RBR Rural Business Research

Newcastle University

Farm Business Survey

2012/2013

Organic Farming in England

Charles Scott and Matt Pexton

February 2014

RBR *independent research, data and analysis*

Rural Business Research

Farm Business Survey

2012/2013

Organic Farming in England

Charles Scott and Matt Pexton

February 2014

ISBN: 978-0-903698-58-0

RBR at Newcastle University,
School of Agriculture, Food & Rural Development,
Newcastle University,
Newcastle upon Tyne,
NE1 7RU,
UK
Tel: 0191-208-6902
Fax: 0191-208-6720
E-mail: farm.business.survey@ncl.ac.uk
Website: http://www.ncl.ac.uk/afrd/business/FarmBusinessSurvey

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.

The basic information on which this report is based was collected on behalf of, and largely financed by, the Department for Environment, Food and Rural Affairs and is Crown Copyright. The views expressed in this report are those of the authors and are not necessarily shared by other members of RBR or by the Department for Environment, Food and Rural Affairs.

Forward to the Eighth Series

Drawing upon data from the financial year 2012 to 2013, this eighth series of reports arguably represents a turning point in the average financial fortunes of agricultural and horticultural businesses in England. Across the sectors, average Farm Business Income (FBI) fell by 30% from the previous year's results, albeit with specialist pig and poultry farms bucking this trend. Looking across the most recent five years' FBI performance, we may yet look back to the harvest of 2011, and the 2011-12 financial year more generally, and conclude this represented a high point for the industry, in aggregate, at the start of the 2000s. Therefore, as we provide the 2012-13 results for particular farm types and enterprises, it is opportune to consider the driving forces of economic performance as we look to the future.

Having written about Common Agricultural Policy (CAP) reform numerous times within the forewords to these series, one would be forgiven for thinking that we must have by now arrived at a point of certainty and clear policy direction. However, at the start of 2014, while the direction of the CAP is certainly clearer, there remains considerable uncertainty over how the broad CAP reform package that has been agreed will be implemented. The modulation rules over the movement of monies from Pillar I to Pillar II of the CAP will almost certainly lead to a more uncommon implementation of the CAP within the EU, and even within the UK. One of the largest unknowns of the new CAP is how the greening rules will be implemented by member states – discussions of crop rotation and permanent pasture will take on a whole new meaning and focus around the kitchen tables of farm households, while understanding what is meant by an Ecological Focus Area is already bringing forward yet more terminology and rules for farmers and producers to get to grips with.

No preface to the 2012-13 agricultural and horticultural financial year data analysis would be complete without reference to the prevailing climatic conditions over the April 2012 to March 2013 period. After the early spring 2012 drought conditions gave way to one of the wettest summers on record, the main grass and crop growing and harvest season of 2012 will not quickly fade from the memories of those at the sharp end of primary food production. The exceptionally cold late winter of 2012/13 and spring 2013 then placed increased pressures on many businesses, placing immediate financial pressures on livestock farmers. The results presented in this eighth series must therefore be set against

the prevailing conditions of this, hopefully atypical, 12 month period. However, the impacts of yields and costs are only part of the story; output prices, exchange rate fluctuations, policy support and diversification opportunities all contribute to the changing fortunes of the various sectors that we report on in our series. As businesses look to the future, all of these aspects, and many more, will be at the forefront of their thinking. To help businesses assess their own strengths, weaknesses, opportunities and threats, we hope that the data and independent analyses contained within *Rural Business Research's (RBR)* series of reports provide useful and essential information to facilitate the task.

Once again, I particularly thank all the farmers and producers who take part in the FBS research programme; without the voluntary contribution of these individual businesses it would not be possible to provide such a breadth and depth of data and information to the wider industry.

Dr Paul Wilson

Chief Executive Officer, Rural Business Research

January 2014

www.ruralbusinessresearch.co.uk

Executive Summary

Total land in organic food production increased in the late 2000s to a peak in 2009 though this area has subsequently reduced largely due to the effects of the 2007/08 financial crisis and the associated fall in consumer spending on organic food. In fact, the Soil Association (2013b) reported that land in organic production in 2012 was just 3.8% of total UK agricultural area, a reduction of nearly 9% year-on-year. Further, the number of producers in England has been in decline since 2007.

This report uses data from the Farm Business Survey of 1877 farms of which 159 are organic. Several measures of performance have been used in this report though Farm Business Income (FBI) is the main measure. Farm Business Output (FBO) has been split into four sources; agriculture, agri-environment, diversification and the Single Farm 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 comparison of organic and non-organic farms for the current year, 2012/13, is also included; this uses the full sample. Gross margin data for individual crop and livestock enterprises is also presented.

The majority of organic farm types had a lower Farm Business Output than their non-organic equivalents largely due to lower output from agriculture. However, most organic farm types had lower costs than their non-organic counterparts principally due to organic farms using fewer agricultural inputs. Organic farms had a lower FBI than non-organic farms for cropping, horticulture and mixed farm types although livestock farm types had a greater FBI than their non-organic counterparts. Further, FBI has reduced for organic farms year-on-year with the exception of mixed farms.

Organic cropping farms were typically smaller than their non-organic counterparts by an average of 16 hectares. Organic cropping farms made an FBI of £56,619, £18,769 less than similar non-organic farms. This was principally due to the greater output from agriculture that non-organic farms (£250,246) received compared to organic farms (£149,555). Organic cropping farms saw a decrease in FBI of £23,530 year-on-year.

Organic horticulture farms experienced a fall in FBI from £22,040 to £13,723 year-on-year. Further, FBI for organic horticulture farms was nearly half that of non-organic equivalents. Non-organic horticulture farms operated a much more intense operation than organic horticulture farms; FBO was £363,627 for non-organics versus £76,393 for

organic farms and total costs for non-organics were £332,328 but just £60,696 for organic farms.

Organic dairy farms earned a greater FBO year-on-year by £8,983, though an increase in costs of £23,662 led to a fall in FBI of £14,955. However, organic dairy farms had a greater FBI than their non-organic counterparts by £2,219; the greater output of non-organic farms was outweighed by their larger costs. Organic dairy farms were typically smaller with an average of 174.5 GLU, 59.7 less than non-organic dairy farms.

Organic LFA grazing farms remained more profitable than their non-organic counterparts with a FBI of £40,238, £21,117 greater than similar non-organic farms. This was principally due to the greater output of organic farms in all output sources except diversification. However, organic LFA grazing farms experienced a reduction in FBI year-on-year of £8,682. Organic farms of this type were also typically larger than their non-organic equivalents both on an area level and GLU level.

Organic lowland grazing farms experienced a reduction in FBI year-on-year, falling from £32,211 in 2011/12 to £23,539 in 2012/13. This was due to an increase in costs as FBO remained similar year-on-year. Unlike the previous year, 2011/12, organic lowland grazing farms had a greater FBI of £19,227 compared to their non-organic counterparts' FBI of £16,047. Non-organic farms earned a greater FBO by £17,284, primarily due to a greater output from agriculture, though organic farms had lower costs by £21,021.

Organic mixed farms had a lower FBI than their non-organic equivalents by £23,059. Non-organic mixed farms had greater total costs, though this was more than compensated by the difference in FBO of £103,771. However, organic mixed farms did experience an increase in FBI from 2011/12 (£6,789) to 2012/13 (£8,703), principally due to a rise in FBO from agriculture and diversification.

Contents

Figures

Tables

1 ORGANIC FARMING IN THE UK

1.1 Area

The total organic agricultural area consists of land certified as organic and land in the conversion stage to organic. Total UK land in organic food production peaked in 2008/09 and declined thereafter (Figure 1.1). The area in conversion peaked in 2007/08 and has since decreased to just 32,700 hectares in 2011. Data for 2012/13 is yet to be released by FAOSTAT.

The area of organic land in England followed a similar trend to that of the UK as a whole (Figure 1.2). Scotland however, has seen a steady long-term decline in the area of organic land. Organic land in Wales and Northern Ireland has remained relatively constant in recent history.

Figure 1.1 UK land in organic food production 2004-2011
Source: FAOSTAT (2013)

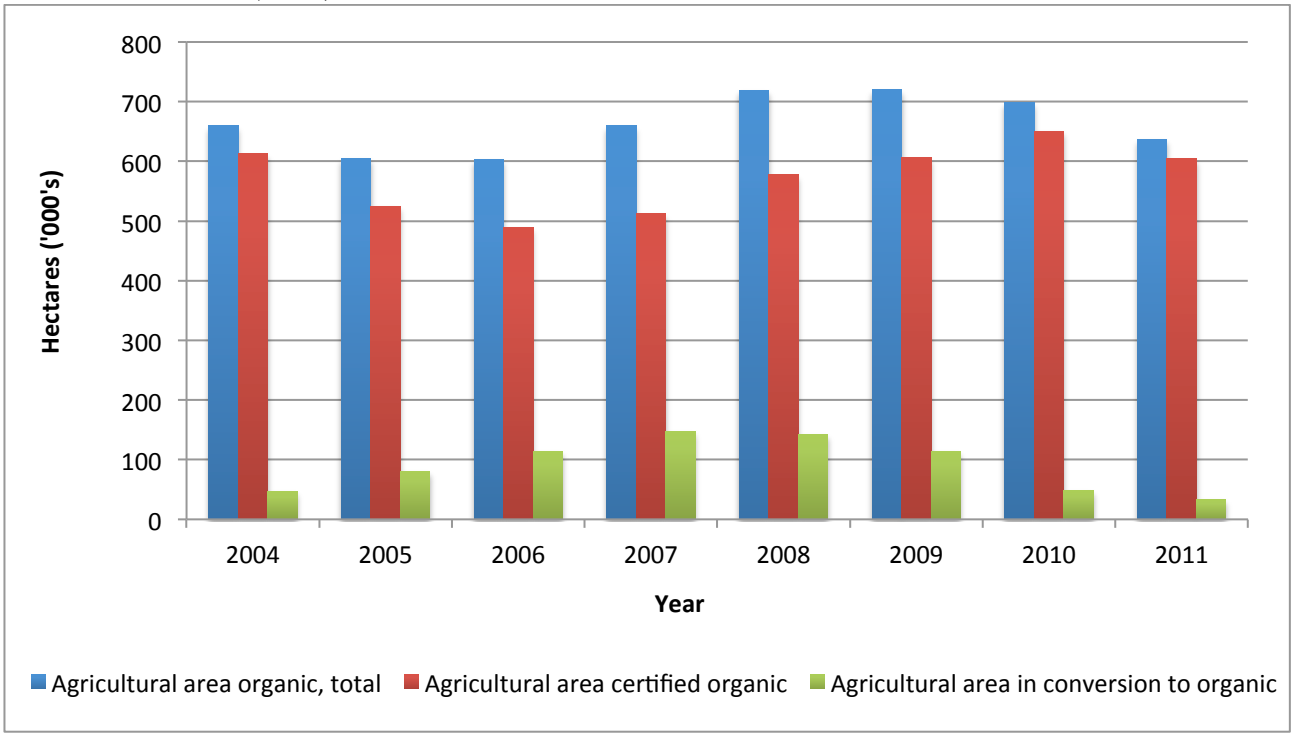
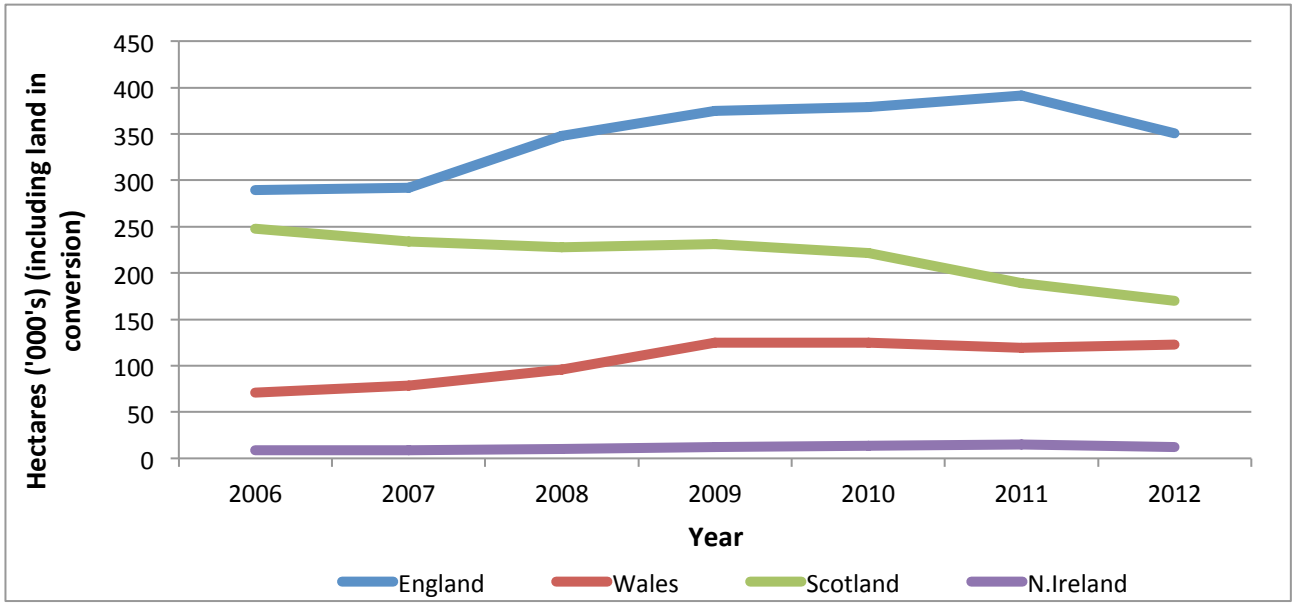
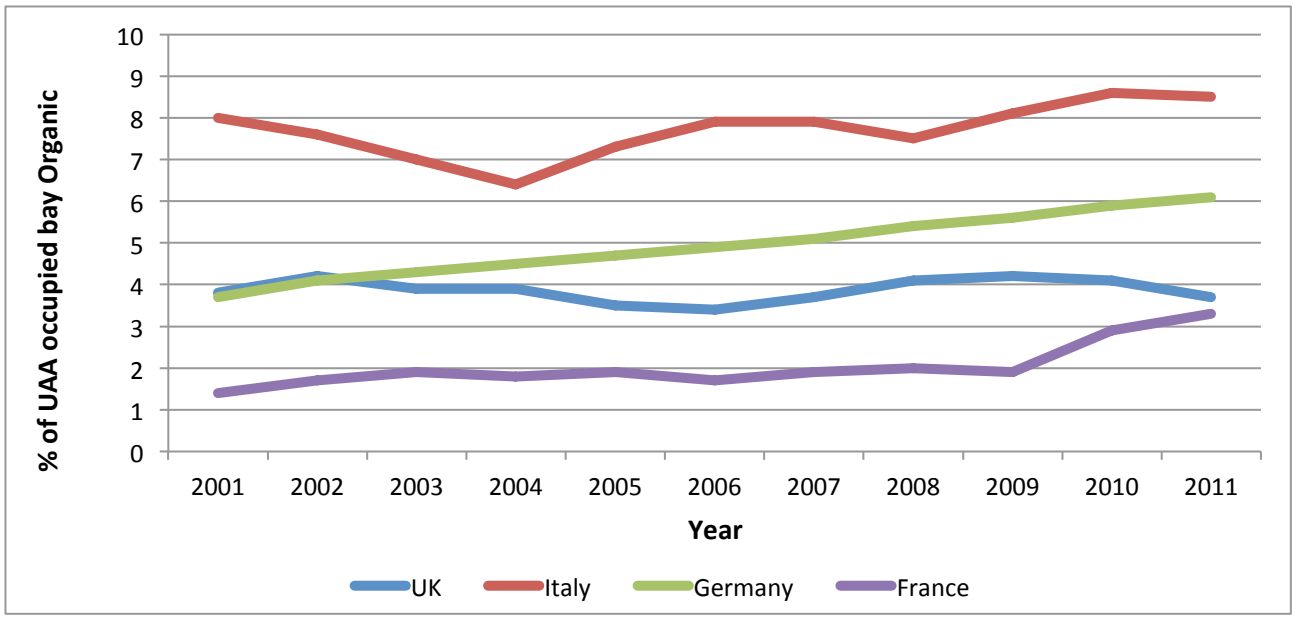


