

# GREEN of GOLD

AUTUMN 2019

THERE'S ALWAYS ROOM FOR IMPROVEMENT



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## 2019 STRAW PROMOTION

Look out for the 2019 LIC Australia Sire Catalogue in your letterbox or go to [licnz.com.au](http://licnz.com.au) - we have an extensive range of elite bulls to suit many different needs.

Get your orders in quickly because the first 200 orders we receive over 100 will receive a free LIC softshell jacket or Deane overalls.

Terms and conditions apply. For more information check out the 2019 LIC Australia Sire Catalogue or talk to your local District Manager.



# Let's look to the future



Mike Rose

In my role as Sales and Operations Manager for LIC Australia I do a lot of driving. To pass the time sometimes I listen to podcasts. Recently I've been tuning in to Agriminders, by Australian agricultural scientist Chris Russell, which explores the critical issues affecting the next 50 years in Australia agriculture.

A mind-boggling statistic from this is that there will be more food eaten in the next 50 years than in the entire history of humanity. Isn't this quite remarkable yet daunting all at the same time?

The daunting part is that we currently only produce around 30% of the food required and an unimaginable amount of change and technology will be required to produce the extra 70% needed. Especially in a world with reducing natural resources, such as water, and a population that is demanding higher standards of animal welfare and environmental care.

Farmers themselves are going to be a critical factor in growing production, and having enthusiastic people in the industry with a desire to learn and improve is going to be very important.

It's exciting being part of a company that plays a role in improvement on farm year in and year out. At LIC, we have been increasing the productivity of dairy cattle for over 100 years now, and working on how we can improve the way we do this. For example, the technology around genomic selection is continually getting more accurate. This suggests that 20+ years from now, the cattle we see in the paddock will be very different and greatly superior to what we see today. It's always impressive to see what the LIC scientists come up with next.

## Take a trip to New Zealand's stunning South Island

We are taking expressions of interest for our 2019 New Zealand Farmer Study Tour being held 24 to 29 June. The purpose of the trip is for farmers to see dairy farming in a different perspective, and to learn new things so that they can continue to improve their own businesses. Highlights include:

- Attending premier dairy conference, SIDE (South Island Dairy Event) [www.side.org.nz](http://www.side.org.nz)
- Visiting progressive dairy farmers to see wintering dairying systems in action
- Visiting some key breeders of LIC sires
- Some local sightseeing.

The tour is partly subsidised by LIC Australia and subject to demand. Contact our office for more information and to register your interest: 1800 454 694 | [admin@licaus.com.au](mailto:admin@licaus.com.au)

## A new-look Green to Gold

We are so happy about all the positive feedback of Green to Gold. Our aim is to only include articles that are helpful and interesting to you.

Some highlights within the Autumn edition include:

- A trip to Tasmania to see how one of our longest standing clients are pushing the boundaries in many ways.
- A closer look at different mating strategies to increase genetic gain.
- The new graduates are profiled showcasing the best on offer in 2019.
- A thought-provoking read on why farmers should take a closer look at New Zealand Jerseys.
- An update on Breeding Worth (BW) and the impact the fat breeding value is having at present.

We hope you enjoy the new and improved layout of Green to Gold.

Happy farming,

Mike Rose

# Dornauf Family Farms: Over 50 years of improvement and counting



**Improvement is the name of the game at the Dornauf Family Farms, now managed by third generation farmer Nick Dornauf and his wife Bek. 55 years ago his grandparents started out with 71 cows that were producing an average of 100kg of milk butterfat per season.**

The enterprise now consists of 2100 cows – over four farms located in Moltema and Quamby Brook, Tasmania – averaging 600kg milk (110% milk solids to liveweight conversion solids) per season. And all this from herds with less than 10% empty rates!

“We have always liked to challenge ourselves, and find ways to do things a little smarter and better. We have built and continue to build the ability to grow high levels of high-quality pasture, and breed cows that can efficiently convert

that pasture into profit,” says Nick.

“My grandparents heard the calling of the Tasmanian land 55 years ago. Leaving office jobs in Launceston, they bought this very piece of dirt over 50 years ago.

**“We are very proud of the animals and systems that we have been able to create in no small part due to LIC and their genetics.”**

“My grandfather recognised very early on that the traditional Australian dairy cow with a large frame was not well suited to the high rainfall in Tasmania. He opted to invest in New Zealand genetics from the

early 1970s when he was introduced to LIC by AI technician, Pat Brown.”

To this day, more than 40 years later, Pat still inseminates the Dornaufs’ cows.

“When Pat started here he brought his favouritism for the LIC style cow with him. And you could say the rest is history... that does not do justice to the positive influence Pat and LIC have played in the success of our herds. Pat has inseminated LIC semen nearly every season since that first one. Pat has had a season or two off but LIC hasn’t.

“We are very proud of the animals and systems that we have been able to create in no small part due to LIC and their genetics.”

LIC regard Dornauf Farms as the longest users of LIC semen in Australia – over 40 years.



### Investing in innovation

In more recent years the Dornaufs have invested in growth, doubling the size of their operation by purchasing more properties in the surrounding area.

Southeast of Moltema, Nick and Bek live in Quamby Brook, where the family has purchased and developed a 230ha dairy farm and a 210ha run-off block to support the greater farming operations.

In 2017, the family purchased 100ha adjacent to the original dairy farm. It is on this land that their brand new, high-tech milking parlour stands to help with efficiency on the farm.

The fully automated robotic milking parlour from DeLaval, the AMR (Automatic Milking Rotary), is the first of its kind in Australia. The internal herringbone rotary platform is 24 units, is serviced via five robotic arms

and operates 24 hours per day with voluntary cow traffic, milking 600 cows.

“We have had every type of dairy parlour imaginable: a walk-through, a step-up, herringbones, a Rotaflo rotary, a robotic parlour and probably a bucket at some point! We have also just commissioned an additional dairy – a 54 bail rotary – to keep up with our growth and future demand.”

### Cows for the conditions

Situated within a valley around a number of conservation and forest reserves, with an elevation of over 200 metres, the local area tends to be hot and dry in summer and very cool in winter. However, maximum average temperatures are lower than on the mainland in Victoria and South Australia.

