



Farm Business Survey 2017/2018 A Summary from Hill Farming in England



David Harvey and Charles Scott

April 2019

RBR

independent research, data and analysis

Rural Business Research

Farm Business Survey

2017/2018

A Summary from Hill Farming in England

David Harvey and Charles Scott

April 2019

RBR at Newcastle University
School of Natural & Environmental Sciences
Newcastle University
Newcastle upon Tyne, NE1 7RU, England, UK
Tel: 0191-208-6902
E mail: farm.business.survey@ncl.ac.uk
Web site: <http://www.ncl.ac.uk/nes/business/agriculture/survey/#farmbenchmarkingservice>

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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

www.ruralbusinessresearch.co.uk

Executive Summary

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 England¹. 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 area². 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, 28% of beef cows and 41% of female breeding sheep are on LFA grazing livestock farms³. Farming plays a crucial role in maintaining the distinctive landscape of such areas.

The average LFA Grazing Livestock farm has 170 ha of enclosed land and typically has access to an area of common grazing. It is part owned (80 ha) and part rented (97 ha) and most of the farm (98 ha) is in permanent grass. The average LFA farmer is 60 years old, has 27 beef cows and 413 breeding ewes. Cattle and Sheep youngstock and fatstock make up the total to 86 cattle and 820 sheep on the farm, making a total of 95 Grazing Livestock Units.

The average LFA Grazing Livestock farm earns 60% of its total revenue (output) from crop and livestock farming activities, 24% comes from the Basic Payment, and 12% from specific agri-environment payments. The balance of revenues (4%) is earned from diversification activities.

The crop and livestock farming side of the business covers its variable costs and earns a respectable gross margin of £30,000 per farm. However, since this side of the whole farm business is assumed to incur most of the fixed costs (83%) the average LFA farm is shown as making an Agricultural Business Income loss of -£12,475 (before unpaid labour) from crop and livestock production per farm in 2017/18. Allowing for the unpaid labour allocation of £26,320 to this side of the business results in an Agricultural Corporate Income of -£38,795.

Farm revenues from all sources combine to generate a headline Farm Business Income of £28,341 per farm in 2017/18, a 5% increase on the previous year. This income just manages to cover the opportunity costs of the unpaid labour (provided mainly by the farmer and family) estimated at £27,801 per farm. As a result, Farm Corporate Income shows a profit of £540 per farm (an 83% improvement on the £295 in the previous year). Adjusting for the net interest payments made by the farm, Farm Investment Income (which represents the return on risk and entrepreneurship on all capital invested in the farm business whether borrowed or not) of £3,770 is up by 31% compared with the previous year's figure of £2,875. The traditional measure of farm income of Net Farm Income (which puts all farm businesses on a comparable tenanted basis) averaged £18,082 per farm, up 9% from £16,615 in 2016/17. LFA

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

² Natural England - Entry Level Stewardship: Environmental Stewardship Handbook (NE349)

³ Data from Defra, June Survey of Agriculture and Horticulture, 2017

farms depend to a substantial extent on public payments; the Basic Payment and Agri-environmental payments together account for over 35% 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 cattle production.

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
- Organic Hill farming

is available in hard copy from:

RBR at Newcastle University
School of Natural and Environmental Sciences
Newcastle University
Newcastle upon Tyne, NE1 7RU, England, UK
Tel: 0191-208-6902
E mail: farm.business.survey@ncl.ac.uk

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Price: £15 including postage
ISBN: 978-0-903698-68-9

