

How genetics is changing our business

IMPROVING
HERDS

Tim Jelbart,
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Genetics Case Study

Genetic tools and diversification of the farm business has enabled Jelbart Dairy to create a diverse income stream, providing a valuable buffer against milk price variability. Tim Jelbart explains.

Our farm

My parents, Max and Barbe, started on the current farm in 1981 with 110 ha and 120 cows after taking over from the sharefarmer on the property. In 1985, the old herringbone dairy was expanded from a 12-a-side swing-over to a 20-a-side double-up, milking around 200 cows. By 1991, they had expanded to 250 ha and were milking 600 cows in a newly built 60-unit rotary with a 25,000-litre vat. From 2006, the herd gradually grew to 1,000 cows and the milking platform expanded to 360ha.

My two brothers – George and Will – and I grew up on the dairy, but Dad always encouraged us to get skills away from the farm. I went to RMIT university and completed a Bachelor of Applied Science (Property Valuation) and worked in Melbourne for three years before moving to Sydney with my wife, Trish.

In 2013, we began succession planning with a view to Max and Barbe stepping back from the business to pursue their lifestyle interests, but things changed very quickly. Mum passed away in February 2014 and eight months later, Dad became sick and was diagnosed with cancer. My wife and I moved back to Inverloch in 2015, and I started

Farm stats (April 2018)

HERD SIZE

About 1,000 cows in a closed herd

BREED

Transitioning to pure Holstein

FARM SIZE

870 ha of owned and leased land – milking off 360 ha

CALVING PATTERN

About 60% autumn, 40% spring

DAIRY

60-unit rotary with milk meters and automatic cup removers

STAFF

13 full-time equivalent, including family

FEEDING SYSTEM

About 2.5-3.0 t concentrate/cow/year to supplement dryland perennial ryegrass pastures. All silage and hay produced on-site.

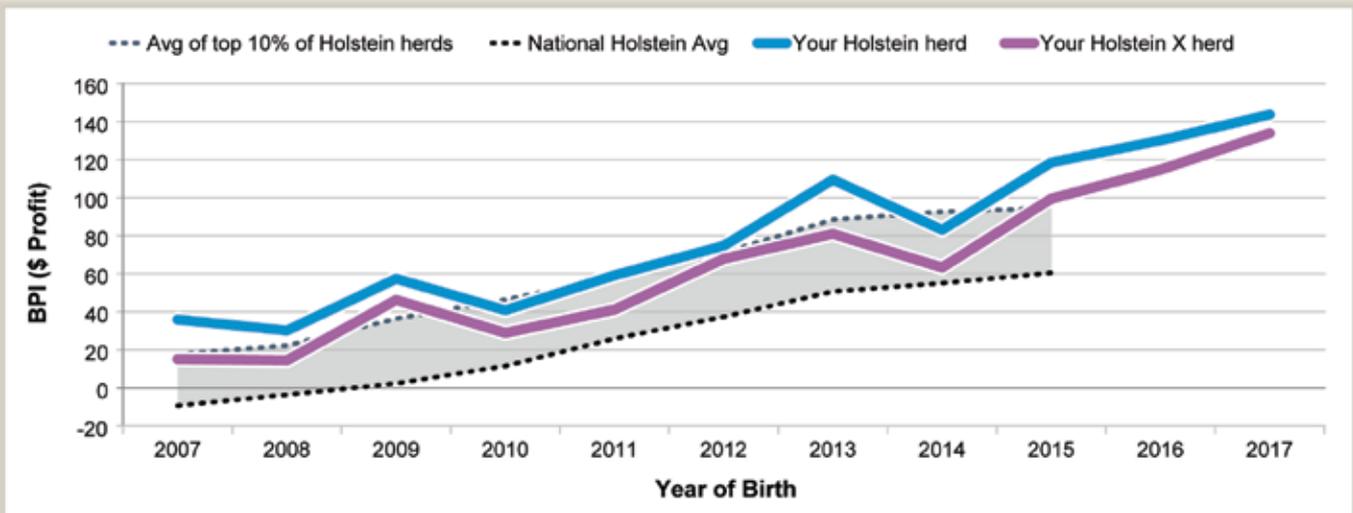
General manager Tim Jelbart (left) and farm manager Mike Kilkenny.



