RBR Rural Business Research

Newcastle University

Farm Business Survey

2021/2022

Organic Farming in England

Charles Scott

March 2023

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independent research, data and analysis

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Acknowledgments

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

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Foreword to the Seventeenth and Final Series

Welcome to this seventeenth and final series of reports on the economics of agriculture and horticulture in England produced from *Rural Business Research (RBR).* Over the last seventeen years, RBR, our leading academic consortium comprising the Universities of Cambridge, Newcastle, Nottingham and Reading, and Askham Bryan and Duchy Colleges has, as detailed in Professor Seabrook's first foreword in this series, set out through these reports to "*make a valuable and useful contribution to the farming industry*". Reflecting on these series of reports, and the research and analysis that lies behind them, I am confident that we have both achieved and surpassed these initial aims, as evidenced through their longevity in production and loyalty of readership.

This final series draws on the 2021/22 financial year for farmers and growers, and covers the 2021 harvest year. Over this financial year, average Farm Business Income (FBI), derived from our work on the Defra-funded Farm Business Survey (FBS), increased to £86,100 per business, representing an increase of 66% on 2020/21. In percentage increase terms, General Cropping, Lowland Grazing Livestock and Mixed farm types saw FBI increase of 117, 85 and 84% respectively. At the top end of these average incomes per farm business, General Cropping, Dairy and Specialist Poultry received average FBIs in the order of £140,000. In contrast and borne out by the structural change we are witnessing in the pig sector, average FBI returns to Specialists Pig farms decreased by 75%, leaving an average FBI of only £11,800. The challenges and opportunities currently facing farmers and growers are many and varied, ranging from supply reductions and increased demand driving up commodity prices, to major shortages or greatly inflated prices of key inputs such as feed, fuel and fertiliser, to the ongoing challenges of attracting labour to our industry.

Of course, at the same time, for many farmers and growers the reduction, and the eventual loss, of the Basic Payment is now becoming a dawning realisation. Many businesses, on the back of strong FBI performances, will be well placed to adapt. However, for others, and in particular grazing livestock businesses, this payment reduction and eventual loss will be a hard pill to swallow. As we approach the mid-point years of the "2021-2027 Agricultural Transition" evidencing the economics of agricultural and horticultural businesses will grow in importance. Policy makers will rightly continue to draw on the FBS as the most authoritative evidence base of the changing fortunes of agriculture and horticulture. At the heart of this evidence base, across England over the last 86 years, has been the Universities and Colleges that have supported the methodological development of the FBS with Defra, working alongside colleagues in Wales and Scotland in a partnership approach, to deliver the Gold Standard of data quality upon which we have all become reliant. It is therefore with a heavy heart that, following the outcome of a recent open tender for this work, I announce that our specialist consortium will no longer be delivering this important work in the future. The FBS in England is of crucial importance to the farming industry and I wish it well in its new future under Promar International's delivery, and hope that RBR's collective 86 years of expertise and input serves as a strong basis for its continued success.

As I draw this seventeenth and final series to a close, I do so by thanking Defra for funding this vital work over the years, and to the thousands of farmers and growers

who have, over nearly nine decades, freely shared their information, farm business data and time with us for the benefit of the industry. I also thank most of all both current and former colleagues from the universities and colleges who have worked on the FBS and who may continue to do so; it is their professionalism and dedication that has delivered every year, frequently against the backdrop of enormous challenge, and it has been the greatest of professional privileges to have led this team over the last 16 years.

Professor Paul Wilson
Chief Executive Officer, Rural Business Research
December 2022
www.ruralbusinessresearch.co.uk

Executive Summary

The area under organic food production (including that in conversion) in the UK rose to 506,648ha in 2021. The area under conversion in the UK also rose to 41,973ha. The number of organic producers (including producer/processors) fell to 5,732 in 2021 (Defra 2022).

This report uses data from the 2021/22 Farm Business Survey of 1,580 farms in England, of which 120 are organic. A further 19 farms have some organic enterprises. Several measures of performance have been used in this report and Farm Business Income (FBI) is used as the main measure. Farm Business Output (FBO) has been split into four sources; agriculture, agri-environment, diversification and the Basic Payment. Total costs have also been broken down into selected cost centres. Organic farms have been compared year-on-year using an identical sample and a full sample comparison of organic and non-organic farms is made for the current year. Gross margin data for individual organic crop and livestock enterprises is presented whenever enterprise sample size is 5 farms or more.

All of the six farm types recorded lower farm profitability per hectare (FBI/ha) for the organic farms relative to their non-organic counterparts. These differences were statistically significant for three groups. Organic LFA grazing farms however, recorded a higher FBI/farm than the non-organic farms in this group (not significant). The differences in income were similar for most farm types when using Net Farm Income per hectare (NFI/ha) but with the organic LFA grazing farms showing a higher NFI/ha than the non-organics. Organic farms usually generate a lower output but incur lower costs than the non-organics, LFA grazing farms is the exception generating a greater output and incurring higher costs per hectare. On a year-on-year basis, FBI/farm and FBI/ha increased for organic Cropping, Dairy, Lowland grazing and Mixed farms but fell for Horticulture and LFA grazing farm types.

Organic cropping farms earned on average an FBI of £319/ha, £248/ha less than the non-organic cropping farms, and equating to an FBI of £35,647/farm. The difference was significant at both the farm level and the per hectare level. The lower FBI/ha for organic cropping farms was due to a lower total farm output of £1,611/ha (versus £1,877/ha for the non-organics) offset by similar expenditure on total costs per hectare (£1,292/ha versus £1,312/ha). Net farm income was significantly lower for organic cropping farms at the per hectare level (£190/ha versus £463/ha) and at the per farm level (£21,236/farm). Organic cropping farms saw a 5% increase in FBI/ha between 2020/21 and 2021/22. This increase in profitability was due to a 9% increase in total output per hectare and despite a 10% increase in total costs per hectare.

The FBI/ha for organic horticulture farms of £1,037/ha was about half that of the non-organics (although not significant). Non-organic horticulture farms operated a much more intensive operation than organic horticulture farms; FBO being £14,881/ha for non-organics versus £4,561/ha for organic farms. The total costs for non-organic horticulture farms were £12,857/ha and only £3,524/ha for organic farms. The FBI/ha on an identical sample of organic horticulture farms fell by 51% (to £1,323/ha) between 2020/21 and 2021/22. This was due to a 22% decrease in total farm output and despite a 9% reduction in total costs. The small sample size of the identical sample means that great care must be taken in interpreting the year-on-year results.

Organic dairy farms recorded a significantly lower FBI/ha of £352/ha, £549/ha less, than the non-organic dairy farms, this due to total farm output being £1,787/ha lower on the organic dairy farms, and despite their costs being £1,242/ha lower. There is a similar, significant difference in profitability (of £454/ha) at the NFI/ha level. Organic dairy farms have typically fewer stock (an average of 231 Grazing Livestock Units (GLU) compared to 304 GLU for the non-organics) – on average areas of 171ha and 162ha respectively. Between 2020/21 and 2021/22 the FBI/ha on organic dairy farms increased by 8%; this due to a 6% increase in output and despite a 6% increase in costs.

Organic LFA grazing farms continue to be more profitable than their non-organic counterparts at the farm level with the average FBI/farm of £35,828/farm being £4,693 more than the non-organic farms – but not significant. At the per hectare level the difference is reversed – by £7/ha, also not significant. When using NFI, the organics' profitability is also greater at the farm, and the per hectare, level but neither are significant. Organic LFA grazing farms generated £22/ha more output per hectare (at £1,011/ha) but incurred £26/ha higher costs (at £734) than the non-organics. The average size of an organic LFA grazing farm is 168 adjusted hectares (adj. ha) carrying 109 GLU whereas a non-organic farm is typically 150 adj. ha and carrying 89 GLU. Organic LFA grazing farms saw a 15% fall in FBI/ha between 2020/21 and 2021/22 – attributable to a 3% decrease in total output per hectare and a 3% increase in total costs per hectare.

In 2021/22 organic lowland grazing farms recorded an average FBI/ha of £343/ha compared to their non-organic counterparts' of £357/ha but the difference was not significant. At the farm level the difference was £4,548/farm, but also not significant. The average FBO/ha for organic farms (of £1,149/ha) was £309/ha less than the FBO/ha for the non-organics, primarily due to a lower output from agriculture. Organic farms had considerably lower total costs (by £301/ha) of £807/ha. The profitability of organic lowland grazing farms increased by 50% between 2020/21 and 2021/22 to £327/ha (FBI). This was due to a 12% increase in total output per hectare despite a 1% increase in total costs per hectare.

Organic mixed farms earned an FBI/ha of £192/ha, a significant £226/ha less than their non-organic counterparts (of £418/ha). The NFI/ha was also significantly lower, by a similar margin. Organic mixed farms earned £544/ha less in total farm output (of £1,548/ha) but they also spent £318/ha less in total costs (of £1,369/ha). Organic mixed farms saw a 12% rise in FBI from 2020/21 to 2021/22. This was due to a 20% increase in total farm output (to £1,556/ha) and despite a 21% increase in costs to £1,438/ha.

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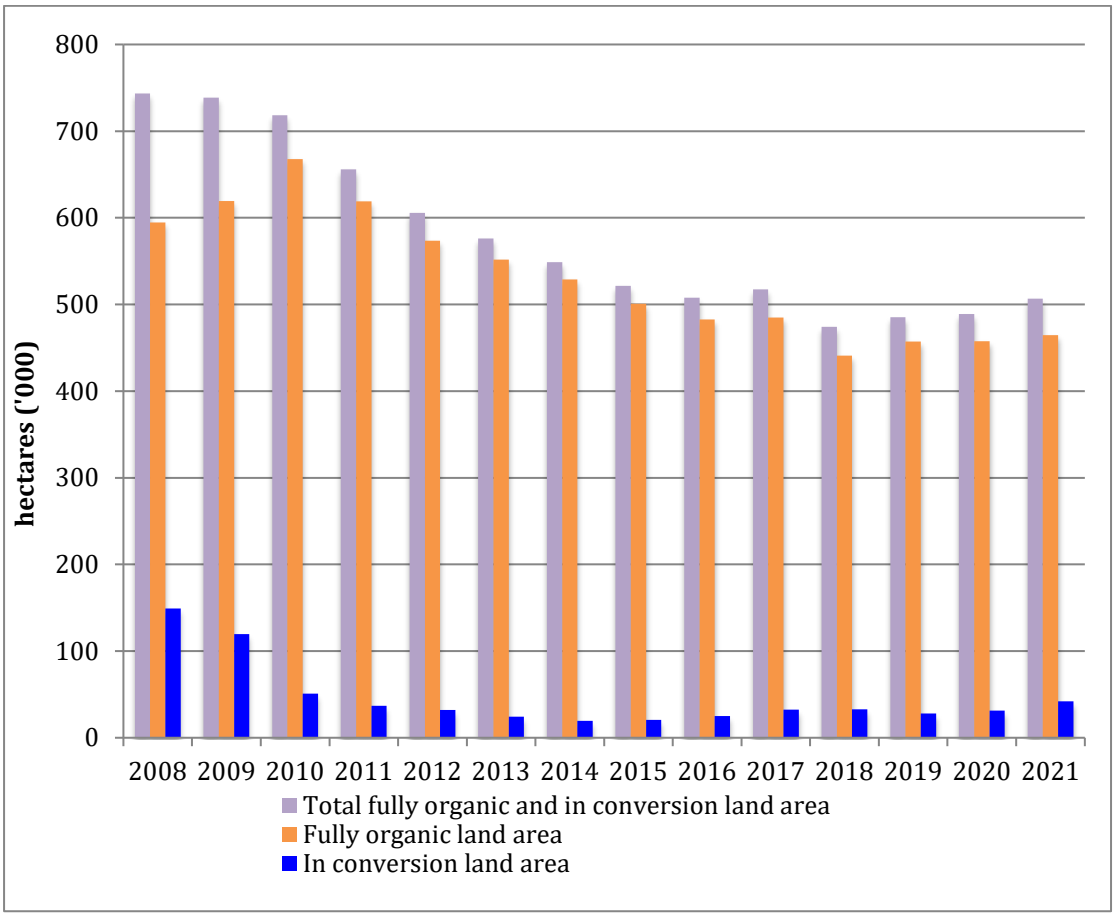
1 Organic farming in the United Kingdom

1.1 Area

The total organic agricultural area consists of land certified as fully organic and land in conversion to organic. Total UK land in organic food production peaked in 2008/09 at 743,516 hectares (ha) but has since declined to 506,648ha in 2021. The area in conversion, peaking in 2007/08 at 157,893ha, was 41,974ha in 2021.

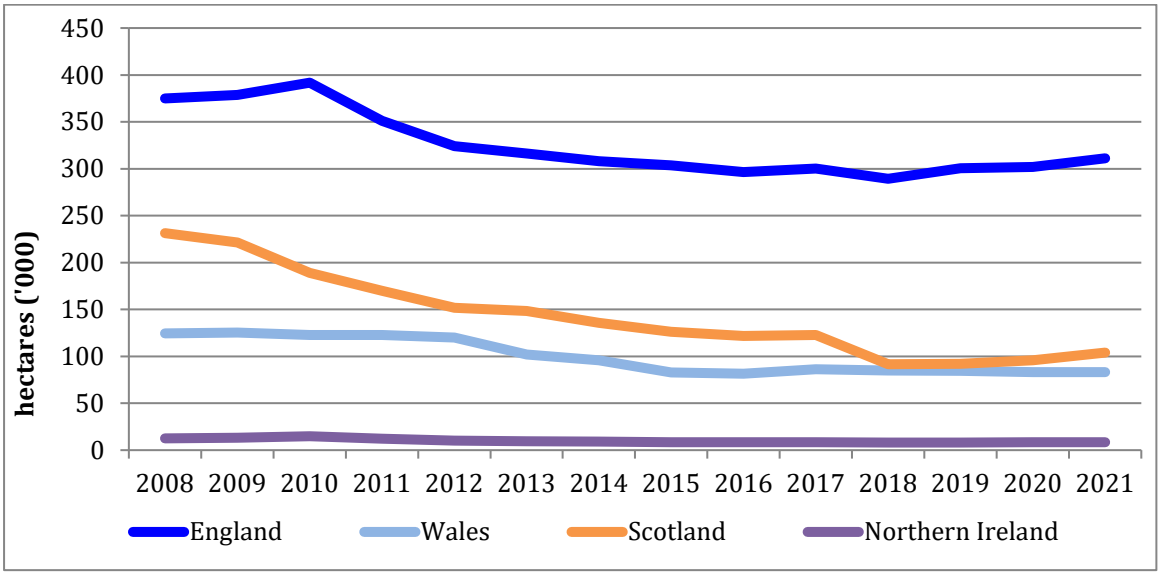
Figure 1 UK land in organic food production 2008-2021



(*Source: DEFRA 2022*)

The area of organic (including areas in conversion) farmland in England has followed a similar pattern to that of the UK as a whole (Figure 2) with 311,154ha being classified as organic (and in-conversion) in 2021, down from a peak of 391,761ha in 2010 (DEFRA 2022). Organic conversions in England, which have been roughly twenty to thirty thousand hectares per year for the past ten years, increased slightly to 25,787ha in 2021. Scotland's organic area has been increasing over the past three years to 103,867ha in 2021, although this is only 24% of the area that was under organic production in 2004. The area under organic production in Wales has decreased slightly, to 83,158ha in 2021, and the organic area in Northern Ireland increased slightly to 8,468ha, the second year of increase following a nine-year decline.

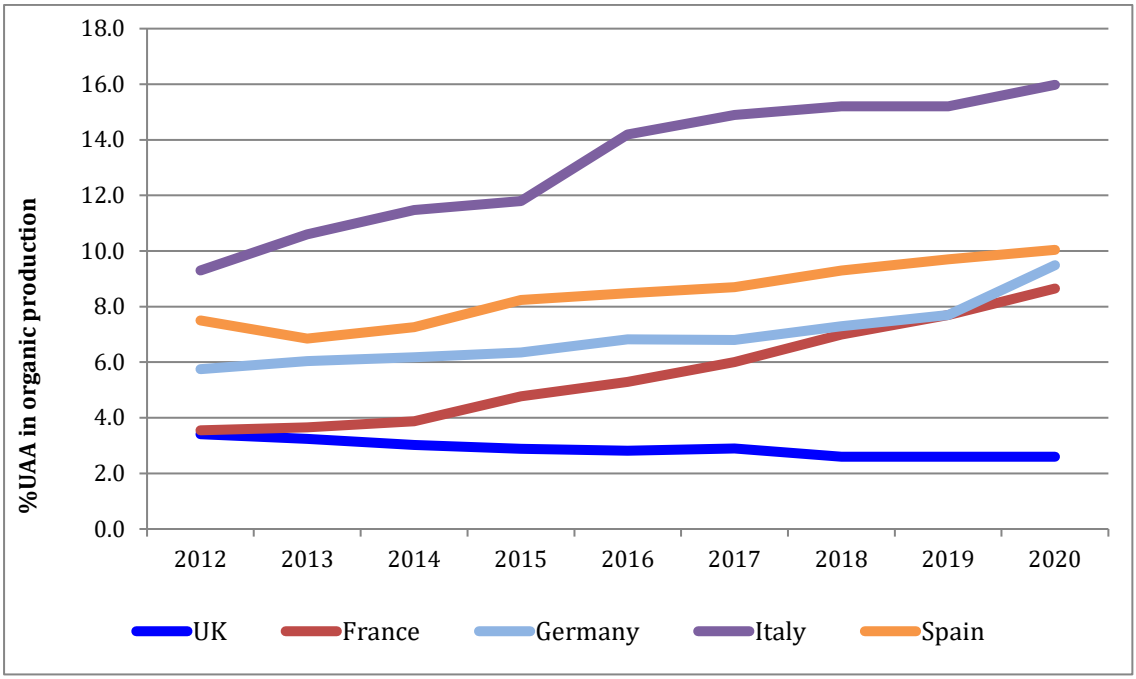
Figure 2 Land area in organic production by UK country (including in-conversion)



(*Source: DEFRA 2022*)

The organic share of the total utilised agricultural area (UAA) in the UK was 2.6% in 2020. The UK share has been declining over the past eight years, this at a time when the major organic growers of the EU are expanding – see Figure 3 and Table 1.