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			Basic Payment Scheme					
		2016/17	2017/18	% change	2016/17	2017/18	% change	2016/17	2017/18	% change	2016/17	2017/18	% change	2016/17	2017/18	% change
% contribution of cost centre revenue to total:		61%	60%		12%	12%		4%	4%		23%	24%				
1	Total output (Revenue)	70,182	73,831	<i>5%</i>	13,716	14,426	<i>5%</i>	5,085	5,282	<i>4%</i>	26,497	29,933	<i>13%</i>	115,480	123,473	<i>7%</i>
2	Variable costs	39,465	43,831	<i>11%</i>	34	5	<i>-84%</i>	102	100	<i>-2%</i>	3	4	<i>-</i>	39,604	43,940	<i>11%</i>
3=1-2	Total Gross margin	30,717	30,000	<i>-2%</i>	13,681	14,421	<i>5%</i>	4,983	5,182	<i>4%</i>	26,494	29,929	<i>13%</i>	75,876	79,532	<i>5%</i>
4	Fixed costs	40,328	42,800	<i>6%</i>	2,482	2,405	<i>-3%</i>	2,618	2,290	<i>-13%</i>	3,657	4,021	<i>10%</i>	49,085	51,517	<i>5%</i>
5=2+4	Total Costs	79,793	86,631	<i>9%</i>	2,516	2,410	<i>-4%</i>	2,720	2,390	<i>-12%</i>	3,659	4,026	<i>10%</i>	88,689	95,457	<i>8%</i>
6	Profit/(loss) on sale of fixed assets	175	325	<i>85%</i>										175	325	<i>85%</i>
7=1-5+6	Farm Business Income	-9,436	-12,475	<i>-32%</i>	11,199	12,016	<i>7%</i>	2,365	2,892	<i>22%</i>	22,838	25,907	<i>13%</i>	26,967	28,341	<i>5%</i>
8	Adjustment for unpaid manual labour	24,785	26,320	<i>6%</i>	502	470	<i>-6%</i>	1,384	1,011	<i>-27%</i>	0	0	<i>-</i>	26,671	27,801	<i>4%</i>
9=7-8	Farm Corporate Income	-34,221	-38,795	<i>-13%</i>	10,697	11,546	<i>8%</i>	982	1,881	<i>92%</i>	22,838	25,907	<i>13%</i>	295	540	<i>83%</i>
10	Interest payments (net of interest received)	2,307	2,899	<i>26%</i>	68	96	<i>41%</i>	109	103	<i>-5%</i>	96	132	<i>37%</i>	2,580	3,230	<i>25%</i>
11=9+10	Farm Investment Income	-31,915	-35,896	<i>-12%</i>	10,765	11,643	<i>8%</i>	1,090	1,985	<i>82%</i>	22,934	26,039	<i>14%</i>	2,875	3,770	<i>31%</i>
% contribution of cost centre costs to total:		90%	91%		3%	3%		3%	3%		4%	4%				
				12									Imputed rent	11,680	11,835	<i>1%</i>
				13									Ownership charges	212	3,658	<i>1627%</i>
				18									Director's remuneration	0	126	<i>-</i>
				16									Unpaid labour of principal farmer and spouse	21,555	22,363	<i>4%</i>
				17=11-12+13+18+16						Net Farm Income			16,615	18,082	<i>9%</i>	
				19									Holding gains not included in farm income	-11,616	-4,569	<i>-61%</i>
				20									Breeding Livestock Appreciation (BLSA)	1,314	2,239	<i>70%</i>
2017/18 Sample size (unweighted)	202			21									Revaluation of machinery, permanent crops, glasshouse, quota	177	357	<i>101%</i>
Number (weighted)	6,407			22									Revaluation of land	-13,107	-7,164	<i>-45%</i>
2016/17 Sample size (unweighted)	206			23									Manager's paid managerial input	63	69	<i>9%</i>
Number (weighted)	6,446			24=17-16+23						Management and Investment Income			-4,876	-4,211	<i>14%</i>	