Over the last decade, the Dornaufs have carefully selected bulls from the LIC catalogue to breed cows that

specifically suit their environment and farming system.

**“Our empty rate is usually as low as five to seven percent. This has allowed us to have discretionary culling up our sleeves to remove marginal animals”**

Nick has followed on from his father Chris’ desire for high performance from fertile cows that produce an average of 600kg of milk solids per season. They feed their animals around 2.2 tonnes of dry matter per cow per year and reap the rewards by maintaining good cow condition



regardless of what is going on outside.

“We have been using Paul Douglas from Genetysis and his program ‘Genescreen’ to selectively mate our cows to increase the rate of genetic gain in our herds and to address our four main breeding objectives: high daughter fertility, great capacity, low somatic cell count and strong udders.

“We artificially inseminate (AI) for eight weeks and usually get between 78-82 percent of cows in calf to AI with semen from premium sires. We finish with short gestation length (SGL) semen for a week, and then put natural-mating bulls out for four weeks.

“Our empty rate is usually as low as five to seven percent. This has allowed us to have discretionary culling up our sleeves to remove marginal animals, plus the added benefit of surplus milking cows to sell to the local market.”

The four herds are framier Holstein-Friesians with great udders allowing for milk solids production boundaries to be pushed. This is the result of tough culling and their long-lasting relationship with LIC that ensures the right bulls are selected for the right cows.

In August 2017, the Dornauf’s four herds combined were ranked 2nd for BPI across Tasmania and in the top 50 within Australia. Presently, their 2,100 cows are averaging 600kg of milk solids with an average cell count of 120,000.

“We have had some favourite LIC bulls over the years like Hothouse (MOURNE GROVE HOTHOUSE S2F), who we have used extensively since 2014. We used Mint Edition (FAIRMONT MINT EDITION) – a former number one bull in NZ – prior to that, and are now using some of his sons.

We also liked Frostman (PUKETIRO FROSTMAN S1F). We had his daughters in their first lactation doing over 10,000 litres in 305 days and holding to their first service. Many of these cows are now in their sixth or seventh lactation and have developed into wonderfully resilient and capacious cows.”

### **Continuous improvement**

The Dornauf’s herd and overall farming business are going strong, but this doesn’t mean they stand still. For 55 years, they have been focusing on continuous improvement, and it is fair to say that this strategy is paying off.

“We make improvements year after year, just like LIC. We see this in the animals we have bred using their bulls. As an organisation they seem to compliment what we are doing.”

# Q.

How do I get the best heat detection results for my herd?



# A.

The best heat detection results are achieved by combining paddock observations with heat detection aids.

-DairyNZ in-Calf book

Effective heat detection practices can lead to improved profitability for your herd. The quicker cows get back in-calf, the more milk they are able to produce. Missed or wrongly identified heats can lead to lost revenue through reduced milk production and wasted AI. Because heat detection can be complicated, use the below products to help choose the best time to inseminate your cows.

For a free sample pack or to place an order talk to your local District Manager or contact the LIC office on 1800 454 694 | [admin@licaus.com.au](mailto:admin@licaus.com.au)

## Heat Detection Aids



LIC scratch off heat detection  
Pack of 100

These are cost-effective heat detection aids that come in a range of bright colours. They are self-adhesive, so there is no need for glue or preheating saving you precious time. The friction base technology can help prevent false positive readings.



LIC Heat Patch Plus  
Pack of 100

LIC Heat Patch Plus is a self-adhesive heat detection aid, saving time and energy without messy glue. When activated by pressure, the dye can bleed right to the edges of the patch for greater visibility. There is also built-in four second time technology, which helps to identify a true standing heat.

# Mating Made Simple

Farmers with a good level of reproductive performance need not scramble for the single best AB bull to mate to their best cows.



**That's according to recently-published research\*, which indicates the greatest strides in genetic gain can be achieved by identifying the herd's worst cows, rather than by identifying the herd's best cows.**

In other words, the science suggests farmers are far better-off preventing lower-quality stock from producing replacements, focusing instead on using replacement-quality semen (from a team of bulls) to mate to, say, the best 80 to 90% of the herd.

The science de-bunks a commonly-held, intuitive, belief that the best way to maximise genetic gain is to mate the herd's top cows to the industry's top AB bull.

## Methodology

David Chin, LIC GM Operations & Service and one of the authors of the peer-reviewed paper published in the *Journal of Dairy Science*, said the research involved surveying a wide representation of New Zealand herds (as at March 2017).

For each herd, a combination of mating parameters were applied, reflecting various mating strategies.

Because random chance has a significant bearing on which cow gets in-calf to an AB mating, and which of those pregnancies results in a heifer being born, each combination of parameters was simulated 1000 times (i.e. to identify how much variation might occur due to chance).

A total of 54 million herd matings were therefore simulated, Chin said.

## The upshot

Findings told a fairly straight forward story.

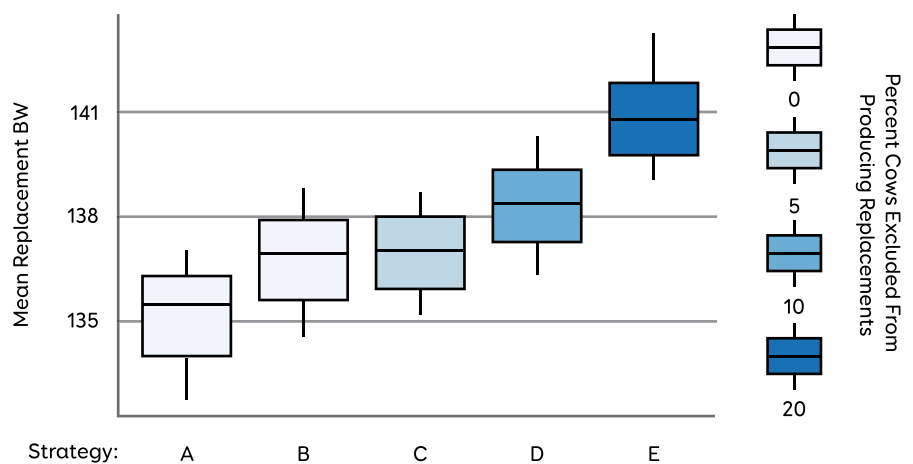
"For each 10% of the herd's poorest cows that get excluded from generating replacements, the average breeding worth (BW) of all replacements generated increased by 3.8 to 4 BW, regardless of herd structure or bull team," Chin said.

