

GREEN of GOLD

AUTUMN 2020



Get the details on
the top new sires for

2020!

Mount Schank beauty

When passion, patience
and precision pays off

Breeding for the golden oldies

What's the secret to a
long life?

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Doing more with less



Welcome to the first Green to Gold of the new decade.

It feels like only yesterday we were seeing in the new millennium but, in 20 years, a lot has changed, especially in Australian dairy. LIC is committed to being here in another 20 years' time and wants to see the Australian industry grow and prosper as a world leader in high quality dairy production.

For dairying to be strong in Australia we need a globally competitive industry. To compete farmers will have to do more with less, whether this is staffing, inputs such as water, fertiliser and feed, and what we are principally focused on, animals.

Dairy herd improvement through genetic gain still offers one of the best opportunities to improve productivity on farm. The value of genetic gain should not be underestimated and in the long-term herd improvement could well be the best return on investment available. You might not see the impact immediately, as you would with a load of grain or urea, however over time the gains are impressive. It has been calculated that the accumulated value of genetic gain for the average herd in New Zealand over a 10-year period is \$257,730. This equates to over \$25,000 per year, which covers the annual investment on most farms of around \$15,000. This return would be hard to beat considering it includes the costs of getting a whole bunch of cows in-calf. On top of genetic gain, the advances in Breeding Worth (BW) can deliver a lower environmental footprint per kilogram of milk solids produced.

The concept of farmers getting more from less has been at the forefront of LIC's breeding strategy and program

for many years. LIC's focus on profit, not just production, is reflected in the animals we breed, and we wear this as a badge of honour. At LIC we are not trying to breed cows that give only superior milk solids, we aim to breed cows that give superior milk solids per unit of feed eaten, that are healthy, long-lived and get back in-calf with little fuss year after year.

And we're succeeding. New Zealand genetics alone contribute to an increase of 2.2kg milk solids per cow every year. Fertility, health and longevity genetic trends are also gaining, while liveweight stays fairly static. Over 10 years this amounts to genetic gains of 22kg milk solids per cow and increases in overall production efficiency. Across a whole herd of cows that is invaluable to a farmer.

Crunching numbers is fine, but it's helpful to see them in action on an Australian farm. On page 4 we take a trip to Mt Schank, where Mike Green's herd is producing around 115% of their bodyweight in milk solids. With LIC Holstein-Friesians weighing 550kg and producing well over 600kg milk solids per cow, Mike is a fitting example of a farmer of doing more with less.

Sometimes minor changes can have a significant impact, so I encourage you to investigate what small adjustments you could make to drive your herd improvement and business forward.

Mike Rose

LIC Australia Sales and Operations Manager

How about now, brown cow

The New Zealand Jerseys are leading the way!



In the December Good Bulls Guide 12 of the 15 top spots were made up of New Zealand Jerseys, showing the mass improvement of the breed in recent years. Their production and capacity certainly stand out and of late, with the focus on breeding larger Jerseys with superior udders, LIC is receiving excellent feedback on the ground from farmers that the udders of their Jersey cows are among the best they have seen.

Two bulls that are worth highlighting this year are Besiege and Leopard.

Tironui LT Besiege

Tironui LT Besiege is a top new Jersey graduate coming in with a sky-high Breeding Worth (BW) of \$353/82%. For a Jersey sire Besiege's production certainly packs a punch with combined fat and protein kg coming in at 45kg above the base, which is mainly driven by exceptional components of 5.8% fat and 4.4% protein. Farmers are loving the Besiege daughters with his overall farmer opinion and temperament scores coming in at 0.52 and 0.59. Besiege's positive udders, capacity, fertility and milking speed means he is ticking all the right boxes.

The Tironui Stud, based in the heart of the Waikato, New Zealand, has produced some of the best-loved Jersey sires like Joskin and Meganev and current genomic sire Superman. The



herd is in the top five for BW in New Zealand out of 10,000 herds, which is no mean feat.

Besiege not only shines on the New Zealand system but is also ranking very well on the Australian Breeding Performance Index (BPI). At 264 BPI he's in the top group of bulls, which is heavily driven by his outstanding production - his ASI is 248.

As one of the top sires going in 2020 supply will be tight and demand strong so if he looks like your kind of bull put your name on some straws ASAP.

