

# Aussie Red herd drives genetics

IMPROVING HERDS

Toby Leppin,  
Gippsland



## Genetics Case Study

One of Australia's leading Aussie Red breeders is working with Genetics Australia and DataGene to strengthen the genetics database of Red Breeds in Australia.

Toby Leppin and his family's involvement with Red Breed genetics has spanned more than 40 years on their Gippsland dairy farm.

The Leppins' farm was one of 27 Australian dairy farms that recently underwent detailed analysis by the ImProving Herds project to investigate the contribution of genetics to dairy businesses. Herds in the ImProving Herds project had very good data and were prepared to share their records. The results have been integrated into DataGene's extension program.

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.

Toby, and his wife Lyn, together with their son Nicholas and his wife Sarah, milk just over 400 Aussie Red cows on 140 ha at Bena in Gippsland with a strong focus on production per hectare. The farm is supported by another 300 ha that is used for fodder production and running young stock.

The Leppins calve down 410-415 Aussie Red cows a year with a seasonal calving pattern, starting on July 13. They rear 100 replacement heifers a year.

### Farm stats (July 2018)

#### HERD SIZE

402-415

#### BREED

Aussie Red

#### FARM SIZE

140 ha milking area plus 300 ha for fodder production and dry stock

#### CALVING PATTERN

Seasonal starting July 13

#### DAIRY

50-unit rotary

#### STAFF

1½ full-time

#### FEEDING SYSTEM

2 t/cow/year

#### HERD TESTING

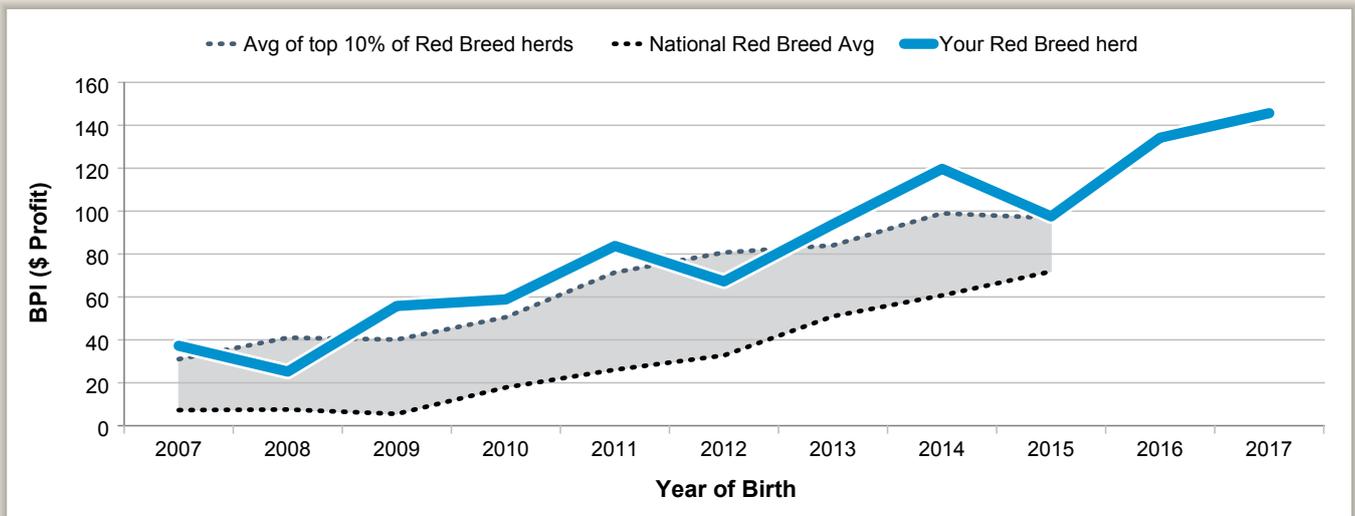
Monthly for first half of season then bimonthly



*"Fertility is extremely important for a seasonal calving herd. We need our cows and heifers to calve quickly, then get back in calf again and last in the herd."*