"For many herds, even just excluding the bottom 5% of the cows from producing

a replacement is a better strategy than mating the top 20% of your cows to the single-highest BW bull."

However, good reproductive performance underpinned all the findings, because the birth of enough replacement heifers remained paramount.

Chin also acknowledged the necessary trade-off between selection and inbreeding that farmers faced.



## Examples of findings

The graph above reflects a collection of herds that had the New Zealand average BW with a relatively narrow spread of BW between the cows.

There are five data sets plotted, each reflecting a different mating strategy:

- A shows the outcome of a mating strategy that involved mating the entire herd with a bull team.
- B shows the outcome of a mating strategy that involved mating the top 20% of cows to one nominated bull; the rest of the herd got replacement-quality semen from a bull team
- C shows the outcome when 5% of the herd is excluded from producing replacements; all other cows were mated to a bull team and there were no nominated bulls involved.
- D shows the outcome when 10% of the herd were excluded from producing replacements; all other cows were mated to a bull team and there were no nominated bulls.

- E shows the outcome when 20% of the herd were excluded from producing replacements; all other cows were mated to a bull team and there were no nominated bulls involved.

Chin said use of bull teams with high genetic merit remained an excellent strategy at AB time, but farmers could better-utilise their money, and make greater gains, by using the team of bulls smarter.

"It just takes a little more effort in knowing which cows to, and which cows not to, target the product at," he said.

\* Johnson T, Eketone K, McNaughton L, Tiplady K, Voogt J, Sherlock R, Anderson G, Keehan M, Davis SR, Spelman RJ, Chin D, Couldrey C. (2018) Mating strategies to maximize genetic merit in dairy cattle herds. *Journal of Dairy Science*;101(5):4650-4659. doi: 10.3168/jds.2017-13538



# BW Changes: Fat-to-Protein values get close to parity downunder

By Greg Hamill, LIC Genetics Business Manager

It's important that an animal evaluation index based on the efficiency of the bull's offspring in converting feed to profit reflects economic reality for farmers. We know that dairy sector experiences volatility in milk prices throughout the years. For this reason New Zealand farmers see annual adjustments to the economic weighting of their index Breeding Worth (BW).



Greg Hamill

In February 2019, New Zealand Animal Evaluation Ltd (NZAEL), a subsidiary of DairyNZ, officially released new economic weightings for Breeding Worth, which put more emphasis on fat compared to protein.

For the past 20 year protein has been king, with this reflected in world dairy prices and indexes such as BW. We have seen the Holstein-Friesian breed lead the way because of this. However recently, due to consumer demand, the value of fat has significantly increased and protein has dropped slightly. This means farmers milking cows that produce higher fat (usually cows with

higher Jersey content) have the potential to make more money from their milk.

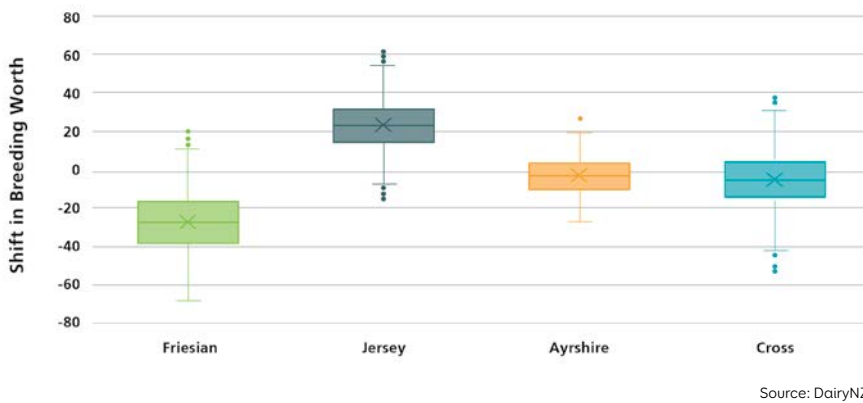
Over the last few seasons, we have been watching this trend so the LIC genetics and sire selection staff have already been selecting and ranking bulls with the economic changes in mind.

These changes also better-align world commodity prices that our milk processors receive with the various milk/animal components that make up Breeding Worth.

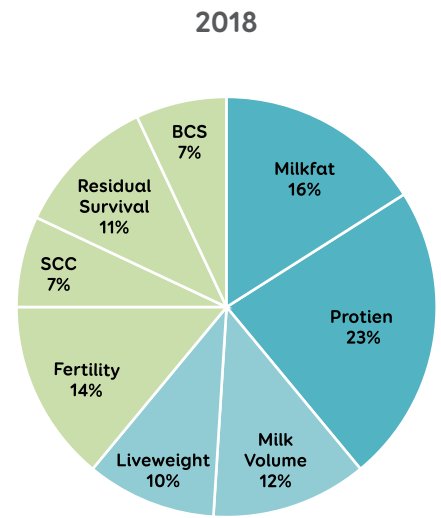
Breed changes are a reflection of the economic values' impact on the traits associated within each breed, but breed



### Shift in Breeding Worth for AE enrolled sires



Effective emphasis on the individual traits within Breeding Worth (NZAEI graphic, reproduced with permission from DairyNZ).



choices remain the domain of LIC's farming customers.

