



Better fleece weight predictions

Measuring the weaning body weight of Merino sheep helps to make more accurate predictions of the fleece weight of their progeny.

Why is weight important?

We know that the early environment and nutrition of Merinos can affect their early measurements. These include effects such as:

- Whether the animal is born and reared as a twin or single;
- The age of their mothers (particularly whether she's an adult or a maiden);
- Whether the animal is born early or late relative to its mates in the drop.

When we measure fleece weight for a genetic improvement program, what we really want to know is which one of these animals will have the progeny with the highest fleece weight. The more accurately we can make that estimation, the more rapid our progress will be.

When we measure a ram's fleece, we know that some of its superiority (or inferiority) will be because of the effects mentioned above. It will also be due to the genes he carries that will be passed onto his progeny. We want to estimate how much of the ram's superiority is due to his genes. If we know these other things, we can more accurately predict the value of the genes to his progeny.

Collecting all of this information is time-consuming and expensive, even though it does add to your accuracy of selection. A paper presented at a AAABG conference by Dr Kevin Atkins of NSW Agriculture in 2001 shows that body weight measured at

weaning can be used as a good indicator of these early age effects.

These effects tend to have more impact on earlier assessments. If you are taking your measurements when the animals are older, these effects have less impact. If you are measuring your rams and ewes for selection into a ram breeding program at less than 12 months of age, or without a lamb shearing, these effects will be more pronounced.

When you are selecting your rams, by measuring weaning body weight and including it in your data for analysis, you will more accurately estimate progeny values for fleece weight. This is because you will be accounting for the effect of some of these early age nutritional effects on fleece weight.

Key Points:

- **Early age measurements taken on ewes and rams are affected by early environmental effects.**
- **You can more accurately predict progeny values for fleece weight if you use weaning body weight in your analysis.**
- **Ram breeders should consider using weaning body weight to "correct" fleece weights for early age environmental effects.**
- **Ram buyers should ask their ram breeder what strategies they are using to account for early environmental effects on fleece weight.**

Note: When you collect weaning weight, you need to submit this to a data processing operator for analysis. The weaning weight measurement is used to calculate the Estimated Breeding Values for Clean and Greasy Fleece Weight..