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

The average Mixed grazing livestock (SDA) farm 2017/18		Cost Centre (£ per farm)				Farm Business (£ per farm) 2017/18
		Agriculture 2017/18	Agri-environment and other payments 2017/18	Diversification out of agriculture 2017/18	Basic Payment Scheme 2017/18	
Derivation of farm income measures:						
Total output	(a)	93,123	18,219	5,441	37,290	154,073
Variable costs	(b)	53,299	6	287	4	53,597
Total Gross margin	(c=a-b)	39,824	18,213	5,154	37,286	100,476
Fixed costs	(d)	53,929	3,493	3,241	4,646	65,309
Total Costs	(e=b+d)	107,228	3,500	3,528	4,650	118,906
Profit/(loss) on sale of fixed assets	(f)	402				402
Farm Business Income	(g=a-e+f)	-13,703	14,719	1,913	32,640	35,569
Adjustment for unpaid manual labour	(h)	28,292	827	1,931	0	31,050
Farm Corporate Income	(i=g-h)	-41,995	13,892	-18	32,640	4,519
Interest payments (net of interest received)	(j)	3,075	128	129	140	3,472
Farm Investment Income	(k=i+j)	-38,920	14,020	111	32,780	7,991
Derivation of Net Farm Income:						
Imputed rent (l)						12,823
Ownership charges (m)						4,399
Director's remuneration (n)						143
Unpaid labour of principal farmer and spouse (o)						24,354
Net Farm Income (p=k-l+m+n+o)						24,064
Holding gains not included in farm income (q)						-7,335
Breeding Livestock Appreciation (BLSA) (r)						3,441
Revaluation of machinery, permanent crops, glasshouse & quota (s)						391
Revaluation of land (t)						-11,167
Manager's paid managerial input (u)						162
Management and Investment Income (v=p-o+u)						-129
The average farm						
Number (unweighted)	69					
Number (weighted)	1,456					

Table 3 Farm Income measures by Cost Centre - Specialist beef (SDA)

The average Specialist beef (SDA) farm 2017/18		Cost Centre (£ per farm)				Farm Business (£ per farm) 2017/18
		Agriculture 2017/18	Agri-environment and other payments 2017/18	Diversification out of agriculture 2017/18	Basic Payment Scheme 2017/18	
Derivation of farm income measures:						
Total output	(a)	86,301	6,886	7,876	24,931	125,995
Variable costs	(b)	45,930	18	6	11	45,965
Total Gross margin	(c=a-b)	40,371	6,869	7,870	24,920	80,030
Fixed costs	(d)	49,841	1,163	1,615	4,558	57,178
Total Costs	(e=b+d)	95,772	1,181	1,621	4,569	103,143
Profit/(loss) on sale of fixed assets	(f)	640				640
Farm Business Income	(g=a-e+f)	-8,830	5,705	6,255	20,362	23,492
Adjustment for unpaid manual labour	(h)	29,093	316	386	0	29,795
Farm Corporate Income	(i=g-h)	-37,924	5,389	5,869	20,362	-6,303
Interest payments (net of interest received)	(j)	1,877	42	48	62	2,029
Farm Investment Income	(k=i+j)	-36,046	5,431	5,917	20,424	-4,274
Derivation of Net Farm Income						
				Imputed rent (l)		15,940
				Ownership charges (m)		5,171
				Director's remuneration (n)		262
				Unpaid labour of principal farmer and spouse (o)		23,379
				Net Farm Income (p=k-l+m+n+o)		8,598
				Holding gains not included in farm income (q)		868
				Breeding Livestock Appreciation (BLSA) (r)		2,687
				Revaluation of machinery, permanent crops, glasshouse & quota (s)		488
				Revaluation of land (t)		-2,307
				Manager's paid managerial input (u)		0
				Management and Investment Income (v=p-o+u)		-14,781
The average farm Number (unweighted)	29					
Number (weighted)	668					

Table 4 Farm Income measures by Cost Centre - Specialist sheep (SDA)

