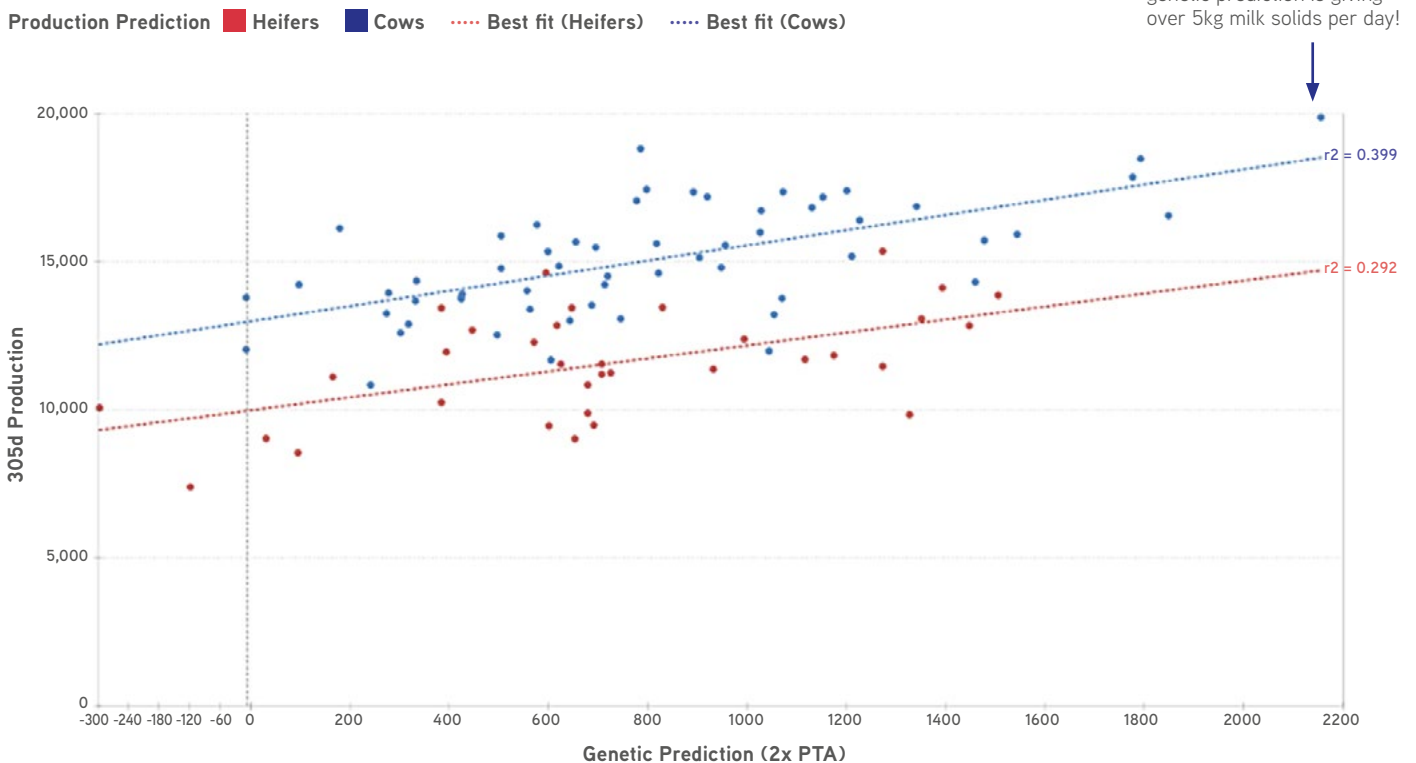


# What can the right genetic plan do for your farm?

Many farmers will have cows in their herds producing 5kg of fat and protein a day. These cows will be fed the same diet and in the same management system as other lower-performing cows, so it is genetic variation that sets these cows apart. What can you do to make sure you have more of these cows in your herd?

Graph to compare genomic prediction with actual milk production



Those cows producing high levels of fat and protein, on the same inputs, are both your most efficient and sustainable cows, says Rose Jackson, from Kite Consulting:

“A cow’s performance is down to a combination of her genetics and her environment. Much of our attention is, rightly focused on the environment and management but if the herd genetics aren’t right, it will hold you back. We all know that there are some individual cows in every herd that massively outperform everybody else without requiring any different treatment – the ideal would be to have more of these cows in the herd and genetics is the tool to help you get there!

Sustainability is all about improving efficiency and genetics plays a big part in this. It is estimated that focussing on genetic improvement can reduce the carbon output of a dairy herd by around 1% each year - this effect is cumulative so has the potential to improve GHG emissions by 20% over the next 20 years.

It is important to understand your current position before you can start to plan for the future. My starting point is to do a herd genetic review in order to understand where the herd genetics are currently and where they are heading in the future. I also look at where a herd sits in terms of national averages, how reliable or accurate the data is currently, and which areas are good and bad in terms of genetic predictions.

