

# **Farm Business Survey 2015/2016**

## **A summary from Hill Farming in England**



David Harvey and Charles Scott

March 2017



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**2015/2016**

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## Acknowledgements

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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. The views expressed in this report are those of the authors and are not necessarily shared by other members of RBR or by the Department for Environment, Food and Rural Affairs.

## Foreword to the Eleventh Series

With this eleventh series of reports on the economics of agriculture and horticulture in England from *Rural Business Research (RBR)*, our focus of providing independent data and analysis to the individual sectors has arguably never been of such importance. The collective decision of the UK voting public on the 23 June 2016 to leave the EU will have large impacts on agricultural and horticultural sectors. Issues of policy, trade, exchange rates and labour availability are now very much front and centre in the minds of many businesses. Ensuring that the enterprises that constitute the farm business are profitable is of even greater importance given the uncertainty which now exists in the industry. Brexit will also bring opportunities, and those seeking to make the most of the opportunities that will arise will need independent data to support effective decision making. In this eleventh series, RBR seeks to provide these independent data in a revised and succinct format which places the data results at the heart of each report; we have focused our succinct comments on key results within the tables to draw to the attention of readers the central highlights. Our increasing focus on the presentation of data and results flows from internal and external feedback.

Setting the context to this series, data from the Farm Business Survey (FBS) for the 2015/16 financial year, shows that average Farm Business Income (FBI) decreased by 21% to £31,400 per farm. Examining results by farm type, on average, only General Cropping, Less Favoured Areas (LFA) Grazing Livestock and Horticulture recorded increases in FBI; by contrast Dairy and Specialist Pig farms recorded FBI decreases of around 50% on 2014/15 levels. Average FBI was at its lowest point for a number of years in 2015/16. The immediate impact of Brexit on exchange rates has however led to recent increases in commodity prices, and the overall outlook for 2016/17 is consequently more positive, though farm type variation remains and not all sectors are likely to witness improvements for 2016/17. Moving forward however, businesses will need to understand the impact of the exchange rate movement on the costs incurred, and a greater focus on budgeting and cost management will be the order of the day in order to capitalise on the exchange rate benefit. Cost comparison from the independent data produced within these reports provides valuable information in relation to costs and returns across each sector to aid managers in this respect.

With respect to the policy environment for agriculture and horticulture moving forward, the rigorous and independent FBS data presented in these reports will be of crucial importance for evidenced-based policy making. Our research work within the FBS programme could not be possible without the direct support of our farmer and grower co-operators and the wider support of agricultural and horticultural businesses and sector stakeholders; our thanks are given to them all.

**Professor Paul Wilson**

Chief Executive Officer, Rural Business Research  
March 2017

[www.ruralbusinessresearch.co.uk](http://www.ruralbusinessresearch.co.uk)

## Executive Summary From Hill Farming in England 2015/16

The total area of land classified as Less Favoured Area (LFA) in England is 2.2 million hectares. Of this, 1.8 million hectares are farmed - 17% of the total farmed area of England<sup>1</sup>. This total is made up of Severely Disadvantaged Areas (67%) and Disadvantaged Areas (33%). The Moorland designation of semi-natural vegetation covers 42% of the LFA area<sup>2</sup>. These are areas where farming is more difficult due to poor climate, soils and terrain, which in turn lead to lower yields, and higher production and transportation costs. LFAs essentially define the upland hill-farming areas; they include almost all of the upland areas in the North of England (including the Pennines, Lake District and North York Moors), the Peak District, the English part of the English-Welsh border, Exmoor, Dartmoor, and parts of Cornwall. In England, 29% of beef cows and 44% of female breeding sheep are on LFA grazing livestock farms<sup>3</sup>. Farming plays a crucial role in maintaining the distinctive landscape of such areas.

The average LFA Grazing Livestock farm has 140 ha of enclosed land and typically has access to an area of common grazing. It is part owned (71 ha) and part rented (69 ha) and most of the farm (87 ha) is in permanent grass. The average LFA farmer is 59 years old, has 26 beef cows and 354 breeding ewes. Cattle and sheep youngstock and fatstock make up the total to 82 cattle and 709 sheep on the farm, making a total of 87 Grazing Livestock Units.

The average LFA Grazing Livestock farm earns 63% of its total revenue (output) from crop and livestock farming activities, 21% comes from the Basic Payment, and 12% from specific agri-environment payments. The balance of revenues (4%) is earned from diversification activities (see Table 1).

