TECHNOLOGY IN THE SHEEP INDUSTRY

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In most mixed farming operations, the balance between the use of new technology use is heavily in the direction of the cropping sector of the business. Tailored use of an agronomist, soil and tissue testing and navigation equipment have taken a lot of the guesswork and risk out of cropping and led to significant increases in efficiency. When it comes to the sheep operation, generally a "Oh, it'll be near enough" approach is the 'norm' and then the realisation hits that sheep are at times, hard work. It is the main reason why many farmers are not including sheep in their enterprise; they are a 12 month per year responsibility and at times require some attention to detail. This is despite almost all farm budgets showing a well-managed sheep operation a safer and more profitable enterprise than broadacre cropping in the long term.

So how can producers use the new technology that is available to make management of a sheep enterprise easier and more profitable?

The development of new technology within the livestock sector has been nothing short of unbelievable over the past decade and promises to continue at a fast pace. The use of performance figures has been around for many years now and it's use for selection of superior animals is beyond question. It is perhaps the application of the new equipment and the 'gadgets' that have been developed that offer the best alternative for sheep producers. Talk technology in the sheep industry and Electronic ID tags (EID) immediately comes to mind closely followed by auto drafters and then the high cost to implement; end of thought process.
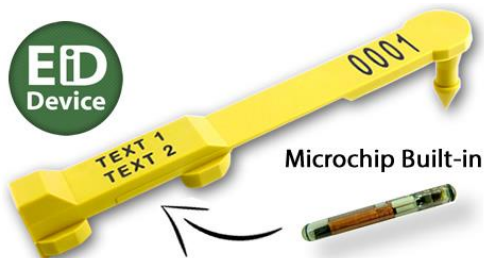
EID tags are more costly than the standard tag that we are required to use in all animals for sale. However the benefits they can offer sheep producers can lead to increases in efficiency, higher profitability, no guesswork and lower the risk of injury to producers. The manner in which the individual ID of every animal can be implemented is entirely up to the individual producer but being able to manage animals at an individual level rather than a mob based evaluation will be the basis most producers. Most pregnancy scanners now have EID readers on their scales/crates and, rather than

physically 'dotting' sheep, can save a file that can be used to sort at any time in the future. By using EID in feedlot lambs, shy feeders can be quickly identified and separated. The highest producing individuals in regard to either fertility or wool production can be identified and their progeny retained providing a higher level of selection which is performance based rather than flock based.

By selecting individual animals based on performance, the overall level of profitability can be quickly raised to a level that is equivalent to the top 25% of the original mob.
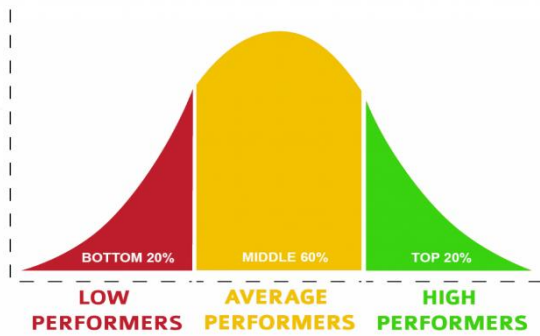
A typical mob consists of a mix of low, average and high performers. In a mob based culling strategy, animals culled on age will typically have the same mix of performance with allowances for increases due to sire selection. However by just culling the low performers based on individual assessment, over time we raise the overall level of performance, and profitability, of the mob.
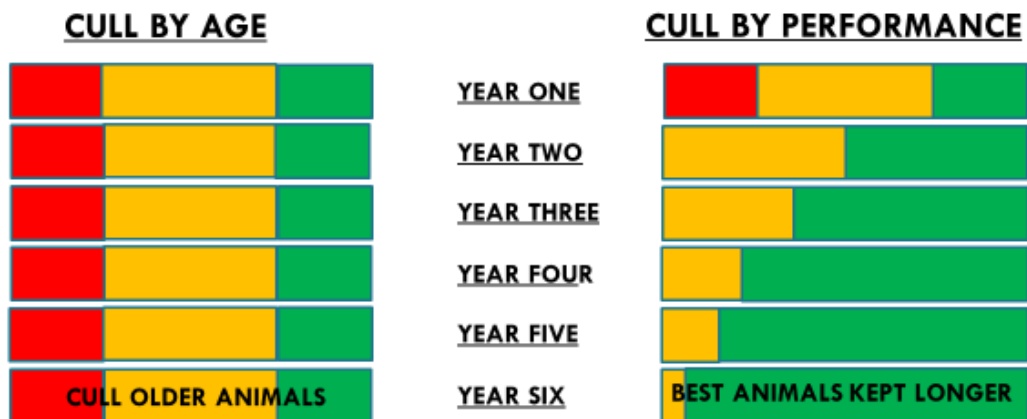
This strategy could apply to any trait and the economics can easily be calculated. The difference between the two culling strategies will result in an additional $5-6/dse profit for wool and/or lamb production. (Based on GRDC figures, 2014) or around $12-14/ewe.

However the use of new technology does not end with electronic tags and handling equipment. The latest vaccinator/drench/backliner applicators have the ability to individually tailor the correct dose to each individual animal through the use of reading the

EID tag and matching that tag to a weight (loaded from a file) and then automatically calculating the correct dose for each animal. The use of genomics has recently been extended to whole flock testing of performance by randomly testing 20 ewes from the flock and evaluating the DNA predictions for the whole range of traits for that breed. This enables better sire selection to address any areas where the flock is under-performing.

The future also promises some exciting developments such as the use of ear tags to set up 'virtual' fencing lines for grazing which could be controlled from your smart phone. This technology also has the ability to aid in the area of animal husbandry through temperature sensing or motion sensing of animals, progeny identification and lamb/ewe interactions. The use of drones in livestock production is another untapped area of technology which potentially offers some exciting developments.

New technology and the benefits it offers is not restricted to the cropping sector, in fact it could be argued the developments within the livestock industry are out performing all other sectors. The use of specialised livestock consultants will negate the necessity for producers to know 'everything about everything' in just the same way that agronomists are currently used. With the current outlook for sheep production at levels never seen, consider the benefits that new technology can offer to not only make sheep production more profitable but also easier and without risk.