

Making the most of fast data delivery for breeding decisions

Dairy farmer: Biddulph family

Region: Western Australia

Topic: Australian Breeding Values (ABVs)

Every decision on Bob and Jacqui Biddulph's dairy farm is data driven.

There's no stone unturned when it comes to measuring and monitoring performance for the self-confessed 'number crunchers'.

"We keep a lot of records, but that's only so we can look at them and make decisions," Jacqui said.

"From paddock performance and the number of hay rolls coming out (of each paddock) to seed selection, we do financial analysis of the business every year. With breeding, it is not much different. We like to keep our herd genetically modern, using new bulls all the time rather than older bulls. We are completely commercially focused: our money comes from selling milk and we want cattle that last."

It is no surprise that the couple have embraced Australian Breeding Values (ABVs) for females, based on genomic testing, pedigree estimates and their own performance records.

"We have a report on our herd, every cow from milking to non-milking," Jacqui said. "Some calves were born on 8 April and on 17 April we got their pedigree-only BPI."

The Balanced Performance Index (BPI) is an estimate of an animal's genetic merit, based on the traits that contribute to farm business performance under Australian conditions.

The couple milk 420 registered Holsteins at Cowaramup near Margaret River in Western Australia on about 300 hectares with the support of a 125ha run-off block and 50ha of leased land.

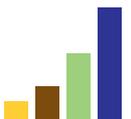
The focus on data and its use for driving farm performance started with Bob's parents, Eric and Maureen, who began registering the herd in 1975.

Targeted, individual matings underpin the Biddulphs' breeding program, a task which relies heavily on data.

"Frustrated" that data was not available on heifers until their first lactation, Jacqui developed her own formula to determine an animal's genetic merit – half the sire and half the dam's breeding value. Describing this calculation as a 'dirty number' she also used this to decide which home-bred bulls would be retained to mop-up after artificial insemination in their seasonal calving system.



Jacqui and Bob Biddulph with their daughter Hannah.



“We’ve always focused on strong cow families, three generations of type and udders and now we use cow BPIs as well. All the information is there now and more importantly it is readily available,” Jacqui said.

“I’ve reared bulls from maiden heifers now that we have got more information. Before they hit the dairy, we know a fair-bit about them. We genomically test our home-bred bulls to confirm they are good enough. This early information puts us in front compared to where we used to be.”

Constantly pushing for genetic gain, earlier information has helped the couple sharpen their focus for culling and export heifer selection.

Inseminating all the heifers and running an extensive AI program with the main herd ensures the couple has plenty of replacements each year. Their annual replacement rate is 25-30%, with young animals keeping herd health issues to a minimum. These extra heifers also mean there’s more available to send to the export market. Traditionally, 30-50 animals are exported each year.

The bulk of the heifer sales come from later-born heifers which means they can be sired naturally. Jacqui said it was important to ensure the heifers sold were also “quality stock” and that’s why genomically testing the home-bred bulls was crucial.

She said one of the bulls running with the heifers had a 241 BPI, something she was pleased with considering he was home-bred.

The Biddulphs’ herd calves from February to the end of May, to make best use of their 180-day pasture growing season. Jacqui said everything’s hand fed until peak lactation, before they hit the home-grown pasture to complete most of their lactation on grass.

“It’s about matching grass growth to the lactation curve to manage costs,” she said.

Profitability is at the heart of all business decisions, including breeding.

Thorough analysis of sires starts as soon as DataGene’s April ABV proofs are released, with bulls selected within 24 hours. This tight time frame’s crucial to ensure semen arrives in Western Australia in time for joining.

The DataGene *Good Bulls Guide* is a starting point for sire selection with the BPI the primary source of information.

“That’s the first cut and then we look for bulls with a positive fat percentage, cell count and fertility,” Jacqui said.

There’s always a focus on udders, rumps, feet and legs as well to ensure functionality. In the end, a consistent team of bulls is chosen including a mix of genomically tested, progeny test and proven bulls.

A strong believer in the science behind the BPI system, Jacqui said progeny test bulls were always a good option as they have high genetic merit.

The most expensive semen is preferentially used over the youngest, most fertile cows.

“We tend to use a lot of Australian-bred bulls,” Jacqui said.

“We believe absolutely in the science and believe both PT and proven bulls to work under our production system. Typically, these animals are designed to walk a long way and designed to be milked in a rotary shed. We are very confident in the data produced and very confident that the bulls you can buy here are top bulls and good financial value. We look at the BPI and ABV proof conversions rather than proofs from other countries to see where (these sires) sit in our system.”

Jacqui said the focus on BPI had delivered accurate results in the paddock and on paper.

“At the end of every year we separate all the first-calf heifers by bull and look at their average production,” she said.

“The poorer production ones always have the lowest BPIs.” Averaging about 550kg/cow/lactation, the 600kg Holsteins are fed a diet of pasture for the short growing season, supplemented by concentrates and silage. Bale feed is about 2.5 tonnes/cow/lactation as there’s no pasture available after November.

“For us, it is all about bringing in consistent lines of heifers that perform for us in a variety of ways: they produce milk, are quiet, have decent udders, easy to milk on a rotary, get in calf, are able to walk to the back of the farm – 1.5km away – and back again and are as efficient as possible converting feed to milk. We get all this information out of ABVs and BPIs now, on the cow sides as well as bulls’ side. We used to only have cow pedigree information to rely on, now we have genomic information that tells us stuff that’s real.”

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