Figure 3 Share of UAA in organic production in the UK, France, Germany, Italy and Spain



(*Source: Eurostat 2021*)

Table 1 Share of organic area in the EU by country

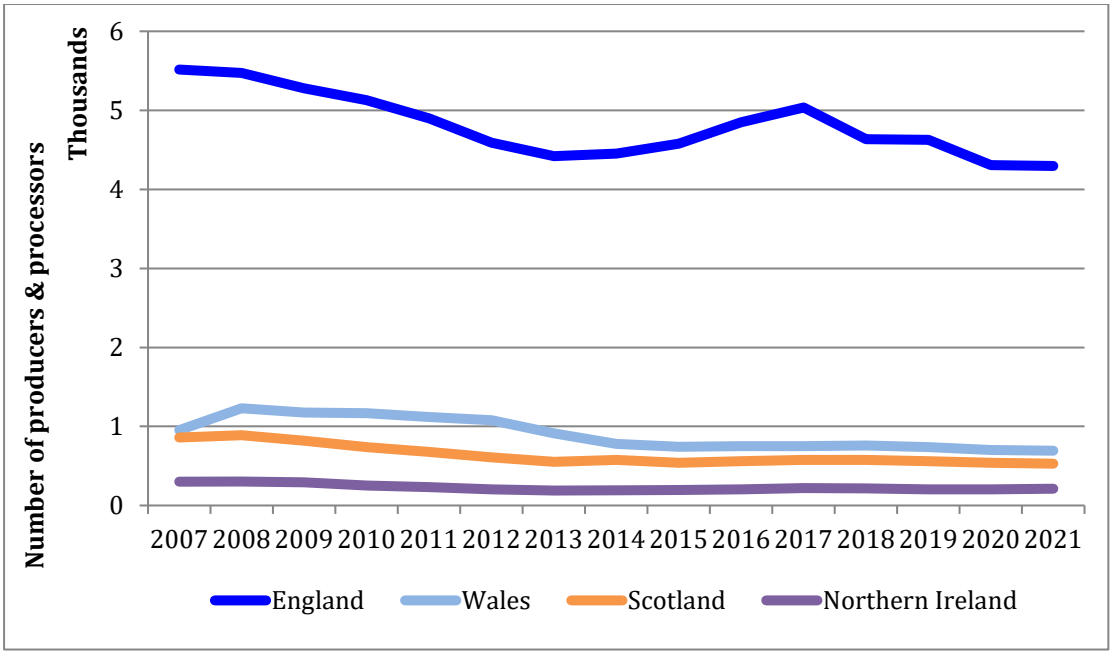
Product	2020 % share of EU27 organic area*	2019/20 % change in organic area*
Spain	16.6	4
Italy	14.0	5
France	15.7	12
Germany	9.1	23

* includes area in conversion (*Source: Eurostat 2021*)

1.2 Producers

The number of organic producers and processors in the UK was at its peak in 2007/08 (of 7,631) and has been steadily declining since then (Figure 4) to 5,732 in 2021. In 2021, of the 4,296 organic producers and processors in England, 2,444 are organic producers or producer/processors, the remaining 1,852 are processors only.

Figure 4 Organic producers and processors in the UK



(*Source: DEFRA 2022*)

2 Methods

This report presents financial and physical farm data for the 2020/21 and 2021/22 financial years. Data were collected using the standard Farm Business Survey methodology for all farms[1] by the six Rural Business Research (RBR) Units in

[1] Details of the data collection methodology for the farm accounting method used in England and Wales by DEFRA, are available from:
https://www.gov.uk/government/collections/farm-business-survey

England; Newcastle University, Askham Bryan College, University of Nottingham, University of Cambridge, University of Reading, and Duchy College.

For the purpose of this report, an organic farm is defined as a farm business that has at least 70% of the Utilisable Agricultural Area (UAA) certified as organic. The organic farm data are presented as full and identical samples where applicable and sample size allows. The data are analysed for comparisons between years and with non-organic farms. Data from participating farms are used to compile a fully reconciled management profit and loss account. The surveyed farms had financial year-ends between 31st December 2021 and 30th April 2022 and consequently reflect the 2021 lamb crop and the 2021 arable harvest.

2.1 Data sample: farm type and region

This report uses data from the Farm Business Survey of 1580 farms, 120 of which are organic. Of the 120 organic farms; 6 are Pig and Poultry farms and are excluded from this analysis, 110 are entirely organic and 10 farms have some non-organic enterprises or land area. A further 25 farms have some organic enterprises but with less than 70% of their UAA being classified as organic, they are considered "non-organic" in this report. Therefore organic enterprises from "non-organic" farms may be included in the Gross margin analysis section of this report. The distribution of surveyed organic farms by type and region are presented in Table 2 and Table 3.

Table 2 The distribution of surveyed organic farms by farm type 2021/22

Robust farm type	No.	%
Cereals & General cropping	9	8
Horticulture	9	8
Pigs & Poultry	6	5
Dairy	31	26
LFA Grazing	19	16
Lowland Grazing	33	28
Mixed	13	11
All farms	**120**	**100**

Table 3 The distribution of surveyed organic farms by region 2021/22

Region	No	%
North East	14	12
North West	9	8
Yorks. & Humber	4	3
East Midlands	8	7
West Midlands	13	11
East of England	12	10
South East	14	12
South West	46	38
All farms	**120**	**100**

2.2 Data sample: farm type and size

The distribution of the sample by farm size is shown in Table 4 Organic sample distribution by size (2013 Standard Output). The farm size categories are based on the 2013SO (Standard Output) methodology used by DEFRA - see Appendix 5 – for more information. Farm area, unless specified as Utilisable Agricultural Area (UAA) is the total adjusted area (TAA) this includes: adjusted sole occupier rough grazing, adjusted shared grazing and short term rentals (less than 1 year).

The 2021/22 dataset was evenly distributed overall across the size bands, but within farm type groups the distribution was somewhat less even. Dairy and lowland grazing farm types made up the largest proportion of the data sample with 26% and 28% respectively, see Table 2.

Table 4 Organic sample distribution by size (2013 Standard Output)

Farm size band	Small (€2,500-100,000)	Medium (€100,000-250,000	Large (>€250,000)	All
All	35	38	47	120
% distribution	29	32	39	100

2.3 Data sample: Limitations

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*](https://www.gov.uk/government/collections/farm-business-survey)

Due to sample size of one of the organic general cropping farm type this farm type has been merged with organic cereals and the combined group is referred to as cropping farms in this report.

In the organic horticulture group some care must be taken in interpreting the results. The 2021/22 sample of 9 farms is composed of 3 subgroups: specialist fruit, specialist glass, and other horticulture i.e. not a uniform group of producers. Furthermore the non-organic sample, of 139 horticulture farms, has a subgroup composition of: 40 specialist fruit, 31 specialist glass, 20 specialist hardy nursery stock and 39 other horticulture. The non-organic horticultural farms are clearly not perfectly comparable to the organic sample and hence the degree of caution advised above.

The identical sample of horticultural farms used to compare the 2020/21 and 2021/22 farming years is limited to 7 farms. These farms do have an identical sub-grouping composition between the years, but the very small sample size means that great care must be taken in interpreting the identical sample results.

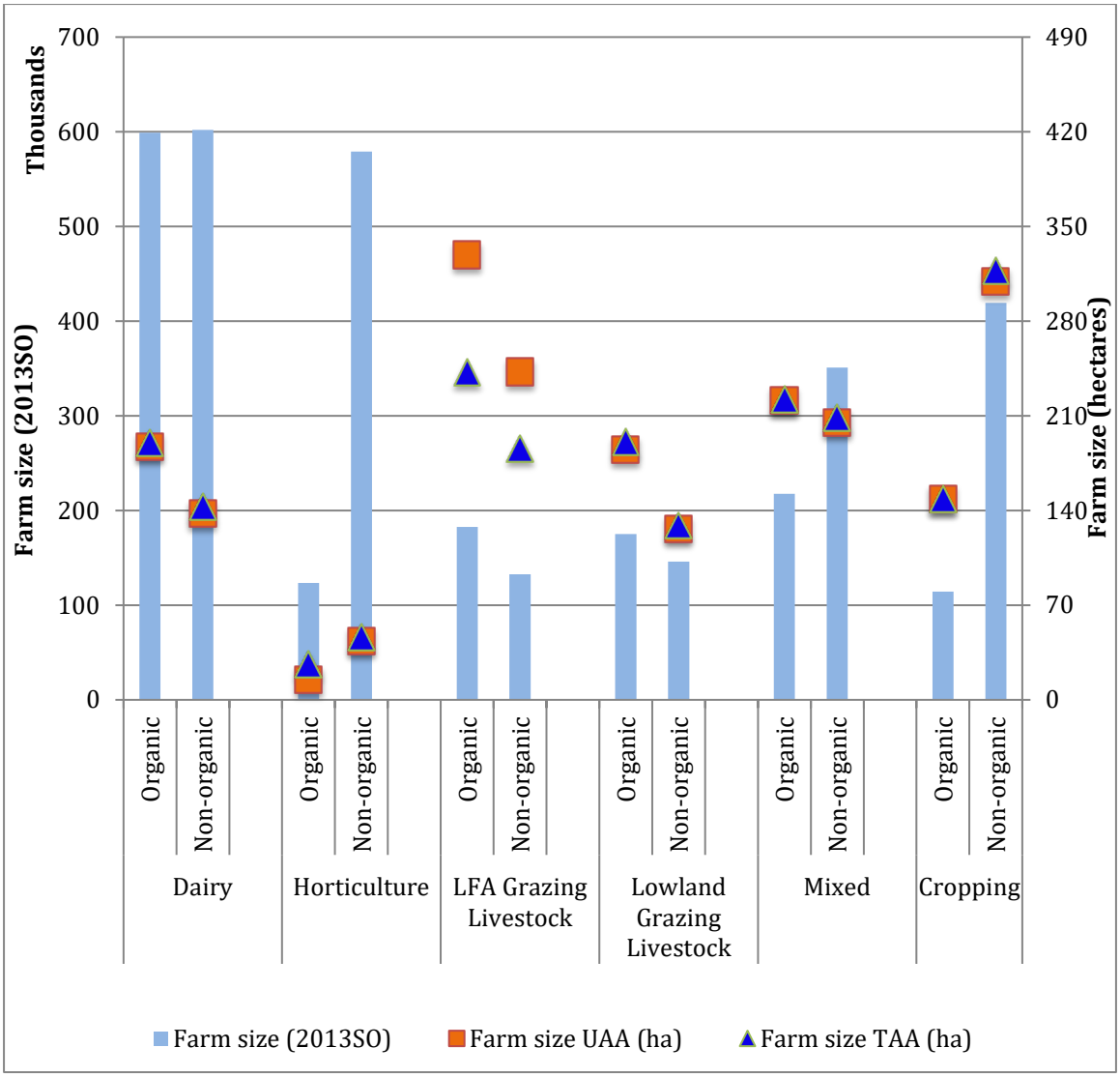
The identical sample of cropping farms used to compare the 2020/21 and 2021/22 farming years is limited to 7 farms, this very small sample size means that great care must be taken in interpreting the identical sample results.

2.4 Farm size

The common measure of farm size of Standard Output (SO) represents a theoretical business size in terms of agricultural output generated. This measure allows for a comparison of business size across farms of varying types of farm but does not necessarily correspond to the area of land farmed. Figure 5 shows the weighted farm sizes for the 2020/21 sample measured by SO and two alternative measures of farm size by farm area; Utilisable Agricultural Area (UAA) and by total adjusted area (TAA). While there is little difference between the area measurements of UAA and TAA in most groups, in the case of LFA grazing farms there is a marked difference. The choice of farm size and area measurement is therefore critical when

benchmarking and making comparisons across farm types. The measure of area used throughout this report is TAA.

Figure 5 Farm size by Standard Output and area (2021/22)



**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

3 Whole-farm results

3.1 Presentation of results

This section presents summary data in the form of tables and figures giving breakdowns of farm sizes, output sources, cost centres and a range of farm income measures at both farm and hectare levels for cropping, horticulture, dairy, LFA grazing, lowland grazing, and mixed farms.

This report focuses on two main income measures: Farm Business Income (FBI) and Net Farm Income (NFI). FBI has been the headline farm income measure since the early 2000s; it 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. However, FBI excludes imputed rental values for owner-occupied land and unpaid labour, both of which are included in NFI.

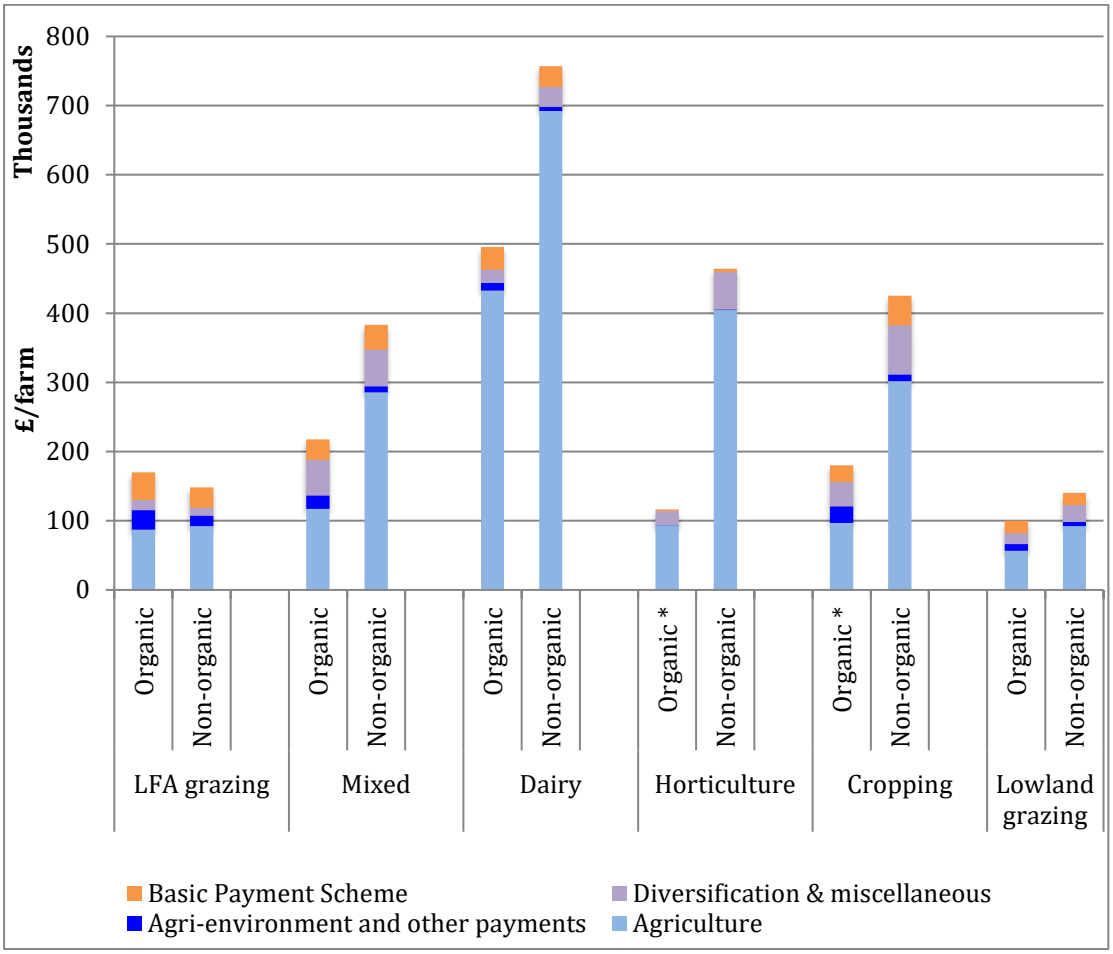
Net Farm Income allows individual farms of different tenure, business organisation and indebtedness to be compared directly with one another on a consistent basis and is thus an excellent farm benchmarking measure. However unlike FBI, interest payments, director's remuneration and ownership costs are not considered in NFI.

A further measure of Management and Investment Income (MII) has also been included in the farm type tables (Table 14 to Table 25). MII, like NFI, provides a good benchmarking tool for farmers; it represents the return to the farm after the subtraction of the farmer and spouse's own manual labour. A definition of terms explaining the various income measures is included in Appendix 5 – Definition of terms.

The measure of Farm area used throughout this report, unless otherwise specified, is the total adjusted area (TAA). TAA includes adjusted common grazing and short term lets taken in (less than 1 year). The area measure of Utilisable Agricultural Area (UAA) differs from the total adjusted area in that it excludes common grazing, does not "adjust" the area of sole-occupier rough grazing, and excludes short term lets. See Appendix 5 – Definition of terms.

3.2 Farm Business Output

Figure 6 Farm Business Output per farm by cost centre and farm type, organic and non-organic farms, 2021/22

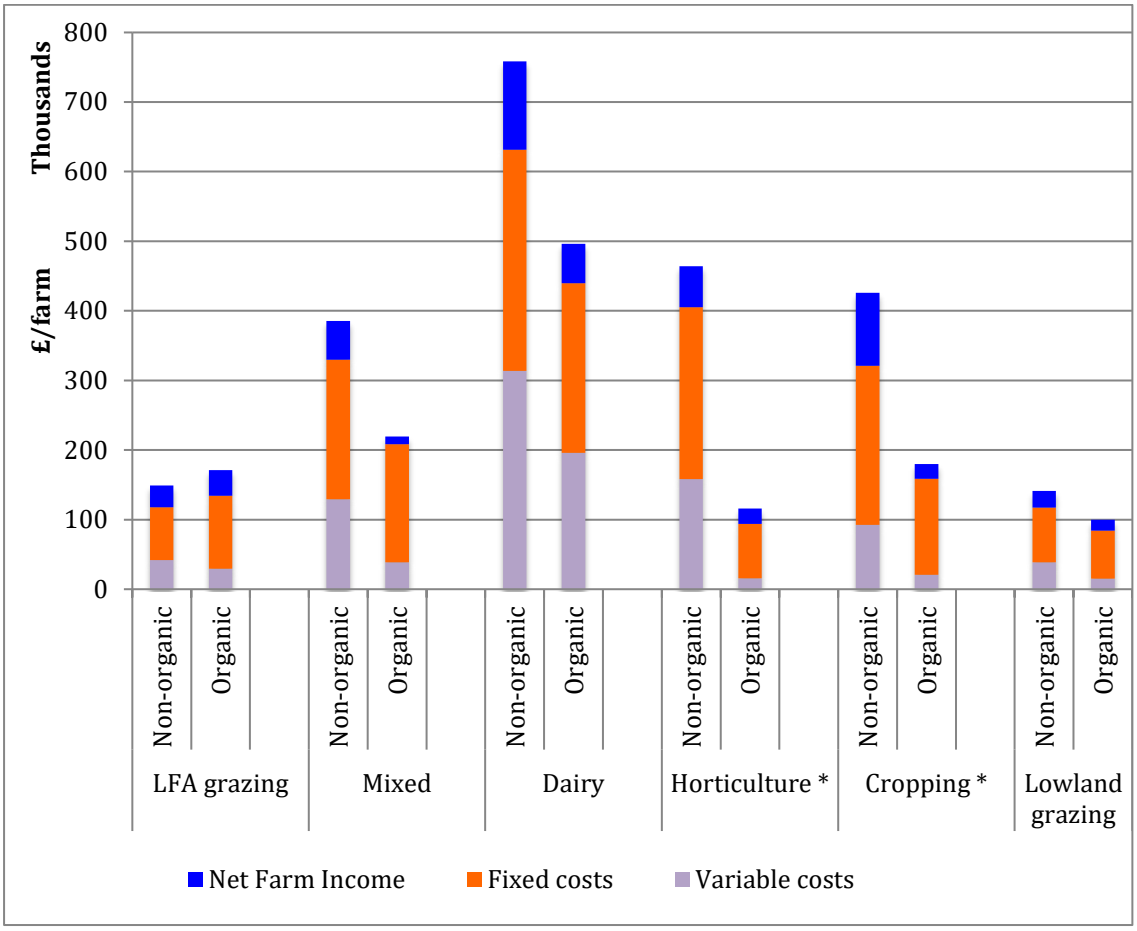


**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Figure 6 illustrates the composition of Farm Business Output per farm for organic and non-organic farms by farm type for the 2021/22 sample. Agriculture remained the largest component of Farm Business Output for all farm types both organic and non-organic. Organic farms, with the exception of the horticulture group, earned consistently more through agri-environment schemes than non-organic farms. Earnings from both the Basic Payment Scheme and diversification activities are varied both across farm types and between organic and non-organic farm groups.