Kaitaka OI Leopard

Leopard holds the second spot on the Good Bulls Guide as of December 2019, sitting at 250 BPI. He is one of many Integrity sons that are proving to rank well in the Australian system. Leopard is a high indexing bull with a BW over 300 in New Zealand. He has extreme power to weight ratio, with daughters pushing out huge production compared to their size. Due to his high components, moderate litres and size, he is an ideal sire to use over larger stature Jersey and for crossbreeding. Leopard has strong udders coming in at 0.77 and excellent health and fertility traits.



Mount Schank beauty

When patience, passion and precision pays off

By Mike Rose, LIC Australia Sales and Operations Manager



Mike Green (left) with the local LIC District Manager Mike Waite

An often-forgotten region of Australian dairy, South Australia's Mount Schank is efficiently going about its business. LIC Australia Sales and Operations Manager Mike Rose spent some time there visiting farmers and made a special visit to Mike Green's farm in the heart of the region.

Farm Facts	
Location	Mount Schank, South Australia
Business Structure	Family owned and operated
Farm Area	293 total hectares, 167 Irrigated
Breed	New Zealand Holstein-Friesian and Aussie Red
System	650 cows, split calving
Per Cow Production	600kg milk solids per cow average, highest year 700kg milk solids

When I arrived at the Green's farm we took a walk around the farm and through the herd. It didn't take long to see the passion Mike has for dairy farming and his cows. He can rattle off the sires and dams of all his cows and comment on their production. This enthusiasm and attention to detail have produced a top-notch herd and some stand-out cow families. Mike has developed the herd over two decades from out of nowhere into the top 30 for Holstein on BPI and fourth-ranked for Aussie Red.

The Greens aim to feed their cows well, and you can tell they are getting it right from their production stats. They consistently produce over 600kg milk solids (MS) per cow and, in their best year, achieved more than 700kgMS. The system is, however, remarkably simple. The cows' diet is made up of grass, grass silage and around 2 tonnes of grain per year in the bail. They run a split calving pattern with late summer calvers and a spring group.

"if those animals don't turn out to be damn good milking cows, I'll eat my hat! I just love the look of them."

The Greens inherited a pure Holstein herd and quickly realised they needed cows better suited to their system. "They produced lots of litres but just struggled to get in-calf and put on weight. During calving I'd have to check them three or four times, and they just didn't last," says Mike.

The Greens decided to put Jersey over the whole herd for two years straight. "People thought we were mad, but some of those first-crosses were the best cows I've ever milked. They milked like trains and got in-calf easily. We had a number of them last to 12 years old and producing over 700kgMS," says Mike.

Mike then developed a line of New Zealand Holstein-Friesians and later a line of Aussie Reds. This is what the herd is primarily made of today.

The old catalogues Mike has piled up in the kitchen date way back to when LIC first started in Australia. He talks fondly of some of the first LIC bulls he used in his breeding plans. Old favourites like Kaiapoi, Halls, Legend and Hugo made a significant impact on the Green's herd early on. Many of the cows in the herd today are their descendants.

The Green's breeding policy has stayed consistent, as Mike explains, "We have always bred for components, fertility and cows that display strength and positive udder traits. We don't worry about milk volume, as we can feed for litres and the dairy company pays for solids not litres.

"Over the years we have had plenty of salespeople and other farmers ask why we stick with the New Zealand genetics, but for us they just work. When you have a herd doing over 100% of their body weight in milk solids, that gets in-calf quickly and is generally easy-care, why would you change?"

"People comment that the New Zealand animals' udders are not up to big production but there are not many people doing more production than our top cows, and it has never been a big issue for us.

"We have probably used well over 100 bulls from LIC over the years and I can only think of two or three that were flops with either some temperament or udder issues. That's a pretty dam good hit rate and a testament to the LIC Sire Proving Scheme which to me separates LIC genetics from the rest. You know when you only have a dozen bulls make the cut out of 200 a year that you are getting the cream of the crop."

"We have always bred for components, fertility and cows that display strength and positive udder traits."

Mike is currently using the likes of Beamer, Breakthrough, Vector and Sierra. He is happy to go back and use a bull again once he's seen how well the daughters are performing. He is quite taken by the Vector calves saying, "if those animals don't turn out to be damn good milking cows, I'll eat my hat! I just love the look of them."

