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Newcastle University

Rural Business Research

Farm Business Survey

2016/2017

A summary from Hill Farming in England

David Harvey and Charles Scott

February 2018

RBR

independent research, data and analysis

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Acknowledgements

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Foreword to the Twelfth Series

This series of reports on the economics of agriculture and horticulture in England from *Rural Business Research (RBR)* represents the twelfth series of outputs that focus on providing independent data and analysis to the individual sectors of agriculture and horticulture. As farmers and growers look towards the future for their businesses, the policy landscape is beginning to emerge. The direction of policy travel for UK agriculture and horticulture will be more focused upon the market and the provision of specific environmental goods, and land-area based payments are likely to be reduced or removed in the future. The direction of policy travel has been accompanied with a guarantee that the Basic Payment will remain until at least 2022. These signals provide both an indication of policy outcomes and a time-frame within which businesses can begin to adapt to a new future. The UK's decision to leave the EU will of course have major implications for agriculture and horticulture; these impacts are likely to be bring both challenges and opportunities. While many factors remain uncertain, at the level of the individual business what is required is to position the business to meet the challenges that lie ahead while maximising the outcome of the opportunities that will present themselves. For individual businesses this begins with a need to understand current performance, and to place this within the context of the wider market environment and understand the relative strengths of the business against others within the sector. Within this series of reports, RBR seeks to help businesses to identify their relative strengths and challenges through independent data presented to highlight the key findings and data as appropriate to individual sectors of agriculture and horticulture. It is not possible to manage a process or activity successfully without knowing the underlying data or performance of the process or activity. This series of reports sets out to provide this information at this crucial planning stage for agriculture and horticulture.

The headline data from the Farm Business Survey (FBS) for the 2016/17 financial year, shows that average Farm Business Income (FBI) increased by 20% to £38,000 per farm, taking farm incomes upwards again after a period of six years of falling income levels. At £38,000 per farm FBI is still the second lowest average income from the previous six years. Examining results by farm type, on average, with the exception of Poultry farms, all farm types benefited from an increase in FBI in 2016/17. One of the main drivers for the increased FBI results was a generally lower cost base, with increases in the price of beef, sheep and combinable crops also playing an important part in the increased FBI results. The contribution of increased output from agri-environment, diversification activities and the Basic Payment were also features of the increased FBI result. The exchange rate movement that weakened the value of Sterling in the aftermath of the EU referendum result in 2016, that led to increased output prices during 2016/17, has recently moderated. Should Sterling gain momentum moving forward this will place downward pressure on output prices, but offer some input price advantage, in particular for imported inputs.

As we produce this twelfth series of independent reports, agricultural and horticultural businesses need to prepare for the future if they are to prosper as the market and policy landscapes change. Businesses that understand their costs of production and their relative strengths within a sector will be best placed to compete irrespective of what the future may bring. With this series of reports we aim to help inform agricultural and horticultural businesses about the economics of the sector in which they operate, in order to aid management decision making. It is of crucial importance to recognise that this valuable series of reports would 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 therefore go to the farmers and growers who assist us in this valuable work through their participation in the FBS.

Professor Paul Wilson
Chief Executive Officer, Rural Business Research
February 2018

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 England[1]. 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[2]. 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[3]. Farming plays a crucial role in maintaining the distinctive landscape of such areas.

The average LFA Grazing Livestock farm has 153 ha of enclosed land and typically has access to an area of common grazing. It is part owned (79 ha) and part rented (81 ha) and most of the farm (90 ha) is in permanent grass. The average LFA farmer is 60 years old, has 28 beef cows and 382 breeding ewes. Cattle and Sheep youngstock and fatstock make up the total to 86 cattle and 756 sheep on the farm, making a total of 92 Grazing Livestock Units.

The average LFA Grazing Livestock farm earns 61% of its total revenue (output) from crop and livestock farming activities, 23% 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 £30,717 per farm. However, since this side of the whole farm business is assumed to incur most of the fixed costs (82%) the average LFA farm is shown as making an Agricultural Business Income loss of -£9,436 (before unpaid labour) from crop and livestock production per farm in 2016/17. Allowing for the unpaid labour allocation of £24,785 to this side of the business results in an Agricultural Corporate Income of -£34,221.

