



Grassmere Case Study

Executive Summary

Grassmere is a farming operation in the Lower North Island made up of two dairy and one dry stock farm. In 2023 the business adopted Halter across all three properties with the aim of improving productivity, increasing pasture harvested and reducing farm working expenses. Within the first-year pasture eaten increased by 4.3%, while production increased by 3.5% per cow, the extra energy intake flowed through to improved reproductive performance shown by a 4.5% increase in 6 week in-calf rate and a 1.3% reduction in not-in calf rate. Staff across the operation reduced by 1.5 FTE while work satisfaction improved. This displays a very quick adoptions and successful implementation of the technology on farm.

Table 1: Grassmere Performance Before and Post Implementation of Halter

Season	Pre-Halter: 2021/22 2022/23	Halter: 2023/24	Percentage Change
Pasture Eaten – kgDM/ha (Grazed Hectares)	10,350	10,800	4.3%
Kilograms of Milk Solids per Cow – kgMS/cow	463	479	3.5%
Kilograms of Milk Solids per Hectare – kgMS/ha (Total Hectares)	1,483	1,498	1.0%
Nitrogen Fertiliser -kg N/ha (Total Hectares)	117	135	15.4%
6 Week in Calf Rate - ICR	68.5%	73.0%	4.5%
Not in Calf (Empty) rate	11.2%	9.9%	-1.3%
Cows/FTE	165	188	13.9%
Earnings Before Interest and Taxes (EBIT) Per Hectare	\$3754*	\$4338	15.6%

*2022/23 Season EBIT

Disclaimer:

The content of this report is based upon current available information and is only intended for the use of the party named. All due care was exercised by AgFirst Waikato (2016) Ltd in the preparation of this report. Any action in reliance on the accuracy of the information contained in this report is the sole commercial decision of the user of the information and is taken at their own risk. Accordingly, AgFirst Waikato (2016) Ltd disclaims any liability whatsoever in respect of any losses or damages of any kind, including but not limited to, direct, indirect, consequential, special, or punitive damages, arising from the use of this information. The user of this information acknowledges and agrees to hold AgFirst Waikato (2016) Ltd harmless from and against all such claims, damages, losses, and expenses, including reasonable legal costs, that may be asserted against or incurred by AgFirst Waikato (2016) Ltd in connection with the use of this information.

Farm Background

The family-owned dairy farming operation, Grassmere, near Feilding, has been in the Hocken family for over 130 years. It comprises of two similar sized dairy farms - Grassmere and Bodmin – and the dry stock unit Longmere, all working together seamlessly.

The two dairy farms, peak milking around 900 cows, are connected by an underpass, enabling efficient integration of their systems. Bodmin spans 153 effective hectares. All cows are calved here and the farm milks all heifers alongside a portion of mixed-aged cows. Grassmere, covering 132 effective hectares with freshwater irrigation, takes in the mixed-aged cows from Bodmin from mid-August. Both farms are set up with a 50-bale rotary cow shed and adjoining feed pad.

Operating as a System 4, the team utilise in-shed meal feeding and the feed pad to maximise profitable production. For summer 13 hectares of turnips are grown on each farm and maize is brought in from Longmere.

The Why

In winter 2023, the team deployed Halter across stock on all three properties. The team at Grassmere have a strong history of embracing technology as part of their daily operation to drive efficiency. “The technology fits well with our business strategy to cut out waste from the system,” said Mat. When considering the adoption of Halter, the main goals were to increase pasture harvested and reduce staffing.

“It was very important to us to define why we wanted Halter and focus on achieving this.” For the team, pasture management was a priority. Halter’s live data and insights enable quicker and more informed decision making. The technology gives the team the opportunity to eliminate time consuming tasks from their workday, such as break fencing in the spring, while freeing up time to consider the presented information and make better management decisions.

The business prides itself with exceptional staff retention. By streamlining operations with the help of Halter, they aimed to further improve their staff’s work life balance and lift work satisfaction by reducing the number of repetitive and often times frustrating tasks. The goal was to reduce staff requirements, hours worked and create a more efficient workplace that lets staff focus on higher value activities. *“Interesting, rather than dumbing down our decision making, Halter has democratised the information flow in our business, allowing all team members to understand why decisions are being made. “*

Management Changes Made

To capitalise on the full capabilities of Halter, the Grassmere team implemented several key management changes, revolutionising how they operate day-to-day. “You have to be able to change your mindset on how things are done when taking on new technology”, emphasised Mat. The team use a combination of rumination, resting, moving time, production and weight data to inform system changes and check past decisions were to the benefit of cows and the business.

➤ Grazing Management

Using Halter, the team optimised their grazing schedule, shifting the break 5 to 6 times per day for the milking herds. This approach enables more consistent feed intake throughout the day and night. Through monitoring of the rumination data at cow and herd level the team is aiming to achieve both higher feed intake and good rest times.