The crop and livestock farming side of the business covers its variable costs and earns a respectable gross margin of £26,667 per farm. However, since this side of the whole farm business is assumed to incur most of the fixed costs (85%) the average LFA farm is shown as making an Agricultural Business Income loss of -£10,771 (before unpaid labour) from crop and livestock production per farm in 2015/16. Allowing for the unpaid labour allocation of £24,198 to this side of the business results in an Agricultural Corporate Income loss of -£34,969.

Farm revenues from all sources combine to generate a headline Farm Business Income of £18,972 per farm in 2015/16, a 30% increase on the previous year. This income fails to cover the opportunity costs of the unpaid labour (provided mainly by the farmer and family) estimated at £25,726 per farm. As a result, Farm Corporate Income shows a loss of -£6,754 per farm (a 37% improvement on the loss of -£10,638 in the previous year). Adjusting for the net interest payments made by the farm, the Farm Investment Income (which represents the return on risk and entrepreneurship on all capital invested in the farm business whether borrowed or not) of -£4,568 is up by 47% compared with the previous year's loss of -£8,681. The traditional measure of farm income of Net Farm Income (which puts all farm businesses on a comparable tenanted basis) averaged £9,761 per farm, up 52% from £6,424 in 2014/15. LFA

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<sup>1</sup> Defra- <http://archive.defra.gov.uk/rural/countryside/uplands/land-classification.htm>

<sup>2</sup> Natural England - Entry Level Stewardship: Environmental Stewardship Handbook (NE349)

<sup>3</sup> Data from Defra, June Survey of Agriculture and Horticulture, 2015

farms depend to a substantial extent on public payments; the Basic Payment and Agri-environmental payments together account for over 30% of their revenue. Although there is substantial variation amongst the farms in terms of their commercial performance, most of these farms could not survive in their present form as commercial businesses without the public payments, particularly those with an emphasis on beef cattle production (see Tables 2 to 5).

Further reading:

A detailed analysis of Hill Farming in England, which includes:

- Analysis by; Main farm type, EU region, Size band, and Performance ratio of:
- Land use, stocking and technical efficiency
- Outputs, variable costs and gross margins
- Fixed costs and farm income measures
- Balance sheets
- Detailed enterprise gross margins

is available in hard copy from:

RBR at Newcastle University  
School of Agriculture, Food & Rural Development  
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Web site: <http://www.ncl.ac.uk/afrd/survey>  
Price: £15 including postage  
ISBN: 978-0-903698-64-1

