

# The Importance of

# a BREED GENETIC EVALUATION

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In today's difficult economic times it has become essential for beef producers to have animals that are genetically as sound as possible. Compared to all the inputs the producer makes towards improvement of his/her herd, genetics is the only one that will make a difference in the next generation.

**B**reeding values are the most accurate information to identify genetically superior animals within a herd and breed to use as parents of the next generation, as well as for culling of genetically inferior animals. Especially in breeds where genomic information is also included in the estimation of breeding values

can animals be selected with great accuracy already at a very young age.

In a Genetic Breed Evaluation all animals included in the pedigree of the breed are ranked genetically for all traits for which breeding values are predicted. This means therefore that the Breed Society is presented with the genetic ranking of all animals with measurements, all their ancestors as far back as their pedigree information was captured on Logix, as well as all young bulls and heifers registered on Logix up to the date that the data was dumped for the Genetic Evaluation.

The great benefit of having a high percentage participation of breeders in a Breed Genetic Evaluation, is that especially breeding values for traits measured only on cows, can be accurately predicted much quicker, especially for the bulls (sires). The more measured female relatives there are available in different

herds for a bull, the more accurately the bull's breeding values will be predicted. Furthermore, to indicate a genetically superior animal's true genetic potential, it is necessary to have a sufficient number of measured progeny of the animal in different herds in order for BLUP (the genetic methodology with which breeding values are predicted) to utilize the complete variation of the breed for indication of the animal's true genetic superiority.

This is the irony of a BLUP Evaluation : if data is received from only the better herds (or only the better animals of a herd) for participation in the Genetic Evaluation, the complete variation of the breed (or herd) is not covered. Therefore, BLUP will predict breeding values based on measurements that differ less from the contemporary group averages than what they actually should be, thereby putting the better animals at a disadvantage.

SA Stud Book therefore recommends that data from as many as possible herds should be included in the Logix Genetic Breed Evaluations, even if the breeders are not interested in receiving breeding values and Genetic Reports, because the genetic ranking of the breed will then be determined much more accurate, animals' (especially bulls' reproduction and maternal breeding values) will become reliable much quicker and genetically superior animals will be identified more efficiently.

