



Farm Business Survey

2017-18

Lowland Grazing Livestock Production in England



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ISBN: 978-0-9563210-9-1

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Acknowledgements

Rural Business Research thanks sincerely all the farmers who have voluntarily provided records and information on which the annual Farm Business Survey, and this report, is based.

The basic information on which this report is based was collected on behalf of, and largely financed by, the Department for Environment, Food and Rural Affairs and is Crown Copyright.

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Foreword to the First Series

This report is one of a series being produced based on the results of the Farm Business Survey (FBS) for England. The annual Farm Business Survey is the most comprehensive and independent survey of farm incomes and provides a definitive data source on the economic and physical performance of farm businesses in England. It is conducted by a Consortium comprising the Universities of Cambridge, Newcastle upon Tyne, Nottingham and Reading, and Askham Bryan, Duchy and Imperial Colleges. The Consortium is led by the University of Nottingham and its members work in partnership, using uniform and standard practices in reporting on their findings to ensure consistent data quality, accuracy and validity. The Survey is financed by Defra and the Consortium values greatly the input of their staff.

These detailed reports for various farm types and enterprises are in addition to the comprehensive Farm Business Survey Reports for Government Office Regions published at www.farmbusinesssurvey.co.uk. The Consortium is seeking by these additional reports to ensure that timely and relevant information is available to farmers, consultants, advisers and other organisations and individuals interested in farming and land management. The analysis and publication of these reports uses data from farm businesses across England, with an individual member of the Consortium undertaking the research analysis. In line with the ethos of the Consortium, these reports present results in such a way as to ensure a significant element of continuity and consistency from one report to the other, whilst also ensuring that each report captures the contemporary issues of relevance to the sector of agriculture in England to which it relates.

We believe these reports will make a valuable and useful contribution to the farming industry and we commend them to you.

Prof. Martin Seabrook

(Chief Executive of the Consortium)

Spring 2007

Foreword to the Thirteenth Series

This series of reports on the economics of agriculture and horticulture in England from *Rural Business Research (RBR)* represents the thirteenth series of outputs that focus on providing independent data and analysis to the individual sectors of agriculture and horticulture. As the UK edges closer to an outcome following the EU referendum in June 2016, much uncertainty remains in the sector, the UK and across the EU. At the time of writing the political landscape remains uncertain with the three main outcomes still being possible: i) UK departure from the EU with a deal; ii) UK departure from the EU with no deal; iii) a delay in the UK's departure or a 'no Brexit' outcome. On the assumption that the UK will leave the EU, and that a new UK Agriculture Bill will be passed, then the direction of policy travel for UK agriculture and horticulture has become clearer. The seven year transition deal in subsidy payments based on the Basic Payment demonstrates the plan to transition support to farmers away from this broad land-area based payment structure to one which rewards farmers and land managers more for providing environmental public goods. Reflecting on the likely drivers of success for farm and horticultural business in the future, irrespective of the Brexit outcomes and the future trade deals that may follow, the fundamental business drivers of success remain unchanged. Successful businesses focus on margins by understanding their cost, revenue and market base and they undertake comparative analysis of their business performance against other businesses. These successful businesses look for new business opportunities, and are frequently more diversified in their business base than less successful businesses. Within our reports, RBR aims to provide businesses with the independent data, analysis and interpretation to help them identify their strengths and challenges.

For the 2017/18 year, average Farm Business Income (FBI), derived from our work on the Farm Business Survey (FBS), was £56,500, an increase of 49% on the previous year. While a number of factors led to this increase, the devaluation of the pound, leading to UK commodity prices increasing, played a key role in this income boost. Most farm types witnessed an increase in FBI, with the exception of pig farms who faced an increased cost base at the same time as a decreased closing valuations at the year end from a drop in pig prices at that point in time. Dairy farms witnessed the greatest percentage price increase from 2016/17, as they benefited from both increased milk output and improved milk prices. The influence of currency fluctuation on the performance of agriculture is well recognised. The output of the Brexit scenario on the strength or weakness of sterling alone will have a large influence on business profitability moving forward.

With this thirteenth series of reports on the performance of the different sectors of agriculture and horticulture, our core aim of helping inform agricultural and horticultural businesses about the economics in their sector remains unchanged, and is arguably of even greater importance at this historic point in time. This series of reports, and our work on the FBS more generally, would not be possible without the cooperation of the farmers and growers who participate in the FBS to ensure that the data we provide for policy making, and in our reports and free to use online data services at www.farmbusinesssurvey.co.uk, is truly representative of the sectors. Our sincere thanks therefore go to the farmers and growers for their most valuable contribution.

Professor Paul Wilson
Chief Executive Officer, Rural Business Research
February 2019

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Contents

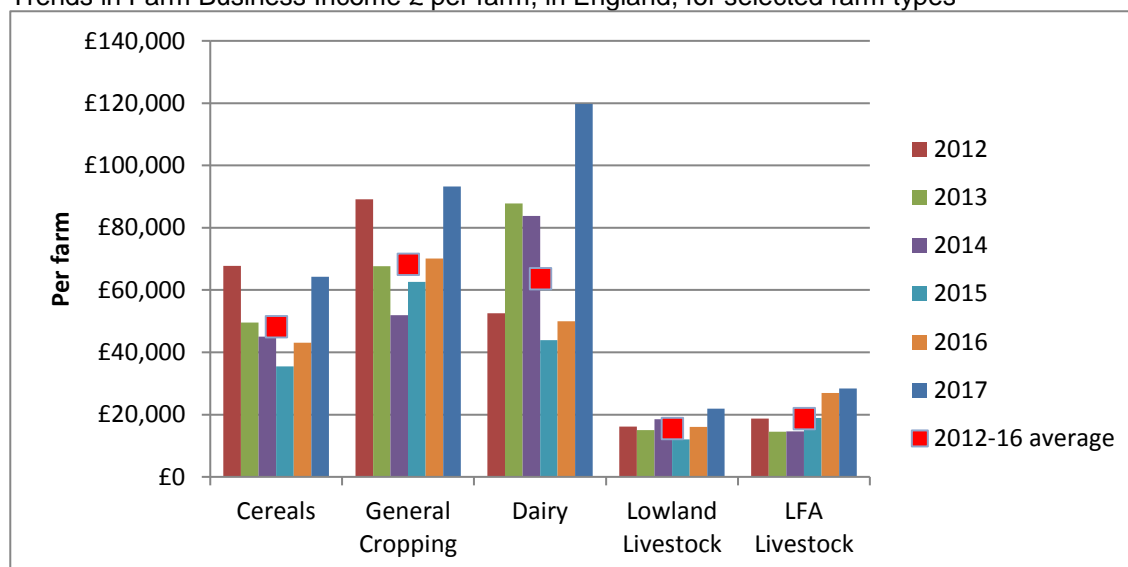
Acknowledgements	3
Foreword to the First Series	3
Foreword to the Thirteenth Series	4
Contents	5
Key Findings of Lowland Grazing Livestock Production in England 2017-18	7
Lowland Grazing Livestock Production in England 2017-18	9
Figure 1 Trends in Farm Business Income £ per farm, in England, by farm type	10
Figure 2 Farm Business Income per hectare and per Annual Labour Unit, in England 2017-18, by Farm Type.....	10
Figure 3 Lowland Grazing Livestock farms in England - Average Farm Business Income by Cost Centre 2011-2017	10
Figure 4 Indices of Producer and input Prices of Agricultural Products (United Kingdom)	11
Lowland Grazing Livestock Production in 2017-18- detailed results	11
Table 1: Income details, 2017-18 for All Farms, and by Performance Band	13
Table 2 Land Use, 2017-18 for All Farms, and by Performance Band	15
Table 3 Balance Sheet details, 2017-18 for All Farms, and by Performance Band.....	16
Table 4 Fund flow, 2017-18 for All Farms, and by Performance Band	17
Figure 5 Farm Business Income- Income bands, the percentage of farms in each band.....	18
Table 5 Farm Business Income by Performance Band, 2017-18, £ per hectare	18
Table 6 Farm Business Income for Non organic and Organic farms, 2017-18.....	19
Table 7: Income details, 2017-18 for All Farms, and by size of business	20
Figure 6 Gross Margin and Farm Business Income per hectare by farm size, 2017-18.....	21
The importance of the Basic Payment Scheme to the Lowland Livestock Grazing farms	21
Table 8 Farm Business Income and Basic Payment Scheme, 2017-18	21
Farm Business Income by 'Cost Centre'	22
Table 9 Farm Business Income by Cost Centre by Performance Band, 2017-18	23
Figure 7 Farm Business Income and Unpaid labour per hectare by Cost Centre, by Performance Band, 2017-18	23
Figure 8 Farm Business Income and Unpaid labour per farm by Cost Centre, by size of farm, 2017-18.....	24
Gross Margin data from the Lowland Grazing Livestock farms	25
Table 10 Lowland Beef Cow Gross Margin data.....	26
Figure 9 Gross Margin per head for Beef Cows	27
Figure 10 Lowland Beef Cow Gross Margin, by Herd size, conventional farms, 2017-18.....	27
Table 11- Lowland Beef Rearing Enterprise Gross Margin data, 2017-18	28
Figure 11 Gross margins per head of Cattle Rearing Systems.....	29
Figure 12 Beef Bred Finished Cattle Gross Margin per Head & per Hectare, by herd size conventional farms, 2017-18	29
Table 12 –Lowland Ewe Gross Margin data, 2017-18	30
Figure 13: Lowland Ewe Gross Margin per Head. 2017-18	31
Figure 14 Lowland Ewe Gross Margin per Head and Per Hectare by flock size. 2017-18.....	31

Figure 15 Comparing gross margin per hectare for average conventional producers 2014 to 2017	32
Appendix 1 The Farm Business Survey (FBS)	33
General	33
Classification of survey farms by type of farming and size of business	33
Weighting Procedure	34
Definition of Terms.....	34
Balance Sheet Tables	37
Appendix 2 Reports in this series:	38

Key Findings of Lowland Grazing Livestock Production in England 2017-18

- Lowland Grazing Livestock farms account for about a quarter of commercial holdings in England. The majority, nearly three quarters, of these businesses are small or part-time. All other farm types are, on average, larger businesses.
- The average Farm Business Income (which closely resembles farm profit) for 2017-18 for the Lowland Grazing Livestock farms in England was £21,855 per farm, an increase of £5,773 compared to the previous year, 140% of the average of the previous five years. Twenty percent of this improvement came from higher receipts for the Basic Payment Scheme with a larger improvement from diversification but with agriculture having the largest increase.
- As compared to the other lowland land-based farm types in England, the Grazing Livestock farms produce the lowest incomes per farm, per hectare and per annual labour units. For example, for the Lowland Grazing Livestock farms the Farm Business Income (FBI) per farm was close to a quarter of the Dairy farms in the 2012-16 period but as compared to the LFA Grazing Livestock farms incomes were broadly similar.

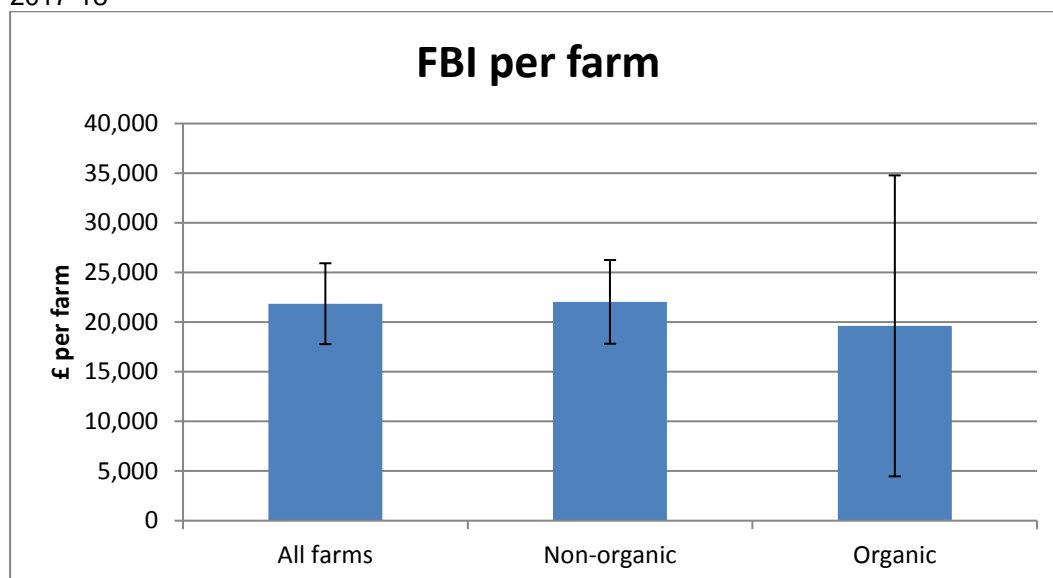
Trends in Farm Business Income £ per farm, in England, for selected farm types



- There is a wide range in the level of Farm Business Income per farm within the Lowland Grazing Livestock producers. In 2017-18, 19% had a negative income and 63% had an income of less than £20,000. This is only a small improvement from the previous year.
- Farm size is important, with the better performing businesses (based on the ratio of output/input) being much larger farms. The High Performance Band producers farmed over twice the area of the Low Performance producers and produced a higher Farm Business Income per hectare, £425 per hectare compared to a loss of £47 per hectare. This is a narrowing of the range, as compared to the previous year which is mainly due to the improvements made by the Low performers.
- For the average Lowland Grazing Livestock farm in 2017-18 the value of unpaid labour used by the business was estimated to be £29,067 with private drawings coming to £23,871. Thus, these businesses are 'rewarding' themselves at 82% the appropriate market rate for their labour. For this year the Farm Business Income is £7,200 lower than the value of unpaid labour, thus not covering living expenses or representing any financial return on their capital invested in the business.