**Table 1 LFA Grazing Livestock Farms: Business Output, Input Costs and Income****The average LFA grazing farm**

Derivation of farm income measures		Cost Centre (£ per farm)												Farm Business (£ per farm)					
		Agriculture			Agri-environment and other payments			Diversification out of agriculture			Single/Basic Payment Scheme								
		2014/15	2015/16	% change	2014/15	2015/16	% change	2014/15	2015/16	% change	2014/15	2015/16	% change	2014/15	2015/16	% change			
% contribution of cost centre revenue to total:		65%	63%		12%	12%		4%	4%		19%	21%							
1	Total output (Revenue)	62,918	63,289	1%	11,172	11,926	7%	4,069	4,074	0%	18,104	20,592	14%	96,263	99,881	4%			
2	Variable costs	36,978	36,622	-1%	38	58	53%	93	39	-58%	2	2	-	37,111	36,721	-1%			
3=1-2	Total Gross margin	25,941	26,667	3%	11,134	11,869	7%	3,976	4,035	1%	18,102	20,590	14%	59,153	63,160	7%			
4	Fixed costs	37,968	37,714	-1%	2,344	2,090	-11%	1,775	1,748	-2%	2,636	2,912	10%	44,723	44,463	-1%			
5=2+4	Total Costs	74,945	74,336	-1%	2,382	2,147	-10%	1,868	1,787	-4%	2,638	2,914	10%	81,834	81,184	-1%			
6	Profit/(loss) on sale of fixed assets	210	276	31%										210	276	31%			
7=1-5+6	Farm Business Income	-11,817	-10,771	9%	8,790	9,779	11%	2,201	2,287	4%	15,466	17,677	14%	14,640	18,972	30%			
8	Adjustment for unpaid manual labour	23,722	24,198	2%	570	514	-10%	986	1,014	3%	0	0	-	25,278	25,726	2%			
9=7-8	Farm Corporate Income	-35,538	-34,969	2%	8,219	9,265	13%	1,215	1,273	5%	15,466	17,677	14%	-10,638	-6,754	37%			
10	Interest payments (net of interest received)	1,776	1,983	12%	53	52	-3%	69	79	15%	58	71	21%	1,957	2,185	12%			
11=9+10	Farm Investment Income	-33,762	-32,986	2%	8,273	9,317	13%	1,284	1,353	5%	15,525	17,748	14%	-8,681	-4,568	47%			
% contribution of cost centre costs to total:		92%	92%		3%	3%		2%	2%		3%	4%							
2015/16 Sample size (unweighted) 225 Number (weighted) 6,436 2014/15 Sample size (unweighted) 237 Number (weighted) 6,577				12	Imputed rent									9,099	10,316	13%			
				13	Ownership charges									2,900	3,029	4%			
				18	Director's remuneration									131	132	-			
				16	Unpaid labour of principal farmer and spouse									21,173	21,484	1%			
				17=11-12+13+18+16				Net Farm Income									6,424	9,761	52%
				19	Holding gains not included in farm income									29,891	32,655	9%			
				20	Breeding Livestock Appreciation (BLSA)									1,600	-1,635	-202%			
				21	Revaluation of machinery, permanent crops, glasshouse, quota									377	46	-88%			
				22	Revaluation of land									27,913	34,244	23%			
				23	Manager's paid managerial input									28	42	49%			
				24=17-16+23				Management and Investment Income						-14,721	-11,681	21%			



**Table 2 Farm Income measures by Cost Centre - Mixed grazing livestock (SDA)**

The average Mixed grazing livestock (SDA) farm 2015/16		Cost Centre (£ per farm)				Farm Business (£ per farm) 2015/16
		Agriculture 2015/16	Agri-environment and other payments 2015/16	Diversification out of agriculture 2015/16	Basic Payment Scheme 2015/16	
Derivation of farm income measures:						
Total output	(a)	91,144	16,085	4,922	25,686	137,838
Variable costs	(b)	50,153	19	154	2	50,328
<b>Total Gross margin</b>	<b>(c=a-b)</b>	<b>40,992</b>	<b>16,066</b>	<b>4,769</b>	<b>25,684</b>	<b>87,510</b>
Fixed costs	(d)	54,227	2,561	2,649	3,150	62,587
<b>Total Costs</b>	<b>(e=b+d)</b>	<b>104,379</b>	<b>2,580</b>	<b>2,803</b>	<b>3,152</b>	<b>112,914</b>
Profit/(loss) on sale of fixed assets	(f)	324				324
<b>Farm Business Income</b>	<b>(g=a-e+f)</b>	<b>-12,911</b>	<b>13,505</b>	<b>2,120</b>	<b>22,534</b>	<b>25,247</b>
Adjustment for unpaid manual labour	(h)	28,336	621	2,156	0	31,113
<b>Farm Corporate Income</b>	<b>(i=g-h)</b>	<b>-41,247</b>	<b>12,884</b>	<b>-36</b>	<b>22,534</b>	<b>-5,865</b>
Interest payments (net of interest received)	(j)	1,962	63	128	54	2,207
<b>Farm Investment Income</b>	<b>(k=i+j)</b>	<b>-39,284</b>	<b>12,946</b>	<b>91</b>	<b>22,588</b>	<b>-3,659</b>
Derivation of Net Farm Income:						
		Imputed rent (l)				12,794
		Ownership charges (m)				4,213
		Director's remuneration (n)				26
		Unpaid labour of principal farmer and spouse (o)				24,876
		<b>Net Farm Income (p=k-l+m+n+o)</b>				<b>12,662</b>
		Holding gains not included in farm income (q)				47,849
		Breeding Livestock Appreciation (BLSA) (r)				-2,383
		Revaluation of machinery, permanent crops, glasshouse & quota (s)				88
		Revaluation of land (t)				50,143
		Manager's paid managerial input (u)				92
		<b>Management and Investment Income (v=p-o+u)</b>				<b>-12,123</b>
The average farm						
Number (unweighted)	76					
Number (weighted)	1,319					