"Bulls like Surething, Tommo, Top Doggie and Remedy have all performed beyond expectations in our herd. Of course we used Minted (Mint Edition) extensively. He was right up there with Hugo and probably the best bull LIC has ever breed,"

More recently the Greens used some Kiwicross™ bulls as an experiment, using

bulls like Sierra and Solaris over their yearlings. Although a little worried about consistency to begin with, so far Mike is pleasantly surprised. "The daughters from both the bulls are fantastic little cows – lovely udders, strong animals and are just so quiet to milk. They just came into the shed and settled right down from day one. I tell other farmers now, you can't go wrong with using bulls like that."

Following our long walk through the herd we sat down for a cup of tea and Mike pulled up some pedigrees and production information from his extensive records. He proudly showed a few cows that did more than 100,000 litres over their lifetime. The oldest cow currently in the herd, a Camelota daughter, is currently sitting at 93,000 litres as a 12-year-old.

Breeding a first-rate herd of cows takes patience, attention to detail and passion – qualities the Greens practice well. As a result they have bred some superior cows and get the best out of them by feeding them well.

Top production cows on the Green's farm

COW ID	SIRE	Age	MILKSOLIDS	DIM
7049	MINTED	7	941	361
7052	SURETHING	7	817	305
7039	HOSANNA	7	801	305
7085	MINTED	7	800	300
7177	ILLUSTRIOUS	5	799	305
7310	BOJANGLES	4	791	290

A herd to be proud of
Mike receives visitors from far and wide to check-out both his red and black and white cows, and they are always impressed. Recently the World Ayrshire Conference group visited his farm. Although they were there mainly to see the Ayrshire cows there were plenty of positive comments on the black and whites. Highly esteemed UK show judge, Duncan Hunter, later contacted Mike to praise him on his herd.

"I was extremely impressed with the LIC portion of this herd. The herd was so uniformed and showed balance throughout. The cows showed obvious strength through the front end with deep bodies. Bone quality was evident through the legs with the cows displaying fantastic locomotion. The udders were fantastic! High wide rear udders with excellent attachments and great teat placement. All these traits combined will ensure these cows stay around for many years ensuring profit for the business," Hunter commented.

Is the answer black and white?



With a new crop of 80 Holstein Friesian sires that have been through LIC's intensive progeny test process, we have the ability to pick the cream of the crop using actual data from their milking daughters.

The latest graduates do not disappoint and, while there continues to be shifts in the Breeding Worth (BW) which is explained more on page 5, the dominance of LIC bulls on the Ranking of Active Sires (RAS) list suggests we are making the right breeding decisions.

However, LIC does not make decisions based solely on BW. Conformation and udder traits are also thoroughly inspected to help ensure farmers get the right genetics to improve their herds.

Some of the real standouts in the current LIC Australia Holstein Friesian team are:

Gordons AM Lancelot

While not technically a new graduate, Lancelot was a must-have for this year's team as the top equal Holstein Friesian



Dam of Gordons AM Lancelot

sire for gBW at 274 with a reliability of 91. With a balance of high production, positive fertility and traits other than production (TOP) hitting all in the right places, Lancelot will be a no-brainer for many farmers. He has no Minted in his pedigree and his sire, Maelstrom, was not widely used in Australia so can

be safely exploited on farms that have used LIC genetics for some time. If his total longevity of 500 days longer than the base plus his dam still milking as an 11-year-old is anything to go by, Lancelot's daughters will deliver in the herd for many lactations.

Dicksons BG4 Mandate

Mandate was one of LIC's most used genomic sires in the breeding scheme, so it is awesome to see him graduate with such excellent traits. His udder overall is currently sitting at 0.70, dairy conformation at 0.58, somatic cell count at -.36 and he has the bonus of being A2A2. As moderate liveweight sire Mandate daughters are approximately 510kg.

Mandate is another Grandeur son that is easy calving and so he is a desirable choice for yearling matings. His dam is a Pulse daughter and his grand dam is from Minted. Breeders Julie and Murray Dickson think very highly of the dam. She is a top performer in their lower input herd – a no-fuss, low somatic cell count cow that never causes any issues. Last season she produced 755kg/MS in 305 days.

Given Mandate's widespread use as a genomic sire, there are more than 250 herd tested daughters contributing to his proof, and more than 7000 Mandate-sired calves have hit the ground so far.

He's available in both conventional and sexed semen.