- This year's sub-sample of organic producers farm, broadly, a similar area to their non-organic contemporaries and their Farm Business Income was slightly lower on a per hectare basis. The organic farms have more output from agri-environmental sources due to their eligibility for extra organic aid, much lower variable costs and slightly lower fixed costs. The Farm Business Income per farm for the organic producers is not statistically different than the non-organic farms.

Lowland Grazing Livestock farms- Farm Business Income per farm, by type of production. 2017-18



Sample sizes are small for some of these analyses and standard error bars have been included in the figures to indicate the accuracy of the estimate of the mean. Error bars are shown on 95% confidence intervals as a measure of the uncertainty that may apply to the estimated means. These signify that we are 95% confident that this range contains the true value. They are calculated as the standard error (se) multiplied by 1.96 to give the 95% confidence interval (95% CI)

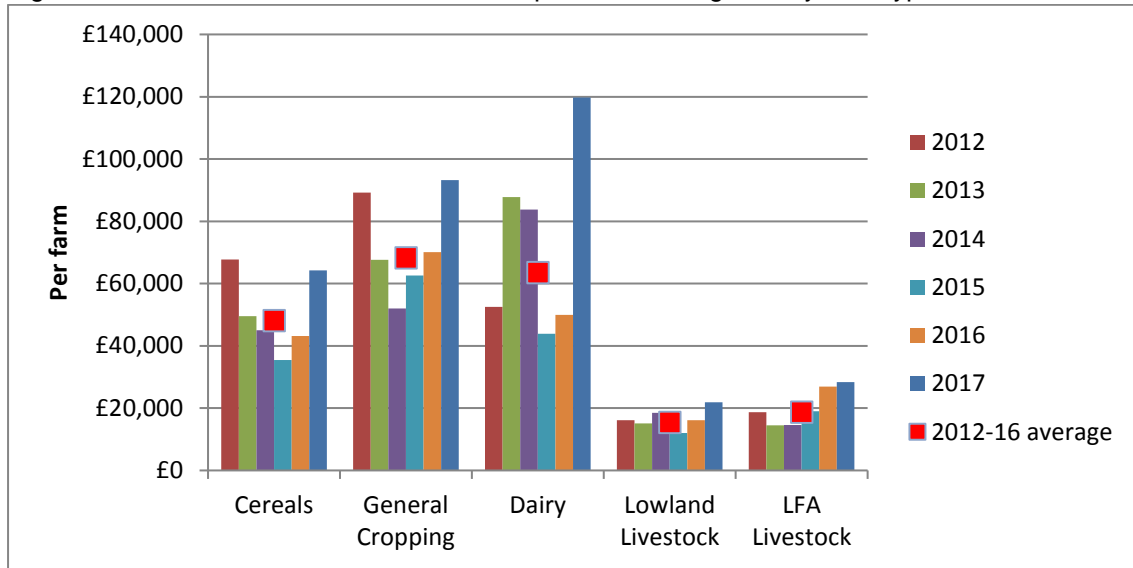
- The Basic Payment Scheme is crucial to the level of income the Lowland Grazing Livestock farms achieve. Without the Basic Payment Scheme, the average Lowland Livestock Grazing farm, in England, for 2017-18 would be making a Farm Business Income of £3,576.
- From the gross margin analysis the premium (top third) producers, as ranked by gross margin per head, have gross margins 56% higher for the lowland beef cows and rearing cattle to sell as stores were 80% higher. Top third producers of finishing cattle have gross margins 64% higher than the average with lowland breeding ewes the top third producers are 36% better.
- Comparing the gross margin per hectare across the differing livestock enterprises on the Lowland Grazing Livestock farms, the beef bred cattle finishers have the highest margin followed by beef bred store cattle producers and the lowland breeding ewes. Beef cows produce the lowest gross margin per hectare. All gross margins were slightly higher than the previous year but these differences were not statistically significant.

Lowland Grazing Livestock Production in England 2017-18

- Of those farm businesses in England that are eligible for the Farm Business Survey 22% are classified as Lowland Grazing Livestock¹. More than three quarters of lowland grazing livestock farms are classed as either part-time or small. Although similar to cereal farms, this is much higher than for dairy (13%) or general cropping (54%) farms.
- The Grazing Livestock businesses have the lowest Farm Business Income of the land based farm types in England (Figure 1).
- Lowland Grazing Livestock farms are the least profitable farm type in the English lowlands, on both a per hectare or per Annual Labour Unit basis (Figure 2).
- Over the last seven years the Farm Business Income for Lowland Grazing Livestock businesses has been variable. The Farm Business Income for 2017-18 was 140% of the average for the previous five years. Farm Business Income is more variable than the finished prices of cattle and sheep would have suggested, indicating that the costs to the businesses, valuation changes to the livestock (which are part of the output) and other sources of output were more variable and all have a part to play in the level of income for these farms (Figure 3). Figure 3 also shows the average Farm Business Income broken down into the four cost centres, Agriculture, Agri-environment, Diversification and Basic Payment Scheme or its predecessor the Single Payment Scheme. It illustrates that the largest variation in income between years comes from the Agriculture cost centre which only made a positive contribution in 2011.
- A number of Indices of Prices of Agricultural Products (United Kingdom) are illustrated in Figure 4. This shows the changes in average annual prices for energy, fertiliser, animal feed and machinery; which have all seen large changes since 2010. Animal feed costs, for example, increased by 20% in 2018 compared to the base year 2010; but were as much as 40% greater in 2013. Fertiliser costs are now close to the level in 2010 but rose by over 25% in the 2012 period. Output prices from cattle and sheep have also seen large changes and volatility in the same period but, in general, are more stable than input prices.

¹ Grazing Livestock farms are classified as farms with more than two-thirds of their total Standard Output produced by cattle and sheep (excluding holdings classified as dairy). A farm is classified as "Lowland" if less than 50% of its total area is in the EC Less Favoured Area.

Figure 1 Trends in Farm Business Income £ per farm, in England, by farm type



Source: <http://www.farmbusinesssurvey.co.uk>

Figure 2 Farm Business Income per hectare and per Annual Labour Unit, in England 2017-18, by Farm Type

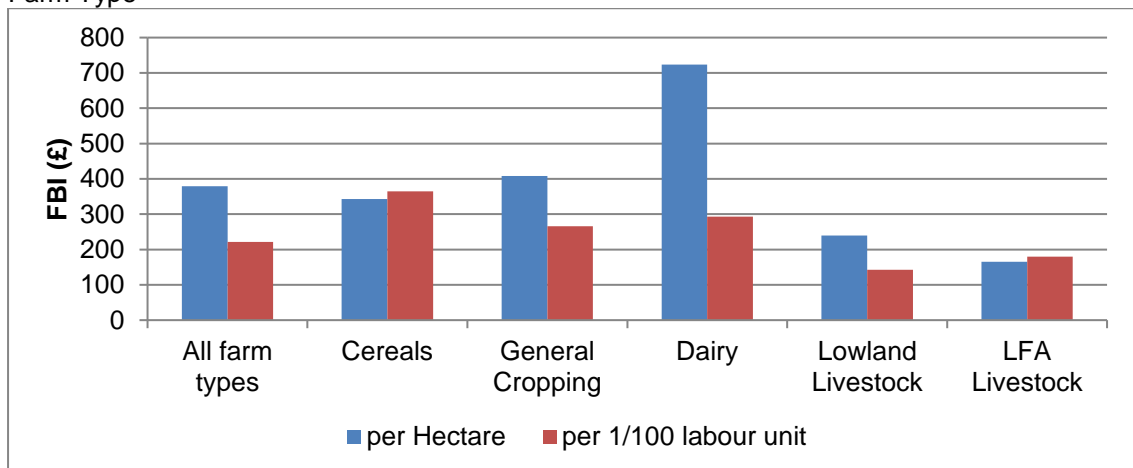


Figure 3 Lowland Grazing Livestock farms in England - Average Farm Business Income by Cost Centre 2011-2017

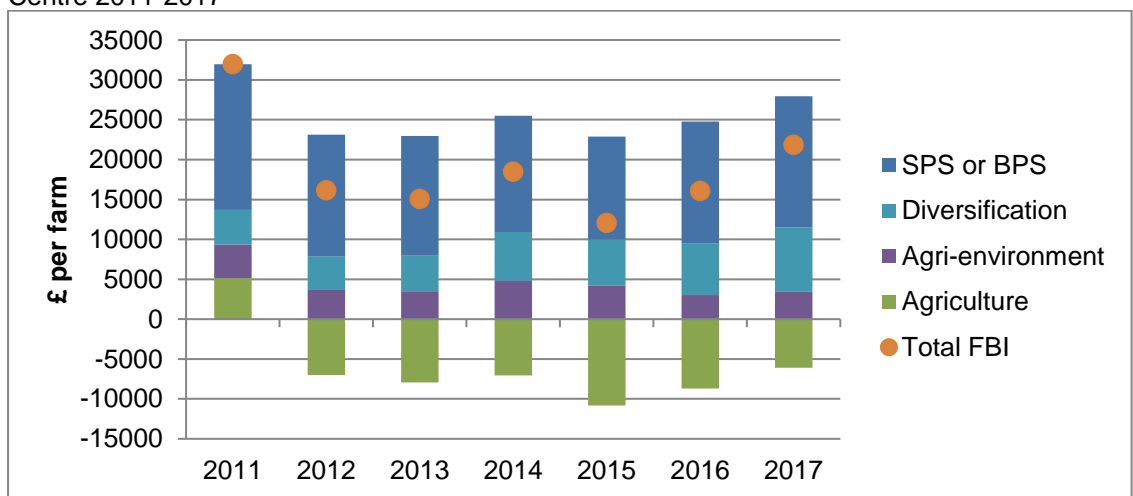
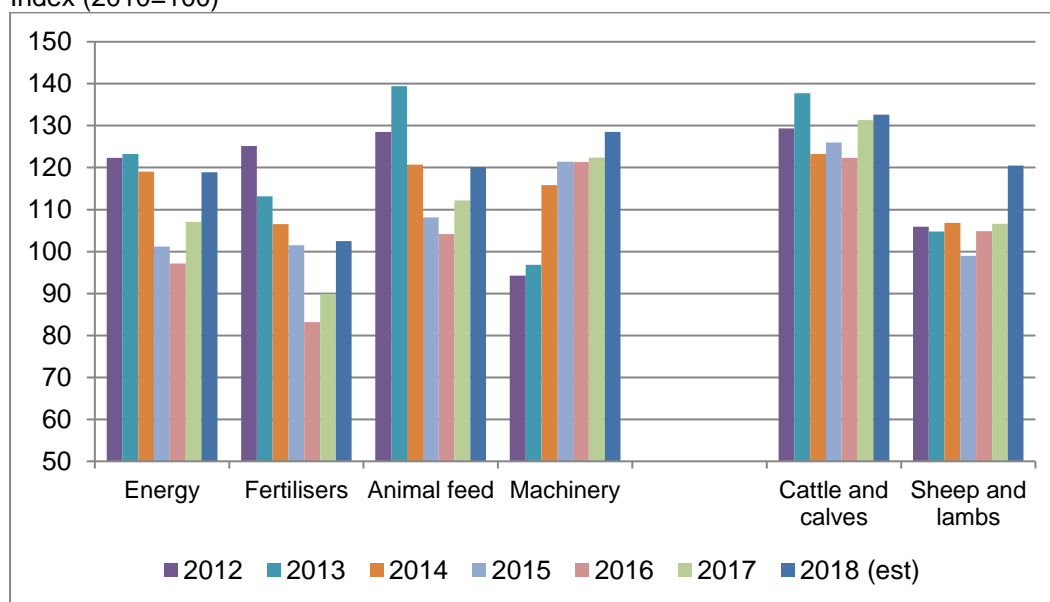


Figure 4 Indices of Producer and input Prices of Agricultural Products (United Kingdom) Index (2010=100)