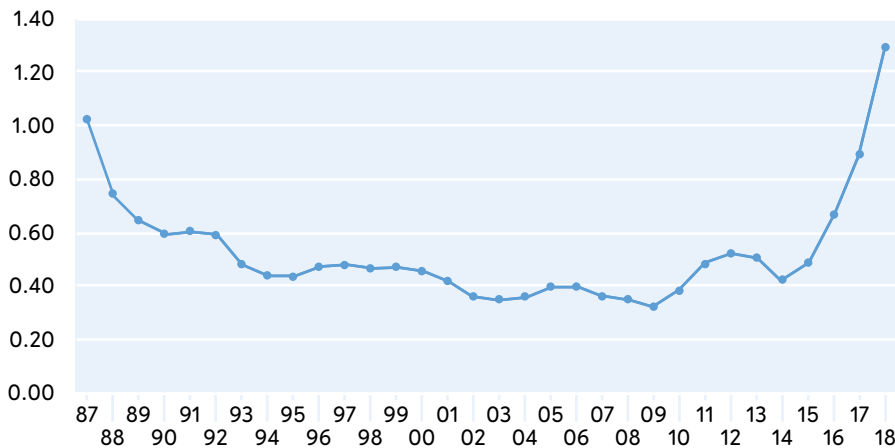
LIC still fields a very strong offering of bulls in all three breeds it markets: Holstein Friesian; Jersey, and; KiwiCross.

The graph above shows how the economic changes impact the BW of

NZAEI-enrolled bulls. The BW of high fat sires increases, and on the other hand the BW of high protein sires will decrease. For bulls born after 1999 with a BW Reliability of 75% and a BW 2018 of >0, Friesian bulls are the most affected, with an average shift of -\$27.7. Jersey, Crossbred and Ayrshire bulls have shifts of \$23.3, -\$4.8 and -\$3.4.

Source: DairyNZ

### Ratio of milkfat to protein prices



### Fat is back!

#### So why the adjustment in 2019?

Global dairy markets have seen a resurgence in demand for fat over the last few years, and this demand has been reflected in strong prices for the component.

The graph above shows how the relative value of fat to protein has risen significantly since 2016.

Fonterra's current three-year rolling average for value component (VCR) ratio sits at 1.3.

Although likely to rise over the next few seasons, the current VCR of 1.01 that feeds into BW (which NZAEI is using) reflects a 'long term view' of fat

values; over the long term these values are expected to plateau and move closer to parity with protein values.

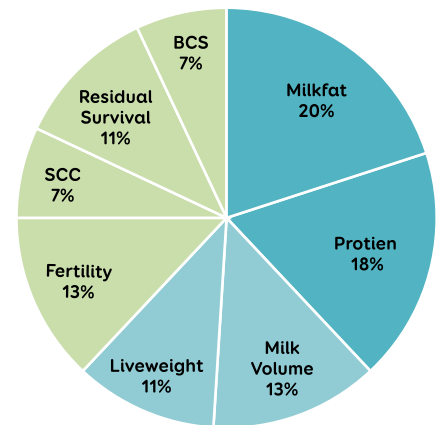
BW remains a solid indicator to use among farmers who want to breed progeny that are profitable and efficient converters of feed into what milk processors are paying, and being paid, for.

#### What's driven the economic changes?

Cows naturally produce more kilograms of fat compared to protein. The base cow (that the NZ industry uses as a benchmark in BW values), born in 2005, which came into milk in 2007, produced 218kg of fat and 174kg of protein when fed five tonnes of dry matter.

With many processors receiving more money for fat than protein, the new

### 2019



weightings for 2019 better reflects long term predictions of where fat is likely to sit relative to protein.

The move in BW is based on where prices have been sitting and an informed view of where they will settle based on global demand.

For our Australian farmers, as always, breeding decisions need to be based on the type of cow/herd you believe will deliver the most value to you in five, ten or fifteen years' time. For many it will mean tailoring your criteria to suit your situation.

Please look to your district manager for more information to support your decision making process.

# A black and white winning line-up

2019 Holstein-Friesian bull team



## LIC Australia's 2019 line-up of Holstein-Friesians is one of our best yet, featuring both new and existing high-performing bulls.

The team displays strength in all the key factors that we believe make up a profitable cow: fertility, longevity, productivity and efficiency, as well as stability in the other essential traits like udders, capacity and temperament. With a team like this, 2019 mating season is an exciting one to look forward to.

Some of the standouts for 2019 are:

### Westedge VHR SWEET AS S2F

Sweet As is the highest-ranking new graduate Holstein-Friesian in New Zealand, and with a healthy BPI of 284, he is certainly going to make some waves here in Australia too. With strong production breeding values (BV) of 37kg/3.9% protein and 48kg/4.9% fat and a moderate liveweight BV of 43kg, he is surely an efficient, high production bull that can put dollars in the vat. Adding his A2A2 status and positive fertility BV to the mix makes him a very sought-after boy.

### Meander SB WINGMAN-ET S2F

Bred in the deep south of New Zealand by Robert and Annemarie Bruin, Wingman is out of one of the most well-known dams (Meander FMI April) in NZ. April is a high production cow with a great classification score of VG 87 and has multiple bulls sampled and proven in the dairy industry. With a protein BV of 30kg, fat BV of 29kg and lower liveweight BV of 19kg, his daughters ought to be punching well above their weight in the production front. Let's not forget about his outstanding somatic cell BV of -0.77 and his awesome udder BV of 1.24, which should place him into most farmers' list of bulls to use this season.

### BusyBrook WTP VECTOR S3F

Vector sold out in 2018 and there is no doubt 2019 will be much the same. At 351 BPI, he is in the top group of sires available in Australia, bringing a lot to the table. He has a fertility BV of a whopping 7.3%, outstanding capacity and high production. Combining this with easy calving and great farmer opinion scores definitely shows why farmers favour him so much. Vector is available in sexed and conventional at very good value of \$20 per straw on volume pricing.

### Maire Mint FIRE-UP

Fire-up is like a good red wine, he just keeps getting better with age. At 316 BPI and an ASI of 249, he can certainly deliver. Fire-up is the biggest LIC sire available and so suited to the higher input systems and those who want to add strength without reducing stature. He is also easy calving, A2A2, and big on capacity and fertility – the ideal all-rounder. With a number of daughters milking in Australia we know from what farmers are saying, they are well liked and the top performers within their year group in many herds. LIC Australia has managed to secure the last straws of this bull that are available so get in quick to reap the Fire-up rewards.

It is a pleasure to bring you such a winning line-up of black and whites. Here at LIC Australia we believe that the 2019 Holstein-Friesian team has the potential to deliver the cows you love to milk!

The challenges facing every farmer are different from farm-to-farm, but we always aim to provide a range of genetic solutions to fit all requirements. Discuss the best solution for your situation with your local LIC District Manager.

