



---

# Sheep and Beef On-farm Inflation

2017-18



# SHEEP AND BEEF ON-FARM INFLATION 2017-18

---

Paper No. P18014 | ISSN 2230-5777 | May 2018

1. On-farm inflation .....	1
2. Annual changes in farm input prices .....	3
3. Underlying on-farm inflation .....	5
4. Methodology and sources.....	6
5. Appendices .....	7

The sheep and beef on-farm inflation report indicates the annual changes in farm input prices and not the annual changes in total farm expenditure. On-farm inflation is different to total farm expenditure, which also takes into account the volume of inputs used on farm.

## 1. On-farm inflation

### On-farm inflation +2.0% in 2018

Prices for sheep and beef farm inputs increased 2.0 per cent between March 2017 and March 2018. This compares with a 0.2 per cent decrease in the previous 12-month period. Of the 16 categories of inputs, prices increased for all except fertiliser, lime and seeds. The greatest increase of input price was for fuel, followed by prices for insurance and electricity.

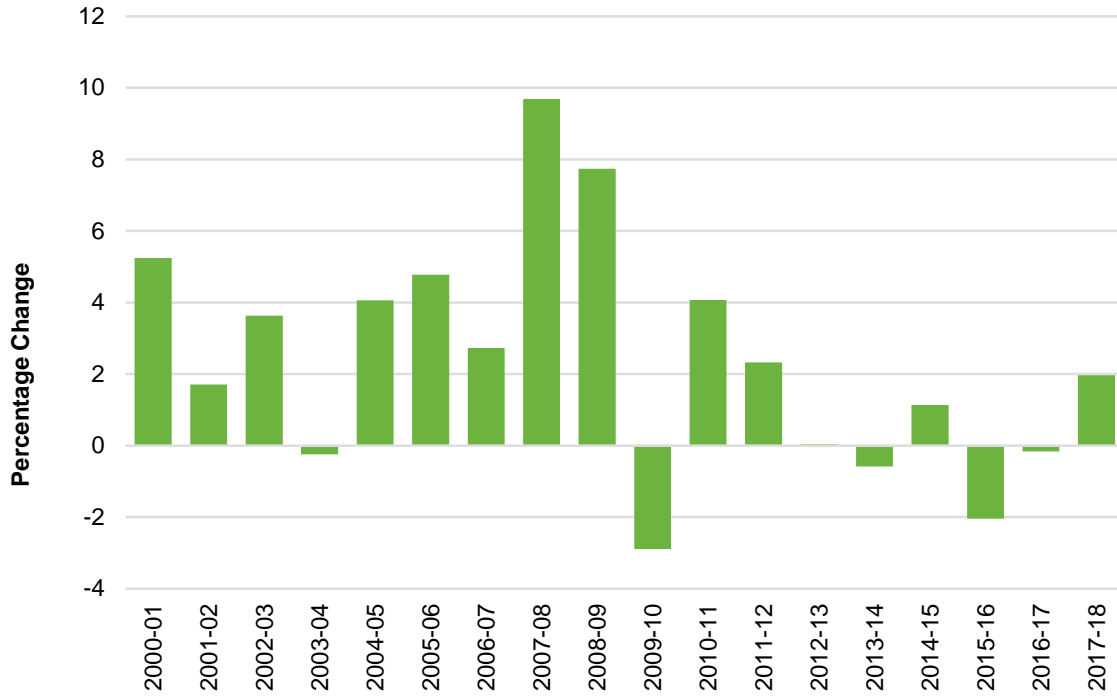
### On-farm inflation +0.3% in 5 years +12% in 10 years

Prices for sheep and beef farm inputs were up 0.3 per cent over the last five years, and up 12 per cent over the last 10 years.