Source: Defra

Lowland Grazing Livestock Production in 2017-18- detailed results

- This report uses data extracted from the Farm Business Survey (FBS) for this important group of farms and includes data from 296 farms which has been 'weighted' to produce figures that represent the whole of the Lowland Grazing Livestock industry in England, excluding the smallest farms which are not included within the survey (see Appendix 1).
- The results for the FBS farms for 2017-18 show an increase in Farm Business Income per average farm from 2016-17 to £21,855, an improvement of £5,773. Twenty percent of this improvement resulted from higher Basic Payment Scheme income, slightly more from diversification but the largest improvement came from the extra income from 'agriculture'. The Net Farm Income was £8,990 per farm, again a similar improvement on the previous year's figure. (Table 1).
- The average Lowland Grazing Livestock farm was 62% owner occupied and the average area farmed was 91.1 hectares. Permanent grassland and rough grazing covers approaching three quarters of the area with temporary grassland and fodder crops another 15%. The stocking rate is low, emphasising the 'extensive' type of production adopted by this farm type, with only 1.1 Grazing Livestock Units per hectare. Cattle account for 71% of these livestock units (Table 2).
- The balance sheet for the average farm shows over £93,000 of liabilities with the majority of borrowing held by the banks, as loans or overdraft. Total assets for the business of £1,309,000 are dominated by the land and buildings which account for 82% of the total. (Table 3). The balance sheet ratios therefore indicate a strong financial position for these farms in terms of ratios of assets to liabilities, but with the low incomes earned, extra borrowing is still difficult to justify and then service.
- The relationship between trading profit generated, capital investment made, drawings taken by the farming family/families, and the funding of the trading business is summarised by the 'flow of funds' (Table 4). The trading net fund surplus from these farms is £1,484 after depreciation on buildings and machinery is added back to Farm Business Income and the increase in live and deadstock valuations is deducted. Close to £19,000 was spent on capital purchases. There was little net investment in land and property, whilst machinery investment was close to £11,000. The machinery pool on these farms was thus maintained with re-

investment being very close to the level of machinery depreciation charged to these businesses. This left a farm fund flow surplus of over £15,000. The private drawings from the farm were £23,900 offset by over £10,000 of net transfer in of private funds, resulting in a £1,484 reduction in the funding. The introduction of funds from private sources has been a feature of Lowland Grazing Livestock farms for a long period, where the low incomes have not been sufficient to allow for both re-investments in the business and private drawings to support the farming family.

- There is a large distribution of Farm Business Income per farm within the sample of farms, 19% of farms had a negative Farm Business Income in 2017-18, with 63% of farms making less than £20,000. Ten percent of businesses made over £50,000 (Figure 5).
- Farm performance is measured as the ratio of farm business output to farm business costs. An imputed value for unpaid manual labour, including that of the farmer and spouse is added to farm business costs. The value of paid managerial input is subtracted. The farms are ranked in descending order according to this ratio and allocated to quartiles with the top quartile (25 percent) representing the high performance band.² Farm size is important, with the better performing businesses being much larger farms and therefore able to spread their fixed costs over a larger area (Table 1). Farm Business Income per hectare still tends to be higher on the High performing farms (Table 5). Low performing farms tended to have lower levels of farm output per hectare. Substantial cost savings are made with fixed costs, where those of the highest performing group are 82% of the Medium performing group of producers. Lower costs are seen in all the fixed cost categories for the High performing group but the differences in the machinery costs have the largest impact. The highest performing group own slightly more than half of the area they farm whereas the low and medium performing group closer to 65% of the farmed area.
- The organic farms are broadly similar in size to their conventional counterparts but the percentage of the land they own is slightly higher. Output from the organic farms is lower when compared to non-organic equivalents. However, there are important differences in how this output is achieved; organic farms tend to get more than their conventional counterparts from agri-environment schemes and less from livestock and crops. For the organic producers the output from the agri-environment type schemes is more than two and a half times higher than non-organic farms reflecting the extra support they receive from the various Stewardship schemes. With the lower 'farming' output, organic farms tend to have lower variable costs; being less than half the level of non-organic producers. The resulting total gross margin per farm for the organic farmers is lower than the non-organic level. Fixed costs for the organic farms are also broadly similar to the non-organic producers. Thus the Farm Business Income per farm for the organic producers is lower than that of their non-organic counterparts, but not statistically significant (Table 6).
- Farm size can be described in terms of Standard Labour Requirement³. The average size of the Part-time farms is 52 hectares (128 acres), compared to the Very Large farms, which are seven times bigger in terms of land area (Table 7). The total area farmed by the business increases in relation to the size of the farm and the proportion of tenanted land is similar for Part-time and Small farms (25%) and then increases on Medium and Large farms, with the Very Large farms renting 66% of the land they farm. The gross margin per hectare decreases as the area farmed by the business increases. The Very Large farms have a gross margin close to two thirds of the level achieved by the Part-time businesses; as a trend the Farm Business Income per hectare decreases as the size of the business increases except for

² Note that the farm weights are used to allocate farms to quartiles so the number of farms in a quartile will not necessarily be equivalent to a quarter of the sample.

³ Full details of the definitions relating to farm size are given in Appendix 1.

Large farms who have the highest Farm Business Income per hectare, as illustrated in Figure 6.

Table 1: Income details, 2017-18 for All Farms, and by Performance Band

Financial details, 2017-18	Performance			
	Average all farms	Low	Medium	High
Number of farms	296	47	153	96
Average farmed area (hectares)	91.1	54.2	90.0	129.9
Average % of owned total farmed area	62%	63%	68%	52%
		£ per farm		
Output				
Cattle	45,025	22,812	45,216	66,594
Sheep	17,551	6,993	20,818	21,484
Other livestock	514	-152	953	300
Crops	4,985	1,568	5,557	7,223
Forage	3,586	1,731	3,894	4,806
Environmental schemes	4,056	1,641	3,885	6,781
Basic Payment Scheme	18,279	10,713	18,211	25,889
Rental income	7,569	3,902	6,144	14,026
Contract work	4,058	1,989	3,950	6,316
Renewable energy production	1,510	516	1,558	2,398
Miscellaneous output	8,440	7,239	6,167	14,152
Total Farm Output	115,572	58,953	116,352	169,969
Variable costs				
Concentrates	13,041	6,837	14,392	16,485
Purchased fodder	1,227	832	1,179	1,713
Veterinary and medicines	3,215	1,906	3,647	3,649
Other livestock costs	7,995	5,064	8,806	9,279
Seeds	1,007	527	1,015	1,467
Fertilisers	3,611	1,828	4,115	4,372
Crop protection	1,028	435	1,183	1,304
Other crop costs	787	578	815	940
Total Variable Costs	31,912	18,006	35,151	39,209
Gross Margin	83,660	40,946	81,201	130,760
Fixed costs				
Paid labour	6,303	2,755	6,895	8,629
Contract	5,977	3,804	6,249	7,584
Machinery repairs	4,772	3,630	4,760	5,925
Machinery fuel	3,975	2,937	4,169	4,617
Machinery depreciation	10,121	6,991	10,356	12,743
General costs	13,282	11,434	13,434	14,807
Property maintenance	5,103	3,201	5,746	5,705
Rent, hired in keep and bare land	5,514	4,190	4,977	7,890
Buildings depreciation	4,207	3,295	4,548	4,430
Interest	2,551	1,315	2,906	3,069
Total Fixed Costs	61,806	43,550	64,040	75,400
FARM BUSINESS INCOME	21,855	-2,603	17,161	55,360
All unpaid labour	29,067	34,052	28,686	24,901

Alternative Income Measures, 2017-18					
			Performance		
		Average all farms	Low	Medium	High
Reconciliation between Net Farm Income and Farm Business Income					
	FARM BUSINESS INCOME	21,855	-2,603	17,161	55,360
Plus-	Directors remuneration	192	227	169	202
Less-	Net income from assets associated with the farm business	0	0	0	0
Plus-	Buildings and works depreciation	4,207	3,295	4,548	4,430
Plus-	Landlord type expenses	603	334	766	545
Plus-	Imputed rental income	324	390	210	484
Less-	Imputed rent and rental value	14,454	9,552	15,737	16,745
Plus-	Net Interest	2,536	1,313	2,890	3,039
Less-	Unpaid labour of partners	6,273	8,663	6,262	3,932
Equals-	NET FARM INCOME**	8,990	-15,258	3,746	43,384
** Excluding Breeding Livestock Stock Appreciation					

Table 2 Land Use, 2017-18 for All Farms, and by Performance Band

Land Use and Indicators of Technical Efficiency, 2017-18	Average all farms	Performance		
		Low	Medium	High
Number of farms in group	296	47	153	96
Average farmed area (hectares)	91.1	54.2	90.0	129.9
Average proportion of owned total farmed area (%)	62%	63%	68%	52%
Land use				
Area of crops	5.2	1.7	5.9	7.2
Temporary grass	11.6	3.7	14.0	14.5
Permanent grass	61.2	45.5	58.2	82.5
Fodder crops	1.9	0.7	1.9	3.2
Rough grazing	5.0	0.5	1.6	16.2
Uncropped, fallow and turf	1.6	0.2	2.3	1.5
Forage hired in	4.7	1.8	6.1	4.8
Stocking				
Average number of dairy cows	0	0	0	0
Average number of beef cows	23	18	22	30
Average number of other cattle	86	55	89	112
Average number of ewes	150	63	177	183
Average number of other sheep	171	78	199	208
Grazing livestock units	GLUs per farm			
Dairy cows	0.4	0.3	0.4	0.4
Beef cows	11.5	9.0	11.0	14.9
Other cattle	52.1	33.6	52.9	68.7
Sheep	24.3	10.6	28.4	29.5
Other livestock	1.2	1.1	1.4	0.7
Total	89.4	54.6	94.2	114.3
GLUs per ha	1.06	1.05	1.15	0.94
GLUs per adjusted ha	1.07	1.05	1.16	0.96

Table 3 Balance Sheet details, 2017-18 for All Farms, and by Performance Band

Balance Sheet, 2017-18		Performance		
(end of year)	Average all farms	Low	Medium	High
Number of farms in group	296	47	153	96
Average farmed area (hectares)	91.1	54.2	90.0	129.9
Average proportion of owned total farmed area	62%	63%	68%	52%
		£ per farm		
End of year assets & liabilities				
Land & buildings	1,077,888	760,065	1,146,196	1,256,036
Milk quota	0	0	0	0
Basic Payment Scheme	17,740	10,411	17,653	25,153
Machinery	62,072	42,088	64,316	77,354
Tenant's other assets	235	173	212	341
Breeding livestock	44,133	30,150	46,411	53,418
Total fixed assets	1,202,067	842,886	1,274,788	1,412,302
Trading livestock	52,871	29,008	57,999	66,248
Crops	1,365	621	1,607	1,618
Forage and cultivations	5,266	3,702	5,832	5,688
Stores	5,058	3,148	5,660	5,749
Debtors and loans	12,303	9,068	11,810	16,479
Bank credit and cash	30,346	12,617	27,555	53,415
Other current assets	0	0	0	0
Total current assets	107,209	58,164	110,463	149,196
Total assets	1,309,276	901,050	1,385,251	1,561,498
Financed by				
AMC	18,969	8,588	22,222	22,755
Bank loans	31,436	14,142	37,254	36,949
Other long term	11,885	5,153	13,876	14,576
Total long term	62,290	27,882	73,352	74,280
HP and lease	6,370	4,080	7,142	7,097
Creditors	10,307	5,784	10,886	13,627
Bank overdraft	14,268	10,171	15,878	15,115
Other short term	328	939	19	340
Total current liabilities	31,274	20,975	33,925	36,178
Total Liabilities	93,564	48,857	107,276	110,458
Net worth	1,215,712	852,193	1,277,975	1,451,039
Balance sheet ratios-				
% Owner equity (net worth v.total assets)	93%	95%	92%	93%
% Fixed assets vs. total assets	92%	94%	92%	90%
Gearing (long-term loans v.total assets)	5%	3%	5%	5%
Total debt (external liabilities v.net worth)	8%	6%	8%	8%

Table 4 Fund flow, 2017-18 for All Farms, and by Performance Band

FUND FLOWS, 2017-18	Average all farms	Performance		
		Low	Medium	High
Number of farms in group	296	47	153	96
Average farmed area (hectares)	91.1	54.2	90.0	129.9
Average proportion of owned total farmed area (%)	62%	63%	68%	52%
		£ per farm		
Funds available from trading				
Farm Business Income	21,855	-2,603	17,161	55,360
Buildings and works depreciation	4,207	3,295	4,548	4,430
Machinery depreciation	10,121	6,991	10,356	12,743
Change in valuation *	-1,926	3,140	-3,225	-4,348
Trading net fund flow surplus	34,256	10,823	28,840	68,185
Funds used for farm investments				
Net property and quota purchases	520	-3,289	-2,988	11,262
Net landlord capital purchases	7,566	3,802	10,752	4,947
Net machinery and equipment purchases	10,839	6,466	11,691	13,466
Capital net fund flow	18,925	6,978	19,455	29,676
Total farm fund flow surplus	15,331	3,844	9,386	38,509
Funds used for private expenditure				
Private drawings	23,871	15,354	20,784	38,431
Net private funds introduced	10,025	12,893	12,833	1,605
Private fund outflow	13,847	2,460	7,951	36,826
Total net fund flow surplus	1,484	1,384	1,434	1,684
Increase in loans and deposits	1,994	-1,342	2,257	4,768
Increase in bank balance	2,573	-1,589	4,062	3,723
Increase in cash in hand	7	3	-30	86
Increase in debtors	1,782	852	1,571	3,120
Increase in creditors	884	-775	1,913	477
Net change in funding	-1,484	-1,384	-1,434	-1,684
* An increase in valuation is represented as a negative, with funds being used to increase the live and deadstock valuation				

