SoilsForLife

Wilmot Case Study

ECONOMIC REPORT | 2021

PREPARED BY RSM

Photo by Mike Terry

Executive Summary

Wilmot is an 1,854 hectare grazing property located in the New England District of northern New South Wales. Wilmot primarily specialises in the trading and breeding of cattle. The property is owned by Alasdair MacLeod, with Stuart Austin being the current on-site manager. Since 2016, Stuart has been implementing regenerative and holistic management practices on Wilmot.

Stuart's primary goals on Wilmot are to improve the profitability, productivity and sustainability of the property. This is achieved by utilising multiple regenerative practices. The use of a time controlled rotational grazing system means that livestock numbers are matched to pasture availability, allowing for short, high density periods of grazing per paddock which is followed by long rest periods to allow pastures time to recover. The time controlled rotational grazing system has increased income and productivity per hectare beyond that of the 'Average Farm', in addition to an overall improvement in groundcover, biomass, plant diversity, animal nutrition, soil health and water infiltration.

Stuart has also introduced MaiaGrazing Technology on Wilmot. This has become a key tool in the grazing management on Wilmot, integrating the land manager's current observations with data such as monthly and seasonal rainfall patterns and pasture information to match grazing intensity with rainfall and pasture growth. This tool has allowed Stuart to better manage the stock, as well as improving the profitability and adjusting to seasonal conditions.

To illustrate the success of these methods in achieving the primary goals identified above, we have compared the financial information provided by Stuart to relevant industry benchmarks – the 'Average Farm'. The benchmark used throughout the report is sourced from Meat and Livestock Australia (MLA) Farm Survey Data.

The introduction of these regenerative practices has resulted in profit and gross margins for Wilmot consistently exceeding those of the Average Farm. Wilmot is consistently more profitable in terms of cattle sales and, on average, exceeds the profit margin ratio of the Average Farm by 50% and is almost six times more profitable.

Our analysis has resulted in numerous positive insights about the methods employed at Wilmot. We have found that:

- The changed business model and introduction of regenerative practices and has increased production levels significantly leading to an increase in income, with revenues of approximately 25 times the Average Farm.
- Despite changes in cattle prices and seasonal conditions, Wilmot maintains a relatively stable profit margin and is almost 6 times more profitable than the Average Farm.

It has also been noted that Stuart invests significantly more into Wilmot compared to the Average Farm. Despite this, Stuart has achieved a significantly higher return in income while modernising the farm and improving the business model and management.

Introduction

Wilmot is located in Hernani, in the New England district of northern New South Wales. The farm is an 1854 hectare grazing property with primary income derived from the trading of primarily Angus cattle.

The farm is owned by Alasdair MacLeod and managed by Stuart Austin. In 2013, Stuart began to implement more regenerative and holistic management practices, which has resulted in significant gains in the overall ecological health of Wilmot. Stuart has refocused the enterprise to a trading model.

The property is currently managed in an intensive time controlled rotationally grazed system. Small numbers of large mobs of cattle move across the landscape, mimicking nature, to create ecological change and improve the landscape health and biological function.

Stuart has also introduced MaiaGrazing Technology which has improved the grazing management of Wilmot and reticulated water systems from creeks to tanks and troughs. The implementation of these practices has improved the quality of water, soil health, pasture diversity and financial robustness.

Compared to the Average Farm, Stuart invests significantly more into pasture and land care using non-synthetic inputs. This illustrates that regenerative farming is not always low in cost. However, as a result of these investments, Wilmot has significantly improved their productivity and revenue, compared to the Average Farm.

Report Data Sources:

Industry Benchmarks – MLA Farm Survey Data (http://apps.agriculture.gov.au/mla/)

Financial Data – Stuart Austin

Seasonal Conditions and Rainfall Data – Australian Government Bureau of Meteorology

Industry Insights – Published Industry Reports by:

- Meat and Livestock Australia
- Australian Bureau of Agricultural and Resource Economics 2019
- Department of Agriculture
- Department of Primary Industries

Report Methodology

This economic report illustrates the positive effects that regenerative practices have had on the profitability, productivity, and natural capital of Wilmot. To do this, we have compared current financial and production figures to historical figures and relevant industry benchmarks.

For the sake of privacy, the data throughout this economic report has been 'de-identified' and we have used indexes to illustrate relative performance. That is, the data has been reported so that it does not represent the owner's actual financial position, rather it highlights the proportional difference between farm businesses and the industry benchmark. To do this, the benchmark figure is set to 100 at the start of the study period. Where two datasets are compared, we index both sets of data to the benchmark data. All data in this analysis is presented on the basis of the financial year.

Benchmarking

In order to illustrate the success of the Wilmot enterprise, we have compared their financials and productivity data to relevant industry benchmarks. In particular, we refer to the 'Average Farm' as the main indicator for our analysis.

For this Economic Report, unless an exception is specifically noted, the Average Farm refers to a Specialist Beef Farm located in a High Rainfall climate (as defined by the Department of Agriculture and Water Resources). The benchmark data for the Average Farm has been obtained from Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Farm Survey Data. A High Rainfall climate was chosen as according to the Commonwealth Scientific and Industrial Research Organisation (CSIRO), NSW Tableland (northern central and southern) is considered a High Rainfall zone.

The ABARES Farm Survey Data is based on surveys conducted with a representative sample of farms across Australia. Data is primarily collected through face-to-face interviews with farm owners/managers and detailed financial and physical information is obtained for the farm operations of the previous financial year. Survey data for individual farms is appropriately weighted to ensure data reliability for the entire population.

For more information on the farm survey data methodologies, please see: https://www.agriculture.gov.au/abares/research-topics/surveys/farm-definitions-methods

Photos by Mike Terry

Operational Analysis

Throughout the analysis it can be seen that the regenerative practices Stuart has implemented on Wilmot have led to significantly increased sales and revenue when compared to the Average Farm.

Prior to implementing regenerative changes to the management of Wilmot, the property ran a grazing model with a two paddock rotation where120 bullocks would feed in one paddock and once fully grazed, they would be moved to the second paddock. While this was financially profitable at the time, it was ecologically unsustainable for the farm.

In order to address this issue, an intensive time controlled rotational grazing system was introduced with small numbers of large mobs. Paddocks were subdivided to reduce their size, tanks and troughs were also installed. This allowed the mobs of cattle to move across the landscape to 'mimic' nature, creating ecological change and improving the overall landscape health and biological function.

While the implementation of these innovations increased expenses, overall sales and revenue has improved and remained consistent.

