

Genetic progress on trend

IMPROVING
HERDS

Darren and Sharon Parrish
Bodalla, NSW



Genetics Case Study

Darren and Sharon Parrish have seen genetic trends in their 200-cow Holstein herd head in the right direction with Genetic Progress Reports giving them clear feedback on the direction of their breeding program.

Information on their herd's performance is a key factor in how the Parrishes run their operation and make better decisions on their farm at Bodalla on the New South Wales South Coast.

Their farm was one of 27 dairy farms across Australia that recently underwent detailed analysis by the ImProving Herds project to investigate the contribution of genetics to dairy businesses.

The study identified the top and bottom 25% of each herd, ranked on Balanced Performance Index (BPI), the genetic index for profit used by the Australian dairy industry and compared their performance in terms of production, longevity and financial contribution.

Ten years of historical performance data, plus recent farm financial data from the Parrishes' herd records were analysed to look at the difference in contribution to the farm business between the top and bottom BPI groups in the herd.

The study found the top 25% of the herd, ranked on BPI, produced 37 more kilograms of fat and 25 more kilograms of protein per cow, per year, than the bottom 25%.

The extra milk production from the top 25% of cows ranked on BPI resulted in an extra \$366 income after feed and herd costs per cow per year compared with the bottom 25%. On average, the top 25% of cows also lasted nine months longer in the herd.

Farm stats (August 2018)

HERD SIZE
200

BREED
Holstein

FARM SIZE
218ha total, 65ha milking areas

CALVING PATTERN
Split 50:50 autumn:spring

DAIRY
18-a-side swing-over

STAFF
Three full time

FEEDING SYSTEM
2t/cow

HERD TESTING
11 times a year



"ImProving Herds gave us an opportunity to get involved in genomics and we received a lot of information and a profile on our herd."

Darren Parrish, NSW South Coast

Information

“Being involved in the ImProving Herds Project was a great opportunity – we got a lot out of it and met with farmers from across different regions,” Darren said.

“It gave us an opportunity to get involved in genomics and we received a lot of information and a profile on our herd.

“We’ve been keeping detailed cow records for a long time - it’s something I really like doing because the information we collect gives us feedback on our cows,” Sharon said.

“While it does involve a bit of extra work, the information you get back on your cows shows you what they are doing, the gains we are making and helps us make better decisions.”

The Parrishes’ Genetic Progress Report produced by DataGene showed that the Holstein sires they have used over the past 10 years have produced daughters with improved genetics for the traits that contribute to profit including production, longevity, fertility and mastitis resistance.

In fact, their herd had improved at a rate faster than the national herd average since 2014 for longevity, mastitis resistance, fat and protein.

Sire selection

The Parrishes look at a number of criteria when selecting sires and use the Good Bulls Guide as part of their research.

“I’ll generally select for type traits in bulls – rear udder height and width, or feet and legs,” Darren said.

“We want sires to be positive for protein, fat and litres for the production traits, then we want daughter fertility traits above 108 and health traits above 100.

“We always look at BPI – if two bulls are comparable, then the bull with the high BPI is the one which is selected.”

Darren’s brother Trevor also plays a role in the herd’s genetics.

“Trevor has one of the leading herds in the country for BPI so I work in with him when I am selecting bulls,” Darren said.

“He is also my source of genomically tested mop-up bulls that we use over the heifers after the AI program.”

The Parrishes’ Holstein herd is registered under their Darradale prefix so only Holstein sires are used. The herd has a split calving with equal portions of the herd calving in autumn and spring.

The Parrishes like to keep a lot of heifers coming into the herd because they are genetically better than the older cows they are replacing.



Breeding

All mature cows in the herd are joined to conventional semen over three rounds of AI – with a spring and autumn program.

Cows that don't take to AI are generally sold, unless their production is exceptional and then they can be carried over to the next joining period.

Sexed semen was used for the first time on heifers last year and their calves are due this spring.

"We were rearing around 100 heifer replacements a year, but that number is creeping up to more than 110 this year," Darren said.

"We don't cut any corners with our heifer rearing because they are our better genetics and we make sure they grow out well and reach target weights, get in calf and come into the herd.

"We like to keep a lot of heifers coming into the herd because they are genetically better than the older cows they are replacing.

"About 50% of our herd is made up of heifers and the average cow in the herd would be on its third lactation.

While the size of the farm's milking area currently limits the expansion of the milking herd, Darren aims to use the sale

of surplus dairy cows in milk to maximise the contribution of livestock sales to the dairy enterprise.

"Having as many heifers as possible coming into the herd allows me to put selection pressure on the mature cows and I can identify surplus milking cows which are sold to other farmers."

Genomics

The Parrishes have not been genomically testing their replacement heifers recently because their priorities have focused on dealing with the dry season but they intend to genomic test replacement heifers in the near future.

"We originally genomically tested as two-year olds for three years when we were a Genetics Focus Farm and did the testing on two-year-old heifers, so it coincided with classification," Darren said.

Genomic testing has proven valuable in identifying superior heifers and verifying parentage and Darren hopes it will help make better use of polled genetics in the future.

"We want to incorporate greater use of polled genetics into their herd as the number of better performing polled sires become available," Darren said.

"We've used a few polled bulls in the past and have daughters in the herds with polled genes.





The Parrishes don't cut any corners with heifer rearing because "they are our better genetics and we make sure they grow out well and reach target weights, get in calf and come into the herd."

"It's a matter of planning for the future and polled genetics will help us optimise animal welfare and save the time and money involved in dealing with horned calves.

"Our herd is very involved with local schools – we have farm visits and supply three schools with bull calves to rear as part of the Cows Create Careers program – so we want to make sure our herd and farm practices are moving in line with community expectations."

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.*

Funded by the Gardiner Dairy Foundation, the project was a collaboration of Dairy Australia, Agriculture Victoria, DataGene, Holstein Australia and the National Herd Improvement Association of Australia (NHIA).

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