

## ANALYTICAL CHANGES TO ANGUS BREEDPLAN

DECEMBER 2018

A number of analytical changes have been implemented in the mid-December 2018 Angus BREEDPLAN analysis.

These changes are part of the ongoing maintenance and improvement to the Angus BREEDPLAN genetic evaluation, and have resulted in the calculation of EBVs that better predict the genetic merit of Australian Angus animals.

### Transition to a Single Feed Efficiency EBV

Two EBVs have previously been published within Angus BREEDPLAN for feed efficiency, being the NFI-F and NFI-P EBV.

NFI-F EBVs provide estimates of genetic differences between animals in feed intake at a standard weight and rate of weight gain when animals are in a finishing phase, whereas NFI-P EBVs provide estimates of genetic differences between animals in feed intake at a standard weight and rate of weight gain when animals are in a growing phase. Performance measurements for both traits are measured in a feedlot situation.

While the publication of two EBVs for NFI was appropriate in the past, only a single EBV will now be published for feed efficiency, being NFI-F.

### Modifications to the Utilisation of Genomics

Several improvements have been made with regards to the incorporation of genomic information within the main multi-trait component of the Angus BREEDPLAN analysis.

Specifically:

- The number of single nucleotide polymorphisms (SNPs) that are used in the calculation of EBVs has been increased from ~40,000 to ~ 56,000 SNPs.
- The allele frequencies that are utilised when applying quality assurance checks to genomic information have been re-estimated.

- The criteria that is used when determining whether an animal has a sufficiently close genetic relationship to animals within the reference population for the incorporation of genomic information in Angus BREEDPLAN has been modified.

These improvements will result in the calculation of improved EBVs and EBV accuracy values for animals with genomic information, and their relatives, while also facilitating the incorporation of genomic information for a greater number of animals.

### Modifications to Accuracy Values for Milk EBVs

The software that is utilised to calculate EBV accuracy values for the milk EBV has been updated so that the additional accuracy provided by genomic information is reflected in the accuracy value.

The new software will not result in any changes to milk EBVs, but the accuracy value of milk EBVs will increase for animals for which genomic information is available.

### Addition of Yearling Weight to Angus HeiferSELECT

Genetic predictions for yearling weight have been incorporated into the Angus HeiferSELECT product.

Angus HeiferSELECT is a genomic selection tool to help inform the selection of replacement Angus heifers who have been sired by a registered Australian Angus bull. Genetic predictions are now provided for nine traits, calving ease, weaning weight, yearling weight, milk, mature cow weight, carcass weight, eye muscle area, rib fat and intramuscular fat, plus total breeding value.

### Further Information

To further discuss any of the enhancements that have been implemented in the mid-December 2018 Angus BREEDPLAN analysis, please contact Andrew Byrne, Angus Australia's Breed Development & Extension Manager, on (02) 6773 4618 or [andrew@angusaustralia.com.au](mailto:andrew@angusaustralia.com.au).