The average Specialist sheep (SDA) farm 2017/18		Cost Centre (£ per farm)				Farm Business (£ per farm) 2017/18
		Agriculture 2017/18	Agri-environment and other payments 2017/18	Diversification out of agriculture 2017/18	Basic Payment Scheme 2017/18	
Derivation of farm income measures:						
Total output	(a)	70,699	29,394	6,612	42,150	148,856
Variable costs	(b)	49,668	5	40	3	49,717
Total Gross margin	(c=a-b)	21,030	29,389	6,572	42,147	99,140
Fixed costs	(d)	42,224	4,574	2,734	5,562	55,094
Total Costs	(e=b+d)	91,893	4,579	2,774	5,565	104,810
Profit/(loss) on sale of fixed assets	(f)	184				184
Farm Business Income	(g=a-e+f)	-21,010	24,816	3,839	36,586	44,230
Adjustment for unpaid manual labour	(h)	24,682	672	975	0	26,329
Farm Corporate Income	(i=g-h)	-45,692	24,144	2,863	36,586	17,901
Interest payments (net of interest received)	(j)	3,515	201	109	233	4,057
Farm Investment Income	(k=i+j)	-42,177	24,345	2,972	36,818	21,958
Derivation of Net Farm Income						
				Imputed rent (l)		13,063
				Ownership charges (m)		3,638
				Director's remuneration (n)		63
				Unpaid labour of principal farmer and spouse (o)		21,881
				Net Farm Income (p=k-l+m+n+o)		34,477
				Holding gains not included in farm income (q)		3,193
				Breeding Livestock Appreciation (BLSA) (r)		1,237
				Revaluation of machinery, permanent crops, glasshouse & quota (s)		434
				Revaluation of land (t)		1,522
				Manager's paid managerial input (u)		103
				Management and Investment Income (v=p-o+u)		12,699
The average farm Number (unweighted)	43					
Number (weighted)	1,893					

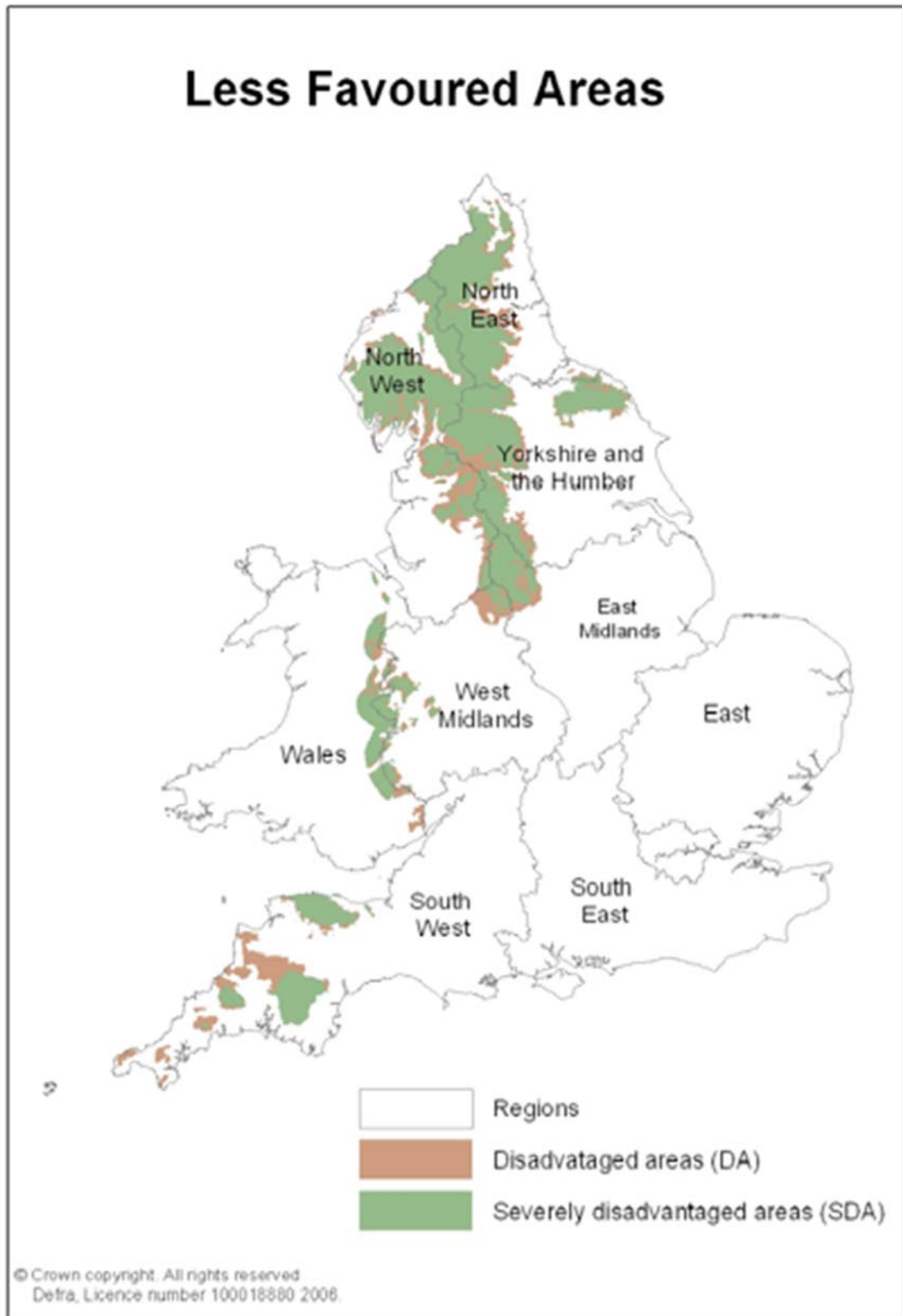
Table 5 Farm Income measures by Cost Centre - Various grazing livestock (DA)

