



Farm Business Survey

2019-20

Lowland Grazing Livestock Production in England



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Foreword to the First Series

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

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

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

Prof. Martin Seabrook

(Chief Executive of the Consortium)

Spring 2007

Foreword to the Fifteenth Series

Welcome to the fifteenth series of reports on the economics of agriculture and horticulture in England from *Rural Business Research (RBR)*. At a time of change, uncertainty and opportunity, planning ahead on the basis of data and evidence is crucial. Some key points below outline the market, policy, physical and biological environments through which agriculture and horticulture have operated in the last 12 months. These also highlight the importance of our work on the Farm Business Survey (FBS) that is only achieved through the highly valued co-operation of participating agricultural and horticultural businesses.

The new Agriculture Act that received Royal Assent in the closing weeks of 2020 now means that the sector no longer operates within the Common Agricultural Policy. The development of the Agriculture Act relied extensively on evidence from the FBS that demonstrated the reliance of key sectors on the Basic Payment Scheme (BPS) and the need for a longer 'transition period' than was initially proposed. The recently published Path to Sustainable Farming outlines the broad direction of the policy environment over the 2021-2027 period, as the phased decline in BPS support makes way for increased payments for public goods. There will be opportunities for businesses to be supported to increase farm efficiency and productivity, enhance animal welfare and reduce agriculture's 'carbon footprint'. The UK-EU trade agreement has been broadly welcomed by the industry. During the last 12 months our industry has endured an exceptionally wet winter of 19/20 that impacted crop establishment and gave way to a spring drought followed by a low yielding and sometimes difficult harvest. The impact of challenging weather and the Covid-19 pandemic have been felt in very diverse ways across agricultural and horticultural businesses. While the full impact of these challenges on the economics of agriculture and horticulture won't be collected and analysed until later in 2021, the FBS was once again drawn upon by Government to evidence the need for specific Covid-19 related support packages including the Dairy Response Fund.

For the 2019/20 financial year, which covers the 2019 harvest, average Farm Business Income (FBI), derived from our work on the FBS, fell to £46,000 per business, from £50,400 in 2018/19. Seldom are the fortunes of the different agricultural and horticultural sectors aligned. In 2019/20 Upland Grazing Livestock saw an increase of 47% in FBI, from a low base to a slightly higher one (£22,800); by contrast the average Mixed farm business income fell by 36% to £28,900. Generally lower cereal prices negatively impacted Cereals farm businesses, while livestock farms, in particular Pig and Poultry businesses, benefited from lower feed costs.

As with our previous editions of these reports, available at www.ruralbusinessresearch.co.uk, our core aim is to inform agricultural and horticultural businesses about the economics in their sector. 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 2021

www.ruralbusinessresearch.co.uk

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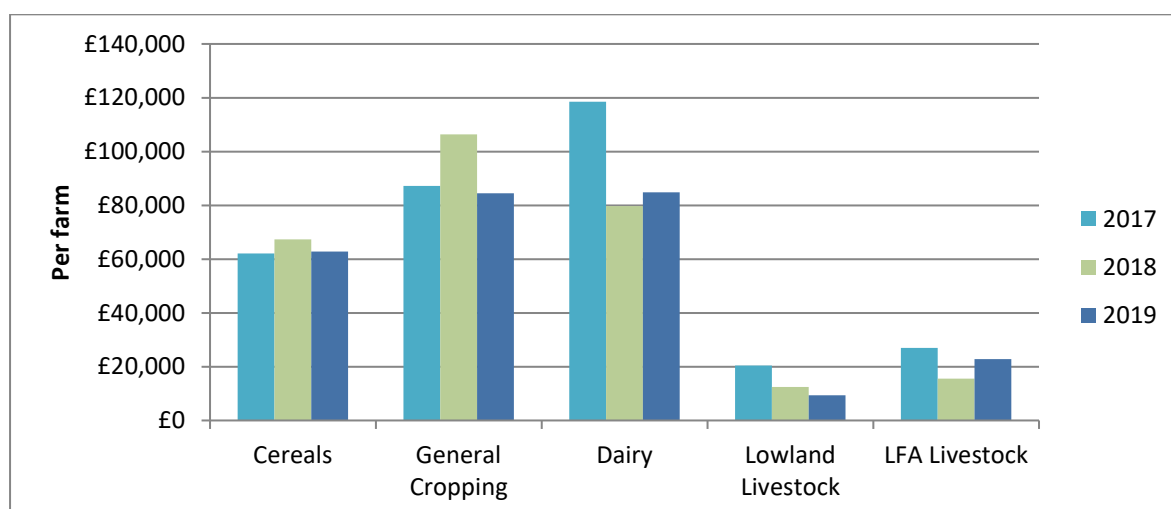
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Key Findings of Lowland Grazing Livestock Production in England 2019-20

- Lowland Grazing Livestock farms account for about a quarter of commercial holdings in England. The majority, nearly three quarters, of these businesses are small or part-time. All other farm types are, on average, larger businesses.
- The average Farm Business Income (which closely resembles farm profit) for 2019-20 for the Lowland Grazing Livestock farms in England was £9,355 per farm, a decrease of £3,114 as compared to the previous year and a drop of 55% of the income for 2017-18 year.
- Within the Farm Business Income streams, the Diversification element had the largest reduction with the other three elements similar to the previous year.
- As compared to the other lowland land-based farm types in England, the Grazing Livestock farms produce the lowest incomes per farm, per hectare and per annual labour units.

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

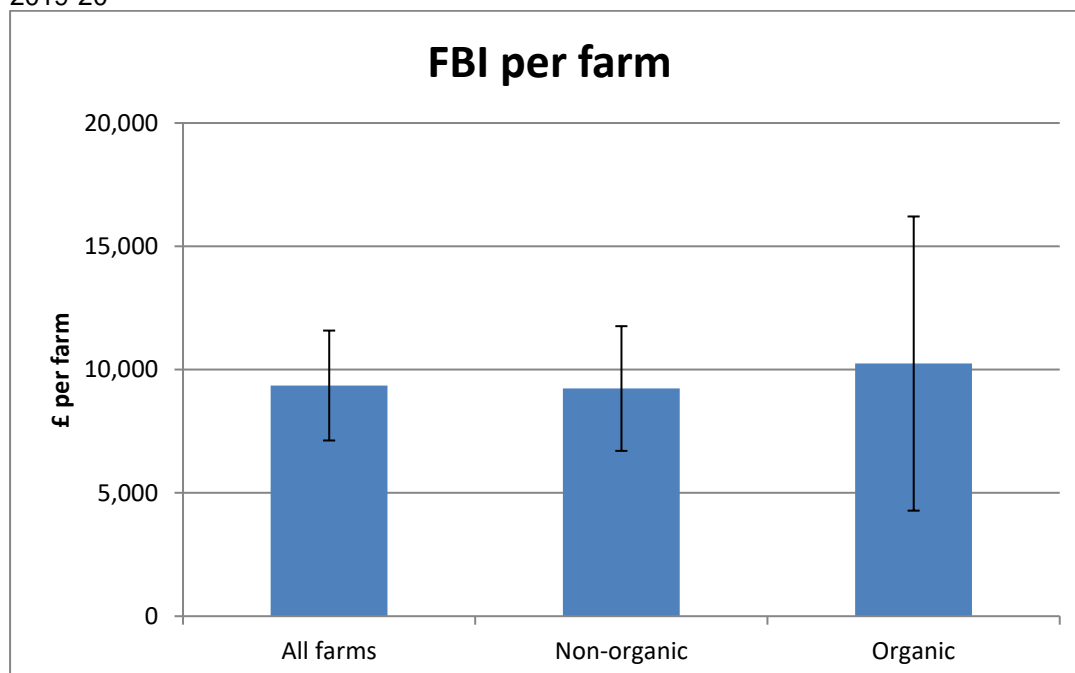


Source: <http://www.farmbusinesssurvey.co.uk/regional/Reports-on-Farming-in-the-Regions-of-England.asp>

- Farm size is important, with the better performing businesses (based on the ratio of output/input) being much larger farms. The Low Performance Band producers farmed a third of the area of the High Performance producers and produced a lower Farm Business Income per hectare, a loss of £418 per hectare compared to an income of £314 per hectare. This is a widening of the range, as compared to the previous year.
- For the average Lowland Grazing Livestock farm in 2019-20 the value of unpaid labour used by the business was estimated to be £27,600 with private drawings coming to £22,000. Thus, these businesses are 'rewarding' themselves at 80% the appropriate market rate for their labour. For this year the Farm Business Income is £12,600 lower than the private drawings, thus not covering living expenses or representing any financial return on their capital invested in the business.
- This year's sub-sample of organic producers' farm, broadly, a similar area to their non-organic contemporaries and their Farm Business Income was similar on a per hectare basis. The organic farms have more output from agri-environmental sources due to their eligibility for extra organic aid, much lower variable costs and lower fixed costs. The Farm Business

Income per farm for the organic producers is not statistically different than the non-organic farms.

