

## Data drives breeding direction at Bamawm

**Brendan Martin**

**Region: Northern Victoria**

**Topic: Genomics**

Genomics has helped one northern Victorian dairy farmer keep track of his breeding progress while making informed culling decisions.

Brendan Martin has used genomics for the past eight years to gain an insight into the milk production, health, and economic potential of each female on his dairy farm.

During this time, he's also concentrated on breeding for health traits such as fertility and mastitis resistance by choosing bulls based on DataGene's Health Weighted Index (HWI).

The Bamawm dairy farmer is reaping the benefits of his breeding decisions within his 850-cow milking herd, while genomic data on his youngest animals is the proof of his herd's genetic gain.

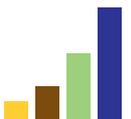
For our autumn born heifers, the average Balanced Performance Index (BPI) was 283 and the average HWI was 302," Brendan said.

These BPI and HWI figures place these heifers in the top 2% of the national herd, but the heifer's Cell Count ABV of 151 and Daughter Fertility ABV of 109 places these animals in the top 1% of Australia's dairy herd for these traits. The national Holstein herd average for health traits is 100.

It will be 18 months before these heifers hit the dairy, but Brendan will use this data to inform his future breeding direction.



*For the past eight years, Brendan Martin from Bamawm, northern Victoria has used genomics to keep track of his breeding progress while making informed culling decisions.*



“The genomic numbers suggest we have hit our breeding goals as far as health traits,” he said.

“We are also getting more cows pregnant quicker, our clinical cases of mastitis are lower, and our cell count is lower – it sits between 80,000 and 100,000 cells/mL for most of the year.

“That’s why we will be increasingly focusing back on production; I think we are in a really good place with health traits to piggy-back off going forward.”

His 600-625 kg liveweight Holstein herd produces an average 650 kg milk solids per cow/lactation, grazing for about nine months of the year and fed a total mix ration the rest of the time. Each cow also receives about 2.5 tonnes of grain each lactation.

Brendan said he wants to improve this production and concentrate on enhancing his herd’s udders as part of a change in breeding direction.

As he shifts the business’s breeding objective, Brendan will continue to monitor the changes through genomic testing.

This data will be used in combination with visual assessments of heifers to underpin culling decisions.

Brendan examines all of the genomic data to make decisions about individual heifers. For example, heifers that have a BPI, or any other significant trait, less than their parent average, are sold to export markets at 4-5 months old.

“We focus on the results, if the parent average BPI is 300 and the heifer comes back with a BPI of 150, there’s something amiss there. That heifer would not be kept,” Brendan said.

“Genomics gives us a back-up for decisions and shows some of the outliers as well. We had a couple of heifers, who in theory should have been high, but their genomics came back low. Obviously, we would want to cull those. Vice versa though, we had some that came back, that we didn’t think would be great, and they were comparable to their parentage.”

A total of 100 heifers were sold out of the last two genomic tested groups, from the March calving, and this represented about 31% of all the heifers in these two groups.

Calving also takes place in August with about 5% calved in November and genomic testing follows.

Brendan said culling decisions weren’t straightforward, for this recent group, especially when genetic gain was factored into the considerations.

“The lowest heifer, out of the last group to be genomically tested, was 92 (BPI) and the next lowest was 175 (BPI),” he said.

“Sure, these heifers are the lowest of this group, but they are still probably better than some of cows we are milking. The rate of genetic gain is significant, we have older cows that have a BPI of 50 but we are considering cutting out heifers if their BPI is less than 200 because this means they are in the bottom 10% for BPI in their age group (in the herd).”

Thanks to improvements in fertility, Brendan has a lot of heifers to select from and significant replacement pressure on his herd.

“We need 200 heifers a year to maintain our herd and without trying overly hard we are getting 350-400 heifers a year,” he said.

Sexed semen is used to breed select heifers, while convention semen is used across the herd.

Cows with too many cases of mastitis are placed on the cull list and substituted with younger and superior genetic merit animals.

Brendan is also able to select cows from the milking herd to meet the market demand for in-milk replacement animals due to having an abundance of heifers.

Selling cows to other farmers and heifers to export has provided Brendan’s business with an additional source of income, without having to sacrifice genetic gain.

“Genomics helps us keep track and make sure we are heading in the right direction,” he said.

“It also helps us decide, from our excess heifers, which ones we should keep.”

## CONTACT US ABN: 78 613 579 614

DataGene Limited, AgriBio, 5 Ring Road,  
La Trobe University, Bundoora Victoria 3083



email: [enquiries@datagene.com.au](mailto:enquiries@datagene.com.au)



[www.datagene.com.au](http://www.datagene.com.au)



T (03) 9032 7191



Disclaimer: DataGene is an independent and industry-owned organisation responsible for driving genetic gain and herd improvement in the Australian dairy industry and is an initiative of Dairy Australia and industry. This report is published for your information only. It is published with due care and attention to accuracy, but DataGene accepts no liability, if, for any reason, the information is inaccurate, incomplete or out of date whether negligent or otherwise. Copyright © DataGene Ltd. All Rights Reserved.

July 2021