Farm revenues from all sources combine to generate a headline Farm Business Income of £26,967 per farm in 2016/17, a 42% 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 £26,671 per farm. As a result, Farm Corporate Income shows a profit of £295 per farm (a 104% improvement on the loss of -£6,754 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 £2,875 is up by 163% compared with the previous year's loss of -£4,568. The traditional measure of farm income of Net Farm Income (which puts all farm businesses on a comparable tenanted basis) averaged £16,615 per farm, up 70% from

[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, 2015

£9,761 in 2015/16. LFA 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 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:

https://webstore.ncl.ac.uk/product-catalogue/publications/faculty-of-science-agriculture-engineering-sage/agriculture-food-rural-development/hill-farming-in-england-20162017

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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**					
		2015/16	2016/17	*% change*	2015/16	2016/17	*% change*	2015/16	2016/17	*% change*	2015/16	2016/17	*% change*	2015/16	2016/17	*% change*
	% contribution of cost centre revenue to total:	63%	61%		12%	12%		4%	4%		21%	23%				
1	**Total output (Revenue)**	**63,289**	**70,182**	*11%*	**11,926**	**13,716**	*15%*	**4,074**	**5,085**	*25%*	**20,592**	**26,497**	*29%*	**99,881**	**115,480**	*16%*
2	Variable costs	36,622	39,465	*8%*	58	34	*-41%*	39	102	*161%*	2	3	-	36,721	39,604	*8%*
3=1-2	**Total Gross margin**	**26,667**	**30,717**	*15%*	**11,869**	**13,681**	*15%*	**4,035**	**4,983**	*24%*	**20,590**	**26,494**	*29%*	**63,160**	**75,876**	*20%*
4	Fixed costs	37,714	40,328	*7%*	2,090	2,482	*19%*	1,748	2,618	*50%*	2,912	3,657	*26%*	44,463	49,085	*10%*
5=2+4	**Total Costs**	**74,336**	**79,793**	*7%*	**2,147**	**2,516**	*17%*	**1,787**	**2,720**	*52%*	**2,914**	**3,659**	*26%*	**81,184**	**88,689**	*9%*
6	Profit/(loss) on sale of fixed assets	276	175	*-36%*										276	175	*-36%*
7=1-5+6	**Farm Business Income**	**-10,771**	**-9,436**	*12%*	**9,779**	**11,199**	*15%*	**2,287**	**2,365**	*3%*	**17,677**	**22,838**	*29%*	**18,972**	**26,967**	*42%*
8	Adjustment for unpaid manual labour	24,198	24,785	*2%*	514	502	*-2%*	1,014	1,384	*36%*	0	0	-	25,726	26,671	*4%*
9=7-8	**Farm Corporate Income**	**-34,969**	**-34,221**	*2%*	**9,265**	**10,697**	*15%*	**1,273**	**982**	*-23%*	**17,677**	**22,838**	*29%*	**-6,754**	**295**	*104%*
10	Interest payments (net of interest received)	1,983	2,307	*16%*	52	68	*32%*	79	109	*37%*	71	96	*36%*	2,185	2,580	*18%*
11=9+10	**Farm Investment Income**	**-32,986**	**-31,915**	*3%*	**9,317**	**10,765**	*16%*	**1,353**	**1,090**	*-19%*	**17,748**	**22,934**	*29%*	**-4,568**	**2,875**	*163%*
	% contribution of cost centre costs to total:	92%	90%		3%	3%		2%	3%		3%	4%				
12	Imputed rent													10,316	11,680	*13%*
13	Ownership charges													3,029	212	*-93%*
18	Director's remuneration													132	0	-
16	Unpaid labour of principal farmer and spouse													21,484	21,555	*0%*
17=11-12+13+18+16	**Net Farm Income**													**9,761**	**16,615**	*70%*
19	Holding gains not included in farm income													32,655	-11,616	*-136%*
20	Breeding Livestock Appreciation (BLSA)													-1,635	1,314	*-180%*
21	Revaluation of machinery, permanent crops, glasshouse, quota													46	177	*282%*
22	Revalutation of land													34,244	-13,107	*-138%*
23	Manager's paid managerial input													42	63	*52%*
24=17-16+23	**Management and Investment Income**													**-11,681**	**-4,876**	*58%*

2016/17 Sample size (unweighted)	**206**
Number (weighted)	**6,446**
2015/16 Sample size (unweighted)	**225**
Number (weighted)	**6,436**

