



Sheep Genomics

The Vision of the sheep genomics program is to create a map of the genes for sheep. This genetic map will help unravel the way different genes affect both desirable and undesirable traits that are considered when selecting breeding stock. In turn, this will allow the genetic value of a lamb at birth to be accurately predicted for important traits.

The sheep genomics program currently has a budget of 46.35 million dollars, with 30.35 million from AWI/MLA and a further 16 million from worldwide research organizations and DPI's. The program is progressing and the value of this genetic information is highly anticipated.

Cashmore Oaklea will be in a very good position to use this new technology as it is developed. We have about 47 000 fully recorded animals on the Lambplan database and add another 3000 fully recorded lambs each year. Because of our selection for desirable traits from various breeds, our sheep have a very diverse genetic range. This broad genetic range will be exceptionally helpful when we are able to use the gene map to select for desirable gene markers within our stock.

Genomics will not replace the need for performance records, but it will greatly improve the accuracy of our ASBVs, particularly those that are hard to measure. The benefit of using genomics is promising; in fact we may be able to increase our rate of genetic gain from 3% to 7% per annum.

Reminders

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| Oct 24th Fri | Cashmore Oaklea
Annual Ram Sale - Hamilton |
| Dec 4th Thurs 08 | Cashmore Oaklea Auction Plus |
| Jan 22nd Thurs 09 | Breeder Ewe & Feeder Lamb Sales |

Self Replacing XB Sheep Systems are becoming more popular.

Australia's sheep flock peaked at 190 million in 1989 and has since declined on average by 5.8 million per year for the past 19 years. The current 2008 estimate is 80 million sheep. During this period ABARE statistics reveal that the percentage of XB sheep in the national flock has continued to rise, particularly in the last 5 years, with the latest estimates placing XB sheep as 13% of total numbers. In order to stay profitable specialist prime lamb producers have embraced many changes due to increased knowledge and response to new market signals.

Lamb producers have come to understand that the quality of the ewe flock is closely linked to key production and profit indicators. As well, they acknowledge that ewes are the foundation or engine of the system. The use of performance recording, as supplied by Sheep Genetics / Lambplan, has assisted an upward shift in national lamb carcass weights, decreased fat levels and increased meat yield. In this area terminal sire breeders have been adding 6 index points annually or approx 60 cents per commercial slaughter lamb. This willingness to incorporate new technology and ideas into their farming practices has resulted in measurable gains.

2007 Seedstock Ewe Hoggets



In simple first cross systems many XB ewes are produced as by-products of the wool industry. The old merino stud masters were very clever in finding an outlet for aged ewes when they supported the research trials that led to the Border Leicester Merino cross being promoted by the State based Agriculture Departments in the 1960's. However, with the wool industry reducing microns, growth and lambing percentage has also declined, so unfortunately any gains made by Border Leicesters are negated. The result of this has been that the FX ewe has not changed much in the past 20 years. Self replacing XB Sheep Systems, in contrast, capitalize on compounding genetic gains.

Businesses running FX ewes are currently being hit with high ewe depreciation costs of up to \$16 per annum simply from ageing and are loath to remove dry and or unproductive ewes they have recently purchased for high prices. Self replacing systems have the ability to produce valuable replacement females at a lower cost of production than purchasing ewes.

Looking across industries we see many self replacing beef herds in southern Australia running black or white faced cattle. These businesses routinely breed as many replacement heifers as possible, join them all and cull unproductive animals for hardness, failure to rear and structure. Self replacing sheep flocks function in a very similar way.

The Sheep CRC work indicated that only 80% of animals on farm produce profits and that 20% are effectively costly dead wood. This is simply a result of natural systems operating, random combination of genes, a function of economics / declining terms of trade and rising costs. The self replacing cattle herds mentioned above clearly embrace this finding in their farming practice. At Cashmore Park we also find this to be true. Our long term data shows that within our commercial flock, three percent of ewes die, four percent of ewes fail to get in lamb and five percent of ewes are wet/dry at marking. Added to this we have a proportion of tail end lambs probably from poor mothering / milking ewes and other animals that can't handle the pace. In the end, about 20 percent of opening ewe numbers just do not give profitable returns.

Self replacing systems are on the rise as they have valuable benefits including the following: to produce replacement females at a lower cost of production than purchasing ewes; to reduce exposure to market price fluctuations; to decrease disease risk; and to capitalize on compounding genetic gains. For clients using Cashmore Oaklea maternal genes, these gains have been 3.5 maternal index points per year or \$3.50 per ewe mated per year. In addition, Cashmore Oaklea clients now have flocks tailor made to their own specialist farm system and target markets.

The benefits of new technology and self replacing systems beg the question; What will our ewe flocks look like in the years ahead? At Cashmore Oaklea we keep an open mind to the future and continue to position our animals at the forefront of industry demand, economic return and customer satisfaction.

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