



YOUR QUARTERLY FARMAX NEWSLETTER

SUMMER 2018 - 2019

TAKING STOCK

Welcome to 2019 and the summer edition of the Farmax *Advantage* newsletter.

Our feature case study visits two farms in Scotland, where Farmax's Jack Keays worked alongside the farm managers battling the unique elements on the Shetland Islands.

There is also an interesting opinion piece on gene editing by Tony Connor from AgResearch, plus a sneak peek at some of the new features of the upcoming Dairy 7.2 release.

Plenty of trainings are being held around the country throughout February and March, so sign up quick to secure your place.

Enjoy the warm weather and hopefully we will see you at one of our events over the next few months.

GAVIN MCEWEN
General Manager



THE SHETLAND SHOWCASE

For this case study, Farmax had the privilege of working alongside two exceptional farming businesses, each seeking to optimise their farm systems while tackling some unique challenges on the Shetland Islands of Scotland.

Shetland lies 104 miles (168km) north east of mainland Scotland, with a total area of 566 square miles (1,466km²). On this small island, agriculture is a key component of both the community and the economy.

Shetland boasts spectacular coastal scenery with white-sand beaches and sparkling blue water, but the advantages of a stunning landscape and beautiful views come with a fair share of challenges. Extremely strong winds batter the coastline over an area lacking any vegetative cover. Salt spray is carried far into the mainland on these winds, rapidly damaging grass whenever there is any extended dry period.

Bigton was the monitor farm on Shetland for 2018, with much of the 145ha farm directly alongside the island's coast.

The farm is managed by Aimee and Kirsty Budge, two sisters who are actively engaged in Shetland's agricultural industry and local community.

Near Bigton is Scholland, a 350ha farm managed by Jamie Leslie. Planting fodder beet, growing plantain, and executing a full rotational grazing system are just a few of Shetland's agricultural firsts that Jamie has implemented over the past few years.

For all farms it is critical to carefully plan financials and feed budgeting to increase efficiency, but also to develop resilience in the farm system. This requirement is of even greater importance on Shetland, where opportunities and challenges are

"...salt spray is carried far into the mainland on these winds, rapidly damaging grass whenever there is any extended dry period..."



L-R: Aimee and Kirsty Budge, Bigton Farm

directly linked with the highly changeable weather patterns.

BIGTON

Bigton can be separated into three main areas including the 75ha main block, the 70ha St Ninian's Isle and a third area of rougher grazing.

A sheep breeding/finishing enterprise has the largest feed allocation on the farm

(54 percent), including 330 breeding ewes, and lambs being sold off anywhere between 5 and 11 months old to match the weather and market patterns. The cattle breeding/finishing

enterprise is the second largest enterprise by feed allocation, demanding 39 percent of the farm's feed-supply and consisting of 30 breeding cows, and calves sold anywhere between 12 and 20 months old.

A unique inclusion in FARMAX is a group of horses that also live on Bigton, with up to nine around the farm at any one time.

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OPINION: TONY CONNER ON GENE EDITING



The Royal Society has released a discussion paper on the use of gene editing in the primary industries. Here Dr. Tony Conner, Forage Science Group Leader at AgResearch, shares his thoughts.

“It is timely to have a public discussion about the merits or otherwise of gene editing, and potential applications and opportunities for New Zealand as a food producing nation. The genetic technologies are developing at such a pace internationally that it’s important we don’t get left behind, and as a society that we understand what gene

editing is, and what it is not. The difficulty with public perceptions of any genetic technology is that it tends to be skewed in favour of the worst-case scenario, even when there is no real evidence of harm. It puts the onus on us as scientists to communicate what the evidence actually shows.

My colleagues at AgResearch have already demonstrated what is possible with gene editing in both the plant and animal space. My colleagues in animal science have proven that they can use CRISPR technology to remove a major allergen from a cow’s milk, and this shows one path to enhancing our food supply and human health.

