

A herd of Jersey cows is walking along a dirt path in a green field. The cows are light brown and white, with some having dark faces. They are wearing yellow ear tags. The background shows rolling green hills and a fence line.

jersey^{NZ}

Driving the growth of the
Jersey breed throughout
New Zealand

jersey.org.nz

The Jersey advantage

The Jersey out performs all other dairy breeds.

13%
MORE
FAT
PER KG LIVEWEIGHT
THAN OTHER
BREEDS

9%
MORE
**MILK
SOLIDS**
PER KG LIVEWEIGHT

18%
BETTER
FEED
CONVERSION
EFFICIENCY

Want to know more? All reference materials used in compiling this booklet are available on our website www.jersey.org.nz

About Jersey NZ

At Jersey NZ, we believe every farmer deserves the best cows. We believe that cow is Jersey.

Jersey NZ is a non-profit member organisation dedicated to making the Jersey cow New Zealand's number one breed. We work collaboratively to provide education, advice, and advocacy for all our members. Talk to us today to discover the benefits of the versatile Jersey cow.

Vision

The Jersey cow as New Zealand's number one breed with the largest percentage of the national herd.

Purpose

To promote and drive the growth of the Jersey breed throughout New Zealand.

Values

- Jersey is **sustainable**
- Inherent Jersey **quality**
- **Integrity** is paramount
- We **collaborate**



President's Message

Jersey NZ is committed to seeing the formidable brown cow become one of New Zealand's most valued animals. Working closely with New Zealand's farming community, we want to see the Jersey breed become the country's number one breed. Yes, it's an ambitious goal but one we believe is achievable. Research continues to show the range of benefits Jersey cows bring to the industry, from higher production rates to more milk solids per kg liveweight, better fat percentages, greater calving ease and a higher percentage of A2A2 cows.

As a member community, Jersey NZ provides farmers with the necessary support, advice and advocacy to get the best value from their Jersey herd. Working collaboratively, we're excited for the future of the Jersey cow here in New Zealand and look forward to sharing the Jersey success story with you.

Alison Gibb
President

Liveweight comparison

The Jersey cow out performs all dairy breeds on a per kilo liveweight comparison basis.

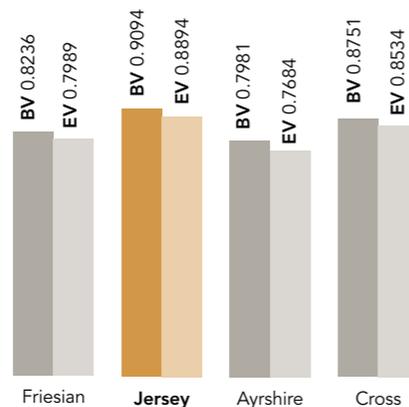
On a per-kilo LWT basis, the **sustainable** Jersey cow outperforms all other breeds and cross-breeds in kgs milk fat, protein and milk solids. We assessed the AE information in relation to both the Genetic Base cow model and the Economic Base cow information supported by bull information.

The Jersey outperforms all others in terms of a higher kg milk solids/kg LWT and consistently produces more milk solids than her liveweight. The Jersey yields 0.522kg fat and 0.3872kg protein (0.9094kg MS) per kg LWT. That's 9% better than the Friesian and 3.7% better than the cross-breed on a per kg LWT basis using the Genetic Base Cow data (Graph 2).

AVERAGE OF ANIMALS BY BREED

Graph 1: Comparison of kg MS/LWT – BV vs EV base assumptions (EV base)