Production Mix

Wilmot's income derives from the breeding, trading, and finishing of Angus cattle. Stuart is able to turnover approximately 3000 to 5000 trade cattle annually. As can be seen throughout the analysis, Wilmot performs significantly better in terms of profit, revenue, and sales than the Average Farm.

Figure 1 illustrates the average production mix for Wilmot. Figure 1 shows that the vast majority of income is derived from trading cattle.

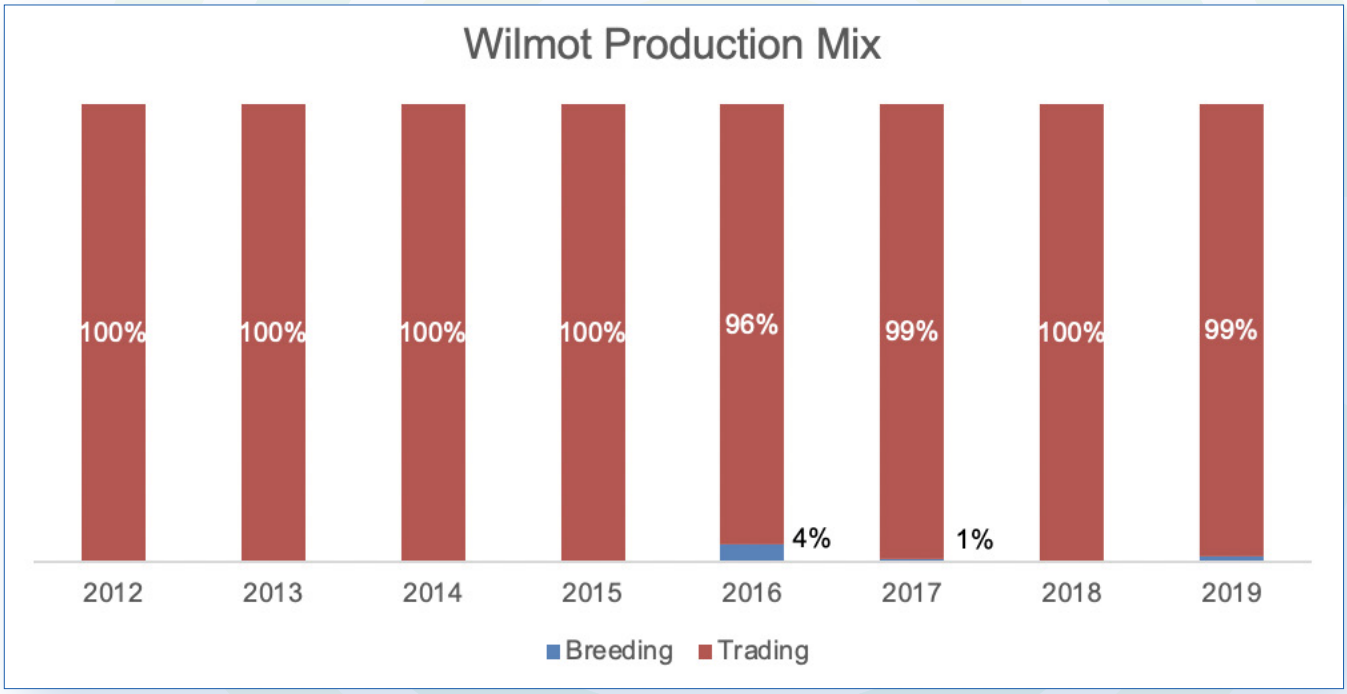

Figure 1: Wilmot Production Mix 2012 to 2019

Total Revenue Per Ha

Figure 2 compares Wilmot's revenue to that of the Average Farm on a per hectare basis. As seen, Wilmot consistently receives a significantly higher revenue than that of the Average Farm.

Figure 2 includes the price of cattle per head for both the Average Farm and Wilmot. The price of cattle per head correlates with the revenue of the Average Farm. For example, in 2016 and 2017 there is an increase in cattle price, and therefore an increase in the Average Farm's revenue.

For Wilmot, despite the increases in cattle prices over the years, the revenue has decreased and increased year after year, nonetheless still significantly exceeding that of the Average Farm. This weak correlation indicates that Wilmot's revenue does not necessarily fluctuate with cattle prices as the revenue of the Average Farm does, but rather is driven more by the number of cattle sold, as seen in Figure 3.