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

The average Mixed grazing livestock (SDA) farm 2016/17		**Cost Centre (£ per farm)**				
		Agriculture	**Agri-environment and other payments**	**Diversification out of agriculture**	**Basic Payment Scheme**	**Farm Business (£ per farm)**
Derivation of farm income measures:		2016/17	2016/17	2016/17	2016/17	2016/17
Total output	(a)	96,995	17,663	6,356	32,460	153,475
Variable costs	(b)	53,350	77	157	2	53,587
Total Gross margin	(**c**=a-b)	**43,645**	**17,586**	**6,199**	**32,458**	**99,888**
Fixed costs	(d)	54,055	3,180	3,433	3,737	64,404
Total Costs	(**e**=b+d)	**107,404**	**3,257**	**3,590**	**3,739**	**117,991**
Profit/(loss) on sale of fixed assets	(f)	347				347
Farm Business Income	(**g**=a-e+f)	**-10,062**	**14,406**	**2,766**	**28,721**	**35,831**
Adjustment for unpaid manual labour	(h)	30,005	683	2,591	0	33,280
Farm Corporate Income	(**i**=g-h)	**-40,067**	**13,723**	**174**	**28,721**	**2,551**
Interest payments (net of interest received)	(j)	2,818	87	160	80	3,144
Farm Investment Income	(**k**=i+j)	**-37,249**	**13,810**	**334**	**28,801**	**5,695**

Derivation of Net Farm Income:			
	Imputed rent	(l)	13,950
	Ownership charges	(m)	4,449
	Director's remuneration	(n)	105
	Unpaid labour of principal farmer and spouse	(o)	25,958
	Net Farm Income	(**p**=k-l+m+n+o)	**22,256**
	Holding gains not included in farm income	(q)	-8,523
	Breeding Livestock Appreciation (BLSA)	(r)	2,179
	Revaluation of machinery, permanent crops, glasshouse & quota	(s)	231
The average farm	Revaluation of land	(t)	-10,933
Number (unweighted) 73	Manager's paid managerial input	(u)	107
Number (weighted) 1,395	**Management and Investment Income**	(**v**=p-o+u)	**-3,594**

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

The average Specialist beef (SDA) farm 2016/17		**Cost Centre (£ per farm)**				**Farm Business (£ per farm)**
		Agriculture	**Agri-environment and other payments**	**Diversification out of agriculture**	**Basic Payment Scheme**	
Derivation of farm income measures:		2016/17	2016/17	2016/17	2016/17	2016/17
Total output	(a)	55,124	5,913	3,618	20,031	84,687
Variable costs	(b)	30,298	114	1	6	30,420
Total Gross margin	(**c**=a-b)	**24,826**	**5,799**	**3,617**	**20,025**	**54,267**
Fixed costs	(d)	34,335	908	999	4,793	41,035
Total Costs	(**e**=b+d)	**64,633**	**1,022**	**1,001**	**4,799**	**71,455**
Profit/(loss) on sale of fixed assets	(f)	441				441
Farm Business Income	(**g**=a-e+f)	**-9,067**	**4,891**	**2,618**	**15,232**	**13,674**
Adjustment for unpaid manual labour	(h)	24,336	345	418	0	25,100
Farm Corporate Income	(**i**=g-h)	**-33,404**	**4,546**	**2,199**	**15,232**	**-11,426**
Interest payments (net of interest received)	(j)	1,095	26	25	50	1,196
Farm Investment Income	(**k**=i+j)	**-32,309**	**4,572**	**2,225**	**15,282**	**-10,230**
Derivation of Net Farm Income					Imputed rent (l)	13,349
					Ownership charges (m)	5,164
					Director's remuneration (n)	77
					Unpaid labour of principal farmer and spouse (o)	19,672
					Net Farm Income (**p**=k-l+m+n+o)	**1,334**
					Holding gains not included in farm income (q)	-10,356
					Breeding Livestock Appreciation (BLSA) (r)	1,329
					Revaluation of machinery, permanent crops, glasshouse & quota (s)	208
The average farm					Revaluation of land (t)	-11,893
Number (unweighted)	27				Manager's paid managerial input (u)	0
Number (weighted)	803				**Management and Investment Income** (**v**=p-o+u)	**-18,337**

