



Marbling4 Tenderness4 Feed Efficiency4 Results Explanation

The current GeneSTAR® test includes a suite of 12 markers: 4 markers for Marbling, 4 markers for Tenderness and 4 markers for Feed Efficiency. Results are reported as a star result for each individual marker, and also as a combined star rating for each trait. There is a maximum of 8 stars available for any one of these traits. Results should be treated independently for each trait.

For each single marker it is possible to obtain a result of 0, 1 or 2 Stars as one allele (or half of the marker) is inherited from the sire and one allele from the dam. An animal can inherit a 0 Star from both the Sire and Dam (in which case it will be a **0 Star** for that marker), or inherit a 1 Star from one parent and a 0 Star from the other (which makes it a **1 Star** for that marker), or a 1 Star from both parents (which makes it a **2 Star** for that marker).



Hence it is possible, as we test for four DNA markers for each trait, to obtain an eight star result for each trait, calculated by adding up the stars for each individual marker. Results for each marker within a trait are additive, which means **the more stars, the better**.

GeneSTAR® Marbling4 is a test for four separate DNA markers that impact on marbling. The more stars, the more likely the animal is to produce higher marbling scores. An animal with 8 stars for marbling has the best possible result on the current scale of tests and will on average have a higher marble score than an animal with a lower GeneSTAR® Marbling star result.

GeneSTAR® Tenderness4 is a test for four markers that impact on Tenderness in the carcass. The more stars an animal has for tenderness, the more tender it is likely to be.

GeneSTAR® Feed Efficiency4 is a test for four separate DNA markers that affect an animal's Feed Efficiency. The more stars an animal has for feed efficiency, the less feed it will consume to gain the same weight.

For more information please see the GeneSTAR® M4T4FE4 Technical Note at
www.geneticsolutions.com.au

Sometimes it will not be possible for us to obtain a result for one or more markers in a GeneSTAR® test, in which case you may see the results below:

NR	No result – the test for this sample was not successful. This could be due to insufficient DNA or contamination of the sample and the sample may have to be resubmitted.
PR	This is an example of a Partial Result where the test for one or more of the markers failed while others were successful.
RP	Means Repeat , which indicates that the laboratory is repeating the test on the sample to try and obtain a result – you will be issued a final report with results of all testing.



Why do my samples have Partial Results (PR) or No Results (NR)?

GeneSTAR® is a multimarker test for marbling, tenderness and now feed efficiency, and uses state-of-the-art DNA technology to simultaneously determine the result for 12 DNA markers (Marbling 4, Tenderness 4 and Feed Efficiency 4). These tests are very carefully balanced and conducted in Genetic Solutions' internationally accredited laboratory under a strict quality system. Generally, each test on a sample produces a full set of GeneSTAR® results. Sometimes, however, results for one or more of the DNA markers cannot be determined. This results in a Partial Result (when one or more markers have failed), or a No Result (where all markers have failed). These markers have lost a competition for resources within the test and results for them cannot be determined. Samples are tested multiple times in order to return full GeneSTAR® results.

If you received an NR (no result) on your report for some makers, then this sample has failed to return a result for those markers. Submitting a new sample for testing should allow for complete GeneSTAR® results to be obtained for the animal.

If you received an NR on your report for all markers (No Results overall) then there is likely to be a problem with the sample quality. One of the most important things to consider when taking a sample is that it is clean and free from dust, dirt or manure as these can all interfere with our sensitive DNA marker tests. Also please make sure that the sample size is adequate. When taking a hair sample, at least 20 follicles is ideal, and when using semen a full straw if preferred.

In addition to adding new markers to existing traits and new markers for new traits, Genetic Solutions is constantly working on improving our existing tests in order to provide you with as much information as possible.