

2020 FAIRHALT CASE STUDY ECONOMICS REPORT

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Introduction

Fairhalt (and adjacent property; Rosedale) is located in Crookwell NSW. The properties are managed by Garry Kadwell and have been in his family for over a century. The primary production on Fairhalt is potatoes – Garry produces an average of 2,000 tonnes of potatoes annually. In particular, Garry produces a combination of seed potatoes (that are grown to be sold to and replanted by large potato growers) and gourmet potatoes (grown to be sold to high end restaurants in Sydney and Canberra).

Other than potatoes, Fairhalt is also a significant prime lamb producer. Garry stocks an average of 1,800 prime lambs each year. Occasionally, Garry will also use his pastures to produce lucerne for silage and fodder production.

Since early on in his ownership of Fairhalt, Garry and his family have strived to ensure regenerative farming practices are effectively implemented on their land. These regenerative practices include:

- Consistent application of compost to maintain soil nutrients
- Reduced tillage of the soil to limit soil damage
- Targeted species (lucerne and other grasses) cropping to improve soil health post potato crops
- Systematic and adjustable crop and pasture rotation to promote soil health and regeneration

These practices ensure the carbon level and nutrients in the soil remain consistent – despite depletion from potato cropping activities. The consistent soil health allows Garry to maintain high production of potatoes year on year.

Please note – in the interests of privacy the data throughout this economic report has been 'de-identified'. That is, the data has been reported so that it does not represent the owner's actual financial position, rather it proportionally highlights the changes of incorporating regenerative farming practices. In particular, we have used an index to proportionally represent the financial figures. 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.

Due to data availability, some years may be missing throughout our analysis.

Report Data Sources:

Industry Benchmarks –
AUSVEG & AGSURF Farm
Survey Data

Financial & Production Data
– Garry Kadwell Financial
Accounts

Seasonal Conditions and
Rainfall Data – Australian
Bureau of Meteorology

Industry Insights –
Published Industry Reports
by:

- Australian Bureau of
Agricultural and
Resource Economics
- Department of
Agriculture
- Department of Primary
Industries
- AUSVEG & AGSURF

Benchmarking

Throughout the analysis for this Economic Report, we have compared the financial and production data to relevant industry benchmarks. This illustrates the success of Fairhalt and Garry's management practices. The benchmark data in this report is referred to as the 'Average Farm'.

The primary benchmark for the Average Farm is a vegetable-growing farm business in New South Wales. The data for the Average Farm is published in ABARES Vegetable Growers Farm Survey Reports.

Please note: oABARES Vegetable Growers Farm Surveys Reports provides an average of all vegetable growers in Australia – not just potato growers. According to AUSVEG, potatoes make up the majority (42%) of vegetables grown in Australia – the next highest is tomatoes (14%). Therefore, we feel it is appropriate to compare Fairhalt's potato enterprise to the ABARES Vegetable Growers Farm Survey averages.

Where appropriate, we have used relevant benchmarks – other than the one described above – as the Average Farm.

Production & Income

Throughout our analysis, we noted that the regenerative practices Garry has implemented on Fairhalt have led to significantly increased production levels when compared to the Average Farm. With increased productivity, the income generated on Fairhalt is also significantly higher than that of the average Farm. In addition, the increased productivity has allowed Garry to deploy a more diversified production mix – leading to a more sustainable enterprise as a whole.

The following sections will illustrate the increased productivity and income on Fairhalt when compared to the Average Farm due to the implementation of Garry's regenerative farming practices.

Diversified Productivity

Fairhalt is first and foremost a potato production enterprise. However, Garry also receives significant income from his Lamb and fodder production activities. Table 1 illustrates the production mix on Fairhalt for each year over the period of 2010 to 2018. Figure 1 illustrates the average production mix for 2010-2018.