Figure 1.2 Distribution of organic land within the UK 2006-2012
Source: Soil Association (2013a)



The Soil Association (2013b) stated that just 3.8% of UK agricultural area was in organic production in 2012, a fall of 8.7% from the previous year. The UK has had a much lower percentage of total utilised agricultural area (UAA) occupied by organic farming compared to Italy and Germany in recent history. Further, in 2009/11, France saw an increase in organic land to the extent that the proportion of organic land to total UAA is now on a similar level to the UK (Figure 1.3).

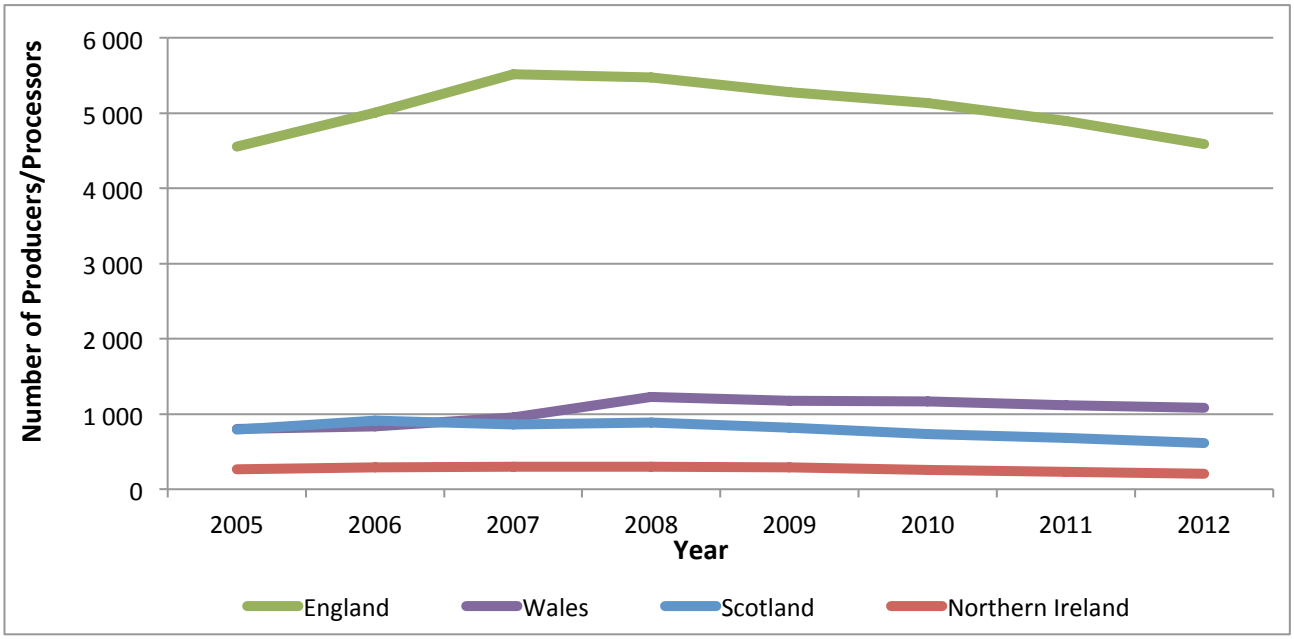
Figure 1.3 Share of Total Utilised Agricultural Area (UAA) occupied by organic farming in European countries
Source: Euro Stat (2013)



1.2 Producers

The number of organic producers and processors peaked earlier (2007/08) than the area of organic land (2008/09) in all countries of the UK. Producer and processor numbers have been steadily declining in the past four years (Figure 1.4). England has considerably greater numbers of organic producers and processors than other countries in the UK. Further, while Scotland has more land in organic production than Wales (Figure 1.2), it has fewer producers and processors; this is due to a greater proportion of Scottish organic farms being large upland hill farms.

Figure 1.4 Number of organic producers and processors in the UK
Source: DEFRA (2013)



1.3 Output and sales

Sales of organic food and drink soared before the 2008 recession rising from £800m in 2000 to £2.1bn in 2008 (Bawden, 2013). However, both value sales and the percentage of all food and drink market occupied by organic products have fallen steadily since (Figure 1.5). The 2008 recession caused consumers to turn away from organic products and their typically higher prices and instead, opt for cheaper alternatives. Mintel (2013) did however forecast a 0.6% value sales rise for 2013 citing increasing consumer confidence and the "positive" effect of the horsemeat scandal as the main influences. Data on whether this forecast prevailed is yet to be released.

The general trend of reducing sales can be seen in the 2011/12 figures for supermarket sales of organic food products. Only fresh fish and bread experienced a rise in volume sales, 1.4%

and 1.5% respectively. Pork (-29.7%), poultry (-29.9%) and eggs (-29.7%) all saw significant reductions in supermarket sales. The fall in egg sales was partly due to supermarkets reducing shelf space and availability (Soil Association, 2013b).

Changes in agricultural output varied between different food products for 2011/12. Lamb (18.4%), pork (11.1%) and fresh fish (10.0%) experienced strong growth in output while the poultry and egg sector saw considerable reductions, -26.7% and -21.0% respectively (Table 1.1).

Figure 1.5 UK retail sales of organic food
Source: Mintel (2013)

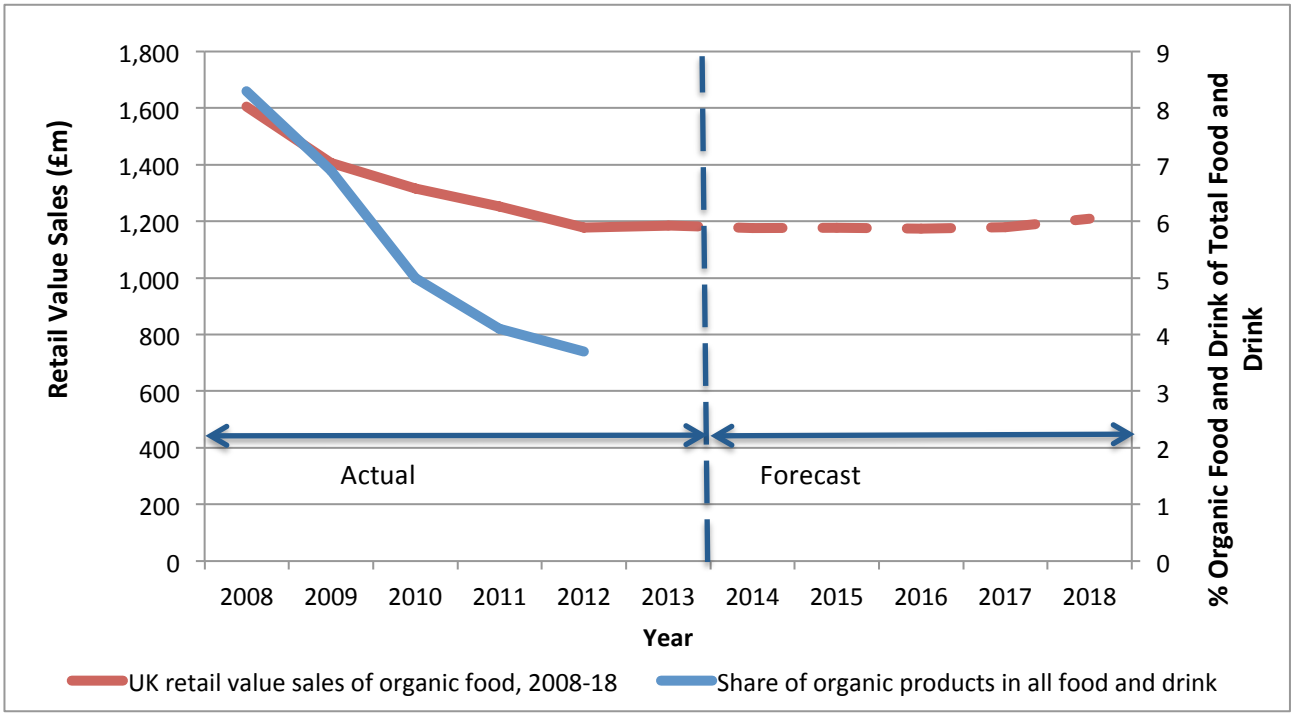


Table 1.1 UK organic agricultural output and supermarket sales 2011/12 (Soil Association, 2013b)

Product	2011/12 % change in output	2011/12 % Change in volume sales
Cereals: All	-7.7	N/A
Cereals: Bread	N/A	+1.5
Horticulture	-10.0	-7.7
Beef	-4.4	-1.1
Lamb	+18.4	-2.2
Pork	+11.1	-29.7
Poultry	-26.7	-29.9
Eggs	-21.0	-29.7
Milk	-15.0	-4.4
Fresh Fish	+10.0	+1.4

2 METHODS

This report presents financial and physical farm data for the 2011/12 and 2012/13 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 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 2012/13. The organic farm data are presented as full and identical samples where applicable and 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 2012 and 5th April 2013 and consequently reflect the 2012 lamb crops and the 2012 arable harvest.

2.1 Data sample: farm type and region

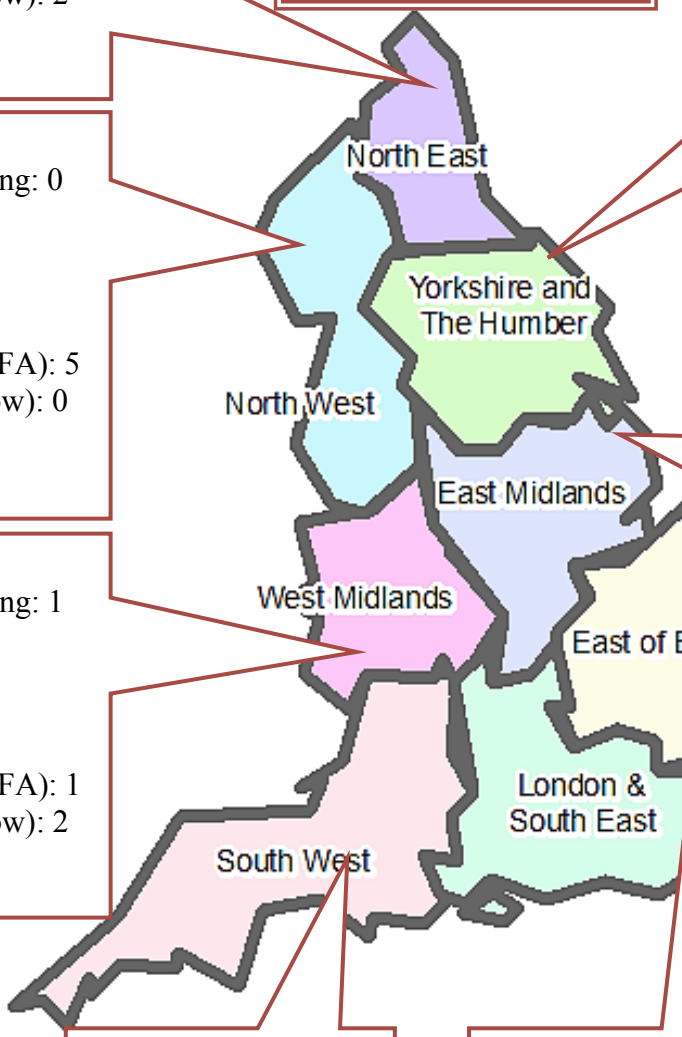
The 2012/13 Farm Business Survey data set has 1919 farm records of which 162 are organic. However, this report uses records from 1877 farms of which 159 are organic; farms with weights of 0 have been excluded. 140 of the 159 organic farms are entirely organic; the remaining 19 farms have some non-organic enterprises. The distribution of useable surveyed organic farms by type and region are presented in Table 2.1 and Figure 2.1.