In the plant space, a lot has already been achieved over the decades in selective breeding to make our pastures perform better. This has meant production from our farms, that is the backbone of the New Zealand economy, has flourished. Billions of dollars have been saved through the

targeted use of endophytes (a type of fungi that lives within grasses) to deter pasture pests, but there is also an issue with some endophytes being harmful to the livestock. Gene editing has the potential to remove that harm to livestock, while maintaining the huge benefits the endophytes offer.

My hope is that this discussion paper from the Royal Society will not only provoke discussion about gene editing, but also help lift the general understanding of this technology, with the evidence at the heart of the discussion.”

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You can find out more about the Royal Society Te Aparangi work on gene editing on their website: www.royalsociety.org.nz

Original piece: <https://www.agresearch.co.nz/news/opinion-tony-conner-on-gene-editing/>

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HOW DOES IT WORK?

To start the process, you must complete the direct debit authority form and return this to Farmax Accounts. You can request the form from accounts@farmax.co.nz.

Once you have sent this form back to us, every month your invoice will be emailed to you as per normal. Your due invoice amount is direct debited on the 20th of each month from your bank account.

HOW WILL I KNOW HOW MUCH FARMAX IS DEDUCTING FROM MY BANK ACCOUNT?

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In addition to this, your monthly statement will also clearly advise you of the amount that will be deducted on the 20th of the month following.

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Please contact us as soon as possible if anything is incorrect with your invoice and we can suspend the direct debit until all issues have been resolved.



19 FEB Gore	20 FEB Gore	22 FEB Dunedin	26 FEB Ashburton
27 FEB Ashburton	1 MAR Wanaka	5 MAR Hamilton Blenheim	6 MAR Hamilton Blenheim
8 MAR Whangarei Westport	12 MAR Napier	13 MAR Napier	15 MAR Gisborne
19 MAR Masterton	20 MAR Masterton	21 MAR Palmerston North	22 MAR New Plymouth
26 MAR Taupo	27 MAR Taupo	29 MAR Whakatane	

= DAIRY
 = SHEEP,
BEEF & DEER
 = COMBINED

The big question for Aimee and Kirsty is: what stock numbers can Bigton handle with the planned improvements in pasture management?

To figure out the stock capacity, the first step was to build a base farm model for Bigton, using data from the 2018 season as a starting point. Because of an especially long winter and a very dry summer for the 2018 year, the resilience required in a farm system for worst case scenarios was already being demonstrated.

After building a base model in FARMAX, two points became clear:

1. Bigton's feed demand curve is reasonably consistent through the season, however, the supply curve is extremely volatile, matching the surges and troughs in pasture growth experienced.

2. With the proposed improvement in pasture management, there is an opportunity to increase stocking rate, while better matching demand with supply.

The next step was to identify what stocking rate Bigton could manage within its physical limitations of total potential pasture growth and seasonal fluctuations.

Working alongside Farmax technical specialist, Jack Keays, Aimee and Kirsty developed a 2019 plan trialling different stock numbers and stock policies for Bigton.

In doing this, it was realised that the farm system could improve efficiency and profitability by retaining additional 2017 born gimmers (hoggets) and increasing breeding ewe numbers by another 50 animals.

The 2019 season plan is now forecasted to improve pasture utilisation by 13% across the 145ha which represents an additional 853kgDM/ha across the year

and 123 tonnes of pasture that would have otherwise not been realised in the system.

There are plenty more opportunities ahead for Bigton, and no doubt we will see continual improvement in this very special farm on Shetland.

SCHOLLAND

Managing multiple land units, maintaining several crops, and controlling both a sheep and beef breeding/finishing enterprise are all part of the fun for Scholland farm manager Jamie Leslie and his family.

Barley grain, barley straw, fodder beet, rape, silage, stubble turnip and swedes are all components of Scholland's farm system, which has a 350ha main platform comprising of seven distinct blocks, each ranging from 20 to

90ha (which excludes rough winter grazing).

Having managed Scholland for the past 12 years alongside his father, Jamie is constantly looking for opportunities or innovations that may benefit his farm system, from trialling new crops to adapting his own quad bike fencing machinery.

He has used FARMAX to demonstrate the value achieved in progressing the farm system between 2017 and 2019, and the benefits he's still hoping to achieve by implementing FARMAX monitoring.