### On-farm inflation exceeded consumer price inflation in 2018

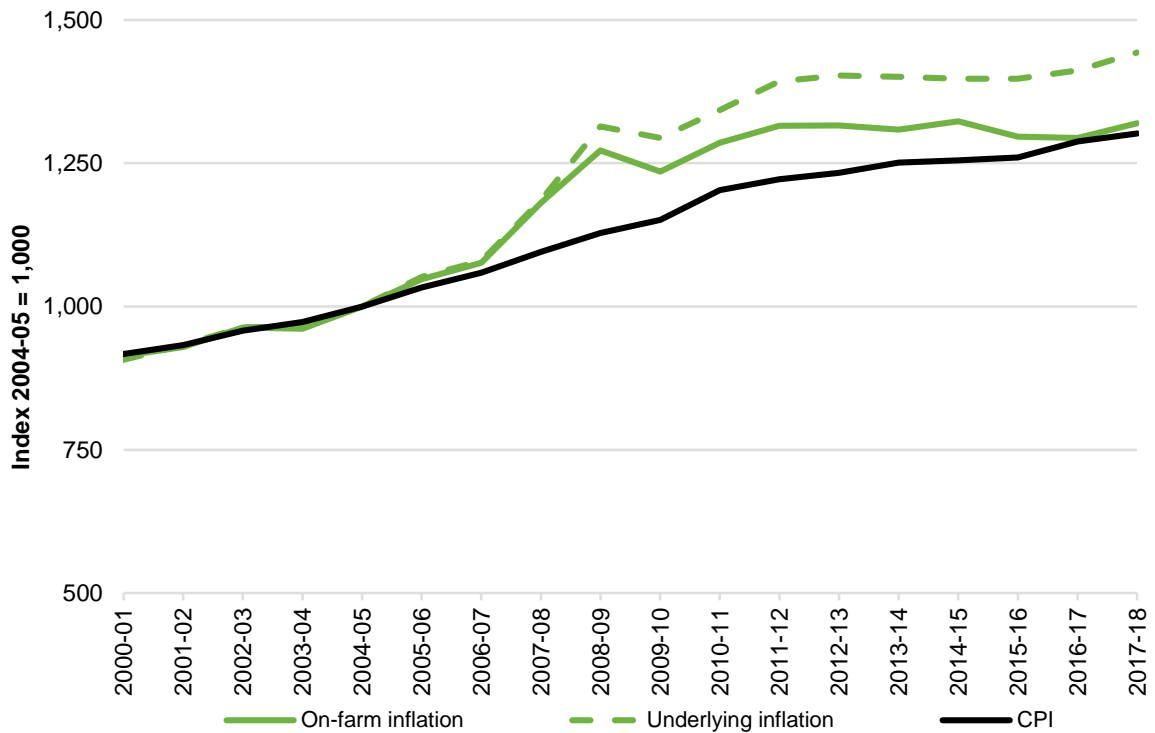
In comparison, consumer prices increased 1.1 per cent between March 2017 and March 2018. Over the last five years, consumer price inflation was 5.6 per cent, which is 5.3 percentage points higher than on-farm inflation, and consumer price inflation was 7.1 percentage points higher than on-farm inflation over the last 10 years.

**Figure 1: Sheep and Beef On-Farm Inflation**



Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

**Figure 2: Sheep and Beef On-Farm Inflation and CPI**



Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

## 2. Annual changes in farm input prices

### Fertiliser, lime and seeds -0.6%

Between March 2017 and March 2018, the overall price for fertiliser, lime and seeds decreased 0.6 per cent compared to a 3.8 per cent decrease reported for the previous 12-month period.

### Interest +0.5%

The overall price of interest on debt increased 0.5 per cent between March 2017 and March 2018. This follows a 7.5 per cent decrease for the previous year. Note that this is not the change in interest rates, but the percentage change in the price paid for interest.