Table 2.1 Distribution of useable surveyed organic farms by type and region, 2012/13

Robust farm type	North East	North West	Yorks./ Humb	East Mids.	West Mids.	East of England	South East	South West	All
Cereals	2	0	0	0	0	5	2	5	14
General cropping	0	0	1	0	1	4	1	2	9
Horticulture	0	1	1	0	2	6	3	0	13
Pigs	0	0	0	0	1	0	0	0	1
Poultry	0	0	1	1	1	0	0	0	3
Dairy	1	8	2	3	7	0	5	13	39
LFA Grazing	9	5	0	1	1	0	0	6	22
Lowland Grazing	2	0	1	4	2	2	4	18	33
Mixed	1	1	3	2	3	2	5	8	25
All farms	**15**	**15**	**9**	**11**	**18**	**19**	**20**	**52**	**159**

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

Figure 2.1 Distribution of useable surveyed organic farms by type and region, 2012/13 (> 70% UA certified organic)



All Farms: 159
Cereals: 14
General Cropping: 9
Horticulture: 13
Pigs: 1
Poultry: 3
Dairy (low): 39
Cattle/sheep (LFA): 22
Cattle/sheep (low): 33
Mixed: 25

Cereals: 2
General Cropping: 0
Horticulture: 0
Pigs: 0
Poultry: 0
Dairy (low): 1
Cattle/sheep (LFA): 9
Cattle/sheep (low): 2
Mixed: 1
All Farms: 15

Cereals: 0
General Cropping: 1
Horticulture: 1
Pigs: 0
Poultry: 1
Dairy (low): 2
Cattle/sheep (LFA): 0
Cattle/sheep (low): 1
Mixed: 3
All Farms: 9

Cereals: 0
General Cropping: 0
Horticulture: 1
Pigs: 0
Poultry: 0
Dairy (low): 8
Cattle/sheep (LFA): 5
Cattle/sheep (low): 0
Mixed: 1
All Farms: 15

Cereals: 0
General Cropping: 0
Horticulture: 0
Pigs: 0
Poultry: 1
Dairy (low): 3
Cattle/sheep (LFA): 1
Cattle/sheep (low): 4
Mixed: 2
All Farms: 11

Cereals: 0
General Cropping: 1
Horticulture: 2
Pigs: 1
Poultry: 1
Dairy (low): 7
Cattle/sheep (LFA): 1
Cattle/sheep (low): 2
Mixed: 3
All Farms: 18

Cereals: 5
General Cropping: 4
Horticulture: 6
Pigs: 0
Poultry: 0
Dairy (low): 0
Cattle/sheep (LFA): 0
Cattle/sheep (low): 2
Mixed: 2
All Farms: 19

Cereals: 5
General Cropping: 2
Horticulture: 0
Pigs: 0
Poultry: 0
Dairy (low): 13
Cattle/sheep (LFA): 6
Cattle/sheep (low): 18
Mixed: 8
All Farms: 52

Cereals: 2
General Cropping: 1
Horticulture: 3
Pigs: 0
Poultry: 0
Dairy (low): 5
Cattle/sheep (LFA): 0
Cattle/sheep (low): 4
Mixed: 5
All Farms: 20

2.2 Data sample: farm type and size

The distribution of the sample by farm size and farm type is shown in Table 2.2. The farm size categories are based on the 2007SO (Standard Output) used by DEFRA, see Appendix 7 for more information. Farm area, unless specified as Utilisable Agricultural Area (UAA) is the total adjusted area farmed including shared grazing and short term rentals (less than 1 year and net of let in and let out).

The 2012/13 dataset was more evenly distributed by size than the 2011/12 dataset. Small farm businesses contributed the largest proportion to the data set with 39% while medium and large farms were evenly represented with approximately 30% each. Dairy and lowland grazing farm types made up the largest proportion of the data sample with nearly 25%.

Table 2.2 Sample distribution by robust farm type and size (2007SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000	Large (>€250,000)	All
Cereals	5	5	4	14
General cropping	3	4	2	9
Horticulture	5	5	3	13
Pigs	0	0	1	1
Poultry	1	1	1	3
Dairy	1	13	25	39
LFA Grazing	11	6	5	22
Lowland Grazing	25	7	1	33
Mixed	11	7	7	25
All	**62**	**48**	**49**	**159**

2.3 Data sample: Limitations

Due to the small sample size of the organic general cropping farm type (9), this robust farm type has been merged with organic cereals for the purposes of this report. Further, there are insufficient organic pig (1) and poultry (3) farms to present their data.

In the horticulture group some care must be taken in interpreting the results. The sample of 13 farms is composed of 3 subgroups: 4 specialist fruit, 3 specialist glass and 6 other horticulture, i.e. not a uniform group of producers. Nonetheless year-on-year results are presented from an identical sample and the data remains a robust indicator of the trends. Furthermore the non-organic sample (194) has as subgroup composition of 48 specialist fruit, 64 specialist glass, 38 specialist hardy nursery stock and 44 other horticulture, clearly not perfectly comparable to the organic sample and hence the degree of caution advised above.

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 late 2000's; 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 rental values for owner-occupied land and unpaid labour, both of which are included in NFI.

NFI "was designed as a measure which would allow individual farms of different tenure, business organisation and indebtedness to be compared directly with one another on a consistent basis" (SEERAD, 2006: p. 10) and is thus a good benchmarking measure. However unlike FBI, interest payments are not considered in NFI.

Alternative measures of income, namely Farm Corporate Income (FCI), Farm Investment Income (FII) are presented in Appendix 1. FCI and FII allow for easier calculations of financial ratios such as return on capital employed. Further, the measures allow for more accurate comparisons with incorporated businesses and thus help when comparing businesses at different levels of the supply chain. A further measure of Management and Investment Income (MII) has also been included in the farm type tables (Table 3.8 to 3.19). 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 labour. A definition of terms explaining the various income measures is included in Appendix 7.

The measure of Farm area used throughout this report, unless otherwise specified, is the total adjusted area farmed including common grazing and short term lets taken in (net of land let out). 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 7.

3.2 Farm size

Figure 3.1 Farm size (2007SO) and farm area (ha) of organic and non-organic farms by farm type 2012/13

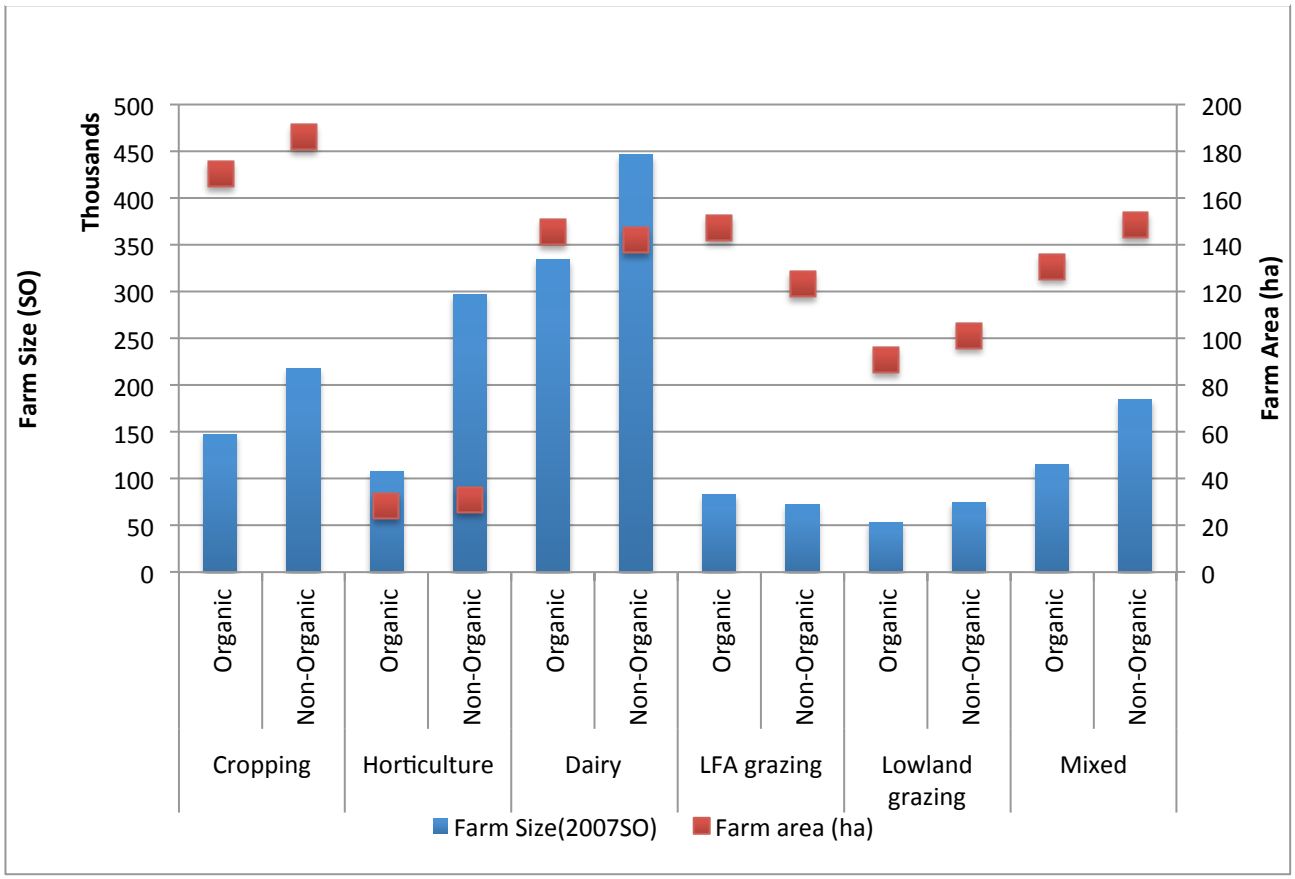


Figure 3.1 shows farm size, measured by Standard Outputs (see Appendix 7), and farm area (total adjusted area farmed) for organic and non-organic farms by farm type for the 2012/13 full sample. Organic farms were typically smaller in area for the majority of farm types; the exceptions being dairy and LFA grazing farms.

Further, with the exception of LFA grazing farms, farm size by standard output was greater for non-organic farm types than their organic counterparts. These results suggest that, in general, non-organic production was more intensive on an area basis than organic production.

3.3 Farm Business Output

Figure 3.2 Composition of Farm Business Output by source by farm type for organic and non-organic farms 2012/13