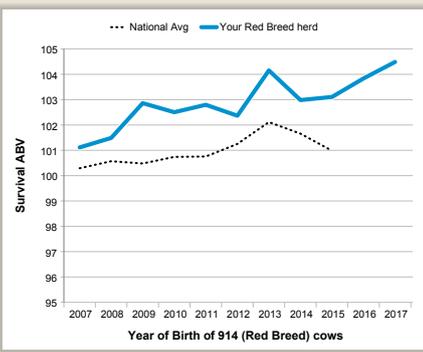
Toby Leppin, Gippsland

## Genetic Progress for Balanced Performance Index

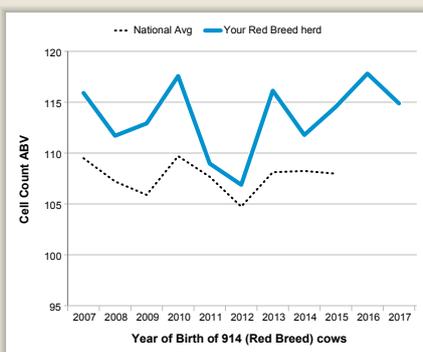


The Balanced Performance Index (BPI) reflects the economic drivers of net profitability for the range of dairy farming systems in Australia. Traits include production, survival, type, mammary, milking speed, temperament, cell count, fertility and feed efficiency.

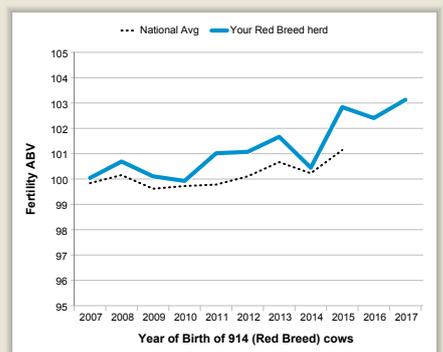
### Genetic Progress for Longevity



### Genetic Progress for Mastitis Resistance



### Genetic Progress for Fertility





### Breeding program

“Our involvement with Aussie Reds started with my father who took over a Jersey herd in 1978. He wanted to increase milk components without increasing milk volume so started using red breeds back in the 1980s, with the initial introduction of genetics from Sweden,” Toby said.

Today, the herd is 100% bred through artificial insemination. Heifers are joined to Jersey sires; enough cows are joined to produce the required number of replacement heifers and the rest are joined to beef sires.

Toby has used his herd’s BPI figures to rank his cows and identify the top 30 cows. In consultation with Genetics Australia, these cows are used to identify potential dams for bulls for industry use.

Aussie Red bulls bred under the Leppins’ Orana prefix have regularly appeared in sire catalogues for Genetics Australia and these bulls are genomically tested to verify parentage.

“We tend to be conservative in the bulls we use and would rather use a proven bull at this stage, but the genomically tested Swedish bred red bulls are very good.

“We haven’t used sexed semen in the past, but it is something we may use in the future. Our son Nicholas is sharefarming with us, so it will be his choice if we go down this path,” Toby said.

### ImProving Herds analysis

The ImProving Herds analysis of the Leppins’ herd showed that cows in the top 25% of their herd produced \$285 more income after feed and herd costs than the bottom 25% of the herd.

Cows in the top 25% of the herd produced an additional 295 litres of milk, 27 kg of protein and 40 kg of fat a year. The top 25% also lasted an average of 10 months longer in herd, the equivalent of an extra lactation.

The longer productive life of the top performing cows is a reflection of the Leppins’ breeding priorities.

### Balanced priorities

Toby looks for Aussie Red sires that are positive for production but also have outstanding fertility, conformation and mastitis resistance.

“It’s all very well focusing on production, but you have to have cows that get in calf and stay in the herd and not get culled because they don’t get in calf, or get mastitis,” he said.

“We focus on production per hectare, so we are not feeding to each cow’s genetic potential, so we have a balanced approach when selecting bulls to use in the herd. Our breeding program focuses on fertility, health, conformation, temperament and production.



## 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).*

“Fertility is extremely important for a seasonal calving herd. We need our cows and heifers to calve quickly, then get back in calf again and last in the herd.”

The results of the breeding program are backed up by the herd’s genetic progress reports, which show the herd is above the national average for fertility, longevity and mastitis resistance.

While genomics is not yet fully developed for Aussie Reds due to low numbers, the Leppins have used strategic genomic testing.

The whole herd was genomically tested three years ago and they plan to do their three and four-year olds in the future.

“There aren’t a lot of straight Aussie Red herds around and it’s a numbers game to get reliability, but at this stage we are happy to help build the genetic database for the breed,” Toby said.

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