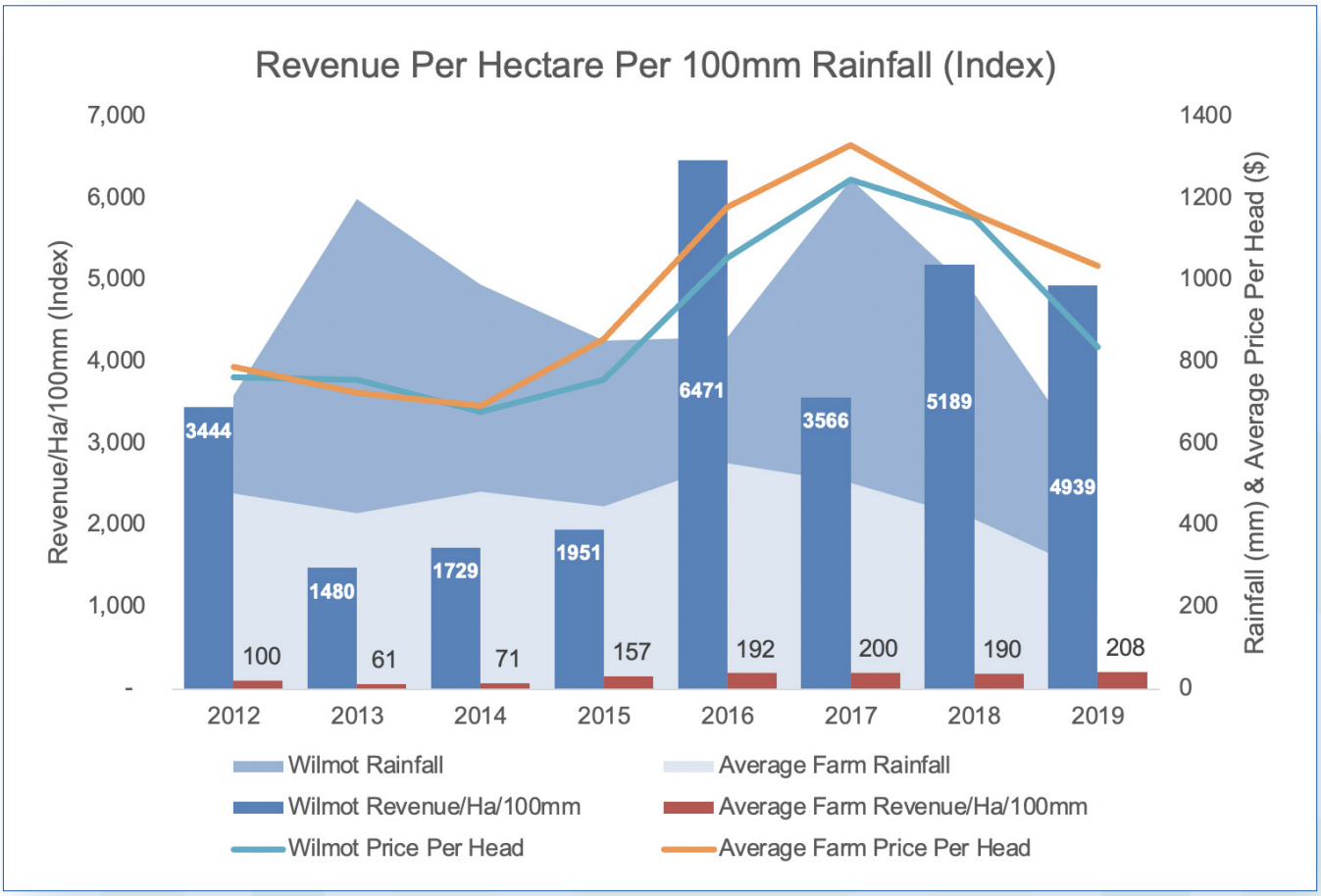

Figure 2: Revenue Per Ha Per 100mm Rainfall (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- Overall, Wilmot consistently outperforms the Average Farm in terms of revenue per hectare on a rainfall basis, generating 24.4 times the revenue over the period.
- In 2018, Wilmot experiences a slight peak in revenue. During this year, Stuart received 13% more sales revenue than the previous year.
- Wilmot's revenue exemplifies how investing in pasture, land care and animal health can achieve high productivity, higher sales and revenue. This will be discussed further in the 'Expenses' section of the report.

Cattle Sales Per Ha

Figure 3 illustrates the cattle sales for Wilmot and the Average Farm. Wilmot performs significantly higher than that of the Average Farm.

Stuart's implementation of regenerative practices has increased productivity on Wilmot. By refocusing the enterprise to a trading model, Stuart has been able to better manage stocking rates to carrying capacity.

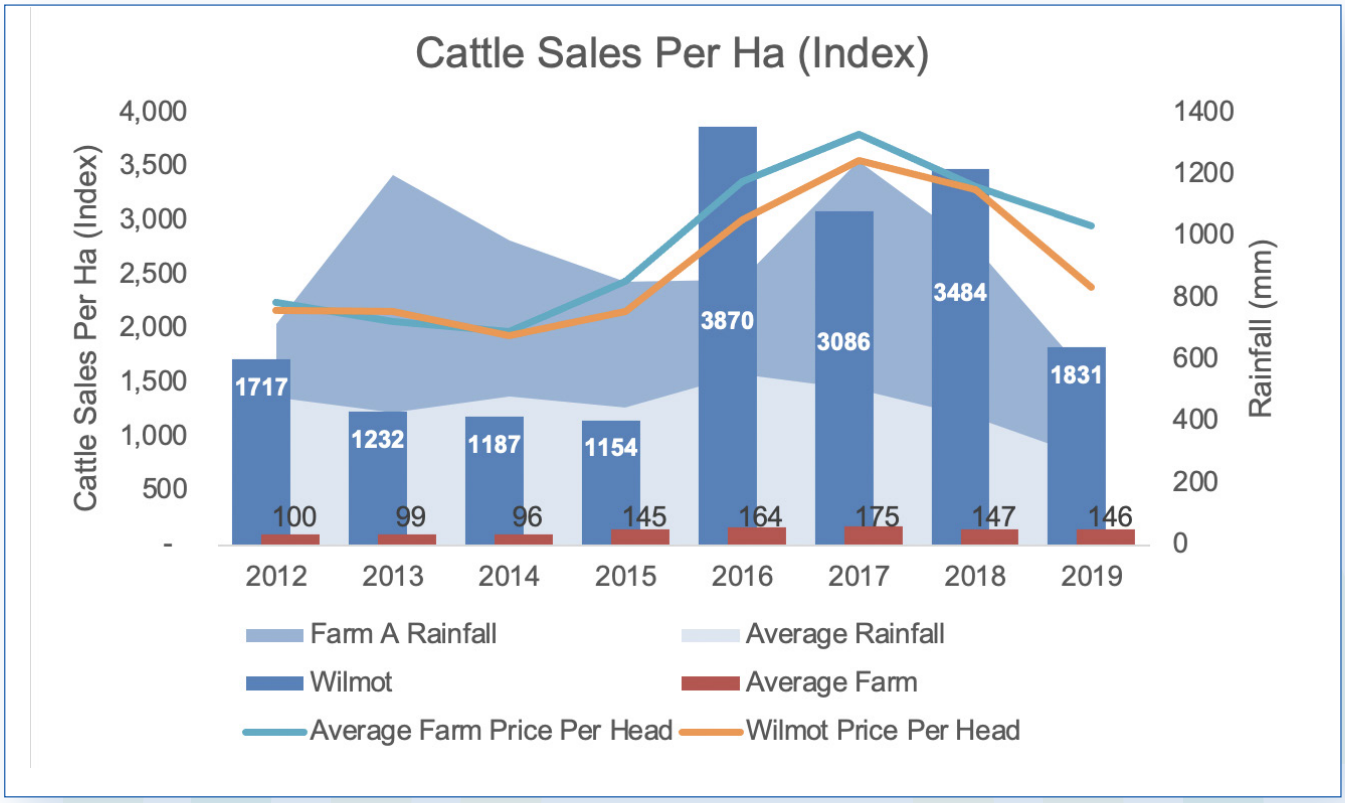

Figure 3: Cattle Sales Per Ha (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- Being a trading focused enterprise, cattle sales on Wilmot can vary significantly from year to year. However, the primary driver in cattle sales on Wilmot is to consistently match stocking rates to the carrying capacity of the pastures.
- In 2015 & 2017, Stuart was focused on growing inventory, hence the significant reduction in cattle sales in these years. Consequently, there was significant cattle sell-offs in 2016 and 2018. Sales in 2018 were also partly motivated by deteriorating seasonal conditions.

Expenses

It can be seen throughout the expense analysis that significant investment has been made into Wilmot compared to the Average Farm. By doing so, Stuart has modernised the farm and improved the business model and management overall.

