

Genomics underpins breeding strategy

Narelle and Mark Mconald

Region: Gippsland, Victoria

Topic: Genomic testing

Narelle and Mark McDonald first started using genomics to ensure they bred replacement dairy animals from their best cows and heifers. Four years later, the DNA technology is also a management tool that's helping them do so much more.

Genomic testing is enabling the Gippsland dairy farmers to phase out bobby calves with targeted use of sexed and Wagyu semen.

It's also contributed to an improvement in their herd's fertility and – combined with herd test and breeding

software data – genomics has provided an insight into their animals they'd never seen before.

Now, as Narelle, Mark, and their sons Dughal, 23, and Jock, 21, settle into their new, larger property at Valencia Creek, they are confident their breeding decisions fit the farm's regenerative and sustainable goals.

"We are getting heifers coming in that are milking out straight away and getting back in calf easier," Narelle said.

"This means we are using less straws of semen and drugs; we aren't spending as much."

The McDonald family now milk 550 – doubling their herd since moving from north-east Victoria to East Gippsland.

In addition to the milkers, they also run 100 Wagyu-cross breeders and sell F2 (Wagyu-dairy beef) 13-month-old calves to Dairy Beef Alliance.



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Genomic testing helps the McDonalds determine the top 25% of their dairy herd for breeding to sexed semen. These animals provide the herd's dairy replacements.

They use DataGene's Balanced Performance Index (BPI), herd test results and data from their herd improvement organisation's breeding software to decide the best 25%. Narelle said these management tools also helped them to make more informed breeding decisions.

"Now, when we are looking at cows, we are making objective decisions," Narelle said.

"We can decide objectively if we should join her to a better bull and improve her genetic traits or if she's going to be bred to beef. It ensures we make a more informed decision, rather than just looking at the animal and referring to her herd test results."

Encouraged by their artificial insemination company to begin genomic testing, Narelle and Mark initially took DNA samples from their entire 250-cow milking herd and young stock.

Genomic testing is a job that Narelle looks forward to. "I love going around and taking notches from the calves and placing them in a box, making sure they match up," she said.

The herd's in-calf rate has improved since starting genomic testing and focusing on fertility, a more intimate knowledge of each cows' genetic strengths and a close examination of their entire breeding program.

DataGene's Genetic Progress Report showed the McDonald's herd had long tracked above the national average for Holstein fertility. Since 2018 the herd's average Daughter Fertility ABV has risen from 106 to 109 – the latter being three points higher than the national average in 2020.



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Their herd is ranked 159 of 961 milk recording herds in Australia, according to their Genetic Progress Report. It has an average BPI of 142.

Narelle and Mark choose bulls based on their BPI ranking and their specific traits of interest – feet, fertility and ease of milking.

Looking ahead, they will continue to incorporate genomics in their business as a management tool.

"It will add value with the Wagyu across the dairy herd because we can target that semen to the appropriate cow," Narelle said.

"We find with the wagyu we have very good conception rates; ease of calving and the calves are easy to rear."

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