The average Various grazing livestock (DA) farm 2017/18		Cost Centre (£ per farm)				Farm Business (£ per farm) 2017/18
		Agriculture 2017/18	Agri-environment and other payments 2017/18	Diversification out of agriculture 2017/18	Basic Payment Scheme 2017/18	
Derivation of farm income measures:						
Total output	(a)	61,074	2,367	3,407	17,172	84,020
Variable costs	(b)	32,852	2	60	3	32,916
Total Gross margin	(c=a-b)	28,222	2,366	3,347	17,169	51,104
Fixed costs	(d)	34,508	371	1,548	2,271	38,699
Total Costs	(e=b+d)	67,361	373	1,608	2,274	71,616
Profit/(loss) on sale of fixed assets	(f)	302				302
Farm Business Income	(g=a-e+f)	-5,985	1,994	1,799	14,898	12,706
Adjustment for unpaid manual labour	(h)	25,641	135	653	0	26,429
Farm Corporate Income	(i=g-h)	-31,625	1,859	1,145	14,898	-13,723
Interest payments (net of interest received)	(j)	2,588	10	100	66	2,764
Farm Investment Income	(k=i+j)	-29,037	1,869	1,245	14,964	-10,959
Derivation of Net Farm Income						
					Imputed rent (l)	9,112
					Ownership charges (m)	2,801
					Director's remuneration (n)	128
					Unpaid labour of principal farmer and spouse (o)	21,247
					Net Farm Income (p=k-l+m+n+o)	4,104
					Holding gains not included in farm income (q)	-10,551
					Breeding Livestock Appreciation (BLSA) (r)	2,175
					Revaluation of machinery, permanent crops, glasshouse & quota (s)	238
					Revaluation of land (t)	-12,963
					Manager's paid managerial input (u)	5
					Management and Investment Income (v=p-o+u)	-17,138
The average farm Number (unweighted)	61					
Number (weighted)	2,390					