“Genomic testing helps us make informed decisions as to which heifers to keep and which to sell.”

– Tim Jelbart

Genetic Progress for Balanced Performance Index (April 2018)



The Balanced Performance Index (BPI) reflects the economic drivers of net profitability for the range of dairy farming systems in Australia. Traits include production, survival, type, mammary, milking speed, temperament, cell count, fertility and feed efficiency.

as general manager to operate the family business, which at the time included the 1,000 cow farm at Leongatha South, and Caldermeade Farm & Cafe with 400 cows and a cafe.

By the time Dad passed away in May 2016, we had completed our succession planning and had management structures in place. We created a family board with my two brothers and me as directors, along with two external advisers. The board meets quarterly for three to four hours to discuss budgets and planning, along with longer-term objectives. It was an extremely challenging time with a lot happening and the dairy industry being on its knees after the milk price crash in April 2016. The great thing about having the board was that we were very objective about the decisions we made. In 2017, we made a conscious decision to consolidate the business and focus on the main farm at Leongatha South by selling Caldermeade Farm & Cafe.

Today, at Leongatha South we operate across 870 ha of owned and leased land, milking 1,000 predominantly

Holstein cows, and 1,000 followers made up of Holstein calves and young stock. The milking platform covers 360 ha of perennial ryegrass pasture and the balance of 510 ha is used for young stock and fodder production. We have a predominantly Holstein herd and split calving, with 60% calving in autumn and 40% in spring. We have some crossbred cows in the herd, but are gradually transitioning to a pure Holstein herd. Our farm business operates with a staff of 13 full-time equivalent labour units, which includes family members, and we do everything on farm except chemical spraying.

Our production target for the herd is 8,000-9,000 litres/cow with 600-625 kg milk solids/cow, with moderate to high supplementary feeding of 2.5-3.0 t/cow/year of concentrates.

Our farm business has undergone some major changes as part of the succession process. Dad had a passion for genetics and was always striving to achieve the best, using Genetics Australia to help guide his decision making.





I grew up on the farm but I've had very little experience in breeding, feeding cows, growing grass or employing people, which made it tough when I returned home. Through my prior rural valuation work, I've had a lot of experience doing spreadsheets, budgets and cash flows and I have a very analytical mind. When things turned tough on the farm, it was these skills that helped our business manage the downturn in the dairy industry because we could identify where we were making money, where we were losing money and where to invest – we could make informed decisions rather than emotional or uninformed 'off the cuff' decisions.

Dad had a fantastic 'gut feel' of what to do and a natural intuition and experience on how to farm. He made decisions on the run and got most of them right. With limited farming knowledge, I can't do that so I use spreadsheets, rely on experts and have a great support network around me. When Dad died, we were very lucky to have the support of a lot of good people, including our farm manager Mike Kilkenny, who were prepared to mentor my brothers and I on running the business and the day-to-day operations. We have built a team of skilled staff who each have particular expertise so the business is never reliant on any one person to continue to operate.

My role involves making the big picture decisions and being the conduit between the farm and the board, whereas our farm manager Mike implements the day-to-day running of the farm, while also having input into the bigger picture planning. We recently employed Will Ryan as an assistant farm manager to Mike to give us further flexibility in management and assist with herd health.

Our business is continuing to implement systems and structures so it can continue to run even if a key person is no longer around. As employers, we want our business to be a happy, sustainable, safe place to work where staff feel proud and want to work for us.

Our family board members have a range of experience of

different work environments and understand our obligations to have good employment practices. My brother, George, works for Fairbanks Seeds and my brother, Will, has a farm maintenance and construction business. Having external advisers on the board has made us more objective about our farm decisions and ensured transparency in our communications between the board and management.