Arkan MGH Backdrop

Backdrop is one of many Hothouse sons in the newly graduated crop. Hothouse was a popular bull in Australia that farmers keep coming back for and Backdrop could be heading that way too. Coming from the Arkan stud, which needs no introduction, and same cow family as the likes of Buster and Beamer, Backdrop was always destined for success. He's one of the highest BW Holstein Friesians at BW 255/82, with combined fat and protein percentages of 9.1%, overall opinion of 0.56 and fertility of 4.4%. His total longevity score of 818 days is one of the highest ever seen, so farmers can expect his daughters to last more than a lactation longer than average.

Backdrop is available in both conventional and sexed semen.

Busy Brook WTP Vector

Vector deserves a special mention as he continues to win the affections of farmers throughout the world. With a BPI well over 300 and as a top sire for both fertility and chest width, Vector ticks a lot of the boxes Holstein farmers desire. Reports on the ground say the Vector young stock stand out in the herd and are likely to make great milking



Dam of Dicksons BG4 Mandate



Dam of Arkan MGH Backdrop



Busy Brook WTP Vector

cows. Vector's dam, Busy Brook GB Vivien, shows the same strength as Vector. She is a big strong cow with the production to match – her top lactation clocks 874kg/MS in 296 days. Vector has been in hot demand around the

world and taken out numerous awards including the coveted Holstein Friesian New Zealand Society Mahoe Trophy for best sire. Vector is sure to be a top seller again in 2020 and is available in both conventional and sexed semen.

Q.

How do I identify more cows on heat this season?



A.



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Major enhancement to animal performance genetic evaluations

A major change to the New Zealand Animal Evaluation (NZAE) system came into effect in February.

This is the most measurable improvement to the animal evaluation system since the introduction of Breeding Worth (BW) in 1996. From an LIC perspective, the inclusion of genomic information will deliver further value to farmers.

To align with NZAE, LIC released its own animal genetic evaluation enhancements which not only contribute significantly to the base model changes at industry level (NZAE) but also incorporate our own latest development in the fast moving, high impacting area of genomic technology. This new model known as the Single Step Animal Model (SSAM) improves the accuracy in predicting an animal's true genetic merit.

Key enhancements to the animal evaluation system

Economic update
The five-year average milk price (NZ\$/kg of milk solids) and the five-year average value component ratio (VCR; value of milk fat relative to milk protein) are key inputs to the economic value calculations.

Both inputs increased in the February update. The average milk price increased from NZ\$5.92 to NZ\$6.32, while the average VCR increased from 1.01 to 1.16.

The update to economic values leads to an increase in BW for most animals. This BW lift reflects the increased profitability of dairy cows under a stronger milk price. The BW of bulls that rank highly for milk fat production increased the most. Overall, re-ranking among animals and across breeds was minimal.

Base model changes
Numerous improvements occurred, including the data inputs and the algorithms/models used. A key enhancement treats Holsteins and Friesians as different breeds and accounts for the heterosis effects in Holstein-cross Friesians, which results in more accurate breeding values.

Another change removes the impact of inbreeding in the phenotype, which gives a better estimate of the true genetic merit of an animal.

Genomic inclusion in LIC daughter-proven animals

The new genomic Single Step Animal Model (SSAM) enables all animals on the database to be evaluated at the same time. This results in genomic information flowing through all known pedigrees, both ways to ancestors and progeny. The model simultaneously analyses the complete New Zealand dairy population of approximately 30 million – deceased and current, genotyped and non-genotyped.

A further advancement is the inclusion of genomic information for daughter proven bulls. This will see phenotype information gradually outweigh genomic information as more data comes through. The main changes will occur in traits that take some time to express themselves such as fertility and longevity.

LIC has invested considerable resources into genomic evaluation of animals and the selection system it uses to predict an animal's performance based on its