Figure 5 Farm Business Income- Income bands, the percentage of farms in each band

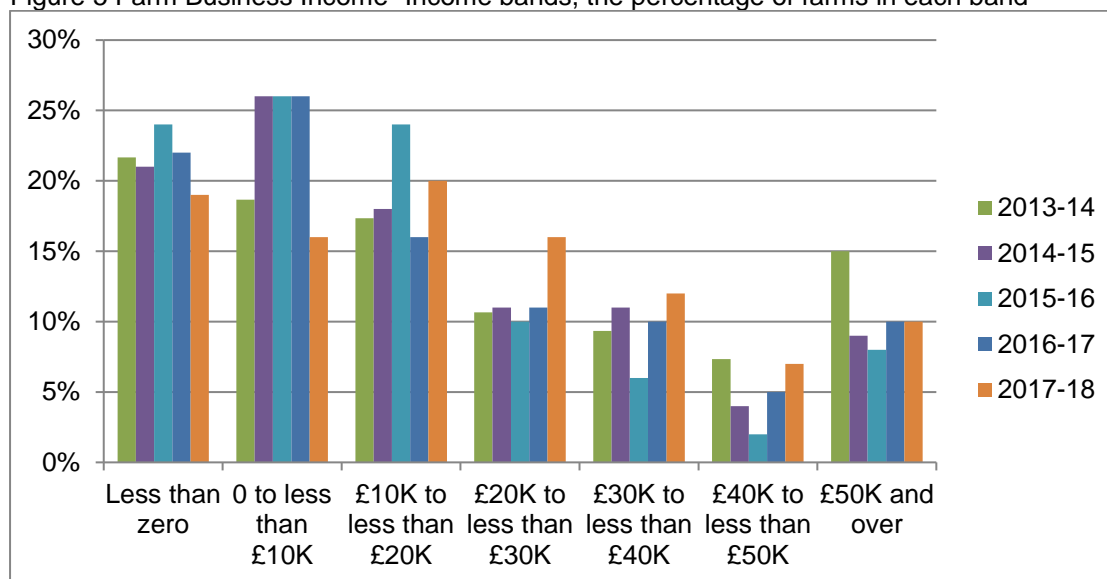


Table 5 Farm Business Income by Performance Band, 2017-18, £ per hectare

Performance	Low	Medium	High
Average farmed area (hectares)	54.2	90.0	129.9
Average % of owned total farmed area	63%	68%	52%
£ per hectare			
Livestock and crops	609	850	773
Agri- environment type schemes	30	43	52
Basic Payment Scheme	198	202	199
Other	252	198	284
TOTAL FARM OUTPUT	1089	1293	1308
Variable costs			
Livestock specific costs	270	311	240
Crop specific costs	62	79	62
TOTAL VARIABLE COSTS	332	390	302
TOTAL GROSS MARGIN	757	903	1006
Fixed costs			
Labour	51	77	66
Machinery	321	284	238
General farming costs	211	149	114
Land & Property	197	170	139
Interest paid	24	32	24
TOTAL FIXED COSTS	804	712	581
FARM BUSINESS INCOME	-47	191	425

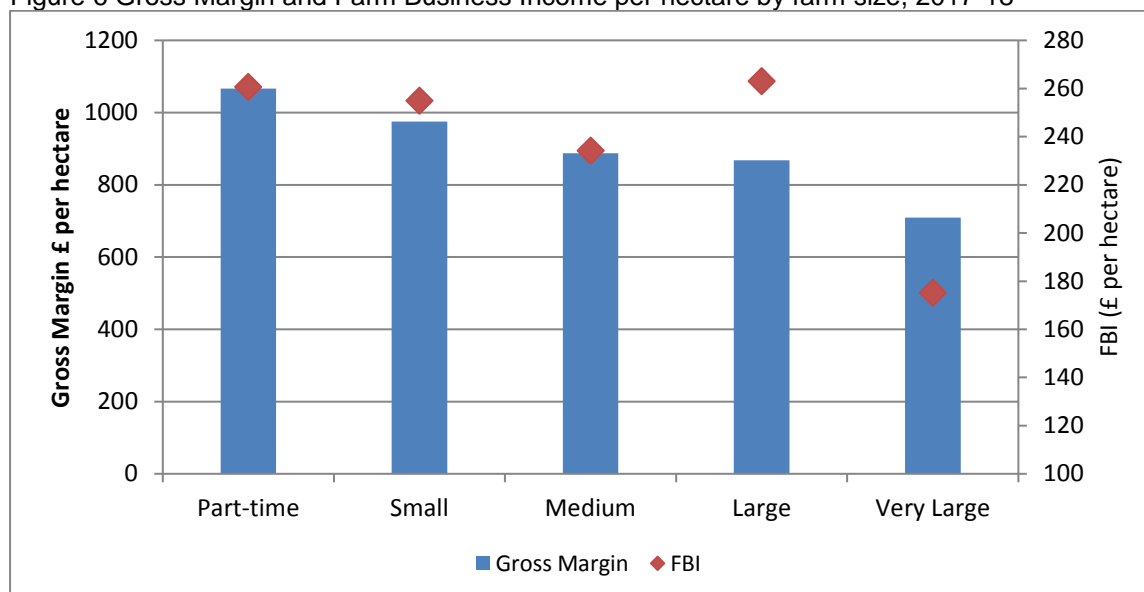
Table 6 Farm Business Income for Non organic and Organic farms, 2017-18

Financial details, 2017-18	Type of Production	
	Non organic	Organic
Number of farms	251	45
Average farmed area (hectares)	90.6	97.9
Average % of owned total farmed area	61%	67%
	£ per farm	
Output		
Cattle	46,227	30,347
Sheep	18,053	11,417
Other livestock	508	592
Crops	5,011	4,661
Forage	3,833	578
Environmental schemes	3,488	10,992
Basic Payment Scheme	18,101	20,443
Rental income	7,965	2,732
Contract work	4,279	1,362
Renewable energy production	1,142	5,999
Miscellaneous output	8,835	3,617
Total Farm Output	117,442	92,741
Variable costs		
Concentrates	13,903	2,510
Purchased fodder	1,220	1,305
Veterinary and medicines	3,288	2,328
Other livestock costs	8,175	5,798
Seeds	988	1,242
Fertilisers	3,877	372
Crop protection	1,100	141
Other crop costs	805	576
Total Variable Costs	33,357	14,272
Gross Margin	84,086	78,469
Fixed costs		
Paid labour	6,229	7,198
Contract	5,959	6,197
Machinery repairs	4,801	4,421
Machinery fuel	4,074	2,771
Machinery depreciation	10,154	9,707
General costs	13,416	11,646
Property maintenance	5,120	4,894
Rent, hired in keep and bare land	5,578	4,731
Buildings depreciation	4,240	3,798
Interest	2,475	3,485
Total Fixed Costs	62,048	58,850
FARM BUSINESS INCOME	22,038	19,619
All unpaid labour	29,359	25,507

Table 7: Income details, 2017-18 for All Farms, and by size of business

Financial details, 2017-18	Farm size				
	Part-time	Small	Medium	Large	Very large
Number of farms	49	87	71	52	37
Average farmed area (hectares)	52.0	77.9	104.8	168.9	365.0
Average % of owned total farmed area	73%	76%	64%	54%	34%
	£ per farm				
Output					
Cattle	23,858	45,266	59,963	87,313	130,068
Sheep	2,558	10,774	23,960	48,941	125,560
Other livestock	-10	372	225	116	8,239
Crops	1,104	3,930	7,908	11,116	29,427
Forage	3,392	5,139	2,022	4,157	260
Environmental schemes	2,679	3,953	3,088	7,594	14,228
Basic Payment Scheme	11,656	17,065	20,616	31,534	58,723
Rental income	8,943	4,064	5,328	11,085	12,524
Contract work	2,637	4,127	6,822	6,206	5,796
Renewable energy production	1,584	980	996	2,953	2,287
Miscellaneous output	9,861	9,349	5,046	4,156	7,367
Total Farm Output	68,264	105,018	135,974	215,172	394,477
Variable costs					
Concentrates	4,331	11,361	17,615	30,055	63,237
Purchased fodder	503	878	1,902	3,572	3,848
Veterinary and medicines	1,338	2,839	4,194	6,299	15,305
Other livestock costs	4,006	7,695	9,845	15,314	30,040
Seeds	505	934	1,175	2,003	4,012
Fertilisers	1,403	3,652	5,588	7,394	12,458
Crop protection	377	772	1,474	2,536	4,724
Other crop costs	355	955	1,190	1,396	1,849
Total Variable Costs	12,818	29,086	42,982	68,569	135,473
Gross Margin	55,446	75,932	92,992	146,603	259,005
Fixed costs					
Paid labour	2,611	4,980	6,120	13,250	37,593
Contract	4,231	5,872	7,210	8,846	14,927
Machinery repairs	3,340	3,921	6,065	7,755	14,307
Machinery fuel	2,530	3,280	5,441	7,026	12,138
Machinery depreciation	6,736	9,404	12,426	17,180	27,560
General costs	11,224	12,983	13,776	17,737	25,416
Property maintenance	3,850	5,067	4,890	7,163	14,463
Rent, hired in keep and bare land	3,175	4,357	6,170	11,196	22,327
Buildings depreciation	2,814	3,804	3,889	7,442	14,966
Interest	1,378	2,420	2,451	4,565	11,403
Total Fixed Costs	41,890	56,088	68,438	102,160	195,100
FARM BUSINESS INCOME	13,556	19,845	24,554	44,444	63,905
All unpaid labour	25,593	29,983	32,493	36,238	34,896

Figure 6 Gross Margin and Farm Business Income per hectare by farm size, 2017-18



The importance of the Basic Payment Scheme to the Lowland Livestock Grazing farms

- With the low level of the Farm Business Income generated by the Lowland Grazing Livestock farms the importance of the Basic Payment Scheme (BPS) cannot be underestimated, as illustrated in Table 8. The Basic Payment Scheme per farm represents 16% of the Total Output for Lowland Livestock Grazing farms and is 84% of the level of the Farm Business Income. Without the Basic Payment Scheme, the average Lowland Livestock Grazing farm would be making a Farm Business Income of £3,576. All the different size farms would be making a positive income but well below the level of their private drawings.
- Regarding the importance of the Basic Payment Scheme to the Lowland Grazing Livestock farms the reality of farming without the majority of this support would look bleak and unlikely to be sustainable in the current structure even in a relatively good year for this farm type.

Table 8 Farm Business Income and Basic Payment Scheme, 2017-18

	All Farms	Part-time	Small	Medium	Large	Very Large
	£ per farm					
Farm Business Income	21,855	13,556	19,845	24,554	44,444	63,905
Basic Payment Scheme Income	18,279	11,656	17,065	20,616	31,534	58,723
Farm Business Income less BPS	3,576	1,900	2,780	3,938	12,910	5,182
Private drawings	23,871	21,190	21,624	22,262	38,185	39,371

Farm Business Income by 'Cost Centre'⁴

- The majority of the Farm Business Income comes from the Basic Payment Scheme 'cost centre' - 75% of the total Farm Business Income figure for 'All farms'. (Table 9).
- The Farm Business Income from the Agri-environment cost centre is close to the average figure received per year since 2009, but is falling. (Table 9).
- The Farm Business Income from the Diversification cost centre has been increasing from 2013 and in 2018 was the highest in the last 9 years (Table 9).
- The loss from the Agriculture cost centre is close to the average since 2009. The largest loss was in 2015. Only in 2011 did the Agriculture Cost centre make a positive contribution to the total Farm Business Income. All other years there were losses and this averages, since 2009, more than £5,700 per year. (Table 9).
- The Agriculture cost centre accounts for most of the difference between the Farm Business Income per hectare of the three performance groups. Farm Business Income per hectare from 'Agriculture' increases with performance band with the Low performers making a loss of £327 per hectare, the Medium making a loss of £92 and the High performers making £74 per hectare. The Low performance band showed an improvement per hectare of £79 with the Medium performers improving £13 per hectare less and High performers increasing by £21 per hectare compared to the previous year. (Figure 7).
- On Low and Medium Performing farms the contribution from the Agri-environmental and Diversification cost centres to total Farm Business Income is lower than that of the High performance band, with the Low performing group close to two thirds of the High performing group. (Figure 7).
- The Farm Business Income generated by the Basic Payment Scheme cost centre is lowest for Low performing farms (£ per ha) with High performing farms receiving £14 more per hectare, and is £13 higher per hectare for Medium performing farms. (Figure 7).
- When considering the size of business the contribution from the 'Agriculture' cost centre is negative for each group with the largest loss on the Very Large farms, closely followed by the Part-time farms. The Large farms have the highest Farm Business Income per hectare income, with the lowest income per hectare on the Very Large farms (Figure 8).
- The value of unpaid labour used by the businesses is illustrated alongside the Farm Business Income by Cost centre (Figure 8). Only the Large and Very Large farms have a Farm Business Income greater than the value of unpaid labour. The contribution from the Basic Payment Scheme cost centre ranges from 84% of the total Farm Business Income for Very Large farms, 78% for Part-time farms, 77% for Small farms, 76% for Medium farms and 65% for Large farms. This proportion is much closer than in the previous year where the range was from 62% to 129%.

