

Genomics underpins confident breeding decisions

Roger and Amanda Heath

Region: Western Victoria

Topic: Genomic testing

When Roger and Amanda Heath receive their genomic test results they split the data – and corresponding calves – into three categories.

These categories include top animals based on Balanced Performance Index (BPI) animals, those with a high BPI and top pedigrees and those with good Australian Breeding Values (ABVs) for production traits.

It's this crossover with animals between the categories that underpins the Western Victorian breeder's trust

in both genomics and breeding using DataGene's BPI system.

"It's amazing how many top BPI animals have top pedigrees as well," Roger said.

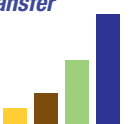
"That's what gives us the confidence in it, knowing the top BPI animals are at the top of the other groups."

Roger, Amanda, and their family milk 360 cows at Bookar near Camperdown. Their herd mostly includes registered Wanstead Jerseys and there are about 70 Illawarras under the Amor prefix in the milkers.

The Heaths started genomic testing their Jerseys three years ago and tested some Reds about 12 months ago.



Roger, Amanda and Tayla Heath use genomic results to split heifer calves into three groups: those to breed replacements from, embryo transfer recipients and surplus to be sold (for export).



Genomic ABVs for red dairy cattle breeds were introduced last August.

Genomics won't guide any major decisions for their Illawarras until there's more reliability in the data, but when it comes to their Jerseys, Roger and Amanda use the information for many purposes.

"Mainly it's to ensure we are achieving genetic gain, making sure we are breeding out of our top-end cows," Roger said.

"Genomics helps us select our top-end calves so we can concentrate on them, we keep the top 50% to breed from, then use the next 20% for embryo recipients and export the bottom 30%."

Before genomics, Roger and Amanda would select replacements based on pedigrees. While this was reasonably accurate, they appreciate the certainty genomics provides.

"Sometimes (with genomics) we've got surprises," Roger said. "Like an animal has come up from out of a middle-of-the-road cow, generally as a result of the sire line, but we thought 'gee we are glad we didn't cull her'."

Averaging about 6000 litres/cow/lactation, the Heaths continue to chase production gains, good udders, feet and legs.

They want to breed bulls for artificial insemination as well as cows and heifers that will attract high prices at auctions.

Roger said selling animals with genomic information and high BPIs should add value as this data proves they perform in Australian conditions.

As more genomically tested animals enter the milking herd, Roger and Amanda will use genomics data to guide mating decisions as well – especially to address any concerns about inbreeding within the Jersey breed.

"I do the mating program myself," Roger said. "I select half a dozen bulls that we will use in a year and most cows get those bulls and I pick out of those bulls select to avoid inbreeding."

Chasing further pedigree insights, Roger, and Amanda genomically tested the top 15-20 dams of their highest genomic ranked calves.

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– Roger Heath



"That way we know where the good numbers are coming from, the sire or the dam," Roger said. "You can pick-up on other cow families that way too."

Finally, genomic data is used for parentage verification, something that may seem small, but can have an enormous impact on the future of the herd.

"It's pretty important because it could lead to a hole in a pedigree if it's the wrong animal," Roger said.

"Someone said to me, genomics don't lie and they don't. DNA is DNA."

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