

MERINOSELECT Indexes

A guide from Sheep Genetics

Why use a selection index?

Indexes are an important tool to drive genetic improvement in ram breeding programs. Each index combines multiple measured traits, or ASBVs, into a single value that reflects a certain production emphasis on these traits. A range of traits are included which are of economic or functional importance. Collectively, these traits make up the “breeding objective” of the index which aims to improve profitability in commercial sheep enterprises.

Indexes are useful because they balance genetic improvement appropriately across a range of traits with the emphasis of each individual trait determined by its relative importance to a selection approach for a particular style of production system.

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Appropriately designed indexes are central to the goal of breeding more profitable sheep.

However, it is recommended that the performance of individual measured and visually assessed traits also be used in conjunction with indexes.

Choosing the right index

This report includes four indexes based on four commercial production systems, these are outlined in the figure below.

Fine Wool (FW) The majority of the income is from the wool clip, with a strong focus on reducing micron.	Wool Production (WP) The majority of the income is from the wool clip, with a strong focus on increasing wool production.
Sustainable Merino (SM) The majority of the income is from the wool clip, and sheepmeat production is balanced.	Merino Lamb (ML) The majority of the income is from sheepmeat production, particularly lambs, with some income from the adult ewe wool clip.

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When selecting on these indexes the long-term responses will vary depending on the traits measured, available pedigree, use of genomics, flock structure and selection emphasis on the index.

The changes in individual traits from using an index depend on the information you record in your flock. If you want to improve, or even just maintain a trait, you must record it to ensure breeding values are sufficiently accurate for the index to do its job.

For detailed explanations and further information on indexes visit:

www.sheepgenetics.org.au

Sheep Genetics have resources available for both ram breeders and ram buyers.