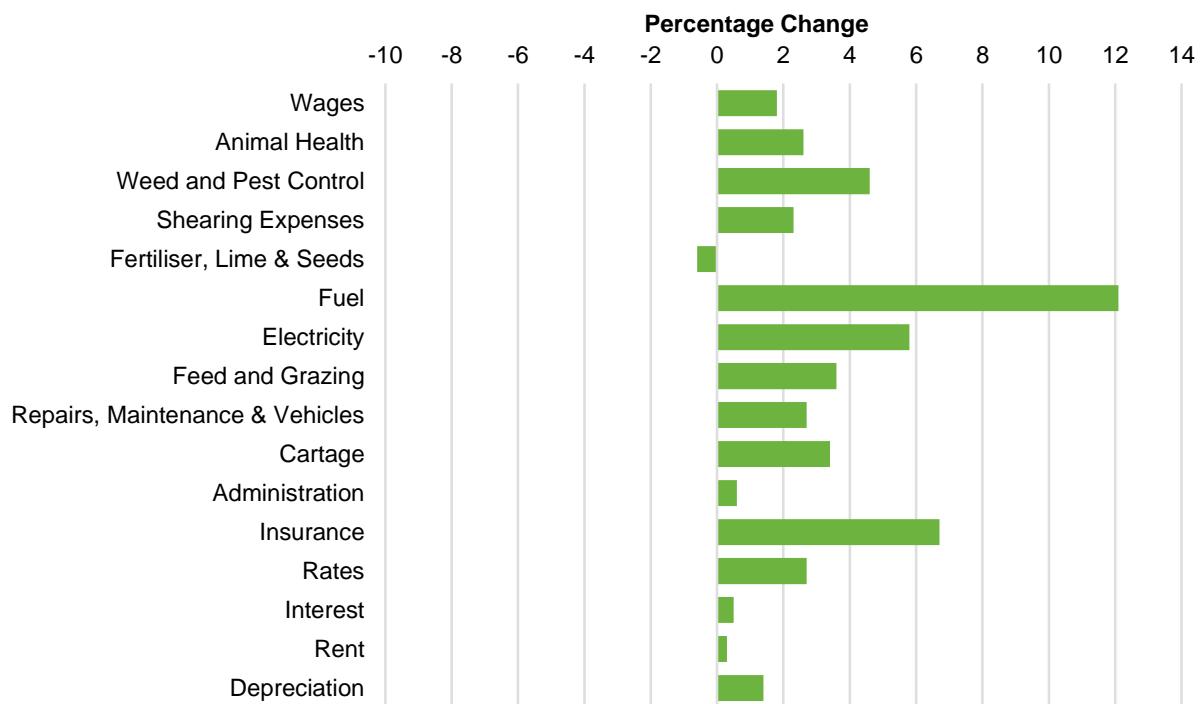
### Repairs, maintenance & vehicles +2.7%

Between March 2017 and March 2018, the overall price for repairs, maintenance and vehicles increased 2.7 per cent compared to a 3.5 per cent increase reported for the previous 12-month period.

### Fuel +12%

The price of fuel increased 12 per cent in the year to March 2018, reflecting the rise in international oil prices. This follows a 19 per cent increase for the previous year. These two years of strong fuel price increases follow four years of price decreases.

Figure 3: Sheep and Beef Farm Input Price Changes - March 2017 to March 2018



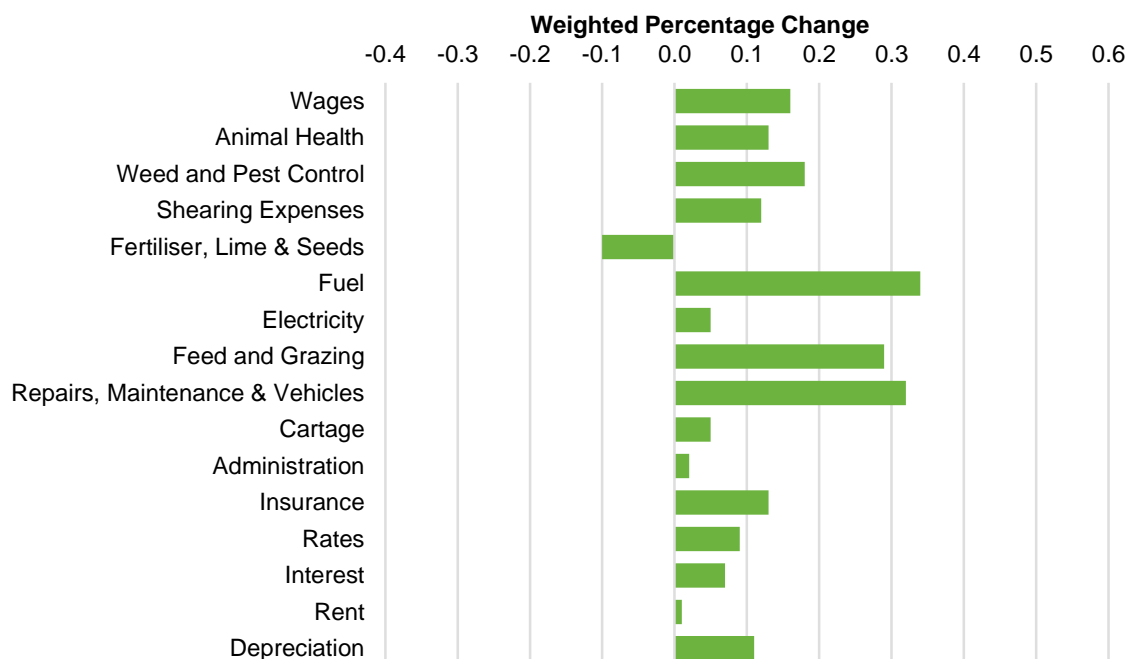
Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

The major items of expenditure are fertiliser, lime and seeds; interest; and repairs, maintenance and vehicles. Together they account for approximately 43 per cent of total farm expenditure but their combined price change was up 0.3 per cent.

