Analysis Enhancements 2022

A summary for Sheep Genetics members

Lambing Ease in Terminal Indexes

Updated Terminal indexes to include Lambing Ease (LE)

The index review conducted by Sheep Genetics in 2020 highlighted that breeders and ram buyers were concerned that lambing difficulties were not being considered in any of the terminal indexes. Reducing lamb losses is a key priority to industry therefore all Terminal indexes (TCP, EQ and LEQ) have been updated to include Lambing Ease Direct (LE_DIR) in the indexes.

There are high correlations between the old indexes and the updated indexes that include LE. These correlations range between 97.4% - 98.2% for each of the indexes. This indicates that the ranking of animals is very similar between old and updated indexes. For more information on updated trait contributions to each of the indexes please see Appendix 1. These contributions will also be updated in the index documentation.

If a breeder doesn't score Lambing Ease, they will still have information informing this trait in the indexes via correlated traits to Lambing Ease such as gestation length and birthweight, however scoring this trait directly will provide the most accurate information for the ASBV and index calculation. More information on scoring Lambing Ease can be found on the Sheep Genetics website.

Who is impacted?

All Terminal sheep will only have indexes reported that include LE.

This will result in some movement in individual indexes with animals that have poor LE_DIR ASBVs being the most impacted.

Data Quality Score Reports

The Data Quality Score (DQS) report is now available for breeders to access online

Data is the cornerstone of Sheep Genetics' evaluations. Optimising data quality is vital to enhance the reliability of ASBVs, make accurate selection decisions and maximise genetic gains. The Data Quality Score (DQS) will now be routinely reported back to breeders by Sheep Genetics as part of the 2022 Enhancements.

 The DQS is made up of measures of data quality, quantity and timeliness as measured by:

- The amount of data, including the number of animals and traits being recorded
- Completeness and accuracy of records, including how well pedigree, birth date and birth types and performance traits are recorded
- Data structure, including progeny numbers and sire representation across groups, and linkage
- Timeliness, which is a measure of how promptly data is submitted to the evaluation from time of collection

Displayed as a single combined score for the flock, the DQS evaluates data from the last 5 years. The score is provided both as a value out of 100, where the higher the value the better the data quality, as well as a star rating to reflect the range that your score fits. For example, a DQS score that sits between 60 and 80 out of 100, will receive a 4-star rating. An example snapshot of the DQS score is shown in Figure 3.
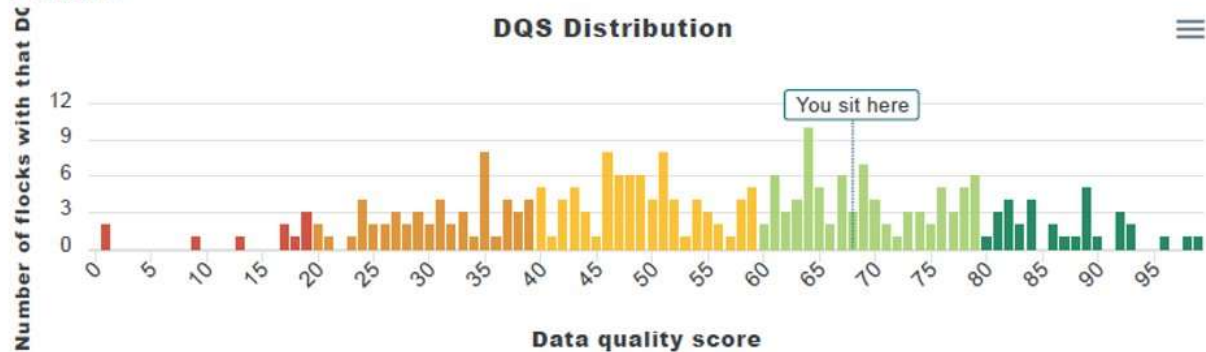
FIGURE 3. AN EXAMPLE SNAPSHOT OF THE DQS REPORT INCLUDING THE DQS SCORE, STAR RATING AND DISTRIBUTION OF FLOCKS IN THE ANALYSIS

It is important to note that the DQS has been developed to explicitly measure the quality of the data being collected and submitted for genetic evaluation. This is different from the accuracy values reported with ASBVs. Accuracy is mainly capturing the quantity of data that contributes to a breeding value, rather than how well that data has been captured. The DQS does include measures on how well pedigree and fixed effects information is captured. For example, the depth of pedigree available or individual birth dates.

Who is impacted?

Any MERINOSELECT, Maternal, Terminal and DOHNE breeder with more than 3 years of data

The DQS is privately reported to breeders via the results portal, in the future the star rating will be displayed publicly. Continue development to make the DQS available to smaller analyses and support for new members of Sheep Genetics.

Appendix 1

Terminal index ASBV Contribution to the Index

All the terminal indexes have been updated to include Lambing Ease (LE). Due to correlations between LE and other traits in the index, there are differences in the relative emphasis on each trait. The following graphs show the traits in each of the terminal indexes and how they contribute to the overall balance of the index in the top 10% of current terminal sires.

TCP

Trait	Percentage
Lambing Ease (LE)	4%
Shear Force (SHEARF5)	28%
Intramuscular Fat (IMF)	2%
Lean Meat Yield (LMY)	6%
Dressing % (DRESS%)	8%
Carcase C-site Fat Depth (CCFAT)	5%
Carcase Eye Muscle Depth (CEMD)	27%
Post-weaning weight (PWT)	19%

EQ

Trait	Value
Lambing Ease (LE)	8%
Worm Egg Count (WEC)	
Shear Force (SHEARF5)	32%
Intramuscular Fat (IMF)	14%
Lean Meat Yield (LMY)	3%
Dressing % (DRESS%)	7%
Carcase C-site Fat Depth (CCFAT)	3%
Carcase Eye Muscle Depth (CEMD)	16%
Post-weaning weight (PWT)	18%

LEQ

Trait	Value
Lambing Ease (LE)	2%
Worm Egg Count (WEC)	7%
Shear Force (SHEARF5)	34%
Intramuscular Fat (IMF)	28%
Lean Meat Yield (LMY)	
Dressing % (DRESS%)	6%
Carcase C-site Fat Depth (CCFAT)	
Carcase Eye Muscle Depth (CEMD)	14%
Post-weaning weight (PWT)	10%

Sheep GENETICS

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