ANGUS GenetiQ™

Frequently Asked Questions

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RECAP: TACE TRAITS

Before discussing Angus GenetiQ, it's important to recap the EBVs and RBVs which are currently available through different analysis providers.

Angus GenetiQ Traits

- **EBVs:** Gestation Length, Birth Weight, Weaning Weight, Yearling Weight, Final Weight, Mature Weight, Mature Body Condition, Mature Cow Height, Maternal Value, Scrotal Size, Carcase Weight, Carcase EMA, P8 Fat, MSA Marbling Score
- **RBVs:** Coat Type

BreedPLAN Traits (shared reference population with AngusNZ via ABRI)

- **EBVs:** Calving Ease Direct, Calving Ease Daughters, Birth Weight, 200 Day Growth, 400 Day Weight, 600 Day Weight, Mature Cow Weight, Milk, Days to Calving, Scrotal Size, Docility, Carcase Weight, Eye Muscle Area, Intramuscular Fat, Rib Fat, Rump Fat, Retail Beef Yield, Net Feed Intake – Feedlot
- **RBVs:** Shear Force, MSA Marbling

Angus Genetics Incorporated (AGI)

- **EBVs:** Claw Set, Foot Angle, Leg Angle

CSIRO

- **RBVs:** ImmuneDEX

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Why did Angus Australia decide to develop an in-house genetic evaluation system?

Angus Australia decided to develop an in-house genetic evaluation system to give members certainty, continuity and control over a world-class genetic evaluation platform built specifically for the Angus breed. By investing in Angus GenetiQ over the past five years, the organisation aimed to reduce reliance on external uncertainty, safeguard member data, and ensure long-term stability, accuracy and innovation in genetic evaluation—while retaining the flexibility to evolve as industry needs and research progress.

When did work begin on Angus GenetiQ?

The initial research and development of Angus GenetiQ, occurred under the name Genetic Evaluation Pipeline (GEP), began 5 years ago as research breeding values for mature body condition and mature cow height were being developed.

What are the benefits of Angus GenetiQ to our members?

We continue to get feedback from members about new traits that are important to them i.e. Pink Eye. Developing these traits through our traditional service providers could take years to get EBVs, while internally we can standup traits much quicker and be more responsive to member feedback.

Allows frequent recalculation of genetic correlations and the expansion genetic correlations to include new traits as they are developed.

Increased capability to expand into new projects i.e. Calculation of EBVs for Ultra Black and Brangus type animals.

Which genetic evaluation is more appropriate for Angus Australia purebred Angus seedstock members to use?

Our recommendation to Angus Australia members and purchasers of registered Angus bulls is to consider how their animals rank in both Angus GenetiQ and TACE. It will then be a personal decision of the breeders as to which genetic evaluation is most suited to their herd, production system and clientele.

Will all members have access to Angus GenetiQ?

All members who currently receive EBVs from TACE can expect to receive Angus GenetiQ EBVs on their animals.

For new members, members are required to have enrolled in Angus Australia's genetic evaluation services to have access to Angus GenetiQ, TACE, UltraSELECT, Angus HeiferSELECT and Angus SteerSELECT results.

Are there costs associated with using Angus GenetiQ, or is it included with membership?

The cost associated with Angus GenetiQ is already included in the annual enrolment fee to the Angus Australia Genetic Evaluation Services.

If a member is currently not enrolled for Australia Genetic Evaluation Services, the member will need to enrol for that service to receive Angus GenetiQ EBVs.

ANGUS GENETIQ DETAILS

What EBVs and RBVs will be available to members through the Angus GenetiQ platform?

EBVs:

- Gestation Length
- Birth Weight
- Weaning Weight
- Yearling Weight
- Final Weight
- Mature Cow Weight
- Mature Cow Height
- Mature Body Condition Score
- Milk
- Scrotal Size
- Carcase Weight
- Eye Muscle Area
- Rump Fat
- MSA Marbling

RBVs:

Coat Type

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Are there plans for expanding traits?

Angus Australia is developing the models to enable the calculation of several economically important traits. Work is progressing well for inclusion of calving difficulty, fertility/pregnancy traits, temperament, carcase and efficiency traits. Additionally, research continues for the development of estimated breeding values for Immunity and Coat Type and are being prioritised for transition to official reporting.

Will Angus GenetiQ have Selection Indexes available?