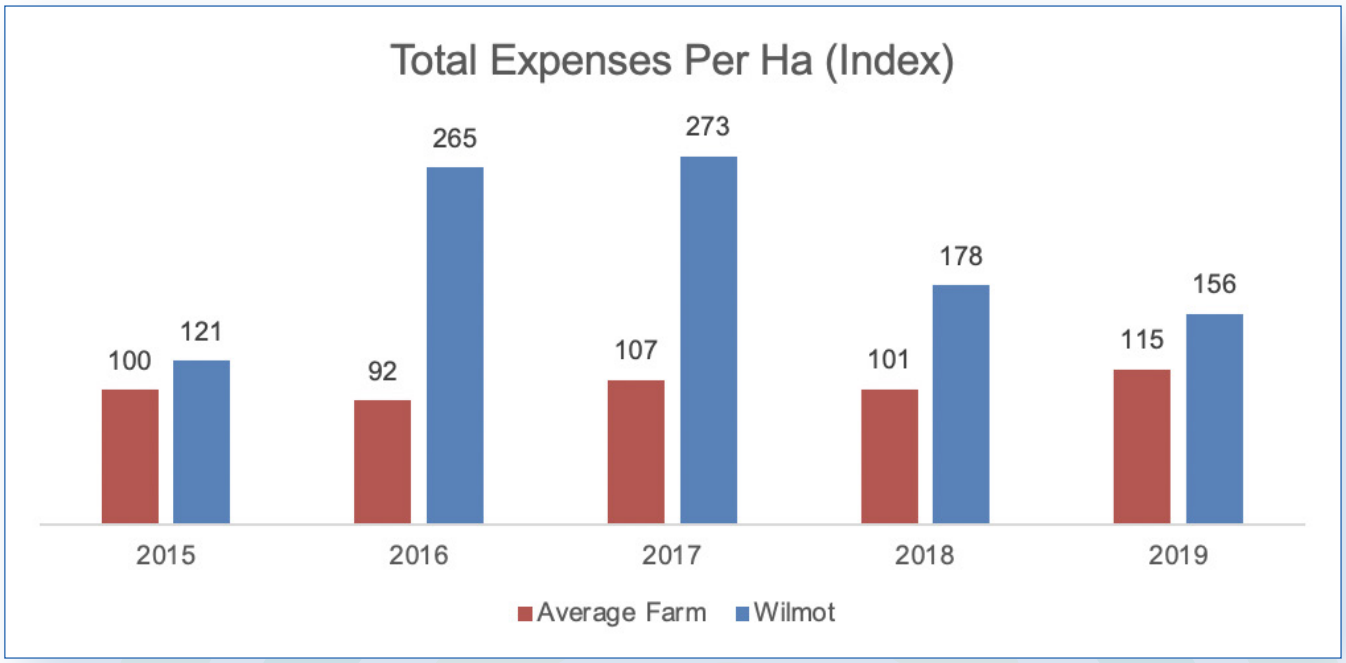

Figure 4: Total Expenses Per Ha (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Investments have focused on pasture and land care, repairs and maintenance, and animal health. This has included new fencing and water infrastructure. While the expenses consistently exceed the Average Farm's, Stuart has achieved a significantly higher return and is able to sell a greater amount of produce.

Overall, this highlights that while the implementation of regenerative practices are not necessarily low in cost, it has allowed Wilmot to achieve higher profitability and productivity.

Photos by Mike Terry

Pasture and Landcare Expense

Figure 5 illustrates Wilmot's pasture and land care expenses per hectare compared to that of the Average Farm's. As can be seen, Stuart spends more on pasture and land care overall than the Average Farm. Please note that the pasture and land care expenses category for the benchmarking data includes expenses for crop and pasture chemicals expenses, seed, fodder, and fertilizer.

It is also important to note that Wilmot's pasture and land care expenses are generally lower than neighbouring farms using more conventional farming methods, indicating that the local area generally has higher costs. Recently, the focus at Wilmot has been on regenerating the biological activity within the soil. The main investments in 2018 were lime, gypsum, compost extract and trace minerals; in 2019 they were poultry manure and a multi-species planting trial.

As one of his regenerative practices, Stuart has introduced MaiaGrazing Technology as a tool to better manage grazing and maximise Wilmot's pasture. Through the implementation of the time controlled rotational grazing, effectively managed livestock, and significant investment into land and pasture care, Stuart has been able to improve the long-term productivity and profitability of Wilmot.

The MaiaGrazing tool captures Wilmot's real-time livestock, rainfall, and grazing data on any device, providing a view of stock numbers and grazing position. This enables Stuart to make better decisions and improve long-term productivity and profitability.

Stuart has also increased management options by subdividing paddocks to reduce their size, changing the overall pasture management to achieve a higher density of stock, as discussed previously.

