

# The value of high Breeding Worth animals

## What's it worth to you?

Farming is a complex business and with so many factors contributing to overall profitability, it can be difficult to see the value gained from your herd's genetic merit.

Although farmers have multiple 'levers' to pull to increase their farm's profitability, it's the cows' genetic merit that sets a foundation for what the herd can achieve, says New Zealand Animal Evaluation Limited (NZAEL) manager Dr Jeremy Bryant.

"Farmers with high Breeding Worth herds are working from a stronger start point. A herd in the top 10 percent nationally is estimated to be generating around \$30 extra profit per cow per year, or \$12,600 extra per year, when compared to the median herd, if you imagine both herds were run under the same conditions," says Jeremy.

## The cumulative effect of genetic improvement on farm profit Top 10% herds vs the national median



Note: Values assume an average rate of genetic gain of \$11/year.

## Study supports value of genetic investment

Exactly how significant is genetic gain's contribution to the productivity of our nation's dairy herd? That's a question being answered by NZAEL, the DairyNZ subsidiary charged with managing the national breeding objective for dairy cattle.

NZAEL has analysed 800 2005-born cows across 30 herds nationally, comparing the performance of cows ranked highest and lowest within each herd.

Each animal was ranked according to its Breeding Worth (BW), and the performance of animals in the top 20 percent was compared to the bottom 20 percent.

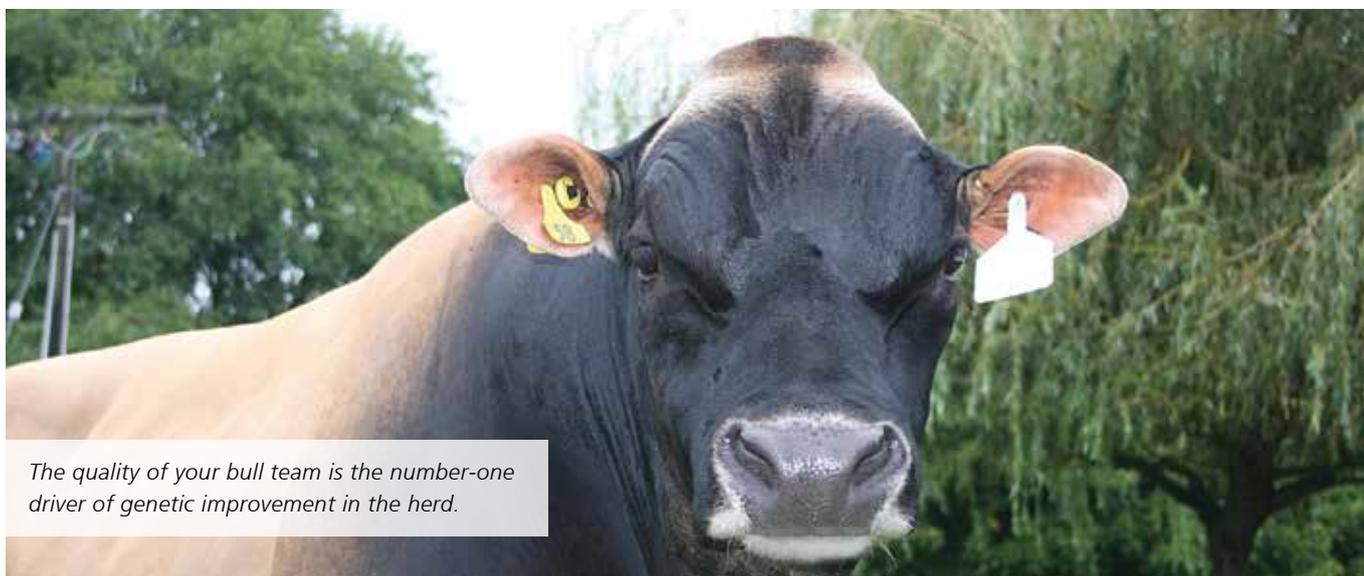
What NZAEL found establishes a sound case for farmers to focus on increasing the genetic merit of their herd, and reap the benefits in greater farm profits.

In the 2009/10 season, cows in the top 20 percent for BW generated an additional 17kg of protein, 18kg of milk fat and calved 4.5 days earlier than those in the bottom 20 percent for BW.

The liveweight and conformation scores of the cows were consistent across both the top and bottom groups.

Jeremy says the analysis, which was completed using the Dairy Industry Good Animal Database (DIGAD), offers a valuable insight into genetic improvement's role in bringing stronger profits for farmers.

"It's shown us that our research and our evaluations of genetic merit are on track with the reality of what's playing out on farms around the country."



The quality of your bull team is the number-one driver of genetic improvement in the herd.

## How to get your herd to the top 10 percent

*Here are six actions to increase the rate of genetic gain in your herd and move into the top 10 percent. We asked Waitomo farmers Euan and Claire Reeve to share their experience next to each step. Despite tougher financial times, the couple have maintained a strong focus on genetic gain in their 370-head jersey herd, which consistently ranks in the country's top five percent for BW.*

### 1. Use high Breeding Worth AI sires

The quality of your bull team each year is the number-one driver of genetic improvement in your herd.

- Always target high BW bulls
- Check the Breeding Values of the bulls in your team. If you're interested in improving certain traits, such as fertility, then it's worth double checking your team to ensure the bulls suit your individual requirements.

When it comes to choosing sires, the Reeves put the biggest emphasis on BW. Following that, Euan looks at protein, milk volume and udder values.