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

The average Specialist sheep (SDA) farm 2016/17		Cost Centre (£ per farm)				
		Agriculture	**Agri-environment and other payments**	**Diversification out of agriculture**	**Basic Payment Scheme**	**Farm Business (£ per farm)**
Derivation of farm income measures:		2016/17	2016/17	2016/17	2016/17	2016/17
Total output	(a)	56,581	26,412	6,133	35,811	124,937
Variable costs	(b)	36,740	10	192	2	36,944
Total Gross margin	(**c**=a-b)	**19,841**	**26,402**	**5,942**	**35,808**	**87,993**
Fixed costs	(d)	35,493	4,422	3,697	4,301	47,913
Total Costs	(**e**=b+d)	**72,233**	**4,432**	**3,888**	**4,304**	**84,857**
Profit/(loss) on sale of fixed assets	(f)	-107				-107
Farm Business Income	(**g**=a-e+f)	**-15,760**	**21,980**	**2,245**	**31,507**	**39,973**
Adjustment for unpaid manual labour	(h)	21,970	664	1,361	0	23,996
Farm Corporate Income	(**i**=g-h)	**-37,730**	**21,316**	**884**	**31,507**	**15,977**
Interest payments (net of interest received)	(j)	2,646	146	96	176	3,065
Farm Investment Income	(**k**=i+j)	**-35,084**	**21,462**	**980**	**31,683**	**19,042**

Derivation of Net Farm Income			
	Imputed rent	(l)	11,398
	Ownership charges	(m)	2,939
	Director's remuneration	(n)	71
	Unpaid labour of principal farmer and spouse	(o)	20,000
	Net Farm Income	(**p**=k-l+m+n+o)	**30,653**
	Holding gains not included in farm income	(q)	-9,240
	Breeding Livestock Appreciation (BLSA)	(r)	1,084
	Revaluation of machinery, permanent crops, glasshouse & quota	(s)	139
The average farm	Revaluation of land	(t)	-10,464
Number (unweighted) 47	Manager's paid managerial input	(u)	101
Number (weighted) 1,844	**Management and Investment Income**	(**v**=p-o+u)	**10,755**