3.3 Costs

Figure 7 Average variable and fixed costs for organic and non-organic farms by farm type, 2021/22



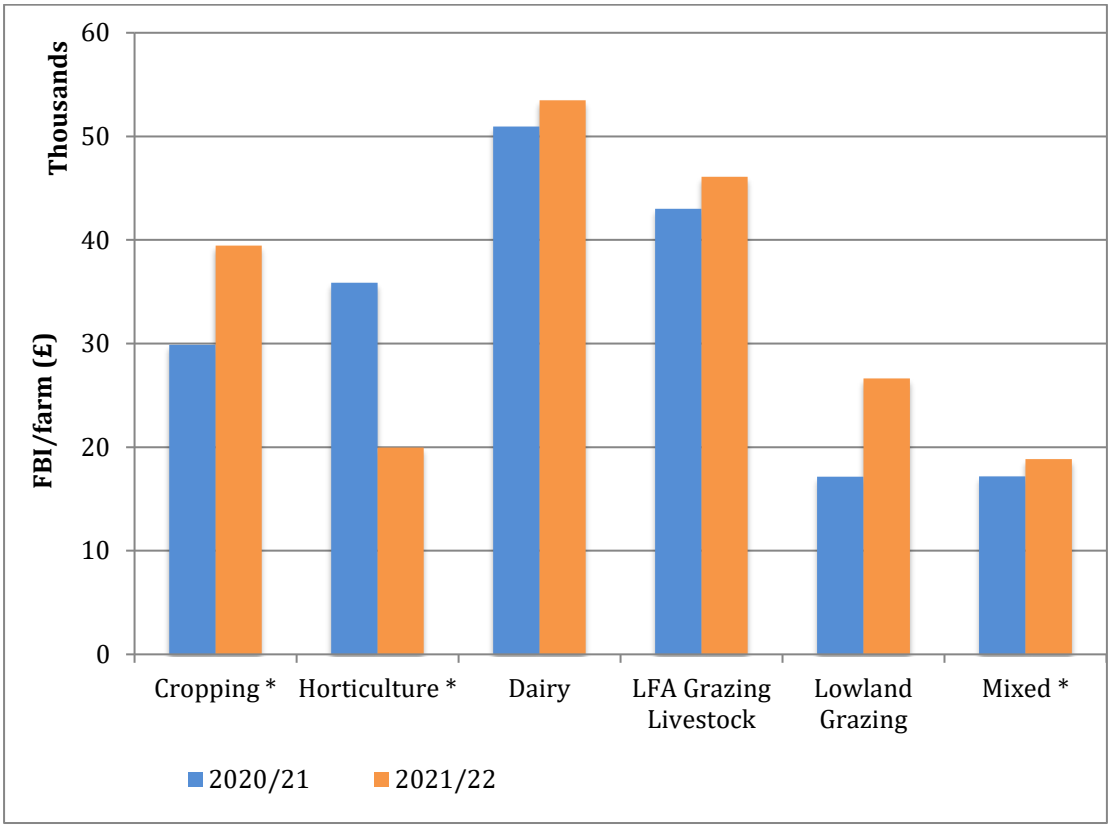
**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

The fixed costs presented here are as for the calculation of Net Farm Income (NFI) hence include unpaid family labour (excluding farmer and spouse) and an imputed rent for owned land – see Appendix 5 – . Hence NFI plus costs equals total farm output (net of profit or loss on the sale of fixed assets).

3.4 Farm Business income

3.4.1 Organic farms year on year (identical sample)

Figure 8 Average Farm Business Income (FBI/farm) on organic farms by farm type group 2020/21 and 2021/22



**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 5 Change in average organic FBI by farm type 2020/21 and 2021/22

	2020/21 (identical sample)			2021/22 (identical sample)		
	No farms in sample	FBI - £/farm	FBI - £/ha (TAA)	No farms in sample	FBI - £/farm	FBI - £/ha (TAA)
Cropping †	7	29,886	349	7	39,468	367
Horticulture †	7	35,877	2,674	7	19,957	1,323
Dairy	29	50,963	292	29	53,479	315
LFA Grazing	18	42,997	325	18	46,105	275
Lowland Grazing	31	17,135	218	31	26,622	327
Mixed †	8	17,171	105	8	18,850	118

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

Table 6 Change in average organic FBI/farm by farm type 2020/21 and 2021/22

FBI/Farm (£)	2020/21 Mean	2021/22 Mean	Difference	Significance
Cropping †	29,886	39,468	9,582	*
Horticulture †	35,877	19,957	-15,920	**
Dairy	50,963	53,479	2,516	-
LFA Grazing	42,997	46,105	3,108	-
Lowland Grazing	17,135	26,622	9,488	**
Mixed †	17,171	18,850	1,679	-
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

Table 7 Change in average organic FBI/ha (UAA) by farm type 2020/21 and 2021/22

FBI/ha UAA (£)	2020/21 Mean	2021/22 Mean	Difference	Significance
Cropping †	349	367	18	-
Horticulture †	2,674	1,483	-1,191	-
Dairy	320	322	2	-
LFA Grazing	276	235	-41	-
Lowland Grazing	224	331	107	**
Mixed †	106	119	13	-
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

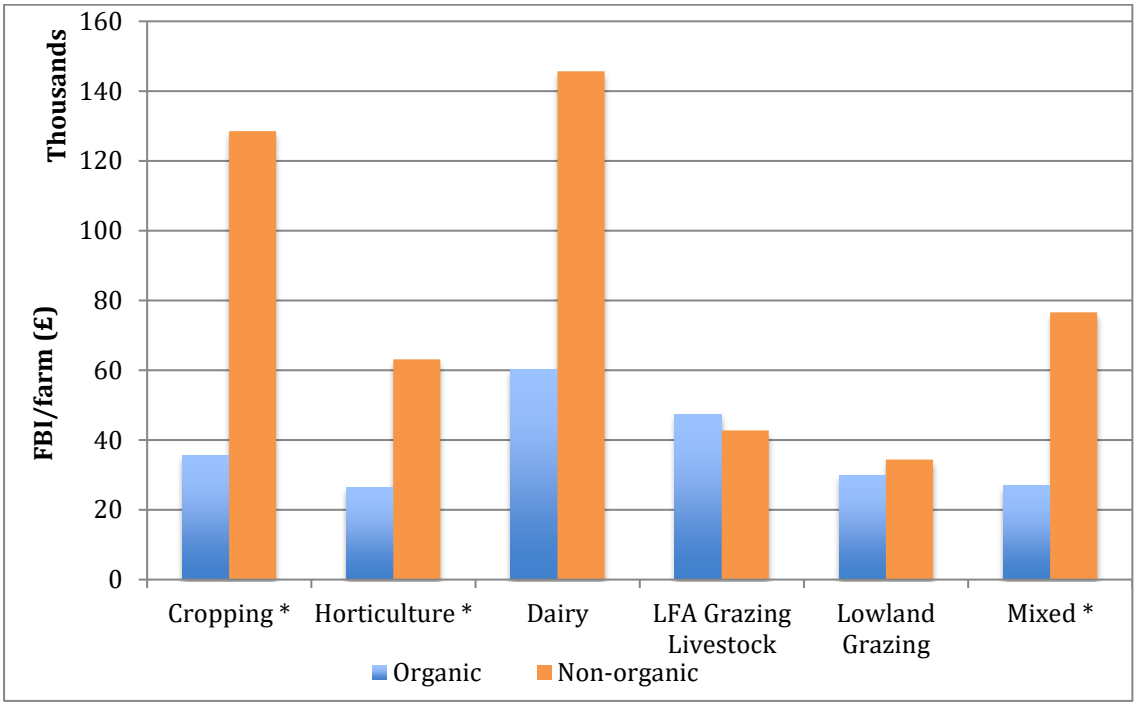
Table 8 Change in average FBI/ha (TAA) by farm type group 2020/21 and 2021/22

FBI/ha TAA (£)	2020/21 Mean	2021/22 Mean	Difference	Significance
Cropping †	349	367	18	-
Horticulture †	2,674	1,323	-1,351	-
Dairy	292	315	23	-
LFA Grazing	325	275	-50	*
Lowland Grazing	218	327	109	**
Mixed †	105	118	13	-
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

3.4.2 Organic versus non-organic (full sample)

Figure 9 Average FBI/farm for organic and non-organic farms by farm type 2021/22



**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

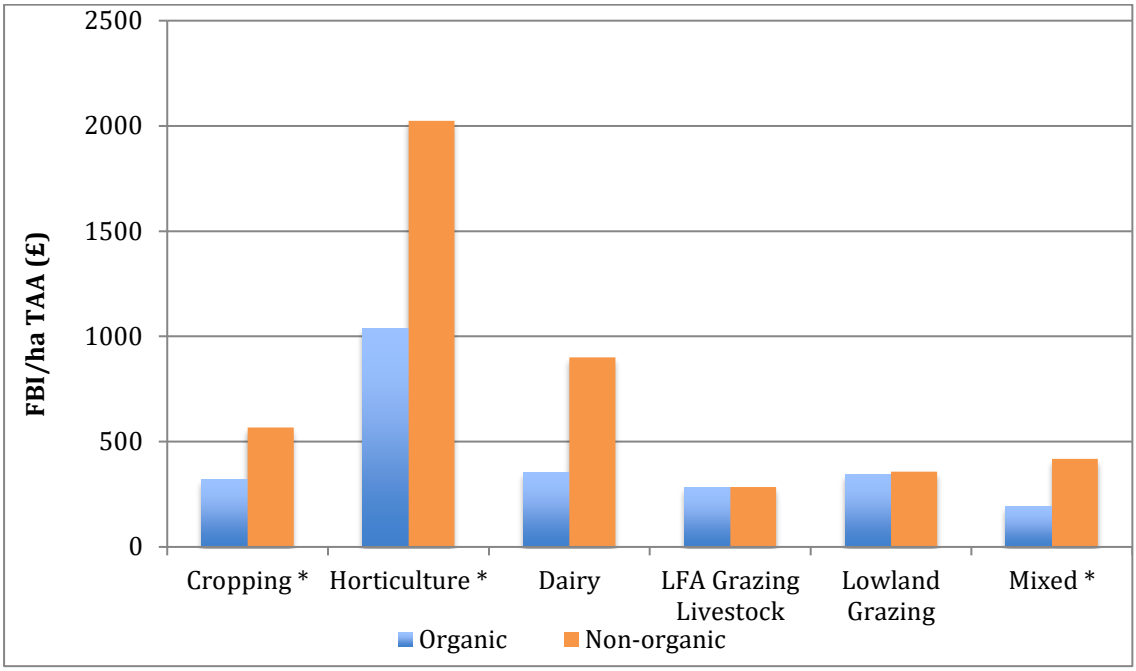
In 2021/22, as in 2020/21, only organic LFA grazing farms recorded a higher average FBI/farm than the non-organic farms (Figure 9) but this difference was not statistically significant. In all other farm type groups the non-organic farms generated a higher average FBI/farm and the difference was significant for all groups (Table 9) except lowland grazing. While the FBI/farm figure is best able to inform profitability at a national level, the per hectare figure is often seen as more appropriate at farm level. Table 10 presents the FBI/ha data by farm type group. At the per hectare level all organic farm groups generate a lower FBI/ha than the non-organic farms and this difference is statistically significant in three of these groups (see Table 10).

Table 9 Statistical differences in average FBI/farm between organic and non-organic farms 2021/22

FBI/Farm (£) 2021/22	Organic Mean	Non-organic Mean	Difference	Significance
Cropping †	35,647	128,539	-92,892	***
Horticulture †	26,390	63,141	-36,751	**
Dairy	60,186	145,670	-85,483	***
LFA Grazing	47,428	42,735	4,693	-
Lowland Grazing	29,844	34,391	-4,548	-
Mixed †	27,042	76,599	-49,557	***
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

Figure 10 Average FBI/ha (TAA) for organic and non-organic farms by farm type 2021/22



**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 10 Statistical differences in average FBI/ha between organic and non-organic farms 2021/22

FBI/ha TAA (£) 2021/22	Organic Mean	Non-organic Mean	Difference	Significance
Cropping †	319	567	-248	***
Horticulture †	1,037	2,025	-988	-
Dairy	352	901	-549	***
LFA Grazing	282	285	-3	-
Lowland Grazing	343	357	-14	-
Mixed †	192	418	-226	***
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

Table 11 shows the relationship by farm type, between FBI/farm and FBI/ha on both a Utilisable Agricultural Area and Total Adjusted Area basis. See section 2.4 above, Farm size, for the background to these two measures of area.

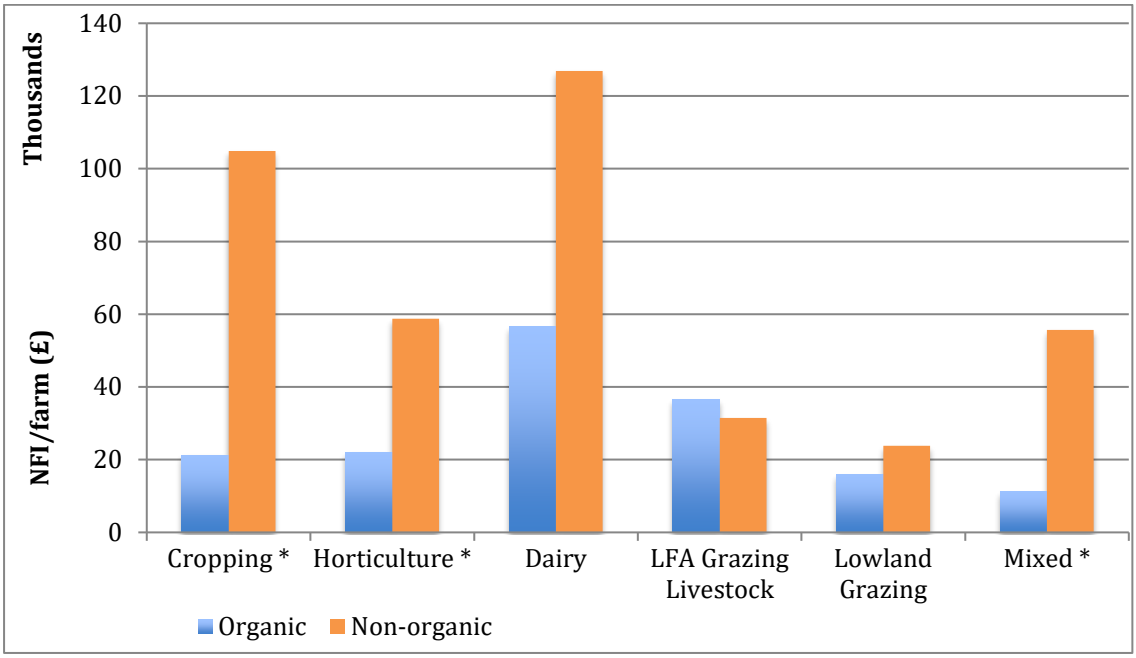
Table 11 Average FBI for organic and non-organic farms by farm type 2021/22

2021/22 (full sample)		Number of farms (sample)	Number of farms (weighted)	FBI – £/farm	FBI – £/ha (UAA)	FBI – £/ha (TAA)
Cropping	Organic *	9	275	35,647	319	319
	Non-organic	462	18,082	128,539	589	567
Horticulture	Organic *	9	167	26,390	1,988	1,037
	Non-organic	121	2,271	63,141	2,323	2,025
Dairy	Organic	31	340	60,186	357	352
	Non-organic	174	5,010	145,670	930	901
LFA Grazing	Organic	19	197	47,428	240	282
	Non-organic	184	6,151	42,735	260	285
Lowland Grazing	Organic	33	966	29,844	347	343
	Non-organic	247	11,114	34,391	368	357
Mixed	Organic *	13	274	27,042	193	192
	Non-organic	139	4,970	76,599	431	418

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

3.5 Net Farm Income

Figure 11 Average NFI/farm for organic and non-organic farms by farm type 2021/22



**A part of this figure was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Net Farm Income (NFI) remains the preferred measure of farm income with which to compare farms on an equal basis with differing levels of land ownership (see section 3.1). NFI, while including an imputed rental charge for owned land, excludes land ownership costs and interest payments (see Appendix 5 – for a full definition). The differences in farm income between organic and non-organic farms are broadly similar when measured by either NFI or FBI, in direction if not in absolute terms. Organic LFA grazing farms earn a higher NFI/farm than their non-organic counterparts but this difference is not significant. The organic cropping, horticulture, dairy, lowland grazing and mixed groups earn a significantly lower NFI/farm than the non-organics (see Table 12).

Table 12 Differences in NFI/farm between organic and non-organic farms by farm type 2021/22

NFI/Farm (£) 2021/22	Organic Mean	Non-organic Mean	Difference	Significance
Cropping †	21,236	104,920	-83,684	***
Horticulture †	22,012	58,732	-36,720	**
Dairy	56,551	126,878	-70,327	***
LFA Grazing	36,526	31,512	5,014	-
Lowland Grazing	15,865	23,792	-7,927	**
Mixed †	11,237	55,671	-44,434	***
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

At the farm level the per hectare measure of income remains a more relevant benchmark figure in that it removes (arguably not completely) the impact of farm size on farm income levels. The organic cropping, dairy, lowland grazing and mixed farm groups recorded a significantly lower NFI/ha than the non-organics, for the two other groups the differences in NFI/ha were not significant – see Table 13.

