Using technology to make better farming decisions – the Buck story

Tim Buck, as far back as he can remember, has always wanted to be a farmer, like his parents and grandparents before him. Times have changed since grandfather's day and Tim now has access to a range of technologies that would have amazed his grandparents.

Tim sees farming as becoming increasingly more complex but at the same time, he has access to more and more tools and technology to enable him to deal with this complexity. Tim explained "It's a matter of picking which tool to use and how and when to most efficiently use it".

Tim is a great advocate of Pasture From Space® (PFS). PFS estimates pasture growth rates through remote sensing, where satellite and climate data are used to predict the rate at which the pasture is growing. Farmers can use this technology to monitor (via an iPad or lap top) the feed growth in every paddock on the farm. Tim said, "I use PFS to plan my lambing and weaning paddocks. The system gives me specific pasture data in each paddock including weekly pasture growth trends and 'food on offer' (FOO). It's a great planning tool, I can work out how long a paddock will need to be shut up to reach specific feed targets, or the number of stock I can keep in one paddock to maintain pasture growth rates. It takes the guess work out of my planning." Another great benefit of PFS is the stored historical data that is available to all subscribers. "PFS provides historical pasture growth rates (PGR) and FOO data for each paddock which is really useful. I can look at projected PGR growth rates during the season, based on historical data depending on current conditions", Tim added.

Attending a "Lifetime Ewe" course several years ago, showed Tim how to properly determine the condition score of sheep and more importantly what to do with that information to optimize stock performance. "Now I do a quick condition score of each mob each time the mob is yarded and then plug those figures into the Lifetime Ewe app. This helps me decide if I should be feeding the mobs more or less".

"The combination of the PFS information with the Lifetime Ewe app enables me to input all my data to help calculate my feed budgeting. It helps me to better match feed demand to supply and plan optimal stocking rates to match feed growth rates. I use it as a day to day and week to week decision making tool to ensure I have enough feed going forward".

The farm facts

Operators:	*The Buck family - Tim & Kate and Tim's parents Bruce & Alison.*
Location :	*Hundred of Duncan*
Size:	*700 ha arable*
Average rainfall:	*750mm*
Soil type:	*gravelly sandy loam over clay*
Pastures:	*subclover and perennial rye grass*
Livestock:	*2,500 Highlander ewes, 250 cattle, 500 Merino wethers. Aim of decreasing cattle numbers and increasing sheep numbers over time*

Tim Buck

PFS is particularly useful early in the season and through winter to plan lambing and weaning paddocks. "During this time I would check my PFS data weekly, checking pasture growth rates and food on offer. Yes it's only a guide, but a lot quicker and more accurate than driving and doing a visual pasture assessment across each paddock. Moreover, it is much better than just guessing. The problem with guessing is that the only way you know you're wrong is when you have run out of feed which is an expensive way to learn a lesson," Tim said.

"As I'm constantly pushing my pasture systems hard, to generate more profit, it's even more important to be prepared and proactive. I also use other trigger points like the rainfall outlook and potential pasture growth rates from spring into summer. Combine this with what I know, my feed demand will be (using the Lifetime Ewe app) to determine at what point to off-load stock, or to look at other options to manage feed demands, for example, selling old ewes or merino wethers or securing extra feed reserves." Tim said.

Maintaining ewes in average condition score (CS) of around 3 will result in increased conception rates and decreased lamb and ewe mortality during lambing. The use of CS as a tool to match feed source to ewe condition helps maintain condition throughout pregnancy and lactation, ensuring that the best feed is being utilised by the ewes that need it the most. Tim pregnancy-scans all his ewes and splits them into single and twin bearing mobs and monitors their condition score to keep them at the optimal score leading into lambing. If feed is tight, he can then select the paddocks with higher growth rates (using PFS) or start giving supplementary feed to each mob. By running ewes with single lambs separate to those with twins, he has more management options. He can run the singles on a tighter feed budget, and maintain or increase condition score of the ewes with twins without compromising his overall lambing percentage.

Tim uses the tools to decide his weaning strategies. Using the PFS data he can predict likely feed levels going into late winter / spring. If the outlook is poor and ewes have a low CS, Tim will wean early. Post weaning, he monitors CS to ensure feed is correctly prioritised.

Another tool Tim uses is regular monitoring of worm egg counts (WEC) "My drenching management is based around regular worm egg monitoring. I use the results to help select my weaning paddocks, putting weaners into paddocks that had low WEC throughout the season. Although this is quite often easier said than done", Tim added. The paddocks with higher WEC's are then used for wethers or dry sheep as much as possible.

When hand feeding over the summer months, Tim monitors CS to enable him to adjust feeding rates accordingly, ensuring he is neither over feeding nor underfeeding mobs. He uses the Evergraze stocking rate calculator (available free of charge on the Evergraze web site), to assist him calculate stocking rates for feed budgeting prior to summer.

Although Tim is a great believer in the value of condition scoring, he is also quick to add that he only uses it when the stock are already in the yards for another purpose. Like many other farmers he waits for the day when technology will enable him to simply condition score stock while they are still in the paddock!

Take home messages

- Condition score stock every time they come into the yards and use the "Lifetime Ewe" app to guide cost-effective decisions on feeding regimes
- Ewes pregnancy-scanned for twins and singles and managed as separate mobs, enables tighter feed management of the singles without compromising the overall lambing percentage
- Use all the tools - Pastures from Space, condition scoring Lifetime Ewe app and stocking rate calculators - to ensure mobs are not being over or under-fed (both options can lead to costly mistakes).