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

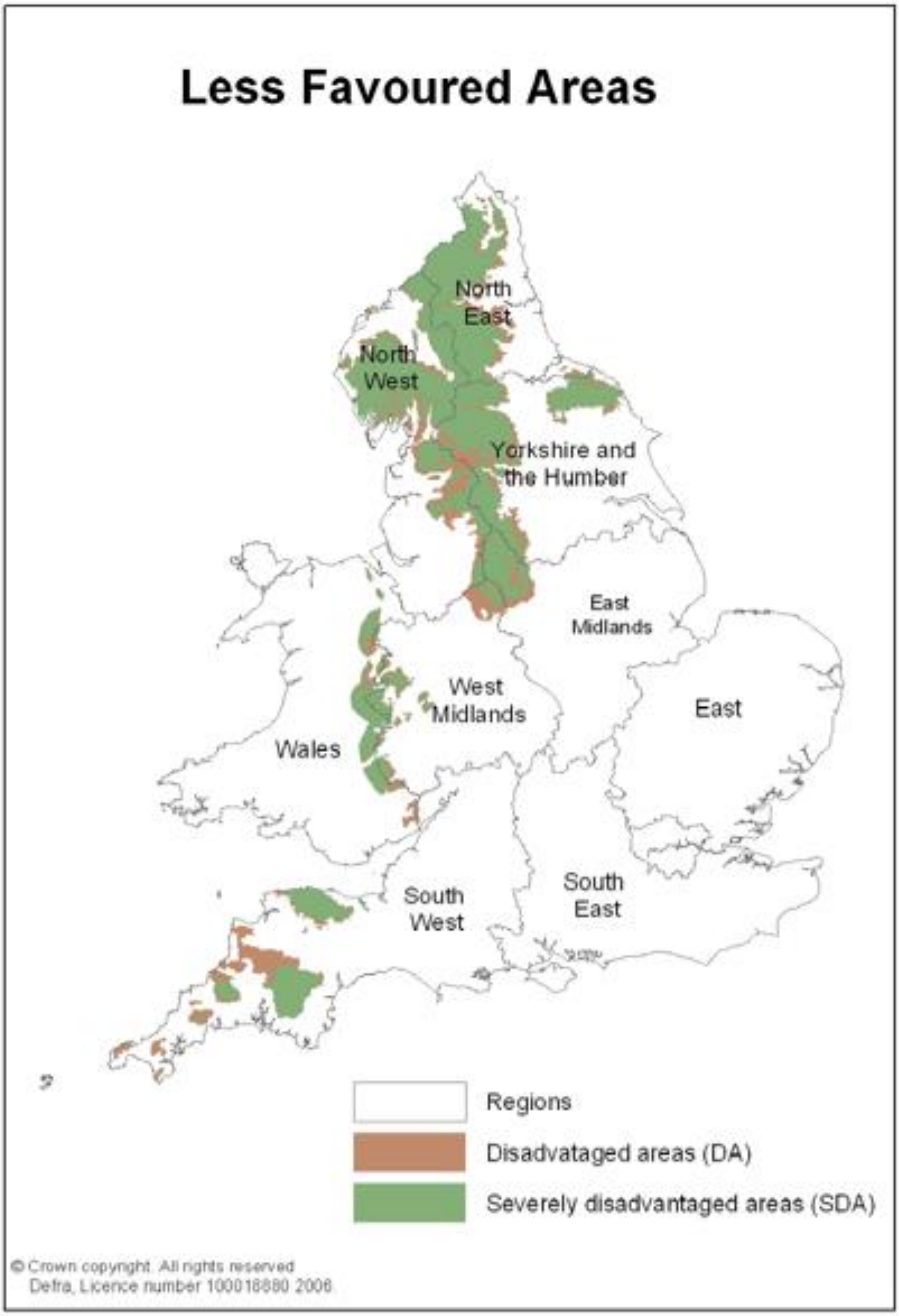
The average Various grazing livestock (DA) farm 2016/17		Cost Centre (£ per farm)				Farm Business (£ per farm)
		Agriculture	**Agri-environment and other payments**	**Diversification out of agriculture**	**Basic Payment Scheme**	
Derivation of farm income measures:		2016/17	2016/17	2016/17	2016/17	2016/17
Total output	(a)	70,092	4,295	4,035	18,054	96,476
Variable costs	(b)	36,564	1	35	2	36,601
Total Gross margin	(**c**=a-b)	**33,529**	**4,294**	**3,999**	**18,053**	**59,875**
Fixed costs	(d)	38,077	1,116	1,858	2,736	43,788
Total Costs	(**e**=b+d)	**74,641**	**1,117**	**1,893**	**2,738**	**80,390**
Profit/(loss) on sale of fixed assets	(f)	204				204
Farm Business Income	(**g**=a-e+f)	**-4,345**	**3,177**	**2,141**	**15,316**	**16,290**
Adjustment for unpaid manual labour	(h)	24,067	325	1,023	0	25,416
Farm Corporate Income	(**i**=g-h)	**-28,412**	**2,852**	**1,118**	**15,316**	**-9,125**
Interest payments (net of interest received)	(j)	2,154	12	116	59	2,342
Farm Investment Income	(**k**=i+j)	**-26,257**	**2,864**	**1,234**	**15,376**	**-6,783**

Derivation of Net Farm Income

Imputed rent	(l)	10,021
Ownership charges	(m)	3,236
Director's remuneration	(n)	427
Unpaid labour of principal farmer and spouse	(o)	20,823
Net Farm Income	(**p**=k-l+m+n+o)	**7,682**
Holding gains not included in farm income	(q)	-15,654
Breeding Livestock Appreciation (BLSA)	(r)	983
Revaluation of machinery, permanent crops, glasshouse & quota	(s)	164
Revaluation of land	(t)	-16,801
Manager's paid managerial input	(u)	30
Management and Investment Income	(**v**=p-o+u)	**-13,110**

The average farm	
Number (unweighted)	59
Number (weighted)	2,404

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 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.

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 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.

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.
Purchased concentrate feed and fodder	This represents expenditure on feeds and feed additives, including charges for agistment.
Home-grown concentrate feed and fodder	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.
Veterinary fees and medicines	This consists of veterinary fees and the cost of all medicines.
Other livestock costs	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.
Purchased and home-grown 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 home-grown 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 These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, crop levies, baling twine and wire (though not fencing wire).

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) 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).

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 running costs These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.

Land and building inputs 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.

Depreciation of machinery, glasshouses and permanent crops 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.

Other general farming costs	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.
Interest payments	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.
Depreciation of buildings and works	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.