

Red breed in the black for production

IMPROVING HERDS

Graeme and Michele Hamilton
Mount Gambier East, SA



Genetics Case Study

Graeme and Michele Hamilton are passionate about Australian Red Breed cattle, and with that comes an overriding emphasis on production on their dairy farm at OB Flat, just east of Mount Gambier, South Australia.

“The breed has a very strong performance focus. Breeding decisions are strongly focused on health and production data. We don’t participate at shows, but we use our On Farm Challenge competitions in NSW and Victoria to showcase the breed,” Graeme said.

“The target for our herd is to produce 9,000 litres/cow/year. Being involved in the ImProving Herds project was the perfect fit for us.”

The Hamiltons’ 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.

The herd’s records were analysed to look at the difference in the contribution to the farm business between the top and bottom 25% of the herd. The analysis drew on 10 years of historical performance data, plus recent farm financial data.

The study found the top 25% of the Hamiltons’ herd produced 60 more kilograms of fat and 61 more kilograms of protein per cow per year than the bottom 25%. The extra milk production from the top 25% of cows resulted in an extra \$531/cow/year income after feed and herd costs, compared with the bottom 25% of the herd.

Farm stats (September 2018)

HERD SIZE

500 cows at the peak

BREED

Predominantly Red Breed with some Holsteins that have been bought in

FARM SIZE

420 ha total (owned and leased) which includes: 153 ha effective milking area, of which 68 ha is irrigated; and 267 ha in outblocks, of which 47 ha is irrigated.

CALVING PATTERN

Split (September and February)

DAIRY

25-a-side swing over with cup removers

STAFF

Five full-time, including family

FEEDING SYSTEM

3 t pasture/cow/year, 2.2 t grain/cow/year and up to 1.5 t silage/cow/year

HERD TESTING

6 tests a year since 1970



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Graeme Hamilton, Mount Gambier

On average, the top 25% of cows also lasted in the herd 11 months longer than the bottom 25% – the equivalent of an extra lactation.

Farm system

The Hamiltons have a long-standing link to the OB Flat area and part of the original farm is still part of the dairy business which now covers 420 ha across a number of owned and leased blocks.

“My family has been farming in the area since the 1860s, but history doesn’t make money, so we must focus on efficiency and profitability,” Graeme said.

Today the business is run by Graeme and Michele with their son Craig and staff, a combined equivalent of five full-time labour units.

The main farm has a milking area of 153 effective hectares of which 68 ha is irrigated under two centre pivots. There is also 47 ha of irrigation on out blocks which is used for growing out young stock and fodder production.

Their herd split calves with half calving in September and the other half in February and all are milked through a 25-unit swing over dairy with cup removers.

The cows are fed grain at the dairy at a rate of 2.2 t/cow/year which supplements the pasture base on the milking area which supplies the cows with 3t pasture/cow/year. The herd is also fed up to 1.5t silage/cow/year.

“We peak at about 500 cows and our herd is predominantly Red Breed, apart from a few crossbred Holsteins which have been bought in,” Graeme said.

“Our involvement in red breeds started with my parents Don and Pat establishing an Illawarra herd under the Cluain prefix with the purchase of a red bull in 1964.

“Michele and I came into the family business in 1990 and took over from my parents in 2000. My parents started using AI in the herd in 1971 and began herd testing six times a year in 1970 which we have continued.



“Our herd has moved to predominantly European Red Breed genetics since the 1990s and is now one of the biggest herds of Red Breed Cattle in Australia.”

Graeme is secretary of the Australian Red Breed Registers Ltd, which oversees the Red Breed in Australia and also vice president of the International Red Breeds Dairy Federation, which will hold its annual conference in Australia in 2019.

Good record keeping is the backbone of Graeme and Michele’s breeding and farm management decisions and was one of the reasons the family were invited to be part of the ImProving Herds project.

“Our cow pedigrees go back many generations and we have records for just about everything including calf size and vigour, pregnancy, health treatments and calving ease as well as all the usual production and herd tests records,” Graeme said.

“We use Mistro and have the phone App and the PC version in the office, but we also enter everything on paper which might sound unnecessary but if we find an error we can then trace things back with a paper trail.”

Breeding goals

Productivity, profitability and consistency are the at the forefront of breeding decisions in the Hamiltons’ herd.

“Our breeding aim is to have a consistent herd – we want to breed consistency in every drop of heifers – there’s no room for duds,” Graeme said.

“We aim to breed cows with good feet and legs and udders that last. Red Breeds are a later maturing type of cow, so we want longevity combined with fertility and a production target of 9,000 litres/cow/year. Milk components need to be at, or above the standards for the liquid milk market.

“We’ve relied heavily on genetics from Denmark and Germany and have travelled to look at genetics since 2011.

“We work with Genetics Australia, by supplying tails hairs from promising young bulls and heifers.

“We’ve also been supplying tail hairs for genomic testing from all our heifer calves for the past five years to help build the database for Red Bred genomics. At this stage, more DNA information is needed before the results have sufficient reliability for publication by DataGene.”



While there is a high reliance on overseas sires in the breeding program, the Hamiltons use the *Good Bulls Guide* to compare the performance of any daughters by Australian sires in the herd with their herd mates by European sires.

Replacement heifers

The joining period for both spring and autumn calving herds is seven weeks and involves a Fixed Time AI program in both heifers and mature cows.

Only the top 80% of the herd is joined to Red Breed sires.

The bottom 20% – based on production index, cow family, udders, feet and temperament – is joined to Angus straws.

“Joining to Angus makes it pretty simple – if the calf is black then it goes,” Graeme said.

Mature cows are joined to conventional semen for three rounds of AI. The heifer AI program starts a week before the cows with the heifers having two rounds of AI then running with home-bred, genomically tested mop-up bulls. These bulls are bred from high BPI cows with above average lifetime production indices, absolute lifetime production and fertility figures, and good udders.

“We might keep up to five bull calves from the best performing cows a year, but we put them under intense selection pressure to identify which are the best two to keep as mop-up bulls over the heifers,” Graeme said.

All cows are ultrasound pregnancy tested and any cow not in calf is sold unless her production levels warrant her being carried over to the next joining period.

“We end up with one herd being the freshly calved cows and carry over cows and the other herd being the designated in calf and late lactations cows,” Graeme said.

About 180 heifer calves are reared each year and are grown out to a target weight of 330-350 kg for joining at 15 months.

Of the 180 calves reared, about 150 will join the herd each year. Any heifer that fails to meet the target joining weight, has conformation issues or fails to get in calf is sold.

“We are very harsh on our heifers because it’s pretty hard to cull them once they get in calf and go into the herd,” Graeme said. “The longevity of Red Breed means our average age in the herd is around 50 months, although we do have some 10-year-old cows in the herd.”

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.*

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