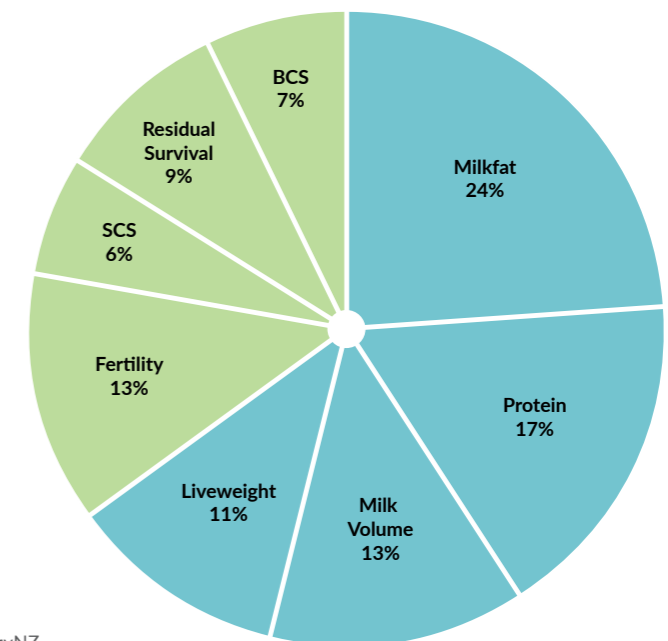
DNA profile. Our enhancements are a result of \$70 million invested in research and development over several decades. SSAM has been validated using the latest cohorts of bulls who now have daughter proofs to confirm its accuracy.

Importantly, it was also reviewed by internationally renowned geneticists who have commended LIC on our genomics work. NZAE's Scientific Advisory Committee has also reviewed and support our latest model.

Currently the BW data on the LIC and the NZAE websites reflect different values. This is primarily due to the fact NZAE data does not yet include any genomic information, while the LIC data does. The industry objective is to move to one national evaluation system that includes genomic information by 2021, which will result in consistent data displayed.

While the latest enhancements resulted in some re-ranking between animals, the overall benefit to farmers is improved accuracy in the prediction of an animal's true genetic merit enabling improvements in overall herd performance and greater rates of genetic gain.

Effective emphasis on the individual traits within Breeding Worth



Source: DairyNZ

Breeding for the golden oldies



Joyce Voogt

By Joyce Voogt, LIC International Technical Manager

Have you ever wondered what the secret is to living a long life? Is it lifestyle, circumstances, genetics? Longevity is an ever-evolving science but it is certainly not a new concept to dairy farmers. Highly profitable, fertile, healthy and long-lived cows have been the dairy herd ideal for generations.

More years, more profit

Economically, the long-lived cow can achieve a maximum period of profitability milking for more seasons in her peak lactation years. Rearing replacements is costly and generally cows don't recover their initial costs of breeding and rearing until they are into their second lactation.

When a higher percentage of the herd survives into the fourth and fifth lactation, per-cow milk production increases, driving cash flow, while improved cow survival allows a lower replacement rate. This can significantly reduce farm cost. The DairyNZ InCalf survival target is more than 50% of the herd living to four to eight years of age.

Welfare and environmental impacts

There's a positive link between cow health, happiness and longevity.

Environmental efficiencies can also be achieved when increasing average herd age and quality. The environmental impact of a cow reduces when she does more lactations and kilograms of milk solids.

From a herd improvement perspective, better cow survival allows farmers to accelerate genetic gain through increased discretionary culling of the lower performing cows and breeding replacement heifers from superior animals.

Cow survival is 6% heritable, meaning the environment plays a significant part in phenotypic longevity. The environment covers many things, including how well heifers are grown, hybrid vigour (which impacts significantly on cow longevity), and farm management decisions such as discretionary culling and optimal replacement rates.

Breeding for longevity

There is an opportunity to breed for improved genetic longevity due to the significant variation for the trait in the general cow population. The standard deviation for longevity in the New Zealand cow population is 141.2 days.

Fertility and production performance significantly influence a cow's life expectancy in the herd. Many other factors also affect her chances of

survival, which should be accounted for in animal breeding.

In New Zealand's Breeding Worth (BW) index, the trait residual survival represents the genetic merit for survival in the herd beyond what is accounted for by other BW traits such as production and fertility. With a 9% weighting in BW, it incorporates some non-production traits, including those most strongly correlated with the likelihood of survival. These traits include owner opinion, milking speed, leg conformation, dairy conformation and udder overall.

The influence of the traits varies depending on the age of the cow. Body condition score and milking speed are more strongly linked with early life survival, while udder and leg traits have more connection with later life survival.

Estimation of genetic longevity can be complex. Farmers consider many factors in the retention of a cow. The longevity trait itself also takes a long time to be fully expressed.

Predictor traits are used to help with estimations. These give a good indication of the likelihood of survival of a bull's daughters. Predictor traits include production, health and fertility traits as well as the non-production traits previously mentioned. Advances in genomic evaluation also help improve longevity estimations.