Table 13 Differences in average NFI/ha between organic and non-organic farms by farm type 2021/22

NFI/ha TAA (£) 2021/22	Organic Mean	Non-organic Mean	Difference	Significance
Cropping †	190	463	-273	***
Horticulture †	865	1,883	-1,018	-
Dairy	330	785	-454	***
LFA Grazing	217	210	7	-
Lowland Grazing	182	247	-64	**
Mixed †	80	304	-224	***
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

†A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results

4 Detailed costs and returns by farm type

The following section provides a detailed breakdown by farm type on a per farm and per hectare basis, of revenue by cost centre and farm income measures for: an identical sample of organic farms year-on-year (2020/21 and 2021/22) and the full sample (2021/22) on an organic versus non-organic basis. **This commentary focuses on the per hectare results**, which, as discussed above, minimises the effect of farm size on the results. Year-on-year percentage changes are based on per hectare figures.

4.1 Cropping

The cropping group includes farms from both the cereal and general cropping farm types – there were insufficient farms in these groups to allow separate presentation. *Please note that these groups include less than 15 observations in the sample which could reduce the robustness of the results.*

Organic cropping farms year-on-year

An identical sample of organic cropping farms saw an increase in Farm Business Output of 9% between 2020/21 and 2021/22 to £1,430/ha. Agricultural output, which generated 41% of farm output, rose by 21% to £583/ha. This output is now entirely due to crop output; the livestock component now generating a small, negative return. Agri-environment scheme revenues (19% of total revenue) increased by 133%, and the Basic payment, 15% of total revenue, fell by 5%. Diversification and miscellaneous revenues, which provided 25% of total revenue, decreased by 26% to £356/ha in 2021/22 (Table 14).

Total costs on organic cropping farms rose by 10% to £1,063/ha. The resultant Farm Business Income in 2021/22 was 5% higher, than in 2020/21, at £367/ha. Net Farm Income (NFI) rose by 13% to £235/ha (£25,278/farm) which, after having deducted an imputed figure for farmer and spouse manual labour, generated a Management and Investment Income (MII) (effectively the return on the capital invested in the business) of £69/ha, or an average of £7,464/farm.

Cropping farms, organic and non-organic

Table 15 details the differences between the full sample of organic and non-organic cropping farms for the 2021 crop year. The area of the average organic cropping farm size is only 112ha compared to 227ha for a non-organic cropping farm. At the per hectare level organic cropping farms generate 14% less overall output than the non-organic farms at £1,611/ha. The agricultural output per hectare of organic cropping farms (at £866/ha) is 65% of that of the non-organics. Organic cropping farms are however, able to earn five times the revenue per hectare, at £218/ha, (£24,310/farm) from agri-environment schemes as their non-organic counterparts.

Organic cropping farms incurred total costs of £1,292/ha, only 2% less than the non-organic farms. Variable costs were £222/ha less on organic cropping farms, with fertiliser and crop protection costs accounting for this difference. Overhead costs however, were £202/ha higher for organic cropping farms with paid labour and other overhead costs being the main differences. The Farm Business Income of £319/ha for organic cropping farms is statistically significantly lower than the figure of £567/ha for the non-organic farms. The corresponding NFI of £190/ha for organic cropping farms is also also significantly lower than the £463/ha of the non-organics (see Table 13).

Table 14 Cropping farms, organic identical sample 2020/21 and 2021/22

The average cropping farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	7			7		
Number (weighted)	228			265		
Farm size (2013SO)	61,811			66,142		
Farm area (adjusted ha)	85.6			107.4		
Grazing livestock units	2.8			2.0		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	41,097	480	37%	62,616	583	41
Livestock component	109	1	*0%*	-47	0	*0%*
Crop component	40,988	479	*100%*	62,662	583	*100*
Agri-environment and other payments	10,076	118	9%	29,492	275	19
Diversification & miscellaneous	41,383	484	37%	38,282	356	25
Basic Payment Scheme	19,512	228	17%	23,273	217	15
Farm Business Output (a)	**112,068**	**1,310**	**100**	**153,663**	**1,430**	**100**
Livestock variable costs:	365	4	0%	412	4	0%
Feed	102	1	*28%*	207	2	*50%*
Vet & medicine	30	0	*8%*	0	0	*0%*
Other livestock costs	233	3	*64%*	205	2	*50%*
Crop variable costs:	11,415	133	14%	13,317	124	12
Seed	8,157	95	*71%*	7,196	67	*54%*
Fertiliser	806	9	*7%*	961	9	*7%*
Crop protection	65	1	*1%*	65	1	*0%*
Other crop costs	2,388	28	*21%*	5,094	47	*38%*
Contract	8,902	104	11%	10,679	99	9%
Paid Labour	6,694	78	8%	11,397	106	10
Machinery:	14,670	171	18%	16,121	150	14
Fuel & oil	2,927	34	*20%*	4,848	45	*30%*
Repairs	4,453	52	*30%*	4,505	42	*28%*
Depreciation	7,290	85	*50%*	6,768	63	*42%*
Paid Rents	5,420	63	7%	5,445	51	5%
Other costs	34,997	409	42%	56,825	529	50
Total Costs (b)	**82,465**	**964**	**100**	**114,195**	**1,063**	**100**
Profit/(loss) on sale of fixed assets	282			1		
Farm Business Income (c=a-b)	**29,886**	**349**		**39,468**	**367**	
Unpaid manual labour excl. farmer & spouse (d)	0	0		0	0	
Interest payments (e)	1,082	13		2,179	20	
Imputed rents (f)	16,836	197		20,404	190	
Director's remuneration (g)	86	1		86	1	
Ownership costs (h)	3,538	41		3,949	37	
Net Farm Income (i=c-d+e-f+g+h)	**17,755**	**208**		**25,278**	**235**	
Farmer & Spouse unpaid labour (j)	19,032	222		17,814	166	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**-1,277**	**-15**		**7,464**	**69**	

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 15 Cropping farms, organic and non-organic, full sample 2021/22

The average cropping farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	462			9		
Number (weighted)	18,082			275		
Farm size (2013SO)	266,151			67,602		
Farm area (adjusted ha)	226.7			111.7		
Grazing livestock units	12.4			2.4		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	301,797	1,331	71%	96,725	866	54%
Livestock	9,871	44	*3%*	289	3	*0%*
Crops	291,925	1,288	*97%*	96,436	863	*100%*
Agri-environment and other payments	9,562	42	2%	24,310	218	14%
Diversification & miscellaneous	70,935	313	17%	34,875	312	19%
Basic Payment Scheme	43,137	190	10%	24,050	215	13%
Farm Business Output (a)	**425,430**	**1,877**	**100%**	**179,960**	**1,611**	**100%**
Livestock variable costs:	4,856	21	2%	496	4	0%
Feed	2,114	9	*44%*	241	2	*49%*
Vet & medicine	640	3	*13%*	5	0	*1%*
Other livestock costs	2,103	9	*43%*	250	2	*50%*
Crop variable costs:	87,843	388	30%	20,350	182	14%
Seed	18,862	83	*21%*	7,997	72	*39%*
Fertiliser	28,903	128	*33%*	1,401	13	*7%*
Crop protection	27,956	123	*32%*	231	2	*1%*
Other crop costs	12,122	53	*14%*	10,721	96	*53%*
Contract	27,972	123	9%	14,157	127	10%
Paid Labour	31,583	139	11%	24,565	220	17%
Machinery:	57,432	253	19%	19,542	175	14%
Fuel & oil	13,873	61	*24%*	5,512	49	*28%*
Repairs	18,197	80	*32%*	5,982	54	*31%*
Depreciation	25,362	112	*44%*	8,048	72	*41%*
Paid Rents	20,597	91	7%	8,447	76	6%
Other costs	67,243	297	23%	56,780	508	39%
Total Costs (b)	**297,525**	**1,312**	**100%**	**144,337**	**1,292**	**100%**
Profit/(loss) on sale of fixed assets	633			23		
Farm Business Income (c=a-b)	**128,539**	**567**		**35,647**	**319**	
Unpaid manual labour excl. farmer & spouse (d)	5,670	25		60	1	
Interest payments (e)	6,233	27		2,039	18	
Imputed rents (f)	39,962	176		22,024	197	
Director's remuneration (g)	3,368	15		986	9	
Ownership costs (h)	12,413	55		4,648	42	
Net Farm Income (i=c-d+e-f+g+h)	**104,920**	**463**		**21,236**	**190**	
Farmer & Spouse unpaid labour (j)	19,696	87		18,301	164	
Paid managerial labour (k)	515	2		0	0	
Management and Investment Income (l=i-j+k)	**85,739**	**378**		**2,935**	**26**	

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

4.2 Horticulture

As with previous years the sample of organic horticulture farms remains low with only 9 organic horticulture farms in 2021/22, fortunately 7 of these farms are also present in the 2020/21 dataset for a year on year comparison. However extreme care must be taken when making conclusions about the horticulture sample due to the very small sample size and diverse nature of enterprises contained within the sample, see 2.3 Data sample: Limitations.

Organic horticulture farms year-on-year

Table 16 shows Farm Business Output (FBO) for organic horticulture farms saw a 22% decrease to £6,811/ha in 2021/22 to give an average £102,728/farm. Crop output decreased by 24% to £5,238/ha. Diversification and miscellaneous income, which accounted for 20% of farm output, decreased by 9% to £1,365/ha. Agri-environment payments and the Basic payment combined only account for 3% (£3,143/farm) of total farm output of organic horticulture farms.

Total costs for organic horticulture farms decreased by 9% to £5,488/ha. Crop variable costs, which account for 15% of costs, were reduced by 13% to £798/ha. Paid labour (36% of total costs) was reduced by 10% to £1,962/ha. Unpaid labour saw a 9% reduction to £184/ha (from £202/ha). Paid rents fell by 25% to £303/ha (which, plus an imputed rent on owner occupied land of £264/ha gives an overall rent figure of £567/ha).

The overall effect on Farm Business Income (FBI) was a 51% decrease to £1,323/ha. After allowing for the appropriate adjustments Net Farm Income (NFI) showed an 59% decrease to £1,001/ha. However, this figure fails to cover an imputed wage for farmer and spouse manual labour of £2,794/ha, thus returning a negative Management and Investment Income (MII) of £-1,793/ha.

Horticulture farms, organic and non-organic

The average organic horticulture farm at 25.4ha is slightly smaller than its non-organic counterpart (of 31.2ha). When measured on a Standard Output (SO) (see Appendix 5 – Definition of terms) basis, the average non-organic horticulture farm is over twice the size of an organic unit (Table 17). Organic horticulture farms generate, on average, an FBO of £4,561/ha which is only 31% of that of the non-organic farms (of £14,881/ha). As might be expected this is mainly due to the difference in output from crops, where organic farms typically generate £3,674/ha which is 28% of that generated by the non-organics (of £12,928/ha). Diversification revenues are lower in the organic group (£783/ha versus £1,742/ha for the non-organics). The Basic payment and agri-environmental payments are both higher for the non-organics but only contribute 3% to overall farm output.

Total costs for organic horticulture farms, of £3,524/ha, were a quarter of those of the non-organic farms. Variable costs make up 17% of total costs on organic farms (39% on non-organic farms). Paid labour accounts for 38% of total costs (£1,346/ha) on organic horticultural farms, machinery 12% (£437/ha) and paid rents 4% (£152/ha).

The resultant FBI is significantly greater for the non-organics at the farm level but this difference is not significant at the per hectare level (£1,037/ha for the organic farms and £2,025/ha for the non-organics). At the NFI level the organic farms realise an NFI of £865/ha and the non-organics £1,883/ha (not statistically significant). After an imputed wage for farmer and spouse manual labour is deducted from NFI the resultant MII is a negative -£760/ha for organic horticultural farms, and £1,058/ha for the non-organic farms.

Table 16 Horticulture farms, organic identical sample 2020/21 and 2021/22

The average horticulture farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	7			7		
Number (weighted)	125			145		
Farm size (2013SO)	100,772			102,944		
Farm area (adjusted ha)	13.4			15.1		
Grazing livestock units	0.0			0.0		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	93,066	6,937	80%	79,005	5,238	77%
Livestock component	0	0	0%	0	0	*0%*
Crop component	93,066	6,937	100%	79,005	5,238	*100%*
Agri-environment and other payments	1,299	97	1%	885	59	1%
Diversification & miscellaneous	20,026	1,493	17%	20,580	1,365	20%
Basic Payment Scheme	2,404	179	2%	2,258	150	2%
Farm Business Output (a)	**116,795**	**8,706**	100%	**102,728**	**6,811**	**100**
Livestock variable costs:	0	0	0%	0	0	0%
Feed	0	0	-	0	0	-
Vet & medicine	0	0	-	0	0	-
Other livestock costs	0	0	-	0	0	-
Crop variable costs:	12,346	920	15%	12,035	798	15%
Seed	6,696	499	*54%*	6,072	403	*50%*
Fertiliser	418	31	*3%*	920	61	*8%*
Crop protection	132	10	*1%*	24	2	*0%*
Other crop costs	5,100	380	*41%*	5,019	333	*42%*
Contract	3,681	274	5%	4,388	291	5%
Paid Labour	29,248	2,180	36%	29,587	1,962	36%
Machinery:	9,731	725	12%	11,551	766	14%
Fuel & oil	2,577	192	*26%*	2,989	198	*26%*
Repairs	4,102	306	*42%*	4,525	300	*39%*
Depreciation	3,053	228	*31%*	4,037	268	*35%*
Paid Rents	5,410	403	7%	4,576	303	6%
Other costs	20,519	1,529	25%	20,633	1,368	25%
Total Costs (b)	**80,936**	**6,033**	100%	**82,771**	**5,488**	**100**
Profit/(loss) on sale of fixed assets	18			0		
Farm Business Income (c=a-b)	**35,877**	**2,674**		**19,957**	**1,323**	
Unpaid manual labour excl. farmer & spouse (d)	2,711	202		2,781	184	
Interest payments (e)	394	29		286	19	
Imputed rents (f)	3,763	281		3,980	264	
Director's remuneration (g)	1,178	88		0	0	
Ownership costs (h)	1,653	123		1,615	107	
Net Farm Income (i=c-d+e-f+g+h)	**32,628**	**2,432**		**15,097**	**1,001**	
Farmer & Spouse unpaid labour (j)	43,223	3,222		42,132	2,794	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**-10,595**	**-790**		**-27,035**	**-1,793**	

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 17 Horticulture farms, organic and non-organic full sample, 2021/22

The average horticulture farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	121			9		
Number (weighted)	2,271			167		
Farm size (2013SO)	275,018			107,600		
Farm area (adjusted ha)	31.2			25.4		
Grazing livestock units	1.2			0.0		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	404,246	12,963	87%	93,486	3,674	81%
Livestock	1,105	35	*0%*	0	0	*0%*
Crops	403,141	12,928	*100%*	93,486	3,674	*100%*
Agri-environment and other payments	1,149	37	0%	743	29	1%
Diversification & miscellaneous	54,315	1,742	12%	19,936	783	17%
Basic Payment Scheme	4,358	140	1%	1,903	75	2%
Farm Business Output (a)	**464,069**	**14,881**	**100%**	**116,068**	**4,561**	**100**
Livestock variable costs:	579	19	0%	0	0	0%
Feed	294	9	*51%*	0	0	-
Vet & medicine	52	2	*9%*	0	0	-
Other livestock costs	233	7	*40%*	0	0	-
Crop variable costs:	157,434	5,048	39%	15,583	612	17%
Seed	68,489	2,196	*44%*	8,605	338	*55%*
Fertiliser	12,876	413	*8%*	1,529	60	*10%*
Crop protection	10,300	330	*7%*	190	7	*1%*
Other crop costs	65,769	2,109	*42%*	5,260	207	*34%*
Contract	9,652	310	2%	3,860	152	4%
Paid Labour	130,960	4,199	33%	34,262	1,346	38%
Machinery:	28,152	903	7%	11,116	437	12%
Fuel & oil	6,627	212	*24%*	2,981	117	*27%*
Repairs	10,520	337	*37%*	4,126	162	*37%*
Depreciation	11,005	353	*39%*	4,009	158	*36%*
Paid Rents	5,442	175	1%	3,859	152	4%
Other costs	68,731	2,204	17%	20,998	825	23%
Total Costs (b)	**400,949**	**12,857**	**100%**	**89,678**	**3,524**	**100**
Profit/(loss) on sale of fixed assets	21			0		
Farm Business Income (c=a-b)	**63,141**	**2,025**		**26,390**	**1,037**	
Unpaid manual labour excl. farmer & spouse (d)	7,761	249		2,345	92	
Interest payments (e)	2,796	90		243	10	
Imputed rents (f)	14,829	476		3,812	150	
Director's remuneration (g)	4,052	130		0	0	
Ownership costs (h)	11,333	363		1,537	60	
Net Farm Income (i=c-d+e-f+g+h)	**58,732**	**1,883**		**22,012**	**865**	
Farmer & Spouse unpaid labour (j)	25,902	831		41,357	1,625	
Paid managerial labour (k)	149	5		0	0	
Management and Investment Income (l=i-j+k)	**32,978**	**1,058**		**-19,345**	**-760**	

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

4.3 Dairy

Organic dairy farms year-on-year

Organic dairy farms saw an 8% increase in Farm Business Income (FBI) to £315/ha in 2021/22. This converted to a Net Farm Income (NFI) figure of £284/ha, which, having deducted the imputed figure for farmer and spouse manual labour, gave a Management and Investment Income (MII) of £51/ha – no change on 2020/21.

Total Farm Business Output, of £2,809/ha, was 7% higher than in 2020/21. Agricultural production, which contributed 87% of this total, was up by 7% and within this total, the livestock output was up by 6% to £2,338/ha (£396,837/farm). Agri-environment payments were reduced by 11% to £69/ha. Diversification output returned £114/ha and the Basic payment contribution rose by 1% to £194/ha.

Total costs for the organic dairy farms increased by 6% to £2,497/ha. Livestock variable costs, which account for 43% of total costs, saw a 6% increase to £1,078/ha (feed being 72% of this). Paid labour, 12% of total costs, was up 3% at £297/ha, and machinery, 12% of total costs, was down 3% to £301/ha. Paid rents, 5% of total, were up by 19%, which when combined with imputed rents (of £169/ha) generate a total rent figure of £307/ha.

Dairy farms, organic and non-organic

The average organic dairy farm has a farm area of 171.2 hectares and carries 231 grazing livestock units (GLU) – slightly larger but with considerably fewer stock than the average for non-organic dairy farms, which has 161.7 hectares and 304 GLU.

The Farm Business Income of £352/ha for organic dairy farms is significantly lower than the £901/ha figure for the non-organic farms. This FBI figure translates to an NFI of £330/ha, which is also significantly lower than the £785/ha for the non-organic dairy farms. Having deducted an amount for farmer and spouse manual labour this figure results in an MII of £104/ha for the organics and £572/ha for the non-organics.