Production	Percent of Revenue									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Year										
Potato Sales	46%	57%	76%	67%	63%	78%	73%	82%	53%	
Gross Profit from Livestock	44%	36%	19%	21%	28%	11%	13%	5%	13%	
Hay & Fodder	11%	7%	5%	12%	9%	7%	10%	9%	28%	
Wool	-	-	-	-	-	4%	4%	4%	6%	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Table 1 Production Mix (2010-2018)

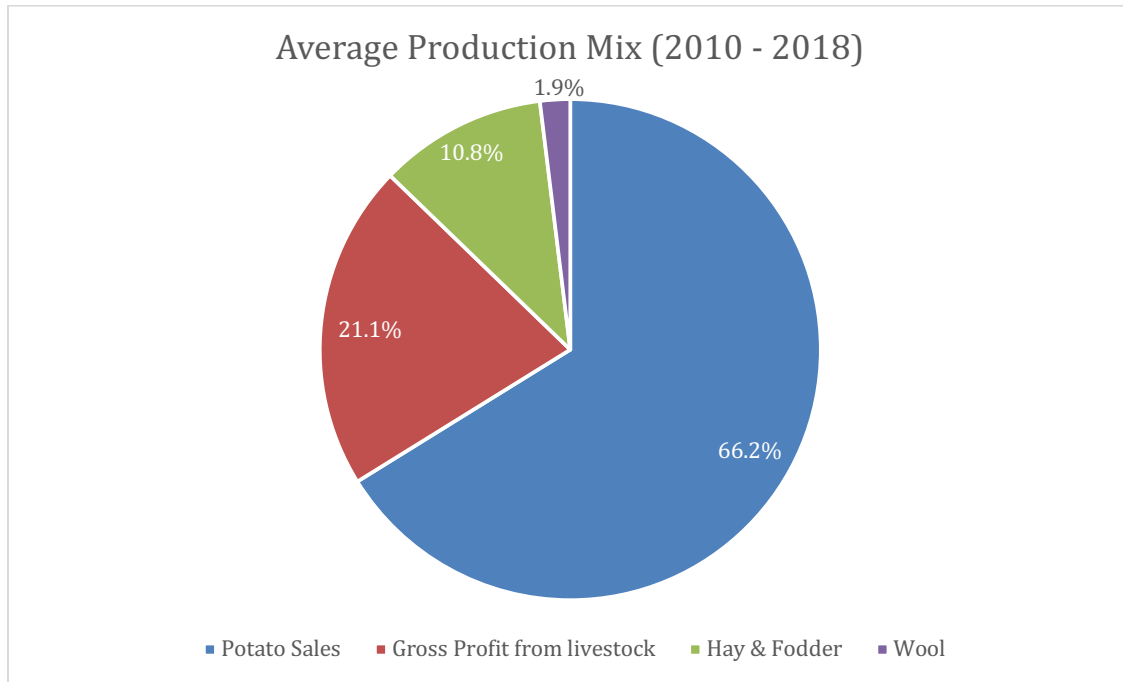


Figure 1 Average Production Mix (2010-2018)

The sale of potatoes is clearly the primary source of production on Fairhalt. However, there is still significant production from diversified sources each year. In particular, livestock (predominately lambs) and hay and fodder production.

The consistent soil health that Garry has been able to maintain through regenerative farming practices, allows him to diversify production on Fairhalt. In particular, Garry's rotational cropping practices enables full utilisation of the available productive land capacity throughout the year.

Following the potato harvest in a particular paddock, Garry will crop lucerne and (later) other grasses. This repairs the soil health after potatoes have been cropped. The lucerne and grasses grown in this process are used to feed lambs with excess being harvested and sold as fodder and silage. The rotational cropping system is adjusted based on the requirements of each paddock to regenerate soil health. For example, the rotation cycle for a paddock could be anywhere from 5 years to 15 years – as needed – in between crops.

In this process, there are significant amounts of fodder (particularly lucerne hay) that are grown and stored. The excess fodder is stored and sold in favourable market conditions – for example; drought. The effects of this practice can be seen in Table 1 – the percent of revenue for fodder significantly increases to 28% during the 2018 drought.

In this rotational cropping system, the productivity of the land is always being utilised. The length of time when pastures are being repaired after harvesting potatoes (or 'downtime') is effectively used to produce fodder and livestock that provide an additional source of revenue for Fairhalt.

Diversity in production allows a farming enterprise to be less susceptible to both market and seasonal fluctuations. For example, if significant market or seasonal fluctuations (e.g. fall in market price or poor rainfall) occur that limit the profitability or productivity of farming potatoes, falls in revenue could be supplemented by other income sources (lambs and hay/fodder). This means more consistent and stable revenue year on year.