Survival trends

The survival trend for New Zealand cows is strongly positive, averaging +14.7 days per year (Figure 1).

The average total longevity breeding value (BV) for cows in 2019 is 134 days. This means they have the genetic potential to last 134 days longer in the herd than the genetic base.

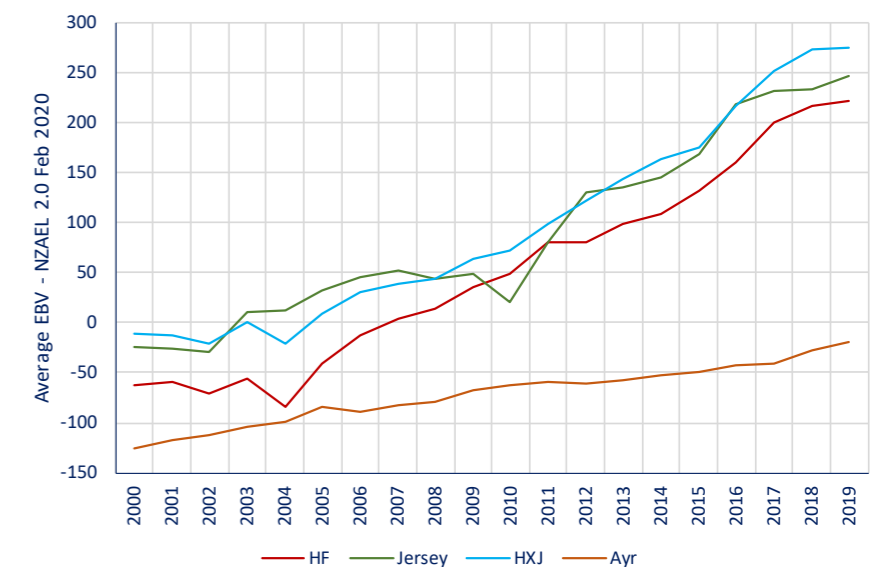
Recent research (2018) has shown that New Zealand has had no increase in mortality risk over the last 20 years. This contrasts to international trends of increased mortality in modern dairying countries. Actual herd life for New Zealand cows increased by six days per year between 1990 and 2003.

As a balanced index BW is delivering gains across longevity and other important traits, helping provide farmers with more choice for culling and breeding in their herds.



10-year-old dam of Breakthrough and Blitz milked to the ripe old age of 16

Genetic Trend Total Longevity Estimated Breeding Value (EBV)



References:

Stachowicz K, Quinton C, Meyer S, Amer P, Phyn CVC. (2017) Genetic Parameters of Cow Functional Survival and Correlations with Predictor Conformation and Farmer-Opinion Traits with Recommendations for Genetic Evaluation Interbull bulletin no.51

NZAEEL www.dairynz.co.nz/animal/animal-evaluation/ Accessed 10 February 2020

Berry DP, Harris BL, Winkleman AM, Montgomerie W. (2005) Phenotypic Associations Between Traits Other than Production and Longevity in New Zealand Dairy Cattle *J. Dairy. Sci.* 88:2962-2974

Compton CWR, PhD, Massey University (2018)

Miglior F, Fleming A, Malchiodi F, Brito LF, Martin P and Baes CF. (2017) A 100 year Review: Identification and genetic selection of economically important traits in dairy cattle. (2017) *J. Dairy. Sci.* 100:10251-10271

AHDB, Animal Health and Welfare <https://dairy.ahdb.org.uk/technical-information/animal-health-welfare/#.XX7zrSgzaUk> Accessed 16 September 2019

US National Library of Medicine <https://ghr.nlm.nih.gov/primer/traits/longevity> Accessed 10 February 2020



The best of both breeds

There are multiple reasons why Kiwicross™ sires are increasing in popularity on both sides of the Tasman. A key motive is that farmers want to better utilise feed. Many have realised that a moderate-sized cow, around 500kg of liveweight, is more than capable of doing equal to or more her liveweight in milk solids. The benefit is that more feed goes into milk production instead of animal maintenance.

Having an animal that is not too big and not too small makes sense from an economic and a farm system point of view. In addition, crossbred animals tend to get the best of both breeds, partly through hybrid vigour but also through selective breeding, meaning they often have high components, good milk volume levels, easy calving, and high fertility. This is confirmed by research from Dairy Australia, which showed that Holstein x Jersey crosses were 7.6% more profitable than straight Holsteins. Much of this was driven by the considerably higher reproductive performance of the crossbred animals and the elevated level of milk solids per kilogram of bodyweight*.