Figure 3 shows the change in price of each input while Figure 4 shows the change in price of each input weighted by its proportion of total farm expenditure.

The prices of fuel, insurance and electricity showed the greatest annual changes, however, their weighting on overall on-farm inflation is low because combined they are less than six per cent of farm expenditure. A time-series of the percentage weights of expenditure items is shown in Appendix 4.

**Figure 4: Sheep and Beef Farm Weighted Input Price Changes - March 2017 to March 2018**



Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

**Table 1: Changes in Sheep and Beef Farm Input Prices**

<b>Sheep and Beef Farm Input Price Movements March 2017 to March 2018</b>			
<b>Categories of Expenditure</b>	<b>Percentage Change</b>	<b>Percentage Weight<sup>1</sup></b>	<b>Weighted Percentage Change<sup>2</sup></b>
	<b>Col 1</b>	<b>Col 2</b>	<b>Col 3</b>
Wages	+1.8	9.0	+0.16
Animal Health	+2.6	5.1	+0.13
Weed and Pest Control	+4.6	3.9	+0.18
Shearing Expenses	+2.3	5.0	+0.12
Fertiliser, Lime & Seeds	-0.6	17.0	-0.10
Fuel	+12.1	2.8	+0.34
Electricity	+5.8	0.9	+0.05
Feed and Grazing	+3.6	8.0	+0.29
Repairs, Maintenance & Vehicles	+2.7	12.0	+0.32
Cartage	+3.4	1.6	+0.05
Administration	+0.6	3.7	+0.02
Insurance	+6.7	2.0	+0.13
Rates	+2.7	3.2	+0.09
Interest	+0.5	14.2	+0.07
Rent	+0.3	3.6	+0.01
Depreciation	+1.4	8.0	+0.11
<b>TOTAL</b>		<b>100.0</b>	<b>+1.97</b>

Notes:

1. Average three-year pattern of expenditure for Sheep and Beef Farms (2014-15 to 2016-17p)
2. Col.(3) equals Col.(1) multiplied by Col.(2) divided by 100.  
The result is rounded to two decimal places, e.g.  
Wages  $1.8 \times 9 / 100 = 16.2 / 100 = 0.16$

Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

### 3. Underlying on-farm inflation

#### Underlying on-farm inflation +2.2%

When excluding interest from the calculation of the change in sheep and beef farm input prices, underlying on-farm inflation was 2.2 per cent in the year to March 2018, greater than in the previous year when it was +1.1 per cent.

Table 2 compares on-farm inflation with underlying on-farm inflation for the past 20 years. Underlying on-farm inflation increased for the second year after four years of relatively little movement.

**Table 2: Sheep and Beef On-Farm Inflation**

Year	On-farm inflation (including Interest)		Underlying on-farm inflation (excluding Interest)	
	Percentage Change	Index <sup>1</sup>	Percentage Change	Index <sup>1</sup>
1998-99	-2.0	845	+0.9	844
1999-00	+2.8	868	+1.4	856
2000-01	+5.2	914	+6.0	907
2001-02	+1.7	930	+2.8	933
2002-03	+3.6	963	+3.4	964
2003-04	-0.2	961	+0.0	965
2004-05	+4.1	1,000	+3.7	1,000
2005-06	+4.8	1,048	+5.2	1,052
2006-07	+2.7	1,076	+2.7	1,080
2007-08	+9.7	1,181	+9.8	1,185
2008-09	+7.7	1,272	+10.9	1,314
2009-10	-2.9	1,235	-1.5	1,294
2010-11	+4.1	1,286	+3.8	1,343
2011-12	+2.3	1,315	+3.8	1,393
2012-13	+0.0	1,316	+0.7	1,403
2013-14	-0.6	1,308	-0.2	1,401
2014-15	+1.1	1,323	-0.3	1,397
2015-16	-2.0	1,296	0.0	1,397
2016-17	-0.2	1,294	+1.1	1,412
2017-18	+2.0	1,320	+2.2	1,443
<b>10 years to 2017-18</b>				
		<b>+11.8</b>	<b>+21.8</b>	
<b>5 years to 2017-18</b>				
		<b>+0.3</b>	<b>+2.9</b>	
<b>3 years to 2017-18</b>				
		<b>-0.3</b>	<b>+3.3</b>	
<b>2 years to 2017-18</b>				
		<b>+1.8</b>	<b>+3.3</b>	

Note: 1 Index 2004-05 = 1000.