Across several sessions alongside Jack, Jamie has developed a full season model for his farm for each of the 2017, 2018 and 2019 seasons (as past, present and future respectively). In doing this, Jamie can evaluate the improved physical and financial performance of the changes he is implementing based on historical fact and future forecast.

There have been considerable

improvements recorded for Scholland across the three factors of pasture, production and financial performance, prompting changes to stock policies and animal numbers on farm, inclusion of new crop rotations and pasture re-seeding, and improved fencing infrastructure.

Monitoring data is providing several key benefits for Scholland:

1. Rather than collecting data and not using it, data is being transformed into valuable information to assist decision making.

2. Pasture data determines exactly how much grass Jamie is able to grow on Scholland, and the precise growing patterns observed through the season to assist in feed budgeting.

3. Animal performance data (including liveweights) provides a clear indication of key success periods where stock are doing well, and times for improvements within the system.

4. FARMAX effectively 'learns' from data being entered, to develop more accurate forecasts in the short-term (within the current season), and long-term (planning for future seasons).

Though Jamie has made impressive improvements on Scholland already, he will continue to seek opportunities for future optimisation of his system. In this way, Jamie can ensure the long-term sustainable success of the farm business, for himself and for generations to come.



Jamie Leslie, Scholland Farm

FARMAX ACCREDITATION

Congratulations to the following agricultural consultants, farmers and rural professionals who have passed FARMAX accreditation levels in Bronze, Silver and Elite.

If you are interested in completing an accreditation level contact the Farmax HelpDesk on 0800 327 629 or at support@farmax.co.nz.



Donna Hargreaves
Megan McCall
Alex Petrucci



Donna Hargreaves
Greg Tattersfield



Daniel Regtien

COMING UP IN THE DAIRY 7.2 RELEASE

FARMAX Dairy 7.2 will be released soon, so here is an insight into a few of the exciting changes that will be included.

We have introduced some new pop out windows in the Performance screen to make it quicker and easier to enter your monthly monitoring data.

The new Feeding Out window (Figure 1) pops out from the Feed Offered toolbar on the Performance screen. This new window allows you to enter your supplementary feeding in your chosen unit, either as a total fed 1 for the period or as a daily per head tally 2. You can specify if you want to enter a tally for a 10 day period or whole month 3.

The Feeding Out screen will be faster to use than the traditional Feed Offered table on the Performance screen as pasture intake is not calculated with each new feed entered, rather it is calculated when you select 'Done' after entering your feeding tallies.

Also, on the Performance screen we have also created two new Milk Production pop out windows: Milk Actuals and Calibrate Milk.

The Milk Actuals window (Figure 3) lets you enter your monthly or 10-day milk production in the Performance screen, without needing to move to FarmTools.

Lastly, you can use the Calibrate Milk window (Figure 4) to calibrate modelled milk production with the actual production you have just entered. This can be done either by manually entering a pasture offered value or by clicking 'auto' and letting FARMAX work out the offered amount for you.

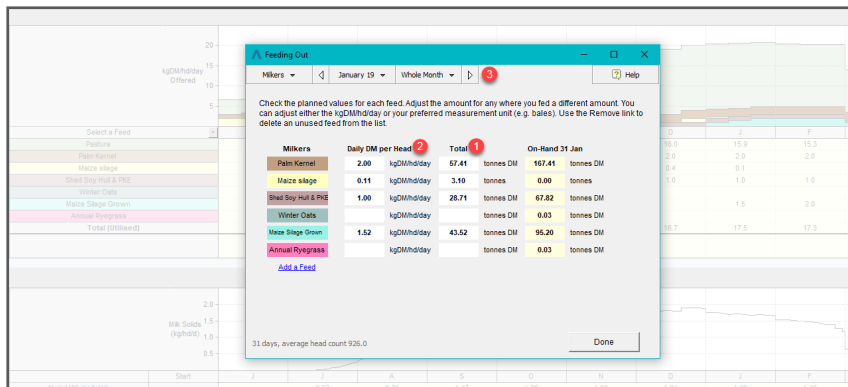


FIGURE 1: Performance screen with the Feeding Out window open.