Source: DairyNZ RAS list as at 15 August 2015

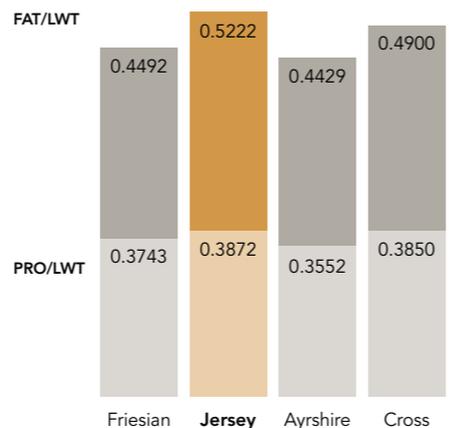


AVERAGE OF ANIMALS BY BREED

Graph 2: Fat & Protein per liveweight

Source: DairyNZ RAS list as at 15 August 2015

| BREED | N | FAT/LTW | PRO/LWT | KGMS/LWT |
|----------|----|---------|---------|----------|
| Friesian | 50 | 0.4992 | 0.3743 | 0.8236 |
| Jersey | 30 | 0.5222 | 0.3872 | 0.9094 |
| Ayrshire | 10 | 0.4429 | 0.3552 | 0.7981 |
| Cross | 25 | 0.4900 | 0.3850 | 0.8751 |



Breeding value

The Jersey cow delivers greater breeding values than other dairy breeds.



Breed Traits

Breed Traits

AE BVs | Includes only current numbered cows aged 490 days or more in herds signed up for herd testing (as at March 2018)

| Breed | Jersey | HF x J Cross | Holstein Friesian |
|-------------------------|--------|--------------|-------------------|
| Breeding Value | 0.7 | 0.3 | -0.1 |
| Fertility (%) | 0.7 | 0.3 | -0.1 |
| Somatic Cell* | -0.07 | -0.03 | 0.01 |
| Legs | 0.082 | 0.038 | -0.024 |
| Front Udder | 0.147 | 0.061 | 0.071 |
| Front Teat Placement | 0.026 | 0.004 | 0.032 |
| Calving Difficulty (%)* | -2.0 | -0.3 | 1.1 |

* negative BVs are more desirable

Production Traits

Production Traits

(NZ dairy Statistics 2016-17)

| Trait | Jersey | HF x J Cross | Holstein Friesian |
|-----------------|---------|--------------|-------------------|
| Breeding Value | 248,152 | 1,260,364 | 768,015 |
| Cows Tested | 248,152 | 1,260,364 | 768,015 |
| Days In Milk | 219 | 218 | 217 |
| Milkfat (%) | 5.70 | 5.00 | 4.48 |
| Protein (%) | 4.21 | 3.99 | 3.76 |
| Milk Solids (%) | 9.91 | 8.99 | 8.24 |

Temperament

Jerseys are faster to milk than other breeds

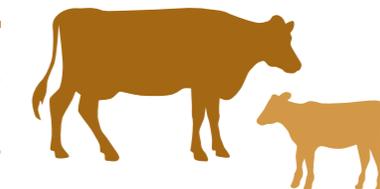
Jerseys 4.5 minutes | Other 5.4 minutes

Temperament BVs

AE BVs | Includes only current numbered cows aged 490 days or more in herds signed up for herd testing (as at March 2018)

| Trait | Jersey | HF x J Cross | Holstein Friesian |
|-------------------------|--------|--------------|-------------------|
| Breeding Value | 0.093 | 0.081 | 0.078 |
| Adaptability To Milking | 0.093 | 0.081 | 0.078 |
| Shed Temperament | 0.122 | 0.085 | 0.066 |
| Milking Speed | 0.084 | 0.043 | 0.021 |

JERSEYS HAVE
GREAT
CALVING
EASE



Jerseys have great fertility



On average, Jerseys have the highest fertility breeding value. Fertility breeding values (% calving within 42 days of the start of calving) are calculated from information derived from herd recording software such as MINDA and MISTRO, herd testing and Traits Other Than Production (TOP)

assessments. Eight individual predictor traits are currently used to estimate the fertility breeding value:

- Presented for mating within 21 days of the planned start of mating (PM21) in lactation 1, 2 and 3
- Calving rate in the first 42 days after

the planned start of calving (CR42) in lactation 1, 2 and 3

- Volume in a cow's first lactation
- Body condition score (BCS) in a cow's first lactation at 60 days in milk.