Potato Production

Figure 2 illustrates the tonnes of potatoes produced per hectare for Fairhalt and the Average Farm. As can be seen, Fairhalt produces significantly higher tonnes per hectare of potatoes than the Average Farm in all years since 2010.

The overall production levels for both Fairhalt and the Average Farm have increased since 2010 (as noted by the trendline). However, the growth in production is happening more rapidly for Fairhalt when compared to the Average Farm.

The significantly increased productivity is due Garry's regenerative farming practices. Garry ensures that there are high levels of nutrients and carbon in the soils, therefore he is able to boost productivity levels. By maintaining this soil health each year, Garry is able to consistently achieve productivity levels well above that of the Average Farm.

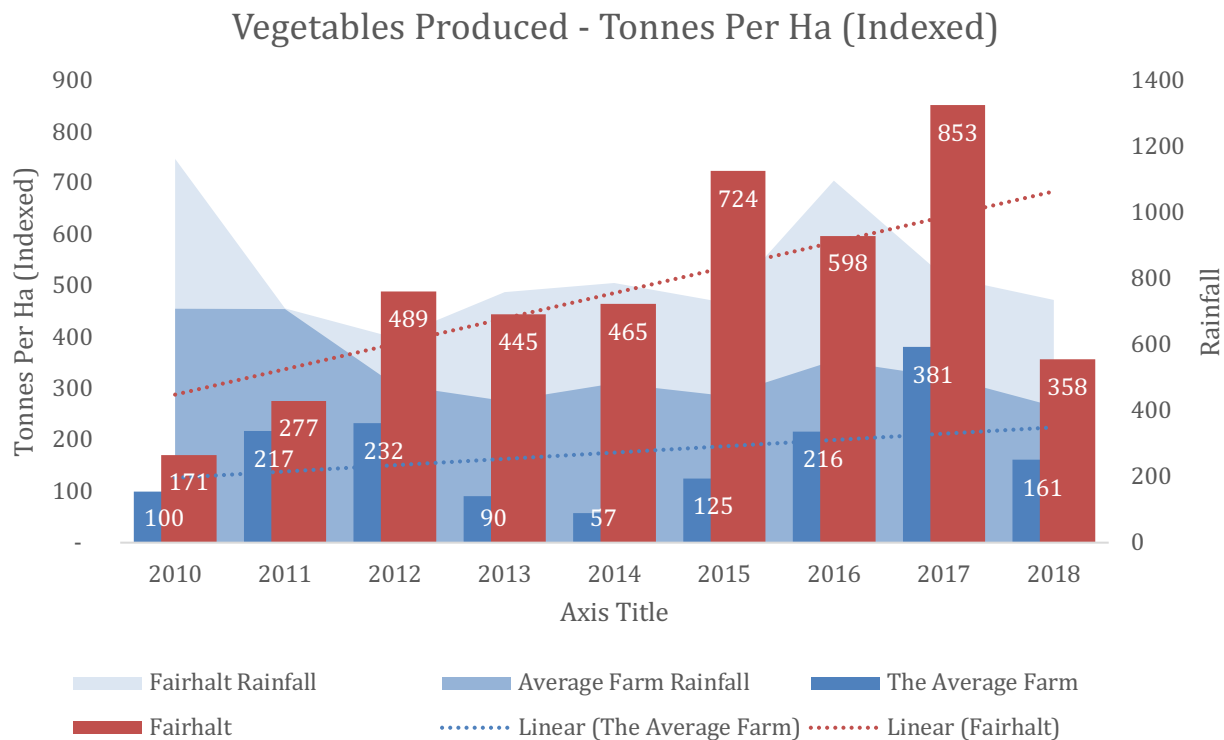


Figure 2 Vegetables Produced – Tonnes Per Ha (Indexed)

Data Insights:

- In 2017, Garry increased the area sown for the potato crops. This resulted in significantly more potatoes being produced in this year.

Lamb Sales

Lamb sales are a significant source of supplementary income on Fairhalt. As noted previously, diversified production allows Garry to maintain more consistent revenue each year. Due to Fairhalt's success in consistently producing lambs for sale, this income source is able to be relied upon as a supplementary revenue source going forward. Figure 3 illustrates the lamb gross margin of Fairhalt compared to the Average Farm. Gross margin is a measure of total sales minus the cost of goods sold. In the case for Figure 3, lambs gross margin is simply the profit on lamb sales.

