

## **“TO BULLET PROOF OR NOT TO BULLET PROOF”; THIS IS THE QUESTION?**

*Murray Long – Clearview Consultancy (Farmlink Link Newsletter)*

The sheep industry is currently going through a phase not seen before where, not only have we seen sustained profitability in lamb production but the level of technology within the industry rivals that of the cropping sector. We can now accurately monitor all aspects of sheep production and genetics to the point where we can theoretically design sheep to specifically suit any management strategy.



In relation to genetic fat levels, we have almost come a full circle since the days of the small frame, early maturing genetics that delivered a 16-18Kg carcass at Fat score 5. The push for heavier carcass weights and reduced fat levels eventually resulted in many sheep producers complaining of a whole range of problems including the inability to finish lambs through to a loss of fertility and do-ability. The fact that we can now accurately measure genetic fat and

consequently select for it, has led to a whole new discussion around just what levels we need to incorporate into our genetics. We are not talking about the amount of fat that we can accumulate by overfeeding, we are considering the level of fat in the genetics of the individual animal as determined by generations of performance recording.

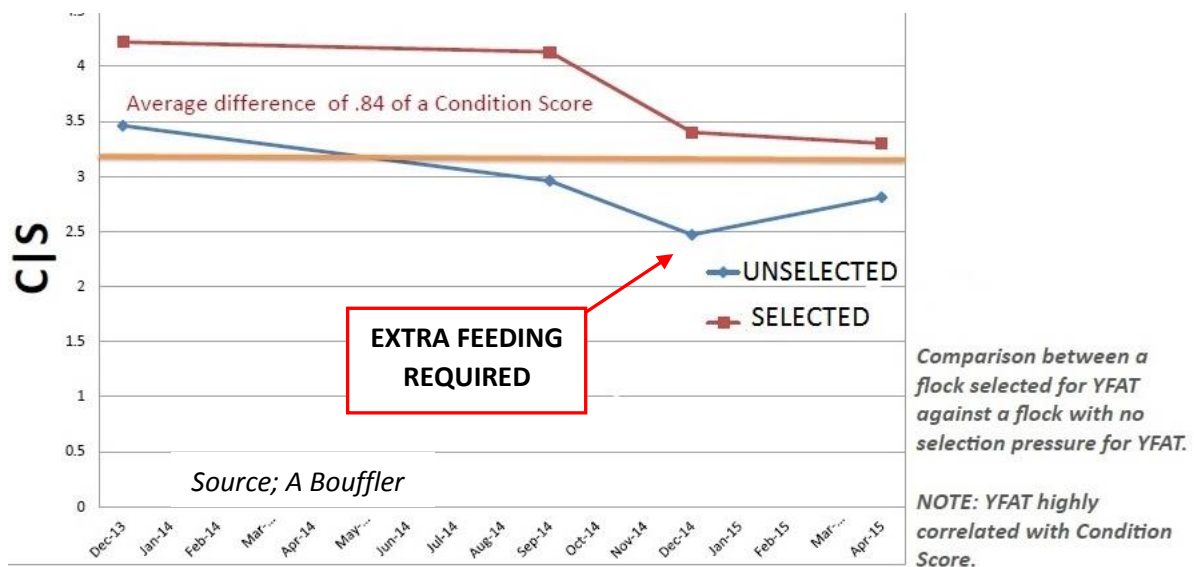
What we do know is that high levels of genetic fat are essential in ensuring the individual animal has a higher resilience to tough conditions and provides improved ability to rebound from a ‘setback’ much faster than animals that are ‘genetically lean’. The pastoralists from many years ago were well aware of this trait and generically labelled it “do-ability”. Research conducted at “Pendarra” White Suffolk Stud some years ago also showed that sires with relatively ‘fatter’ genetics produced progeny with higher levels of feed efficiency, findings that have only recently been confirmed.

Recent discussion has been around the issue of linking genetic fat with an increase in fertility. While a direct link with fertility is difficult to determine, simply because the whole aspect of fertility is hard to measure, there are some factors that give good credibility to this claim. There has been plenty of research showing the benefits of higher levels of genetic fat in relation to increased lamb survival and fertility under feed limiting conditions, but the question has been asked is it right to use this measure as a substitute for selection of higher fertility. The short answer is if you want to select for a trait, you do just that, select directly for that trait, however as fertility is very difficult to measure accurately, can we use genetic fat as an insurance policy for fertility and lamb survival?

The feeling of many in the industry is Yes!

It is well known that relatively higher birth weights are essential in ensuring high lamb survival rates and this is heavily dependent upon the Condition Score (CS) of the ewe at all times but especially at

lambing. Condition Score 3 is the minimum figure reported to ensure ideal lamb birth weights and survival and also has a subsequent impact on the survival of both the ewe and weaners.



The relationship between higher levels of genetic fat and Condition Score are well accepted and observations by Andrew Bouffler demonstrated that by selecting for higher levels of genetic fat in Merino ewes, he was able to maintain a higher condition score when compared to ewes with no selection for genetic fat. The advantage was almost one (1) CS which would have a significant effect, not only on the potential for lamb survival and fertility, but also the cost of feeding the ewes to ensure CS 3 and therefore good lamb survival rates. The increase in CS of the unselected ewes after December /14 in the above graph was due to the fact they had to be supplementary fed to increase body CS while the selected ewes required no supplementary feeding.

There is no doubt that selection for higher levels of genetic fat provides an insurance policy against tough seasons with no penalty in good seasons. We will never get back to the genetically fat levels we experienced many years ago as we now have genetics with superior growth potential, but we can now also balance selection between traits to ensure the best genetics for both management and targeted markets. We do not need to continue down the path of lean genetics, not only is it detrimental to fertility and fecundity, but also adversely affects meat eating quality and wool production.

Selection for higher levels of genetic fat provides a credible insurance policy for your flock, and while nothing will guarantee your flock is bullet proof from all that the climate can throw at it, it is perhaps the one area in sheep genetics that is getting plenty of attention for the right reason. We did become too lean in our quest for large lean lambs, thankfully the trend has turned and we can now look forward to ensuring that our sheep flock is more easily managed, more profitable and able to cope with the whatever the seasons deliver.

Genetic fat is one of the best tools we have to bullet proof our sheep flock against tough seasons and make the task of managing sheep a lot easier and more profitable.