| Average Fertility BV (%) (NZ Dairy Stats 2016-17, page 48) of all cows born in 2014 | | |
|--|--------------|-------------------|
| Jersey | HF x J Cross | Holstein Friesian |
| 1.3 | 1.1 | 0.7 |

| National Herd Average – Fertility (as at February 2018) | | |
|--|--------------|-------------------|
| Jersey | HF x J Cross | Holstein Friesian |
| 0.7 | 0.3 | -0.1 |

Case Study



Stephen Sing – Tatuani



At 27 Stephen has it all ahead of him with 570 Jersey cows on just 146 ha. This herd has been in the area for over three generations and Stephen is setting things up for some serious profit generation.

"If I was starting out again or even contemplating a share-milking position, I would utilise a Jersey cow. They're a

very forgiving animal and produce consistently under a wide range of conditions, making me profit, getting in calf quickly and lasting a long time," says Stephen.

These cows are profit-making machines and he likes to see them in the best possible condition soon after calving.

"I look very closely at 50 per cent of my cows with respect to matching a specific bull to a specific cow and as early as possible... this gives me control over the pace of genetic gain."

Stephen's breeding priority is udder support under a cow that can convert feed into milk as efficiently as possible.

The Jersey breed provides that platform and it's up to Stephen to provide them with an environment to allow them to drive efficiency and profit both on a LW and per ha basis.

"In all cases each cow must 'out produce' her body weight in milk solids. If I get that right, then everything else falls into place."

Fat is back

Jersey farmers will benefit the most.

Five years ago, milk fat was worth one third of milk protein value. Now a kilo of fat will be earning suppliers significantly more than a kilo of protein. Fat is back.

Dairy cows produce more kilos of milk fat than milk protein in a season and the growing impact of fat on the milk income has become obvious. It is projected the proportion of income from milk fat will be close to double what it was five years ago, with a corresponding halving of the protein component.

Some farmers will benefit more than others depending on how far their herd's milk constituents vary from the company average in terms of P:F ratio and milk solids percentage (see graph). Jersey farmers will benefit the most.

This season, concentrated milk with a lower P:F ratio (more fat/kg MS) will be paying \$0.10/kg MS more than dilute milk with a high P:F ratio.

Continuing in this direction, the difference between these two types of milk will be approximately \$0.18/kg MS.

For the average New Zealand herd of 414 cows, producing 380kg MS/cow, this difference equates to \$28,000.

The concentrated, low P:F ratio milk is typical of that produced by **Jerseys** whereas the lower milk solids and high P:F ratio milk is typical of Holstein Friesian milk.

Actual (17/18 season) and predicted (18/19 season) value of J and F milk based on a Fonterra av of \$6.55/kg MS



Jersey – the sustainable breed

Jersey is the most sustainable of the common dairy breeds

Jerseys produce more profit (approximately 8%) than Holstein Friesians when stocked at optimal stocking rates.

Jerseys are kinder on the environment at the cow, whole farm and industry level.

- More dry matter consumed goes into milk and less into maintenance reducing the greenhouse gas emission and urinary nitrogen excretion per kg DM consumed
- Nationally, Jerseys have higher genetic merit (BW), which means greater profits and lower GHG emissions and urinary N excretion
- Jersey herds require fewer replacements because of less mastitis, lameness and anoestrus. This increases profit and reduces GHG emissions and urinary N excretion at the farm level.

Jerseys are more suited to once-a-day milking systems as they are more efficient at producing milk solids on a liveweight basis and have less wastage from mastitis and udder collapse.



Jerseys are more heat tolerant. The air temperature/humidity level that triggers a drop in milk production and signs of animal distress is significantly higher for Jerseys than Holstein Friesians. This will become even more of an issue as the planet warms up further.

Jerseys are the breed for OAD systems



Better udder conformation and higher milk solid percentages make Jerseys more adaptable to the shift from Twice a Day to Once a Day milking according to the findings of Project Dairy 1 at Massey University, Manawatu.

