

## Corriedale Eating Quality Genomics

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Corriedale breeders are generally quick to espouse the superior eating quality of Corriedale relative to lamb from other breeds. Eating quality is a function of tenderness, juiciness and flavour. The two laboratory measures that explain the majority of variation in eating quality are the force required to sever muscle fibres (shear force) and the proportion of intramuscular fat (IMF%). Given animals must be killed to have these measures taken, the only way to evaluate the genetic merit of sires has been to test their progeny for such traits.

Genomics is evaluating the genetic merit of animals based on the forms of genes (DNA) they have inherited from their parents. Sheep have about 30,000 genes and the DNA is tested at thousands of locations to be confident of characterising the forms of the genes. If animals have had relatives tested for performance in traits and their DNA characterised, then their genetic merit can be estimated with a DNA test. Thus, genomics offers the opportunity to estimate breeding values for eating quality on live sheep.

The Performance Corriedale Group have initiated a project to test rams and develop genomic tests for eating quality of Corriedale lamb. The trial is being run at the Tasmanian Government's Cressy Research Station and managed by Peter and Claire Blackwood. The outcomes of the project are:

1. Corriedale rams characterised for production and eating quality traits
2. Genomic tests developed for Corriedale and available for all breeders
3. Corriedale lamb benchmarked with other breeds through SheepCRC and MLA trials
4. Many other lamb production traits including conformation and wool are also recorded

Corriedale breeders have a unique opportunity to be involved in a world leading trial for minimal cost. Breeders supply 20 doses of semen for a ram as well as contributing \$1,000 for the trial. Every dollar contributed by the breeder is match 2:1 by a generous contribution from the Davies Research Centre at the University of Adelaide. This money is then matched 2:1 again through Meat and Livestock Australia's Donor Company. Thus, for every \$1 put in by Corriedale breeders an additional \$5 is matched.

While the project has been initiated by the Performance Corriedale Group, it is open to all breeders and so represents an opportunity to invest in a legacy for long-term genetic improvement. For breeders to get value from genomic testing their sheep must be related to those in the population tested. Thus, it is important for as many breeders as possible to submit rams to achieve a broad representation of the Corriedale breed. As an additional benefit, many other breeds that have been similarly evaluated have been crossed to Merino ewes. However, by this trial using Corriedale ewes from both Blackwood and Quamby Plains studs, extra Corriedale genetic variation can be evaluated with Corriedale genes inherited from both rams and ewes.

On 24<sup>th</sup> April 2017, 300 ewes were inseminated with semen from the first 15 rams to be tested. Now is the time to plan to submit rams for the 2018 and 2019 programs. This is a rare opportunity to be part of a project with such appealing 5:1 leverage of funds for the Corriedale breed. Allocation of the 15 places will be on a first-in first-served basis while considering sampling genetic diversity.

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