**Table 3 Farm Income measures by cost centre - Specialist Beef (SDA)**

The average Specialist beef (SDA) farm 2015/16		Cost Centre (£ per farm)				Farm Business (£ per farm) 2015/16
		Agriculture 2015/16	Agri-environment and other payments 2015/16	Diversification out of agriculture 2015/16	Basic Payment Scheme 2015/16	
Derivation of farm income measures:						
Total output	(a)	55,117	6,501	3,722	16,862	82,202
Variable costs	(b)	29,075	141	2	2	29,219
<b>Total Gross margin</b>	<b>(c=a-b)</b>	<b>26,042</b>	<b>6,360</b>	<b>3,721</b>	<b>16,860</b>	<b>52,983</b>
Fixed costs	(d)	35,038	1,346	912	3,570	40,866
<b>Total Costs</b>	<b>(e=b+d)</b>	<b>64,113</b>	<b>1,486</b>	<b>913</b>	<b>3,572</b>	<b>70,085</b>
Profit/(loss) on sale of fixed assets	(f)	63				63
<b>Farm Business Income</b>	<b>(g=a-e+f)</b>	<b>-8,933</b>	<b>5,015</b>	<b>2,809</b>	<b>13,290</b>	<b>12,180</b>
Adjustment for unpaid manual labour	(h)	23,013	500	306	0	23,819
<b>Farm Corporate Income</b>	<b>(i=g-h)</b>	<b>-31,946</b>	<b>4,515</b>	<b>2,503</b>	<b>13,290</b>	<b>-11,638</b>
Interest payments (net of interest received)	(j)	1,875	50	30	63	2,019
<b>Farm Investment Income</b>	<b>(k=i+j)</b>	<b>-30,071</b>	<b>4,565</b>	<b>2,533</b>	<b>13,353</b>	<b>-9,620</b>
Derivation of Net Farm Income						
		Imputed rent (l)				12,065
		Ownership charges (m)				4,023
		Director's remuneration (n)				75
		Unpaid labour of principal farmer and spouse (o)				19,605
		<b>Net Farm Income (p=k-l+m+n+o)</b>				<b>2,018</b>
		Holding gains not included in farm income (q)				25,728
		Breeding Livestock Appreciation (BLSA) (r)				-479
		Revaluation of machinery, permanent crops, glasshouse & quota (s)				86
		Revaluation of land (t)				26,122
		Manager's paid managerial input (u)				0
		<b>Management and Investment Income (v=p-o+u)</b>				<b>-17,587</b>
The average farm						
Number (unweighted)	30					
Number (weighted)	839					

