



Sheep CRC ASBV Case Studies

Document ID:	SheepCRC_29_7
Title:	JB & Alison Tancred, Gulargambone NSW
Author:	Sheep CRC
Key words:	Sheep; Australian Sheep Breeding Values; Genetics

This Case Study was developed in conjunction with Sheep Genetics and should be cited as:

Sheep CRC (2012) – *ASBV Case Study: JB & Alison Tancred, Gulargambone NSW*



JB AND ALISON TANCRED THE MAZE, GULARGAMBONE, NSW

- * ASBVs are combined with visual assessment to select rams
- * An index based on key traits is used for ram and ewe selection
- * buying rams from a source with a similar breeding objective results in rapid gain

Genetic selection based on objective breeding measurements has proved itself to the O'Brien family, 'The Maze', Gulargambone, NSW, as a tried and true driver of profit and flock performance.

In fact, the O'Briens have been using objective measurements as a tool for genetic selection for more than 45 years.

The O'Brien family breed a true dual-purpose Merino by focusing on the key profit drivers of body weight, fibre diameter and fleece weight through a combination of objective measurements and visual selection.

In 1965, Greg O'Brien started to individually measure ewe fleece weights in order to determine which of his ewes were more profitable. In the 1980s Greg added objective fibre diameter measurement to aid in this selection.



Today, Greg's daughter Alison Tancred, along with husband JB, runs a mixed cropping and Merino enterprise covering 7000 acres of owned and leased country centred around "The Maze", and continue to select ewes and rams based on objective measurements.

"Objective measurement has always been a priority in the selection of sheep on "The Maze"," Alison said.

"We have been on a continuous improvement path for many years, breeding towards the same objective of a profitable Merino. To stay on that path we rely on objective measurement which gives us an edge over visual selection alone."

The use of objective measurements has been greatly assisted since the introduction of ASBVs, which are now used alongside visual assessment when making ram selection decisions.

Rams used at "The Maze" have been selected from GRASS Merinos since 1972 and are fully performance recorded in MERINOSELECT.

"On ram selection days, GRASS provides us with a comprehensive set of ASBVs on individual traits for each ram as well as indexes that are designed to combine the key production traits that are of interest to us," Alison said.

"We base our selection on the GRASS Dual Purpose 4% index, as it combines the traits that are most important to us: body weight, fleece weight, micron and fertility."



JB AND ALISON TANCREED THE MAZE, GULARGAMBONE, NSW

But index rankings aren't the only factor that the Tancreeds take into account.

"The index is the key information we look at when selecting rams," JB said. "However, we also make sure we are looking at the individual traits that make up that index.

"We want rams that are good performers across the full range of traits we are interested in. If a ram is exceptional for one trait and below average for others, we treat him with caution.

"The rams also have to meet our breeding objective for visual characteristics. We won't select a high-indexing ram if the visual characteristics aren't right.

"Likewise, a low-indexing ram with outstanding visual characteristics won't be selected either."

In order to balance these requirements, the Tancreeds use the help of an experienced sheep classer with a good understanding of ASBVs when making their selection.



Selection based on breeding values is also used by the Tancreeds when classing their ewes at home.

"We use the same index when classing our young ewes that we do when selecting rams from GRASS," Alison said.

A key part of this selection is fertility and the Tancreeds record whether ewes deliver singles or twins.

"Single and twin bearing ewes are lambed in different paddocks as part of our management approach to increase weaning percentages," JB said.

"So it's just another step to record lambs that are born as either singles or twins and use that information together with their body weights and fleece measurements, to create an index that is line with our breeding objective."

For the first time this year the Tancreeds have joined their ewe lambs as part of an on-farm trial to see whether their production system can be further enhanced by pushing these early maturing Merinos to the next level.

"We've joined 600, seven-month-old ewe lambs and will record conception results to see if the early growth rates we have been aiming for in our sheep can deliver this big production gain," Alison said.

Growth rates certainly aren't a problem when it comes to finishing the Merino wether lambs, with all wethers sold through a lamb marketing group at a target carcase weight of 21 kg.