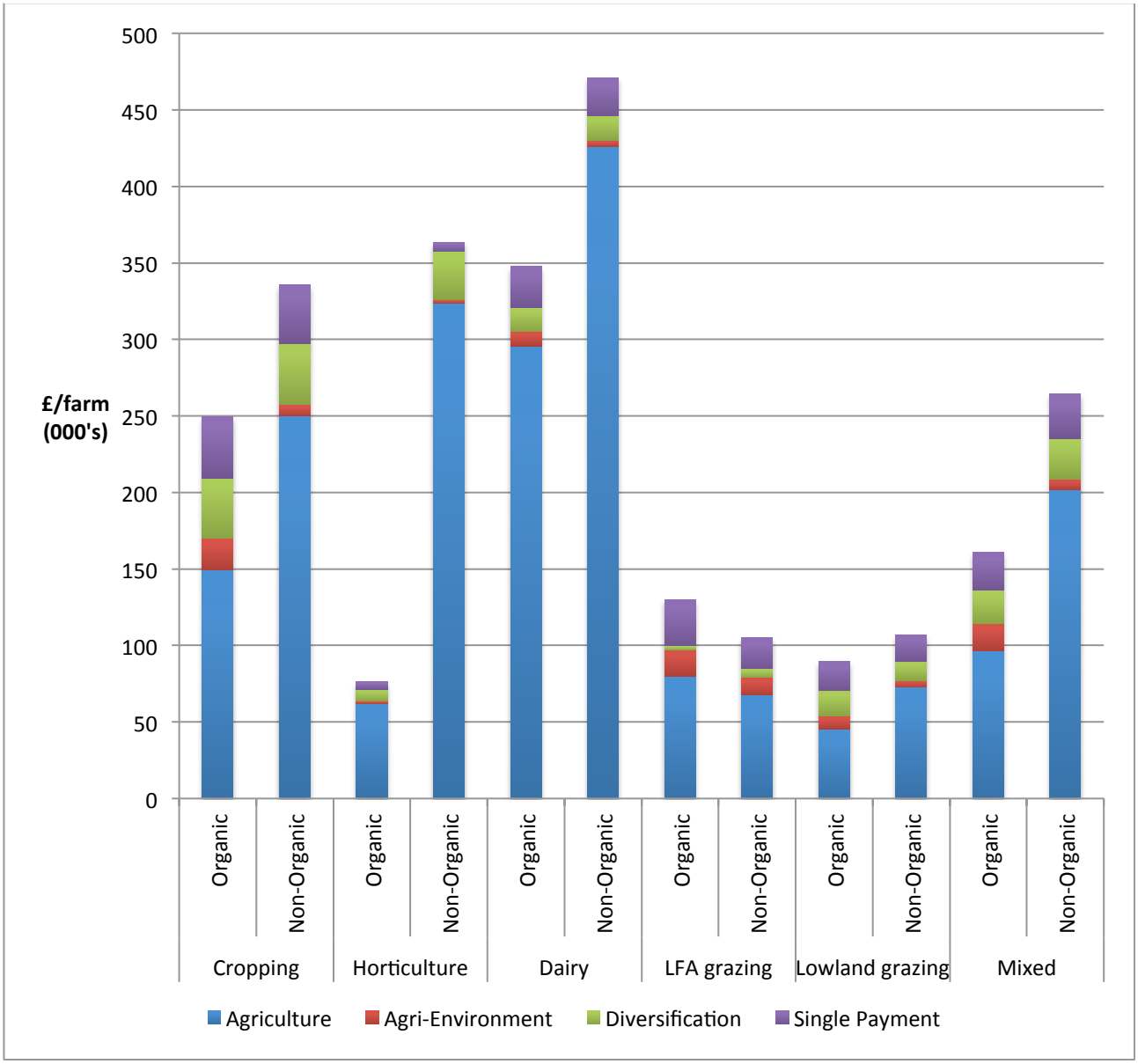
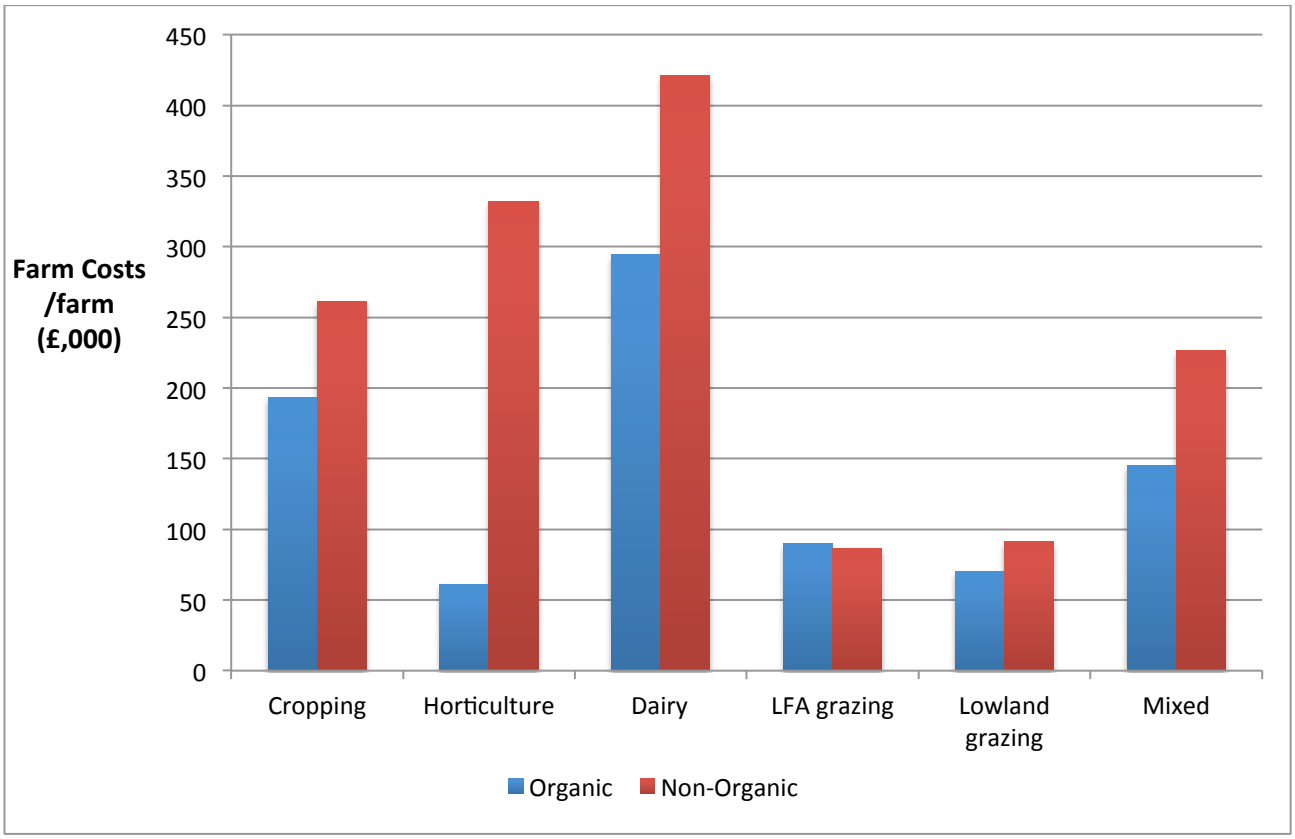


Figure 3.2 shows the composition of Farm Business Output for organic and non-organic farms by farm type for the 2012/13 full sample. With the exception of LFA grazing, non-organic farms achieved greater Farm Business Output than their organic equivalents. Agriculture remained the largest component of Farm Business Output for all farm types both organic and non-organic. However, organic farms earned consistently more through agri-environmental schemes than non-organic farms. There were less consistent findings for the remaining components of output, diversification and the Single Payment Scheme.

3.4 Costs

Figure 3.3 Total costs for organic and non-organic farms by farm type group 2012/13



Total costs were greater for non-organic farms than organic farms, with the exception of LFA grazing, according to the 2012/13 full sample (Figure 3.3); the main source of difference occurring in variable costs.

The considerable differences in total costs between organic and non-organic horticultural farms can be attributed to lower crop variable costs, paid labour and other costs.

Organic LFA grazing farms, despite having lower variable costs, had greater contract, paid labour and machinery costs than their organic counterparts. This resulted in organic LFA grazing farms having greater total costs, albeit only a small difference, than their non-organic equivalents.

3.5 Farm Business Income

3.5.1 Year-on-year (identical sample)

Figure 3.4 FBI/farm for organic farms by farm type group 2011/12 and 2012/13

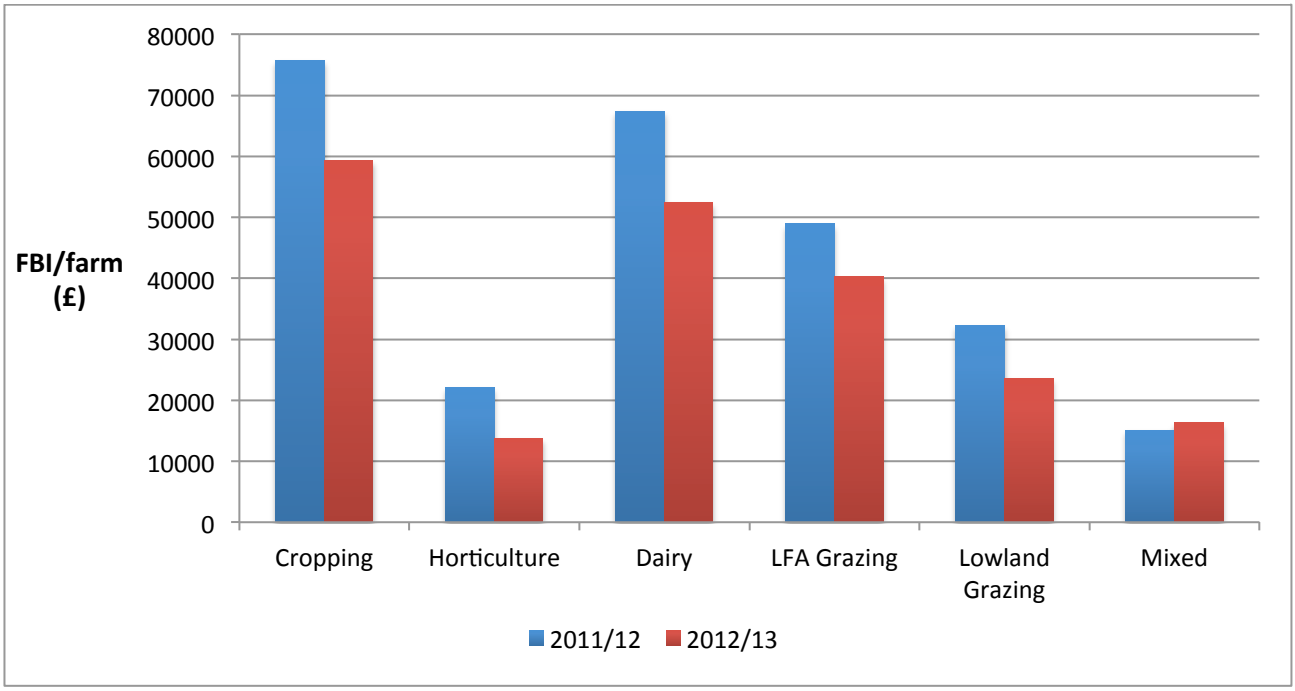


Table 3.1 FBI for organic farms by farm type 2011/12 and 2012/13

	2011/12 (identical sample)				2012/13 (identical sample)			
	No farms in sample	No farms weighted	FBI - £/farm	FBI - £/ha (UAA)	No farms in sample	No farms weighted	FBI - £/farm	FBI - £/ha (UAA)
Cropping	21	298	75784	418	21	218	59301	320
Horticulture	10	104	22040	535	10	108	13723	342
Dairy	37	304	67308	526	37	297	52353	390
LFA Grazing	22	246	48920	274	22	169	40238	168
Lowland Grazing	27	661	32211	358	27	617	23539	252
Mixed	18	219	6789	50	18	215	8703	64

Table 3.2 Year-on-year differences in FBI for organic farms by farm type 2011/12 and 2012/13 - per farm (identical sample)

FBI/Farm (£)	2011/12 Mean	2012/13 Mean	Difference	Significance
Cropping	75784	59301	-16483	-
Horticulture	22040	13723	-8317	-
Dairy	67308	52353	-14954	-
LFA Grazing	48920	40238	-8682	**
Lowland Grazing	32211	23539	-8672	-
Mixed	6789	8703	1914	-
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Table 3.3 Year-on-year differences in FBI for organic farms by farm type 2011/12 and 2012/13 - per ha (UAA) (identical sample)

FBI/ha UAA (£) 2012/13	2011/12 Mean	2012/13 Mean	Difference	Significance
Cropping	418	320	-97	-
Horticulture	535	342	-192	*
Dairy	526	390	-136	**
LFA Grazing	274	168	-105	**
Lowland Grazing	358	252	-107	-
Mixed	50	64	14	-
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Figure 3.4 and Table 3.1 show FBI/farm for organic farm types using an identical sample for 2011/12 and 2012/13. Both FBI/farm and FBI/ha decreased year-on-year for all farm types with the exception of mixed farms.

Table 3.2 and Table 3.3 show the year-on-year statistical differences in FBI/farm and FBI/ha (UAA) for organic farm types. The data shows that at farm level only LFA grazing farms had a significantly lower FBI year-on-year; this was a moderately significant statistical difference. However, for FBI/ha (UAA), horticulture farms had a slight statistically significant difference, and dairy and LFA grazing had a moderate statistically significant difference year-on-year.

3.5.2 Organic versus non-organic (full sample)

Figure 3.5 FBI/farm for organic and non-organic farms by farm type 2012/13

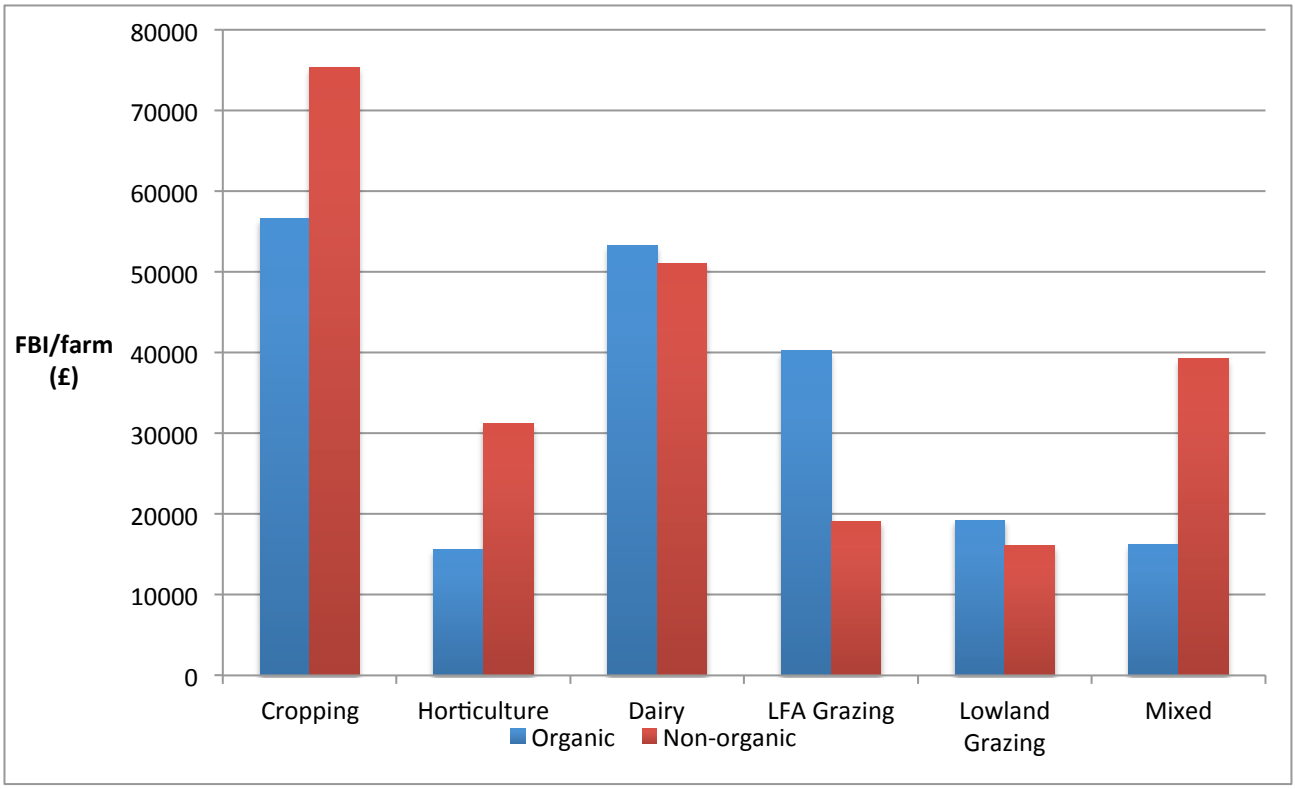


Table 3.4 FBI for organic and non-organic farms by farm type 2012/13

2012/13 (full sample)		Number of farms (sample)	Number of farms (weighted)	FBI - £/farm	FBI – £/ha (UAA)
Cropping	Organic	23	335	56619	291
	Non-organic	468	18894	75388	387
Horticulture	Organic	13	233	15656	550
	Non-organic	194	3157	31198	903
Dairy	Organic	39	305	53315	394
	Non-organic	275	6616	51096	370
LFA Grazing	Organic	22	169	40238	168
	Non-organic	224	6010	19121	130
Lowland Grazing	Organic	33	834	19227	204
	Non-organic	234	11149	16047	158
Mixed	Organic	25	306	16280	120
	Non-organic	168	5404	39339	257

Table 3.5 Differences in FBI between organic and non-organic farms 2012/13 - per farm

FBI/Farm (£) 2012/13	Organic Mean	Non-organic Mean	Difference	Significance
Cropping	56619	75388	-18770	*
Horticulture	15656	31198	-15542	**
Dairy	53315	51096	2219	-
LFA Grazing	40238	19121	21117	**
Lowland Grazing	19227	16047	3180	-
Mixed	16280	39339	-23060	**
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Table 3.6 Differences in FBI between organic and non-organic farms 2012/13 - per ha (UAA)

FBI/ha UAA (£) 2012/13	Organic Mean	Non-organic Mean	Difference	Significance
Cropping	291	387	-96	*
Horticulture	550	903	-353	-
Dairy	394	370	25	-
LFA Grazing	168	130	38	*
Lowland Grazing	204	158	47	**
Mixed	120	257	-136	**
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Figure 3.5 and Table 3.4 show FBI/ha for organic and non-organic farms by farm type for 2012/13 using the full sample. The data shows that FBI was greater for organic farms compared to non-organic farms for dairy, LFA grazing and lowland grazing farm types both at farm and hectare level. This is an interesting finding considering FBI for organic farms decreased for all farm types year-on-year (Figure 3.4). In addition, the result represents a substantial change from 2011/12 where only the LFA grazing farm type had a greater FBI for organic farms compared to non-organic.