## 115080 WESTEDGE VHR SWEET AS S2F



BW **\$210/83%** REL

**PEDIGREE:**  
REMEDY x MINT-EDITION

Holstein-Friesian F16  
NZGSWEETAS | A2A2

### NEW ZEALAND DETAILS

Daughter Proven

#### NZ Breeding Values 107 Daughters

|                      |            |                        |              |
|----------------------|------------|------------------------|--------------|
| Milk Volume (litres) | <b>797</b> | SCC                    | <b>-0.05</b> |
| Fat kg               | <b>49</b>  | Fertility %            | <b>1.3</b>   |
| Fat %                | <b>4.9</b> | Total Longevity (days) | <b>390</b>   |
| Protein kg           | <b>39</b>  | Calving Difficulty     | <b>5.1</b>   |
| Protein %            | <b>3.9</b> | Liveweight             | <b>44</b>    |

#### NZ Evaluation Data Traits other than production

|   |             |                                 |     |     |
|---|-------------|---------------------------------|-----|-----|
| Management                              | BV -0.5     | 0                               | 0.5 | 1.0 |
| Overall Opinion                         | <b>0.54</b> | <div style="width: 54%;"></div> |     |     |
| Conformation (107 daughters TOP tested) |             |                                 |     |     |
| Udder Overall                           | <b>0.10</b> | <div style="width: 10%;"></div> |     |     |
| Dairy Conformation                      | <b>0.32</b> | <div style="width: 32%;"></div> |     |     |

#### Australian Indices

Source: ADHIS Dec 2018

|           |               |     |            |
|-----------|---------------|-----|------------|
| BPI/REL % | <b>304/52</b> | ASI | <b>226</b> |
| HWI       | <b>233</b>    | TWI | <b>239</b> |

## 115054 BUSYBROOK WTP WINGMAN S3F



BW **\$151/81%** REL

**PEDIGREE:**  
BOSS x ILLUSTRIOUS

Holstein-Friesian F16  
NZGMEANDWING | A1A2

### NEW ZEALAND DETAILS

Daughter Proven

#### NZ Breeding Values 89 Daughters

|                      |            |                        |              |
|----------------------|------------|------------------------|--------------|
| Milk Volume (litres) | <b>754</b> | SCC                    | <b>-0.56</b> |
| Fat kg               | <b>28</b>  | Fertility %            | <b>0.8</b>   |
| Fat %                | <b>4.6</b> | Total Longevity (days) | <b>379</b>   |
| Protein kg           | <b>29</b>  | Calving Difficulty     | <b>1.5</b>   |
| Protein %            | <b>3.8</b> | Liveweight             | <b>19</b>    |

#### NZ Evaluation Data Traits other than production

|  |             |                                  |     |     |
|--|-------------|----------------------------------|-----|-----|
| Management                             | BV -0.5     | 0                                | 0.5 | 1.0 |
| Overall Opinion                        | <b>0.24</b> | <div style="width: 24%;"></div>  |     |     |
| Conformation (84 daughters TOP tested) |             |                                  |     |     |
| Udder Overall                          | <b>1.24</b> | <div style="width: 124%;"></div> |     |     |
| Dairy Conformation                     | <b>0.09</b> | <div style="width: 9%;"></div>   |     |     |

#### Australian Indices

Source: ADHIS Dec 2018

|           |               |     |            |
|-----------|---------------|-----|------------|
| BPI/REL % | <b>285/51</b> | ASI | <b>143</b> |
| HWI       | <b>258</b>    | TWI | <b>261</b> |

## 114007 BUSYBROOK WTP VECTOR S3F



BW **\$182/86%** REL

**PEDIGREE:**  
TE POI x GOLDEN BOY

Holstein-Friesian F16  
NZGBBVECTR | A1A1

### NEW ZEALAND DETAILS

Daughter Proven

#### NZ Breeding Values 102 Daughters

|                      |            |                        |              |
|----------------------|------------|------------------------|--------------|
| Milk Volume (litres) | <b>961</b> | SCC                    | <b>-0.37</b> |
| Fat kg               | <b>40</b>  | Fertility %            | <b>7.9</b>   |
| Fat %                | <b>4.7</b> | Total Longevity (days) | <b>614</b>   |
| Protein kg           | <b>36</b>  | Calving Difficulty     | <b>0.4</b>   |
| Protein %            | <b>3.8</b> | Liveweight             | <b>104</b>   |

#### NZ Evaluation Data Traits other than production

|  |             |                                 |     |     |
|--|-------------|---------------------------------|-----|-----|
| Management                             | BV -0.5     | 0                               | 0.5 | 1.0 |
| Overall Opinion                        | <b>0.98</b> | <div style="width: 98%;"></div> |     |     |
| Conformation (88 daughters TOP tested) |             |                                 |     |     |
| Udder Overall                          | <b>0.36</b> | <div style="width: 36%;"></div> |     |     |
| Dairy Conformation                     | <b>0.60</b> | <div style="width: 60%;"></div> |     |     |

#### Australian Indices

Source: ADHIS Dec 2018

|           |               |     |            |
|-----------|---------------|-----|------------|
| BPI/REL % | <b>351/68</b> | ASI | <b>193</b> |
| HWI       | <b>275</b>    | TWI | <b>280</b> |

## 112080 MAIRE MINT FIRE-UP



BW **\$63/92%** REL

**PEDIGREE:**  
MINT-EDITION x JUSTICE

Holstein-Friesian F16  
NZGFIREUP | A2A2

### NEW ZEALAND DETAILS

Daughter Proven

#### NZ Breeding Values 207 Daughters

|                      |             |                        |             |
|----------------------|-------------|------------------------|-------------|
| Milk Volume (litres) | <b>1188</b> | SCC                    | <b>0.27</b> |
| Fat kg               | <b>40</b>   | Fertility %            | <b>-2.1</b> |
| Fat %                | <b>4.4</b>  | Total Longevity (days) | <b>350</b>  |
| Protein kg           | <b>46</b>   | Calving Difficulty     | <b>1.3</b>  |
| Protein %            | <b>3.8</b>  | Liveweight             | <b>120</b>  |