Table 6 Farm Income measures by Cost Centre - Organic and non-organic

2017 lamb crop	Cost Centre (£ per farm)									
	Agriculture		Agri-environment and other payments		Diversification out of agriculture		Basic Payment Scheme		Farm Business Income	
	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic
Derivation of farm income measures										
% contribution of centre revenue to total:	60%	61%	12%	13%	4%	3%	24%	23%		
Total output (Revenue) (a)	72,813	116,089	14,162	25,389	5,254	6,468	29,605	43,516	121,834	191,463
Variable costs (b)	43,611	52,965	4	76	100	118	3	36	43,717	53,195
Total Gross margin (c=a-b)	29,202	63,125	14,158	25,313	5,154	6,349	29,602	43,480	78,117	138,268
Fixed costs (d)	42,214	67,135	2,373	3,750	2,291	2,253	4,008	4,577	50,885	77,716
Total Costs (e=b+d)	85,824	120,100	2,376	3,826	2,391	2,371	4,011	4,613	94,603	130,910
Profit/(loss) on sale of fixed assets (f)	317	652							317	652
Farm Business Income (g=a-e+f)	-12,694	-3,359	11,786	21,563	2,863	4,097	25,594	38,903	27,548	61,204
Adjustment for unpaid manual labour (h)	26,461	20,451	464	729	1,019	681	0	0	27,944	21,860
Farm Corporate Income (i=g-h)	-39,156	-23,810	11,322	20,834	1,844	3,416	25,594	38,903	-396	39,344
Interest payments (net of interest received) (j)	2,899	2,883	95	152	105	41	132	131	3,231	3,207
Farm Investment Income (k=i+j)	-36,257	-20,927	11,417	20,986	1,949	3,457	25,726	39,034	2,835	42,551
% contribution of centre total costs to total:	91%	92%	3%	3%	3%	2%	3%	4%		
							Imputed rent (l)		11,651	19,438
							Ownership charges (m)		3,604	5,916
							Director's remuneration (n)		101	1,161
							Unpaid labour of principal farmer and spouse (o)		22,425	19,795
							Net Farm Income (p=k-l+m+n+o)		17,313	49,985
							Holding gains not included in farm income (q)		-4,129	-22,802
							Breeding Livestock Appreciation (BLSA) (r)		2,221	2,996
Non-organic Sample size (unweighted) 181							Revaluation of machinery, permananet crops, glasshouse, quota (s)		356	378
Number (weighted) 6,256							Revaluation of land (t)		-6,706	-26,175
Organic Sample size (unweighted) 21							Manager's paid managerial input (u)		71	0
Number (weighted) 151							Management and Investment Income (v=p-o+u)		-5,040	30,190

Figure 1 Map of Less Favoured Areas, England



Source: Defra

Appendix 1. 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

Appendix 2. 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 farming⁴ 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 capital⁵ 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 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

⁴ 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.

⁵ 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.

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. [1 SLR = 1,900 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.

<i>Total variable costs</i>	These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.
<i>Purchased concentrate feed and fodder</i>	This represents expenditure on feeds and feed additives, including charges for agistment.
<i>Home-grown concentrate feed and fodder</i>	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.
<i>Veterinary fees and medicines</i>	This consists of veterinary fees and the cost of all medicines.
<i>Other livestock costs</i>	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.

<i>Purchased and home-grown seeds</i>	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.
<i>Fertilizers</i>	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.
<i>Crop protection</i>	This includes costs of pre-emergent sprays, fungicides, herbicides, dusts and insecticides and other crop sprays.
<i>Other crop costs</i>	These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, crop levies, baling twine and wire (though not fencing wire).
<i>Total fixed costs</i>	These are the costs of labour, machinery, contract work, land and buildings, other general farming costs and depreciation.
<i>Labour (excluding farmer and spouse)</i>	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).
<i>Contract costs</i>	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.

<i>Machinery running costs</i>	These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.
<i>Land and building inputs</i>	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.
<i>Depreciation of machinery, glasshouses and permanent crops</i>	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.
<i>Other general farming costs</i>	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.
<i>Interest payments</i>	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.
<i>Depreciation of buildings and works</i>	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

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)

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.

Front cover photograph courtesy of a Hill Sheep farm in England