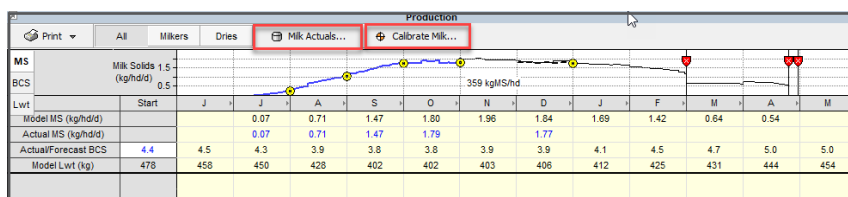


FIGURE 2: Click on the Milk Actuals and Calibrate Milk buttons from the Production toolbar in the Performance Screen to open the new windows.

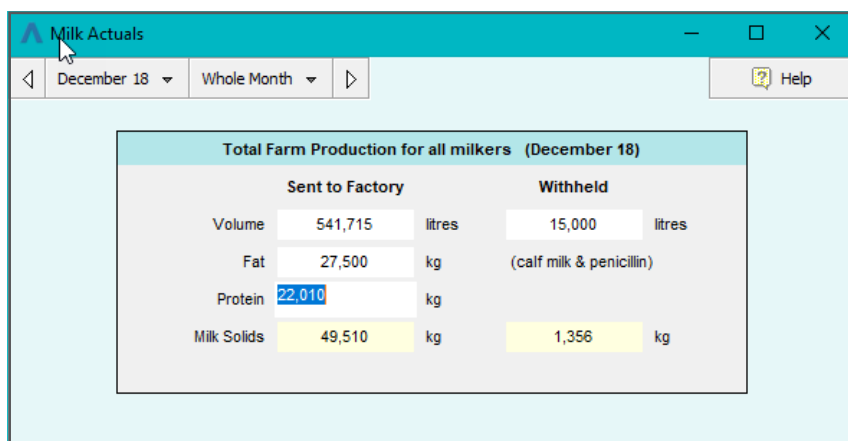


FIGURE 3: Milk Actuals window.

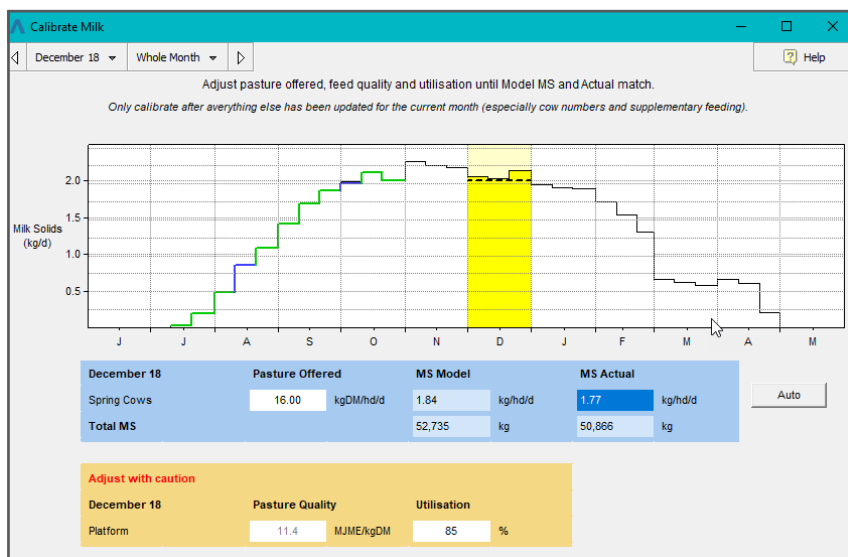


FIGURE 4: Calibrate Milk window.

DID YOU KNOW?

Global agriculture is huge! Agriculture is the world's largest industry, employing more than one billion people and generating over \$1.3 trillion dollars worth of food annually. Pasture and cropland occupy around 50 percent of the Earth's habitable land and provide habitat and food for a multitude of species. (World Wildlife Fund)