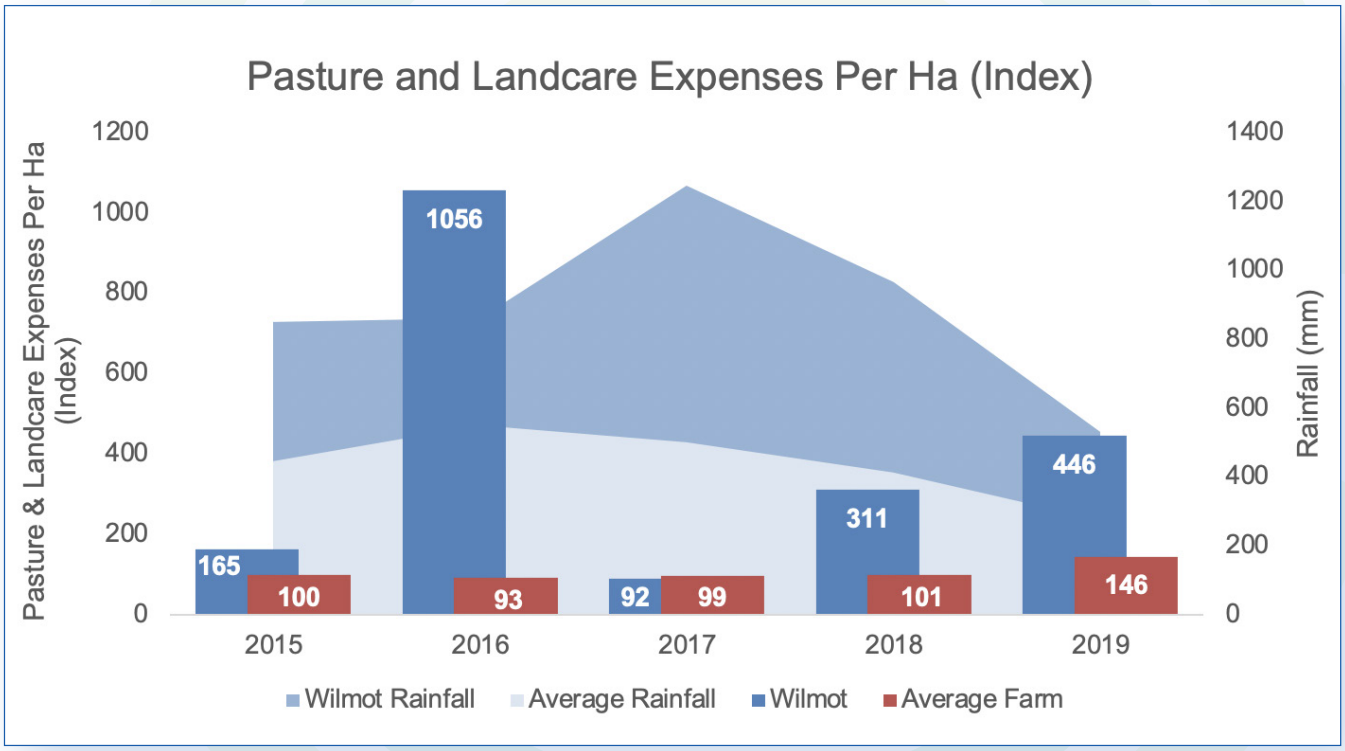

Figure 5: Pasture and Land Care Expense Per Ha (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- In 2016 there is a significant increase in pasture and land care expenses on Wilmot. This is due to Stuart's decision to bring forward and stockpile a large volume of lime.

Repairs and Maintenance Expense

Figure 6 illustrates Wilmot's repairs and maintenance expenses per hectare compared to that of the Average Farm's. As can be seen, Wilmot's repairs and maintenance expenses are significantly higher than the Average Farm's. Overall, Wilmot's expenses have increased since 2015.

An innovative change that Stuart wanted to implement on Wilmot was removing the reliance on the dams. To do this, Stuart installed troughs with the intention to reduce animal impact on the water courses.

Stuart has also invested significantly in fencing for increasing the number of paddocks in the time controlled rotational grazing system.

The increased capital investment by Stuart will have increased repairs and maintenance expenses – both from the capital assets themselves and the machinery used to construct and repair them.

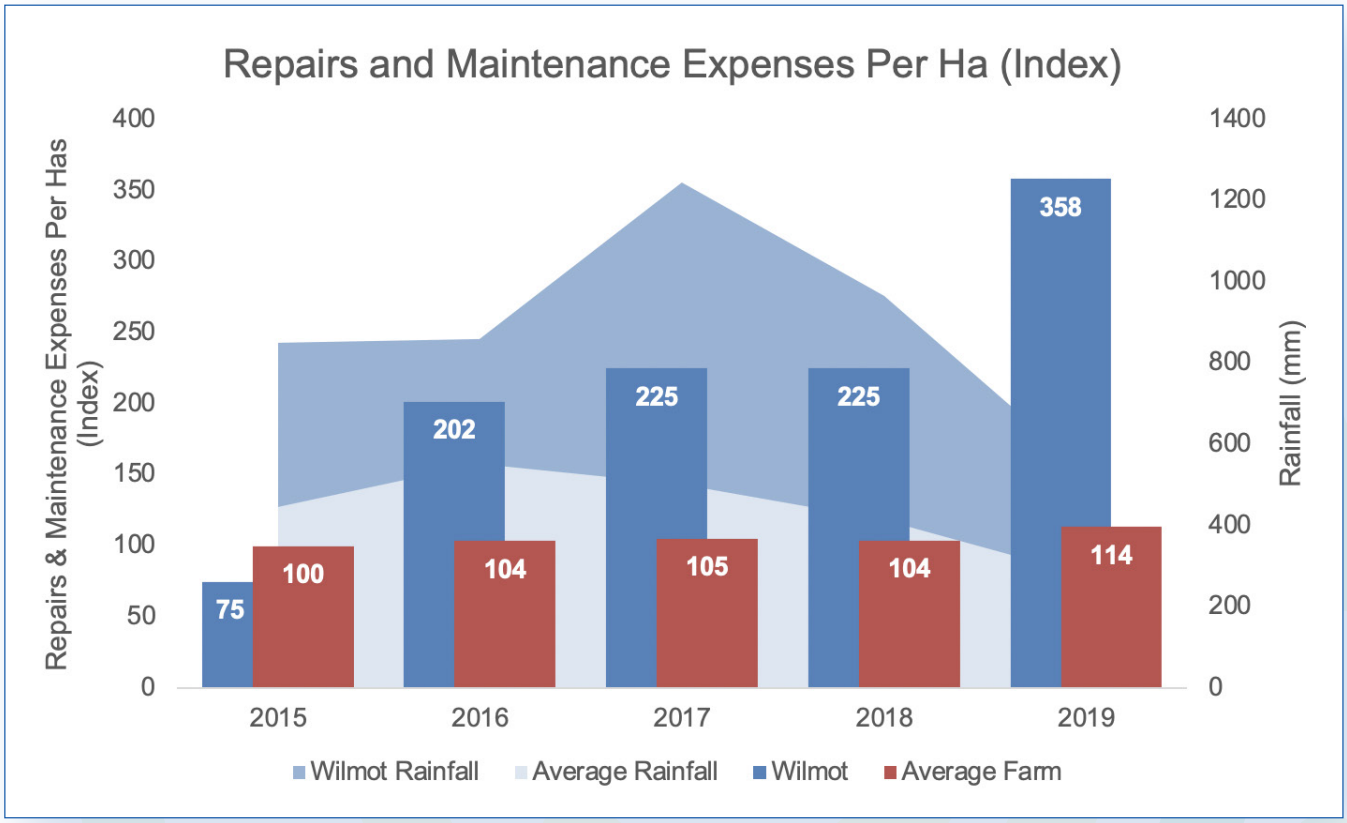

Figure 6: Repairs and Maintenance Expense Per Ha (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- In 2019, Wilmot's fixed assets significantly increased, this led to a considerable increase in repairs and maintenance expenditure.

Animal Health and Feeding Expense

Figure 7 illustrates Wilmot's animal health & feeding expenses per hectare compared to that of the Average Farm. For all years in our analysis, Wilmot's animal health and feeding expenses exceed that of the Average Farm's.