⁴ For these calculations, Casual labour and Contracting are considered variable costs rather than fixed costs as in our other tables, and interest is net rather than being shown as an income and a cost.

Table 9 Farm Business Income by Cost Centre by Performance Band, 2017-18

£ per farm	All farms	Low	Medium	High
Total Farm Business Income	21,855	-2,603	17,161	55,360
<i>Of which, by cost apportionment</i>				
Agriculture	-6,105	-17,710	-8,256	9,643
Agri-environment and other payments	3,425	1,372	3,178	5,945
Diversification out of agriculture	8,075	4,557	5,864	15,949
Basic Payment Scheme	16,459	9,177	16,375	23,824

Figure 7 Farm Business Income and Unpaid labour per hectare by Cost Centre, by Performance Band, 2017-18

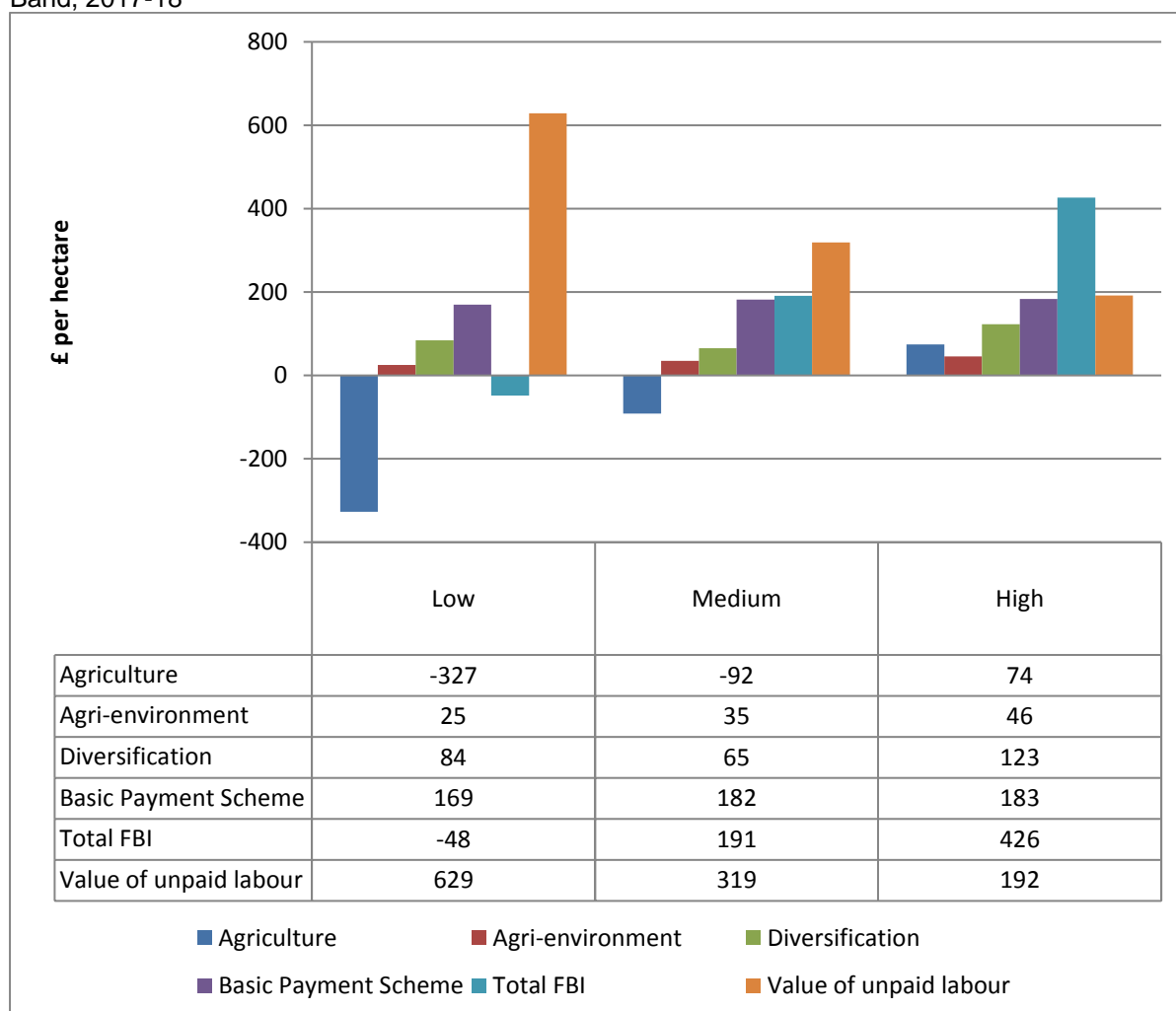
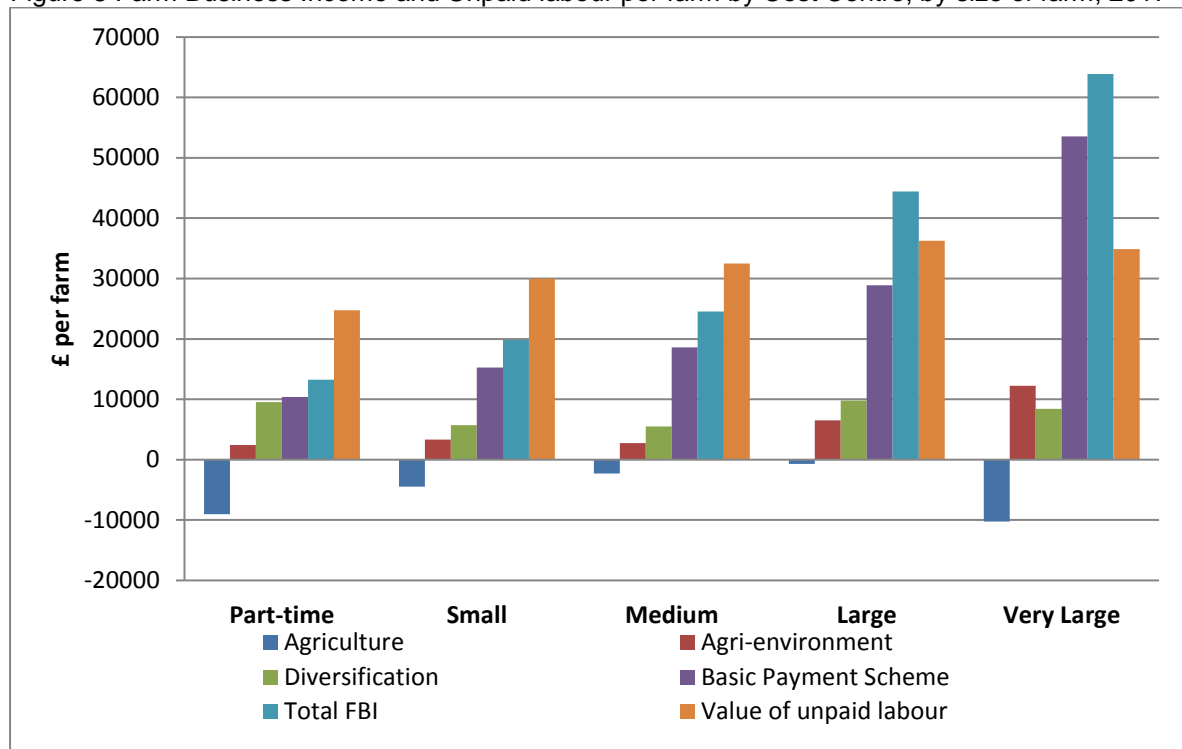


Figure 8 Farm Business Income and Unpaid labour per farm by Cost Centre, by size of farm, 2017-18



Gross Margin data from the Lowland Grazing Livestock farms⁵

- Gross margin per beef cow is similar for the organic producers as compared to non-organic producers, but with lower stocking rates the gross margin per hectare for the organic producers is similar to the non-organic producers. The Top Third producers' gross margins per cow are more than 50% higher than that of the average, with the majority of the difference due to higher output, but also lower variable costs. (Table 10)
- The gross margin per beef cow has remained relatively stable over the last seven years for non-organic producers but is slightly more variable for Organic producers. (Figure 9)
- The gross margin per cow and per hectare increases with the scale of the enterprise. Care is needed to interpret the data due to small sample sizes (Figure 10).
- The beef rearing gross margin data for 'beef bred' store cattle and finished cattle are summarized in Table 11 and Figure 11. Both systems produce a broadly similar gross margin per head, both on average and at the premium level. On a per hectare basis the finishers have higher stocking rates so achieved higher gross margins. Gross margins for beef rearing have fluctuated over the last seven years but the average for 2017-18 is 14% higher than the level of the average for the previous six years.
- For the beef bred finishing cattle systems, the lower variable costs per head for the organic producers (£202) but lower output (£95) than average, leaving the average conventional beef bred finisher with the lower gross margin per head (See Table 11).
- The gross margins from the cattle rearing systems show the Top third group of producers having margins per head at 64% higher than the average. On a per hectare basis a similar increase can also be seen for both the premium beef finishers and store cattle producers. As with most of the gross margins from these farms the Top third producers have higher output with similar or lower variable costs.
- The output per head from the Beef Bred Finished Cattle producers is highest for the smallest and largest herds but the variable costs are highest for the largest herds, particularly concentrate feeds, but the resulting gross margins are not consistent (Figure 12)⁶. The herds with less than 50 head have the highest gross margin per head and the herds with 85-170 have the lowest. The stocking rate is greatest for the largest herds and broadly increased with scale of system.
- The gross margin per ewe for the lowland ewes for the conventional producers is similar to the organic producers. The stocking rates for both types of production are low, at close to 5.5 ewes per hectare which is about half the stocking rate of Dairy farms. As compared to the previous year the gross margin per ewe from both conventional and organic lowland sheep flocks was more than 17% higher (Table 12 and Figure 13).
- The gross margin achieved for the lowland ewes either per head or per hectare show no statistical differences due to the large variations in performance in any size group (Figure 14).

⁵ A number of the farms within the sample are able to calculate gross margins for their enterprises. Where the sample sizes allow, top third group figures (weighted total population) are also produced. Sample sizes are small for some of these analyses and standard error bars have been included in the figures to indicate the accuracy of the estimate of the mean. Error bars are shown on 95% confidence intervals as a measure of the uncertainty that may apply to the estimated means. These signify that we are 95% confident that this range contains the true value. They are calculated as the standard error (se) multiplied by 1.96 to give the 95% confidence interval (95% CI)

⁶ The number of data points for each herd size group is low (less than 30 in each case) so differences between groups should be treated with some caution.

- Gross margins per hectare from all the main livestock enterprises show no statistical changes compared to the previous year. Comparing the average gross margin per hectare across the differing livestock enterprises (Figure 15). The cattle rearing enterprises, either store or finishing beef systems have higher margin per hectare than the breeders, beef cows having the lowest gross margin per hectare but of a similar level to breeding ewes. This has been the same for the last four years

Table 10 Lowland Beef Cow Gross Margin data

Gross margins per cow, per LU and per hectare				2017/18
(Weighted average performance)		Average		Top Third*
		Non-organic	Organic	Non-organic
Number of farms		144	31	
Cows per herd		37	36	44
Stocking rate:	LU/ha	1.1	0.8	1.1
	ha/LU	0.9	1.2	0.9
		£ per cow		
Output -	calf output	522.1	458.3	612.1
	depreciation	-62.8	-76.1	-26.3
ENTERPRISE OUTPUT (excl. BLSA)		459.2	382.2	585.8
Concentrates		35.7	12.5	23.4
Coarse fodder		12.9	23.7	8.8
Veterinary and medicines		34.2	25.0	32.6
Other livestock costs		56.5	59.0	53.5
Forage †		51.2	19.1	47.1
TOTAL VARIABLE COSTS ‡		190.4	139.4	165.4
GROSS MARGIN per cow (excl. BLSA)		268.8	242.8	420.4
GROSS MARGIN per LU (excl. BLSA)		268	247	415
GROSS MARGIN per hectare (excl. BLSA)		296	201	454
Concentrates per £100 output		8	3	4
Averages - previous year				
Stocking rate:	LU/ha	1.15	0.88	1.17
Gross Margin: £/cow		256.2	317.4	391.9
Gross Margin: £/ha		295	279	460
* Top Third of Weighted Population				
† Forage includes seeds, fertilisers, sprays and other crop costs				
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.				