The new line-up of LIC Kiwicross graduates brings a lot to the table. It is no surprise that currently more than 40% of all LIC semen ordered is from Kiwicross bulls.

Walton Inferno

Bred by Walton Park Farm in the South Island of New Zealand, Inferno is likely the perfect all-rounder, and that's no surprise given Solaris is his sire. He is currently the highest-ranking new graduate for Breeding Worth (BW) in the Kiwicross line-up at a whopping 321/80.

He's out of a solid high performing Mint Edition-free cow family with super production.

Solid capacity, udder overall, dairy confirmation, shorter gestation and his A2A2 status add to his positive attributes. Among his stand out traits is his exceptional low somatic cell BV of -0.68.

Orders are already flowing in for Inferno and he will be in high demand so farmers should get in early.

Arkans Boombox

Boombox is yet another standout sire from the Arkan stud, located in the South Waikato district of New Zealand. The

cow family is well known to farmers using LIC genetics, with bulls such as Bounty and Beaut and the cow family going back to the great matriarch, Betty. This family continues to deliver and it's safe to say Boombox won't be the last bull come to the fore. Boombox's sire Jaydie was a top sire that unfortunately died before he had the chance to make an impact. He will now likely make his impact through his top-performing sons like Boombox.

Boombox produces moderate size daughters that do the goods in the vat and have all the traits to suggest they will be profitable long-lasting dairy cows. With udder overall at 1.13, big positives for capacity, farmer opinion, fertility and longevity and being A2A2, Boombox is a template for the balanced bulls that are coming out of the LIC bull breeding programme.

Boombox is available in both conventional and sexed.

Speakes Slipstream

It is rare to have a sire that ticks all the boxes and excels in many of them but Slipstream is just that. With strong udders over 1.00, BW over 300 and fertility at 6.6%, A2A2 and positive farmer scores, Slipstream has no shortfalls.

He also has plenty of horse power in his pedigree, coming from a well-known Jersey sire, Manzello, and a Mint Edition daughter, Sparkles, that was a real 'rocket ship' of a cow.

Farmers should make room for Slipstream in their AB tank this year if they want his strong long-lasting daughters in their herds.

Crossmans Critical

In what seems to be the year of allrounders, Critical is another bull that brings a lot to the table. This Jaydie son has more milk and production than the average Holstein Friesian cow yet is the average Kiwicross size. He's also easy-calving, A2A2, short gestation, huge capacity at 0.69 and farmer opinion at 0.42 not to mention very tidy udders coming in at 0.46. Critical's dam is a Commander daughter and a real cracker of a cow. She is a standout in the herd with a whopping production worth of 545 putting her amongst the very top performers in New Zealand.

**Source: Incalf Symposium 2017. Crossbreeding in Australia – What have we learnt? J E Coombe Faculty of Veterinary and Agricultural Sciences, The University of Melbourne*



Daughter of Arkans Boombox



Dam of Crossmans Critical



Keep a close eye on individual health and wellbeing of heifers

‘Should I be culling my heifers or giving them a second chance?’



By Rachel Bloxham, LIC Herd Improvement Technical Manager

Quite rightly, farmers tend to frequently question the fate of their heifers as a result of their young cows’ productive performance during their first lactation.

By the time heifers get to the end of the lactation (ideally with herd tested data),

a range in performance will have been observed due to both.

(i) management practice, and

(ii) as the first-calvers establish rankings within their herd.

Generally there’ll always be young cows that appear in the culling guide, because, unlike other age groups, they’re yet to have any selection pressure (or culling pressure) applied to them.

Two-year-olds, milking twice a day, should generally produce 75% of what the average cow within the mature-age group does (within the same herd)

Despite the above, chance dictates there will be animals that turn out as sub-optimal performers: whether this is due to genetics, or whether there are other factors at play, is what needs to be established.

Table 1.	Volume	Milkfat	Protein
Lactation 1 to 2	0.92	0.92	0.90
Lactation 1 to 3	0.90	0.90	0.89
Lactation 1 to 4	0.86	0.86	0.85

What does the data tell us?

Research shows there’s a strong genetic correlation between performance as a two-year-old and performance as a three-year-old. In fact, the genetic correlation is equal to, or greater than, 0.9 across all three production traits. These high levels continue across later lactations (table 1).