**Table 4 Farm income measures by cost centre - Specialist Sheep (SDA)**

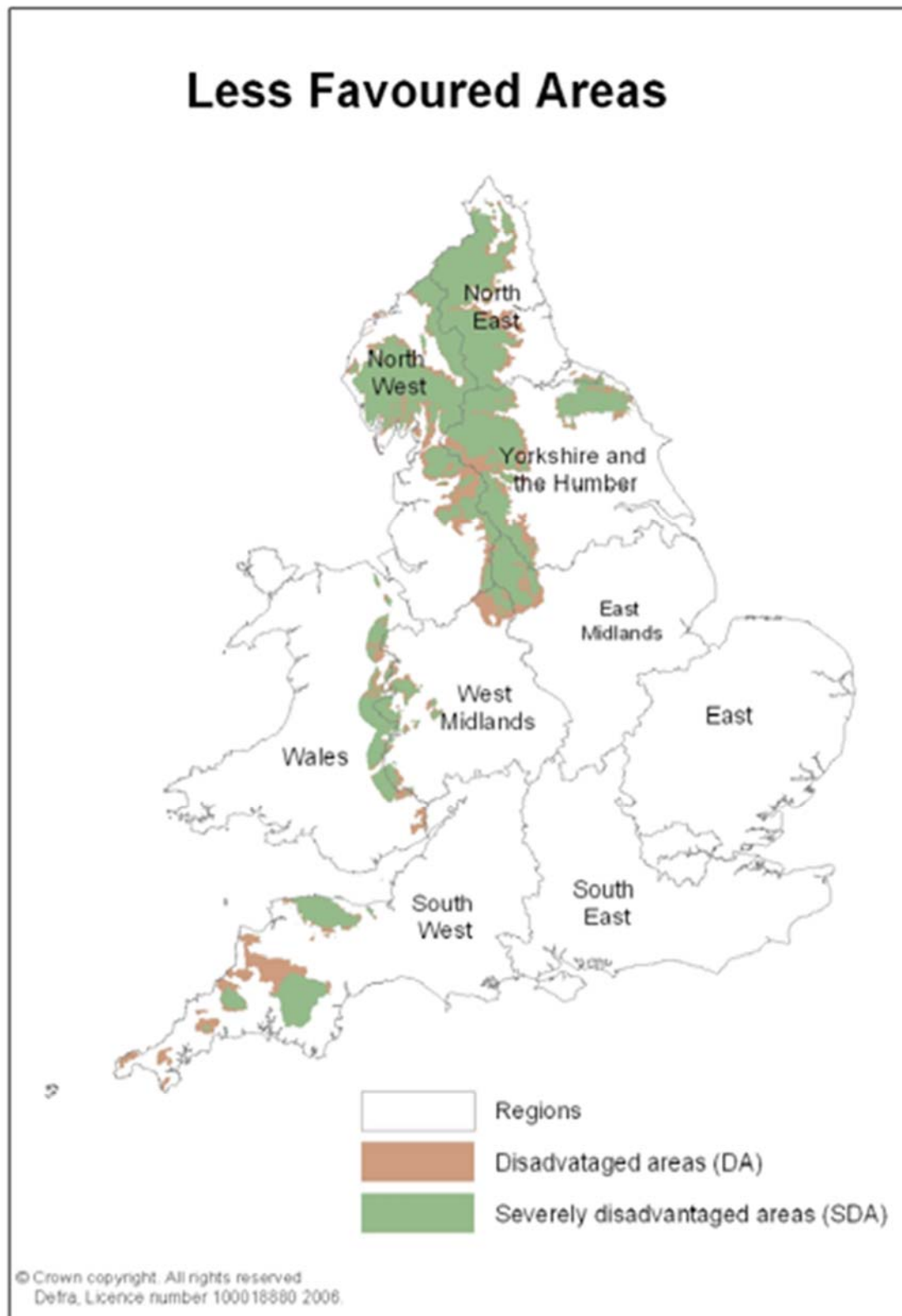
The average Specialist sheep (SDA) farm 2015/16		Cost Centre (£ per farm)				Farm Business (£ per farm) 2015/16
		Agriculture 2015/16	Agri-environment and other payments 2015/16	Diversification out of agriculture 2015/16	Basic Payment Scheme 2015/16	
Derivation of farm income measures:						
Total output	(a)	55,310	20,093	4,380	26,585	106,368
Variable costs	(b)	37,071	8	9	2	37,090
<b>Total Gross margin</b>	<b>(c=a-b)</b>	<b>18,239</b>	<b>20,085</b>	<b>4,371</b>	<b>26,583</b>	<b>69,278</b>
Fixed costs	(d)	33,472	3,303	1,946	3,402	42,122
<b>Total Costs</b>	<b>(e=b+d)</b>	<b>70,542</b>	<b>3,311</b>	<b>1,955</b>	<b>3,404</b>	<b>79,212</b>
Profit/(loss) on sale of fixed assets	(f)	158				158
<b>Farm Business Income</b>	<b>(g=a-e+f)</b>	<b>-15,075</b>	<b>16,783</b>	<b>2,425</b>	<b>23,181</b>	<b>27,314</b>
Adjustment for unpaid manual labour	(h)	23,087	634	887	0	24,608
<b>Farm Corporate Income</b>	<b>(i=g-h)</b>	<b>-38,162</b>	<b>16,149</b>	<b>1,538</b>	<b>23,181</b>	<b>2,706</b>
Interest payments (net of interest received)	(j)	2,259	87	70	101	2,517
<b>Farm Investment Income</b>	<b>(k=i+j)</b>	<b>-35,902</b>	<b>16,236</b>	<b>1,608</b>	<b>23,282</b>	<b>5,224</b>
Derivation of Net Farm Income						
		Imputed rent (l)				9,962
		Ownership charges (m)				2,701
		Director's remuneration (n)				38
		Unpaid labour of principal farmer and spouse (o)				21,528
		<b>Net Farm Income (p=k-l+m+n+o)</b>				<b>19,528</b>
		Holding gains not included in farm income (q)				30,900
		Breeding Livestock Appreciation (BLSA) (r)				-2,330
		Revaluation of machinery, permanent crops, glasshouse & quota (s)				10
		Revaluation of land (t)				33,220
		Manager's paid managerial input (u)				49
		<b>Management and Investment Income (v=p-o+u)</b>				<b>-1,951</b>
The average farm						
Number (unweighted)	53					
Number (weighted)	1,870					