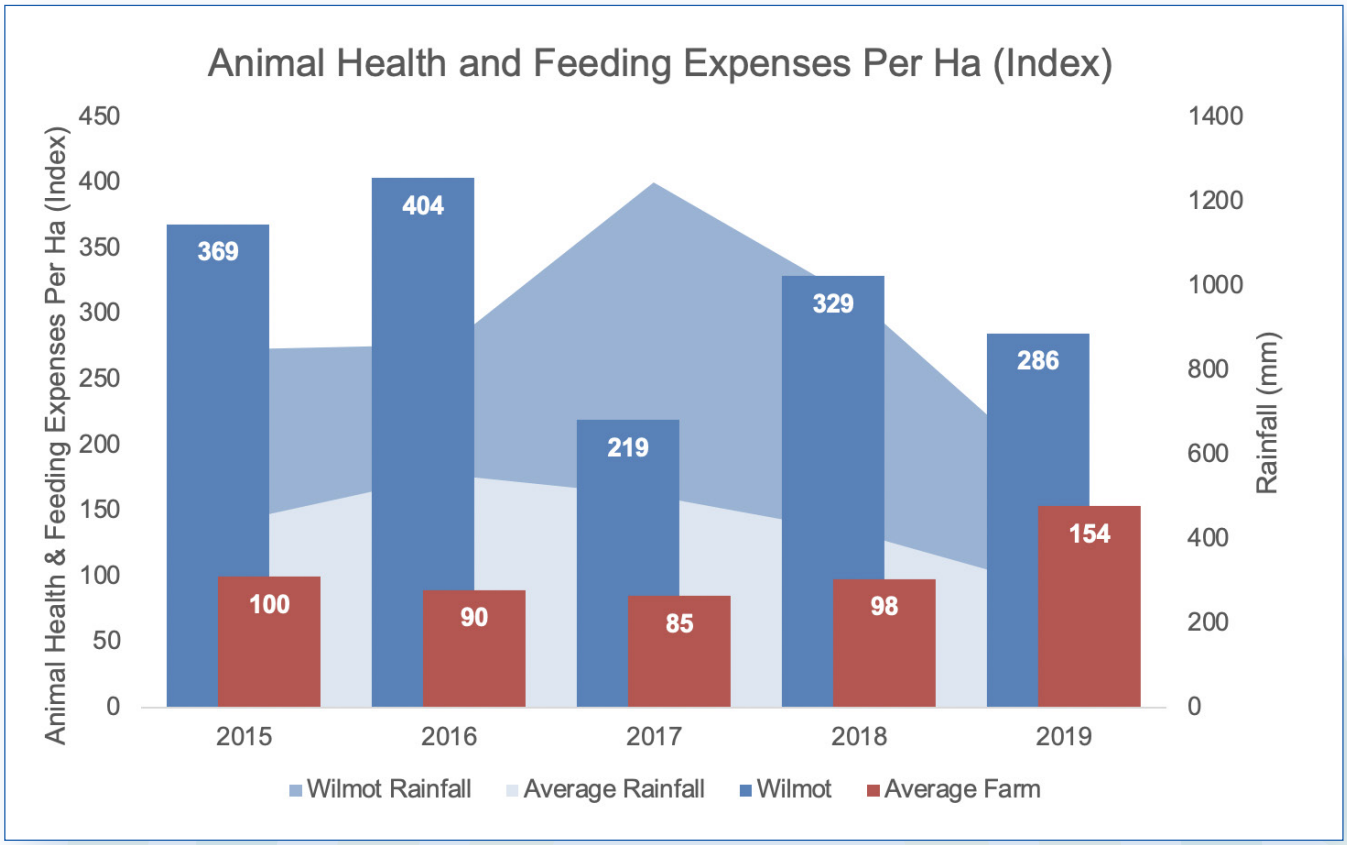

Figure 7: Animal Health and Feeding Expense Per Ha (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- The vast majority (up to 80%) of animal health & feeding expenses is made up of drench, vaccine, and cattle ID costs. As such, these expenses correspond with the number of cattle purchased on Wilmot.

Business Performance and Sustainability Analysis

Gross Margin

Cattle Sales Gross Margin

Cattle sales are the primary source of income on Wilmot. Figure 8 illustrates the cattle sales gross margin of Wilmot compared to the Average Farm.

Gross margin is a measure of total sales minus the direct costs of production. Essentially, it is the sales revenue a farm retains after incurring the direct costs association with production. The higher the gross margin, the more capital a farm retains on each dollar of sales. Gross margin per hectare per 100mm of rainfall can also be used in the primary production industry to illustrate an enterprises effective utilisation of land and water capacity.

Figure 8 illustrates the gross margin for the sale of cattle Wilmot, compared to that of the Average Farm. The gross margin at Wilmot is consistently higher than the Average Farm on a per hectare basis (not shown); however, the performance varies when Wilmot's higher rainfall is considered. Although the gross margin is often lower, Wilmot has significantly higher turnover and revenue that the average farm – see figure 3.

