Investing better in sheep through ram selection

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Key messages

- **Sheep enterprises deserve the same degree of managerial input as does cropping.**
- **Strategic investment in livestock can pay huge dividends.**
- **Learn how to use genetic tools so better ram investments can be made.**
- **Be objective and take the guess work out of buying rams.**
- **Use a measure to manage approach to quantify the gains made by using better rams.**

Why do the trial?

Nothing draws an argument more than the constant debate of the role of sheep on cropping properties. With the demise of 100 million sheep from the national flock it would appear that the croppers have won or are winning the debate, however like all situations there are exceptions to the rule. In lower rainfall districts it is difficult to build stocking rates to the level required to compete with cropping on a gross margin basis, however basing decisions solely on gross margin has its limitations too. Cropping income is greater but more volatile, whereas sheep income can be more reliable. Most farmers fall into either a cropper or stockman category and in many areas sheep become secondary to the crop and this is reflected in the margins achieved. If some sheep enterprises had the same level of managerial input as the crop then predictively the resultant sheep margins would be much higher. Croppers almost universally use an agronomist whereas a sheep consultant would never have set foot on most farms. This said, the sheep may not match the crops, but there may be opportunities to change the ratio of crop to sheep on some properties.

Most mixed farming enterprises currently have a disproportionate amount of capital investment between cropping and sheep. This is well understood given the scale and profitability of each. However, there are also many properties where the investment in sheep has been subsidised by the cropping enterprise. The cropping scale is such that it can justify each of the major expenditures whereas the sheep will never get to the income level required to warrant investment in some of the modern technology.

How was it done?

One area that lamb and wool producers can invest in, regardless of the size of their flock, is in the area of genetics. Regardless of whether you require six new rams per year or sixty, you can invest wisely to a higher level knowing that the returns are there. LAMBPLAN and MERINOSELECT are proven objective measurement systems, resulting in quantifiable gains in both the short and long-term.

What happened?

Those with limited knowledge of Australian Sheep Breeding Values (ASBVs) commonly say it is all well to know the figures but how much can I afford to spend on ram A over ram B? Table 1 goes part way to making that decision. In this example two terminal rams have been chosen on post weaning weight (PWWT, 200 days) for comparison. Ram A is in the top 15 percentile band and is 14 kg above the average when compared to the average ram in 1990 when the current LAMBPLAN was implemented. Ram B is in the 60th percentile and has a PWWT of 11 kg above the 1990 average. A 3 kg difference at 200 days would be difficult to assess by eye.

Because the ram contributes half to the resultant progeny, a 1.5 kg live weight difference in progeny could be expected by using ram A instead of ram B (Table 2). If the lamb carcases dressing percentage is 44%, the progeny from ram A would return 0.66 kg/lamb more carcase weight than the progeny from ram B. Using a joining percentage of one percent (one ram to 100 ewes mated), we could expect around 80 ewes to be joined per ram. At a 100% weaning and using the rams for four seasons, this would result in around 320 lambs sired in a ram's lifetime. 320 lambs that have an additional 0.66 kg carcase weight means an additional 211 kg of lamb carcase weight from ram A over ram B. Priced at $4.20/kg carcase weight average results in a total difference of $887 between ram A and ram B in their lifetime.

Table 1 Estimating ram values

	Ram A	Ram B
ASBV PWWT	14	11
Percentile band	Top 15%	Top 60%
Difference in PWWT (A vs B)	+3	
Difference in live weight at time of sale (A vs B)	+1.5 kg	
Predicted difference in carcase weight (44% dressing)	+0.66 kg/lamb	

*shows the ASBVs of the 2015 sires to be used

Although the income difference has been established between the two rams based on PWWT, it is also important to consider other traits important to your breeding objective when buying the best rams for your flock. If you were to base a decision just on PWWT then it would need to be decided how much of the $887 of additional income from ram A can afford to be spent to secure a ram purchase. To spend all of it would be futile but the fraction you need to spend and have a useful gain left over will depend on many factors. The quality of the ewes to be mated, the state of the market and the appropriateness of the traits used in relation to the target market should also be considered. Typically, the more traits you select for, the less chance you have of optimising any one trait.

Other factors that will impact on your ram buying decision are your ram cost per lamb and the total returns in the lifetime of the ram. Table 3 shows the cost impact of lambs sired and weaned in a ram's lifetime relative to the amount paid for that ram. It must be noted that individual ram cost per lamb can be twice and three times the cost depending on the price paid combined with the potency and longevity of the ram. Ram A lambs return $2.77 per head in carcase value better than ram B which is the $887 gross difference divided by the 320 of progeny.

Table 4 demonstrates the total financial return from lamb carcase weight and skins from progeny in a ram's lifetime using a range of number of lambs sold per ram. Only half of this income can be attributed to the ram but at $4.20 per kg carcase weight and $6 skins it is a substantial amount of income that a ram can influence. In recent times both these prices have been higher which further increases the ram's impact.

What does this mean?
Prescribing a price to pay for a given individual ASBV is not appropriate as other factors come into the decision. This is even more so in maternal flocks where replacements are being bred and retained. Understanding ASBVs in the first instance is essential to you selecting the right ram for your breeding objective and then paying a sensible price. To bury your head in the sand and just go ahead and buy the biggest and best looking ram for a very high price may get your name and photo in the Stock Journal but this decision may not impact your bottom line. If however you buy a later born twin lamb ram that is sound but may not look so grand, has higher ASBVs and you pay hundreds of dollars less, then your bank account should smile back at you. Doing the right thing is always paramount but doing things right is also just as important.

Table 2 Contribution of genetics - half from ram & half from ewe

Number of ewes joined	80
Weaning percentage	100%
Number of years ram used	4
Total progeny per ram	320 lambs
Total predicted gain in carcase weight	211 kg
Average price received per kg carcase weight	$4.20
Difference in income between ram A & B	$887

Table 3 Ram cost per lamb

Ram purchase price	Lambs weaned in life of ram		
$/head	200	250	300
$800	4.00	3.20	2.67
$1,000	5.00	4	3.33
$1,200	6.00	4.8	4.00
$1,400	7.00	5.6	4.67
$1,600	8.00	6.4	5.33

Table 4 Total lamb returns in a ram's life

		Number of lambs per ram		
		200	250	300
Average carcase weight per lamb	22	200	250	300
Total carcase weight	kg	4400	5500	6600
Price per kilogram carcase weight	$	4.2	4.2	4.2
Dollars returned per ram (and ewes)	$	18,480	23,100	27,720
Skin value per lamb/s	$6	1,200	1,500	1,800
Total value carcase and skins	$	19,680	24,600	29,520