Genomics

Genetics has always been a big part of our business. Dad did the best he could with the technology at the time but there have been rapid developments in technology since I have become involved in the farm business.

In spring 2016, the board decided to make a 3-5 year commitment to invest in genomics and evaluate the outcomes, particularly after our involvement in the ImProving Herds project. I had concerns about the costs of doing the whole herd at the same time, which would have been in the order of \$50,000, so we decided to start with the 2016 spring heifer calves and then go on with subsequent heifers each year.

In February 2017, we tested the top 70% of our 2016 spring born heifers, based on parent averages. We don't test heifers that are sired by mop-up bulls or who have poor parent averages. Genomic testing helps us make informed decision as to which heifers to keep and which to sell. It has the added advantage of verifying parentage. This will improve the accuracy of our records, which are currently based on paddock observations at calving.

We use a lot of sexed semen and aim to produce 400-500 heifer calves a year through the two joinings. We don't keep all the heifers for replacements, but having large numbers of heifers means we can increase our farm income from livestock sales and increase our rate of genetic gain in the herd by selecting the best heifers for replacements.

Of the 400-500 heifers we have each year, we genomically test 300-400 of which 250-300 will go into the herd as

replacements, depending on the season and livestock marketing options at the time.

Our marketing options for surplus females vary. These include export heifers at 9 months of age; heifers in calf to sexed semen at 16 months of age; and heifers and cows at the point of calving or fresh in milk. Our decisions depend on what prices are on offer at the time, current and forecast seasonal conditions and where we make the best profit margin. This helps to diversify our livestock income.

Generally, livestock sales account for 15-20% of our total income, while milk is 80-85%. Value adding to livestock sales is a key part of increasing our overall farm income and fully utilising the land resource we have available.

As part of the ImProving Herds project we received an analysis based on our herd. The analysis looked at how the top 25% of our herd based on BPI, performed against the bottom 25% of the herd based on BPI.

Based on BPI, the top 25% of the herd produced 1,656 litres of milk, 66 kg of protein and 67 kg of fat a year more than the cows in the bottom 25% of the herd. The extra milk production from the top cows resulted in an extra \$585/cow/year in milk income after feed and herd costs compared with the bottom group. They also lasted 11 months longer in the herd. Our top BPI cows aren't our biggest producers, but they are mostly in calf on the first round, have very few health issues and stay in the herd longer.

With large numbers of heifer replacements to choose from it can be a challenge to identify which to cull. I now use BPI rankings to identify potential sale heifers and cows, particularly as I gain more confidence in the BPI and the ImProving Herds data. I'm looking forward to seeing the results play out in our herd.

The heifers we independently tested in 2017 will be coming into the herd in spring 2018, so it will be interesting to see how their performance stacks up against their genomic predictions.

We haven't used genomics to its full potential yet, but it has already helped us identify the top heifers earlier and will hopefully validate our ImProving Herds results. Genomic testing is another tool that doesn't involve much intervention.

ImProving Herds pays dividends

IMPROVING
HERDS

ImProving Herds was a three-year project that studied the contribution of herd improvement to Australian dairy businesses.

At the heart of the project were 34 inspiring Focus Farmers who agreed to put their farm, herd and financial records under the spotlight. Seven were Herd Test Focus Farmers and 27 were Genetics Focus Farmers. This is one of a series of case studies about their experiences as ImProving Herds Focus Farmers.

ImProving Herds has shown that:

- *The daughters of High Balanced Performance Index (BPI) bulls perform better under Australian conditions, across dairying regions and feeding systems.*
- *Cows in the top 25% for BPI in a herd outperform cows in the bottom 25% for production, fertility, longevity and contributed on average an extra \$300 income over feed and herd costs.*
- *The benefits of using genomic breeding values to guide heifer selection decisions were demonstrated on the Focus Farms, where the performance of genotyped heifers aligned with their genomic breeding values.*
- *Information from herd testing gave Focus Farmers confidence to make data-driven decisions for routine management and to respond to high pressure events.*

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