#### NZ Evaluation Data Traits other than production

|  |             |                                  |     |     |
|--|-------------|----------------------------------|-----|-----|
| Management                             | BV -0.5     | 0                                | 0.5 | 1.0 |
| Overall Opinion                        | <b>0.53</b> | <div style="width: 53%;"></div>  |     |     |
| Conformation (96 daughters TOP tested) |             |                                  |     |     |
| Udder Overall                          | <b>1.00</b> | <div style="width: 100%;"></div> |     |     |
| Dairy Conformation                     | <b>1.04</b> | <div style="width: 104%;"></div> |     |     |

#### Australian Indices

Source: ADHIS Dec 2018

|           |               |     |            |
|-----------|---------------|-----|------------|
| BPI/REL % | <b>316/70</b> | ASI | <b>249</b> |
| HWI       | <b>198</b>    | TWI | <b>298</b> |

# Recognition for crossbred sires

Crossbred bulls are now featuring on *The Good Bulls Guide*



Eight year-old Dam of 513098 Bounty - A prime example of the crossbred cow

**At LIC we are very proud of our Holstein-Friesian and Jersey bulls and what they can deliver to farmers. However, one offering that makes LIC really stand out from the crowd is our Kiwicross™ bulls. We are excited to see these bulls now featuring in the DataGene Good Bulls Guide, as Australian farmers see the benefits of crossbred cows in their herds.**

## History of Kiwicross™ bulls

LIC developed their crossbred breeding program way back in 1999. But why?

We knew from milk records and farmer experience that many of the best cows in the New Zealand national dairy herd were crossbred animals. These cows lived the longest, produced more milk solids and were easy-care, highly efficient animals.

However, there was no option to use these quality cows as bull-mothers - it was an opportunity too good to miss. We knew that elite crossbred bulls could offer substantial fat and protein gains in a fertile, long-living cow.

From there, LIC scientists and breeding experts revealed how to evaluate crossbreds and identified the most elite of these genetics. We bred and progeny-tested a group of sires, then marketed them under the name 'Kiwicross™'. They were an immediate hit. Since then, farmers both in New Zealand and globally have enjoyed the benefits, and the programme has gone from strength to strength.

Sires like Northsea, Showman and Solaris now have legendary status and sit alongside the best Jersey and Holstein-Friesian bulls in LIC's Hall of Fame.

## Crossbreds in Australia

Australia's top-selling LIC sire is a Kiwicross™ that will be known to many Australian farmers, Priests Sierra.

**“This... is a step forward and will give farmers more choice and ability to breed profitable dairy cows.”**

There are plenty of crossbred cows in Australia and they're performing well. Many farmers see crossbreeding as a way to bring the cow size down, improve fertility and longevity and to drive up milk components. The ideal cross is

## Crossbred Balanced Performance Index (BPI)



| Profit Rank              | BullID       | Bull Name                        | Breed | Aus or International Proven | Indices  |             |     | Production Traits |     |             |               |           | Cell Count        |     | Fertility   |                    | Source |             |
|--------------------------|--------------|----------------------------------|-------|-----------------------------|----------|-------------|-----|-------------------|-----|-------------|---------------|-----------|-------------------|-----|-------------|--------------------|--------|-------------|
|                          |              |                                  |       |                             | BPI (\$) | Reliability | HWI | TWI               | ASI | Reliability | No. Daughters | No. Herds | Foreign Daughters | SCC | Reliability | Daughter Fertility |        | Reliability |
| <b>Holstein x Jersey</b> |              |                                  |       |                             |          |             |     |                   |     |             |               |           |                   |     |             |                    |        |             |
| 1                        | NZJUSTCOOPR  | JUST ONCE <b>COOPER</b>          | FJ    | I                           | 253      | 57          | 208 | 156               | 136 | 73          | 0             | 0         | 87                | 105 | 77          | 114                | 43     | LIC         |
| 2                        | NZGRAYBEAM   | SAN RAY FM <b>BEAMER</b> -ET S2F | FJ    | I                           | 243      | 66          | 176 | 173               | 167 | 76          | 105           | 9         | 23629             | 86  | 93          | 109                | 64     | LIC         |
| 3                        | NZGBREAK     | GREENWELL <b>BREAKTHROUGH</b> ET | FJ    | I                           | 242      | 64          | 175 | 134               | 156 | 78          | 0             | 0         | 225               | 99  | 84          | 117                | 59     | LIC         |
| 4                        | NZGMOORNITE  | MOORBYS FM <b>GRANITE</b> S2F    | FJ    | I                           | 240      | 66          | 179 | 146               | 153 | 79          | 0             | 0         | 93                | 120 | 81          | 111                | 57     | LIC         |
| 5                        | NZGTOPNOTCH  | PADRUTTS GB <b>TOPNOTCH</b> S2F  | FJ    | I                           | 231      | 64          | 199 | 145               | 120 | 78          | 0             | 0         | 118               | 107 | 82          | 113                | 55     | LIC         |
| 6                        | NZGARKANBUST | ARKAN FM <b>BUSTER</b> -ET S2F   | FJ    | I                           | 225      | 67          | 166 | 152               | 152 | 76          | 99            | 9         | 13539             | 85  | 94          | 111                | 63     | LIC         |
| 7                        | NZGSONNYBULL | CLARKES <b>SONNY BULL</b>        | FJ    | I                           | 216      | 56          | 204 | 224               | 87  | 64          | 0             | 0         | 90                | 76  | 70          | 109                | 36     | LIC         |
| 8                        | NZGPRISIERRA | PRIESTS <b>SIERRA</b>            | FJ    | A                           | 213      | 76          | 177 | 134               | 95  | 96          | 156           | 16        | 9325              | 114 | 96          | 112                | 73     | LIC         |
| 9                        | NZGSAVHAMMR  | SAVANNAHS HF <b>HAMMER</b> S1F   | FJ    | I                           | 196      | 77          | 168 | 146               | 68  | 93          | 79            | 11        | 21659             | 128 | 96          | 110                | 80     | LIC         |
| 10                       | NZGPERSPECTV | ARKANS <b>PERSPECTIVE</b> -ET    | FJ    | I                           | 195      | 67          | 155 | 100               | 98  | 80          | 0             | 0         | 1859              | 91  | 91          | 114                | 61     | LIC         |
| <b>Jersey x Holstein</b> |              |                                  |       |                             |          |             |     |                   |     |             |               |           |                   |     |             |                    |        |             |
| 1                        | NZGLENEPIC   | GLEN KORU <b>EPIC</b>            | JF    | I                           | 307      | 48          | 225 | 280               | 241 | 67          | 0             | 0         | 81                | 119 | 71          | 102                | 37     | LIC         |
| 2                        | NZGMOURLUIGI | MOURIES <b>LUIGI</b>             | JF    | I                           | 270      | 50          | 207 | 250               | 185 | 70          | 0             | 0         | 88                | 141 | 75          | 101                | 40     | LIC         |
| 3                        | NZGSOLARIS   | PRIESTS <b>SOLARIS</b> -ET       | JF    | A                           | 255      | 75          | 200 | 236               | 163 | 99          | 664           | 42        | 70435             | 178 | 96          | 102                | 90     | LIC         |
| 4                        | NZGOBSIDIAN  | ST PETERS <b>OBSIDIAN</b>        | JF    | I                           | 225      | 69          | 169 | 206               | 166 | 94          | 117           | 14        | 22998             | 146 | 93          | 101                | 81     | LIC         |
| 5                        | NZGTIRONOTE  | TIROHANGA <b>TAKE NOTE</b>       | JF    | I                           | 224      | 55          | 144 | 228               | 178 | 65          | 0             | 0         | 87                | 121 | 72          | 100                | 43     | LIC         |
| 6                        | NZGNOWWAYS   | JERSEYDALE <b>NO2WAYS</b>        | JF    | I                           | 223      | 52          | 171 | 195               | 147 | 71          | 0             | 0         | 94                | 137 | 77          | 104                | 39     | LIC         |
| 7                        | NZGARKBOWNTY | ARKANS <b>BOUNTY</b>             | JF    | I                           | 220      | 56          | 153 | 198               | 199 | 75          | 5             | 1         | 3359              | 123 | 91          | 101                | 50     | LIC         |
| 8                        | CRVVIKING    | LYNBROOK IT <b>VIKING</b>        | JF    | I                           | 216      | 38          | 156 | 197               | 174 | 57          | 0             | 0         | 76                | 108 | 50          | 100                | 27     | CRV         |
| 9                        | NZGRONSHOW   | NEVRON <b>SHOWMAN</b>            | JF    | A                           | 214      | 75          | 150 | 193               | 189 | 98          | 382           | 40        | 67417             | 115 | 95          | 101                | 90     | LIC         |
| 10                       | NZGEASYRIDER | HOWIES <b>EASYRIDER</b>          | JF    | I                           | 196      | 60          | 139 | 178               | 161 | 78          | 128           | 9         | 23754             | 100 | 93          | 101                | 76     | LIC         |