The time saved from not putting up physical break fences is used to focus on hitting target grazing residuals and allocating feed correctly every day. The extra time available along with access to accurate data has allowed the team to make better grazing decisions, leading to improved pasture harvested.

➤ Calving Policy and Animal Health

Policies were implemented during calving that ensure colostrum cows and those close to calving always have access to fresh grass and support their health and recovery. Turning collars off for calving cows allows them to graze fresh pasture outside the break and calve in cleaner conditions. Around 2am every morning the break for the colostrum cows is dropped automatically. This proactive approach is increasing feed intake post-calving and allows identification of possible milk fever cases before a physical check of the mob. “On a busy calving day where you can’t get to all mobs first thing in the morning Halter gives some peace of mind that all cows have access to fresh feed and no cows are down in the colostrum mob”, they explained.

Managing critical source areas (CSA’s) and reducing the risk of pugging damage during wet conditions has become easier too with Halter. During heavy rain events cows can be shifted by the click of a button if an alternative paddock has been set up in preparation. The team’s ideal grazing practice in winter has always been to graze paddocks from the back to walk cows over long grass and reduce soil damage and compaction by cows crossing over grazed out areas. However, with daily feed pad use for dry cows and springers this can be a frustrating and time-consuming task without Halter. The changes in management that Halter allows not only enhance productivity but also align with the team’s commitment to efficient and sustainable farming practices.

➤ Labour

Labour efficiency also saw substantial gains. Despite a reduction in head count by 1.5 full-time equivalents (FTE’s) between the three properties, increasing cows per FTE by 13.9%, staff are working shorter days on a 5 on 2 off roster. This was achieved by cows reliably coming to the shed automatically and eliminating time-intensive tasks, enabling staff to focus on higher-value jobs. Despite significant wage increases across the industry during the same period, labour costs fell by 7.2% for Grassmere. The reduction in hours worked and change in daily tasks also contributed to a reduction in motorbike maintenance cost by 13.9%.

Operational improvements extended beyond feed and labour savings. The improvements in energy balance in the cows flowed through to a 4.5% lift in 6 week in-calf rate as well as a 1.3% reduction in not-in-calf rate. The 12.4% reduction in lameness cases was attributed to cows being able to walk at their own pace.

“One of the unforeseen benefits of Halter is that with a more timely flow of information, we are making faster and bolder decisions. For example, with daily pasture growth rate information we became more accurate in how much surplus feed we could conserve as pasture silage,” highlighted Mat. The strong focus on efficiency within the business will allow the team to achieve further performance increases while maintaining or reducing the use of resources with the use of Halter in the future.

The Numbers

When asked how their farming system has changed with Halter the answer was “where do we start”. The biggest notable change on farm was the reduction of 1.5 FTE across the three properties while everyone’s workdays got shorter.

Before deploying Halter collars, a lot of numbers were crunched to ensure the investment would be positively contributing to the overall business. “Our original expectations have been exceeded”, said Mat. The changes implemented within the operation, enabled by Halter, have delivered significant and measurable results across productivity, efficiency, cow wellbeing and farm working expenses.

Pasture eaten increased by 0.4 tDM/grazed ha, equating to a 4.3% improvement, while supplement use reduced by 8.9%. This lift was driven by a combination of increased total feed intake and a higher percentage of pasture as part of the diet. Total feed eaten per cow has remained relatively stable with a 0.66% increase. The team strongly feel that the increased accuracy of allocating pasture has driven the result of increased pasture eaten.

Financial

Financial results are modelled using a standardised approach across all case studies. The overall change in EBIT between the 2022/23 season (pre-halter) and the 2023/24 season (with halter) showed an increase in Earnings Before Interest and Tax (EBIT) of 16%. Pre-Halter EBIT was \$3754 per hectare while post implementation of Halter saw an increase to \$4338 per hectare.

Conclusion

Grassmere’s experience with Halter highlights how targeted use of technology, coupled with a willingness to adapt management practices, can lead to meaningful operational improvements. With a 4.3% increase in pasture eaten, improved reproductive performance, and a 1.5 FTE reduction across the three properties, the business has achieved a more efficient system without compromising staff wellbeing or animal health.

The cumulative impact across labour efficiency, pasture utilisation, and herd performance illustrates the value of using accurate, real-time data to inform day-to-day decisions. Importantly, the improvements in work-life balance and reduced physical task load also reflect broader benefits. Grassmere’s journey underscores the practical realities of adopting farm technology—highlighting both the opportunities and the adjustments required to make it work effectively.