Lowland Grazing Livestock farms- Farm Business Income per farm, by type of production. 2019-20



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

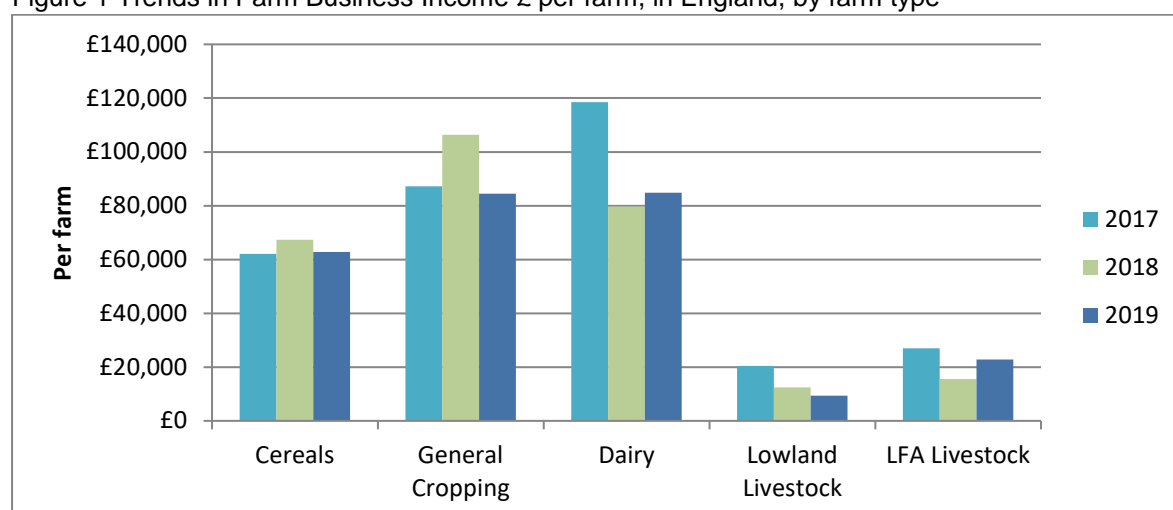
- The Basic Payment Scheme is crucial to the level of income the Lowland Grazing Livestock farms achieve. Without the Basic Payment Scheme, the average Lowland Livestock Grazing farm, in England, for 2019-20 would be making a Farm Business Income loss of £8,500.
- From the gross margin analysis the premium (top third) producers, as ranked by gross margin per head, have gross margins 74% higher for the lowland beef cows and rearing cattle to sell as stores were 95% higher. Top third producers of finishing cattle have gross margins 86% higher than the average with lowland breeding ewes the top third producers are 79% better.
- Comparing the gross margin per hectare across the differing livestock enterprises on the Lowland Grazing Livestock farms, the beef bred cattle finishers have the highest margin followed by beef bred store cattle producers and the lowland breeding ewes. Beef cows produce the lowest gross margin per hectare. This relative ranking has not changed significantly in a number of years

Lowland Grazing Livestock Production in England 2019-20

- It is important to note that all surveys are subject to sampling error as they are not measuring the whole population, the FBS is no exception. It is common practice to publish 95% confidence intervals and error bars alongside any published estimated figures to give the reader an indication of the size of the sampling error. These signify that we are 95% confident that this range contains the true value. For simplicity within these reports, the confidence intervals have not always been published. Readers should be aware that the figures calculated from the FBS data have a level of uncertainty around them and that all figures are estimates. Generally, the smaller the sample size the greater the sampling error and the less confidence we have in the estimates. For details on the FBS confidence intervals, please refer to Defra FBS publications <https://www.gov.uk/government/collections/farm-business-survey>
- Of those farm businesses in England that are eligible for the Farm Business Survey about a fifth are classified as Lowland Grazing Livestock¹ with more than three quarters classed as either part-time or small.
- The Grazing Livestock businesses have the lowest Farm Business Income of the land based farm types in England (Figure 1).
- Lowland Grazing Livestock farms are the least profitable farm type in the English lowlands, on both a per hectare or per Annual Labour Unit basis (Figure 2).
- Over the last three years the Farm Business Income for Lowland Grazing Livestock businesses has been declining and in 2019-20 was at a level close to two thirds the average for the previous five years. Farm Business Income is more variable than the finished prices of cattle and sheep would have suggested, indicating that the costs to the businesses, valuation changes to the livestock (which are part of the output) and other sources of output were more variable and all have a part to play in the level of income for these farms (Figure 3). Figure 3 also shows the average Farm Business Income broken down into the four cost centres, Agriculture, Agri-environment, Diversification and Basic Payment Scheme. It illustrates that the largest variation in income between years comes from the Agriculture cost centre which has not made a positive contribution for a considerable time.
- A number of Indices of Prices of Agricultural Products (United Kingdom) are illustrated in Figure 4. This shows the changes in average annual prices for energy, fertiliser, animal feed and machinery; which have all seen increases each year in the last three years since 2017. Output prices from cattle and sheep have also seen changes and volatility in the same period but, in general, are more variable than input prices with increases and falls in the three year period.

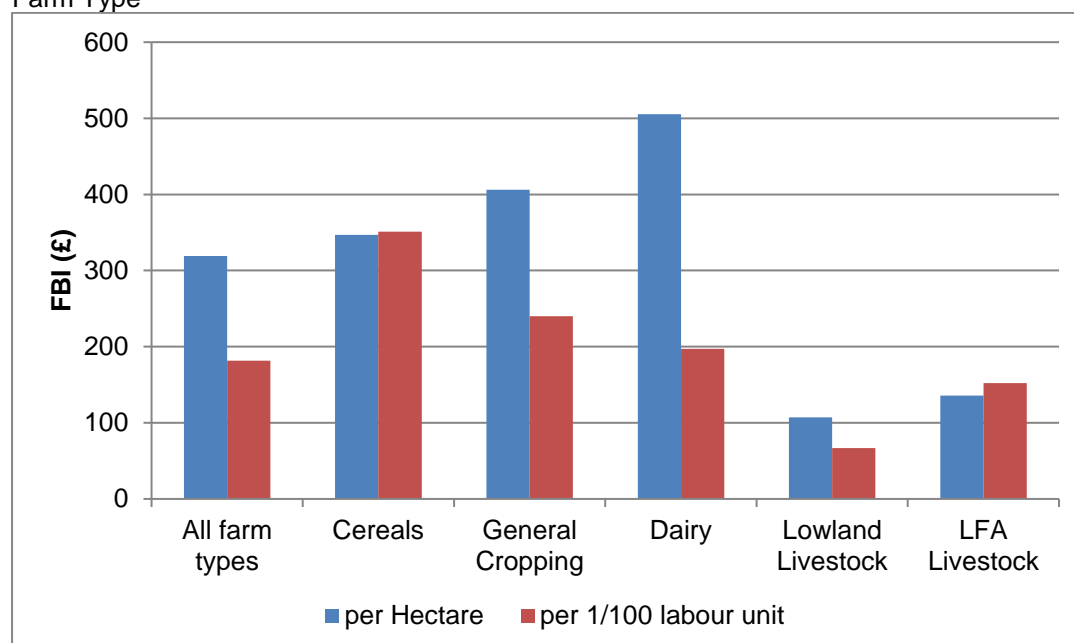
¹ Grazing Livestock farms are classified as farms with more than two-thirds of their total Standard Output produced by cattle and sheep (excluding holdings classified as dairy). A farm is classified as "Lowland" if less than 50% of its total area is in the EC Less Favoured Area.

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



Source: <http://www.farmbusinesssurvey.co.uk/regional/Reports-on-Farming-in-the-Regions-of-England.asp>

Figure 2 Farm Business Income per hectare and per Annual Labour Unit, in England 2019-20, by Farm Type²



Source: <http://www.farmbusinesssurvey.co.uk/regional/Reports-on-Farming-in-the-Regions-of-England.asp>

² The number of farms in each group are- Cereals-343 farms, General cropping- 133 farms, Dairy- 228 farms, Lowland livestock-280 farms and LFA livestock-202 farms

Figure 3 Lowland Grazing Livestock farms in England - Average Farm Business Income by Cost Centre 2017-2019 crop years

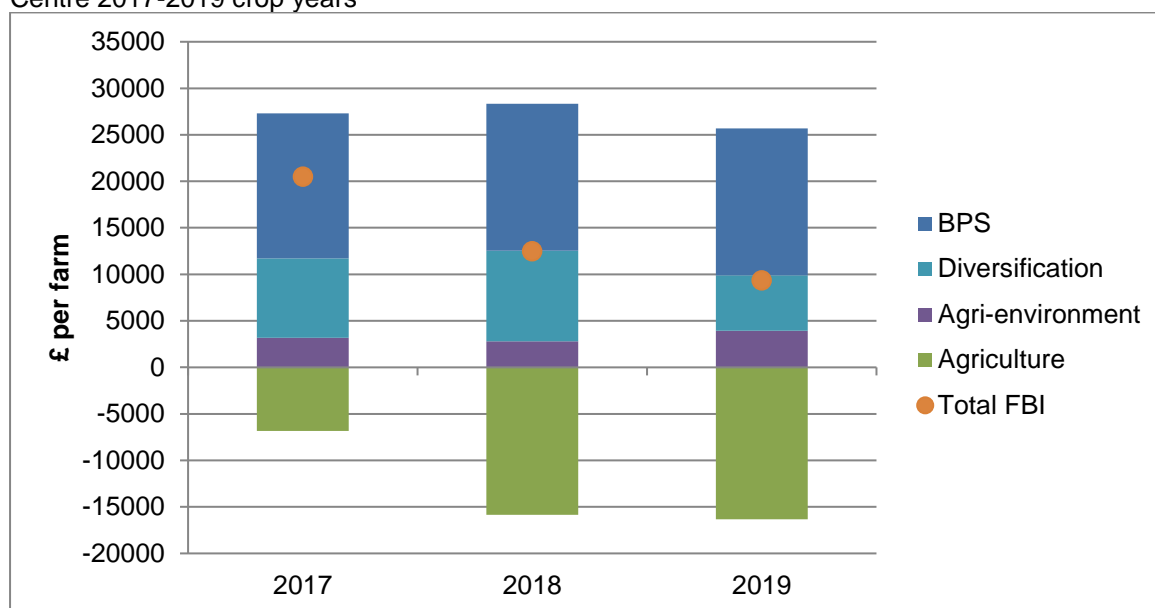
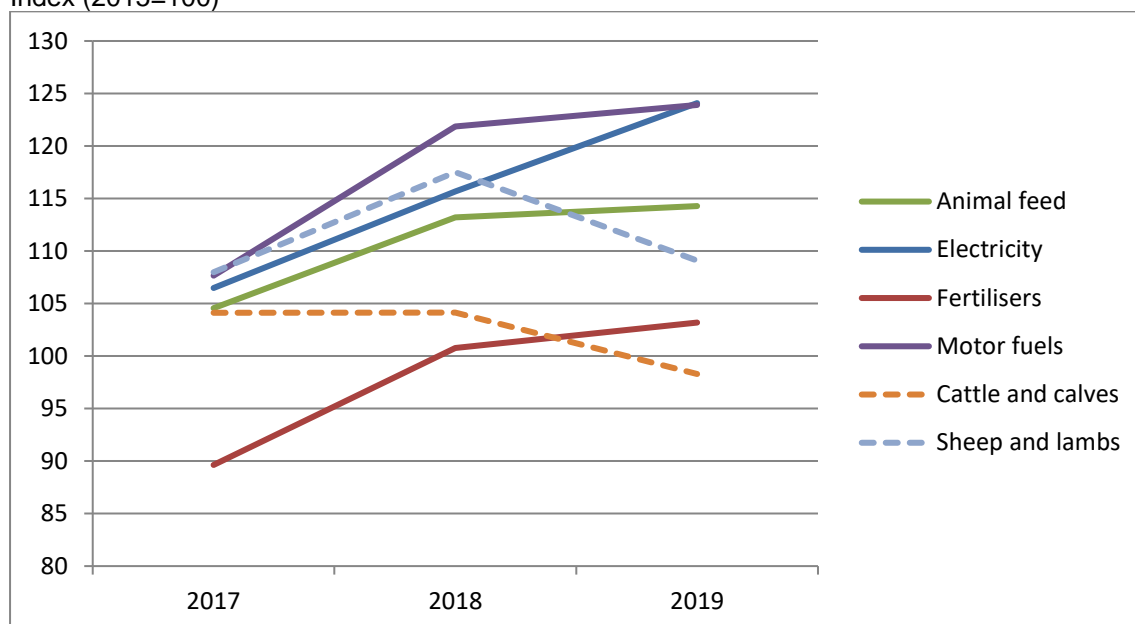