The Farm Business Output, of £2,894/ha for organic dairy farms is considerably lower than the £4,680/ha for non-organic farms. On organic farms 87% of this total is derived from agricultural production and this figure is 91% on non-organic farms. The organic dairy farms derive almost twice the revenue from Agri-environment schemes than non-organics, and slightly less from Diversification activities.

The total costs on organic dairy farms (of £2,546/ha) are £1,242/ha lower than on non-organic farms but the proportional distribution of costs among the cost components is broadly similar. The livestock variable costs, which make up 43% of the total costs for the organic farms, have a very similar distribution among the sub-categories with the exception of vet costs which are over twice as much on the non-organic farms than on the organics. The £157/ha lower spend on crop variable costs by the organic farms is due to lower fertiliser and chemical costs. The overhead costs of: Contract, Paid labour, Machinery and Other overhead costs are all higher for the non-organic dairy farms, overall by £472/ha.

Table 18 Dairy farms, organic identical sample 2020/21 and 2021/22

The average dairy farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	29			29		
Number (weighted)	343			358		
Farm size (2013SO)	516,071			537,513		
Farm area (adjusted ha)	174.4			169.7		
Grazing livestock units	211.7			223.3		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	395,223	2,267	86%	412,729	2,432	87%
Livestock component	386,434	2,216	*98%*	396,837	2,338	*96%*
Crop component	8,788	50	*2%*	15,893	94	*4%*
Agri-environment and other payments	13,435	77	3%	11,659	69	2%
Diversification & miscellaneous	18,800	108	4%	19,307	114	4%
Basic Payment Scheme	33,513	192	7%	32,949	194	7%
Farm Business Output (a)	**460,971**	**2,644**	100	**476,643**	**2,809**	**100**
Livestock variable costs:	177,697	1,019	43%	182,885	1,078	43%
Feed	127,461	731	*72%*	131,900	777	*72%*
Vet & medicine	9,597	55	*5%*	9,555	56	*5%*
Other livestock costs	40,639	233	*23%*	41,430	244	*23%*
Crop variable costs:	8,560	49	2%	9,469	56	2%
Seed	5,567	32	*65%*	5,712	34	*60%*
Fertiliser	1,024	6	*12%*	1,903	11	*20%*
Crop protection	7	0	*0%*	7	0	*0%*
Other crop costs	1,961	11	*23%*	1,847	11	*20%*
Contract	21,660	124	5%	23,633	139	6%
Paid Labour	50,161	288	12%	50,407	297	12%
Machinery:	54,021	310	13%	51,131	301	12%
Fuel & oil	8,335	48	*15%*	11,669	69	*23%*
Repairs	18,940	109	*35%*	18,955	112	*37%*
Depreciation	26,746	153	*50%*	20,507	121	*40%*
Paid Rents	20,224	116	5%	23,326	137	6%
Other costs	76,902	441	19%	82,906	489	20%
Total Costs (b)	**409,225**	**2,347**	100	**423,757**	**2,497**	**100**
Profit/(loss) on sale of fixed assets	-783			592		
Farm Business Income (c=a-b)	**50,963**	**292**		**53,479**	**315**	
Unpaid manual labour excl. farmer & spouse (d)	5,319	31		6,400	38	
Interest payments (e)	11,233	64		11,402	67	
Imputed rents (f)	28,697	165		28,730	169	
Director's remuneration (g)	2,935	17		2,471	15	
Ownership costs (h)	15,499	89		15,998	94	
Net Farm Income (i=c-d+e-f+g+h)	**46,614**	**267**		**48,220**	**284**	
Farmer & Spouse unpaid labour (j)	37,673	216		39,491	233	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**8,942**	**51**		**8,730**	**51**	

Table 19 Dairy farms, organic and non-organic full sample, 2021/22

The average dairy farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	174			31		
Number (weighted)	5,010			340		
Farm size (2013SO)	731,260			557,388		
Farm area (adjusted ha)	161.7			171.2		
Grazing livestock units	304.1			231.3		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	692,011	4,279	91%	432,469	2,526	87%
Livestock	653,203	4,039	*94%*	417,666	2,440	*97%*
Crops	38,808	240	*6%*	14,804	86	*3%*
Agri-environment and other payments	6,129	38	1%	11,224	66	2%
Diversification & miscellaneous	28,601	177	4%	18,835	110	4%
Basic Payment Scheme	30,237	187	4%	32,930	192	7%
Farm Business Output (a)	**756,979**	**4,680**	**100**	**495,458**	**2,894**	**100%**
Livestock variable costs:	279,751	1,730	46%	186,951	1,092	43%
Feed	209,262	1,294	*75%*	135,441	791	*72%*
Vet & medicine	19,672	122	*7%*	9,695	57	*5%*
Other livestock costs	50,817	314	*18%*	41,815	244	*22%*
Crop variable costs:	34,084	211	6%	9,207	54	2%
Seed	6,158	38	*18%*	5,567	33	*60%*
Fertiliser	18,289	113	*54%*	1,760	10	*19%*
Crop protection	5,828	36	*17%*	8	0	*0%*
Other crop costs	3,809	24	*11%*	1,872	11	*20%*
Contract	35,418	219	6%	24,624	144	6%
Paid Labour	68,714	425	11%	52,075	304	12%
Machinery:	76,610	474	13%	53,284	311	12%
Fuel & oil	18,276	113	*24%*	12,024	70	*23%*
Repairs	26,833	166	*35%*	20,661	121	*39%*
Depreciation	31,501	195	*41%*	20,599	120	*39%*
Paid Rents	20,422	126	3%	25,905	151	6%
Other costs	97,715	604	16%	83,921	490	19%
Total Costs (b)	**612,715**	**3,788**	**100**	**435,967**	**2,546**	**100%**
Profit/(loss) on sale of fixed assets	1,406			696		
Farm Business Income (c=a-b)	**145,670**	**901**		**60,186**	**352**	
Unpaid manual labour excl. farmer & spouse (d)	15,591	96		6,681	39	
Interest payments (e)	12,152	75		12,369	72	
Imputed rents (f)	38,036	235		27,861	163	
Director's remuneration (g)	1,908	12		2,289	13	
Ownership costs (h)	20,776	128		16,248	95	
Net Farm Income (i=c-d+e-f+g+h)	**126,878**	**785**		**56,551**	**330**	
Farmer & Spouse unpaid labour (j)	34,650	214		38,784	227	
Paid managerial labour (k)	355	2		0	0	
Management and Investment Income (l=i-j+k)	**92,583**	**572**		**17,767**	**104**	

4.4 LFA grazing

Organic LFA grazing farms year-on-year

The profitability of organic LFA grazing farms fell by 15% between 2020/21 and 2021/22 to a Farm Business Income (FBI) of £275/ha. This decrease in FBI translated into a 12% fall in Net Farm Income, to £211/ha (£35,372/farm) and a consequential Management and Investment Income (MII) of £75/ha (Table 20). These decreases in profitability followed a 3% decrease in Farm Business Output, to £993/ha, and a 3% increase in total costs (to £724/ha). The decrease in total farm output was attributable to: a 7% decrease per hectare in output from production agriculture (51% of total output) a 6% decrease in Agri-environment revenues (17% of output) a 3% reduction in Basic payment revenues and despite a 34% increase in Diversification revenues per hectare.

Of the £724 total costs per hectare, 21% were livestock variable costs, primarily feed costs (42% of that total) and 21% were machinery costs. Paid labour contributed to 11% of the total and paid rents 5%.

LFA grazing farms, organic and non-organic

The average organic LFA grazing farm is 168.3ha (TAA) and carries 109 grazing livestock units (GLU) – this is smaller than the average non-organic LFA grazing farm which is 150.0ha and carries 89 GLU. This gives a, surprisingly, slightly higher stocking rate of 0.65GLU/ha on organic farms against 0.59GLU/ha on the non-organics.

Organic LFA grazing farms made a profit of £282/ha Farm Business Income (FBI) in 2021/22 whereas the non-organic farms returned £285/ha although this difference is not statistically significant. This difference is reversed when these figures are adjusted to Net farm Income (NFI) where the organic farms saw a profit of £217/ha, versus £210/ha for the non-organics (also not significant). Having deducted an imputed sum for farmer and spouse labour (of £135/ha for organics and £168/ha for the non-organics) the difference in profitability is £40/ha at the Management and Investment Income level (£82/ha for the organics and £42/ha for the non-organics).

Farm Business Output for the organic LFA grazing farms averaged £1,011/ha against £988/ha for the non-organics. The organic LFA farms generate a lower agricultural output (of £517/ha) than the non-organic farms (of £615). Agri-environment revenues, Diversification activities and the Basic payment are all greater per hectare on organic farms.

Total costs for organic LFA grazing farms were £734/ha and £709/ha for the non-organics. Organic farms had noticeably lower livestock variable costs (at £157/ha versus £236/ha) and lower crop variable costs (of £67/ha versus £135/ha). Organic farms had higher fixed cost of: contract (£50/ha for organics and £31/ha for the non-organics) paid labour (£84 for organics, £51/ha for the non-organics) and machinery (£155/ha for organics and £127/ha for the non-organics). Paid rents on organic farms were £39/ha against £56/ha on non-organics, but when combined with imputed rents of £116/ha (organic) and £86/ha (non-organics) the overall rent figures were £155/ha for the organics and £142/ha for non-organic LFA grazing farms. Other fixed costs were £230/ha for organics and £164/ha on non-organics.

Further detailed commentary on organic LFA grazing farms is given in Appendix 1 – Organic LFA cattle and sheep.

Table 20 LFA grazing farms, organic identical sample 2020/21 and 2021/22

The average LFA grazing farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	18			18		
Number (weighted)	195			216		
Farm size (2013SO)	97,559			115,467		
Farm area (adjusted ha)	132.4			167.8		
Grazing livestock units	90.8			107.7		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	71,202	538	52%	84,175	502	51%
Livestock component	68,747	519	97%	80,866	482	*96%*
Crop component	2,455	19	3%	3,308	20	*4%*
Agri-environment and other payments	23,667	179	17%	28,182	168	17%
Diversification & miscellaneous	8,343	63	6%	14,218	85	9%
Basic Payment Scheme	32,502	245	24%	40,051	239	24%
Farm Business Output (a)	**135,713**	**1,025**	100	**166,626**	**993**	**100**
Livestock variable costs:	18,591	140	20%	25,138	150	21%
Feed	6,572	50	35%	10,458	62	*42%*
Vet & medicine	4,184	32	23%	5,036	30	*20%*
Other livestock costs	7,834	59	42%	9,644	57	*38%*
Crop variable costs:	3,268	25	4%	3,162	19	3%
Seed	1,161	9	36%	1,396	8	*44%*
Fertiliser	968	7	30%	959	6	*30%*
Crop protection	2	0	0%	6	0	*0%*
Other crop costs	1,138	9	35%	802	5	*25%*
Contract	6,150	46	7%	8,222	49	7%
Paid Labour	9,482	72	10%	13,658	81	11%
Machinery:	22,253	168	24%	26,102	156	21%
Fuel & oil	3,696	28	17%	5,234	31	*20%*
Repairs	7,326	55	33%	9,435	56	*36%*
Depreciation	11,231	85	50%	11,434	68	*44%*
Paid Rents	5,125	39	6%	6,590	39	5%
Other costs	28,022	212	30%	38,566	230	32%
Total Costs (b)	**92,891**	**701**	100	**121,440**	**724**	**100**
Profit/(loss) on sale of fixed assets	175			919		
Farm Business Income (c=a-b)	**42,997**	**325**		**46,105**	**275**	
Unpaid manual labour excl. farmer & spouse (d)	1,986	15		1,837	11	
Interest payments (e)	2,677	20		4,765	28	
Imputed rents (f)	16,955	128		19,426	116	
Director's remuneration (g)	839	6		861	5	
Ownership costs (h)	4,099	31		4,904	29	
Net Farm Income (i=c-d+e-f+g+h)	**31,671**	**239**		**35,372**	**211**	
Farmer & Spouse unpaid labour (j)	22,074	167		22,722	135	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**9,597**	**72**		**12,650**	**75**	

Table 21 LFA grazing farms, organic and non-organic full sample, 2021/22

The average LFA grazing farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	184			19		
Number (weighted)	6,151			197		
Farm size (2013SO)	98,980			119,151		
Farm area (adjusted ha)	150.0			168.3		
Grazing livestock units	88.8			108.7		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	92,295	615	62%	86,911	517	51%
Livestock	87,142	581	*94%*	83,667	497	*96%*
Crops	5,152	34	*6%*	3,244	19	*4%*
Agri-environment and other payments	14,953	100	10%	28,522	169	17%
Diversification & miscellaneous	11,391	76	8%	14,537	86	9%
Basic Payment Scheme	29,652	198	20%	40,108	238	24%
Farm Business Output (a)	**148,290**	**988**	**100**	**170,078**	**1,011**	**100**
Livestock variable costs:	35,432	236	33%	26,400	157	21%
Feed	20,221	135	*57%*	11,272	67	*43%*
Vet & medicine	5,319	35	*15%*	5,082	30	*19%*
Other livestock costs	9,893	66	*28%*	10,046	60	*38%*
Crop variable costs:	6,604	44	6%	3,270	19	3%
Seed	556	4	*8%*	1,439	9	*44%*
Fertiliser	4,860	32	*74%*	1,004	6	*31%*
Crop protection	462	3	*7%*	6	0	*0%*
Other crop costs	725	5	*11%*	821	5	*25%*
Contract	4,607	31	4%	8,349	50	7%
Paid Labour	7,638	51	7%	14,083	84	11%
Machinery:	18,979	127	18%	26,132	155	21%
Fuel & oil	4,900	33	*26%*	5,238	31	*20%*
Repairs	5,428	36	*29%*	9,448	56	*36%*
Depreciation	8,650	58	*46%*	11,446	68	*44%*
Paid Rents	8,453	56	8%	6,540	39	5%
Other costs	24,615	164	23%	38,775	230	31%
Total Costs (b)	**106,327**	**709**	**100**	**123,550**	**734**	**100**
Profit/(loss) on sale of fixed assets	772			900		
Farm Business Income (c=a-b)	**42,735**	**285**		**47,428**	**282**	
Unpaid manual labour excl. farmer & spouse (d)	5,267	35		1,800	11	
Interest payments (e)	2,970	20		4,673	28	
Imputed rents (f)	12,929	86		19,467	116	
Director's remuneration (g)	120	1		842	5	
Ownership costs (h)	3,883	26		4,850	29	
Net Farm Income (i=c-d+e-f+g+h)	**31,512**	**210**		**36,526**	**217**	
Farmer & Spouse unpaid labour (j)	25,257	168		22,712	135	
Paid managerial labour (k)	107	1		0	0	
Management and Investment Income (l=i-j+k)	**6,361**	**42**		**13,814**	**82**	

4.5 Lowland grazing farms

Organic lowland grazing farms year-on-year

The average organic lowland grazing farm saw a 50% increase in Farm Business Income to £327/ha in 2021/22. This corresponds to a Net farm Income of £174/ha (a 103% increase on 2020/21). However, once an imputed figure for farmer and spouse manual labour (of £299/ha) is deducted, the resultant Management and Investment Income is a negative -£125/ha (Table 22).

Farm Business Output rose by 12% on 2020/21 (to £1,131/ha). Within this gross output figure, output from agriculture increased by 16% to £622/ha - largely due to a 17% increase in livestock output. Agri-environment payments rose by 14% to £115/ha and Diversification revenues rose by 18% to £190/ha.

Within the total costs figure of £806/ha; livestock variable costs were down by 7% and crop variable costs down by 6% on 2020/21 figures. Contract costs (8% of total) were up by 24% and paid labour (5% of total) was down by 6%. Machinery costs were up 1% to £183/ha. Paid rents, which account for 5% of total costs, were up by 2% to £39/ha (imputed rents on owned land combine to give an overall rent figure of £236/ha). Other costs, (insurance, interest, professional fees, water etc.) which account for 38% of total costs, were £306/ha.

Lowland grazing farms, organic and non-organic

The average organic lowland grazing farm (at 87ha) is 9ha smaller than the average non-organic farm and has 9 fewer livestock units. The resultant stocking rate on organic farms, of 0.87GLU/ha, compares to 0.88GLU/ha for the non-organic farms. The average Farm Business Income of £343/ha for organic lowland grazing farms is slightly lower than the £357/ha figure for non-organic lowland grazing farms but this difference is not statistically significant. At the Net Farm Income level, where the profitability measured £182/ha for organic farms and £247/ha for non-organics, this difference is statistically significant.

Organic lowland grazing farms produce a total output of £1,149/ha compared to £1,458/ha for the non-organic farms. Agri-environment schemes, Diversification and Basic payment sources collectively account for 43% of total output on the organic farms leaving agriculture to generate the remaining 57% at £652/ha. On non-organic lowland grazing farms the agricultural output of £958/ha accounts for 66% of total output. Variable costs on organic lowland grazing farms (of £174ha) account for 21% of total costs and on non-organic lowland grazing farms this figure is 36% of total costs at £400/ha. Paid labour (5% total costs) is lower on organic farms at £44/ha and contract costs (8% of total) are also slightly lower at £65/ha (£57/ha for labour and £71/ha for contract on non-organics). Machinery costs, at £183/ha, are lower on the organics than on the non-organics (£210/ha). Other (overhead) costs account for 37% of total costs for organic farms (£301/ha). Paid rents for organic farms, when combined with an imputed rent on owned land, give an overall rent figure of £242/ha in comparison to an overall rent figure of £212/ha for the non-organic lowland grazing farms.