From 2010 to 2014, Fairhalt is generating a consistently higher gross margin compared to the Average Farm. Since 2015, the gross margin for lambs produced on Fairhalt has been consistent with the Average Farm.

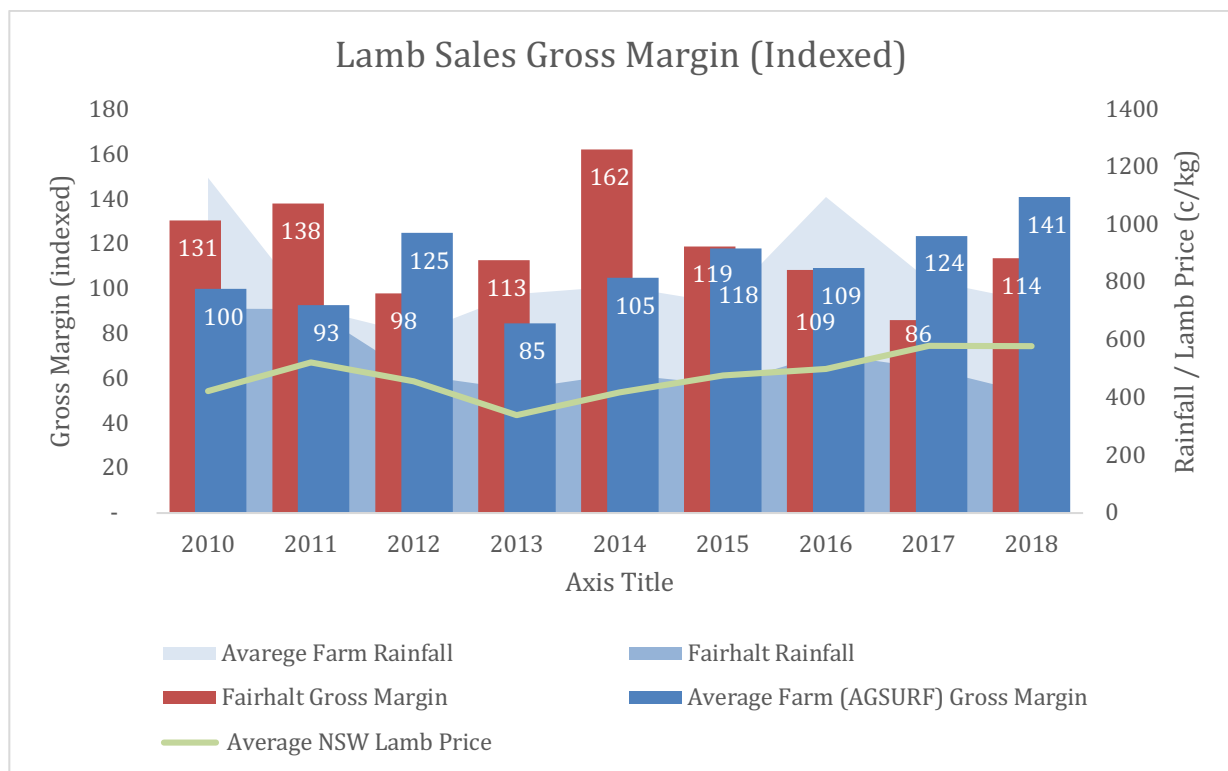


Figure 3 Lamb Sales Gross Margin (Indexed)

Data Insights:

- Garry sells a consistent number of lambs each year – despite market conditions and price fluctuations. Therefore, the main drivers that cause changes in gross margin for Fairhalt are the market price of lambs and the price of input costs. The gross margin for 2010 -2013 are consistent with the fluctuations in the MLA Average Sheep price (c/kg).
- In later years (2014- 2015) the lambs gross margin for Fairhalt varies when compared to the MLA Average Sheep price. As gross margin is the net of revenue minus costs of goods sold (i.e. purchases), the primary cause for the variation is due to changes in costs of goods sold in these years.

Expenses

Despite Garry's investment in pasture management and soil health maintenance every year, expenses on Fairhalt are still significantly lower than the Average Farm. The cost of implementing regenerative farming practices may be a major concern for farmers that are yet to do so. However, the comparison of Fairhalt's and the Average Farm's key expenses (explored below) shows that the costs of regenerative farming is not as high as some farmers may expect.