Figure 4 Indices of Producer and input Prices of Agricultural Products (United Kingdom) Index (2015=100)



Source: Defra, API

Lowland Grazing Livestock Production in 2019-20 detailed results

- This report uses data extracted from the Farm Business Survey (FBS) for this important group of farms and includes data from 280 farms which has been 'weighted' to produce figures that represent the whole of the Lowland Grazing Livestock industry in England, excluding the smallest farms which are not included within the survey (see Appendix 1).
- The results for the FBS farms for 2019-20 show a decrease in Farm Business Income per average farm from 2018-19 to £9,355, a reduction of £3,114. Basic Payment Scheme income was £23 lower and £4,922 less income from diversification but the largest fall in income came from 'agriculture' which was over £6,500 lower, the lowest for the last five years. The Net

Farm Income was loss of £1,283 per farm, again a similar fall on the previous year's figure. (Table 1).

- The average Lowland Grazing Livestock farm was 62% owner occupied and the average area farmed was 87.4 hectares. Permanent grassland and rough grazing covers approaching three quarters of the area with temporary grassland and fodder crops another 13%. The stocking rate is low, emphasising the 'extensive' type of production adopted by this farm type, with only 1.0 Grazing Livestock Units per hectare. Cattle account for 72% of these livestock units (Table 2).
- The balance sheet for the average farm shows over £98,500 of liabilities with the majority of borrowing held by the banks, as loans or overdraft. Total assets for the business of £1,297,000 are dominated by the land and buildings which account for 82% of the total. (Table 3). The balance sheet ratios therefore indicate a strong financial position for these farms in terms of ratios of assets to liabilities, but with the low incomes earned, extra borrowing is still difficult to justify and then service.
- The relationship between trading profit generated, capital investment made, drawings taken by the farming family/families, and the funding of the trading business is summarised by the 'flow of funds' (Table 4). The trading net fund surplus from these farms is £26,823 after depreciation on buildings and machinery is added back to Farm Business Income and the increase in live and deadstock valuations is deducted. Close to £9,000 was spent on capital purchases. There was minus £1,900 net investment in land and property, whilst machinery investment was close to £8,000. The machinery pool on these farms was thus nearly maintained, with re-investment being very close to the level of machinery depreciation charged to these businesses. This left a farm fund flow surplus of over £17,700. The private drawings from the farm were £22,000 offset by £10,700 of net transfer in of private funds, resulting in a £6,346 surplus, reflected in an increase in net bank balances. The introduction of funds from private sources has been a feature of Lowland Grazing Livestock farms for a long period, where the low incomes have not been sufficient to allow for both re-investments in the business and private drawings to support the farming family.
- 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.³ Farm size is important, with the better performing businesses being much larger farms and therefore able to spread their fixed costs over a larger area (Table 1). Farm Business Income per hectare still tends to be higher on the High performing farms (Table 5). Low performing farms tended to have lower levels of farm output per hectare. Variable costs are broadly similar across all performance levels but substantial cost savings are made with fixed costs. Lower costs are seen in all the fixed cost categories for the High performing group but the differences in the machinery costs have the largest impact.
- The organic farms are 12% smaller than their non-organic counterparts but the percentage of the land they own is 20% higher. Output from the organic farms is lower when compared to non-organic equivalents. However, there are important differences in how this output is achieved; organic farms tend to get more than their non-organic counterparts from agri-environment schemes and less from livestock and crops. For the organic producers the output from the agri-environment type schemes is twice the non-organic farms reflecting the extra support they receive from the various Stewardship schemes. With the lower 'farming'

³ 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.

output, organic farms tend to have lower variable costs; approaching a third the level of non-organic producers. The resulting total gross margin per farm for the organic farmers is lower than the non-organic level. Fixed costs for the organic farms are also lower than to the non-organic producers. Thus the Farm Business Income per farm for the organic producers is higher than that of their non-organic counterparts per farm and per hectare, but not statistically significant (Table 6).

- Farm size can be described in terms of Standard Labour Requirement⁴. The average size of the Part-time farms is 51 hectares (126 acres), compared to the Very Large farms, which are close to eight times larger in terms of land area (Table 7). The total area farmed by the business increases in relation to the Standard Labour Requirement and the proportion of tenanted land also increases with size, with Part-time farms renting 8% of their farmed area to Very Large farms renting 74% of the land they farm. In general, the gross margin per hectare decreases as the area farmed by the business increases. On a per hectare basis the Very Large farms have a gross margin close to three quarters of the level achieved by the Part-time businesses.

⁴ Full details of the definitions relating to farm size are given in Appendix 1.

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

Financial details, 2019/20	Average all farms	Performance level		
		Low	Medium	High
Number of farms in group	280	42	136	102
Average farmed area (hectares)	87.4	51.9	76.9	143.2
Average % of owned total farmed area	62%	62%	64%	59%
	£ per farm			
Output				
Cattle	37,448	22,357	32,436	62,181
Sheep	15,026	3,736	13,860	28,269
Other livestock	775	522	384	1,815
Crops	5,000	448	5,197	8,981
Forage	5,027	1,545	3,528	11,431
Environmental schemes	4,766	1,044	3,315	11,302
Basic Payment Scheme	17,905	10,004	15,715	29,970
Rental income	6,666	3,533	2,690	17,779
Contract work	3,419	1,463	3,558	5,019
Renewable energy production	2,136	1,794	986	4,806
Miscellaneous output	7,073	5,279	4,626	13,783
Total Farm Output	105,240	51,725	86,295	195,337
Variable costs				
Concentrates	12,556	5,995	11,140	21,759
Purchased fodder	1,216	681	963	2,244
Veterinary and medicines	2,902	1,733	2,536	4,775
Other livestock costs	7,629	5,473	7,062	10,857
Seeds	1,177	632	1,007	2,048
Fertilisers	4,025	2,346	4,220	5,243
Crop protection	1,005	194	1,035	1,724
Other crop costs	900	1,295	680	970
Total Variable Costs	31,410	18,349	28,642	49,621
Gross Margin	73,830	33,375	57,653	145,716
Fixed costs				
Paid labour	6,850	4,704	4,013	14,692
Contract	6,576	6,138	5,323	9,547
Machinery repairs	5,518	5,876	4,357	7,539
Machinery fuel	4,230	3,188	4,007	5,690
Machinery depreciation	10,757	9,766	8,723	15,854
General costs	12,950	11,378	11,097	18,235
Property maintenance	5,090	4,093	4,430	7,393
Rent, hired in keep and bare land	5,356	2,697	4,581	9,495
Buildings depreciation	4,522	3,807	2,932	8,449
Interest	2,624	3,437	1,727	3,669
Total Fixed Costs	64,475	55,085	51,190	100,563
FARM BUSINESS INCOME	9,355	-21,709	6,463	45,153
All unpaid labour	27,579	26,721	28,358	26,819
<i>Equals</i> - FARM CORPORATE INCOME	-18,224	-48,430	-21,895	18,333
Plus - Net Interest	2,588	3,434	1,703	3,576
<i>Equals</i> - FARM INVESTMENT INCOME	-15,636	-44,996	-20,192	21,909

Alternative Income Measures, 2019/20					
			Performance level		
		Average all farms	Low	Medium	High
Reconciliation between Net Farm Income and Farm Business Income					
	FARM BUSINESS INCOME	9,355	-21,709	6,463	45,153
Plus-	Directors remuneration	557	0	626	951
Less-	Net income from assets associated with the farm business	0	0	0	0
Plus-	Buildings and works depreciation	4,522	3,807	2,932	8,449
Plus-	Landlord type expenses	600	452	690	559
Plus-	Imputed rental income	392	253	289	735
Less-	Imputed rent and rental value	14,660	9,287	12,069	25,110
Plus-	Net Interest	2,588	3,434	1,703	3,576
Less-	Unpaid labour of partners	4,637	3,254	4,815	5,605
Equals-	NET FARM INCOME**	-1,283	-26,303	-4,180	28,707
** Excluding Breeding Livestock Stock Appreciation					

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

Land Use and Indicators of Technical Efficiency, 2019/20				
		Performance level		
	Average all farms	Low	Medium	High
Number of farms in group	280	42	136	102
Average farmed area (hectares)	87.4	51.9	76.9	143.2
Average proportion of owned total farmed area (%)	62%	62%	64%	59%
Land use				
Area of crops	4.7	0.7	5.0	8.1
Temporary grass	9.9	3.7	10.7	14.2
Permanent grass	59.4	42.4	51.8	91.4
Fodder crops	1.8	0.4	1.2	4.4
Rough grazing	4.8	0.6	2.0	14.6
Uncropped, fallow and turf	1.0	0.2	1.0	2.0
Forage hired in	5.7	3.9	5.2	8.5
Stocking				
Average number of dairy cows	0	0	0	1
Average number of beef cows	23	23	21	25
Average number of other cattle	78	56	72	110
Average number of ewes	133	40	126	239
Average number of other sheep	151	52	133	280
Grazing livestock units	GLUs per farm			
Dairy cows	0.3	0.0	0.1	1.0
Beef cows	11.3	11.6	10.6	12.3
Other cattle	47.1	34.9	43.5	65.9
Sheep	21.5	6.9	19.8	38.9
Other livestock	1.5	0.7	1.0	3.5
Total	81.6	54.1	75.0	121.6
GLUs per ha	1.00	1.06	1.06	0.91
GLUs per adjusted ha	1.01	1.06	1.08	0.93