Source: Beef + Lamb New Zealand Economic Service

## 4. Methodology and sources

The objective in this analysis is to isolate the price changes for the various input categories. An inflation rate (or overall price change) is then derived by weighting the price change for each individual category by its proportion of total farm expenditure. These proportions are based on a three-year moving average.

GST is excluded from the calculation of farm input price changes because this tax is recovered from farm expenditure.

This publication relies heavily on Statistics New Zealand (SNZ) Sheep and Beef Farm Expenses Price Index (FEPI) data. The March quarter data is published by SNZ in May. The SNZ data is published online at [www.stats.govt.nz](http://www.stats.govt.nz) and is provided under the category "Business Price Indexes" (BPI) as downloadable tables.

Beef + Lamb New Zealand Economic Service Sheep and Beef Farm input prices differ from the SNZ data in three areas:

1. Interest charges are calculated independently to take account of both overdraft and mortgage interest rates, including fixed term interest, and are weighted using Beef + Lamb New Zealand Economic Service Sheep and Beef Farm Survey All Classes data.
2. Depreciation is included to measure the price changes for capital replacement. This item correctly lines up the input prices paid index with the on-farm expenditure reported by the Beef + Lamb New Zealand Economic Service Sheep and Beef Farm Survey for All Classes.
3. A three-year moving average of actual on-farm expenditure from the Sheep and Beef Farm Survey is used to weight individual categories to the single overall percentage price change for the year.

### Disclaimer

© 2018 Beef + Lamb New Zealand Limited also referred to as B+LNZ, B+LNZ - Economic Service and the Economic Service.

All rights reserved. This work is covered by copyright and may not be stored, reproduced or copied without the prior written permission of Beef + Lamb New Zealand Limited.

Beef + Lamb New Zealand Limited, its employees and Directors shall not be liable for any loss or damage sustained by any person relying on the forecasts contained in this document, whatever the cause of such loss or damage.

Beef + Lamb New Zealand  
PO Box 121  
Wellington 6140  
New Zealand

Phone +64 (4) 473 9150

E-mail [econ@beeflambnz.com](mailto:econ@beeflambnz.com)