Source: ADHIS Dec 2018

about bringing together the best of the breeds in an animal that is well suited to Australian conditions.

### Benefits of crossbred cows

1. Complementary traits: Higher milk litres than most Jersey cows with higher components than most Holsteins.
2. Moderate liveweight for maximum efficiency on pasture. Weighing in at around 500kg, the average crossbreed sits at a sweet-spot for pasture-based systems, with high merit cows capable of producing 1 kg of milksolids per 1 kg of liveweight. Liveweight is expensive to maintain with an extra 100kg requiring the equivalent of two round bales of silage per year for maintenance alone. So, over a herd of 400 cows, this is a massive 800 bales per year!

3. Crossbred cows on average live longer, allowing more cows in the mature age group of the herd and requiring fewer replacements. New Zealand research shows crossbred cows live for an extra 222 days.<sup>3</sup>
4. Heterosis. Kiwicross™ sires will retain more than 50% of the first cross hybrid vigour benefits, and farmers can expect more consistent cow size than what can occur with rotational back-crossing.
5. Robust crossbred cows can better handle the tough seasonal conditions and long walks that Australian conditions throw at them.
6. Kiwicross™ sires are, on the whole, easy-calving and the majority can be safely used over well-grown yearlings. Ask us for details on heifer-friendly options.

Check out Datagene's Jersey x Holstein and Holstein x Jersey Good Bulls Guide list. This guide helps farmers decide which are the most profitable sires available. This acknowledgement that the crossbreed bulls are of high genetic merit and can contribute to genetic gain of Australia's dairy herd is a step forward and will give farmers more choice and ability to breed profitable dairy cows.

#### References:

1. Datagene Limited, Australian Dairy Herd Improvement Report 2017.
2. Coombe J.E., Crossbreeding in Australia- what have we learnt? In Calf Symposium, 2017 Dairy Australia Ltd.
3. Holmes, C.W., Brookes, I.M., Garrick, D.J., MacKenzie, D.D.S., Parkinson, T.J. and Wilson, G.F. 2002. Milk Production from Pasture. Massey University, Palmerston North

# A golden opportunity

A fresh perspective on the New Zealand Jersey



A large herd of premium Jersey cows

To date, the vast majority of Jersey genetics used in Australia are derived from American bloodlines, with New Zealand Jerseys being popular mainly for crossbreeding or farmers in lower input pasture-based systems.

It's interesting to investigate why this is the case given that, based on the Australian Breeding Performance Index (BPI) December 2018 evaluation run, it seems the New Zealand Jersey not only competes but outperforms Jerseys from other countries. On BPI, the New Zealand bred Jerseys take up ten of the top twenty-five positions. The next biggest group is from the USA, at eight.

Furthermore, the New Zealand bred animals have more fat kg, protein kg, greater chest width and body depth, are bigger based on live weight and are better for somatic cell counts.

Table 1: Top 25 Jersey sires based on BPI - NZ born versus others

| Group           | # in top 25 | BPI | ASI | Prot | Prot% | Milk | Fat | Fat% | Mom Syst | Stat | Body Dep | Chest Wid | Cell Count | Lwt |
|-----------------|-------------|-----|-----|------|-------|------|-----|------|----------|------|----------|-----------|------------|-----|
| NZ born Sires   | 10          | 285 | 213 | 20   | 0.51  | -105 | 36  | 0.78 | 99       | 99   | 109      | 111       | 134        | 105 |
| Remaining Sires | 15          | 289 | 147 | 19   | 0.22  | 258  | 24  | 0.20 | 108      | 106  | 99       | 99        | 126        | 103 |

Given this strong ranking in BPI and other key traits, why are New Zealand Jerseys not more widely used in Australia?