Pasture Expenses

'Pasture Expenses' are those that are necessary to maintain the soil and pasture health in a farming enterprise. In this analysis, we have considered the following expenses as 'Pasture Expenses' and compared them to that of the Average Farm:

- Crop and Pasture Chemicals
- Fertilisers
- Fodder & Supplements
- Seed

Please note – Pasture improvement expenses that have been incurred by Fairhalt and the Average Farm have not been included in this analysis.

Pasture Expenses in Figure 4 are shown on a per hectare basis so that different sized farms can be compared effectively. In Figure 4 the Average Farm includes the average Pasture Expenses for vegetable growers in NSW and Australia.

As can be seen, the Pasture Expenses for Fairhalt are significantly lower than the average for NSW and Australia. Furthermore, Pasture Expenses are consistent on Fairhalt (except for 2017) across the 4 years analysed. Conversely, the average Pasture Expenses for NSW and Australia have grown significantly in the years of this analysis.

Since 1998, Garry has not used synthetic fertilisers on Fairhalt. This significantly reduces the cost of yearly pasture expenses. Instead, organic compost is used to provide nutrients to crops and soil. Typically, the application of organic fertilisers has an added bonus of improving soil biology and increasing organic matter. Over time this has improved the soil condition on Fairhalt leading to higher production.

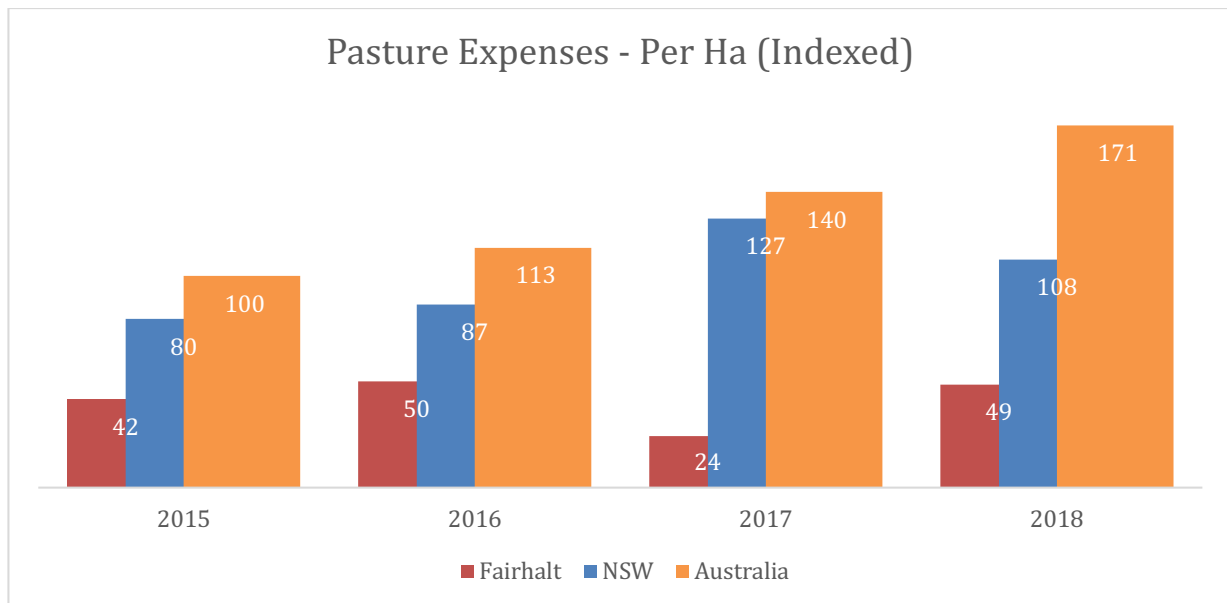


Figure 4 Pasture Expenses - Per Ha (Indexed)

Data Insights:

- Pasture Expenses for Fairhalt fell significantly in 2017 due to a large reduction in natural fertiliser purchased in this year. The amount of natural fertiliser purchased in 2018 returned to the usual level.