Contact: Andrew Burt, Chief Economist +64 (27) 652 9543

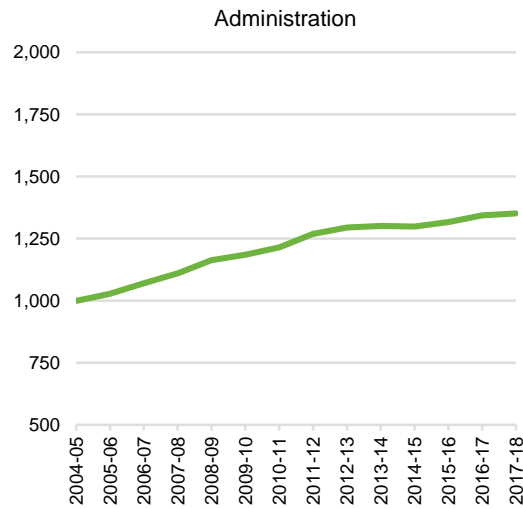
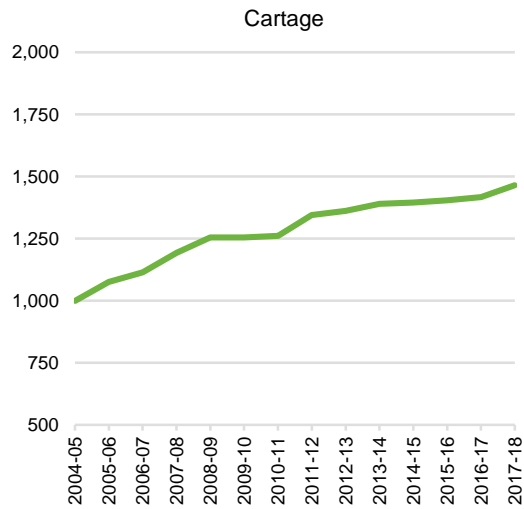
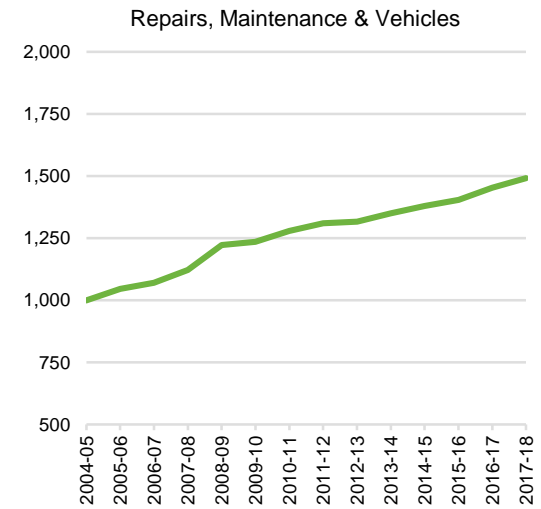
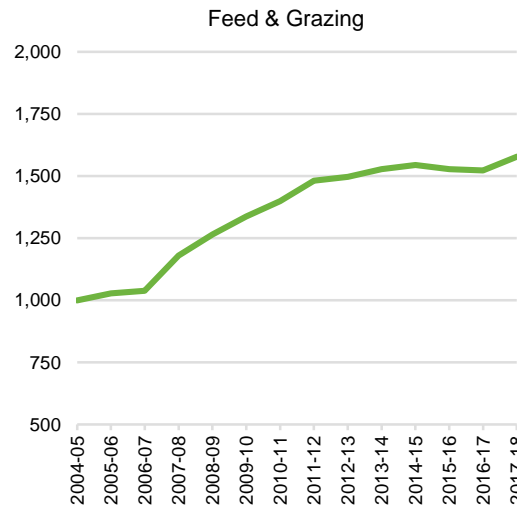
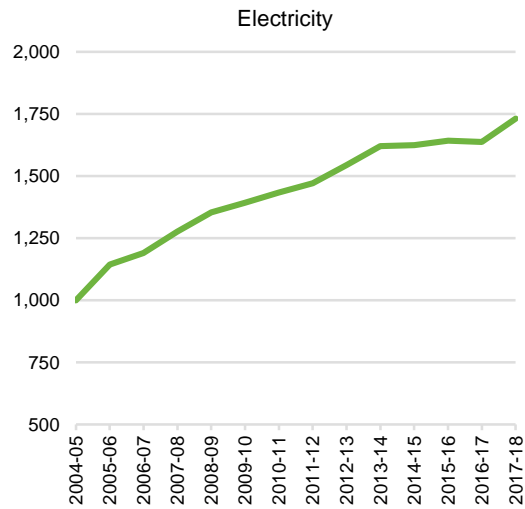
## 5. Appendices