Appendix: Farmax Modelling Summaries

Grazed Hectares – DM Eaten

		Grassmere 2021/22 - No Halter	Grassmere 2022/23 - No Halter	Grassmere 2023/ 24 - Halter	
Farm	Effective Area	285	285	285	ha
	Stocking Rate	3.3	3.1	3.1	cows/ha
	Comparative Stocking Rate	83.4	86.3	85.6	kg Lwt/t DM eaten
	Potential Pasture Growth	14.1	11.8	12.6	t DM/ha
	Nitrogen Use per graze ha	115	133	143	kg N/ha
	Feed Conversion Efficiency (eaten)	12.5	12.2	12.3	kg DM eaten/kg MS
Herd	Cow Numbers (1st July)	973	944	940	cows
	Peak Cows Milked	947	878	890	cows
	Days in Milk	290	287	269	days
	Avg. BCS at calving	4.4	4.2	4.8	BCS
	Liveweight per graze ha	1,708	1,603	1,671	kg/ha
Production	Milk Solids total	437,261	407,161	426,515	kg
(to Factory)	Milk Solids per graze ha	1,633	1,527	1,584	kg/ha
	Milk Solids per cow	462	464	479	kg/cow
	Peak Milk Solids production	1.98	1.95	2.21	kg/cow/day
	Milk Solids as % of live weight	95.6	95.3	94.8	%
Feeding	Pasture Eaten per cow *	3.2	2.8	3.3	t DM/cow
	Supplements Eaten per cow *	2.5	2.7	2.4	t DM/cow
	Off-farm Grazing Eaten per cow *	0.1	0.1	0.2	t DM/cow
	Total Feed Eaten per cow *	5.8	5.6	5.9	t DM/cow
	Pasture Eaten per graze ha	11.3	9.4	10.8	t DM/ha
	Supplements Eaten per graze ha	9.2	9.2	8.4	t DM/ha
	Off-farm Grazing Eaten per graze ha	2.9	3.3	3.6	t DM/ha
	Total Feed Eaten per graze ha	23.4	21.9	22.8	t DM/ha
	Supplements and Grazing / Feed Eaten *	45	49.6	44.7	%
	Bought Feed / Feed Eaten *	39.7	43.3	37.3	%

(*) feed eaten by females > 20 months old / peak cows milked

(*) feed eaten by females > 20 months old / peak cows milked
Farmax Dairy 8.3.4.17

Grazed Hectares – DM Offered

		Grassmere 2021/22 - No Halter	Grassmere 2022/23 - No Halter	Grassmere 2023/ 24 - Halter	
Farm	Effective Area	285	285	285	ha
	Stocking Rate	3.3	3.1	3.1	cows/ha
	Comparative Stocking Rate	72.8	74.9	73.8	kg Lwt/t DM offered
	Potential Pasture Growth	14.1	11.8	12.6	t DM/ha
	Nitrogen Use per graze ha	115	133	143	kg N/ha
	Feed Conversion Efficiency (offered)	14.4	14	14.3	kg DM offered/kg MS
Herd	Cow Numbers (1st July)	973	944	940	cows
	Peak Cows Milked	947	878	890	cows
	Days in Milk	290	287	269	days
	Avg. BCS at calving	4.4	4.2	4.8	BCS
	Liveweight per graze ha	1,708	1,603	1,671	kg/ha
Production	Milk Solids total	437,261	407,161	426,515	kg
(to Factory)	Milk Solids per graze ha	1,633	1,527	1,584	kg/ha
	Milk Solids per cow	462	464	479	kg/cow
	Peak Milk Solids production	1.98	1.95	2.21	kg/cow/day
	Milk Solids as % of live weight	95.6	95.3	94.8	%
Feeding	Pasture Offered per cow *	3.8	3.4	3.9	t DM/cow
	Supplements Offered per cow *	2.7	2.9	2.7	t DM/cow
	Off-farm Grazing Offered per cow *	0.2	0.2	0.3	t DM/cow
	Total Feed Offered per cow *	6.6	6.5	6.9	t DM/cow
	Pasture Offered per graze ha	13.4	11.1	12.8	t DM/ha
	Supplements Offered per graze ha	10	10.2	9.2	t DM/ha
	Off-farm Grazing Offered per graze ha	3.5	4	4.3	t DM/ha
	Total Feed Offered per graze ha	26.8	25.2	26.4	t DM/ha
	Supplements and Grazing / Feed Offered *	43.1	48.1	43.4	%
	Bought Feed / Feed Offered *	37.6	41.7	35.7	%

