

When only the best cows will do

IMPROVING HERDS

Ruth McGregor
Busselton, WA



Genetics Case Study

West Australian dairy farmers Ruth and Ian McGregor know they can only milk a maximum of 340 cows, so she is determined that every cow must be the most productive possible to earn its place in the herd.

There is a strong production focus in the McGregor herd and absolutely no room for below average cows who are not pulling their weight.

"I like my cows to be healthy and as productive as possible," Ruth said.

"Our herd size is at capacity, so I am tough regarding who stays, who goes and which cows I breed from; and that is now very much determined by a cow's Balanced Performance Index (BPI) and Australian Selection Index (ASI) since I became involved in the ImProving Herds Project."

The McGregors' herd 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 BPI and compared their performance in terms of production, longevity and financial contribution to the farm business.

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

The study found the top 25% of the McGregor herd produced 19 more kilograms of fat, and 15 more kilograms of protein per cow per year more than the bottom 25% of the herd.

Farm stats (September 2018)

HERD SIZE

340 at peak

BREED

Holstein

FARM SIZE

150 ha milking platform plus 150 ha run off block for young stock

CALVING PATTERN

Typically three batches: autumn, spring and summer

DAIRY

16-a-side rapid exit herringbone

STAFF

3.8 full-time equivalent

HERD TESTING

Always monthly



"Our herd size is at capacity so I am tough on who stays, who goes and which cows I breed from and that is now very much determined by a cow's BPI and ASI since I became involved in the ImProving Herds Project."

Ruth McGregor, Busselton WA

The top cows produced \$202/cow/year more milk income after feed costs than the bottom group.

Mixed operation

Ruth and Ian McGregor farm at Busselton and run a dairy on a milking platform of 150 ha, and an emerging beef operation.

Their herd typically calves in three batches – autumn, spring and summer – to even out the production curve, which is a requirement of the WA market.

All cows are fed individually in their 16-a-side rapid exit herringbone, and receive on average 3 tonnes of grain per cow per year.

The McGregors herd test monthly so have a clear picture on each cow's performance.

A growing beef herd is part of the business plan to expand the farm operation and is intrinsically linked with to the breeding program in the dairy operation.

“The WA dairy industry isn't looking for growth so there is a risk in investing further capital in the dairy business,” Ruth said.

“We are better to manage our dairy production and ensure we milk the best cows and then use the beef herd as a growth to farm business.

Ruth's breeding priorities for the dairy herd have evolved over time. Priorities in the past focused on improving pins and teat placement and more recently on fat percentage and A2 so it can be a possible option in the future.

Breeding priorities

“Cows are always going out of the herd for failing to get in calf and mastitis issues. We have also culled cows for teat placement, which has been a priority. More recently, I've focused on BPI and components,” she said.

“We've used a lot of progeny test sires in the past and I've always selected my own bulls based on traits and price.



Ruth selects the bull team to use over the herd based on priority traits and price and has found the Good Bulls Guide and App have made the process easier.

Cows are synchronised for joining and 100% AI is used over the herd. The herd is joined to a mix of conventional dairy semen and beef semen, with only the best cows and heifers in the herd joined to dairy sires.

“In our autumn joining cycle we ran three rounds of AI and the heifers are joined to two rounds of AI then a beef mop up bull on the run off block.

A new strategy affecting the next rounds of AI will mean any dairy heifer that has a BPI under 50 goes to beef so it’s genetics are kept out of the future herd.

Any cow Ruth doesn’t like, or that has a low BPI, is also joined to a beef sire.

“In the past we’ve reared up 120-150 Holstein heifers but in the future our plan is to join 30% of the dairy herd to beef to expand the beef operation,” Ruth said.

“Our potential dairy production is restricted so beef gives us a tool for growth and another asset.

“It will mean less dairy heifers coming through, but we will make sure we are breeding the best dairy heifers possible in the herd.”

Genetic progress

“Breeding is really planning ahead because the decision you make today will take time to come through to herd,” Ruth said.

“Genomic testing our heifers has given us a head start because we get feedback on them earlier and can identify which heifers we want to keep as dairy replacements and join to dairy sires.”

The McGregors genomically test their heifers at three months of age, which coincides with weaning.

Test results are back by the time the heifers are six months of age, which allows for three months to decide which



heifers are to stay in the herd and which are to be joined to beef sires. Ruth also weighs the heifers regularly to ensure they reach target weights for joining.

“Having the genomic results on the heifers means I can put selection pressure on replacements so only my best are bred for replacements.

“Poorer heifers have been mated to beef semen in the first two rounds – I may calve them in the dairy but I won’t breed replacements from them. If they are not good enough for the dairy I will cull them or on sell them.

“Keeping the number of the cows in the herd stable allows me to apply greater selection pressure across the herd as well – if I have really good heifers coming in then I’d be ruthless and look at culling older cows.

“We all have elite performers in the herd but what I’d rather focus on is culling out the poorer cows and doing it early. Bringing up the rear is really what I think you gain from genomically testing your herd,” Ruth said.



Ian and Ruth McGregor use genomic testing for their dairy breeding program that is intrinsically linked with their growing beef business.

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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October 2018