* Top third selected by level of gross margin per cow

Figure 9 Gross Margin per head for Beef Cows

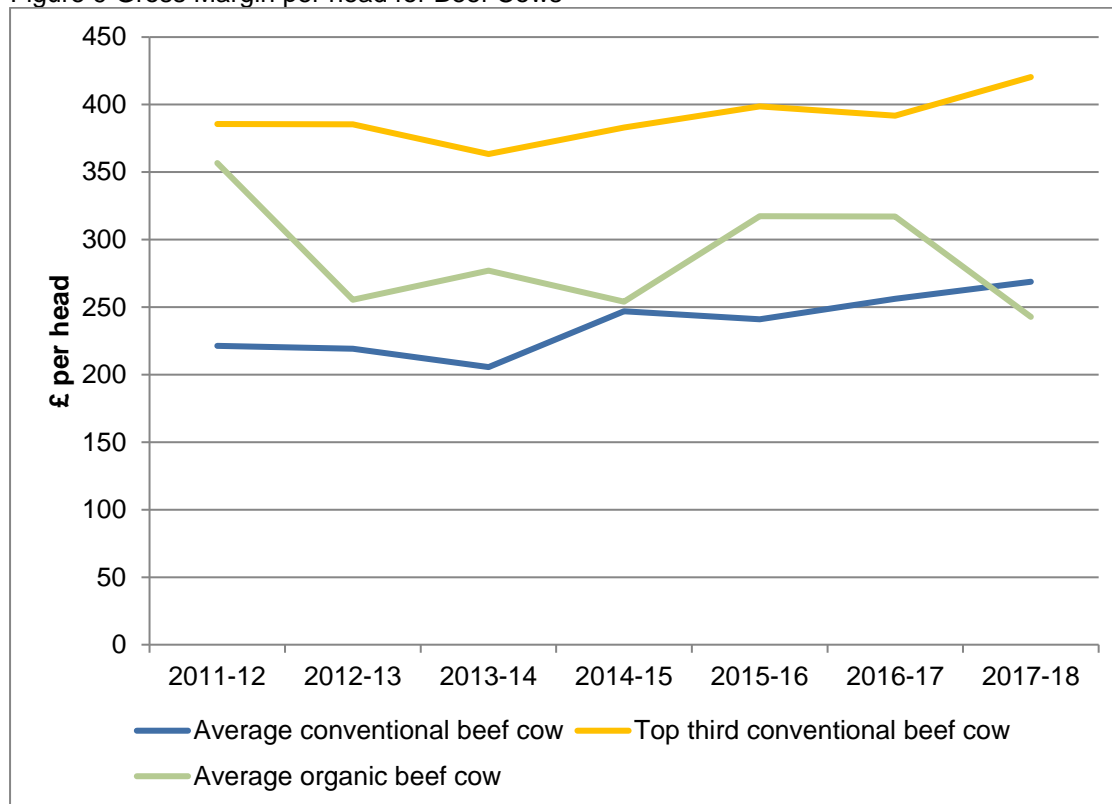


Figure 10 Lowland Beef Cow Gross Margin, by Herd size, conventional farms, 2017-18

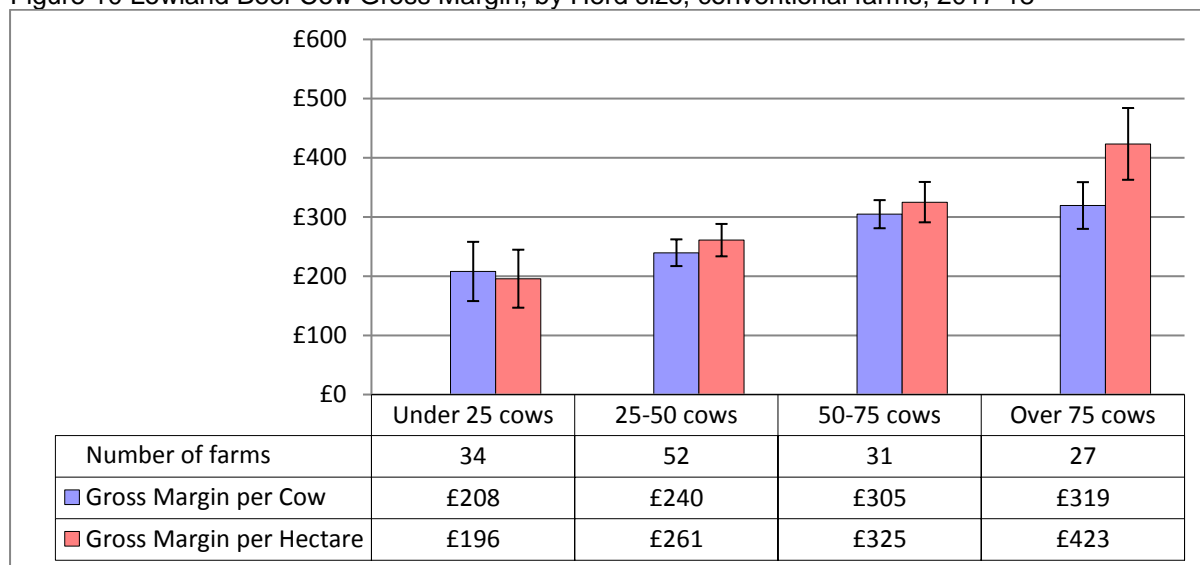


Table 11- Lowland Beef Rearing Enterprise Gross Margin data, 2017-18

Gross margins per head, per LU and per hectare							
(Weighted average performance)		Beef bred store cattle			Beef bred finished cattle		
		Average		Top third*	Average		Top third*
		Non-organic	Organic	Non-organic	Non-organic	Organic	Non-organic
Number of farms		65	15		90	18	
Cattle per herd		51	39	42	97	80	76
Average finished animal sale price - £/head					1195	1291	1060
Stocking rate:	LU/ha	1.23	0.72	1.09	1.32	0.88	1.31
	ha/LU	0.82	1.39	0.92	0.76	1.14	0.76
£ per head							
OUTPUT		441.7	361.4	628.4	545.9	451.2	722.2
Concentrates		85.4	18.1	76.7	167.4	18.3	181.6
Coarse fodder		8.5	11.9	8.9	12.9	5.2	13.2
Veterinary and medicines		16.6	8.7	17.6	15.1	12.3	16.1
Other livestock costs		59.2	45.0	65.7	71.1	52.0	74.9
Forage †		28.0	11.2	19.3	31.2	10.1	30.2
TOTAL VARIABLE COSTS ‡		197.7	94.9	188.3	297.7	97.9	315.9
GROSS MARGIN per head		244.0	266.6	440.1	248.1	353.4	406.3
GROSS MARGIN per LU		443	451	793	422	562	703
GROSS MARGIN per hectare		544	324	866	556	494	924
Concentrates per £100 output		19	5	12	31	4	25
Averages - previous year							
Stocking rate:	LU/ha	1.19	n/a	1.14	1.72	1.57	1.58
Gross Margin: £/head		225.0	n/a	345.9	227.8	398.0	410.1
Gross Margin: £/ha		484	n/a	750	676	978	1024
Average finished sale price- £ /head					1147	1129	1198
* Top Third of Weighted Population							
† Forage includes seeds, fertilisers, sprays and other crop costs							
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.							

* Top third selected by level of gross margin per head

Figure 11 Gross margins per head of Cattle Rearing Systems

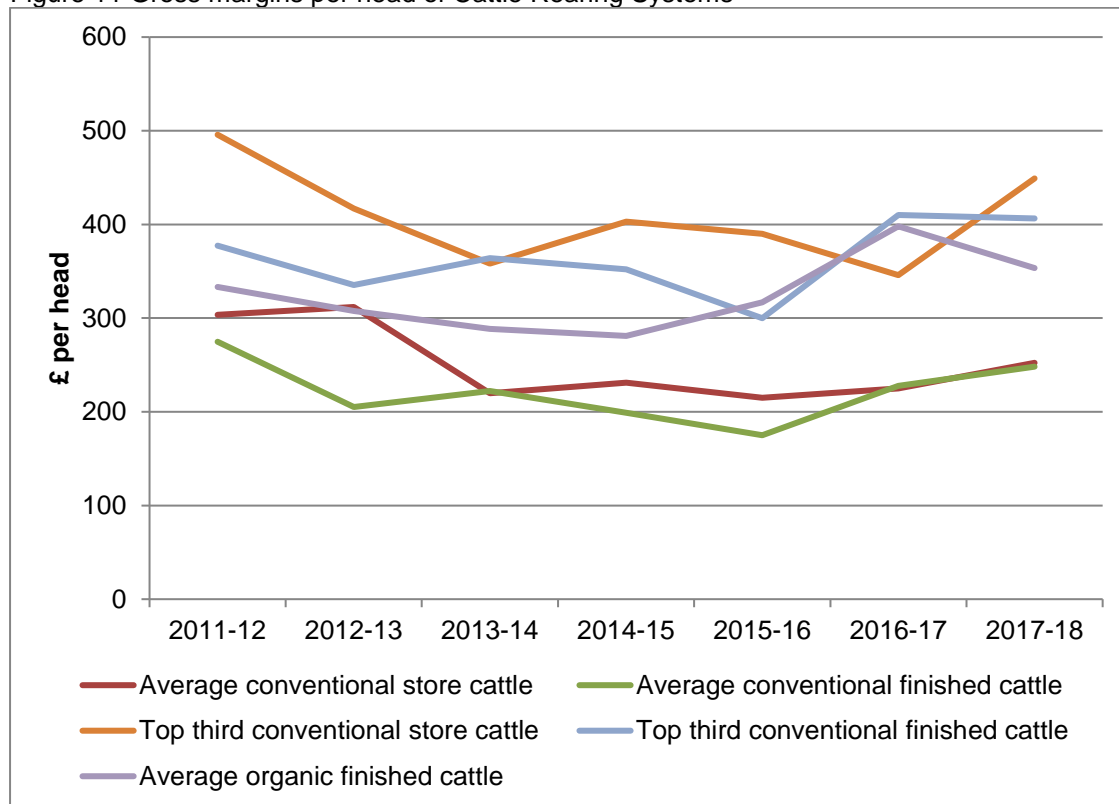


Figure 12 Beef Bred Finished Cattle Gross Margin per Head & per Hectare, by herd size conventional farms, 2017-18

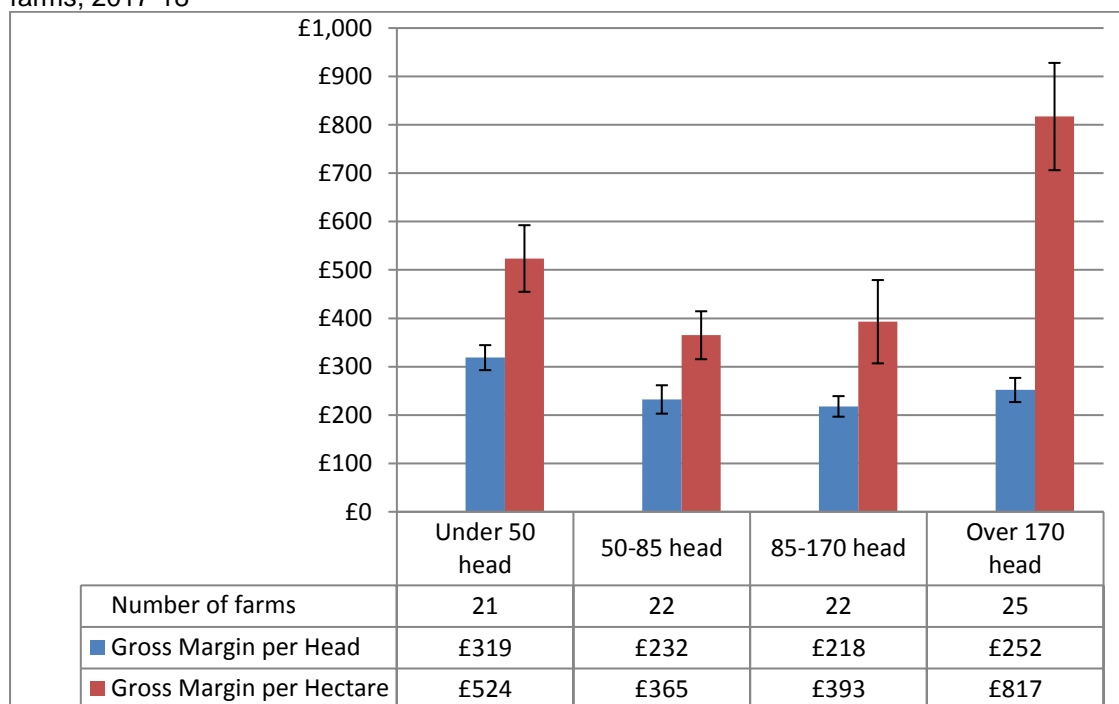


Table 12 –Lowland Ewe Gross Margin data, 2017-18

Gross margins per ewe and per hectare			2017/18	
(Weighted average performance)		Average		Top Third*
		Non-organic	Organic	Non-organic
Number of flocks		82	15	
Ewes per flock		422	231	427
Average lamb sale price - £/lamb		82.8	79.9	85.6
Stocking rate - ewes per hectare		5.5	5.6	7.0
		£ per head		
Output -	lambs	123.6	116.9	144.7
	wool	2.5	2.7	2.6
	depreciation	-10.8	-12.7	-7.1
ENTERPRISE OUTPUT (excl. BLSA)		115.3	106.9	140.2
Concentrates		20.8	8.0	20.7
Coarse fodder		1.2	3.5	1.5
Veterinary and medicines		7.7	8.4	7.6
Other livestock costs		12.6	12.8	13.4
Forage †		5.9	2.7	5.5
TOTAL VARIABLE COSTS ‡		48.2	35.5	48.8
GROSS MARGIN per ewe (excl. BLSA)		67.1	71.4	91.5
GROSS MARGIN per LU (excl. BLSA)		425	445	574
GROSS MARGIN per hectare (excl. BLSA)		366	403	638
Concentrates per £100 of output		18	7	15
Averages - previous year				
Stocking rate:	ewes/ hectare	5.9	4.3	6.5
Gross Margin: £/ewe		57.4	55.8	90.4
Gross Margin: £/ha		336	242	584
Average finished sale price- £ /head		77.6	76.6	79.6
* Top Third of Weighted Population				
† Forage includes seeds, fertilisers, sprays and other crop costs				
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.				