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

Balance Sheet, 2019/20	Performance level			
(end of year)	Average all farms	Low	Medium	High
Number of farms in group	280	42	136	102
Average farmed area (hectares)	87.4	51.9	76.9	143.2
Average proportion of owned total farmed area	62%	62%	64%	59%
	£ per farm			
End of year assets & liabilities				
Land & buildings	1,066,542	757,223	963,682	1,573,778
Milk quota	0	0	0	0
Basic Payment Scheme	17,800	9,861	15,654	29,814
Machinery	67,026	60,860	55,165	97,112
Tenant's other assets	164	100	148	259
Breeding livestock	39,393	30,108	36,492	54,239
Total fixed assets	1,190,925	858,152	1,071,141	1,755,202
Trading livestock	46,042	30,450	41,057	71,203
Crops	1,412	313	1,576	2,138
Forage and cultivations	5,531	4,080	4,820	8,375
Stores	5,386	6,148	4,791	5,864
Debtors and loans	10,505	8,093	7,673	18,595
Bank credit and cash	37,938	9,941	31,920	77,146
Other current assets	0	0	0	0
Total current assets	106,814	59,025	91,836	183,322
Total assets	1,297,740	917,177	1,162,977	1,938,524
Financed by				
AMC	18,790	4,159	8,025	54,794
Bank loans	30,995	44,240	20,420	39,775
Other long term	18,091	15,923	7,709	41,316
Total long term	67,876	64,321	36,154	135,885
HP and lease	5,284	5,147	4,157	7,711
Creditors	9,649	8,161	7,052	16,370
Bank overdraft	15,357	22,814	10,443	18,183
Other short term	346	181	591	6
Total current liabilities	30,637	36,302	22,243	42,271
Total Liabilities	98,512	100,624	58,397	178,156
Net worth	1,199,227	816,553	1,104,580	1,760,368
Balance sheet ratios-				
% Owner equity (net worth v.total assets)	92%	89%	95%	91%
% Fixed assets vs. total assets	92%	94%	92%	91%
Gearing (long-term loans v.total assets)	5%	7%	3%	7%
Total debt (external liabilities v.net worth)	8%	12%	5%	10%

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

FUND FLOWS, 2019/20	Average all farms	Performance level		
		Low	Medium	High
Number of farms in group	280	42	136	102
Average farmed area (hectares)	87.4	51.9	76.9	143.2
Average proportion of owned total farmed area (%)	62%	62%	64%	59%
	£ per farm			
Funds available from trading				
Farm Business Income	9,355	-21,709	6,463	45,153
Buildings and works depreciation	4,522	3,807	2,932	8,449
Machinery depreciation	10,757	9,766	8,723	15,854
Change in valuation *	2,188	2,452	3,994	-1,744
Trading net fund flow surplus	26,823	-5,684	22,112	67,712
Funds used for farm investments				
Net property and quota purchases	-1,890	-3,196	-3,122	1,874
Net landlord capital purchases	3,058	2,134	2,860	4,352
Net machinery and equipment purchases	7,956	6,568	7,090	11,054
Capital net fund flow	9,124	5,507	6,828	17,280
Total farm fund flow surplus	17,699	-11,191	15,284	50,432
Funds used for private expenditure				
Private drawings	21,992	13,615	19,475	35,181
Net private funds introduced	10,639	11,499	16,359	-1,835
Private fund outflow	11,353	2,116	3,116	37,016
Total net fund flow surplus	6,346	-13,308	12,167	13,417
Increase in loans and deposits	-2,568	-850	-2,089	-5,197
Increase in bank balance	4,633	-8,916	8,039	10,742
Increase in cash in hand	-1	0	0	-3
Increase in debtors	-43	-4,912	1,234	2,047
Increase in creditors	812	330	-805	4,566
Net change in funding	-6,346	13,308	-12,167	-13,417
* An increase in valuation is represented as a negative, with funds being used to increase the live and deadstock valuation				

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

Performance level	Low	Medium	High
Number of farms in group	42	136	102
Average farmed area (hectares)	51.9	76.9	143.2
Average % of owned total farmed area	62%	64%	59%
	£ per hectare		
Livestock and crops	551	721	787
Agri- environment type schemes	20	43	79
Basic Payment Scheme	193	204	209
Other	232	154	289
TOTAL FARM OUTPUT	996	1122	1364

Variable costs			
Livestock specific costs	267	282	277
Crop specific costs	86	90	70
TOTAL VARIABLE COSTS	353	372	347
TOTAL GROSS MARGIN	643	750	1017

Fixed costs			
Labour	91	52	103
Machinery	481	292	270
General farming costs	219	144	127
Land & Property	204	155	177
Interest paid	66	22	26
TOTAL FIXED COSTS	1061	665	703
FARM BUSINESS INCOME	-418	85	314

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

Financial details, 2019/20	Type of production	
	Non-organic	Organic
Number of farms in group	233	47
Average farmed area (hectares)	88.7	78.3
Average % of owned total farmed area	60%	80%
	£ per farm	
Output		
Cattle	39,071	25,573
Sheep	15,961	8,190
Other livestock	729	1,114
Crops	5,289	2,888
Forage	5,583	962
Environmental schemes	4,106	9,593
Basic Payment Scheme	18,010	17,133
Rental income	7,261	2,316
Contract work	3,767	877
Renewable energy production	1,507	6,732
Miscellaneous output	7,674	2,676
Total Farm Output	108,958	78,054
Variable costs		
Concentrates	13,960	2,293
Purchased fodder	1,224	1,153
Veterinary and medicines	3,029	1,976
Other livestock costs	7,953	5,258
Seeds	1,192	1,066
Fertilisers	4,494	592
Crop protection	1,139	20
Other crop costs	953	513
Total Variable Costs	33,945	12,871
Gross Margin	75,012	65,183
Fixed costs		
Paid labour	6,679	8,103
Contract	6,842	4,631
Machinery repairs	5,454	5,987
Machinery fuel	4,432	2,757
Machinery depreciation	11,003	8,959
General costs	13,145	11,523
Property maintenance	5,255	3,887
Rent, hired in keep and bare land	5,731	2,619
Buildings depreciation	4,583	4,077
Interest	2,656	2,391
Total Fixed Costs	65,779	54,935
FARM BUSINESS INCOME	9,233	10,248
All unpaid labour	27,743	26,376
<i>Equals</i> - FARM CORPORATE INCOME	-18,510	-16,129
Plus - Net Interest	2,617	2,374
<i>Equals</i> - FARM INVESTMENT INCOME	-15,893	-13,755

Table 7: Income details, by size of business

Financial details, 2019/20	Size of business				
	Part-time	Small	Medium	Large	Very large
Number of farms in group	55	84	66	45	30
Average farmed area (hectares)	51.0	82.7	109.8	170.2	398.7
Average % of owned total farmed area	92%	60%	56%	49%	26%
	£ per farm				
Output					
Cattle	21,578	36,687	51,857	88,189	129,374
Sheep	2,314	10,131	27,675	47,467	121,390
Other livestock	187	768	345	432	10,317
Crops	1,174	3,513	9,267	14,025	36,987
Forage	4,845	4,934	6,434	5,267	3,604
Environmental schemes	2,585	5,607	5,431	7,579	22,699
Basic Payment Scheme	12,191	17,612	21,619	31,044	63,413
Rental income	6,581	5,098	5,390	11,430	12,045
Contract work	1,543	4,535	6,964	8,303	4,537
Renewable energy production	2,757	1,188	1,082	2,370	1,535
Miscellaneous output	5,671	11,695	5,165	3,515	12,067
Total Farm Output	61,428	101,768	141,229	219,621	417,968
Variable costs					
Concentrates	4,631	12,035	18,171	37,375	64,467
Purchased fodder	405	1,020	2,968	3,067	5,094
Veterinary and medicines	1,372	2,298	3,998	7,318	16,171
Other livestock costs	4,440	7,106	9,847	16,720	31,711
Seeds	635	1,083	1,842	2,596	4,690
Fertilisers	1,903	3,659	7,354	9,970	15,130
Crop protection	407	707	1,930	2,484	5,521
Other crop costs	601	738	1,337	1,918	2,860
Total Variable Costs	14,395	28,647	47,447	81,446	145,644
Gross Margin	47,033	73,121	93,782	138,175	272,324
Fixed costs					
Paid labour	4,172	5,653	6,466	14,152	37,898
Contract	4,666	6,319	7,693	13,328	19,195
Machinery repairs	4,547	4,794	5,798	9,490	15,027
Machinery fuel	2,512	4,213	6,248	9,260	13,304
Machinery depreciation	8,086	9,754	14,148	20,599	26,099
General costs	10,797	13,638	14,115	17,957	26,429
Property maintenance	3,977	5,015	5,769	8,766	12,389
Rent, hired in keep and bare land	1,778	6,376	7,553	13,355	28,208
Buildings depreciation	4,023	3,508	4,732	7,775	10,700
Interest	1,471	2,295	3,457	5,583	12,518
Total Fixed Costs	46,030	61,566	75,980	120,267	201,766
FARM BUSINESS INCOME	1,003	11,555	17,802	17,907	70,557
All unpaid labour	21,937	32,547	35,922	37,236	36,914
<i>Equals</i> - FARM CORPORATE INCOME	-20,934	-20,992	-18,120	-19,329	33,644
Plus - Net Interest	1,439	2,270	3,434	5,565	12,295
<i>Equals</i> - FARM INVESTMENT INCOME	-19,495	-18,721	-14,685	-13,764	45,939

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

- With the low level of the Farm Business Income generated by the Lowland Grazing Livestock farms the importance of the Basic Payment Scheme (BPS) cannot be underestimated, as illustrated in Table 8. The Basic Payment Scheme per farm represents 17% of the Total Output for Lowland Livestock Grazing farms and more than the level of the total Farm Business Income. Without the Basic Payment Scheme, the average Lowland Livestock Grazing farm would be making a Farm Business Income loss of £8,550. Only the Very large farms would be making a positive income and well below the level of their private drawings.
- Regarding the importance of the Basic Payment Scheme to the Lowland Grazing Livestock farms, the reality of farming without the majority of this support would look bleak and unlikely to be sustainable in the current structure even in a relatively good year for this farm type.