- The level of milk production drop for Jerseys going onto OAD is always less, with up to 9% less decline for Jersey than Holstein-Friesian.
- Kg MS/kg LWt is significantly higher for Jersey, with a 13% advantage over Holstein-Friesian and a 6% advantage over Jersey Friesian cross.
- Jersey in OAD herds are less likely to be culled due to udder breakdown, therefore fewer replacements are needed, creating a **sustainable** system.

The Jersey's ability to carry 24 hours milk production (with high milk solids %)

is a key attribute. If you are considering changing to a OAD system, then Jersey is your breed of choice as they are best able to cope with the increased milk volume.

Characteristics of Jersey, Holstein Friesian and cross bred cows from Massey University Dairy 1 over three lactation seasons

| |  Jersey | Holstein Friesian | HF x J Cross |
|--------------------------------|--|-------------------|--------------|
| Kg Milk solids / kg Liveweight | 0.75 | 0.66 | 0.71 |
| Fat % | 5.8 | 4.4 | 5.0 |
| Protein % | 4.2 | 3.7 | 4.0 |
| Milk solids % | 10.0 | 8.1 | 9.0 |
| BW | 137 | 110 | 111 |
| PW | 157 | 120 | 149 |

Case Study

Matthew and Emma Darke – Aria



Going from sheep and beef, to dairy, and then to once-a-day milking has Jersey breeders Matthew and Emma Darke of Aria, Waikato reaping rewards.

Today the Darkes milk on two farms of 625ha effective each, in two herds of 625 cows each.

“In our first year of operation on once-a-day, with a predominantly Jersey herd, we averaged 115,00kg/MS,” says Matthew. “This season we changed it

up. We split the two herds and farms into equal land and herd sizes, with 450 cows in each herd,” he says.

“On the lower (original) block, the longest walk to the shed was four kilometres but that paddock was only two kilometres from the upper block’s shed, so it made sense to swap them around.”

In the 2016/17 season, the upper block averaged 850kg/MS per hectare,

330kg/MS per cow in 250 days from the predominantly Jersey herd. The lower block produced 750kg/MS per hectare on hillier country from a mainly crossbred herd.

Last season the Darkes’ production totalled 406,000kg/MS, just one percent off their record season, which Matthew puts down to fickle seasons.

With on-farm costs of \$3.25 per MS, they’re taking advantage of the once-a-day premium.

Emma and Matthew say the ideal once-a-day cow matches or beats her liveweight in production, with over 10% milk solids on test.

The OAD system suits both the Darkes’ lifestyle and the farm, and everyone is more content – the herd is in no rush to get back to the paddock and the family gets to spend more time together.

A2A2 – the Jersey advantage

In New Zealand, 66% of the Jersey cow population already carries the A2A2 gene, compared to 44% for Holstein Friesian and 53% for crossbreeds.

On the Ranking of Active Sires list (DairyNZ) as at March 2018, 11 of 14 Jersey bulls on the All Breeds list are A2A2, as are 21 of 30 bulls on the Jersey list.

Fonterra's announcement that they have entered into a global strategic relationship with the a2 Milk Company has seen interest in A2 animals increase significantly as they look to source A2 milk.

What is A2 milk?

A2 milk contains the A2 type of -casein protein rather than the more prevalent A1 protein. Studies showing A2 has health benefits have come out of countries supplying milk with naturally high levels of A2. These claims include fewer incidences of type-2 diabetes and heart disease compared to nations with predominantly A1 milk supply. The cause and effect of this has not been scientifically proven however.