*Top third selected by gross margin per ewe

Figure 13: Lowland Ewe Gross Margin per Head. 2017-18

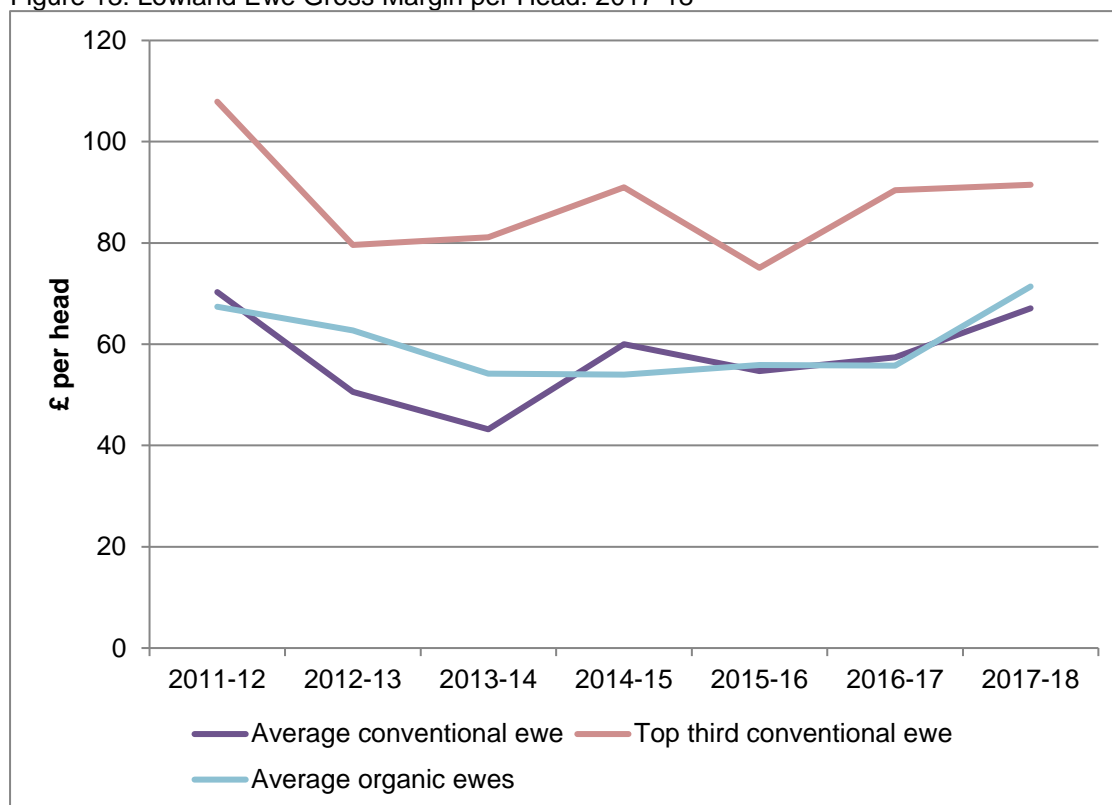


Figure 14 Lowland Ewe Gross Margin per Head and Per Hectare by flock size. 2017-18

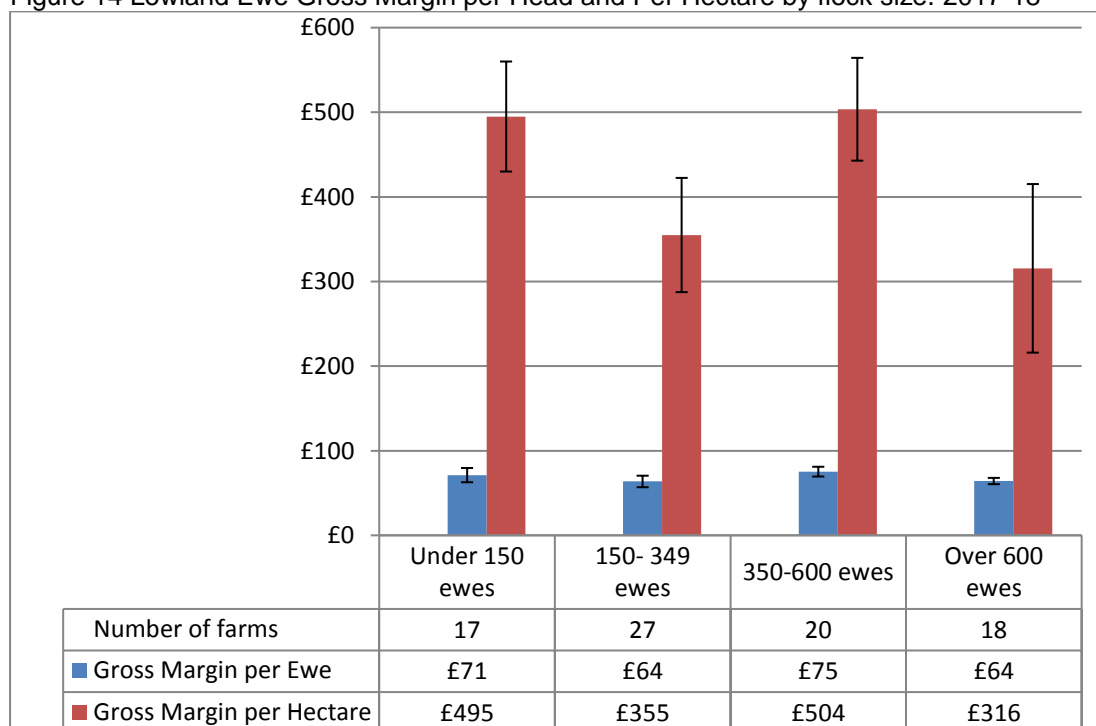
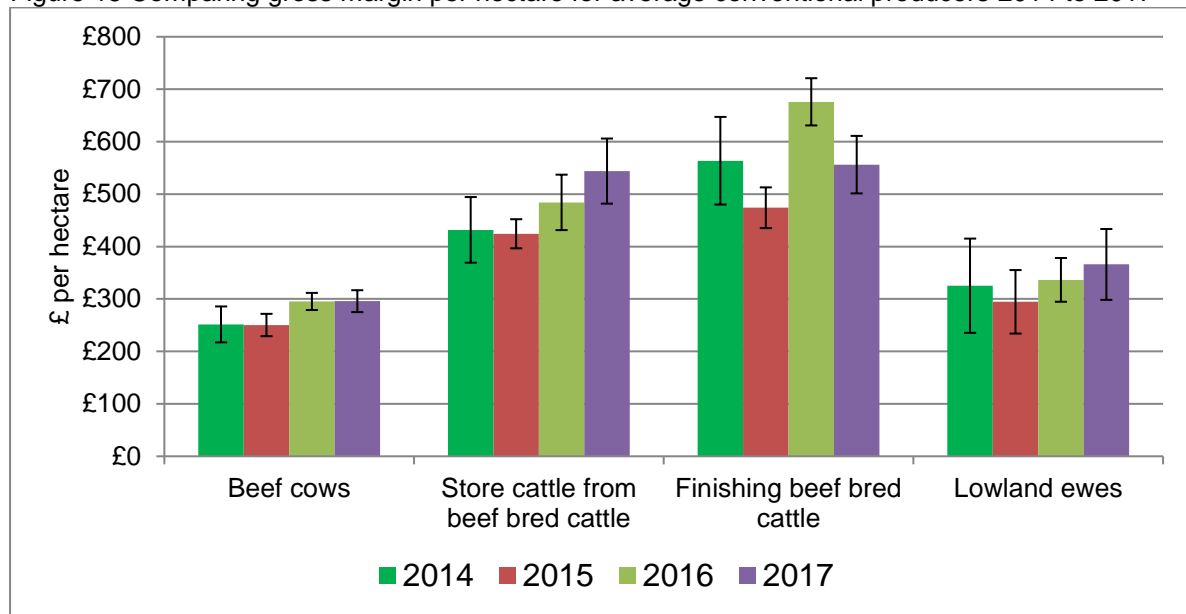


Figure 15 Comparing gross margin per hectare for average conventional producers 2014 to 2017



Appendix 1 The Farm Business Survey (FBS)

General

The FBS sample covers businesses with an economic Standard Output of 25,000 Euros and above. Practically all of the sampled accounts close within the four months from the end of December to the end of the following April with concentrations at the close of the calendar year and towards the end of March and early April. About 75 per cent of the accounts close during these two peak periods. Thus the results relate, on average, to March - February years.

Classification of survey farms by type of farming and size of business

A revised classification of farm types was introduced in 2010/11 based on Standard Outputs, which caused changes to the distribution of farms by farm type. Further details of the revised classification and its effect on the FBS sample may be found at:

<https://www.gov.uk/farm-business-survey-technical-notes-and-guidance>

The lower size threshold for the Farm Business Survey was also changed from 0.5 Standard Labour Requirements (in annual full-time equivalents) to a standard output of 25,000 Euros. Therefore, the results published here relate to farms for which the total standard output from cropping and stocking activities is at least 25,000 Euros.

The Standard Labour Requirement (SLR) of a farm represents the normal labour requirement, in Full Time Equivalents, for all the enterprises on a farm under typical conditions. The SLR for a farm is calculated from standard coefficients applied to each enterprise on the farm. The standard coefficients represent the input of labour required per head of livestock or per hectare of crops for enterprises of average size and performance.

Farms in the sample are grouped by type of farm based on the EC system of classification defined by Commission Decision 1242/2008 (with minor modifications to adapt it to United Kingdom conditions) and Standard Outputs per hectare of crop area and per head of livestock estimated over the period 2008-2012.

The Standard Output (SO) is a financial measure used to classify farm type. Standard outputs measure the total value of output of any one enterprise - per head for livestock and per hectare for crops. For crops, this will be the main product (e.g. wheat, barley, peas) plus any by-product that is sold, for example straw. For livestock it will be the value of the main product (milk, eggs, lamb, pork) plus the value of any secondary product (calf, wool) minus the cost of replacement. Up until 2010, standard gross margins were used for the classification of farms. The difference between standard outputs and standard gross margins is that no variable costs are deducted in the derivation of standard outputs. Each farm is assigned a total SO by aggregating the SOs for its agricultural enterprises. The farm is classified into a 'particular' type of farming by evaluating the proportion of its total SO deriving from different enterprises.

The characteristics of each farm type are summarised as follows:-

Cereals- Farms on which cereals, oilseeds, peas and beans harvested dry account for over two-thirds of their total SO (holdings with more than two-thirds of their total SO in set-aside are excluded from the survey results).

General cropping- Farms with over two-thirds of their total SO in arable crops (including field scale vegetables) or a mixture of arable and horticultural crops; and holdings where arable crops account for more than one-third of total SO and no other grouping accounts for more than one-third.

Dairy- Farms where the dairy enterprise, including followers, accounts for over two-thirds of their total SO.

LFA grazing livestock- Farms with more than two-thirds of their total SO in cattle and sheep except holdings classified as dairy. A farm is classified as in the LFA if 50% or more of its total area is in the EC Less Favoured Area (both Disadvantaged and Severely Disadvantaged).

Lowland grazing livestock- farms with more than two-thirds of their total SO in cattle and sheep except holdings classified as dairy. A farm is classified as "lowland" if less than 50% of its total area is in the EC Less Favoured Area.