**Table 5 Farm Income measures by cost centre - Various grazing livestock (DA)**

The average Various grazing livestock (DA) farm 2015/16		Cost Centre (£ per farm)				Farm Business (£ per farm) 2015/16
		Agriculture	Agri-environment and other payments	Diversification out of agriculture	Basic Payment Scheme	
Derivation of farm income measures:		2015/16	2015/16	2015/16	2015/16	
Total output	(a)	57,075	5,196	3,495	14,446	80,211
Variable costs	(b)	31,491	88	13	2	31,594
<b>Total Gross margin</b>	<b>(c=a-b)</b>	<b>25,584</b>	<b>5,108</b>	<b>3,481</b>	<b>14,444</b>	<b>48,617</b>
Fixed costs	(d)	32,896	1,149	1,391	2,172	37,608
<b>Total Costs</b>	<b>(e=b+d)</b>	<b>64,387</b>	<b>1,237</b>	<b>1,404</b>	<b>2,174</b>	<b>69,202</b>
Profit/(loss) on sale of fixed assets	(f)	415				415
<b>Farm Business Income</b>	<b>(g=a-e+f)</b>	<b>-6,897</b>	<b>3,959</b>	<b>2,091</b>	<b>12,272</b>	<b>11,424</b>
Adjustment for unpaid manual labour	(h)	23,207	367	734	0	24,308
<b>Farm Corporate Income</b>	<b>(i=g-h)</b>	<b>-30,104</b>	<b>3,591</b>	<b>1,357</b>	<b>12,272</b>	<b>-12,884</b>
Interest payments (net of interest received)	(j)	1,818	19	77	59	1,974
<b>Farm Investment Income</b>	<b>(k=i+j)</b>	<b>-28,286</b>	<b>3,611</b>	<b>1,434</b>	<b>12,331</b>	<b>-10,911</b>
Derivation of Net Farm Income						
Imputed rent (l)						8,623
Ownership charges (m)						2,289
Director's remuneration (n)						283
Unpaid labour of principal farmer and spouse (o)						20,246
<b>Net Farm Income (p=k-l+m+n+o)</b>						<b>3,285</b>
Holding gains not included in farm income (q)						28,109
Breeding Livestock Appreciation (BLSA) (r)						-1,090
Revaluation of machinery, permanent crops, glasshouse & quota (s)						38
Revaluation of land (t)						29,161
Manager's paid managerial input (u)						23
<b>Management and Investment Income (v=p-o+u)</b>						<b>-16,939</b>
The average farm						
Number (unweighted)	66					
Number (weighted)	2,408					

**Figure 1 Map of Less Favoured Areas, England**

Source: Defra



## Appendix 1. References

Hill Farming in England, 2014/15, RBR

Defra 2017 structure-june-eng-farmtypeseries2015 - Accessed 10mar17

Government Office Reports, 2015/16, RBR (<http://www.farmbusinesssurvey.co.uk/>)

## Appendix 2. Reports in this series

Organic Farming in England

Crop Production in England

Dairy Farming in England

Hill Farming in England

Horticulture Production in England (Horticultural Business Data)

Lowland Grazing Livestock Production

Pig Production in England

Poultry Production in England

Details available at [www.ruralbusinessresearch.co.uk](http://www.ruralbusinessresearch.co.uk)

## Appendix 3. Definition of Terms

**1. Accounting years:** To ensure consistency in harvest/crop year and commonality of subsidies within any one FBS year, only farms which have accounting years ending between 31 December and 30 April inclusive are included in the survey.

Aggregate results are presented in terms of an accounting year ending at end-February, the approximate average of all farms in the FBS. Thus the results relate, on average, to March - February years

### Business Outputs, Inputs, Costs and Income

**2. Farm business income** 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. For corporate businesses it represents the financial return on the shareholders capital invested in the farm business. Note that prior to 2008/09 directors remuneration was not deducted in the calculation of farm business income. 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.

**3. 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 Income. 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.