Table 3.5 and Table 3.6 show the statistical differences between FBI for organic and non-organic farm types on farm and hectare levels. The data shows that while there were no statistically significant differences in FBI/farm between lowland grazing and dairy farm types, there were moderate statistically significant differences for horticulture, LFA grazing and mixed farms. There were also moderate statistically significant differences in FBI/ha for LFA grazing and mixed farms.

3.6 Net Farm Income

Figure 3.6 NFI/farm for organic and non-organic farms by farm type 2012/13

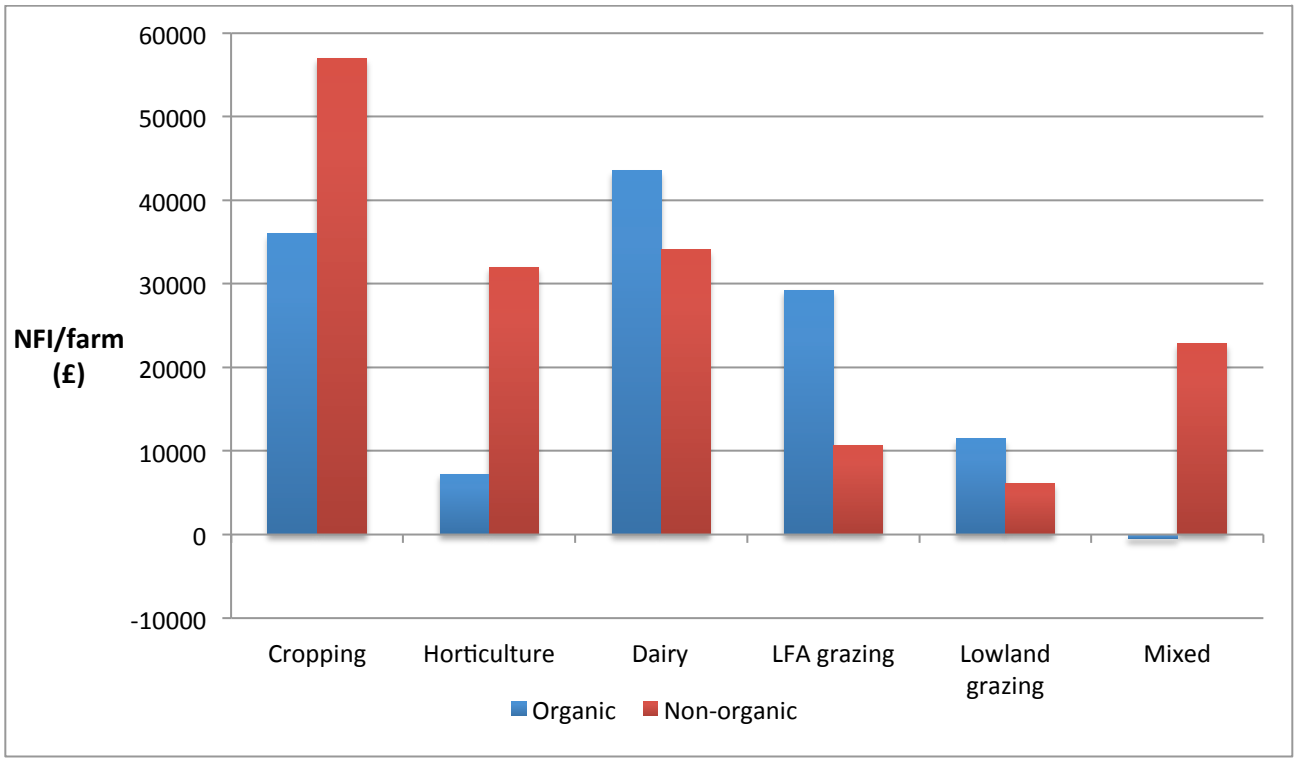


Table 3.7 Differences in NFI between organic and non-organic farms 2012/13 - per farm

NFI/Farm (£) 2012/13	Organic Mean	Non-Organic Mean	Difference	Significance
Cropping	35982	56957	-20974	*
Horticulture	7197	31986	-24789	***
Dairy	43499	34079	9420	-
LFA Grazing	29233	10694	18539	**
Lowland Grazing	11445	6090	5355	**
Mixed	-504	22846	-23349	***
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Figure 3.6 and Table 3.7 show NFI/farm for organic and non-organic farms for 2012/13. The data shows that non-organic cropping, horticulture and mixed farms all had greater NFI/farm; indeed the differences were all statistically significant. However, organic dairy, LFA grazing and lowland grazing farms had greater NFI/farm than their non-organic counterparts, though only LFA grazing and lowland grazing organic farms had statistically significant differences to their non-organic equivalents.

3.7 Farm Types

The following section provides breakdowns of farm types into output sources, cost centres and farm income measures for both organic farms year-on-year (2011/12 - 2012/13) using an identical sample and for organic and non-organic farms for 2012/13 using a full sample.

3.7.1 Cropping farms

The organic cropping sample contains farms from both cereal and general cropping farm types; 4 of which have shifted between cereal and general cropping farm types year-on-year.

Year-on-Year

Farm Business Output decreased substantially for organic cropping farms. This was largely due to a fall in output from agriculture (14% at farm level) though earnings from Single Payment Scheme also decreased slightly and despite a small increases in diversification and agri-environment revenues. The fall in revenues from agriculture was due to a reduction in crop output (95% of agricultural output) of 15%. 2012 was an exceptionally wet year (32% above average rainfall) and the harvest was taken in difficult conditions. Crop yields were markedly reduced and modest price increases failed to compensate. Total costs decreased for organic cropping farms year-on-year both at farm and hectare level; reductions in crop variable costs, contract costs and other costs being the main causes.

Despite the reduction in total costs, Farm Business Income and Net Farm Income reduced by 20% and 30% at farm level respectively year-on-year for organic cropping farms.

Organic vs Non-Organic

Table 3.9 shows that non-organic cropping farms had considerably greater Farm Business Output than their organic counterparts in 2012/13. While organic farms had much greater earnings from agri-environment payments, non-organic farms earned 67% more from agriculture at farm level.

Non-organic cropping farms had over 35% greater costs than organic farms at farm level in 2012/13. Crop variable costs, in the form of fertiliser and crop protection costs, and the machinery component of fixed costs were considerably higher for non-organic farms. While organic farms in the full sample had lower total costs, Farm Business Income was greater for non-organic farms in 2012/13.

Further detailed commentary on organic cropping farm performance is given in Appendix 2.

Table 3.8 Organic cropping farms identical sample 2011/12 and 2012/13

The average cropping farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	21			21		
Number (weighted)	298			318		
Farm size (07SO)	148,459			142,947		
Farm area (ha)	166.2			162.5		
Grazing livestock units	11.9			12.8		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	172,230	1036	64%	148,207	912	60%
Livestock component	5,535	33	*3%*	7,021	43	*5%*
Crop component	166,695	1003	*97%*	141,186	869	*95%*
Agri-environment and other payments	17,504	105	7%	19,245	118	8%
Diversification & miscellaneous	39,457	237	15%	40,353	248	16%
Single Payment Scheme	39,766	239	15%	38,187	235	16%
Farm Business Output	**268,957**	**1619**	**100%**	**245,992**	**1514**	**100%**
Livestock variable costs:	2,199	13	1%	2,645	16	2%
Feed	937	6	*43%*	1,156	7	*44%*
Vet & medicine	258	2	*12%*	294	2	*11%*
Other livestock costs	1,004	6	*46%*	1,195	7	*45%*
Crop variable costs:	32,339	195	17%	30,882	190	17%
Seed	15,505	93	*44%*	16,894	104	*54%*
Fertiliser	3,136	19	*10%*	3,853	24	*12%*
Crop protection	1,086	7	*3%*	1,433	9	*4%*
Other crop costs	12,612	76	*42%*	8,701	54	*30%*
Contract	24,283	146	12%	20,190	124	11%
Paid Labour	27,338	165	14%	28,642	176	15%
Machinery:	44,300	267	23%	45,781	282	25%
Fuel & oil	13,231	80	*31%*	12,350	76	*28%*
Repairs	11,841	71	*26%*	11,659	72	*23%*
Depreciation	19,229	116	*43%*	21,773	134	*49%*
Paid Rents	14,687	88	8%	15,725	97	8%
Other costs	49,355	297	25%	43,409	267	23%
Total Costs	**194,502**	**1170**	**100%**	**187,274**	**1153**	**100%**
Profit/(loss) on sale of fixed assets	1,329			582		
Farm Business Income	**75,784**	**456**		**59,301**	**365**	
Unpaid manual labour excl. farmer & spouse	2,203	13		2,548	16	
Interest payments	1,789	11		2,140	13	
Imputed rents	28,486	171		29,054	179	
Director's remuneration	3,964	24		2,643	16	
Ownership costs	6,517	39		6,704	41	
Net Farm Income	**57,365**	**345**		**39,184**	**241**	
Farmer & Spouse unpaid labour	12,532	75		13,868	85	
Paid managerial labour	862	5		923	6	
Management and Investment Income	**45,695**	**275**		**26,240**	**161**	

Table 3.9 Organic and non-organic cropping farms full sample 2012/13

The average cropping farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	468			23		
Number (weighted)	18,894			335		
Farm size (07SO)	217,407			147,326		
Farm area (ha)	186.1			170.3		
Grazing livestock units	14.0			13.0		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	250,246	1,345	75%	149,555	878	60%
Livestock	10,549	57	*4%*	7,253	43	*5%*
Crops	239,697	1,288	*96%*	142,301	835	*95%*
Agri-environment and other payments	7,271	39	2%	20,643	121	8%
Diversification & miscellaneous	39,687	213	12%	39,067	229	16%
Single Payment Scheme	38,391	206	11%	40,233	236	16%
Farm Business Output	**335,595**	**1,804**	**100%**	**249,497**	**1,465**	**100%**
Livestock variable costs:	6,047	33	2%	2,695	16	2%
Feed	3,797	20	*63%*	1,164	7	*43%*
Vet & medicine	469	3	*8%*	324	2	*12%*
Other livestock costs	1,782	10	*29%*	1,207	7	*45%*
Crop variable costs:	91,565	492	36%	31,764	186	17%
Seed	14,748	79	*16%*	17,174	101	*54%*
Fertiliser	36,370	195	*40%*	4,464	26	*14%*
Crop protection	31,250	168	*34%*	1,360	8	*4%*
Other crop costs	9,198	49	*10%*	8,766	51	*28%*
Contract	18,059	97	7%	23,690	139	12%
Paid Labour	23,810	128	9%	29,171	171	15%
Machinery:	57,969	312	22%	45,385	266	23%
Fuel & oil	15,843	85	*27%*	12,213	72	*27%*
Repairs	13,980	75	*24%*	11,549	68	*25%*
Depreciation	28,145	151	*49%*	21,623	127	*48%*
Paid Rents	17,749	95	7%	15,267	90	8%
Other costs	46,286	249	18%	45,593	268	24%
Total Costs	**261,484**	**1,405**	**100%**	**193,566**	**1,136**	**100%**
Profit/(loss) on sale of fixed assets	1,277			687		
Farm Business Income	**75,388**	**405**		**56,619**	**332**	
Unpaid manual labour excl. farmer & spouse	5,826	31		2,418	14	
Interest payments	4,840	26		3,018	18	
Imputed rents	26,722	144		30,855	181	
Director's remuneration	1,961	11		2,543	15	
Ownership costs	7,316	39		7,076	42	
Net Farm Income	**56,957**	**306**		**35,982**	**211**	
Farmer & Spouse unpaid labour	16,675	90		13,457	79	
Paid managerial labour	191	1		876	5	
Management and Investment Income	**40,473**	**218**		**23,401**	**137**	

3.7.2 Horticulture

As with previous years, the sample of horticulture organic farms was low with only 10 farms in the identical sample (Table 3.10) and 13 in the full sample (Table 3.11). Caution must be taken when making conclusions about the horticulture sample due to the very diverse nature of enterprises contained within the sample, see Section 2.3 Data sample: Limitations.