Horticulture- Holdings on which fruit (including vineyards), hardy nursery stock, glasshouse flowers and vegetables, market garden scale vegetables, outdoor bulbs and flowers, and mushrooms account for more than two thirds of their total SO

Specialist pigs- Farms on which pigs account for over two-thirds of their total SO.

Specialist poultry -Farms on which poultry account for over two-thirds of their total SO.

Mixed farms- Farms where crops account for one-third, but less than two-thirds of total SO and livestock accounts for one-third, but less than two-thirds of total SO. It also includes holdings with mixtures of cattle and sheep and pigs and poultry and holdings where one or other of these groups is dominant, but does not account for more than two-thirds of the total SO.

Farm business size in the United Kingdom is measured in Standard Labour Requirements (SLR) expressed in terms of full-time equivalents. Five size groups are defined for this report:

- Part-time (less than 1 SLR)
- Small (greater than or equal to 1 less than 2 SLR's)
- Medium (greater than or equal to 2 less than 3 SLR's)
- Large (greater than or equal to 3 less than 5) SLR's
- Very Large (greater than or equal to 5 SLR's)

Farms are allocated to performance bands according to total farm output divided by total farm costs. The farms are then ranked and allocated to groups representing 25, 50 and 25 percentiles; equivalent to low, medium and high performance bands.

Weighting Procedure

All results in this report are weighted so as to provide estimates for the population. The weights are based on the ratio of numbers of businesses in the population (as given by the June Survey) and in the sample within each farm type and size group. These weights are then further refined by a calibration process using information from sources other than the Census (mostly administrative data). For more information on the FBS weighting procedure and other statistical issues, please see:

<https://www.gov.uk/farm-business-survey-technical-notes-and-guidance>

Definition of Terms

Utilised agricultural area is the crop area, including fodder, set-aside land, temporary and permanent grass and rough grazing in sole occupation (but not shared rough grazing) i.e. the agricultural area of the farm. It includes bare land and forage let out for less than one year.

Total area of farm is the utilised agricultural area plus woodland and other areas of the farm not used for agriculture (e.g. buildings, roads, water, and household gardens).

Total tillage comprises the utilised agricultural area, plus bare land and forage hired in from others in the accounting period, minus temporary and permanent grass and rough grazing in sole occupation (but not shared rough grazing).

Total area farmed comprises the total area of the farm minus woodlands and buildings, etc. plus net land hired in.

Adjusted utilised agricultural area comprises the utilised agricultural area with rough grazing in sole occupation converted to a permanent pasture equivalent.

Stocking figures are the average annual level of stocking based on estimated average livestock numbers on the farm for the year, including fractions for livestock on the farm for less than a year.

Total livestock units are used as an approximate measure of stocking intensity and are based on the estimated energy requirements of different species and ages of livestock. . A summary of the main livestock units is shown below

Dairy cows	1.00 LU	Beef Cows	0.75 LU	Heifers in calf	0.80 LU
Cattle over 2 years	0.80 LU	Cattle 1-2 years	0.65 LU	Cattle 0-12 months	0.34 LU
Bulls	0.75 LU	Lowland Ewes	0.10 LU	Upland Ewes	0.08 LU
Hill Ewes	0.06 LU	Store lambs	0.04 LU	Rams	0.08 LU

Annual labour units (ALU) are the estimated number of full time worker equivalents of persons working on the holding during the year. Part-time workers are converted to full-time equivalents in

proportion to their actual working time related to that of a full-time worker. One ALU represents one person employed for 2,200 hours.

Enterprise output is the main measure of individual crop and livestock output. It comprises:

(a) **Cash crop enterprise output**, which is the total value of cash crops produced by the farm (other than losses in the field and in store) including *direct crop subsidies* due. It includes crops used for feed and seed by the farm business and those consumed in the farmhouse and by farm labour. Crop enterprise output is calculated on a "harvest year" as distinct from an "accounting year" basis; that is, it refers only to those crops (with the exception of certain horticultural crops) wholly or partly harvested during the accounting year and excludes any crop carried over from the previous year.

Thus valuation changes (between the previous and current crops) are not relevant and the total harvested yield of the crop is valued at market prices (plus any subsidies). However, any difference between the opening valuation of any stocks of previous crops and their ultimate disposal value (sales, used on farm and any end-year stocks) is included in total farm output and net farm income.

(b) **By-products, forage and cultivations**, which cover the value of output of the by-products of agricultural activity, sales of fodder, valuation changes for fodder and cultivations. It also covers revenue from the letting of bare land or forage on a short-term lease.

(c) **Livestock enterprise output** comprises the total sales of livestock and livestock products, part of the valuation change (see below), produce consumed in the farmhouse and by labour and the value of milk and milk products fed on the farm (excluding direct suckling) adjusted for debtors at the beginning and end of the year and transfers between enterprises; less purchases of livestock and livestock products from outside the farm business. Stock appreciation for breeding livestock (cattle, sheep and pigs) has been excluded from individual livestock enterprise outputs. However, changes in the numbers of breeding livestock between the opening and closing valuation and the total valuation change of trading livestock are included. Unlike crop enterprise output, livestock enterprise output is calculated on an accounting year basis.

(d) **Rental Income** comprises the renting-out of farm cottages and other buildings, where these are inseparable from the main farm account

(e) **Contract work** includes returns from the use of farm resources for hire work

(f) **Miscellaneous output includes** returns from recreational activities, added value activities, the private share of the rental of the farmhouse and the value of any farm labour or other inputs used for producing capital assets for the farm.

Total farm output is the sum of crop and livestock enterprise output, income from the agri-environment schemes, Basic payment scheme and miscellaneous output, and the adjustment for previous years' crops. It excludes breeding livestock stock appreciation.

Inputs comprise payments and the estimated value of non-cash inputs, including home-grown feed and seed, adjusted for changes in stocks and creditors between the beginning and end of the year. The appropriate share of any input not used entirely by the farm business is deducted.

Total variable costs

These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.

Concentrate feed includes (a) bought compounds and grains, sugar beet pulp, proteins, milk powder, animal and plant proteins, additives, minerals and vitamins; and (b) home produced cereals, beans, peas, milk and milk products, valued at the average ex-farm price.

Purchased Fodder includes purchased bulk feeds such as potatoes, vegetable residues, wet brewers' grains, hay and feed straw, and agistment. It does not include forage produced on the holding. Payments for grass keep and bare land are shown with land charges.

Veterinary fees and medicines consist of veterinary fees and the cost of all medicines.

Other livestock costs includes all expenditure relating directly to livestock production such as freeze branding, AI fees, milk tests, breed society fees, dairy and other detergents, packing materials, bedding straw, show expenses, processing and marketing charges, disposal of casualties, etc. and other livestock costs not separately identified.

Seeds This comprises expenditure on purchased seeds, plants and trees adjusted for changes in stocks. Home-grown seed from the previous crop is included and charged at estimated market price: any seeds from current crops and sown for a succeeding crop are excluded, but are included in the closing valuation of the crop and hence in enterprise output. This enables the value of homegrown seed used in the production of the current crop to be identified.

Fertilizers This includes lime, fertilisers and other manures, and is adjusted for changes in stock. Fertilisers sown for next year's crops are treated as if they were still in store and are included in the closing valuation.

Crop protection This includes costs of pre-emergent sprays, fungicides, herbicides, dusts and insecticides and other crop sprays.

Other crop costs includes all expenditure relating directly to crop production such as packing materials, baler cord, soil analyses, crop competition costs, polythene (for tunnels), all storage and market preparation costs, purchase of standing crops, marketing charges, soil sterilisation, etc. It also includes the cost of renting bare land (for growing cash crops) for less than one year.

Total fixed costs

These are the costs of labour, machinery, contract work, land and buildings, other general farming costs and depreciation.

Labour (excluding farmer and spouse) costs include all work in connection with the normal running of the holding including field work, livestock husbandry, market preparation, maintenance, transport and other related operations. They exclude work to produce fixed assets (construction or repairs of buildings and machinery, etc.), domestic work and business travel/professional meetings, etc.

'Unpaid' labour is valued at the appropriate rate for the work actually done. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income

Contract costs These costs include expenditure on work carried out by agricultural contractors, including the costs of materials employed, such as fertilisers, unless these can be allocated to the specific heading. Costs of hiring machines to be used by the farm's own labour are also included. Expenditure on contract labour is only included here if it is associated with the hiring of a machine. Otherwise it is entered under (casual) labour.

Machinery costs relate to all machinery and equipment items, which originally cost more than £500, including the farm share of road vehicles. Depreciation is calculated on a replacement cost basis (broadly equivalent to 15% of current replacement costs). Repairs are recorded net of insurance receipts.

Land expenses include tenant-type repairs and land upkeep costs as Property repairs, the actual rents paid by tenant farmers and drainage rates where incurred. Payments for grass keep and bare land are also included. For land and buildings owned a 'rental value' is included based on similar payments made by tenants in similar circumstances.

General overheads include the farm share of electricity, heating fuel, water, insurance (including labour and buildings insurance) and professional fees. Bank charges secretarial costs, consultancy fees and other sundry costs (such as subscriptions, telephone, postage, stationery, etc.) are included in Other general costs.

Net Farm Income (NFI) is intended as a consistent measure of the profitability of tenant-type farming which allows farms of different business organisation, tenure and indebtedness to be compared. It represents the return to the farmer and spouse alone for their manual and managerial labour and on the tenant-type capital invested in the farm business.

To represent the return to farmer and spouse alone, a notional deduction is made for any unpaid labour provided by non-principal partners and directors, their spouses and by others; this unpaid labour is valued at average local market rates for manual agricultural work.

To confine the measure to the tenant-type activities and assets of the business, an imputed rent is deducted for owner-occupied land and buildings and for landlord-type improvements made by the tenant. No deduction is made for interest payments on any farming loans, overdrafts or mortgages; interest earned on financial assets is also excluded.

Because of these two restrictions, NFI is not a proxy for farm business income; other measures, such as Net Profit and Family Farm Income should be used instead. Nor is it a proxy for farm household income both because NFI does not accurately represent the farmer and spouse share of the business and because it takes no account of any income from off-farm sources.

Breeding livestock stock appreciation represents the change in market prices of breeding cattle, sheep and pigs between the opening and closing valuations.

Farm business income (FBI) for sole traders and partnerships represents the financial return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers) and on all their capital invested in the farm business, including land and buildings. It is defined as Total Farm Output (TFO) plus profit / loss on sale of assets minus cost (C): where TFO is defined as the sum of output from: crop enterprises, adjustment for disposal of previous crops, livestock enterprises, separable non-agricultural diversification, Basic farm payment, agri-environmental payments, other grants and subsidies, miscellaneous receipts; C is defined as variable

costs plus fixed costs. Note that prior to 2008/09 directors remuneration was not deducted in the calculation of farm business income. For corporate businesses it represents the financial return on the shareholders capital invested in the farm business. It is used when assessing the impact of new policies or regulations on the individual farm business. Although Farm Business Income is equivalent to financial Net Profit, in practice they are likely to differ because Net Profit is derived from financial accounting principles whereas Farm Business Income is derived from management accounting principles. For example in financial accounting output stocks are usually valued at cost of production, whereas in management accounting they are usually valued at market price. In financial accounting depreciation is usually calculated at historic cost whereas in management accounting it is often calculated at replacement cost.

Farm corporate income represents the return on own capital invested in the farm business, to risk and to entrepreneurship. It is derived by deducting unpaid labour, both manual and managerial, from Farm Business Profit. This allows the profitability of sole traders and partnerships to be compared directly with that of companies. Currently we are able to deduct an estimate of unpaid manual labour but not of unpaid managerial labour and so the data are only approximate. However, we plan to undertake a research project to produce a method for deriving an estimate of unpaid managerial labour, so that we can produce better data for this measure in future.

Farm investment income represents the return on **all** capital invested in the farm business **whether borrowed or not**, to risk and to entrepreneurship. It is a general measure of the profitability of farming as an activity rather than of a particular business.

It is derived by adding net interest payments to Farm Corporate Income. Since currently the data for Farm Corporate income are only approximate, so too are the data for Farm Investment Income.

Balance Sheet Tables

Total fixed assets include milk and livestock quotas, as well as land, buildings, breeding livestock, and machinery and equipment. For tenanted farmers, assets can include farm buildings, cottages, quotas, etc., where these are owned by the occupier.

Bank term loans and **other long and medium term loans** are loans which exceed 12 months.

Net Worth represents the residual claim or interest of the owner in the business. It is the balance sheet value of assets available to the owner of the business after all other claims against these assets have been met.

Appendix 2 Reports in this series:

Reports in this series:

Crop Production in England

Dairy Farming in England

Hill Farming in England

Horticulture Production in England

Lowland Grazing Livestock Production in England

Organic Farming in England

Pig Production in England

Poultry Production in England

Details available at www.ruralbusinessresearch.co.uk

ISBN: 978-0-9563210-9-1

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