Table 8 Farm Business Income and Basic Payment Scheme, 2019-20

	All Farms	Part-time	Small	Medium	Large	Very Large
	£ per farm					
Farm Business Income	9,355	1,003	11,555	17,802	17,907	70,557
Basic Payment Scheme Income	17,905	12,191	17,612	21,619	31,044	63,413
Farm Business Income less BPS	-8,550	-11,188	-6,057	-3,817	-13,137	7,144
Private drawings	21,992	17,360	19,927	29,136	36,432	50,981

Farm Business Income by 'Cost Centre'⁵

- The majority of the Farm Business Income comes from the Basic Payment Scheme 'cost centre' - 169% of the total Farm Business Income figure for 'All farms'. (Table 9).
- The Farm Business Income from the Agri-environment cost centre has been relatively steady since 2009, but is slightly higher this year at £3,940. (Table 9).
- The Farm Business Income from the Diversification cost centre has been increasing from 2013 and in 2018 crop year was the highest in the last 10 years, but for the 2019 crop year this fell by nearly £3,800.
- The loss from the Agriculture cost centre is the highest in the last five years. Only in 2011 did the Agriculture Cost centre make a positive contribution to the total Farm Business Income. All other years there were losses and this averages, since 2017, more than £13,000 per year. (Table 9).

⁵ For these calculations, Casual labour and Contracting are considered variable costs rather than fixed costs as in our other tables, and interest is net rather than being shown as an income and a cost.

- The Agriculture cost centre accounts for most of the difference between the Farm Business Income per hectare of the three performance groups. Farm Business Income per hectare from 'Agriculture' increases with performance band with the Low performers making a loss of £594 per hectare, the Medium making a loss of £176 and the High performers making a loss of £57 per hectare. The Low performance band showed an extra loss per hectare of £119 with the Medium performers gaining an extra £27 per hectare less and High performers decreasing by £56 per hectare compared to the previous year. (Figure 5).
- The Farm Business Income generated by the Basic Payment Scheme cost centre is lowest for Low performing farms (£ per ha) with High performing farms receiving £37 more per hectare, and is £11 higher per hectare for Medium performing farms. (Figure 5).
- When considering the size of business the contribution from the 'Agriculture' cost centre is negative for each group with the largest loss on the Large farms. The Very large farms have the highest Farm Business Income per hectare income, with the lowest income per hectare on the Part-time farms (Figure 6).
- The value of unpaid labour used by the businesses is illustrated alongside the Farm Business Income by Cost centre (Figure 6). Only the Very Large farms have a Farm Business Income greater than the value of unpaid labour.
- The contribution from the Basic Payment Scheme cost centre ranges from 90% of the total Farm Business Income for Very large farms, 121% for Medium farms, 152% for Small farms, 133% for Large farms and 1215% for Part-time farms. The Part-time figure is so high due to Farm Business Income only being £1,003 per farm.

Table 9 Farm Business Income by Cost Centre by Performance Band, 2019-20

£ per farm	All farms	Low	Medium	High
Total Farm Business Income	9,355	-21,709	6,463	45,153
<i>Of which, by cost apportionment</i>				
Agriculture	-16,346	-30,844	-13,530	-8,122
Agri-environment and other payments	3,940	895	2,467	9,872
Diversification out of agriculture	5,949	250	3,690	16,034
Basic Payment Scheme	15,813	7,991	13,836	27,369

Figure 5 Farm Business Income and Unpaid labour per hectare by Cost Centre, by Performance Band, 2019-20

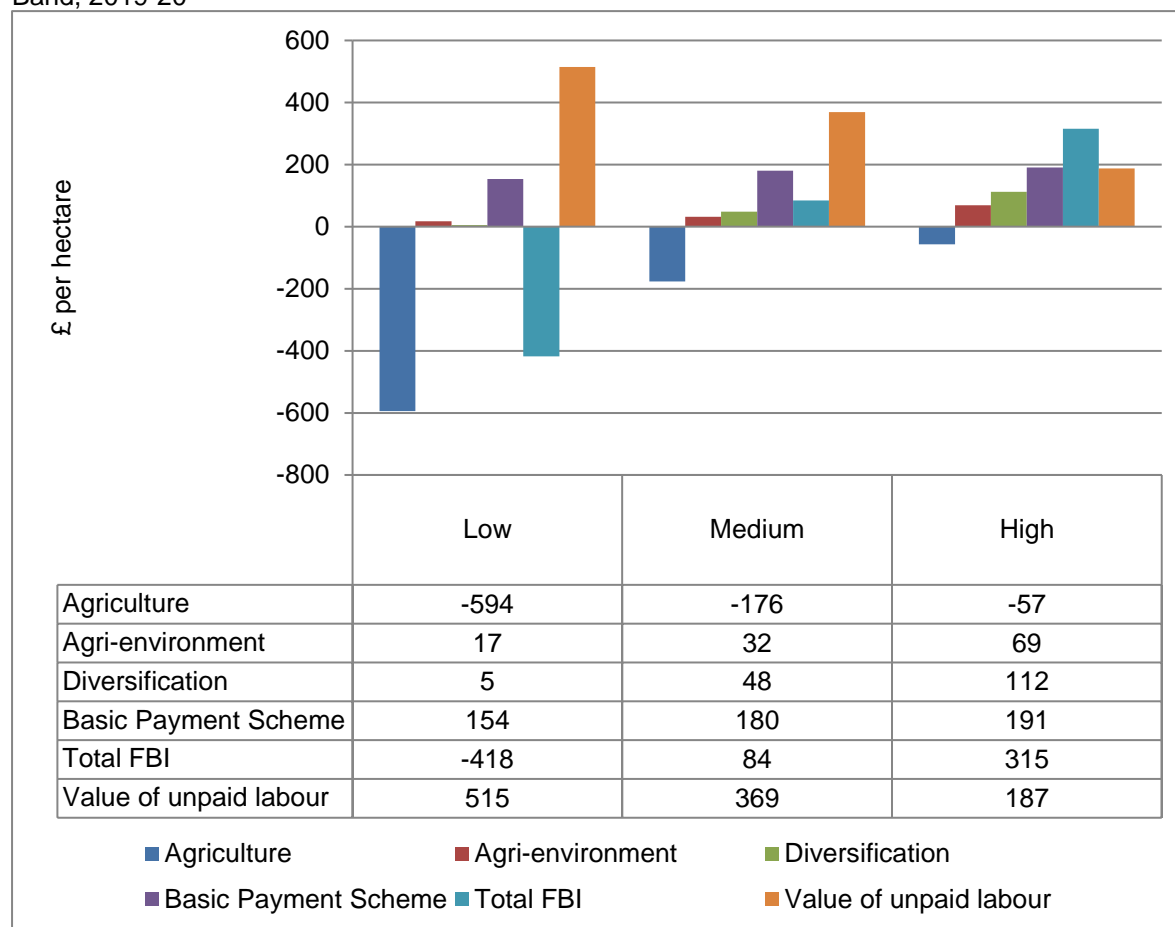
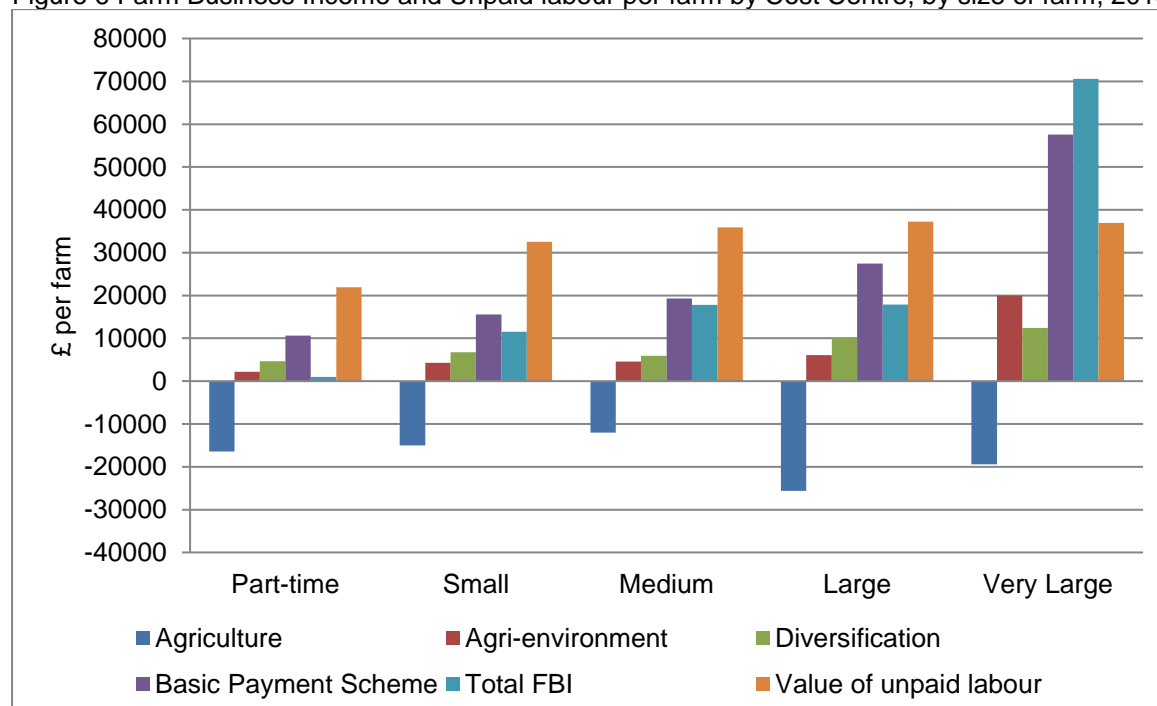