Year-on-Year

Farm Business Output decreased year-on-year for organic horticulture farms. While there were reductions in agri-environment payments and the Single Payment Scheme, the reduction in the crop component of agriculture was the main reason for the overall fall. Total costs decreased, though only slightly, for organic farms year-on-year; reductions in crop variable costs, contract costs and paid labour were offset by increases in livestock variable costs, machinery costs and paid rents.

Farm Business Income, Net Farm Income and Management and Investment Income all decreased for organic farms year-on-year. In fact, Management and Investment Income was negative for organic farms meaning that after the subtraction of farmer and spouse unpaid labour, the average horticulture farm made a loss.

Organic vs Non-Organic

The full sample shows substantial differences between non-organic and organic horticulture farms. While farm area is similar for both non-organic and organic farms, it is evident from the farm size data that the production on the non-organic farms is much more intensive than that of the organic farms. In contrast to the non-organic farms, organic farms do have a significant livestock enterprise which suggests a more integrated farming regime than their non-organic, more specialist, counterparts. Output is 375% greater for non-organic farms than organic farms at farm level in 2012/13, the main cause being the crop component of agriculture, though diversification output was also larger for non-organic farms.

Total costs were much greater for non-organic farms. Despite organic farms having higher livestock variable costs, non-organic farms had much greater crop variable costs, paid labour, machinery costs and other costs.

Farm Business Income was nearly 100% greater for non-organic farms both at farm and hectare level. The difference was even greater for Net Farm Income and Management and Investment Income.

Table 3.10 Organic horticulture farms identical sample 2011/12 and 2012/13

The average horticulture farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	10			10		
Number (weighted)	104			108		
Farm size (07SO)	144,341			150,626		
Farm area (ha)	40.4			39.5		
Grazing livestock units	13.7			18.3		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	118,040	2,921	84%	107,670	2,729	83%
Livestock component	10,246	254	*9%*	15,905	403	*15%*
Crop component	107,794	2,668	*91%*	91,765	2,326	*85%*
Agri-environment and other payments	4,048	100	3%	3,080	78	2%
Diversification & miscellaneous	10,547	261	7%	11,755	298	9%
Single Payment Scheme	8,111	201	6%	6,896	175	5%
Farm Business Output	**140,747**	**3,483**	**100%**	**129,401**	**3,280**	**100%**
Livestock variable costs:	4,086	101	3%	5,920	150	6%
Feed	1,608	40	*39%*	3,247	82	*55%*
Vet & medicine	747	18	*18%*	838	21	*14%*
Other livestock costs	1,731	43	*42%*	1,834	46	*31%*
Crop variable costs:	34,558	855	30%	31,079	788	27%
Seed	6,740	167	*20%*	7,577	192	*24%*
Fertiliser	1,052	26	*3%*	1,151	29	*4%*
Crop protection	2,075	51	*6%*	2,353	60	*8%*
Other crop costs	24,691	611	*71%*	19,997	507	*64%*
Contract	5,040	125	4%	4,425	112	4%
Paid Labour	27,038	669	23%	26,910	682	23%
Machinery:	20,966	519	18%	22,006	558	19%
Fuel & oil	4,223	105	*20%*	6,448	163	*29%*
Repairs	6,715	166	*32%*	5,907	150	*27%*
Depreciation	10,027	248	*48%*	9,651	245	*44%*
Paid Rents	755	19	1%	1,088	28	1%
Other costs	26,269	650	22%	24,160	612	21%
Total Costs	**118,711**	**2938**	**100%**	**115,589**	**2930**	**100%**
Profit/(loss) on sale of fixed assets	4			-89		
Farm Business Income	**22,040**	**545**		**13,723**	**348**	
Unpaid manual labour excl. farmer & spouse	1,960	49		2,091	53	
Interest payments	1,394	35		1,752	44	
Imputed rents	16,173	400		13,501	342	
Director's remuneration	0	0		0	0	
Ownership costs	8,199	203		6,557	166	
Net Farm Income	**13,499**	**334**		**6,439**	**163**	
Farmer & Spouse unpaid labour	19,523	483		21,657	549	
Paid managerial labour	142	4		180	5	
Management and Investment Income	**-5,882**	**-146**		**-15,038**	**-381**	

Table 3.11 Organic and non-organic horticulture farms full sample 2012/13

The average horticulture farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	194			13		
Number (weighted)	3,157			233		
Farm size (07SO)	297,328			107,220		
Farm area (ha)	31.0			28.2		
Grazing livestock units	2.2			10.6		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	323,850	10,430	89%	62,011	2,202	81%
Livestock	1,146	37	*0%*	8,031	285	*13%*
Crops	322,705	10,394	*100%*	53,980	1,917	*87%*
Agri-environment and other payments	1,917	62	1%	1,538	55	2%
Diversification & miscellaneous	31,714	1,021	9%	7,690	273	10%
Single Payment Scheme	6,146	198	2%	5,154	183	7%
Farm Business Output	**363,627**	**11,712**	**100%**	**76,393**	**2,713**	**100%**
Livestock variable costs:	822	26	0%	3,209	114	6%
Feed	392	13	*48%*	1,820	65	*57%*
Vet & medicine	84	3	*10%*	389	14	*12%*
Other livestock costs	345	11	*42%*	1,001	36	*31%*
Crop variable costs:	133,561	4,302	40%	15,968	567	27%
Seed	61,919	1,994	*46%*	4,210	150	*26%*
Fertiliser	13,403	432	*10%*	617	22	*4%*
Crop protection	10,416	335	*8%*	1,092	39	*7%*
Other crop costs	47,822	1,540	*36%*	10,049	357	*63%*
Contract	5,260	169	2%	2,053	73	3%
Paid Labour	101,918	3,283	31%	12,488	443	21%
Machinery:	30,055	968	9%	12,668	450	20%
Fuel & oil	7,795	251	*26%*	3,922	139	*31%*
Repairs	9,828	317	*33%*	3,106	110	*25%*
Depreciation	12,432	400	*41%*	5,640	200	*45%*
Paid Rents	6,863	221	2%	688	24	1%
Other costs	53,850	1,734	16%	13,621	484	22%
Total Costs	**332,328**	**10,704**	**100%**	**60,696**	**2156**	**100%**
Profit/(loss) on sale of fixed assets	-101			-41		
Farm Business Income	**31,198**	**1,005**		**15,656**	**556**	
Unpaid manual labour excl. farmer & spouse	5,328	172		4,443	158	
Interest payments	3,352	108		973	35	
Imputed rents	9,098	293		8,370	297	
Director's remuneration	7,576	244		0	0	
Ownership costs	4,286	138		3,382	120	
Net Farm Income	**31,986**	**1,030**		**7,197**	**256**	
Farmer & Spouse unpaid labour	23,731	764		27,877	990	
Paid managerial labour	618	20		83	3	
Management and Investment Income	**8,872**	**286**		**-20,596**	**-731**	

3.7.3 Dairy

Year-on-Year

Table 3.12 shows that Farm Business Output for organic dairy farms increased, albeit slightly, year-on-year. Output from agriculture, agri-environment payments and diversification and miscellaneous all increased though earnings from the Single Payment Scheme did decrease marginally.

Total costs increased for organic farms year-on-year by 9%. Variable costs, and in particular feed costs (up 8%) and other livestock costs (including bedding, up 17%) were responsible for the majority of the increase. This is because the abnormally wet summer of 2012 resulted in poor and limited forage crops, and the prolonged cold winter of 2012/13 meant an increased housing period and feeding requirement for all stock. Despite the 3% increase in Farm Business Output, Farm Business Income decreased for organic farms year-on-year by just over 20%.

Organic vs Non-Organic

The full sample shows that despite similar farm areas, non-organic farms had 34% more grazing livestock units compared to their organic equivalents (Table 3.13). This suggests that non-organic farms operated a more intensive production system.

Organic farms obtain twice the revenues from agri-environment payments than the non-organic farms but then derive 31% less output from agriculture. Diversification and Single Payments are roughly equal and overall the Farm Business Output was 26% higher for non-organic farms in 2012/13.

The full sample also shows that non-organic dairy farms incurred 43% higher total costs than organic farms. The main reasons for this were higher livestock variable costs (by 45%) principally feed, and higher crop variable costs (by 470%) mainly fertiliser, and machinery costs (42% more than on organic farms).

Farm Business Income, Net Farm Income and Management and Investment income were all greater for organic farms than non-organic farms in 2012/13; a change from the previous year's full sample results.

Further detailed commentary on organic dairy farm performance is given in Appendix 5.

Table 3.12 Organic dairy farms identical sample 2011/12 and 2012/13

The average dairy farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	37			37		
Number (weighted)	304			297		
Farm size (07SO)	332,759			335,104		
Farm area (ha)	133.9			145.1		
Grazing livestock units	172.6			174.3		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	287,543	2,148	85%	295,499	2,036	85%
Livestock component	276,553	2,066	*96%*	283,680	1,955	*96%*
Crop component	10,990	82	*4%*	11,820	81	*4%*
Agri-environment and other payments	8,180	61	2%	9,464	65	3%
Diversification & miscellaneous	14,919	111	4%	15,721	108	5%
Single Payment Scheme	27,930	209	8%	26,870	185	8%
Farm Business Output	**338,572**	**2,529**	**100%**	**347,555**	**2,395**	**100%**
Livestock variable costs:	119,367	892	44%	132,061	910	45%
Feed	83,608	625	*70%*	90,708	625	*69%*
Vet & medicine	7,384	55	*6%*	8,134	56	*6%*
Other livestock costs	28,376	212	*24%*	33,220	229	*25%*
Crop variable costs:	5,043	38	1%	5,829	40	1%
Seed	3,017	23	*60%*	3,396	23	*58%*
Fertiliser	735	5	*15%*	710	5	*12%*
Crop protection	5	0	*0%*	254	2	*4%*
Other crop costs	1,287	10	*26%*	1,469	10	*25%*
Contract	15,298	114	6%	17,519	121	6%
Paid Labour	35,077	262	13%	38,039	262	13%
Machinery:	37,787	282	14%	40,181	277	13%
Fuel & oil	8,751	65	*23%*	9,115	63	*23%*
Repairs	12,350	92	*33%*	12,100	83	*30%*
Depreciation	16,685	125	*44%*	18,966	131	*47%*
Paid Rents	13,632	102	5%	15,049	104	5%
Other costs	45,359	339	17%	46,546	321	16%
Total Costs	**271,561**	**2,028**	**100%**	**295,223**	**2,034**	**100%**
Profit/(loss) on sale of fixed assets	297			22		
Farm Business Income	**67,308**	**503**		**52,353**	**361**	
Unpaid manual labour excl. farmer & spouse	4,404	33		4,522	31	
Interest payments	5,495	41		4,622	32	
Imputed rents	16,094	120		18,185	125	
Director's remuneration	1,540	12		1,391	10	
Ownership costs	7,125	53		7,736	53	
Net Farm Income	**60,969**	**455**		**43,397**	**299**	
Farmer & Spouse unpaid labour	26,947	201		27,628	190	
Paid managerial labour	33	0		297	2	
Management and Investment Income	**34,056**	**254**		**16,065**	**111**	

Table 3.13 Organic and non-organic dairy farms full sample 2012/13

The average dairy farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	275			39		
Number (weighted)	6,616			305		
Farm size (07SO)	446,417			334,701		
Farm area (ha)	142.0			145.4		
Grazing livestock units	234.2			174.5		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	425,906	2,999	90%	295,620	2,034	85%
Livestock	399,719	2,814	*94%*	284,036	1,954	*96%*
Crops	26,186	184	*6%*	11,583	80	*4%*
Agri-environment and other payments	4,055	29	1%	9,702	67	3%
Diversification & miscellaneous	16,085	113	3%	15,414	106	4%
Single Payment Scheme	25,049	176	5%	26,866	185	8%
Farm Business Output	**471,094**	**3,317**	**100%**	**347,601**	**2,391**	**100%**
Livestock variable costs:	191,282	1,347	45%	131,804	907	45%
Feed	141,558	997	*74%*	90,811	625	*69%*
Vet & medicine	14,642	103	*8%*	8,157	56	*6%*
Other livestock costs	35,082	247	*18%*	32,836	226	*25%*
Crop variable costs:	33,819	238	8%	5,931	41	2%
Seed	5,041	35	*15%*	3,348	23	*56%*
Fertiliser	20,115	142	*59%*	810	6	*14%*
Crop protection	5,513	39	*16%*	258	2	*4%*
Other crop costs	3,150	22	*9%*	1,514	10	*26%*
Contract	21,103	149	5%	17,456	120	6%
Paid Labour	41,352	291	10%	37,362	257	13%
Machinery:	57,608	406	13%	40,675	280	14%
Fuel & oil	14,638	103	*25%*	9,291	64	*23%*
Repairs	15,840	112	*27%*	12,184	84	*30%*
Depreciation	27,130	191	*47%*	19,201	132	*47%*
Paid Rents	14,127	99	3%	14,771	102	5%
Other costs	62,036	437	15%	46,309	319	16%
Total Costs	**421,327**	**2,966**	**100%**	**294,308**	**2,025**	**100%**
Profit/(loss) on sale of fixed assets	1,329			22		
Farm Business Income	**51,096**	**360**		**53,315**	**367**	
Unpaid manual labour excl. farmer & spouse	12,548	88		4,990	34	
Interest payments	7,524	53		4,495	31	
Imputed rents	25,372	179		18,477	127	
Director's remuneration	503	4		1,355	9	
Ownership costs	12,875	91		7,800	54	
Net Farm Income	**34,079**	**240**		**43,499**	**299**	
Farmer & Spouse unpaid labour	29,194	206		27,454	189	
Paid managerial labour	15	0		289	2	
Management and Investment Income	**4,899**	**34**		**16,334**	**112**	

3.7.4 LFA grazing

Year-on-Year

Farm Business Output increased at farm level but decreased at hectare level for the identical sample of LFA grazing organic farms from 2011/12 to 2012/13 (Table 3.14); this difference between farm and hectare levels was partly due to an increase in farm area of nearly 20%. (This area increase is an anomaly of the sampling and weighting process rather than a national trend). The breakdown of Farm Business Output shows that output from agriculture and the single payment increased (by 16% and 14% respectively) while incomes from diversification and agri-environment payments decreased (by 17% and 2% respectively).