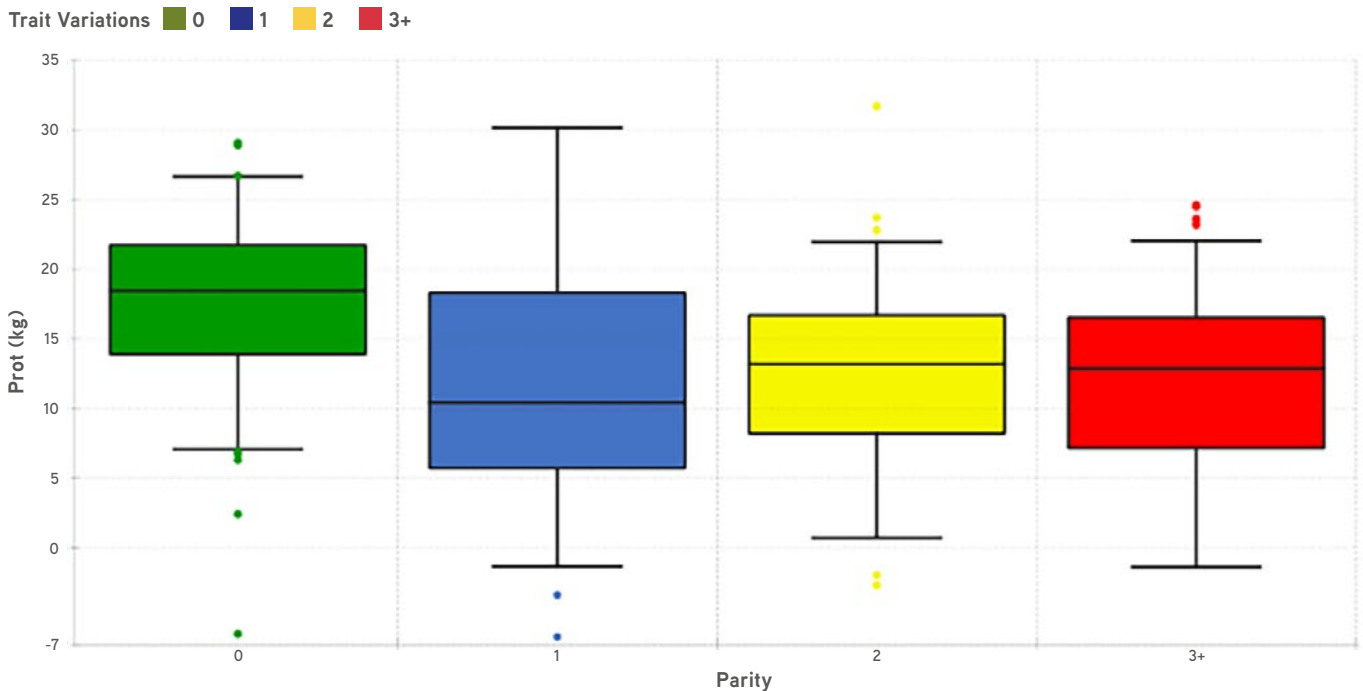
It’s also helpful to review the number of heifers on the ground and the current semen use strategy to calculate the numbers coming through as this is an important part of the breeding strategy going forwards.

If your herd genetic report identifies that the potential isn’t quite there, the next step is to look at how to breed it into your herd.



## Putting a selective breeding strategy in place

Genomic testing your heifers (and younger cows) will help you identify which females to breed replacements from and which to serve to beef. We used to say 'breed your heifers from your heifers' for the fastest genetic gain, but genomic testing alongside traditional PTAs might highlight cows in your herd with better genetics than your heifers. Breeding from these will increase the rate of genetic progress.



Graph showing predicted Protein yield by age group – although the heifers are better on average than the cows, the best first lactation cows are better than the best heifers!

When putting a breeding policy together, think about feed efficiency and lifespan/health traits alongside production traits.”

## Ecofeed

**Feed represents not only one of the biggest financial costs on farm but also one of the biggest impacts on carbon footprint, so if we can make efficiencies here, it is win-win.**

Ecofeed is a genomic trait developed by STgenetics to predict the feed efficiency of an animal calculated by physically measuring individual feed intakes and looking at how this correlates to production. This was originally based on data from growing heifers but these animals are now well into their first lactation so we have the data on milking cows too.

Results suggests a saving of 2-4kg of DMI per day from those cows with a high Ecofeed score compared to those with low Ecofeed scores whilst achieving the same level of production, so there is huge potential!

The Ecofeed trait has a high heritability – 19% (similar to fat and protein) and is independent of other traits so using it as a selection tool won't negatively impact on other areas.

Come and talk to us at Kite about how genetics can help shape the future performance of your herd.

To hear more about how one farmer has used genetics to breed cows that meet his objectives listen to the Kite Podcast no 90 <https://www.kiteconsulting.com/podcasts/#/top/1>

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