

A Quick Guide to the New Angus Selection Indexes



New selection indexes were introduced for Angus seedstock cattle in December 2021.

The new selection indexes replace the Angus Breeding, Domestic, Heavy Grain and Heavy Grass selection indexes which have been published since 2014.

What selection indexes are now available?

Ten selection indexes are now published for animals within the TransTasman Angus Cattle Evaluation.

The selection indexes cater for a range of different breeding systems, target markets and production systems, and include:

Index Name	Abbreviation
Angus Breeding Index	\$A
Domestic Index	\$D
Heavy Grain Index	\$GN
Heavy Grass Index	\$GS
Angus Breeding Low Feed Cost Index	\$A-L
Domestic Low Feed Cost Index	\$D-L
Heavy Grain Low Feed Cost Index	\$GN-L
Heavy Grass Low Feed Cost Index	\$GS-L
AngusPRO Index	\$PRO
Angus Terminal Sire Index	\$T

The \$A (Angus Breeding Index) and \$A-L (Angus Breeding Low Feed Cost Index) selection indexes will routinely be published in the standard Estimated Breeding Value (EBV) display for Angus animals, whereas the other selection indexes are available from the Angus Australia website for those breeders who wish to use them in their selection decisions.

What are the main features of the new selection indexes?

- **An increase from 4 to 10 selection indexes**

The introduction of a greater range of selection indexes provides Angus breeders with the opportunity to access a selection index that is more closely aligned with their breeding system, target market, production system and breeding objective.

- **Introduction of selection indexes for different production systems**

While different selection indexes have traditionally been available for different target markets, different selection indexes are now also available for breeding programs operating in different production systems.

In particular, low feed cost versions of each selection index have been introduced to cater for Angus breeders who are running a production system where the cost of supplying additional feed, via either supplementary feeding and/or increased pasture production, is low, or where pasture is not fully utilised for the majority of the year.

In these production systems, if there is an increase in the maintenance requirements of the breeding herd due to an increase in mature weight, the cost incurred to meet the increased feed requirements of animals is minimal.

The low feed cost selection indexes do not consequently aim to limit an increase in mature cow weight, while improvement in other production traits is achieved, which is an objective in the other versions of these selection indexes.

- **Introduction of an Angus Terminal Sire selection index**

A new selection index has been introduced for use in situations where Angus bulls are being used as a terminal sire over mature breeding females.

- **Introduction of a selection index for New Zealand breeding programs**

A new selection index, titled AngusPRO, has been introduced that is specific to New Zealand production systems, and in particular, to breeders targeting the production of grass finished steers for the AngusPure program.

- **Implementation of more advanced analytical software**

The analytical software used to calculate the selection indexes, known as BreedObject, has been updated to a new version that incorporates a number of considerable enhancements by comparison to the previous version. Most notably, is the enhanced modelling of cow weight, and the impact that total cow feed costs (i.e. length of feeding + feed price + feed quality) have on the profitability of commercial production systems.

- **Updating of economic and production parameters**

The economic and production parameters used in the calculation of the selection indexes have been updated to reflect current production systems and markets.



Choosing which new selection index is right for me

When using the new selection indexes, it is important that breeders choose a selection index that is aligned with their breeding system, target market and production system.

A brief description of each selection index is included in the table below.



Selection Index Description

Angus Breeding Indexes	Domestic Indexes	Heavy Grain Indexes
<ul style="list-style-type: none"> · Self replacing herd · Daughters are retained for breeding · Identifies animals that will improve overall profitability in the majority of commercial, self replacing, grass and grain finishing beef production systems. · \$A includes an objective of maintaining mature cow weight, whereas the \$A-L does not include this objective 	<ul style="list-style-type: none"> · Self replacing herd · Daughters are retained for breeding · Steer progeny are either finished using pasture, pasture supplemented by grain or grain (eg. 50 – 70 days) · Steer progeny slaughtered at a carcass weight of 280 kg at 16 months of age · Eating quality traits important to suit MSA program · \$D includes an objective of maintaining mature cow weight, whereas the \$D-L does not include this objective 	<ul style="list-style-type: none"> · Self replacing herd · Daughters are retained for breeding · Steer progeny are pasture grown with a 250 day feedlot finishing period · Steer progeny slaughtered at a carcass weight of 455 kg at 24 months of age · Targeting high quality, highly marbled markets with a significant premium for superior marbling · \$GN includes an objective of maintaining mature cow weight, whereas the \$GN-L does not include this objective
Heavy Grass Indexes	Angus Terminal Sire Index	AngusPRO Index
<ul style="list-style-type: none"> · Self replacing herd · Daughters are retained for breeding · Steer progeny are finished on pasture · Steer progeny slaughtered at a carcass weight of 350 kg at 22 months of age · Eating quality traits important to suit MSA program · \$GS includes an objective of maintaining mature cow weight, whereas the \$GS-L does not include this objective 	<ul style="list-style-type: none"> · Terminal breeding program where Angus bulls are being used as a terminal sire over mature females · All progeny, both male and female, are slaughtered · Focus on increasing growth, carcass yield and eating quality. · No emphasis is given to female fertility or maternal traits 	<ul style="list-style-type: none"> · New Zealand production system · Self replacing herd · Daughters are retained for breeding · Steer progeny are finished on pasture for the AngusPure programme. · Steer progeny slaughtered at a carcass weight of 290 kg at 20 months of age · Significant premium for steers that exhibit superior marbling





Selection Index Selector

An interactive decision support tool, the 'Selection Index Selector' is available from the Angus Australia website that guides breeders through a short series of questions to identify the most appropriate selection index for their breeding program.

The 'Selection Index Selector' can be accessed from within the Angus Education Centre, or from the 'Tools' menu in Angus.Tech.

Using the new selection indexes in animal selection

Selection indexes assist in making "balanced" selection decisions, taking into account the individual traits and attributes of each animal to identify animals with genetics that are most aligned with the breeding objective of the given selection index.

The recommended strategy for utilising selection indexes in animal selection is to:

1. Establish a Breeding Objective
2. Identify the Selection Index of Most Relevance
3. Rank Animals on Selection Index
4. Consider Individual EBVs of Importance
5. Consider Other Selection Criteria

Further information about the new selection indexes

Detailed information about all the new selection indexes is available from the 'Understanding Angus Selection Indexes' module in the Angus Education Centre.

The module includes general information about selection indexes and how they are calculated, along with a description of the breeding system, target market endpoint and production system modelled in each selection index, the emphasis that is placed on each EBV in the calculation of each selection index, and the type of animals that rank highly on each selection index.

The Angus Education Centre module can be accessed from the 'Education' menu on the Angus Australia website.

Who do I contact should I have questions?

To further discuss the new selection indexes that are published in the TransTasman Angus Cattle Evaluation, please contact either Andrew Byrne, Genetic Evaluation Manager, on (02) 6773 4618 or andrew@angusaustralia.com.au, or one of Angus Australia's Breed Development Officer team.

Jen Peart

jen.peart@angusaustralia.com.au
02 6773 4644

Jake Phillips

jake.phillips@angusaustralia.com.au
02 6773 4625