Table 22 Lowland grazing farms, organic identical sample 2020/21 and 2021/22

The average lowland grazing farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	31			31		
Number (weighted)	1092			1046		
Farm size (2013SO)	68,222			69,829		
Farm area (adjusted ha)	78.4			81.3		
Grazing livestock units	69.4			70.0		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	42,139	537	53%	50,563	622	55%
Livestock component	37,850	483	90%	46,075	567	*91%*
Crop component	4,289	55	10%	4,488	55	*9%*
Agri-environment and other payments	7,917	101	10%	9,348	115	10%
Diversification & miscellaneous	12,615	161	16%	15,488	190	17%
Basic Payment Scheme	16,764	214	21%	16,602	204	18%
Farm Business Output (a)	**79,436**	**1013**	100%	**92,001**	**1,131**	**100**
Livestock variable costs:	12,009	153	19%	11,621	143	18%
Feed	4,415	56	37%	4,297	53	*37%*
Vet & medicine	1,772	23	15%	1,986	24	*17%*
Other livestock costs	5,821	74	48%	5,338	66	*46%*
Crop variable costs:	2,099	27	3%	2,092	26	3%
Seed	1,044	13	50%	1,001	12	*48%*
Fertiliser	381	5	18%	303	4	*14%*
Crop protection	24	0	1%	26	0	*1%*
Other crop costs	650	8	31%	762	9	*36%*
Contract	4,133	53	7%	5,300	65	8%
Paid Labour	3,667	47	6%	3,592	44	5%
Machinery:	14,168	181	23%	14,904	183	23%
Fuel & oil	1,920	24	14%	2,955	36	*20%*
Repairs	3,960	50	28%	4,398	54	*30%*
Depreciation	8,287	106	58%	7,552	93	*51%*
Paid Rents	2,999	38	5%	3,157	39	5%
Other costs	23,347	298	37%	24,854	306	38%
Total Costs (b)	**62,421**	**796**	100%	**65,520**	**806**	**100**
Profit/(loss) on sale of fixed assets	120			141		
Farm Business Income (c=a-b)	**17,135**	**218**		**26,622**	**327**	
Unpaid manual labour excl. farmer & spouse (d)	4,333	55		5,006	62	
Interest payments (e)	2,454	31		2,563	32	
Imputed rents (f)	14,332	183		16,039	197	
Director's remuneration (g)	1,680	21		1,482	18	
Ownership costs (h)	4,113	52		4,549	56	
Net Farm Income (i=c-d+e-f+g+h)	**6,717**	**86**		**14,171**	**174**	
Farmer & Spouse unpaid labour (j)	23,291	297		24,298	299	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**-16,574**	**-211**		**-10,127**	**-125**	

Table 23 Lowland grazing farms, organic and non-organic full sample, 2021/22

The average lowland grazing farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	247			33		
Number (weighted)	11,114			966		
Farm size (2013SO)	94,660			76,492		
Farm area (adjusted ha)	96.4			87.0		
Grazing livestock units	84.8			75.6		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	92,306	958	66%	56,712	652	57%
Livestock	77,723	806	*84%*	51,683	594	*91%*
Crops	14,583	151	*16%*	5,029	58	*9%*
Agri-environment and other payments	5,935	62	4%	9,760	112	10%
Diversification & miscellaneous	24,523	254	17%	15,748	181	16%
Basic Payment Scheme	17,761	184	13%	17,672	203	18%
Farm Business Output (a)	**140,525**	**1,458**	**100**	**99,893**	**1,149**	**100**
Livestock variable costs:	30,408	315	28%	12,744	147	18%
Feed	18,394	191	*60%*	4,431	51	*35%*
Vet & medicine	3,501	36	*12%*	2,345	27	*18%*
Other livestock costs	8,513	88	*28%*	5,967	69	*47%*
Crop variable costs:	8,113	84	8%	2,369	27	3%
Seed	1,396	14	*17%*	1,183	14	*50%*
Fertiliser	4,516	47	*56%*	351	4	*15%*
Crop protection	1,258	13	*16%*	26	0	*1%*
Other crop costs	942	10	*12%*	809	9	*34%*
Contract	6,846	71	6%	5,666	65	8%
Paid Labour	5,527	57	5%	3,824	44	5%
Machinery:	20,269	210	19%	15,899	183	23%
Fuel & oil	5,080	53	*25%*	3,259	37	*20%*
Repairs	6,205	64	*31%*	4,600	53	*29%*
Depreciation	8,984	93	*44%*	8,040	92	*51%*
Paid Rents	7,266	75	7%	3,472	40	5%
Other costs	28,353	294	27%	26,207	301	37%
Total Costs (b)	**106,781**	**1,108**	**100**	**70,183**	**807**	**100**
Profit/(loss) on sale of fixed assets	647			134		
Farm Business Income (c=a-b)	**34,391**	**357**		**29,844**	**343**	
Unpaid manual labour excl. farmer & spouse (d)	5,704	59		5,640	65	
Interest payments (e)	2,566	27		2,870	33	
Imputed rents (f)	13,142	136		17,543	202	
Director's remuneration (g)	240	2		1,464	17	
Ownership costs (h)	5,442	56		4,871	56	
Net Farm Income (i=c-d+e-f+g+h)	**23,792**	**247**		**15,865**	**182**	
Farmer & Spouse unpaid labour (j)	26,405	274		24,164	278	
Paid managerial labour (k)	10	0		0	0	
Management and Investment Income (l=i-j+k)	**-2,602**	**-27**		**-8,299**	**-95**	

4.6 Mixed farms

Please note that this group includes less than 15 observations in the sample which could reduce the robustness of the results.

Organic mixed farms year-on-year

Organic mixed farms saw a 12% increase in Farm Business Income (FBI) from £105/ha (in 2020/21) to £118ha in 2021/22. This translated into a Net Farm Income (NFI) to £21/ha. Having deducted an imputed figure for farmer and spouse labour of £182/ha (in 2021/22) from the NFI, the Management and Investment Income corresponded to -£161/ha (Table 24).

This increase in FBI was due to an 20% increase in farm business output, to £1,556/ha (£247,715/farm) and despite a 21% increase in total costs to £1,438/ha for 2021/22. Output from agriculture, which generated 41% of total output, rose by 16% to £641/ha; crop output being up by 18% to £307ha and livestock output being up 14% to £334/ha. Revenues from agri-environment schemes were down by 16%, Basic payment down by 5%, and income from Diversification up by 74% to £520ha.

Livestock variable costs, which account for 6% of total costs, increased by 1% to £90/ha, and crop variable costs, 7% of total at £101/ha in 2021/22 were down 6% on 2020/21. Contract costs, 4% of total costs, were down 10% to £57/ha and paid labour (18% of total) was up 33% to £261/ha. Machinery costs, which account for 16% of total costs, were down 1% to £224/ha in 2021/22. Other (overhead) costs (43% of total costs) were up 44% to £612/ha.

Mixed farms, organic and non-organic

The average size of an organic mixed farm is 141ha and it carries 61 grazing livestock units (GLU). The average non-organic mixed farm is 183ha and carries 84 GLU (Table 25). Stocking rates are 0.46GLU/ha and 0.44GLU/ha respectively.

In 2021/22 the average organic mixed farm realised a Farm Business Income of £192/ha against a figure of £418/ha for the non-organic mixed farms and this difference is significant. There is also a significant difference between organic and non-organic mixed farms at the Net Farm Income level (£80/ha organics and £304/ha non-organics). Having deducted an imputed figure for farmer and spouse manual labour the resultant Management and Investment Income is -£111/ha for the organic group and £152/ha for the non-organics.

Farm Business Output for the average organic mixed farm was £1,548/ha in 2021/22 against £2,092/ha for the average non-organic mixed farm. The output from agriculture was lower on the organic farms (£833/ha) than on the non-organics (£1,560/ha). The organic farms derived three times the income per hectare than the non-organic farms from Agri-environmental schemes (at £140/ha). Diversification activities and Basic payment revenues were slightly higher at £364/ha and £212/ha respectively (versus £288/ha and £196/ha for non-organics).

The total costs for organic mixed farms, at £1,369/ha, were 19% lower per hectare than for the non-organic farms. Variable costs of £276/ha, which form 20% of total costs on organic farms, are less than half of those on the non-organic farms – where they constitute 42% of total costs. Contract costs were lower on organic mixed farms, at £82/ha versus £91/ha, and total machinery costs were lower (at £211/ha) on organic farms than on the non-organics (at £306/ha). The average organic mixed farm spent £211/ha on paid labour (15% of total costs) against £137/ha (8% of total) for non-organic farms. Other overhead costs, at £486/ha, make up 36% of total costs against a figure of £355/ha (21% of total costs) for the non-organic farms.

Table 24 Mixed farms, organic identical sample 2020/21 and 2021/22

The average mixed farm	Organic identical sample 2020/21			2021/22		
Number (unweighted)	8			8		
Number (weighted)	146			148		
Farm size (2013SO)	147,609			149,670		
Farm area (adjusted ha)	162.8			159.2		
Grazing livestock units	67.8			64.5		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	89,890	552	43%	101,972	641	41%
Livestock component	47,714	293	53%	53,121	334	*52%*
Crop component	42,175	259	47%	48,851	307	*48%*
Agri-environment and other payments	35,691	219	17%	29,183	183	12%
Diversification & miscellaneous	48,468	298	23%	82,697	520	33%
Basic Payment Scheme	36,612	225	17%	33,864	213	14%
Farm Business Output (a)	**210,661**	**1294**	100	**247,715**	**1556**	**100**
Livestock variable costs:	14,518	89	7%	14,341	90	6%
Feed	4,401	27	30%	5,069	32	*35%*
Vet & medicine	1,447	9	10%	1,899	12	*13%*
Other livestock costs	8,671	53	60%	7,373	46	*51%*
Crop variable costs:	17,421	107	9%	16,089	101	7%
Seed	12,237	75	70%	9,847	62	*61%*
Fertiliser	2,067	13	12%	3,073	19	*19%*
Crop protection	736	5	4%	670	4	*4%*
Other crop costs	2,381	15	14%	2,499	16	*16%*
Contract	10,220	63	5%	9,008	57	4%
Paid Labour	31,983	196	17%	41,486	261	18%
Machinery:	36,945	227	19%	35,659	224	16%
Fuel & oil	5,570	34	15%	7,361	46	*21%*
Repairs	14,683	90	40%	14,851	93	*42%*
Depreciation	16,692	103	45%	13,446	84	*38%*
Paid Rents	13,432	83	7%	14,955	94	7%
Other costs	69,301	426	36%	97,394	612	43%
Total Costs (b)	**193,819**	**1191**	100	**228,932**	**1,438**	**100**
Profit/(loss) on sale of fixed assets	329			67		
Farm Business Income (c=a-b)	**17,171**	**105**		**18,850**	**118**	
Unpaid manual labour excl. farmer & spouse (d)	3,942	24		3,645	23	
Interest payments (e)	3,824	23		7,023	44	
Imputed rents (f)	30,311	186		30,800	193	
Director's remuneration (g)	0	0		0	0	
Ownership costs (h)	10,307	63		11,980	75	
Net Farm Income (i=c-d+e-f+g+h)	**-2,950**	**-18**		**3,408**	**21**	
Farmer & Spouse unpaid labour (j)	28,227	173		29,012	182	
Paid managerial labour (k)	0	0		0	0	
Management and Investment Income (l=i-j+k)	**-31,177**	**-192**		**-25,603**	**-161**	

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 25 Mixed farms, organic and non-organic full sample, 2021/22

The average mixed farm	Non-organic 2021/22			Organic 2021/22		
Number (unweighted)	139			13		
Number (weighted)	4,970			274		
Farm size (2013SO)	283,835			142,750		
Farm area (adjusted ha)	183.1			140.6		
Grazing livestock units	83.8			61.3		
	£/farm	£/ha		£/farm	£/ha	
Agriculture:	285,673	1,560	75%	117,130	833	54%
Livestock	133,550	730	*47%*	58,482	416	*50%*
Crops	152,123	831	*53%*	58,649	417	*50%*
Agri-environment and other payments	8,728	48	2%	19,641	140	9%
Diversification & miscellaneous	52,745	288	14%	51,144	364	23%
Basic Payment Scheme	35,891	196	9%	29,730	212	14%
Farm Business Output (a)	**383,037**	**2,092**	**100%**	**217,646**	**1,548**	**100**
Livestock variable costs:	79,036	432	26%	20,635	147	11%
Feed	60,894	333	*77%*	11,227	80	*54%*
Vet & medicine	4,528	25	*6%*	1,929	14	*9%*
Other livestock costs	13,615	74	*17%*	7,480	53	*36%*
Crop variable costs:	50,000	273	16%	18,163	129	9%
Seed	9,389	51	*19%*	10,457	74	*58%*
Fertiliser	19,117	104	*38%*	3,180	23	*18%*
Crop protection	16,370	89	*33%*	519	4	*3%*
Other crop costs	5,124	28	*10%*	4,007	29	*22%*
Contract	16,692	91	5%	11,545	82	6%
Paid Labour	25,148	137	8%	29,615	211	15%
Machinery:	56,028	306	18%	29,648	211	15%
Fuel & oil	13,479	74	*24%*	6,983	50	*24%*
Repairs	18,625	102	*33%*	11,437	81	*39%*
Depreciation	23,924	131	*43%*	11,228	80	*38%*
Paid Rents	16,916	92	5%	14,406	102	7%
Other costs	64,960	355	21%	68,367	486	36%
Total Costs (b)	**308,781**	**1,687**	**100%**	**192,379**	**1,369**	**100**
Profit/(loss) on sale of fixed assets	2,343			1,775		
Farm Business Income (c=a-b)	**76,599**	**418**		**27,042**	**192**	
Unpaid manual labour excl. farmer & spouse (d)	12,036	66		5,616	40	
Interest payments (e)	5,919	32		5,671	40	
Imputed rents (f)	31,439	172		24,350	173	
Director's remuneration (g)	2,733	15		0	0	
Ownership costs (h)	13,895	76		8,490	60	
Net Farm Income (i=c-d+e-f+g+h)	**55,671**	**304**		**11,237**	**80**	
Farmer & Spouse unpaid labour (j)	27,925	153		26,901	191	
Paid managerial labour (k)	84	0		0	0	
Management and Investment Income (l=i-j+k)	**27,830**	**152**		**-15,664**	**-111**	

5 Enterprise Gross Margins

5.1 Data sample

The distribution of available crop and livestock margin data by robust farm type and size for organic farms are shown in Table 26 and Table 36.

All data presented in the following gross margin tables are weighted. All variable costs to gross margin level are allocated through careful recording and in consultation with participating farmers.

Table 27 and Table 37 show the sample size of organic crop and livestock enterprises that have been analysed to gross margin level. Where sample numbers allowed, analyses for a premium group (top third by weighted numbers by: GM/litre, GM/head or GM/ha) are presented.

For livestock enterprises, forage areas and stocking rates are calculated on the basis of the total adjusted forage area including commons; see Appendix 5 – for more information. This is to allow the inclusion, at the appropriate rate, of all sole occupier rough grazing and all grazed common land. Unused commons are not included and the forage area figures are net of land let out and taken in. Stock sent away on agistment are excluded from the stocking rate calculations and monies spent on agistment is included in the figure for coarse fodder.

The dairy sample of 39 enterprises comprises 4 LFA and 35 lowland farms.

Crop enterprise gross margins are shown in Table 28 to Table 36.

Livestock enterprise gross margins are shown in Table 39 to Table 48.

Standard deviations are calculated on the *per litre, per head* or per *hectare* figures.

5.2 Organic cropping enterprises gross margins

Table 26 Sample distribution of organic crop margin data (>5 records) by robust farm type and size (2013SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000	Large (>€250,000)	All
Cereals	6	5	6	17
General cropping	6	4	1	11
Horticulture	6	8	0	14
Pigs	0	1	0	1
Poultry	0	0	0	0
Dairy	0	1	11	12
LFA Grazing	2	2	0	4
Lowland Grazing	4	8	9	21
Mixed	5	14	12	31
All	**29**	**43**	**39**	**111**

Table 27 Sample size for organic crop gross margin analysis

Enterprise	Sample size	Weighted sample size	Average Crop area (ha)	Premium sample size	Weighted sample size	Average crop area (ha)
Winter wheat *	11	161	17.3	5	53	19.8
Spring wheat *	7	128	29.3	-	-	-
Spring barley	24	328	21.9	10	112	21.9
Winter oats *	16	226	24.2	-	-	-
Spring oats	17	315	13.3	8	115	14.9
Spring beans *	9	118	12.1	-	-	-
Field vegetables *	8	154	7.0	-	-	-
Protected vegetables *	6	228	0.2	-	-	-
Top fruit *	9	165	2.7	-	-	-

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Please note that there are farms that have fully organic enterprises but, because less than 70% of the farm UAA is not classified as organic, the farm itself does not classify as organic. This explains the slight difference in sample sizes between Table 26 and Table 4.

Table 28 Organic winter wheat gross margin

2021 harvest year	Sample	11	crops		Top third	5	crops	
	Sample weighted	161	crops		Top third weighted	53	crops	
	Average crop area	17.3	hectares		Average crop area	19.8	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		60	3.5	1.5		85	4.3	2.6
Price of crop sold (£/t)		331		53		350		78
Crop output		21,236	1,231	617		31,354	1,581	1,037
By product output		1,645	95	82		2,594	131	82
Area payment (Protein or energy crop supplements)		0	0	0		0	0	0
Total		**22,881**	**1,326**			**33,948**	**1,711**	
Variable Costs		**per crop**	**per ha**			**per crop**	**per ha**	
Seed		1,902	110	36		1,578	80	41
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		195	11	68		296	15	117
Crop protection materials		29	2	9		13	1	4
Other crop costs (including levies and commission)		993	58	145		852	43	230
Fuel for heating & drying		62	4	6		66	3	8
Total		**3,180**	**184**	**166**		**2,805**	**141**	**260**
Gross Margin		**19,701**	**1,142**	**505**		**31,143**	**1,570**	**770**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 29 Organic spring barley gross margin

2021 harvest year	Sample	24	crops		Top third	10	crops	
	Sample weighted	328	crops		Top third weighted	112	crops	
	Average crop area	21.9	hectares		Average crop area	21.9	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		55	2.5	1.3		80	3.6	1.7
Price of crop sold (£/t)		264		94		317		80
Crop output		17,386	792	380		26,520	1,210	500
By product output		1,724	79	142		2,404	110	95
Total		**19,111**	**871**			**28,924**	**1,319**	
Variable Costs		**per crop**	**per ha**			**per crop**	**per ha**	
Seed		3,035	138	45		2,677	122	49
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		458	21	62		438	20	101
Crop protection materials		22	1	4		64	3	6
Other crop costs (including levies and commission)		873	40	71		1,372	63	96
Fuel for heating & drying		41	2	4		40	2	3
Total		**4,428**	**202**	**98**		**4,591**	**209**	**144**
Gross Margin		**14,682**	**669**	**398**		**24,333**	**1,110**	**526**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the result..*

Table 30 Organic winter oats gross margin

2021 harvest year	Sample	16	crops	
	Sample weighted	226	crops	
	Average crop area	24.2	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		109	4.5	1.5
Price of crop sold (£/t)		315		62
Crop output		33,591	1,386	680
By product output		4,383	181	144
Area payment (Protein or energy crop supplements)		0	0	0
Total		**37,974**	**1,567**	
Variable Costs		**per crop**	**per ha**	
Seed		2,268	94	35
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		637	26	29
Crop protection materials		32	1	6
Other crop costs (including levies and commission)		894	37	143
Fuel for heating & drying		37	2	6
Total		**3,869**	**160**	**159**
Gross Margin		**34,105**	**1,407**	**648**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 31 Organic spring wheat gross margin

