New Zealand Genetic Evaluation (NZGE) upgrade (V7) - 2025

Technical Note

Subject:	**NZGE upgrade to version 7**
Relates to:	Preparation of data for calculations of NZGE genomic breeding values
Date:	September 2025

Summary

- In 2024 the B+LNZ NZGE was upgraded to version 6 which integrated both maternal and terminal genotypes into a single evaluation for all traits except for Survival and Stayability.
- The version 7 upgrade (NZGEv7) extends the integration of maternal and terminal genotypes to the calculation of Survival breeding values. The updated Survival breeding values will be available in SIL and nProve from 23rd of September 2025
- Changes in Survival BVs between NZGEv6 and NZGEv7 should be expected, particularly in genotyped flocks.
- Data preparation software has also been upgrade to streamline the process and make the evaluation run faster. This software upgrade does not affect or alter the breeding values.

Background

In 2024 the New Zealand Genetic Evaluation (NZGE) was upgraded to version 6, utilising both maternal and terminal genotypes in a single evaluation of all traits except for Survival and Stayability traits.
The NZGE has been upgraded again to version 7 (NZGEv7) to extend the integration of maternal and terminal genotypes to the calculation of Survival breeding values allowing genotypes from more diverse breeds to be included, optimising genomic enhancement of BVs and providing further increases in BV predication accuracy. The Survival breeding values are now calculated using the same method as the other NZGE breeding values.

Breeders with more genotypes included in the NZGE will notice more of a shift in their animal's Survival BVs. Extensive investigations have been carried out to understand the differences observed in Survival BVs between the NZGEv6 and NZGEv7 to ensure and validate continued increases in accuracy.

For Stayability: No genotypes will be included in the GTG analysis, only pedigree will be used to inform BVs.

NZGE genotype inclusion criteria for Survival

An animal must meet all the following genotype, breed, and pedigree criteria for its genotype to be included in the NZGEv7 evaluation.

Genotype

- The animal has a genotype loaded to SIL by a B+LNZ Genetics approved lab and,
- The genotype meets the genotype QC criteria.
- The year of birth of the animal is greater than or equal to 2010

Breed

Genotypes from animals that meet the following breed criteria may be included in the NZGEv7 analysis if:

- The animal has a SIL breed of ≥ 75% Texel, Romney, Coopworth, Perendale, Highlander, SufTex, Suffolk, South Suffolk, White Suffolk, South Dorset, Poll Dorset, Dorset Horn, Dorset Down, Ranger, Primera or Lamb Supreme or,
- The animal has a combined SIL breed of ≥37.5% Texel, SufTex, Suffolk, South Suffolk, White Suffolk, South Dorset, Poll Dorset, Dorset Horn, Dorset Down, Ranger, Primera or Lamb Supreme, or,
- The animal has a SIL breed of Composite with >30% Romney, Coopworth or Perendale, or,
- The animal has a SIL breed of Composite with >30% Texel and > 40% Romney, Coopworth or Perendale (or composite) background.

Pedigree Status

- The animal has at least one recorded or DNA assigned parent.

Sire or Dam Status

- The animal is a sire or,
- The animal is a dam and is less than 6 years old

The Genotyping Decision Tree provides more detail on which genotypes will be included in the NZGE and is available from the SIL website.

Changing from NZGEv6 to NZGEv7

- Data extracted on Friday 19th of September will be used in both NZGEv6 and NZGEv7 analyses.
- Friday 19th of September will be the last NZGEv6 analysis.
- From Friday 26th of September only NZGEv7 results will be available.