**4. 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.

**5. Net Farm Income (NFI)** is intended as a consistent measure of the profitability of tenant-type farming<sup>4</sup> 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<sup>5</sup> 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.

**6. Cash income** is the difference between total revenue and total expenditure. Revenue is: receipts adjusted for debtors; and expenditure is: purchases adjusted for creditors. It is assumed, therefore, that all end of year debtor and creditor payments are settled in full, even though this may happen beyond the end of the accounting

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<sup>4</sup> Tenant-type farming was never conceived of as including non-agricultural activities on farm (using farm resources) except perhaps for value added activities such as small-scale food processing, e.g. sales of farm produced butter and cream and retail sales of farm produced liquid milk. However, recent research has revealed that many of the more varied non-agricultural activities which have been increasing on farms over the years have been inadvertently included in the calculation of NFI, with the result that about three-quarters of non-agricultural activities on farm by value are currently included and one-quarter excluded, without any clear basis for this division. Although this means that the definition of NFI has become untenable on the current basis, it has been decided to continue with historical practice for reasons of continuity, rather than to change the definition, pending the introduction of a wider measure to include all on-farm business activities.

<sup>5</sup> Tenant-type capital comprises livestock, machinery, crops in store, stocks of consumables, work in progress, orchards, other permanent crops, glasshouses, cash and other assets needed to run the business. It does not include land and buildings.

year. Cash income represents the cash return to the group with an entrepreneurial interest in the business (farmers and spouses, non-principal partners and directors and their spouses and family workers) for their manual and managerial labour and on all their investment in the business.

**7. Family farm income** is a measure of farm income used by the European Commission. It is based upon actual tenure and indebtedness. However, it is a broader measure than net farm income in that it represents the return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers). It also includes breeding livestock stock appreciation although it cannot be realised without reducing the productive capacity of the farm.

### **Cropping, Stocking and Labour**

**8. Utilised agricultural area (UAA)** 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.

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

**10. 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).

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

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

*(See the end of this appendix for further information on adjusted area calculations).*

**13. 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.

**14. 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. The factors used are set out in Appendix 2 of 'Farm Incomes in the United Kingdom 1999/00'.

**15. 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.

### **Outputs, Inputs and Farm Business Income**

**16. Agricultural output** is the main measure of individual crop and livestock output.

It comprises:



**(a) Crop enterprise output**, which is the total value of crops produced by the farm (other than losses in the field and in store). 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.

**(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 including direct livestock subsidies and production grants received, 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 (except for direct livestock subsidies) 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 - see paragraph 18) 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) Miscellaneous output** covers the value of output from those activities which are still within the agricultural cost centre but do not fall within either livestock or crop enterprise output. These will include revenue from wayleaves, agricultural hirework, sundry woodland sales, contract farming rent, miscellaneous insurance receipts and compensation payments.

**17. Agricultural costs** 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.

<b><i>Total variable costs</i></b>	These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.
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<b><i>Purchased concentrate feed and fodder</i></b>	This represents expenditure on feeds and feed additives, including charges for agistment.
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<b><i>Home-grown concentrate feed and fodder</i></b>	This includes ex-farm value of all home produced cereals, beans, milk (excluding direct suckling) etc. fed on the farm both from the current and previous years' crops.
<b><i>Veterinary fees and medicines</i></b>	This consists of veterinary fees and the cost of all medicines.
<b><i>Other livestock costs</i></b>	This comprises straw bought specifically for bedding materials, breeding costs (including AI and stud fees) miscellaneous dairy expenses, disinfectants, marketing and storage costs of animal products, milk levies and other livestock costs not separately identified.
<b><i>Purchased and home-grown seeds</i></b>	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 home-grown seed used in the production of the current crop to be identified.
<b><i>Fertilizers</i></b>	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.
<b><i>Crop protection</i></b>	This includes costs of pre-emergent sprays, fungicides, herbicides, dusts and insecticides and other crop sprays.
<b><i>Other crop costs</i></b>	These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, crop levies, baling twine and wire (though not fencing wire).
<b><i>Total fixed costs</i></b>	These are the costs of labour, machinery, contract work, land and buildings, other general farming costs and depreciation.