2021 harvest year	Sample	7	crops	
	Sample weighted	128	crops	
	Average crop area	29.3	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		111	3.8	1.3
Price of crop sold (£/t)		296		21
Crop output		32,427	1,108	281
By product output		738	25	59
Total		**33,166**	**1,133**	
Variable Costs		**per crop**	**per ha**	
Seed		3,657	125	43
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		435	15	14
Crop protection materials		0	0	0
Other crop costs (including levies and commission)		806	28	17
Fuel for heating & drying		15	1	2
Total		**4,913**	**168**	**37**
Gross Margin		**28,253**	**965**	**257**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 32 Organic spring oats gross margin

2021 harvest year	Sample	17	crops		Top third	8	crops	
	Sample weighted	315	crops		Top third weighted	115	crops	
	Average crop area	13.3	hectares		Average crop area	14.9	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		44	3.3	1.4		68	4.6	1.2
Price of crop sold (£/t)		293		61		318		37
Crop output		13,133	991	429		21,476	1,446	303
By product output		872	66	66		1,067	72	81
Area payment (Protein or energy crop supplements)		0	0	0		0	0	0
Total		**14,005**	**1,057**			**22,544**	**1,518**	
Variable Costs		**per crop**	**per ha**			**per crop**	**per ha**	
Seed		1,103	83	41		1,265	85	41
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		341	26	31		516	35	35
Crop protection materials		64	5	5		175	12	6
Other crop costs (including levies and commission)		1,039	78	70		1,433	96	71
Fuel for heating & drying		36	3	4		63	4	4
Total		**2,584**	**195**	**100**		**3,452**	**232**	**91**
Gross Margin		**11,421**	**862**	**389**		**19,092**	**1,286**	**371**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 33 Organic spring beans gross margin

2021 harvest year	Sample	9	crops	
	Sample weighted	118	crops	
	Average crop area	12.1	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		28	2.3	0.6
Price of crop sold (£/t)		-		-
Crop output		11,474	951	278
By product output		170	14	31
Area payment (Protein or energy crop supplements)		0	0	0
Total		**11,645**	**966**	
Variable Costs		**per crop**	**per ha**	
Seed		1,716	142	104
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		364	30	26
Crop protection materials		15	1	3
Other crop costs (including levies and commission)		513	43	55
Fuel for heating & drying		49	4	6
Total		**2,657**	**220**	**102**
Gross Margin		**8,988**	**745**	**378**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 34 Organic field vegetables gross margin

2021 harvest year	Sample	8	crops	
	Sample weighted	154	crops	
	Average crop area	7.0	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		14.6	2.1	2.5
Price of crop sold (£/t)		-		-
Crop output		146,847	20,934	14,294
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**146,847**	**20,934**	
Variable Costs		**per crop**	**per ha**	
Seed		13,842	1,973	1,405
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		1,904	271	280
Crop protection materials		350	50	51
Other crop costs (including levies and commission)		15,626	2,228	1,832
Fuel for heating & drying		0	0	0
Total		**31,722**	**4,522**	**3,065**
Gross Margin		**115,126**	**16,412**	**11,643**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 35 Organic protected vegetables gross margin

2021 harvest year	Sample	6	crops	
	Sample weighted	228	crops	
	Average crop area	0.2	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		0.0	0.3	0.6
Price of crop sold (£/t)		-		-
Crop output		13,030	67,979	50,335
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**13,030**	**67,979**	
Variable Costs		**per crop**	**per ha**	
Seed		902	4,708	4,064
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		65	341	831
Crop protection materials		5	28	74
Other crop costs (including levies and commission)		689	3,595	2,088
Fuel for heating & drying		0	0	0
Total		**1,662**	**8,672**	**5,499**
Gross Margin		**11,367**	**59,307**	**45,675**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 36 Organic top fruit gross margin

2021 harvest year	Sample	9	crops	
	Sample weighted	165	crops	
	Average crop area	2.7	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		24.0	9.0	7.8
Price of crop sold (£/t)		-		-
Crop output		5,050	1,898	2,122
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**5,050**	**1,898**	
Variable Costs		**per crop**	**per ha**	
Seed		87	33	127
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		33	12	14
Crop protection materials		18	7	35
Other crop costs (including levies and commission)		317	119	409
Fuel for heating & drying		0	0	0
Total		**456**	**171**	**494**
Gross Margin		**4,595**	**1,727**	**1,711**

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

5.3 Organic livestock enterprises gross margins

There are 320 organic livestock enterprises within the full 2021/22 FBS sample. Of these, 243 are in activities with 5 or more farms and are presented below.

Table 37 Sample distribution of organic livestock margin data (>4 records) by robust farm type and size (2013SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000)	Large (>€250,000)	All
Cereals	0	0	0	0
General cropping	2	4	3	9
Horticulture	0	0	3	3
Pigs	0	1	0	1
Poultry	0	2	3	5
Dairy	0	10	55	65
LFA Grazing	15	23	17	55
Lowland Grazing	39	26	21	86
Mixed	5	6	8	19
All	**61**	**72**	**110**	**243**

Table 38 Sample size for organic livestock gross margin analysis

Enterprise	Sample		Premium	
	Sample size	Weighted sample size	Sample size	Weighted sample size
Dairy cows	35	367	11	119
LFA suckler cows	17	205	7	75
Lowland suckler cows	44	1,065	19	346
Dairy followers	26	281	9	96
Fat cattle from suckler bred calves or stores	36	697	19	233
Store cattle from suckler bred calves or stores	22	546	8	182
Lowland sheep	28	551	10	182
LFA sheep (hill) *	7	69	0	0
LFA sheep (upland) *	11	101	0	0

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 39 Organic dairy cows gross margin – sample

Sample size	35			
No farms in population	367			
Production information				
Average cow numbers	148			
Enterprise grazing livestock units	149.0			
Total milk produced (litres)	884,915			
Total milk produced per cow (lt/cow)	5,981			
Average price of milk sold (pence/lt)	38.17			
Calves per cow (sold or transferred)	0.94			
Herd replacement rate (%)	0.24			
Adjusted forage area (including commons)	115.6			
Stocking rate (cows per adj. forage ha.)	1.28			
Stocking rate (GLUs per adj. forage ha.)	1.29			
Enterprise Output	**Total**	**per cow**	**per litre**	**per adj for ha**
	(£)	**(£)**	**(pence)**	**(£)**
Milk	337,758	2,283	38.2	2,922
Calves and other dairy related output	23,387	158	2.6	202
Less Herd Depreciation	27,584	186	3.1	239
Total Gross Output (A)	**333,561**	**2,255**	**37.7**	**2,885**
Variable Costs				
Concentrates	100,549	680	11.4	870
Coarse fodder	6,040	41	0.7	52
Vet and Medicines	7,475	51	0.8	65
Other livestock costs	30,646	207	3.5	265
Total Variable Costs (B)	**144,710**	**979**	**16.3**	**1,252**
Gross Margin before forage (A-B) = (C)	**188,851**	**1,276**	**21.4**	**1,633**
Forage Variable Costs (D)	3,490	24	0.4	30
Gross Margin after forage (C-D) = (E)	**185,361**	**1,252**	**21.0**	**1,603**
Prices				
Average quota leasing in price (pence/lt)	na			
Calf price (£/calf)	165			
Cull cow price (£/cow)	757			
Replacement heifer/cow price (£/head)	1,403			
Forage Costs				
Fertilizer (£/ha)	6			
Seed (£/ha)	17			
Spray (£/ha)	0			
Other crop costs (£/ha)	7			
Total (£/ha)	30			
Unadjusted forage area excluding commons	115.3			

Table 40 Organic dairy cows gross margin – premium

Premium sample size	11			
No farms in population	119			
Production information				
Average cow numbers	142			
Enterprise grazing livestock units	143.2			
Total milk produced (litres)	716,864			
Total milk produced per cow (lt/cow)	5,055			
Average price of milk sold (pence/lt)	40.84			
Calves per cow (sold or transferred)	0.92			
Herd replacement rate (%)	0.25			
Adjusted forage area (including commons)	121.1			
Stocking rate (cows per adj. forage ha.)	1.17			
Stocking rate (GLUs per adj. forage ha.)	1.18			
Enterprise Output	**Total**	**per cow**	**per litre**	**per adj for ha**
	(£)	**(£)**	**(pence)**	**(£)**
Milk	292,774	2,065	40.8	2,417
Calves and other dairy related output	19,389	137	2.7	160
Less Herd Depreciation	19,851	140	2.8	164
Total Gross Output (A)	**292,312**	**2,062**	**40.8**	**2,413**
Variable Costs				
Concentrates	61,892	436	8.6	511
Coarse fodder	2,927	21	0.4	24
Vet and Medicines	4,909	35	0.7	41
Other livestock costs	23,294	164	3.3	192
Total Variable Costs (B)	**93,022**	**656**	**13.0**	**768**
Gross Margin before forage (A-B) = (C)	**199,290**	**1,406**	**27.8**	**1,645**
Forage Variable Costs (D)	2,922	21	0.4	24
Gross Margin after forage (C-D) = (E)	**196,368**	**1,385**	**27.4**	**1,621**
Prices				
Average quota leasing in price (pence/lt)	na			
Calf price (£/calf)	147			
Cull cow price (£/cow)	706			
Replacement heifer/cow price (£/head)	1,265			
Forage Costs				
Fertilizer (£/ha)	2			
Seed (£/ha)	16			
Spray (£/ha)	0			
Other crop costs (£/ha)	6			
Total (£/ha)	24			
Unadjusted forage area excluding commons	121.7			

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 41 Organic LFA Suckler cows gross margin

	Sample			Premium		
No farms in sample	17			7		
No farms in population	205			75		
Production information						
Average cow numbers	48			44		
Enterprise grazing livestock units *	46.3			45.4		
Calves per cow	0.92			0.98		
Herd replacement rate (%)	14%			11%		
Adjusted forage area (including commons)	62.6			60.1		
Stocking rate (cows per adj. forage ha.)	0.76			0.73		
Stocking rate (GLUs per adj. forage ha.)	0.74			0.76		
Enterprise Output	**Total**	**per cow**	**per adj for ha**	**Total**	**per cow**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Suckler calves †	22,290	466	356	26,409	602	440
Less Herd Depreciation	4,805	100	77	1,376	31	23
Total Output (A)	**17,486**	**366**	**279**	**25,033**	**571**	**417**
Variable Costs						
Concentrates	617	13	10	645	15	11
Coarse fodder	377	8	6	317	7	5
Vet and Medicines	1,562	33	25	1,285	29	21
Other livestock costs	2,862	60	46	3,211	73	53
Total Variable Costs (B)	**5,418**	**114**	**87**	**5,458**	**124**	**90**
Gross Margin before forage (A-B) = (C)	**12,068**	**252**	**192**	**19,575**	**447**	**327**
Forage Variable Costs	502	10	8	594	14	10
Gross Margin after forage (A-B) = (C)	**11,566**	**242**	**184**	**18,981**	**433**	**317**
Prices						
Calf price (£/calf) †	810			808		
Cull cow price (£/cow)	907			1,074		
Replacement heifer/cow price (£/head)	1,195			1,252		
Forage Costs						
Fertilizer (£/ha)	2			3		
Seed (£/ha)	3			3		
Spray (£/ha)	0			0		
Other crop costs (£/ha)	2			4		
Total (£/ha)	8			10		
Unadjusted forage area excluding commons	69.2			63.1		
* excludes stock away on agistment						
† Calf price is as sold at < 2 years						

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 42 Organic lowland suckler cows gross margin

	Sample			Premium		
No farms in sample	44			19		
No farms in population	1,065			346		
Production information						
Average cow numbers	34			46		
Enterprise grazing livestock units *	33.8			45.1		
Calves per cow	0.97			0.97		
Herd replacement rate (%)	16%			11%		
Adjusted forage area (including commons)	35.4			48.5		
Stocking rate (cows per adj. forage ha.)	0.96			0.94		
Stocking rate (GLUs per adj. forage ha.)	0.96			0.93		
Enterprise Output	**Total**	**per cow**	**per adj for ha**	**Total**	**per cow**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Suckler calves †	19,313	569	546	29,494	646	608
Less Herd Depreciation	3,693	109	104	3,973	87	82
Total Output (A)	**15,620**	**460**	**442**	**25,521**	**559**	**526**
Variable Costs						
Concentrates	859	25	24	949	21	20
Coarse fodder	506	15	14	609	13	13
Vet and Medicines	1,081	32	31	1,139	25	23
Other livestock costs	2,163	64	61	2,701	59	56
Total Variable Costs (B)	**4,609**	**136**	**130**	**5,397**	**118**	**112**
Gross Margin before forage (A-B) = (C)	**11,011**	**324**	**312**	**20,123**	**441**	**414**
Forage Variable Costs	556	16	16	499	11	10
Gross Margin after forage (A-B) = (C)	**10,455**	**308**	**296**	**19,625**	**430**	**404**
Prices						
Calf price (£/calf) †	833			857		
Cull cow price (£/cow)	935			958		
Replacement heifer/cow price (£/head)	1,125			1,203		
Forage Costs						
Fertilizer (£/ha)	2			1		
Seed (£/ha)	9			5		
Spray (£/ha)	0			0		
Other crop costs (£/ha)	5			5		
Total (£/ha)	16			10		
Unadjusted forage area excluding commons	36.97			48.4		
* excludes stock away on agistment						
† Calf price is as sold at <2 years						

Table 43 Organic dairy followers gross margin

	Sample		Premium	
No farms in sample	26		9	
No farms	281		96	
Production information				
Enterprise grazing livestock units *	52.9		75.6	
Adjusted forage area (including commons)	41.2		56.1	
Stocking rate (GLUs per adj. forage ha.)	1.29		1.35	
Enterprise Output		**per adj for ha**		**per adj for ha**
		(£)		**(£)**
Cattle output	50,294	1,222	88,026	1,570
Total Output (A)	**50,294**	**1,222**	**88,026**	**1,570**
Variable Costs				
Concentrates	16,797	408	25,207	450
Coarse fodder	1,414	34	670	12
Vet and Medicines	1,506	37	2,865	51
Other livestock costs	6,603	160	7,882	141
Total Variable Costs (B)	**26,319**	**639**	**36,624**	**654**
Gross Margin before forage (A-B) = (C)	**23,975**	**583**	**51,403**	**916**
Forage Variable Costs (D)	511	12	870	16
Gross Margin after forage (C-D) = (E)	**23,464**	**571**	**50,533**	**900**
Prices				
Dairy heifer transfer or sale price £	1,377		1,410	
Finished cattle price £	1,313		1,491	
Store cattle price £	853		1,003	
Forage Costs				
Fertilizer (£/ha)	2		2	
Seed (£/ha)	7		9	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	3		5	
Total (£/ha)	12		16	
Unadjusted forage area excluding commons	41.46		56.71	
* excludes stock away on agistment				

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 44 Organic fat cattle from suckler bred calves or stores gross margin

	Sample		Premium	
No farms in sample	36		19	
No farms	697		233	
Production information				
Enterprise grazing livestock units *	37.7		57.5	
Adjusted forage area (including commons)	46.61		63.53	
Stocking rate (GLUs per adj. forage ha.)	0.81		0.90	
Enterprise Output		**per adj for ha**		**per adj for ha**
		(£)		**(£)**
Cattle output	33,801	725	69,928	1,101
Total Output (A)	**33,801**	**725**	**69,928**	**1,101**
Variable Costs				
Concentrates	3,608	77	6,592	104
Coarse fodder	498	11	527	8
Vet and Medicines	653	14	857	13
Other livestock costs	3,787	81	6,381	100
Total Variable Costs (B)	**8,545**	**183**	**14,358**	**225**
Gross Margin before forage (A-B) = (C)	**25,255**	**542**	**55,570**	**876**
Forage Variable Costs (D)	513	11	992	16
Gross Margin after forage (C-D) = (E)	**24,742**	**531**	**54,578**	**860**
Prices				
Dairy heifer transfer or sale price £	na		na	
Finished cattle price £	1,438		1,545	
Store cattle price £	898		960	
Forage Costs				
Fertilizer (£/ha)	2		3	
Seed (£/ha)	6		8	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	4		5	
Total (£/ha)	12		16	
Unadjusted forage area excluding commons	42.42		65.70	
* excludes stock away on agistment				

Table 45 Organic store cattle from suckler bred calves or stores gross margin

Store cattle from suckler bred calves or stores	**Sample**		**Premium**	
No farms in sample	22		8	
No farms	546		182	
Production information				
Enterprise grazing livestock units *	16.0		14.9	
Adjusted forage area (including commons)	21.82		15.73	
Stocking rate (GLUs per adj. forage ha.)	0.73		0.95	
Enterprise Output		**per adj for ha**		**per adj for ha**
		(£)		**(£)**
Cattle output	8,235	377	12,780	812
Total Output (A)	**8,235**	**377**	**12,780**	**812**
Variable Costs				
Concentrates	613	28	797	51
Coarse fodder	163	7	156	10
Vet and Medicines	354	16	304	19
Other livestock costs	1,344	62	1,400	89
Total Variable Costs (B)	**2,474**	**113**	**2,657**	**169**
Gross Margin before forage (A-B) = (C)	**5,761**	**264**	**10,123**	**643**
Forage Variable Costs (D)	75	3	136	9
Gross Margin after forage (C-D) = (E)	**5,686**	**261**	**9,987**	**634**
Prices				
Dairy heifer transfer or sale price £	na		na	
Finished cattle price £	1,019		987	
Store cattle price £	850		915	
Forage Costs				
Fertilizer (£/ha)	1		3	
Seed (£/ha)	1		3	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	2		3	
Total (£/ha)	4		9	
Unadjusted forage area excl. commons (ha)	20.19		14.72	
* excludes stock away on agistment				

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 46 Organic lowland sheep gross margin