There's no hard data on this within industry circles, but the general feedback seems to fall into four main areas:

1. Size: "New Zealand Jerseys are smaller."
2. Production: "New Zealand Jerseys produce less milk."
3. Udders: "New Zealand Jerseys have poorer udder conformation."
4. Registration: "Not registerable"

## How true are these perceptions?

### Size - are New Zealand Jerseys smaller?

It depends how you measure it. Shorter, yes; lighter, no! Cow size is generally measured in two ways - stature and liveweight. Table 1 shows that the New Zealand Jersey is a smaller statured animal, but it actually has a greater liveweight. How? Greater chest width and body depth gives New Zealand Jerseys their weight. This means they have greater capacity, allowing increased pasture intakes. Central to most Australian dairy farm systems, pasture and forage consumption ability is a key trait for dairy cows to have.

**Production - do New Zealand Jerseys produce less milk?**

Once again, it depends on what you measure. More milk solids, less milk volume. Table 1 shows on straight litres the New Zealand animal produces less, but due to the much higher components they actually produce significantly more milksolids. Milksolids is what the vast majority of dairy farmers are paid on and so the trait generating the actual revenue. When comparing the Fat and Protein ABVs of both groups, the New Zealand Jerseys are a massive 29% ahead.

**Udders – how do they compare for udder traits?**

When comparing the fat and protein ABVs of both groups, the New Zealand Jerseys for overall mammary, on average. The average score for New Zealand Jerseys is 99 (just under the average), but it's important to remember that many New Zealand bulls are still equal to or better than average.

*“Udder conformation has never been a major issue for us and we have seen big improvements in this space”*

To give some context Mike Rose, LIC Australia sales and operations manager, says, “In New Zealand, when we compare classified daughters from overseas and New Zealand Jerseys, we are seeing that udder scores of New Zealand bulls are consistently higher than many of the proven bulls from overseas. We don't know exactly why there is this inconsistency between countries. Some explanation may be about how countries score udder conformation and the data transfer between countries. Overall we know farmers are seeing improvement on farm and that is the main thing.”

Mark Wyss, who farms in Camperdown, Victoria, has been using New Zealand Jersey genetics as part of his breeding for over 20 years and his herd ranks consistently in the Top 5% for BPI for Australia. Mark says, “we push our cows pretty hard here, averaging about 560kg

**2019 Jersey Highlights**



314012 Leopard



314052 Misty



314004 Floyd

| LIC Sires                |         |     |         |     |       |            |         |            |             |                |            |  |
|--------------------------|---------|-----|---------|-----|-------|------------|---------|------------|-------------|----------------|------------|--|
| Bull Name                | BPI/Rel | ASI | Protein | Fat | Milk  | Liveweight | Stature | Body Depth | Chest Width | Mammary System | Cell Count |  |
| KAITAKA OI LEOPARD ET    | 316/65  | 214 | 16      | 36  | -411  | 100        | 98      | 102        | 104         | 101            | 145        |  |
| CRESCENT EXCELL MISTY ET | 316/61  | 213 | 8       | 31  | -1051 | 109        | 100     | 115        | 118         | 98             | 155        |  |
| BELLS OI FLOYD S3J       | 271/64  | 205 | 22      | 39  | 207   | 111        | 106     | 110        | 114         | 97             | 140        |  |

| CRV Sires                |         |     |         |     |      |            |         |            |             |                |            |  |
|--------------------------|---------|-----|---------|-----|------|------------|---------|------------|-------------|----------------|------------|--|
| Bull Name                | BPI/Rel | ASI | Protein | Fat | Milk | Liveweight | Stature | Body Depth | Chest Width | Mammary System | Cell Count |  |
| PUKETAWA KING CARRICK JG | 269/64  | 182 | 15      | 32  | -217 | 105        | 100     | 108        | 112         | 99             | 141        |  |
| ROMA MURMUR KINGPIN S3J  | 272/70  | 191 | 24      | 29  | 271  | 103        | 97      | 109        | 110         | 97             | 162        |  |

Source: ADHIS Dec 2018

milksolids a cow in a very commercial operation. Udder conformation has never been a major issue for us and we have seen big improvements in this space over time with the New Zealand stock. We see only a few older cows leave the herd for udders but in our system this is expected, and it's usually a combination of factors rather than udders alone.”

**Registration - Can NZ Jersey offspring be registered in Australia?**

Absolutely! The bulk of New Zealand Jerseys are now fully registrable in Australia. Looking at the top BPI sires list, eight out of 10 are fully registerable so there is plenty of choice for farmers wanting to pursue registrable dairy cows.

**What does this mean for you?**

Take another look at what New Zealand Jerseys can bring to your herd. There have been big gains in the size and production of Jersey cattle in New Zealand over the last 10 years. Over this period per cow production across all breeds has risen in New Zealand by 20%. LIC has access to one of the largest, well-recorded Jersey populations in the world and we are continuing to invest heavily

in the Jersey breeding programme. This means there are plenty of choices when selecting Jersey bulls to best suit the Australian conditions.

Our aim is to retain and improve the traits that make New Zealand Jerseys special, like huge capacity, high milk components and extreme efficiency. Further focusing on bigger Jersey bulls with superior udder conformation makes for a very attractive package. Bulls like Leopard, Misty and Floyd really tick all these boxes.

The demand for high performing outcross Jersey genetics is high, as the many breed lines are very closely related. Some forward-thinking farmers are now breeding 20-30% of their herd to New Zealand Jerseys as an outcross option. This mix can really deliver great progeny to complement the taller, 'milky', 'typier' USA Jerseys. Specific New Zealand Jersey sires are delivering some fantastic hybrid-type straight Jersey cows that are proving to be real winners in herds around the world. There should be a New Zealand Jersey bull for almost every Jersey herd in Australia this year.

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