Farm Overhead Expenses

Overhead expenses are the expenses that are necessarily incurred by an enterprise but not directly related to sales or production. In this analysis, we have considered the following expenses for Fairhalt and the Average Farm as 'Overhead Expenses':

- Repairs and Maintenance
- Fuel, Oil & Grease
- Electricity & Gas

Figure 5 illustrates the Overhead Expenses for Fairhalt and the Average Farm. As can be seen in Figure 5, Fairhalt has significantly lower Overhead Expenses for all years except 2018. On average, Fairhalt's indexed Overhead Expenses per Ha are \$62. The average indexed Overhead Expenses per Ha for the average farm is \$91.

Typically, Fairhalt's expenses are lower than the Average farm. We noted that the primary reason for reduced overhead cost was a focus on 'insourcing' – wherever possible. Examples of this include; in-house repairs and maintenance, pasture maintenance (applying compost), farm improvements (fencing and earthworks) and so on. By limiting the amount of services required from external sources, there is an overall reduction in running costs to maintain the enterprise.

However, this does lead to increased labour time spent from Garry and his family. There will also be increased wear and tear on machinery and equipment due to increased usage.

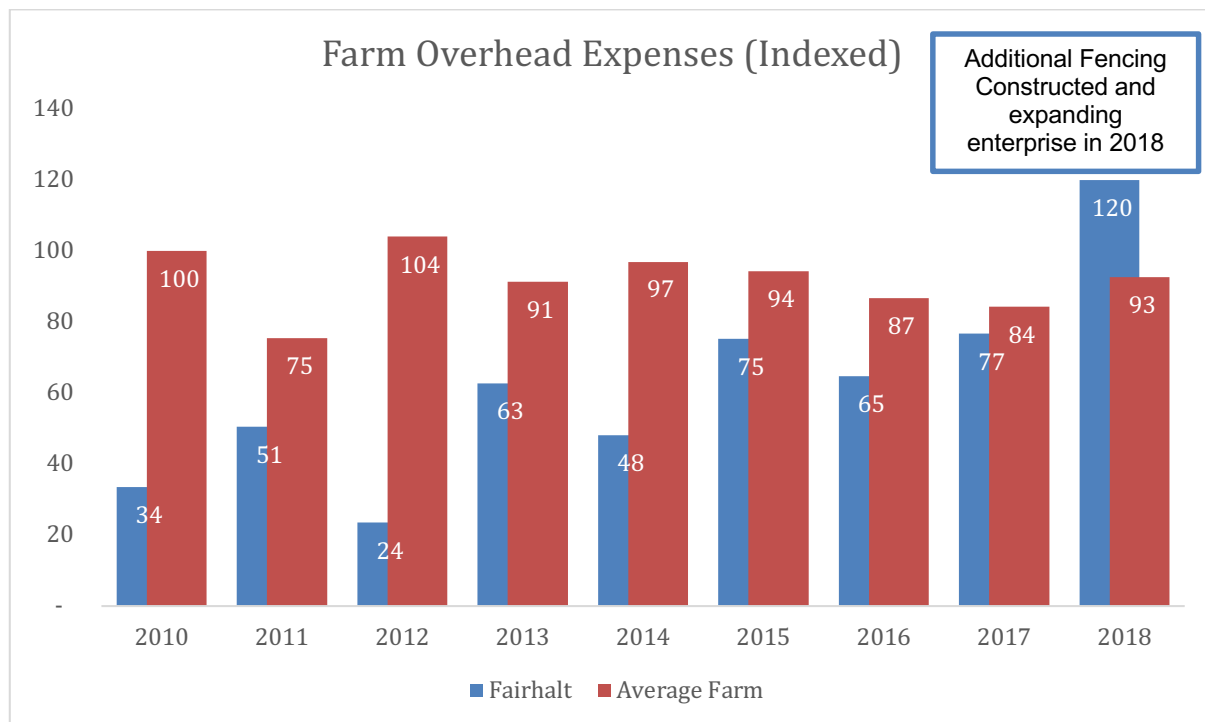


Figure 5 Farm Overhead Expenses (Indexed)

Data Insights:

- Fairhalt's Overhead Expenses fell significantly in 2012. This is due to a reduction in Repairs & Maintenance expenses.
- Since 2015, Fairhalt's Overhead Expenses have increased. This is due to an increase in Fuel & Oil expenses since 2015.
- Overhead Expenses increased significantly for Fairhalt in 2018. This is due to an expansion of Fairhalt by 1,000 acres. As a result of this expansion, Garry undertook significant repairs and upgrades to the fencing on the new section of Fairhalt.