### Appendix 1

### Cumulative On-Farm Inflation Indexes - Farm Working Expenses (2004-05 = 1000)

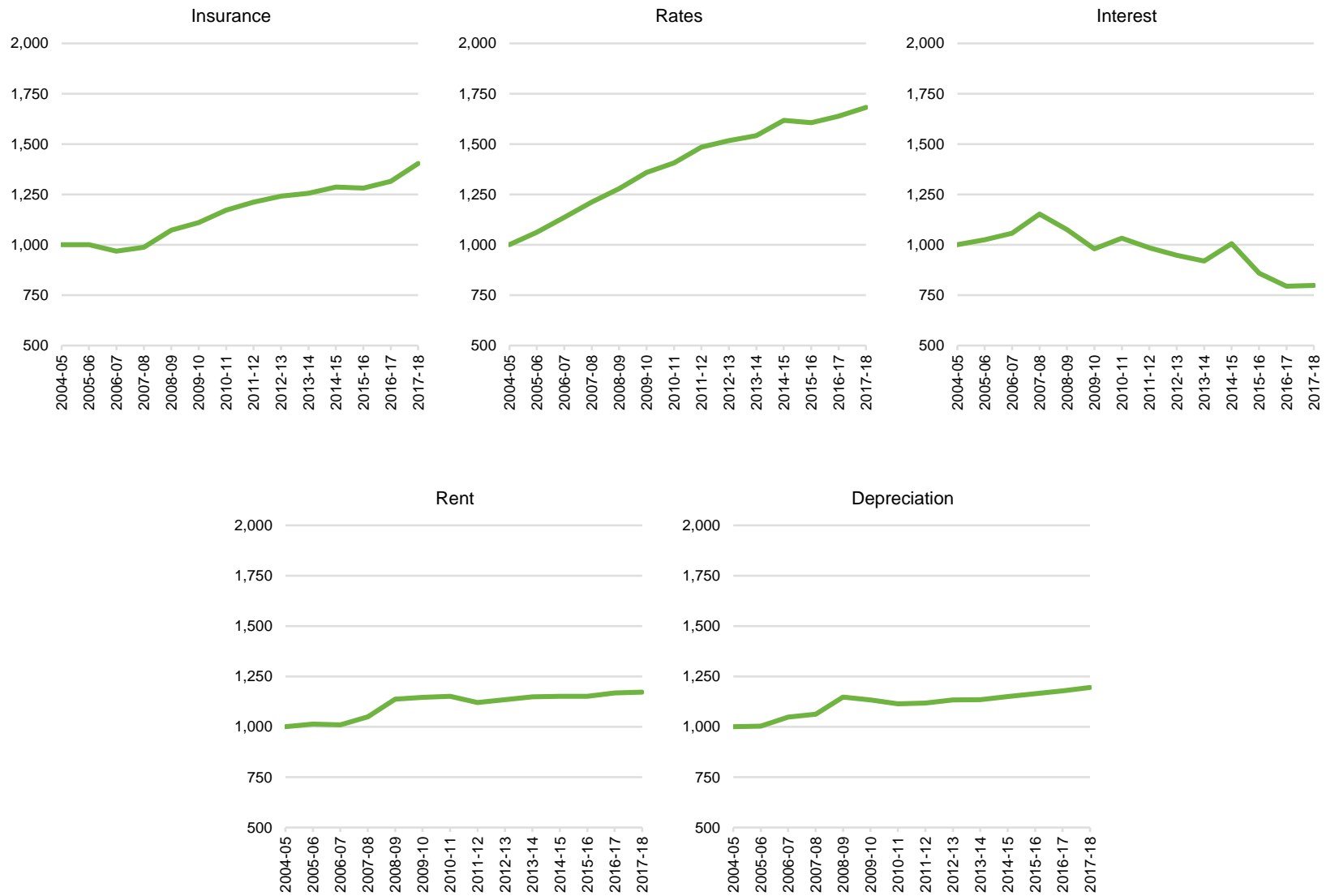






## Appendix 2

### Cumulative On-Farm Inflation Indexes – Standing Charges and Depreciation (2004-05 = 1000)



## Appendix 3

### ANNUAL PERCENTAGE CHANGES IN SHEEP AND BEEF FARM INPUT PRICES March Quarter Prices

FARM EXPENDITURE	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Wages	+2.3	+0.9	+1.2	+2.5	+1.6	+1.8	+2.0	+1.2	+1.3	+1.8
Animal Health	+2.8	+2.0	+4.8	+4.3	+3.0	+2.4	+2.0	+0.3	+1.9	+2.6
Weed & Pest Control	+5.8	-5.2	+1.7	+0.1	-1.1	-0.1	-0.6	-0.9	-1.1	+4.6
Shearing Expenses	+14.7	+0.8	+2.1	+3.2	+1.7	+1.1	+1.8	+0.3	+1.3	+2.3
Fertiliser, Lime & Seeds	+33.8	-16.1	+7.5	+7.0	-1.1	-6.1	-2.3	+0.6	-3.8	-0.6
Fuel	-14.2	+9.6	+14.1	+5.4	-2.0	-2.0	-21.7	-12.7	+18.8	+12.1
Electricity	+6.1	+2.8	+3.0	+2.6	+5.0	+4.9	+0.2	+1.1	-0.3	+5.8
Feed & Grazing	+7.2	+5.7	+4.6	+5.9	+1.0	+2.1	+1.1	-1.1	-0.3	+3.6
Repairs, Maintenance & Vehicles	+8.9	+1.1	+3.5	+2.4	+0.5	+2.6	+2.2	+1.7	+3.5	+2.7
Cartage	+5.2	+0.0	+0.5	+6.6	+1.3	+2.1	+0.3	+0.7	+0.9	+3.4
Administration	+4.8	+1.9	+2.5	+4.4	+2.1	+0.5	-0.2	+1.4	+2.0	+0.6
Insurance	+8.7	+3.4	+5.6	+3.4	+2.4	+1.2	+2.4	-0.4	+2.7	+6.7
Rates	+5.6	+6.2	+3.5	+5.6	+2.2	+1.6	+4.9	-0.7	+2.0	+2.7
Interest	-6.7	-8.8	+5.4	-4.6	-3.9	-3.0	+9.4	-14.5	-7.5	+0.5
Rent	+8.3	+0.8	+0.5	-2.7	+1.3	+1.2	+0.2	+0.0	+1.5	+0.3
Depreciation	+8.1	-1.3	-1.7	+0.3	+1.4	+0.1	+1.4	+1.3	+1.2	+1.4
<b>On-Farm Inflation (including Interest)</b>	<b>+7.7</b>	<b>-2.9</b>	<b>+4.1</b>	<b>+2.3</b>	<b>+0.0</b>	<b>-0.6</b>	<b>+1.1</b>	<b>-2.1</b>	<b>-0.2</b>	<b>+2.0</b>
<b>Underlying On-Farm Inflation (excluding Interest)</b>	<b>+10.9</b>	<b>-1.5</b>	<b>+3.8</b>	<b>+3.8</b>	<b>+0.7</b>	<b>-0.2</b>	<b>-0.3</b>	<b>+0.0</b>	<b>+1.1</b>	<b>+2.2</b>
Consumer Price Index (CPI)	+3.0	+2.0	+4.5	+1.6	+0.9	+1.5	+0.3	+0.4	+2.2	+1.1