Figure 6 Farm Business Income and Unpaid labour per farm by Cost Centre, by size of farm, 2019-20



Gross Margin data from the Lowland Grazing Livestock farms⁶

- Gross margin per beef cow is higher for the organic producers as compared to non-organic producers, but with lower stocking rates, the gross margin per hectare for the organic producers is similar to the non-organic producers. The Top Third producers' gross margins per cow are more than 70% higher than that of the average, with the difference due to higher output, but also lower variable costs. (Table 10)
- The gross margin per beef cow has remained relatively stable over the last five years for non-organic producers but is slightly more variable for Organic producers. For 2019-20 the gross margin per beef cow is the lowest for a number of years and also more than £50 per cow below the average of the previous five years (Figure 7)
- The gross margin per cow and per hectare tends to increase with the scale of the enterprise. Care is needed to interpret the data due to small sample sizes (Figure 8).
- The beef rearing gross margin data for 'beef bred' store cattle and finished cattle are summarized in Table 11 and Figure 9. Both systems produce a broadly similar gross margin per head, both on average and at the premium level but in favour of the finishing systems. On a per hectare basis the finishers have higher stocking rates so achieved higher gross margins. Gross margins for beef rearing systems have fluctuated over the last five years but the average for 2019-20 is between 22-40% lower than the level of the average for the previous five years.
- For the beef bred finishing cattle systems, the lower variable costs per head for the organic producers (£207) alongside lower output (£60) than average, leaves the average non-organic beef bred finisher with the lower gross margin per head. The higher stocking rate compensates for the lower gross margin per head but still leaving an advantage in gross margin per hectare with the organic producers (See Table 11).
- The gross margins from the cattle rearing systems show the top third group of producers having margins per head double those achieved by the average. On a per hectare basis a similar increase can also be seen for both the premium beef finishers and store cattle producers. As with most of the gross margins from these farms the Top third producers have higher output with similar or lower variable costs.
- The output per head from the Beef Bred Finished Cattle producers increases with scale of enterprise but the variable costs also increase with scale, particularly concentrate feeds, leaving broadly similar gross margins (Figure 10)⁷. The stocking rate is greatest for the largest herds and broadly increased with scale of system.
- The gross margin per ewe for the lowland ewes for the non-organic producers is similar to the organic producers. The stocking rates for both types of production are low, 5.2 ewes per hectare or lower which is about half the stocking rate of Dairy farms when calculated on a

⁶ A number of the farms within the sample are able to calculate gross margins for their enterprises. Enterprises with small numbers of farms have not been included. Where the sample sizes allow, top third group figures (weighted total population) are also produced. Sample sizes are small for some of these analyses and standard error bars have been included in the figures to indicate the accuracy of the estimate of the mean. Error bars are shown on 95% confidence intervals as a measure of the uncertainty that may apply to the estimated means. These signify that we are 95% confident that this range contains the true value. They are calculated as the standard error (se) multiplied by 1.96 to give the 95% confidence interval (95% CI)

⁷ The number of data points for each herd size group is low (less than 30 in each case) so differences between groups should be treated with some caution.

GLU basis. As compared to the previous year the gross margin per ewe from both non-organic and organic lowland sheep flocks was more than 7% higher (Table 12 and Figure 11).

- The gross margin achieved for the lowland ewes either per head or per hectare show no statistical differences with scale of enterprise due to the large variations in performance in any size group (Figure 12).
- Gross margins per hectare from all the main livestock enterprises are either the lowest for the last five years or the second lowest in the case of lowland ewes. Comparing the average gross margin per hectare across the differing livestock enterprises (Figure 13) - the cattle rearing enterprises (either store or finishing beef systems) tend to have higher margin per hectare than the breeders, beef cows having the lowest gross margin per hectare. This has been the same for at least the last five years.

Table 10 Lowland Beef Cow Gross Margin data

Gross margins per cow, per LU and per hectare (Weighted average performance)		Average		2019/20 Top Third*
		Non-organic	Organic	Non-organic
Number of farms		130	34	43
Cows per herd		39	35	42
Stocking rate:	LU/ha	1.06	0.83	1.08
	ha/LU	0.95	1.20	0.93
		£ per cow		
Output -	calf output	477.5	487.0	534.8
	depreciation	-71.1	-114.9	-58.7
ENTERPRISE OUTPUT (excl. BLSA)		406.4	372.1	476.1
Concentrates		45.7	17.1	28.0
Coarse fodder		11.0	22.7	14.9
Veterinary and medicines		32.1	31.1	26.9
Other livestock costs		68.6	66.4	47.3
Forage †		69.4	23.6	52.4
TOTAL VARIABLE COSTS ‡		226.7	160.8	169.4
GROSS MARGIN per cow (excl. BLSA)		179.8	211.3	306.7
GROSS MARGIN per LU (excl. BLSA)		180	221	298
GROSS MARGIN per hectare (excl. BLSA)		190	176	331
Concentrates per £100 output		11	5	6
<i>Averages - previous year</i>				
Stocking rate:	LU/ha	1.08	0.88	1.05
Gross Margin: £/cow		203	283	356
Gross Margin: £/ha		220	279	372
* Top Third of Weighted Population				
† Forage includes seeds, fertilisers, sprays and other crop costs				
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.				

* Top third selected by level of gross margin per cow

Figure 7 Gross Margin per head for Beef Cows⁸

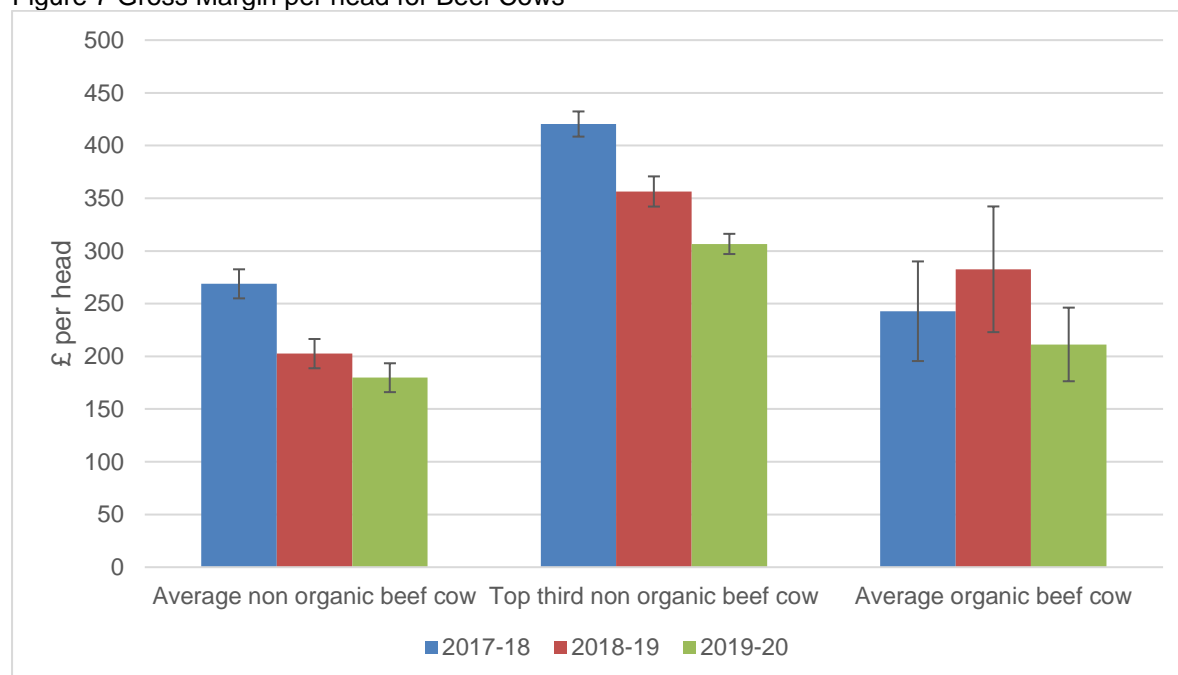
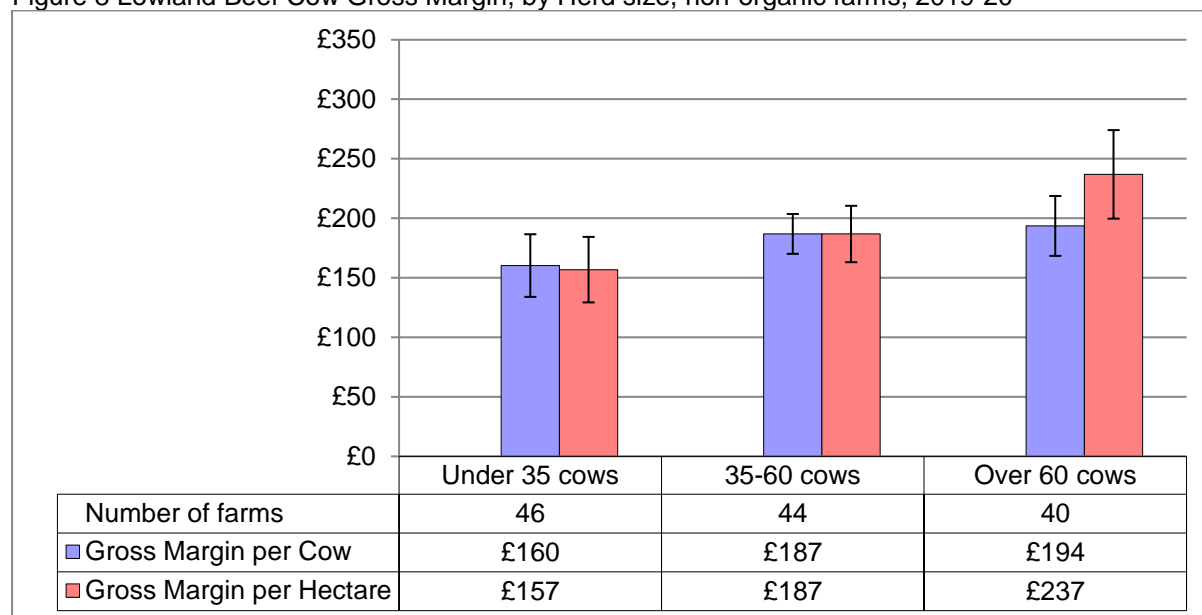