<b><i>Labour (excluding farmer and spouse)</i></b>	This comprises wages and employer's insurance contributions, payments in kind, and salaried management. To calculate net farm income an imputed charge for unpaid labour is made, excluding that of the farmer and spouse, valued at the rate of comparable paid labour. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income (i.e. it is a component of net farm income).
<b><i>Contract costs</i></b>	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.
<b><i>Machinery running costs</i></b>	These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.
<b><i>Land and building inputs</i></b>	For the calculation of farm business income these comprise any rent paid, insurance, rates and repairs to land and buildings incurred by the whole business. In the derivation of net farm income land and building costs also include an imputed rental charge for owner occupiers but exclude those costs associated with land ownership such as the insurance of farm buildings, and landlord-type repairs and upkeep.
<b><i>Depreciation of machinery, glasshouses and permanent crops</i></b>	Depreciation provisions in respect of machinery, glasshouses and permanent crops (e.g. orchards) are shown on a current cost basis. The rates of depreciation used (generally on a diminishing balance basis for machinery and straight line for glasshouses and permanent crops) are intended to reflect the degree of deterioration of the assets.
<b><i>Other general farming costs</i></b>	These consist of electricity, heating fuel, water for all farming purposes, insurance (excluding labour and farm buildings), bank charges, professional fees, vehicle licences, and other miscellaneous expenses not recorded elsewhere.

<b><i>Interest payments</i></b>	Interest charges on loans taken out for business purposes, net of interest receipts on monies invested temporarily outside the business, are deducted in the calculation of farm business income.
<b><i>Depreciation of buildings and works</i></b>	This is calculated on a current cost basis (generally on a straight line basis over 10 years) with an adjustment to allow for the effect of capital grants.

**18. Breeding livestock stock appreciation** represents the change in market prices of breeding cattle, sheep and pigs between the opening and closing valuations. It is not included in the calculation of farm business income but is shown separately within tables.

### **Balance Sheet Tables**

**19. Total fixed assets** includes land, buildings, breeding livestock, and machinery and equipment. For tenanted farmers, assets can include the tenant's component of farm buildings, cottages, etc., where these are owned by the landlord.

**20. Liquid assets** comprise cash and sundry debtors.

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

**22. 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.

### **Yields and Implied Output Prices**

**23. Crop yields** are calculated as total production divided by crop area.

**24. Implied output prices** are average unit returns excluding direct subsidies. For crops they are calculated by dividing the value of sales, closing stocks, farm house consumption, benefits in kind and own-produced feed by total production. Sales are valued at prices actually received at the farm gate before the deduction of marketing charges paid direct by the farmer such as drying and cleaning costs. More detailed information about sales volumes is collected for livestock and, in this case, the unit returns refer to sales of livestock including casualties. In both cases, any compensation payments or insurance payouts for output produced in the current year and destroyed are included.

*Adapted from: DEFRA – Farm Accounts in England Results from the Farm Business Survey 2015/2016*

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/483835/fbs-farmaccountsengland-10dec15.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/483835/fbs-farmaccountsengland-10dec15.pdf)

### **Standard Output (SO)**

SOs are representative of the level of output that could be expected on the average farm under “normal” conditions (i.e. no disease outbreaks or adverse weather). Different SOs are calculated for North England, East England, West England, Wales, Scotland and Northern Ireland to allow for the differences in output in different areas. 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. A Defra note looking at the effects on the population by farm type as a result of the change from SGMs to SOs is available at

([http://webarchive.nationalarchives.gov.uk/20130123162956/http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-reviseclass\\_111221.pdf](http://webarchive.nationalarchives.gov.uk/20130123162956/http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-reviseclass_111221.pdf))

SOs are calculated from rolling five-year averages – this in order to lessen the impact of yearly fluctuations on calculated SOs. The SOs used for the presentation of data for the period 2009/10 to 2011/12 are based on the 2007SOs, and the data for the period 2012/13 to 2014/15 are based on the 2010SOs.

The 2007 and 2010 SOs for England can be seen on Annex 1 under UK Farm Classification on the above site.

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

### **Adjusted Forage hectares (adj. for. ha)**

The adjusted forage area allows an area of rough grazing to be equated to an equivalent area of flat mowable land on the basis of effective stocking capacity. This therefore reflects the true stock carrying capacity of a parcel of land and allows meaningful comparisons on true farm stocking rates to be presented. This measure is particularly important for LFA farms with large tracts of poor quality land including those with areas of common grazing.

### **Farm performance ratio**

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 (Premium Group). 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.