Total costs for organic LFA grazing farms increased by 34% at farm level from 2011/12 to 2012/13. Livestock variable costs increased by 37%, feed by 50% and other livestock costs (including bedding) by 39%. There were also significant increases in costs of paid labour, contract and machinery. The wet summer of 2012 resulted in limited quantities of conserved fodder being taken and the prolonged cold winter of 2012/13 required supplementary feeding of all stock.

Overall profitability decreased year-on-year for organic farms both in terms of Farm Business Income, Net Farm Income and Management and Investment Income.

Organic vs Non-Organic

Organic LFA grazing farms had a higher Farm Business Output than non-organic farms for 2012/13 (Table 3.15). All output sources at farm level, with the exception of diversification, were greater for organic LFA grazing farms than their non-organic counterparts.

Unlike recent years, organic farms had greater total costs than non-organic farms. While both livestock variable costs and crop variable costs are greater for the non-organic farms, contract costs (129% greater) and paid labour costs (72% greater) were greater for organic farms.

While organic farms had slightly higher costs than non-organic farms, the greater difference in Farm Business Output meant that overall profitability was greater for organic farms than their non-organic equivalents both in terms of Farm Business Income (110%) and Net Farm Income (173%).

Further detailed commentary on organic LFA grazing farm performance is given in Appendix 4.

Table 3.14 Organic LFA grazing farms identical sample 2011/12 and 2012/13

The average LFA grazing farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	22			22		
Number (weighted)	246			169		
Farm size (07SO)	70,673			83,464		
Farm area (ha)	121.7			147.1		
Grazing livestock units	93.6			108.9		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	68,815	566	59%	79,974	544	62%
Livestock component	63,654	523	*93%*	73,057	497	*91%*
Crop component	5,161	42	*7%*	6,917	47	*9%*
Agri-environment and other payments	17,540	144	15%	17,133	116	13%
Diversification & miscellaneous	3,220	26	3%	2,686	18	2%
Single Payment Scheme	26,506	218	23%	30,199	205	23%
Farm Business Output	**116,081**	**954**	**100%**	**129,992**	**883**	**100%**
Livestock variable costs:	18,337	151	27%	25,182	171	28%
Feed	8,288	68	*45%*	12,439	85	*49%*
Vet & medicine	3,476	29	*19%*	3,610	25	*14%*
Other livestock costs	6,573	54	*36%*	9,133	62	*36%*
Crop variable costs:	3142	26	5%	4893	33	5%
Seed	1,085	9	*35%*	1,776	12	*36%*
Fertiliser	1,383	11	*44%*	2,106	14	*43%*
Crop protection	134	1	*4%*	314	2	*6%*
Other crop costs	541	4	*17%*	697	5	*14%*
Contract	5,442	45	8%	7,182	49	8%
Paid Labour	4,923	40	7%	7,677	52	9%
Machinery:	15459	127	23%	18733	127	21%
Fuel & oil	4,618	38	*30%*	5,279	36	*28%*
Repairs	4,220	35	*27%*	4,824	33	*26%*
Depreciation	6,621	54	*43%*	8,629	59	*46%*
Paid Rents	4,684	38	7%	6,342	43	7%
Other costs	15,288	126	23%	19,984	136	22%
Total Costs	**67,274**	**553**	**100%**	**89,993**	**612**	**100%**
Profit/(loss) on sale of fixed assets	113			239		
Farm Business Income	**48,920**	**402**		**40,238**	**273**	
Unpaid manual labour excl. farmer & spouse	1,214	10		3,492	24	
Interest payments	860	7		1,302	9	
Imputed rents	11,741	96		12,556	85	
Director's remuneration	0	0		0	0	
Ownership costs	2,619	22		3,741	25	
Net Farm Income	**39,445**	**324**		**29,233**	**199**	
Farmer & Spouse unpaid labour	18,236	150		17,940	122	
Paid managerial labour	22	0		33	0	
Management and Investment Income	**21,231**	**174**		**11,326**	**77**	

Table 3.15 Organic and non-organic LFA grazing farms full sample 2012/13

The average LFA grazing farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	224			22		
Number (weighted)	6,010			169		
Farm size (07SO)	72,080			83,464		
Farm area (ha)	123.2			147.1		
Grazing livestock units	94.1			108.9		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	67,663	549	64%	79,974	544	62%
Livestock	65,397	531	*97%*	73,057	497	*91%*
Crops	2,266	18	*3%*	6,917	47	*9%*
Agri-environment and other payments	11,492	93	11%	17,133	116	13%
Diversification & miscellaneous	5,825	47	6%	2,686	18	2%
Single Payment Scheme	20,065	163	19%	30,199	205	23%
Farm Business Output	**105,046**	**852**	**100%**	**129,992**	**883**	**100%**
Livestock variable costs:	30,202	245	34%	25,182	171	28%
Feed	18,499	150	*61%*	12,439	85	*49%*
Vet & medicine	3,729	30	*12%*	3,610	25	*14%*
Other livestock costs	7,974	65	*26%*	9,133	62	*36%*
Crop variable costs:	6,261	51	7%	4,893	33	5%
Seed	327	3	*5%*	1,776	12	*36%*
Fertiliser	4,837	39	*77%*	2,106	14	*43%*
Crop protection	359	3	*6%*	314	2	*6%*
Other crop costs	738	6	*12%*	697	5	*14%*
Contract	3,133	25	4%	7,182	49	8%
Paid Labour	4,456	36	5%	7,677	52	9%
Machinery:	18,048	146	21%	18,733	127	21%
Fuel & oil	5,053	41	*28%*	5,279	36	*28%*
Repairs	3,883	32	*22%*	4,824	33	*26%*
Depreciation	9,111	74	*50%*	8,629	59	*46%*
Paid Rents	6,436	52	7%	6,342	43	7%
Other costs	17,911	145	21%	19,984	136	22%
Total Costs	**86,447**	**701**	**100%**	**89,993**	**612**	**100%**
Profit/(loss) on sale of fixed assets	522			239		
Farm Business Income	**19,121**	**155**		**40,238**	**273**	
Unpaid manual labour excl. farmer & spouse	4,510	37		3,492	24	
Interest payments	2,143	17		1,302	9	
Imputed rents	8,531	69		12,556	85	
Director's remuneration	0	0		0	0	
Ownership costs	2,472	20		3,741	25	
Net Farm Income	**10,694**	**87**		**29,233**	**199**	
Farmer & Spouse unpaid labour	21,794	177		17,940	122	
Paid managerial labour	25	0		33	0	
Management and Investment Income	**-11,075**	**-90**		**11,326**	**77**	

3.7.5 Lowland grazing

Year-on-Year

Farm Business Output decreased, albeit very slightly, for organic farms from 2011/12 to 2012/13 (Table 3.16). While output from agriculture and diversification increased, income from agri-environment payments and the Single Payment Scheme decreased.

The identical sample shows that total costs increased for organic farms by 13% year-on-year. Most cost centres experienced an increase between 2011/12 and 2012/13 with the only exception being paid labour. The most significant cost items to increase being machinery (up 13%) and contract (up 12%). The higher costs and marginally lower Farm Business Output had the combined effect of a reduction in Farm Business Income by over 25%. Further, Management and Investment Income reduced by nearly 200% to record a negative figure.

Organic vs Non-Organic

The full sample shows that organic lowland grazing farms are 12% smaller in area and carry 37% less stock than the non-organic farms.

Farm Business Output was nearly 20% greater for non-organic farms than their organic equivalents (Table 3.17). The 60% higher income from agriculture for non-organic farms more than offsetting the greater earnings from agri-environment payments, diversification and the Single Payment Scheme received by organic farms.

However, the total costs were 30% higher for non-organic farms than the organic farms; livestock variable costs were higher by 133%, mainly feed, and crop variable costs higher by 205%, mainly fertiliser. Both the size and input data clearly point to a far more intensive system being employed on the non-organic farms in relation to their organic counterparts. Paid labour and contract are also higher for the non-organic group.

Farm Business Income and Net Farm Income were both greater for organic farms than for non-organic farms in 2012/13. Management and Investment Income, while negative for both groups, was £6500 higher for the organic group.

Further detailed commentary on organic lowland grazing farm performance is given in Appendix 3.

Table 3.16 Organic lowland grazing farms identical sample 2011/12 and 2012/13

The average lowland grazing farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	27			27		
Number (weighted)	661			617		
Farm size (07SO)	52,694			57,213		
Farm area (ha)	89.1			91.1		
Grazing livestock units	71.0			76.8		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	48,216	541	49%	49,919	548	51%
Livestock component	40,065	450	*83%*	42,470	466	*85%*
Crop component	8,151	91	*17%*	7,449	82	*15%*
Agri-environment and other payments	11,297	127	12%	7,923	87	8%
Diversification & miscellaneous	18,385	206	19%	20,840	229	21%
Single Payment Scheme	19,768	222	20%	18,970	208	19%
Farm Business Output	**97,665**	**1,096**	**100%**	**97,652**	**1,071**	**100%**
Livestock variable costs:	11,566	130	18%	12,319	135	17%
Feed	5,253	59	*45%*	5,997	66	*49%*
Vet & medicine	1,184	13	*10%*	1,405	15	*11%*
Other livestock costs	5,129	58	*44%*	4,918	54	*40%*
Crop variable costs:	2,161	24	3%	3,157	35	4%
Seed	1,157	13	*54%*	1,651	18	*52%*
Fertiliser	242	3	*11%*	568	6	*18%*
Crop protection	21	0	*1%*	84	1	*3%*
Other crop costs	740	8	*34%*	855	9	*27%*
Contract	4,992	56	8%	5,612	62	8%
Paid Labour	5,137	58	8%	4,738	52	6%
Machinery:	16,601	186	25%	18,811	206	26%
Fuel & oil	4,040	45	*24%*	4,366	48	*23%*
Repairs	4,571	51	*28%*	4,265	47	*23%*
Depreciation	7,991	90	*48%*	10,180	112	*54%*
Paid Rents	4,084	46	6%	4,709	52	6%
Other costs	21,159	237	32%	24,835	272	33%
Total Costs	**65,700**	**737**	**100%**	**74,181**	**814**	**100%**
Profit/(loss) on sale of fixed assets	246			68		
Farm Business Income	**32,211**	**362**		**23,539**	**258**	
Unpaid manual labour excl. farmer & spouse	3,046	34		2,951	32	
Interest payments	2,074	23		2,671	29	
Imputed rents	11,607	130		12,320	135	
Director's remuneration	1,146	13		2,017	22	
Ownership costs	2,343	26		2,501	27	
Net Farm Income	**23,121**	**259**		**15,457**	**170**	
Farmer & Spouse unpaid labour	19,031	214		19,733	216	
Paid managerial labour	53	1		64	1	
Management and Investment Income	**4,142**	**46**		**-4,213**	**-46**	

Table 3.17 Organic and non-organic lowland grazing farms full sample 2012/13

The average lowland grazing farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	234			33		
Number (weighted)	11,149			834		
Farm size (07SO)	74,602			53,424		
Farm area (ha)	101.2			90.6		
Grazing livestock units	95.2			69.7		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	72,720	719	68%	45,357	501	51%
Livestock	61,601	609	*85%*	37,624	415	*83%*
Crops	11,118	110	*15%*	7,733	85	*17%*
Agri-environment and other payments	4,270	42	4%	8,687	96	10%
Diversification & miscellaneous	12,769	126	12%	16,566	183	18%
Single Payment Scheme	17,290	171	16%	19,154	211	21%
Farm Business Output	**107,048**	**1,058**	**100%**	**89,764**	**991**	**100%**
Livestock variable costs:	26,861	265	29%	11,512	127	17%
Feed	16,437	162	*61%*	5,517	61	*48%*
Vet & medicine	2,796	28	*10%*	1,250	14	*11%*
Other livestock costs	7,628	75	*28%*	4,745	52	*41%*
Crop variable costs:	8,636	85	9%	2,832	31	4%
Seed	1,082	11	*13%*	1,652	18	*58%*
Fertiliser	5,596	55	*65%*	428	5	*15%*
Crop protection	1,131	11	*13%*	62	1	*2%*
Other crop costs	826	8	*10%*	689	8	*24%*
Contract	5,431	54	6%	4,653	51	7%
Paid Labour	6,106	60	7%	5,057	56	7%
Machinery:	18,719	185	21%	19,306	213	27%
Fuel & oil	5,039	50	*27%*	4,122	45	*21%*
Repairs	4,438	44	*24%*	4,445	49	*23%*
Depreciation	9,242	91	*49%*	10,739	118	*56%*
Paid Rents	5,527	55	6%	4,731	52	7%
Other costs	20,161	199	22%	22,330	246	32%
Total Costs	**91,440**	**904**	**100%**	**70,419**	**777**	**100%**
Profit/(loss) on sale of fixed assets	439			-118		
Farm Business Income	**16,047**	**159**		**19,227**	**212**	
Unpaid manual labour excl. farmer & spouse	3,841	38		3,146	35	
Interest payments	1,753	17		2,351	26	
Imputed rents	11,449	113		11,310	125	
Director's remuneration	133	1		1,491	16	
Ownership costs	3,447	34		2,832	31	
Net Farm Income	**6,090**	**60**		**11,445**	**126**	
Farmer & Spouse unpaid labour	21,085	208		19,956	220	
Paid managerial labour	5	0		51	1	
Management and Investment Income	**-14,990**	**-148**		**-8,461**	**-93**	

3.7.6 Mixed

Year-on-Year

Farm Business Output increased slightly for organic mixed farms year-on-year (Table 3.18). Reductions in earnings from the Single Payment Scheme and agri-environment payments were more than offset by increases in output from agriculture and diversification.