"By keeping the focus on BW along with a few key traits, I feel we are double banking them, because most are also weighted quite heavily in BW," says Euan.

### 2. Keep detailed records

Mating and calving records are used to assign a mother and a father to your replacement heifers. Keep careful records and avoid mix-ups in the calving paddock.

The Reeves' herd is 100 percent parentage recorded, and they ensure all staff are aware of the importance of accurate parentage records. Springer mobs are kept smaller and DNA sire verification is used to confirm any uncertain calf-to-cow matchings.

### 3. DNA verify the sire of a heifer if you are unsure about parentage

Mix-ups with calving and mating can result in poor quality heifers coming into your herd. DNA verification is an effective tool to check the parentage of any heifers you're unsure of.

"We can always use DNA to confirm the parents and have about four percent of our calves DNA verified each year," says Euan.

### 4. Measure cow performance (herd testing, weighing, calving and mating dates)

Quality performance measuring will show which are your best and worst performing cows. The more data you collect, the more accurate your BW becomes.

The Reeves herd test four times a year to 'paint the picture' on performance. They also weigh their herd once a year to identify their best and worst cows in terms of efficient production.

### 5. Use high ranking AI bulls over your best heifers

Your replacement heifers will have higher genetic merit than most cows in your milking herd. Using artificial insemination (AI) over your best heifers offers more choice when it comes to picking heifer calves to rear. It also means calves from those top heifers will be in the herd one year sooner.

The Reeves use artificial breeding (AB) on their heifers to leverage the high genetic value already in those younger animals. This accelerates the rate of genetic gain they can bring to the entire herd.

"We can do it because the grazing block is close – only 3km away – so I can go down there every day over mating, check for heats and get them done relatively quickly," says Euan.

The programme delivers Euan and Claire an extra 15-20 heifers on average in addition to the herd's replacements, and contributes significantly to their surplus heifer stock sale income.

### 6. Target replacements from your top BW cows

Use BW to help decide which cows to keep replacement heifers from.

As a rule, the Reeves target replacement heifers from the top 40 percent of their milking herd.

To read the full story about how the Reeves keep their herd's genetic merit high, visit [dairynz.co.nz/reeves](http://dairynz.co.nz/reeves).



Euan Reeve with his yearling heifers.

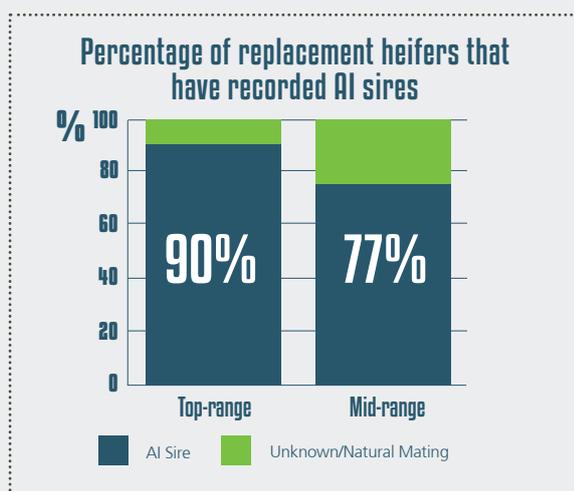
### Key points

1. Recent analysis shows high BW cows calve earlier and produce about 35kg more milk solids than their lower BW herd mates.
2. Herds in the top 10 percent for BW have the genetic potential to create about \$12,600 more profit/year than the median herd.
3. There are many actions farmers can take to increase the genetic merit of their herd; farmers should choose those best suited to their system.

# 6 STEPS TO BREED A HIGH BW HERD

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## 1 Use high Breeding Worth AI sires



## 2 Keep accurate and detailed calving and mating records

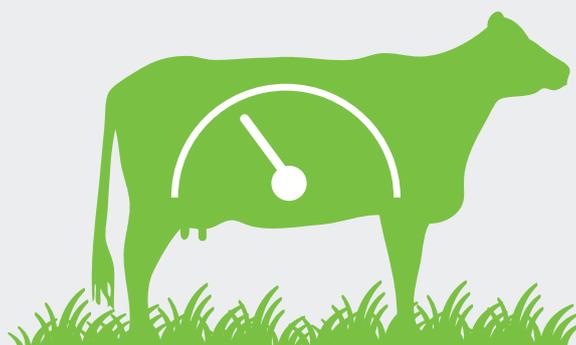


## 3 Use DNA sire verification if you're unsure about parentage

**TWICE** as many heifers are DNA verified in top ranking herds, compared to mid range herds  
*(top range 27%, mid range 14%)*

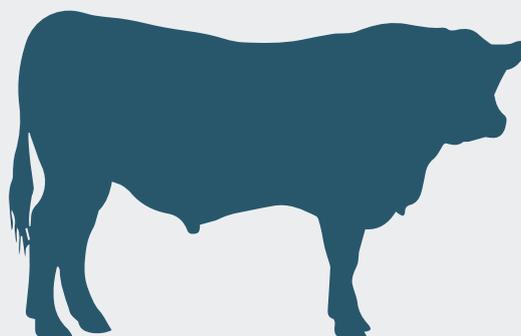
## 4 Measure cow performance

- herd testing
- weighing
- calving and mating dates



**86%** of top BW herds are herd tested at least 3 times/season (compared to **56%** of mid range herds)

## 5 Use AI bulls over your best heifers



## 6 Target replacements from your top BW cows