

# Genomic Evaluation Technology Advancements Explained



LIC has significantly advanced the technology it uses to identify parentage and generate animal genotypes, resulting in more accurate gBW's for all animals in MINDA®.

Both updates will have ripple effects to all known relatives in MINDA, resulting in updates to gBW's over July and August 2024.

**99% of herds in MINDA\* will experience movements of no more than 10gBW (up or down).** At an individual level, animals directly impacted by either of the updates may experience more gBW change.

## We're improving the accuracy of parentage testing

LIC has developed a new method for determining parentage which will improve the precision of parentage results. This new method compares an animal's DNA against over 5.7 million existing DNA profiles and analyses over 8 million existing relationships.

We are using this new method to update over two million existing relationships in MINDA - this information will be added over two weeks in July 2024. The majority of these relationship updates will validate the parentage already recorded, while some animals' parents will change or be added.

We are working on automating this new method for use next season and it will be utilised as part of the GeneMark® Genomics parentage testing.

## Our new genomic technology gives us more information than ever before

In February 2023, we started trialling a new technology for carrying out both parentage and genomic evaluations together, making it more efficient and significantly more cost effective than the previous process which involved carrying them out separately.

This new technology also allows us to collect more DNA information across the national population and identify which genes each animal has received from its parents and whether they are associated with good or poor performance.

We have thoroughly tested this new technology, and in August we will use it for all genomic evaluations going forward. At the same time all animals that have been processed through GeneMark since February 2023 will receive an updated genomic evaluation.

**These changes mean more accurate genomic evaluations than ever before - helping build efficient and profitable dairy herds of the future.**

\*Animals in MINDA are like a large family tree with millions of relationships across age groups as well as generations. Information received for one animal will in turn contribute to relatives of that animal, which is why we will see movements across the database.

There's always room for improvement