JB AND ALISON TANCRED THE MAZE, GULARGAMBONE, NSW

“When we first joined the lamb marketing group, there were no other Merino breeders involved and there was some doubt as to whether our straight Merinos could match the purpose-bred terminal lambs,” JB recalls.

“Several years later, processor feedback suggests the lambs are doing well and the extra income we gain from shearing them at eight months, when they cut 3.5kg of 17 micron wool, makes them a very profitable article.”

Across the board, “The Maze” sheep cut around 7kg of 19.5 micron wool. This profitable level of production can be attributed to the consistent selection of sheep that meet the breeding objectives of the operation.



Selecting rams from a source that has a common breeding objective has meant that “The Maze” sheep have directly benefited from the productivity gains that their ram supplier has made through the selection of superior genetics with the assistance of ASBVs.

According to Graham Peart, GRASS Merinos Business Manager, significant productivity gains have been made in the areas of fleece weight, fibre diameter and body weight.

“Over the last 10 years, GRASS Merinos have achieved a 0.44kg increase in adult ewe clean fleece weight, together with a 2.7kg increase in hogget body weight,” Graham said. “At the same time we have achieved a 0.65 micron reduction in fibre diameter.”

For commercial breeders, such as the Tancreds, sourcing those genetics and using the same selection indexes that GRASS uses, these productivity gains represent an increase in profitability of some \$9.40 per ewe per year over the last 10 years.

For the Tancreds 1300 adult ewe flock, this equates to an extra \$12,220 per year to the bottom annually.

And with the benefits of genetic selection compounding every year, together with more genetic selection tools constantly becoming available, this increase in profitability looks set to continue.



JB AND ALISON TANCRED THE MAZE, GULARGAMBONE, NSW

“Using the figures”

JB and Alison use the GRASS Dual Purpose 4% Index as a primary selection tool when purchasing rams. The customised index is provided by GRASS Merinos to their clients. It combines the ASBVs for traits that the Tancred's are interested in – body weight, fleece weight, micron and fertility - into one simple figure which can be used to rank the rams offered for sale.

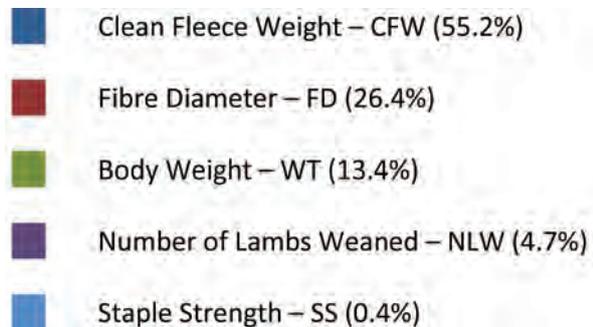
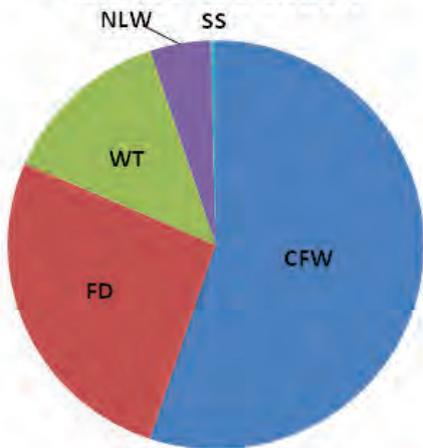
A ram's appearance is affected by the level of feeding, its age, whether it is single or twin, if it was born in a good or bad season and if its dam was a maiden or adult. ASBVs and indexes made up of a combination of



ASBVs remove these effects so that sheep producers can directly compare the genetic value of rams with greater confidence.

The pie chart below illustrates the traits which make up the GRASS 4% Index and the amount of emphasis that is placed on each of those traits in brackets.

GRASS 4% Index



Over a ten year period, selecting rams on this index, the Tancred's can expect to achieve the following improvement in the traits of interest;

- * 10.6% improvement in Clean Fleece Weight (CFW)
- * -1.0 micron reduction in Fibre Diameter (FD)
- * 3.0 kg improvement in Body Weight (WT)
- * 3.4% improvement in Number of Lambs Weaned (NLW)
- * 0.3 N/ktex improvement in Staple Strength (SS)