Figure 8 Lowland Beef Cow Gross Margin, by Herd size, non-organic farms, 2019-20



⁸ The 2017-18 year has been recalculated on the 2013 Standard Output basis

Table 11- Lowland Beef Rearing Enterprise Gross Margin data

Gross margins per head, per LU and per hectare						2019/20
(Weighted average performance)		Beef bred store cattle		Beef bred finished cattle		
		Average	Top third*	Average		Top third*
		Non-organic	Non-organic	Non-organic	Organic	Non-organic
Number of farms		66	22	80	23	27
Cattle per herd		46	42	87	57	72
Average finished animal sale price - £/head				1132	1188	875
Stocking rate:	LU/ha	1.12	0.96	1.18	0.92	1.09
	ha/LU	0.90	1.04	0.85	1.08	0.92
		£ per head				
OUTPUT		334.4	504.2	505.7	445.7	729.8
Concentrates		87.9	88.2	188.3	23.6	209.2
Coarse fodder		7.2	7.8	9.9	14.2	19.8
Veterinary and medicines		16.7	19.6	16.4	12.9	19.5
Other livestock costs		62.9	57.8	78.2	57.1	88.3
Forage †		28.7	27.3	40.8	18.8	36.7
TOTAL VARIABLE COSTS ‡		203.5	200.6	333.6	126.6	373.6
GROSS MARGIN per head		130.9	303.6	172.1	319.1	356.3
GROSS MARGIN per LU		233	531	295	514	596
GROSS MARGIN per hectare		261	509	349	474	648
Concentrates per £100 output		26	17	37	5	29
Averages - previous year						
Stocking rate:	LU/ha	1.06	0.85	1.37	0.92	1.37
Gross Margin: £/head		176.3	357.5	173.4	283.8	329.6
Gross Margin: £/ha		323	509	415	409	753
Average finished sale price- £/head				1214	1235	1258
* Top Third of Weighted Population						
† Forage includes seeds, fertilisers, sprays and other crop costs						
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.						

* Top third selected by level of gross margin per head

Figure 9 Gross margins per head of Cattle Rearing Systems⁹

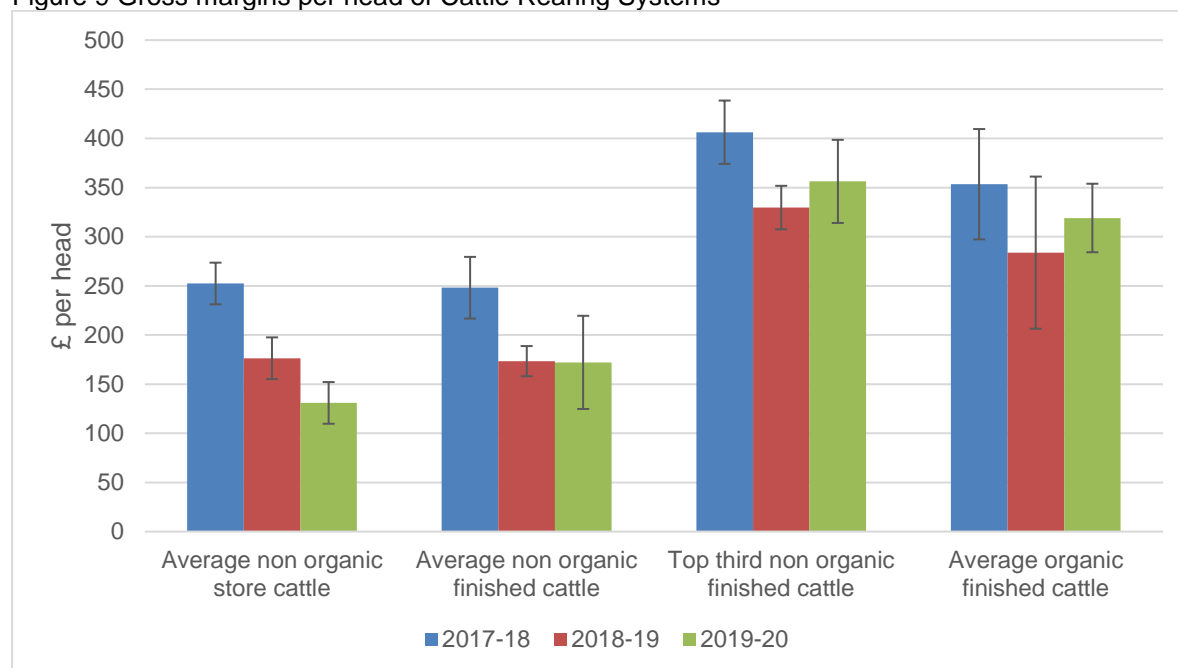
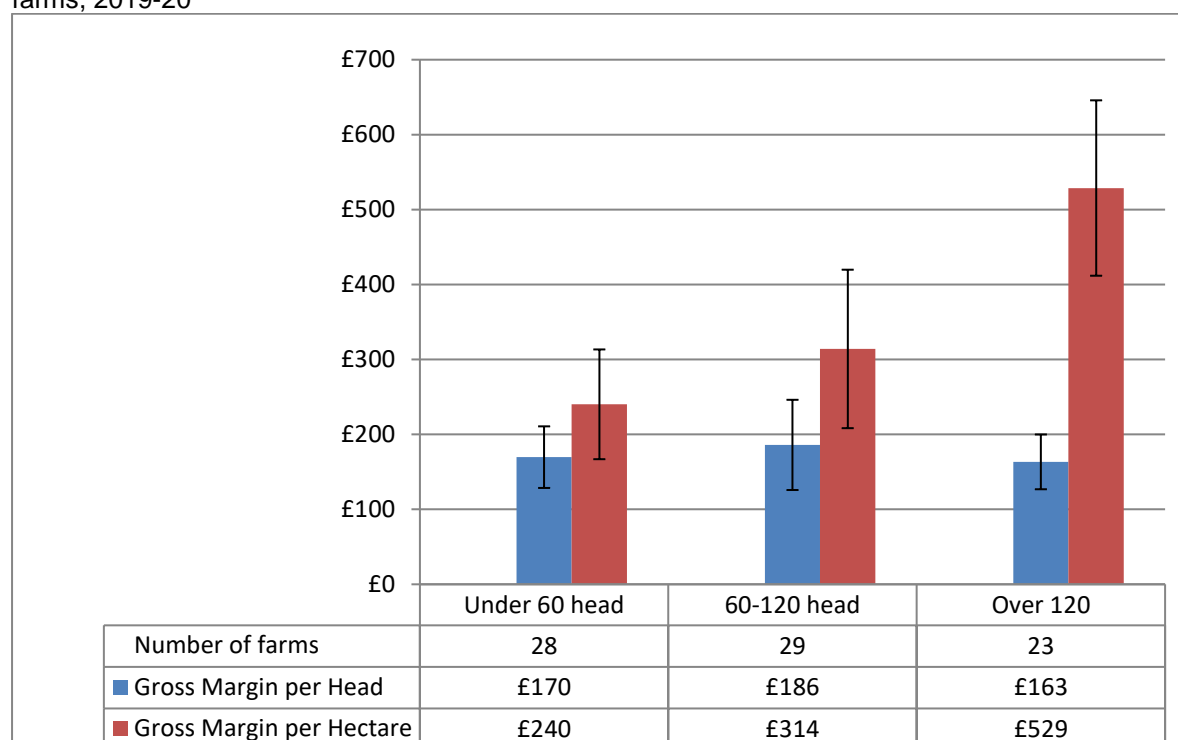


Figure 10 Beef Bred Finished Cattle Gross Margin per Head & per Hectare, by herd size non-organic farms, 2019-20



⁹ The 2017-18 year has been recalculated on the 2013 Standard Output basis

Table 12 –Lowland Ewe Gross Margin data

Gross margins per ewe and per hectare			2019/20	
(Weighted average performance)		Average		Top Third*
		Non-organic	Organic	Non-organic
Number of flocks		114	20	38
Ewes per flock		348	195	376
Average lamb sale price - £/lamb		83.1	83.4	85.4
Stocking rate - ewes per hectare		5.2	4.3	6.5
		£ per head		
Output -	lambs	122.3	98.7	143.7
	wool	2.0	3.3	1.8
	depreciation	-13.5	-11.9	-8.7
ENTERPRISE OUTPUT (excl. BLSA)		110.7	90.1	136.8
Concentrates		20.1	3.4	20.0
Coarse fodder		1.9	2.3	1.5
Veterinary and medicines		7.7	8.1	8.5
Other livestock costs		13.1	12.2	13.5
Forage †		7.6	3.6	6.5
TOTAL VARIABLE COSTS ‡		50.4	29.5	50.0
GROSS MARGIN per ewe (excl. BLSA)		60.4	60.6	86.7
GROSS MARGIN per LU (excl. BLSA)		381	393	561
GROSS MARGIN per hectare (excl. BLSA)		314	259	560
Concentrates per £100 of output		18	4	15
Averages - previous year				
Stocking rate:	ewes/ hectare	5.5	4.8	7.5
Gross Margin: £/ewe		54.3	56.7	87.0
Gross Margin: £/ha		299	273	657
Average finished sale price- £ /head		84.4	86.1	87.4
* Top Third of Weighted Population				
† Forage includes seeds, fertilisers, sprays and other crop costs				
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.				