(*) feed offered to females > 20 months old / peak cows
milked

(*) feed offered to females > 20 months old / peak cows
milked

Farmax Dairy 8.3.4.17

Total Hectares – DM Eaten

		Grassmere 2021/22 - No Halter	Grassmere 2022/23 - No Halter	Grassmere 2023/ 24 - Halter	
Farm	Effective Area	285	285	285	ha
	Stocking Rate	3.3	3.1	3.1	cows/ha
	Comparative Stocking Rate	83.4	86.3	85.6	kg Lwt/t DM eaten
	Potential Pasture Growth	14.1	11.8	12.6	t DM/ha
	Nitrogen Use per total ha	108	125	135	kg N/ha
	Feed Conversion Efficiency (eaten)	12.5	12.2	12.3	kg DM eaten/kg MS
Herd	Cow Numbers (1st July)	973	944	940	cows
	Peak Cows Milked	947	878	890	cows
	Days in Milk	290	287	269	days
	Avg. BCS at calving	4.4	4.2	4.8	BCS
	Liveweight per total ha	1,606	1,500	1,580	kg/ha
Production	Milk Solids total	437,261	407,161	426,515	kg
(to Factory)	Milk Solids per total ha	1,535	1,430	1,498	kg/ha
	Milk Solids per cow	462	464	479	kg/cow
	Peak Milk Solids production	1.98	1.95	2.21	kg/cow/day
	Milk Solids as % of live weight	95.6	95.3	94.8	%
Feeding	Pasture Eaten per cow *	3.2	2.8	3.3	t DM/cow
	Supplements Eaten per cow *	2.5	2.7	2.4	t DM/cow
	Off-farm Grazing Eaten per cow *	0.1	0.1	0.2	t DM/cow
	Total Feed Eaten per cow *	5.8	5.6	5.9	t DM/cow
	Pasture Eaten per total ha	10.6	8.8	10.2	t DM/ha
	Supplements Eaten per total ha	8.7	8.6	7.9	t DM/ha
	Off-farm Grazing Eaten per total ha	2.7	3.1	3.4	t DM/ha
	Total Feed Eaten per total ha	22	20.5	21.5	t DM/ha
	Supplements and Grazing / Feed Eaten *	45	49.6	44.7	%
	Bought Feed / Feed Eaten *	39.7	43.3	37.3	%

(*) feed eaten by females > 20 months old / peak cows
milked

(*) feed eaten by females > 20 months old / peak cows
milked

Farmax Dairy 8.3.4.17

Profit and Loss

FARMAX			Compare Forecast Profit and Loss		
			Jun 23 - May 24		
			Grassmere 2021/22 - No Halter Clint	Grassmere 2022/23 - No Halter Clint	Grassmere 2023/ 24 - Halter Clint
Revenue	Stock	Net Milk Sales - this season	3,865,965	3,373,096	3,481,485
		Net Livestock Sales	419,674	348,784	380,312
		Total	4,285,639	3,721,881	3,861,797
	Total Revenue		4,285,639	3,721,881	3,861,797
Expenses	Wages	Wages	420,000	420,000	315,000
		Management Wage	110,000	110,000	110,000
	Stock	Animal Health	100,934	95,157	95,702
		Breeding	74,080	69,840	70,240
		Farm Dairy	26,854	25,317	25,462
		Electricity	50,004	47,142	47,412
	Feed/Crop	Pasture Conserved	3,300	10,849	4,950
		Feed Crop	75,060	61,830	63,617
		Bought Feed	115,448	635,414	564,046
		Calf Feed	7,612	7,612	7,663
	Grazing	Owned Run-Off Adj.	368,754	409,171	409,985
	Other Farm Working	Fertiliser (Excl. N)	92,845	92,845	92,845
		Nitrogen	31,451	51,226	44,852
		Irrigation	27,910	27,910	27,910
		Regrassing	33,360	27,480	28,303
		Weed & Pest Control	11,962	11,962	11,962
		Vehicle Expenses	43,574	43,574	43,574
		Fuel	29,619	29,619	29,619
		R&M Land/Buildings	94,838	94,838	94,838
		R&M Plant/Equipment	34,176	34,176	34,176
		Freight & Cartage	13,670	13,670	13,670
		Other Expenses	12,246	12,246	161,766
	Overheads	Administration Expenses	68,922	68,922	68,922
		Insurance	36,739	36,739	36,739
		ACC Levies	7,690	7,690	7,690
		Rates	40,442	40,442	40,442
	Total Farm Working Expenses		1,931,489	2,485,671	2,451,386
	Depreciation		179,277	166,936	174,871
	Total Farm Expenses		2,110,767	2,652,607	2,626,257
Economic Farm Surplus (EFS)			2,174,873	1,069,273	1,235,540
Farm Profit before Tax			2,174,873	1,069,273	1,235,540
Farm Profit per ha before Tax			7,636	3,754	4,338
EFS is a measure of farm business profitability independent of ownership or funding, used to compare performance between farms.					
EFS should include an adjustment for unpaid family labour and management. This can be added to the expense database as management wage.					
Farmax Dairy 8.3.5.26					