The initial release of Angus GenetiQ does not include selection indexes; however, Angus Australia's genetic improvement team is exploring the opportunity to provide members with customisable desired gains index values. This will be beneficial for providing the ability to focus directly on your herd's breeding objectives and the traits that are most important to your herd. Additionally, this also provides breeders with increased control over where they place their selection pressure, ensuring that they focus on the traits which will benefit their herd the most in improving.

When will Angus Australia publish the first round of Angus GenetiQ results?

Angus Australia already released Angus GenetiQ results which are available under the "Angus GenetiQ" tab when looking at an animal's Animal Details in Angus.Tech.

ANGUS GENETIQ DETAILS

How often will EBVs be updated in Angus GenetiQ?

Angus GenetiQ results will be updated on a weekly basis, with new results being published weekly on a Thursday night.

When will the registration and performance submission deadlines be for Angus GenetiQ?

Each weekend data gets extracted for the next analysis and all animals, performance data and genotypes loaded into Angus.Tech will be extracted and qualifying data will be used for that analysis.
It is therefore important for members to ensure they register, collect and submit performance data and genotype animals in a timely manner to have EBVs available.

How will member's access their herd's Angus GenetiQ results?

Angus GenetiQ results ae available via the "Angus GenetiQ" tab in Angus.Tech.

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Will all new EBVs reported in Angus GenetiQ have the same EBV descriptions as current BreedPLAN EBVs?

No, there are slight differences in some of the EBVs descriptions. The specific traits with differences in EBV descriptions are:

- In TACE the Carcase Weight EBV is adjusted to a hot standard carcase weight of a 750-day old animal. Angus GenetiQ will not adjust the carcase weight records but instead allow the genetic evaluation model to include the age of the animal in the calculation of the EBV.

- Similarly, the TACE EBVs for Eye Muscle Area, Rump Fat and Intramuscular Fat are adjusted prior to calculation of EBVs to a 400kg carcase. The Angus GenetiQ analysis will instead include the weight of the carcase in the model used for the calculation of these EBVs.

ANGUS GENETIQ DETAILS

Please see below revised EBV descriptions for these traits.

Carcase Weight – (Kg) – Genetic differences between animals in hot standard carcase weight. Higher EBVs indicate heavier carcase weight

Eye Muscle Area – (cm^2) – Genetic differences between animals in eye muscle area at the 12/13th rib site. Higher EBVs indicate larger eye muscle area.

Rump Fat – (mm) – Genetic differences between animals in fat depth at the P8 rump site. Higher EBVs indicate more fat.

MSA Marbling – (MSA Marble Score) – Genetic differences between animals in MSA Marble Score (marbling) at the 12/13th rib site. Higher EBVs indicate more intramuscular fat.

Maternal Value – (Kg) – Genetic difference between animals in the ability of females to, through milk as well as creating a "caring" environment for the calf to prosper or not. Higher EBVs indicate higher maternal instinct and milk.

Mature Body Condition Score – (Score) – Genetic differences between animals in the body condition of mature females, at weaning of their calf. Higher EBVs indicate more body condition of mature females.

Mature Cow Height – (cm) – Genetic differences between animals in the height of mature females, at weaning of their calf. Higher EBVs indicate taller mature females.

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ANGUS GENETIQ DETAILS

Will NZ Angus data be included?

Angus GenetiQ will only include data from NZ animals which are registered directly in Angus Australia registers.

How is Angus GenetiQ powered—what kind of data does it use?

Angus GenetiQ is powered by Angus Australia's extensive genotype and performance database. It uses pedigree, performance and genomic information from registered Angus cattle. All historical and new Angus Australia animal details and performance data that is included in TACE, will also be included in Angus GenetiQ. However, it is important to note that Angus GenetiQ does not include data from AngusNZ; the only NZ animals data included will be from animals registered with Angus Australia.

Will performance data collection requirements be different between Angus GenetiQ and TACE?

There will not be any alterations to the performance data collection guidelines. However, we are updating the layout of our performance data collection guidelines to improve the readability, and simplicity of the document – allowing members to easily understand the key requirements for all traits.

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Should breeders continue to collect trait data i.e. Rib Fat Ultrasound for traits that are not reported in Angus GenetiQ?

Members are still encouraged to collect all data that is relevant to their breeding objective. Whilst Angus GenetiQ may not have an EBV directly focused on this trait, the trait data will be utilised as correlated performance data that can improve the accuracy of other EBVs. For example, whilst Angus GenetiQ does not produce an EBV for Rib Fat, the scan data and carcase data that members have historically recorded and continue to record will be contributing to analysis of other EBVs (e.g. carcase weight, P8 Fat etc.).