Breeding toward A2

| | | PARENT 1 | | PARENT 1 | |
|----------------------------------|----------------------|-----------|----------------------|----------|------|
| | | A1 | A2 | A1 | A2 |
| PARENT 2 | A1 | A1A1 | A1A2 | A2 | A2A2 |
| | A1 | A1A1 | A1A2 | A2 | A2A2 |
| | 50% A1A1 50% A1A2 | | 50% A1A2 50% A2A2 | | |
| | A1 | A1A1 | A1A2 | A2 | A2 |
| | A1 | A1A1 | A1A2 | A1 | A1A2 |
| | A2 | A1A2 | A2A2 | A1 | A1A2 |
| 25% A1A1 25% A2A2 50% A1A2 | | 100% A1A2 | | | |

FAT IS BACK – GO JERSEY

JERSEY BULLS ARE #1 ON THE ALL BREEDS RAS LIST*

AND OF THE 30 FEATURED ON THE LIST, 16 ARE JERSEY BULLS

*DairyNZ Ranking of Active Sires list at 17/02/2018

- Greater efficiency
- Best for OAD systems
- Fat advantage
- Improved animal health
- Greater fertility
- BW advantage
- A2A2 advantage

jersey^{NZ}

CHOOSE JERSEY SEMEN THIS MATING



What does Jersey NZ offer you as a member?

Direct membership benefits

- Ensuring promotion and education about the benefits of Jerseys
- Representation and advocacy at industry forums and ensuring quality for Jersey farmers and that Jerseys are fairly represented in breeding indexes, trials etc.
- Genetics improvements for Jerseys in the national dairy herd and enhanced opportunities for Jersey farmers
- Monthly newsletter
- Jersey Focus, a biannual magazine
- Youth council and youth programmes
- Scholarship assistance available for study and training
- Learning, fellowship and travel to New Zealand and international conferences, club trips, discussion groups
- Opportunity to train and certify as a Judge or TOP Classifier
- Opportunity to contribute to the direction of the Jersey breed through the Committee structure

Collaborative ventures

Joint Venture Genetic Gain Programmes

Jersey Future – LIC. To jointly select and prove the genetic merit of top young Jersey bulls to lift the rate of genetic and productive gain of the breed.

Jersey Genome – CRV Ambreed. To identify potential bull mothers for Jersey.

Jersey Marketing Services Ltd

Jersey Marketing Service Ltd (JMS) can source cattle for you or sell your surplus. Listings on the Jersey New Zealand website are free.

- JMS hold auctions and maximises potential returns from all markets.

"I found the process of becoming an TOP Classifier quite satisfying because it showed me I am capable of knowing what a cow looks like, good or not so good. It really helped me view my own cows in a more analytical way."

Catherine Tucker, Jersey NZ TOP Classifier

Member services include:

Registrations

Registering your animals with Jersey NZ has always been an important part of our Association and your business.

The many benefits of registering your herd include:

- Registered cattle give more options for how they can be marketed. A registered herd has a profile through the herd name that offers many **quality** added value opportunities, including brand development.
- Registration is a prerequisite for successful bulls in the genetics industry. Most AB companies require young Jersey bulls to be registered in the Jersey Herd Book.
- Higher genetics bulls sold as service sires often attract a premium when registered.
- The animal and herd are eligible for programmes and awards administered by Jersey NZ including automatic access to the JerseyGenome™ programme
- Industry good. Your registrations increase the subset of Jersey animals whose data we can access, increasing reliability for education and advocacy purposes.

Traits other than production

TOP measures the physical attributes of dairy cattle. Farmers score animals on traits relating to their management at milking time and qualified inspectors score the animals' physical conformation traits. Registered animals receive a classification award based on the standard of overall conformation.

TOP provides an accurate and unbiased comparison of cows and sires, giving herd owners easy-to-use information. The main ways TOP adds **integrity** and value for herd owners are:

- When all two-year-olds in the herd are inspected, breeding BVs for the TOP traits are fine-tuned, resulting in a more accurate prediction as to how the animal will breed that trait on.
- The raw scores for individual traits paint a picture of how the cow appears for each trait. This increases value for marketing the cow or her progeny, especially when ancestry is also assessed.
- TOP raw scores for individual traits contribute to sire proofs and the calculation of TOP BVs for individual bulls. Data collected on two-year-old daughters also receiving their first production proof is vital industry-good information.



Collaborative | Sustainable | Integrity | Quality

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