Table 1. Genetic correlations between lactations 1 and other lactations for production traits.

With everything else being equal, and no events impacting at an animal level, if a cow performs poorly in her first lactation there is a high chance she won’t do any better in her second lactation and beyond.

However, genetics is only part of the equation when it comes to what an animal actually produces.

Genetics accounts for 30-35% (level of heritability for production traits) of the variation observed in production.

The remaining 65-70% of the variation is a result of environmental and management factors.

From an animal evaluation perspective, the system is designed to account for differing environment and management conditions (that affect the herd as a whole) by the use of contemporary groups (i.e. herd-mate comparisons).

This ensures like-for-like animals are only compared against each other (i.e. same age, herd, season of calving).

Factors like weather conditions (e.g. droughts) and different farming systems (e.g. system 2 versus system 4) are therefore taken into consideration, and get removed from the analysis when calculating indices.

At a phenotypic level, the correlation between first and second lactations is about 0.5.

The above demonstrates that, even though variation is observed, more often than not the same animals appear to produce poorly across both lactations.

But we know the nature of dairying isn’t that simple.

To gain a better understanding of why farmers choose not to cull their first-calvers, LIC asked several Waikato based dairy farmers for their comments.

A common theme was a desire to understand if there was anything that occurred during the season that impacted an animal individually (i.e. health issues, dry quarters, hard calving).

As mentioned, factors that affect performance at a herd level are removed by the animal evaluation system.

Less obvious are factors that may affect an individual animal.

For example, did she suffer from a period of lameness, or was she holding milk due to strong, regular,

“Data indicates a poor performer will still be a poor performer in the following season, but it’s just as important to understand what’s happening at the individual level.” - Rachel Bloxham

Figure 1: Milksolids production – 2015-borns (May 2018 v April 2019)

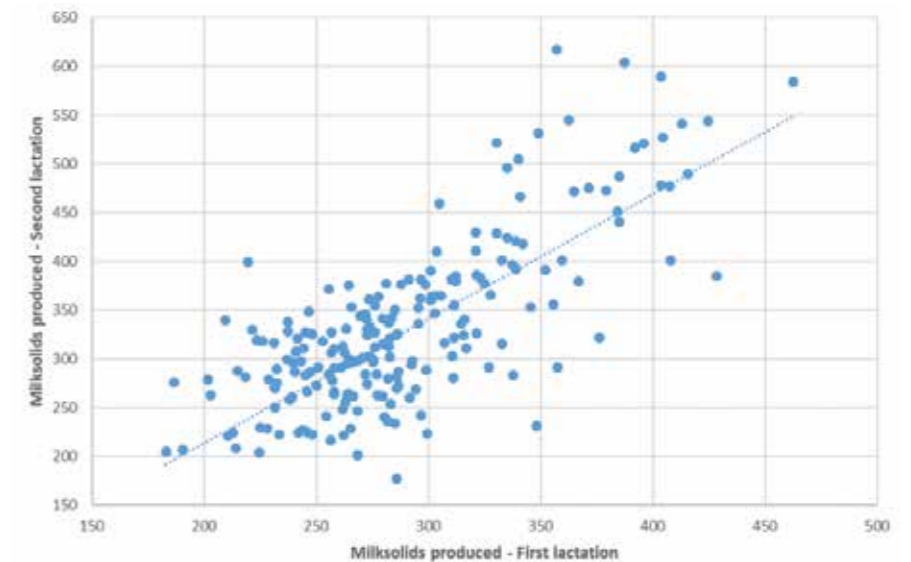


Figure 1 shows a comparison of milksolids production in first and second lactations for 220 spring-born animals (2015) in three Waikato herds that are known to avoid culling their first calvers.

heats? Not identifying these events, especially at the time of a herd test, could disadvantage the animal when it comes to assessing her performance compared to her herdmates. Use of herd test exception (abnormal) codes are encouraged to help identify these cases.

Reviewing past research indicates that the most important period of mammary growth (determining milk yield) occurs during pregnancy and very-early lactation.

Any influencing factors that affect the heifer during this period could result in less than ideal udder development for that season.

It is therefore an important period of time to keep a close eye on the health and wellbeing of individual heifers.

Calving down for a second season possibly gives a young, promising, cow an opportunity to re-set herself and start afresh.

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