Can EBVs be compared between Angus GenetiQ and TACE?

No, just as EBVs cannot be directly compared between UltraSELECT and TACE, EBVs should never be compared from different genetic evaluations. While both Angus GenetiQ, TACE and UltraSELECT provide estimates of an animal's genetic potential, they are calculated using different models and analytical methods. Differences in trait definitions and reference populations mean the EBVs are not comparable.

Should members expect differences in EBVs for the same trait in Angus GenetiQ in comparison to TACE?

Yes, differences are expected due to:

- Angus GenetiQ only including pedigree, genomic and performance information from New Zealand Angus animals that are registered with Angus Australia; in contrast TACE is a joint genetic evaluation between Angus Australia and Angus New Zealand which include pedigree, genomic and performance data from both associations.

- Due to the variation in the reference population and modelling of traits, there are also slight differences in trait heritabilities and correlations between the genetic evaluation which can also cause differences in the EBVs obtained from Angus GenetiQ or TACE.

- Angus GenetiQ will not apply the same phenotypic adjustments to weaning weight, yearling weight, final weight, carcase weight, eye muscle area, rump fat and MSA Marbling.

- Additionally, Angus GenetiQ uses new and improved functionality of incorporating US EPDs into the analysis that differs from the methodology utilised by TACE.

How will Angus GenetiQ handle multibreed animals?

There are no restrictions based on registry. All multibreed animals registered with Angus Australia in the multibreed registrar will also be included in the Angus GenetiQ evaluation.

Multibreed users will notice that an increased number of genotypes from their herd will now be included in the Angus GenetiQ analysis; no longer being removed from the analysis as genotype exclusions due to insufficient relationship to the reference population.

Breed composition will be utilised to form contemporary groups, with only animals of equal opportunity to perform being directly compared in the analysis.

Future updates to the calculation of Angus cross animals may include genomic breed composition for more precise evaluation.

Does it use both pedigree and genomic relationship data? If yes, how are they weighted?

Angus GenetiQ utilises both pedigree and genomic relationship information in the analysis. The relative importance/value of these two components depends on whether the animal and/or its parents and/or its progeny have been genotyped. In addition to the pedigree and genomic relationships the value also depends heavily on how many of these animals have performance records available. Unfortunately, there isn't a "formula" to calculate the weighted value of pedigree versus genomic relationships.

ANGUS GENETIQ DETAILS

How will Genotype exclusions and outliers be reported for Angus GenetiQ in comparison to TACE?

The reporting of exclusions and outliers will continue to be reported to members through Angus.Tech reports.

How will historical and current outliers be resolved between TACE and Angus GenetiQ?

Any updates to outliers occur in Angus.Tech and will therefore become part of our database and will be available to any genetic analysis which makes use of that data.

How will new outlier be reported for Angus GenetiQ?

Outlier reports will continue to be supplied to members through Angus.Tech.

Will Angus GenetiQ EBVs be available for use within MateSel and the Mating Predictor?

Yes, however it will take some time to add these enhancements to Angus.Tech. Stay tuned for enhancements to the reporting of Angus GenetiQ EBVs and to the Angus Mating selection tools (MateSel and the Mating Predictor).

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How will different genetic evaluations be displayed on Angus.Tech?

Within Angus.Tech when viewing an animal, you will be able to view the Angus GenetiQ results on a separate tab to the TACE tab. The TACE tab currently includes some traits from Angus GenetiQ, BreedPLAN and AGI).

Where will I find the relevant Reference (Percentile) Table for Angus GenetiQ & TACE?

The relevant reference table can be found at the bottom of each of the relevant tabs.

How will the Angus Database Search function work?

Currently, you can search for TACE EBVs by Angus Database Search filters. However, Angus Australia's Information Systems team is working to redesign the Angus Database Search to be able to search within and populate results from a chosen genetic evaluation: Angus GenetiQ or TACE, and will in future also include UltraSELECT.

Will the Angus Database Search Report Centre provide Angus GenetiQ results?

Currently you are only able to view Angus GenetiQ results for an individual animal. Work is progressing well to complete updates to the report centre, and search results displayed from Angus Database Search.

In future, you will only see results from the chosen genetic evaluation. However, for individual animals' members will be able to view the different EBVs via the corresponding tabs for each individual animal.

Will members have a choice of TACE / GenetiQ / both for catalogue extracts?

The guidelines for the use of Angus GenetiQ and TACE EBVs in sale catalogue extracts have not yet been determined and will be developed over the course of 2026.

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