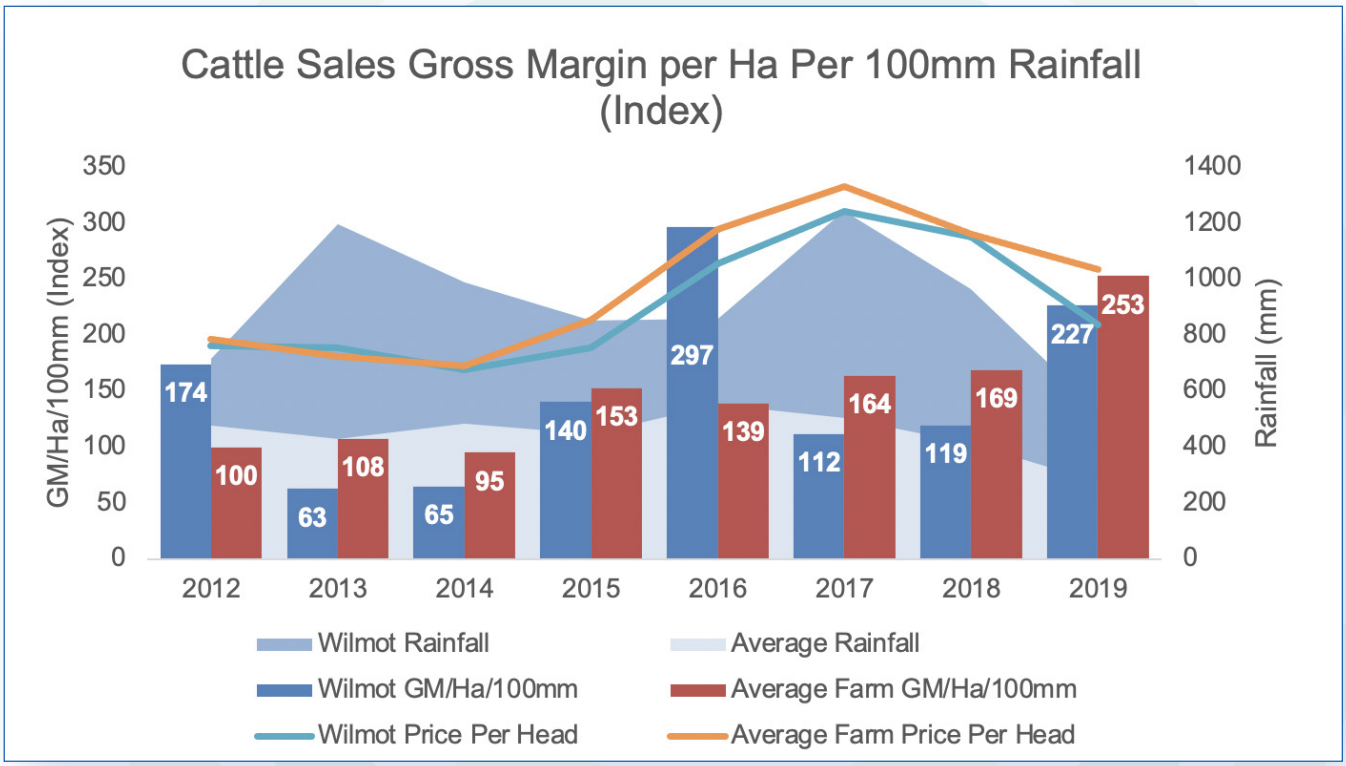

Figure 8: Cattle Sales Gross Margin Per Ha Per 100mm Rainfall (Index)
To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- In 2016, cattle sales increased significantly. This led to a high gross margin for 2016.
- There were decreased cattle sales in 2013 and 2014. This resulted in a decrease in gross margin for these years.
- From 2017 to 2019, Stuart sold a consistent number of cattle in each year, resulting in consistent gross margin for these years, rainfall is the main variation during this period

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Net Profit Margin Ratio

Figure 9 and Table 1 show the net profit margin ratio of Wilmot and the Average Farm. The net profit margin ratio is a measure of profits divided by revenue. This ratio shows how much sales revenue is retained as profit across the business.

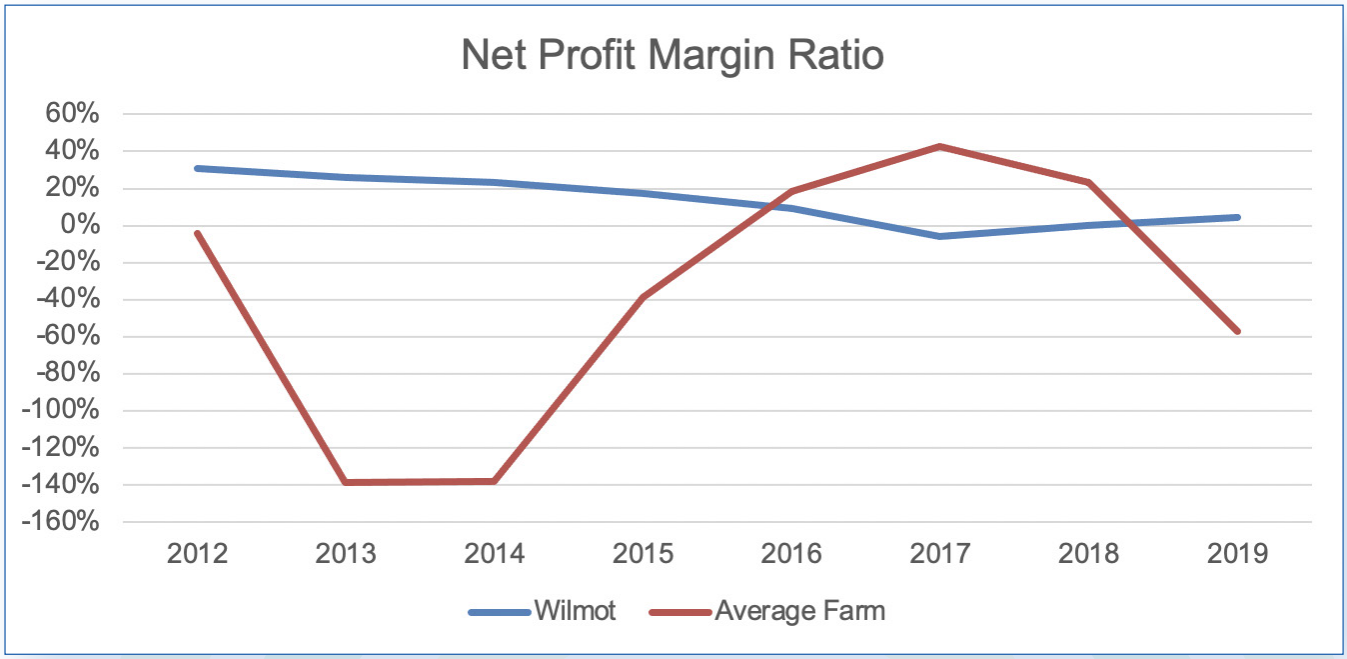

Figure 9: Net Profit Margin Ratio

	2012	2013	2014	2015	2016	2017	2018	2019	AVERAGE
Wilmot	31%	26%	23%	17%	9%	-6%	0.1%	5%	13%
Average Farm	-4%	-139%	-138%	-39%	18%	43%	24%	-57%	-37%
Difference	35%	165%	161%	56%	-9%	-49%	-23%	62%	50%

Table 1: Net Profit Margin Ratio

Data Insights:

- Generally, Wilmot experiences a great profit margin compared to that of the Average Farm with the exception of 2016, 2017 and 2018. This is due to the slight decrease in sales while expenses remained high. Importantly, the profit margin ratio is stable and positive over time.
- In 2017, Wilmot's profit margin ratio was -6%. This is due to the enterprise experiencing a loss in business profit for the 2017 financial year. In 2017, Wilmot pursued a strategy of increasing off farm agistment to increase turnover. Due to market conditions, this was a poor management decision and resulted in the 2017 loss – predominately caused by increased agistment expenditure (see the Soils for Life (SFL) social report for details).
- The average profit margin ratio for Wilmot scores 50% higher than the Average Farm over the 8 years analysed.

Business Profit

Figure 10 illustrates the farm business profit per hectare per 100mm of rainfall for Wilmot and the Average Farm. Generally, Wilmot performs well above the Average Farm with more stable profit.