Source: Beef + Lamb New Zealand Economic Service | Statistics New Zealand

## Appendix 4

### PERCENTAGE ALLOCATION OF SHEEP & BEEF FARM EXPENDITURE (JUNE YEAR)

FARM EXPENDITURE	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Wages	9.2	8.6	8.5	8.5	8.9	9.0	9.0	8.9	8.8	9.0
Animal Health	5.3	5.0	4.8	4.7	4.9	5.1	5.1	5.2	5.1	5.1
Weed & Pest Control	3.0	3.1	3.2	3.4	3.5	3.5	3.7	3.6	3.8	3.9
Shearing Expenses	6.5	5.9	5.6	5.4	5.4	5.4	5.4	5.3	5.2	5.0
Fertiliser, Lime & Seeds	14.6	15.0	15.7	16.5	17.5	17.6	17.4	17.2	17.2	17.0
Fuel	3.5	3.6	3.6	3.6	3.6	3.8	3.8	3.5	3.1	2.8
Electricity	1.2	1.0	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.9
Feed & Grazing	6.7	7.0	7.2	7.3	7.6	7.8	8.0	8.0	8.2	8.0
Repairs, Maintenance & Vehicles	10.6	10.2	10.3	10.9	11.6	11.7	11.9	11.8	11.9	12.0
Cartage	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6
Administration	3.6	3.6	3.5	3.5	3.6	3.6	3.6	3.6	3.7	3.7
<b>Sub-Total Working Expenses</b>	<b>66.1</b>	<b>64.9</b>	<b>65.2</b>	<b>66.6</b>	<b>69.3</b>	<b>70.2</b>	<b>70.6</b>	<b>69.8</b>	<b>69.6</b>	<b>69.0</b>
Insurance	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.0
Rates	3.0	3.0	3.1	3.1	3.1	3.0	3.0	3.1	3.1	3.2
Interest	17.8	18.8	18.3	16.9	15.1	14.5	14.2	14.3	14.2	14.2
Rent	2.6	3.0	3.1	3.1	2.9	2.9	3.0	3.3	3.5	3.6
<b>Sub-Total Standing Charges</b>	<b>24.8</b>	<b>26.3</b>	<b>26.1</b>	<b>24.8</b>	<b>22.9</b>	<b>22.3</b>	<b>22.1</b>	<b>22.7</b>	<b>22.8</b>	<b>23.0</b>
<b>TOTAL CASH EXPENDITURE</b>	<b>90.9</b>	<b>91.2</b>	<b>91.3</b>	<b>91.4</b>	<b>92.2</b>	<b>92.5</b>	<b>92.7</b>	<b>92.5</b>	<b>92.4</b>	<b>92.0</b>
Depreciation	9.1	8.8	8.7	8.6	7.8	7.5	7.3	7.5	7.6	8.0
<b>TOTAL FARM EXPENDITURE</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Beef + Lamb New Zealand Economic Service