2021 lamb crop	Sample			Premium		
No farms in sample	28			10		
No farms in population	551			182		
Production information						
Average ewe numbers	236			134		
Enterprise grazing livestock units *	36.9			23.0		
Lambs reared per ewe	1.33			1.55		
Flock replacement rate (%)	27%			19%		
Adjusted forage area (including commons)	38.56			24.18		
Stocking rate (ewes per adj. forage ha.)	6.12			5.55		
Stocking rate (GLUs per adj. forage ha.)	0.96			0.95		
Enterprise Output	**Total**	**per ewe**	**per adj for ha**	**Total**	**per ewe**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Lambs †	34,025	144	882	24,976	186	1033
Wool	388	2	10	150	1	6
Less Flock Depreciation	3,495	15	91	1,040	8	43
Total Output (A)	**30,918**	**131**	**801**	**24,086**	**179**	**996**
Variable Costs						
Concentrates	1,136	5	29	542	4	22
Coarse fodder	501	2	13	374	3	15
Vet and Medicines	1,737	7	45	1,106	8	46
Other livestock costs	2,796	12	73	1,693	13	70
Total Variable Costs (B)	**6,171**	**26**	**160**	**3,715**	**28**	**153**
Gross Margin before forage (A-B) = (C)	**24,747**	**105**	**641**	**20,371**	**151**	**843**
Forage Variable Costs (D)	598	3	15	133	1	6
Gross Margin after forage (C-D) = (E)	**24,149**	**102**	**626**	**20,237**	**150**	**837**
Prices	**£/hd**	**% sales**			**£/hd**	
Fat Lamb price	114	57		123	80	
Store Lamb price	79	36		90	14	
Ewe Lamb price	121	7		152	6	
Draft ewe price	123			117		
Cull ewe price (£/ewe)	85			91		
Wool price (£/kg)	0.61			0.37		
Replacement price (£/head)	126			108		
Forage Costs						
Fertilizer (£/ha)	2			0		
Seed (£/ha)	11			4		
Spray (£/ha)	0			0		
Other crop costs (£/ha)	2			1		
Total (£/ha)	15			6		
Unadjusted forage area excl. commons (ha)	43.83			25.87		
* excludes stock away on Agistment † includes all enterprise output except wool						

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 47 Organic LFA (upland) sheep gross margin

2021 lamb crop	Sample			Premium		
No farms in sample	11					
No farms in population	101					
Production information						
Average ewe numbers	447					
Enterprise grazing livestock units *	62.7					
Lambs reared per ewe	1.40					
Flock replacement rate (%)	28%					
Adjusted forage area (including commons)	88.76					
Stocking rate (ewes per adj. forage ha.)	5.03					
Stocking rate (GLUs per adj. forage ha.)	0.71					
Enterprise Output	**Total**	**per ewe**	**per adj for ha**	**Total**	**per ewe**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Lambs †	78,457	176	884			
Wool	284	1	3			
Less Flock Depreciation	9,155	20	103			
Total Output (A)	**69,586**	**157**	**784**			
Variable Costs						
Concentrates	6,047	14	68			
Coarse fodder	1,152	3	13			
Vet and Medicines	4,572	10	52			
Other livestock costs	6,102	14	69			
Total Variable Costs (B)	**17,873**	**41**	**202**			
Gross Margin before forage (A-B) = (C)	**51,713**	**116**	**582**			
Forage Variable Costs (D)	753	2	8			
Gross Margin after forage (C-D) = (E)	**50,960**	**114**	**574**			
Prices	**£/hd**	**% sales**			**£/hd**	
Fat Lamb price	111	83				
Store Lamb price	76	11				
Ewe Lamb price	163	6				
Draft ewe price	113					
Cull ewe price (£/ewe)	81					
Wool price (£/kg)	0.35					
Replacement price (£/head)	126					
Forage Costs						
Fertilizer (£/ha)	2					
Seed (£/ha)	3					
Spray (£/ha)	0					
Other crop costs (£/ha)	3					
Total (£/ha)	8					
Unadjusted forage area excl. commons (ha)	112.06					
* excludes stock away on Agistment † includes all enterprise output except wool						

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 48 Organic LFA (hill) sheep gross margin

2021 lamb crop	Sample			Premium		
No farms in sample	7					
No farms in population	69					
Production information						
Average ewe numbers	357					
Enterprise grazing livestock units *	41.2					
Lambs reared per ewe	1.25					
Flock replacement rate (%)	24%					
Adjusted forage area (including commons)	57.28					
Stocking rate (ewes per adj. forage ha.)	6.23					
Stocking rate (GLUs per adj. forage ha.)	0.72					
Enterprise Output	**Total**	**per ewe**	**per adj for ha**	**Total**	**per ewe**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Lambs †	42,196	118	737			
Wool	373	1	7			
Less Flock Depreciation	5,215	15	91			
Total Output (A)	**37,354**	**104**	**653**			
Variable Costs						
Concentrates	3,314	9	58			
Coarse fodder	290	1	5			
Vet and Medicines	2,167	6	38			
Other livestock costs	3,843	11	67			
Total Variable Costs (B)	**9,614**	**27**	**168**			
Gross Margin before forage (A-B) = (C)	**27,740**	**77**	**485**			
Forage Variable Costs (D)	573	2	10			
Gross Margin after forage (C-D) = (E)	**27,167**	**75**	**475**			
Prices	**£/hd**	**% sales**			**£/hd**	
Fat Lamb price	102	67				
Store Lamb price	73	33				
Ewe Lamb price	na	0				
Draft ewe price	na					
Cull ewe price (£/ewe)	81					
Wool price (£/kg)	0.39					
Replacement price (£/head)	105					
Forage Costs						
Fertilizer (£/ha)	3					
Seed (£/ha)	4					
Spray (£/ha)	0					
Other crop costs (£/ha)	3					
Total (£/ha)	10					
Unadjusted forage area excl. commons (ha)	66.64					
* excludes stock away on Agistment † includes all enterprise output except wool						

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

6 Appendix 1 – Organic LFA cattle and sheep

The current sample of 203 English LFA grazing farms includes 19 fully organic farms. Within this there are 15 organic suckler herds, 9 organic upland flocks and 6 organic hill flocks.

Table 6.1 compares suckler herd performance to the gross margin (GM) and net margin (NM) level across organic and non-organic farms. The organic suckler herd output is £148/cow less than the non-organic output and despite £106/cow less being spent on variable costs (particularly concentrates and purchased fodder) the gross margin for organic sucklers is £42/cow less than the non-organic average. As can be seen from the spread of GMs there is considerable variation across farms. Organic fixed costs are higher than the non-organics, by £35/cow, giving the non-organic farms a £77/cow advantage at the net margin level (excepting farmer and spouse labour). After allowing for the farmer and spouse labour the final net margins are £114/cow lower for organic herds than the non-organic herds (albeit negative in both cases). The stocking rate for the organic farms is slightly lower, at 0.70 GLU/total adjusted area, than the non-organic farms (0.71 GLU/total adjusted area) (including commons and all land rented in).

Table 6.1 LFA Suckler Herd Performance Non-organic and Organic (£/cow)

2021/22	All Suckler herds	
	Non-organic	Organic
Number of farms	122	15
Number of farms (weighted)	3,165	158
Herd size (no. cows)	40	52
	£ per cow	
Enterprise Output (excluding BLSA)	480	332
BLSA	88	95
Total Variable costs	245	139
Concentrates	66	16
Purchased fodder and keep	19	9
Veterinary and medicines	28	35
Other livestock costs	70	56
Forage costs	62	23
Gross Margin (excluding BLSA)	236	194
Gross Margin range	-218 to 790	30 to 480
Total Fixed costs	458	493
Total costs	703	631
Enterprise Net Margin (excluding BLSA)	-222	-299
Enterprise NM after F&S labour (excl. BLSA)	-387	-502
Stocking rate (GLUs/total adj ha)	0.71	0.70

Table 6.2 compares organic and non-organic Upland SDA flocks to the GM and NM level. Enterprise output is £8/ewe lower for organics (at £131/ewe) than that of the non-organics. Variable costs are £21/ewe lower for organic flocks (at £40/ewe) than the non-organics. The resultant gross margin is £91/ewe for organic flocks and £79/ewe for the non-organic flocks. Fixed costs are £103/ewe for organic flocks and £83/ewe for non-organics – this results in net margins (after farmer and spouse labour) of -£36/ewe for organic flocks and -£39/ewe for non-organic flocks.

Table 6.2 Upland SDA Flock Performance Non-organic and Organic

2021lamb crop	SDA flocks	
	Non-organics	Organics
Number of farms	86	9
Number of farms (weighted)	2754	68
Flock size (no. ewes)	507	516
	£ per ewe	
Enterprise Output (excluding BLSA)	139.3	131.1
BLSA	13.7	11.9
Total Variable costs	60.4	39.8
Concentrates	24.0	12.5
Purchased fodder and keep	3.7	2.2
Veterinary and medicines	9.3	10.8
Other livestock costs	14.8	11.7
Forage costs	8.6	2.6
Gross Margin (excluding BLSA)/Ewe	78.9	91.3
Gross Margin range	-9 to 180	11 to 139
Total Fixed costs	82.6	102.6
Total costs	142.9	142.4
Enterprise Net Margin (excluding BLSA)	-3.6	-11.3
Enterprise NM after F&S labour (excl. BLSA)	-39.0	-35.5
Stocking rate (GLUs/total adj ha)	0.69	0.62
Lambing rate (born and reared/average no. ewes)	1.43	1.42

**A part of this table was derived from data with less than 15 observations in the sample which could reduce the robustness of the results*

Table 6.3 compares whole farm profitability across all four cost centres between the 19 fully organic farms and the 184 non-organic LFA grazing farms in the sample. This table shows that the overall difference in profit favours the organic farms by £4,693 in Farm Business Income, by £10,705 in Farm Corporate Income and by £12,409 in Farm Investment Income. After the appropriate adjustments these profit figures translate to a Net Farm Income (NFI) of £36,526, which is £5,014 higher than the non-organic LFA grazing farms, and a Management and Investment Income (MII) profit of £13,814, which is £7,453 better than the non-organic farms' MII of £6,361. The greater FBI of organic farms is down to the higher profitability (by FBI) of the non-production cost centres more than offsetting the (greater) loss of the Agriculture cost centre. Clearly the large area advantage that the organic farms enjoy goes some way to explain the difference in the Basic Payment revenue – see Table 6.4. Table 6.4 compares the Organic sample with the Non-organic sample through a series of land use, stocking, outputs and variable costs. With an average area farmed of 209ha, organic farms are

33% larger, in area terms, than the non-organics (157ha) and while a large portion of this is rough grazing very little of it is common land. Organic LFA farms are 42% owner occupied, against 51% for the non-organics, and actually use 9% more labour (at 1.7 agricultural labour units per farm) than the non-organic average. Further comment on Hill farms may be found in a sister publication - see Appendix 4 – Reports in this series.

Table 6.3 Farm Income measures by cost centre, Organic vs. Non-organic

2021 lamb crop		Cost Centre (£ per farm)									
		Agriculture		**Agri-environment and other payments**		**Diversification out of agriculture**		**Basic Payment Scheme**		**Farm Business Income**	
Derivation of farm income measures		Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic
% contribution of centre revenue to total:		65%	53%	10%	17%	5%	7%	20%	24%		
Total output (Revenue)	(a)	**96,638**	**90,027**	**14,953**	**28,522**	**7,047**	**11,421**	**29,652**	**40,108**	**148,290**	**170,078**
Variable costs	(b)	49,130	41,019	32	97	329	195	2	9	49,493	41,320
Total Gross margin	(**c**=a-b)	**47,508**	**49,008**	**14,921**	**28,424**	**6,718**	**11,226**	**29,649**	**40,100**	**98,797**	**128,758**
Fixed costs	(d)	47,586	66,379	2,902	6,102	2,926	4,501	3,420	5,249	56,834	82,230
Total Costs	(e=b+d)	**96,716**	**107,398**	**2,933**	**6,199**	**3,255**	**4,696**	**3,422**	**5,258**	**106,327**	**123,550**
Profit/(loss) on sale of fixed assets	(f)	772	900							772	900
Farm Business Income	(**g**=a-e+f)	**695**	**-16,470**	**12,020**	**22,323**	**3,792**	**6,725**	**26,229**	**34,851**	**42,735**	**47,428**
Adjustment for unpaid manual labour	(h)	28,556	21,812	608	1,399	1,360	1,301	0	0	30,524	24,512
Farm Corporate Income	(**i**=g-h)	**-27,862**	**-38,282**	**11,412**	**20,924**	**2,432**	**5,424**	**26,229**	**34,851**	**12,211**	**22,916**
Interest payments (net of interest received)	(j)	2,712	4,105	83	288	98	90	77	190	2,970	4,673
Farm Investment Income	(**k**=i+j)	**-25,150**	**-34,177**	**11,495**	**21,212**	**2,530**	**5,514**	**26,306**	**35,040**	**15,181**	**27,590**
% contribution of centre total costs to total:		91%	87%	3%	5%	3%	4%	3%	4%		
								Imputed rent	(l)	12,929	19,467
								Ownership charges	(m)	3,883	4,850
								Director's remuneration	(n)	120	842
								Unpaid labour of principal farmer and spouse	(o)	25,257	22,712
								Net Farm Income	(**p**=k-l+m+n+o)	**31,512**	**36,526**
								Holding gains not included in farm income	(q)	57,627	83,935
								Breeding Livestock Appreciation (BLSA)	(r)	7,480	7,867
Non-organic Sample size (unweighted)	**184**							Revaluation of machinery, permananet crops, glasshouse, quota	(s)	1,300	1,781
Number (weighted)	**6,151**							Revalutation of land	(t)	48,847	74,287
Organic Sample size (unweighted)	**19**							Manager's paid managerial input	(u)	107	0
Number (weighted)	**197**							**Management and Investment Income**	(**v**=p-o+u)	**6,361**	**13,814**

Table 6.4 Land use, Stocking, Outputs & Variable costs - Organic vs Non-organic

2021/22	The Average LFA Farm	
Land Use & Stocking	**Non-organic**	**Organic**
Number (unweighted)	184	19
Number (weighted)	6,151	197
Total Area (includes woodland and roads etc) (ha)	171.9	207.9
Area Farmed (ha)	161.9	195.3
Net Land Hired In (ha)	-2.6	-2.4
Utilised Agricultural Area (ha)	164.5	197.8
Of which Total cropping (ha)	1.8	1.8
Grass, fodder crops and rough grazing (ha)	162.6	196.0
Of which: rough grazing (unadjusted) (ha)	49.4	58.1
Adjusted rough grazing (sole occupation)	15.3	21.4
Adjusted rough grazing (shared)	11.5	0.2
Total Adjusted Utilised Agriculture Area (ha)	130.3	161.0
Area owner occupied (ha)	78.8	138.3
Area tenanted (ha)	93.1	69.5
Average age of farmer (years)	59	62
Agricultural labour units (ALU)	1.6	1.5
Standard Output size units (2010SO)	98,980	119,151
Land Use		
Temporary Grassland Area (ha)	6.2	15.1
Permanent Grassland Area (ha)	103.4	117.3
Stocking		
Total Beef cows	21.9	46.1
Total Cattle	76.1	129.0
Ewes (LFA and lowland)	407.8	292.9
Total Sheep	809.6	568.3
Livestock Units		
Total Cattle LU	44.7	78.1
Total Sheep LU	43.6	30.1
Grazing LU (cattle, sheep, horses and others)	88.8	108.7
Outputs & Variable Costs		
Farm Business Output	148,290	170,078
of which: Output from agriculture	96,638	90,027
Agri environment payment	14,953	28,522
Diversified output	7,047	11,421
Basic Payment	29,652	40,108
Livestock Enterprise Output	87,142	83,667
of which: Cattle Enterprise Output	32,354	46,964
Sheep Enterprise Output	54,420	36,200
Crop Enterprise Output	5,149	3,244
Non agriculture, no other category output	4,343	3,116
Variable Costs		
Farm Business Variable Costs	49,493	41,320
Of which: Agriculture Variable Costs	49,130	41,019
Agriculture Crop Costs	6,539	3,270
Agriculture Livestock Costs	35,432	26,400
of which: Purchased Fodder Feed	19,041	9,190
Home Produced Fodder Feed	1,282	2,274
Veterinary and medicines	5,319	5,082
Other Livestock Costs	9,792	9,854
Agriculture Contract Costs	4,542	8,317
Agriculture Casual Labour	2,571	3,029

7 Appendix 2 – Reports in this series

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

8 Appendix 3 – Definition of terms

I. BUSINESS OUTPUTS, INPUTS, COSTS AND INCOME

1. ***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. 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.

2. ***Farm Corporate Income (FCI)*** 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.

3. ***Farm Investment Income (FII)*** 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.

4. ***Net Farm Income (NFI)*** is intended as a consistent measure of the profitability of tenant-type farming [2] that allows farms of different business organisation, tenure and

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

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[3] 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.

5. ***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.

6. ***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.

II. CROPPING, STOCKING AND LABOUR TABLES

7. ***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.

8. ***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, household gardens).

9. ***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).

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

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

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

12. ***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.

13. ***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'.*

14. ***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.
Standard labour requirements (SLR) are theoretical measures of representative labour requirements under typical conditions for enterprises of average size and performance. Used in the classification of farms by type and size there are 6 SLR size groups measured in Full Time Equivalents (FTE) where 1 FTE equals 1900 hours per year. Farms considered "Spare time" SLR band 1, less than 0.5 FTE or less than 949 imputed hours are excluded from the Farm Business Survey. The 6 SLR size groups are:

SLR band	Descriptive	FTE	Hours/year
1	Very small, Spare time	<0.5	1 - 949
2	Very small, Part time	0.5 to <1	950 – 1899
3	Small, Full time	1 to <2	1900 – 3799
4	Medium, Full time	2 to <3	3800 – 5699
5	Large, Full time	3 to <5	5700 – 9499
6	Very large, Full time	>5	>9500

III. OUTPUTS, INPUTS AND FARM BUSINESS INCOME TABLES

15. ***Agricultural output*** is the main measure of individual crop and livestock output. It comprises:

(a) ***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) 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.

(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) C***rop 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.

(d) ***Miscellaneous output*** covers the value of output from those activities that 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.

16. ***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 costs bedding materials, breeding costs (including AI and stud fees), miscellaneous dairy expenses, disinfectants, marketing and storage costs of animal products, Milk Development Council levy 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, British Potato Council levy, 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.

17. ***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 table 3.

IV. BALANCE SHEET TABLES

18. ***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.

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

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

21. ***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.

V. IMPLIED OUTPUT PRICES

22. ***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 value 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.

Source: DEFRA – Farm Accounts in England 2006/2007
http://webarchive.nationalarchives.gov.uk/20130315143000/http://www.defra.gov.uk/statistics/foodfarm/farmmanage/fbs/publications/farmaccounts/

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 SGM's to SO's is available at:
http://webarchive.nationalarchives.gov.uk/20130123162956/http:/www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-reviseclass_111221.pdf/
The SOs now in use are based on a five-year average centred on 2013. SO's are based on a five-year average in order to lessen the impact of yearly fluctuations on calculated SOs.
The 2013 SO's for England can be seen on Annex 1 under UK Farm Classification on the above site.

Source:
http://webarchive.nationalarchives.gov.uk/20130123162956/http:/www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-UK_Farm_Classification.pdf/

Adjusted Forage Area (adj. for. Ha)
The adjusted forage area allows an area of rough grazing to be equated to an equivalent area of flat mowable land. 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.

Total Adjusted Area (TAA)
The total adjusted area includes; adjusted UAA, adjusted common grazing and short term rentals (less than 1 year).

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Cover photo: *Courtesy of a sheep flock in Cumbria*