	Calving Difficulty (heifer)	0.3
SCC	0.19	Gestation Length (days)	-6.0
Liveweight	-25	BetaCasin	A2A2

Arkans Patriarch-ET

Another head turning bull from Jaydie that delivered us two great KiwiCross® sires in 2020, Critical and Boombox. Patriarch is as good, if not better, with udders over 1BV, great management traits, high fertility and strong production.

The Arkans stud and the dam of Patriarch, Priscilla has delivered again with Jaydie the sire who is consistently delivering highly efficient cows with great conformation.

Dam: Arkans Priscilla

The dam Priscilla has a number of sons being graduated and more to come, and when you look at how well this cow performs in such a high performing herd, it's hardly surprising. She is a production machine with her best lactation being 768ms/kg in her 4th lactation in 305 days, coming from a cow that is not much more than 450 kg liveweight that is efficiency at its best. Available in both conventional and sexed semen. See page 48 in the 2021 catalogue for full sire details.

gBW **$294/83%** REL

NEW ZEALAND DETAILS

Daughter Proven

NZ Breeding Values			174 Daughters
Milk Volume (litres)	5	Fertility %	3.0
Fat kg	38	Body Condition Score	0.06
Fat %	5.6	Total Longevity (days)	486
Protein kg	18	Calving Difficulty (cow)	-0.9
Protein %	4.2	Calving Difficulty (heifer)	0.0
SCC	0.20	Gestation Length (days)	-4.1
Liveweight	-17	BetaCasin	A1A2

Taramont Springtide

This Sovereign son pedigree is like a hall of fame of bulls, with Solaris, Northsea, Mint-Edition and Showman all featuring. With a star studded group of bulls and a very strong cow family making up Springtide's pedigree, he was a good bet to graduate with flying colours in the class of 2021.

Dam: Taramount Riley Spring

Udder conformation over 1BV and capacity close to it are great building blocks for a sire. Adding to this huge production for a KiwiCross® bull and you have a bull that will leave highly profitable, long lasting cows in the herd.

Being A2A2, an easy calver and with extremely short gestation at -9.8 days, he is an ideal bull for farmers to use in the last week of AI, pulling those cows forward. See page 55 in the 2021 catalogue for full sire details.

gBW **$242/81%** REL

NEW ZEALAND DETAILS

Daughter Proven

NZ Breeding Values			111 Daughters
Milk Volume (litres)	838	Fertility %	-0.6
Fat kg	44	Body Condition Score	0.00
Fat %	4.8	Total Longevity (days)	387
Protein kg	42	Calving Difficulty (cow)	-0.9
Protein %	4.0	Calving Difficulty (heifer)	0.0
SCC	0.33	Gestation Length (days)	-9.8
Liveweight	30	BetaCasin	A2A2

Contact Us

Livestock Improvement Pty Ltd

PO Box 1129
Echuca, Victoria 3564
Australia

Freephone 1800 454 694
M +61 499 900 612

MIKE ROSE
Australian Country Manager
District Manager **Northern Victoria, NSW and QLD**
M +61 407 708 677
E mrose@licaus.com.au

LIZ MCVEY
Office Manager
District Manager
Northern Victoria
M +61 428 344 454
E lmcvey@licaus.com.au

MIKE WAITE
District Manager **Western Victoria, SA and WA**
M +61 428 566 362
E mwaite@licaus.com.au

COLLEEN MOURIE
District Manager
Gippsland
M +61 429 944 169
E cmourie@licaus.com.au

ROWAN PRIEST
District Manager
Tasmania and King Island
M +61 428 144 111
E rpriest@licaus.com.au

SHARON MCEWAN
Administration Assistant
E admin@licaus.com.au

For the latest information and bull teams visit our website:
www.licnz.com.au

Follow us
@LICAustralia

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