*Top third selected by gross margin per ewe

Figure 11: Lowland Ewe Gross Margin per Head.¹⁰

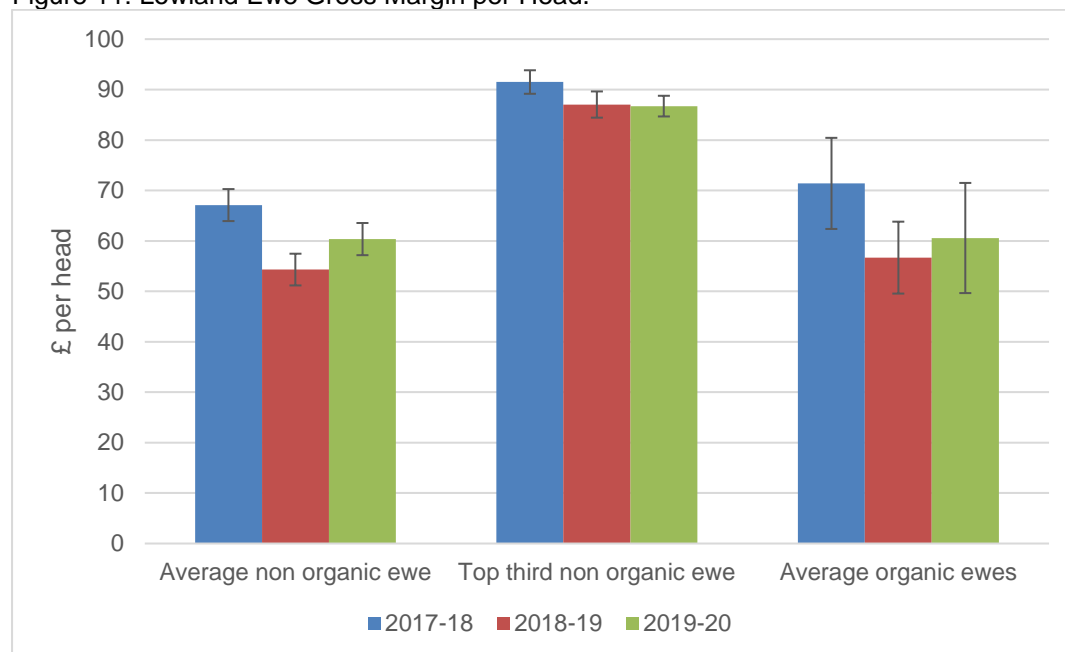
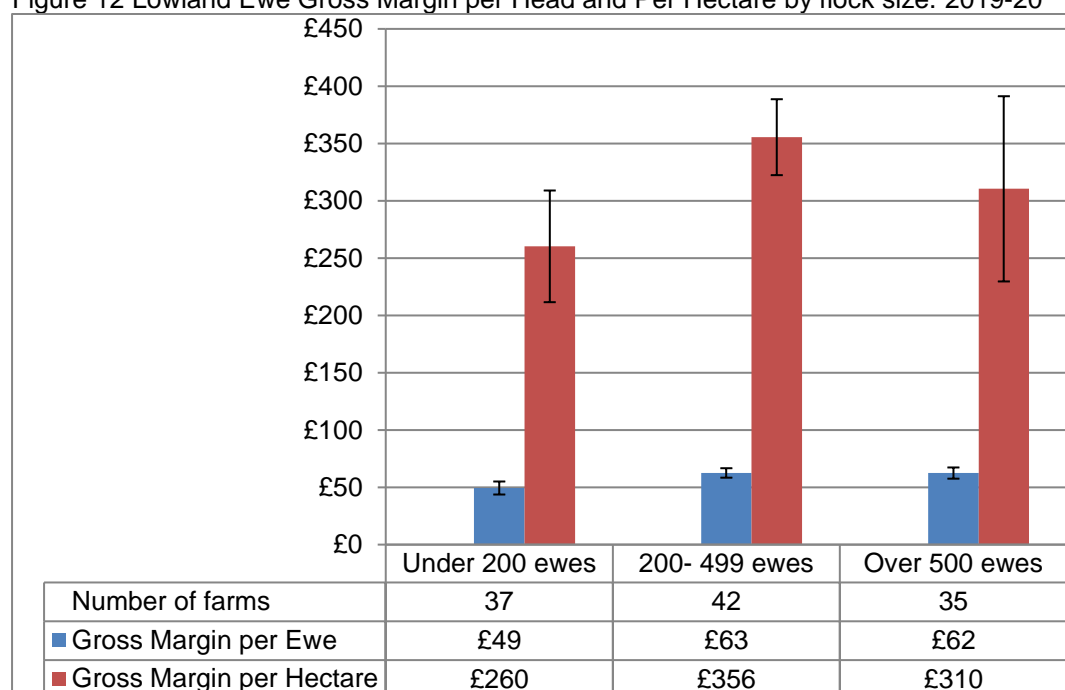
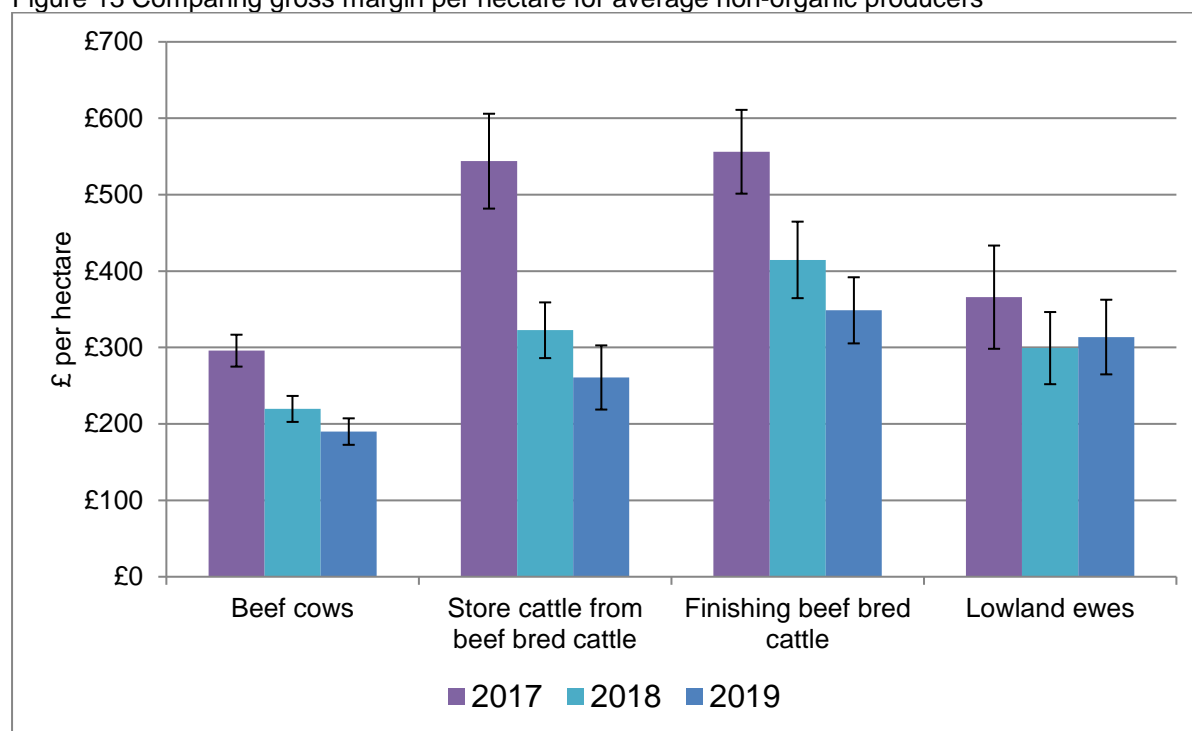


Figure 12 Lowland Ewe Gross Margin per Head and Per Hectare by flock size. 2019-20



¹⁰ The 2017-18 year has been recalculated on the 2013 Standard Output basis

Figure 13 Comparing gross margin per hectare for average non-organic producers



Appendix 1 The Farm Business Survey (FBS)

General

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

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

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

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

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

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

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

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

From 2018/19, the classification of farms is based on 2013 standard output (SO) coefficients. 2017/18 results have been recalculated and presented in this report on 2013 SO coefficients to allow comparability between 2017/18 and 2018/19. The results published here are therefore not directly comparable with those published in reports in earlier years which are based on previous SO coefficients. Results for 2017/18 based on the previous SO coefficients can be found at:

<https://www.ruralbusinessresearch.co.uk/archive-publications/>

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

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

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

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

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

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

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

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

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

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

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

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

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

Weighting Procedure

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

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

Definition of Terms

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

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

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

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

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

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

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

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

Annual labour units (ALU) are the estimated number of full time worker equivalents of persons working on the holding during the year. Part-time workers are converted to full-time equivalents in proportion to their actual working time related to that of a full-time worker. One ALU represents one person employed for 2,200 hours.

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

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

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

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

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

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

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

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

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

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

Total variable costs

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

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

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

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

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

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

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

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

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

Total fixed costs

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

Labour (excluding farmer and spouse) costs include all work in connection with the normal running of the holding including field work, livestock husbandry, market preparation, maintenance, transport and other related operations. They exclude work to produce fixed assets (construction or repairs of buildings and machinery, etc.), domestic work and business travel/professional meetings, etc. 'Unpaid' labour is valued at the appropriate rate for the work actually done. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income.

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

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

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

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

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

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

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

Because of these two restrictions, NFI is not a proxy for farm business income; other measures, such as Net Profit and Family Farm Income should be used instead. Nor is it a proxy for farm household

income both because NFI does not accurately represent the farmer and spouse share of the business and because it takes no account of any income from off-farm sources.

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

Farm business income (FBI) for sole traders and partnerships represents the financial return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers) and on all their capital invested in the farm business, including land and buildings. It is defined as Total Farm Output (TFO) plus profit / loss on sale of assets minus cost (C): where TFO is defined as the sum of output from: crop enterprises, adjustment for disposal of previous crops, livestock enterprises, separable non-agricultural diversification, Basic farm payment, agri-environmental payments, other grants and subsidies, miscellaneous receipts; C is defined as variable costs plus fixed costs. Note that prior to 2008/09 directors remuneration was not deducted in the calculation of farm business income. For corporate businesses it represents the financial return on the shareholders capital invested in the farm business. It is used when assessing the impact of new policies or regulations on the individual farm business. Although Farm Business Income is equivalent to financial Net Profit, in practice they are likely to differ because Net Profit is derived from financial accounting principles whereas Farm Business Income is derived from management accounting principles. For example in financial accounting output stocks are usually valued at cost of production, whereas in management accounting they are usually valued at market price. In financial accounting depreciation is usually calculated at historic cost whereas in management accounting it is often calculated at replacement cost.

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

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

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

Balance Sheet Tables

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

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

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

Appendix 2 Reports in this series:

Reports in this series:

Crop Production in England

Dairy Farming in England

Hill Farming in England

Horticulture Production in England

Lowland Grazing Livestock Production in England

Organic Farming in England

Pig Production in England

Poultry Production in England

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