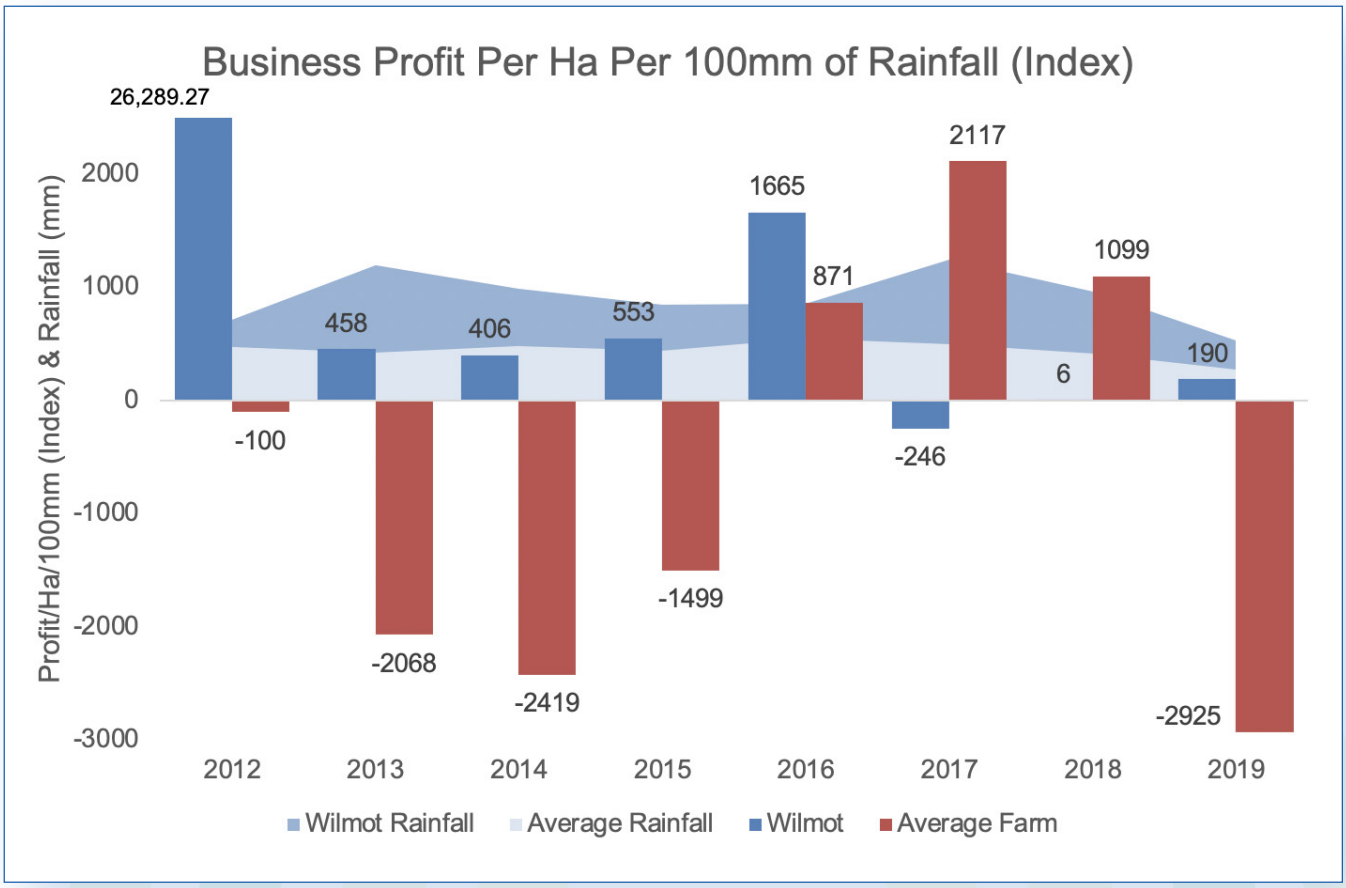

Figure 10: Business Profit Per Ha Per 100mm (Index)

To maintain privacy, the data in this graph has been indexed to the Average Farm.

Data Insights:

- Total sales were considerably higher in 2012 than all other years in this analysis. This resulted in a peak in business profit for 2012.
- In 2016, Wilmot experiences an increase in business profit, despite experiencing a decrease in rainfall. During this year, Stuart traded significantly more cattle, receiving 3.35 times more sales revenue than the previous year.
- Wilmot's loss in 2017 was a result of the decision to increase off farm agistment. Please see Table 1 and SFL social report for details.

This analysis highlights Wilmot's strong profitability when compared to the Average Farm. Wilmot significantly outperforms the Average Farm in terms of revenue generated in all years of this analysis. This is a result of the management decisions management decisions, including enterprise choice and a focus on regenerative farming practices.

Overall expenses are generally higher for Wilmot than the Average Farm, some of these expenses represent investment in permanent infrastructure. Despite higher expenses, Wilmot generates much higher revenues, consistently outperforming the Average Farm in profitability. On average, Wilmot is 5.93 times more profitable than the Average Farm over the 8 years analysed in this economic report.

Carbon Trading

This report covers the period from 2012 to 2019, however in 2020 a significant deal was struck with the Microsoft Corporation for the sale of carbon credits. The deal recognises carbon sequestered into pastures between 2017 and 2020 and is valued at $AU500,000. Soil testing has been conducted at Wilmot since 2011 with carbon measurements providing data for the deal. This information has been made publicly available on the Regen Network website at https://www.regen.network/registry/projects/wilmot

Since 2020, soil tests have been undertaken by CarbonLink to a depth of 1m. This testing is intended to allow access to the Australian Government Australian carbon credit unit (ACCU) system. The ACCU system, which is currently under review, was seen as less favourable than overseas opportunities, hence the deal with Microsoft. The recent contract has a 25-year permanence clause, meaning the carbon must stay stored for this period. To offset potential risk of having to refund some of the $500,000, Wilmot has set aside 25% in a special fund.

Conclusion

With a focus on improving productivity and sustainability, and the successful introduction of multiple regenerative practices, Stuart has been able to transform Wilmot into an enterprise that consistently outperforms the Average Farm in terms of profitability. This includes the development of a time controlled rotational grazing system and the introduction of MaiaGrazing Technology.

The introduction of these practices has resulted in:

- **Improvements in the health and quality of the cattle and ecological health of the land.**
- **An increase in the level of cattle production, often exceeding the Average Farm.**
- **24.4 times higher revenue per hectare on average than of the Average Farm, when considered on a rainfall basis**
- **On average, Wilmot has 5.93 times higher profitability and a 50% higher profit margin ratio compared to the Average Farm.**

Overall, Wilmot consistently outperforms the Average Farm in terms of production, revenue, and profitability. While Stuart has higher expenses compared to the Average Farm, it has allowed Wilmot to achieve higher profitability and productivity.