Total costs remained similar for organic farms year-on-year. Livestock variable costs were reduced by 5%, of which feed costs fell by 11% - somewhat surprising given the weather conditions for the year and the pattern amongst other farm groups. Crop variable costs increased by 21% - mainly down to an increase in other crop costs. Contract and paid labour costs fell by 17% and 8% respectively but a machinery cost increase of 10% balanced out those reductions.

Farm Business Income remained low for organic farms with only a marginal increase year-on-year. Further, both Net Farm Income and Management and Investment Income recorded negative values.

Organic vs Non-Organic

The organic mixed farms are typically 14% smaller in area (at 130.6 ha) and carry 29% less stock (at 72.1 grazing livestock units) than their non-organic peers.

The full sample shows that Farm Business Output was considerably greater for non-organic farms than their organic equivalents (Table 3.19). Output from agriculture was more evenly split between livestock (51% vs 66%) and crop (49% vs 34%) components for non-organic farms than organic farms. Non-organic farms had much greater output than organic farms not only from agriculture but also from diversification and the Single Payment Scheme.

However, the organic farms had substantially lower costs than non-organic farms. Livestock variable costs for organic mixed farms were less than half of those on non-organic farms, and organic crop variable costs were just 27% of that spent by the non-organic group. Paid labour, contract and machinery components of fixed costs were also considerably lower on organic farms than on the non-organic farms.

The greater output of non-organic farms more than covered the higher costs and consequently made a greater Farm Business Income than organic farms for 2012/13. Net Farm Income and Management and Investment Income for organic mixed farms were both negative in 2012/13.

Table 3.18 Organic mixed farms identical sample 2011/12 and 2012/13

The average mixed farm	Organic identical sample 2011/12			2012/13		
Number (unweighted)	18			18		
Number (weighted)	219			215		
Farm size (07SO)	118,295			110,818		
Farm area (ha)	135.6			135.2		
Grazing livestock units	68.3			65.4		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	83,259	614	59%	85,009	629	59%
Livestock component	45,836	338	*55%*	51,188	379	*60%*
Crop component	37,423	276	*45%*	33,821	250	*40%*
Agri-environment and other payments	15,075	111	11%	13,715	101	10%
Diversification & miscellaneous	15,058	111	11%	20,003	148	14%
Single Payment Scheme	26,737	197	19%	24,146	179	17%
Farm Business Output	**140,129**	**1,033**	**100%**	**142,874**	**1,057**	**100%**
Livestock variable costs:	22,978	169	17%	21,938	162	16%
Feed	13,580	100	*59%*	12,151	90	*55%*
Vet & medicine	1,464	11	*6%*	1,395	10	*6%*
Other livestock costs	7,934	58	*35%*	8,392	62	*38%*
Crop variable costs:	10,958	81	7%	13,300	98	10%
Seed	8,451	62	*77%*	7,683	57	*58%*
Fertiliser	466	3	*4%*	1,445	11	*11%*
Crop protection	176	1	*2%*	333	2	*3%*
Other crop costs	1,866	14	*17%*	3,839	28	*29%*
Contract	10,734	79	8%	8,924	66	7%
Paid Labour	19,655	145	15%	18,100	134	13%
Machinery:	28,148	208	21%	31,050	230	23%
Fuel & oil	7,663	57	*27%*	7,752	57	*25%*
Repairs	6,680	49	*24%*	7,251	54	*23%*
Depreciation	13,805	102	*49%*	16,047	119	*52%*
Paid Rents	8,531	63	6%	8,770	65	6%
Other costs	33,128	244	25%	32,908	243	24%
Total Costs	**134,132**	**989**	**100%**	**134,989**	**998**	**100%**
Profit/(loss) on sale of fixed assets	792			819		
Farm Business Income	**6,789**	**50**		**8,703**	**64**	
Unpaid manual labour excl. farmer & spouse	3,591	26		4,640	34	
Interest payments	5,863	43		3,470	26	
Imputed rents	16,916	125		16,797	124	
Director's remuneration	0	0		0	0	
Ownership costs	5,884	43		5,207	39	
Net Farm Income	**-1,971**	**-15**		**-4,057**	**-30**	
Farmer & Spouse unpaid labour	24,683	182		24,034	178	
Paid managerial labour	69	1		64	0	
Management and Investment Income	**-26,585**	**-196**		**-28,028**	**-207**	

Table 3.19 Organic and non-organic mixed farms full sample 2012/13

The average mixed farm	Non-organic 2012/13			Organic 2012/13		
Number (unweighted)	168			25		
Number (weighted)	5,404			306		
Farm size (07SO)	184,753			115,345		
Farm area (ha)	148.4			130.6		
Grazing livestock units	93.1			72.1		
	£/farm	**£/ha**		**£/farm**	**£/ha**	
Agriculture:	201,753	1360	76%	96,629	740	60%
Livestock	102,268	689	*51%*	63,426	486	*66%*
Crops	99,484	671	*49%*	33,203	254	*34%*
Agri-environment and other payments	6,767	46	3%	17,498	134	11%
Diversification & miscellaneous	26,833	181	10%	22,037	169	14%
Single Payment Scheme	29,132	196	11%	24,550	188	15%
Farm Business Output	**264,485**	**1783**	**100%**	**160,714**	**1231**	**100%**
Livestock variable costs:	58,311	393	26%	28,170	216	20%
Feed	43,176	291	*74%*	17,420	133	*62%*
Vet & medicine	3,782	25	*6%*	2,194	17	*8%*
Other livestock costs	11,353	77	*19%*	8,556	66	*30%*
Crop variable costs:	43,396	293	20%	11,953	92	8%
Seed	6,911	47	*16%*	6,813	52	*57%*
Fertiliser	19,923	134	*46%*	1,359	10	*17%*
Crop protection	12,809	86	*30%*	576	4	*5%*
Other crop costs	3,754	25	*9%*	3,205	25	*27%*
Contract	12,068	81	5%	10,082	77	7%
Paid Labour	18,628	126	8%	17,416	133	12%
Machinery:	44,311	299	20%	30,058	230	21%
Fuel & oil	12,543	85	*28%*	7,229	55	*24%*
Repairs	11,117	75	*25%*	7,208	55	*24%*
Depreciation	20,651	139	*47%*	15,621	120	*52%*
Paid Rents	10,970	74	5%	8,282	63	6%
Other costs	38,708	261	17%	38,957	298	27%
Total Costs	**226,392**	**1526**	**100%**	**144,917**	**1110**	**100%**
Profit/(loss) on sale of fixed assets	1,246			482		
Farm Business Income	**39,339**	**265**		**16,280**	**125**	
Unpaid manual labour excl. farmer & spouse	8,333	56		5,015	38	
Interest payments	4,328	29		2,829	22	
Imputed rents	19,869	134		20,697	158	
Director's remuneration	740	5		0	0	
Ownership costs	6,640	45		6,099	47	
Net Farm Income	**22,846**	**154**		**-504**	**-4**	
Farmer & Spouse unpaid labour	22,248	150		22,395	171	
Paid managerial labour	81	1		45	0	
Management and Investment Income	**679**	**5**		**-22,853**	**-175**	

4 ENTERPRISE GROSS MARGINS

4.1 Data sample

The distribution of available crop and livestock margin data by robust farm type and size for organic farms are shown in Table 4.1 and Table 4.14.

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 4.2 and Table 4.15 show the sample size of crop and livestock enterprises that have been analysed to gross margin level. Where sample numbers allow (>10 farms), analyses for a premium group (top third by GM/ha or GM/head) are presented.

While there are 10 poultry enterprises recorded to gross margin level, they have been omitted as 4 of them are non-commercial (less than 100 birds). There is also insufficient data to present gross margin data for pig farms.

For livestock enterprises, forage areas and stocking rates are calculated on the basis of the total adjusted forage area including commons; see Appendix 7 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 of 5 LFA and 34 lowland dairy farms. Further, of these farms, 95% are milk wholesalers and 5% are retailers.

Table 4.3 to Table 4.13 show gross margins for crop enterprises. Table 4.16 to Table 4.24 show gross margins for livestock enterprises.

4.2 Organic Cropping enterprises

Table 4.1 Sample distribution of organic crop margin data (>10 records) by robust farm type and size (2007SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000	Large (>€250,000)	All
Cereals	15	11	18	44
General cropping	11	9	18	38
Horticulture	9	10	3	22
Pigs	0	0	0	0
Poultry	1	0	2	3
Dairy	0	3	22	25
LFA Grazing	6	1	7	14
Lowland Grazing	14	3	3	20
Mixed	12	17	12	41
All	**68**	**54**	**85**	**207**

Table 4.2 Sample size for organic crop gross margin analysis

Enterprise	Sample			Premium		
	Sample size	Weighted sample size	Average Crop area (ha)	Sample size	Weighted sample size	Average crop area (ha)
Winter wheat	30	374	30	10	143	17.3
Spring wheat	17	304	13.7	-	-	-
Triticale	13	254	10.6	-	-	-
Spring barley	42	435	20.9	14	174	13.5
Winter oats	16	297	11.8	-	-	-
Spring oats	24	292	14.9	-	-	-
Beans	20	177	29.0	-	-	-
Fertility crop	12	253	22.0	-	-	-
Field vegetables	10	113	26.8	-	-	-
Flowers	11	293	3.1	-	-	-
Top fruit	12	294	4.7	-	-	-

Table 4.3 Winter wheat gross margin

2012 harvest year	Sample	30	crops		Top third	10	crops	
	Sample weighted	374	crops		Top third weighted	143	crops	
	Average crop area	29.7	hectares		Average crop area	17.3	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		87.08	2.93	1.31		77.94	4.50	1.77
Price of crop sold (£/t)		252		48		271		34
Crop output		24,295	818	337		21,852	1,261	449
By product output		1,522	51	73		1,029	59	77
Area payment (Protein or energy crop supplements)		0	0	0		0	0	0
Total		**25,817**	**870**			**22,881**	**1,320**	
Variable Costs		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Seed		2,538	86	34		1,591	92	25
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		949	32	48		658	38	46
Crop protection materials		285	10	34		248	14	19
Other crop costs (including levies and commission)		592	20	29		176	10	20
Fuel for heating & drying		131	4	6		30	2	5
Total		**4,496**	**151**	**95**		**2,703**	**156**	**81**
Gross Margin		**21,321**	**718**	**344**		**20,178**	**1,164**	**482**

Table 4.4 Spring wheat gross margin

2012 harvest year	Sample	17	crops	
	Sample weighted	304	crops	
	Average crop area	13.7	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		36.93	2.69	0.81
Price of crop sold (£/t)		274		30
Crop output		11,028	802	255
By product output		700	51	76
Area payment (Protein or energy crop supplements)		0	0	0
Total		**11,728**	**853**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		1,342	98	30
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		322	23	48
Crop protection materials		66	5	12
Other crop costs (including levies and commission)		309	22	63
Fuel for heating & drying		47	3	12
Total		**2,086**	**152**	**88**
Gross Margin		**9,642**	**701**	**247**

Table 4.5 Triticale gross margin

2012 harvest year	Sample	13	crops	
	Sample weighted	304	crops	
	Average crop area	10.6	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		30.59	2.89	1.33
Price of crop sold (£/t)		251		70
Crop output		6,885	651	405
By product output		1,105	104	131
Area payment (Protein or energy crop supplements)		0	0	0
Total		**7,990**	**755**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		1,036	98	88
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		176	17	20
Crop protection materials		1	0	1
Other crop costs (including levies and commission)		142	13	14
Fuel for heating & drying		39	4	4
Total		**1,394**	**132**	**73**
Gross Margin		**6,597**	**623**	**368**

Table 4.6 Spring barley gross margin

2012 harvest year	Sample	42	crops		Top third	14	crops	
	Sample weighted	435	crops		Top third weighted	174	crops	
	Average crop area	20.9	hectares		Average crop area	13.5	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		56.06	2.68	0.76		45.06	3.33	0.87
Price of crop sold (£/t)		239		39		240		30
Crop output		14,927	714	236		12,143	896	283
By product output		1,396	67	71		1,085	80	72
Area payment (Protein or energy crop supplements)		0	0	0		0	0	0
Total		**16,322**	**780**			**13,228**	**976**	
Variable Costs		**per crop**	**per ha**	**std dev**		**per crop**	**per ha**	**std dev**
Seed		1,780	85	44		999	74	45
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		861	41	49		158	12	39
Crop protection materials		64	3	7		18	1	4
Other crop costs (including levies and commission)		555	27	24		72	5	22
Fuel for heating & drying		133	6	8		93	7	6
Total		**3,393**	**162**	**84**		**1,340**	**99**	**100**
Gross Margin		**12,929**	**618**	**250**		**11,888**	**877**	**315**

Table 4.7 Winter oats gross margin

2012 harvest year	Sample	16	crops	
	Sample weighted	297	crops	
	Average crop area	11.8	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		39.23	3.32	1.29
Price of crop sold (£/t)		243		21
Crop output		10,092	854	366
By product output		1,014	86	82
Area payment (Protein or energy crop supplements)		0	0	0
Total		**11,105**	**940**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		785	66	40
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		338	29	43
Crop protection materials		21	2	10
Other crop costs (including levies and commission)		174	15	21
Fuel for heating & drying		100	9	8
Total		**1,419**	**120**	**68**
Gross Margin		**9,686**	**820**	**380**

Table 4.8 Spring oats gross margin

2012 harvest year	Sample	24	crops	
	Sample weighted	292	crops	
	Average crop area	14.9	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		44.92	3.01	1.23
Price of crop sold (£/t)		259		43
Crop output		11,143	747	332
By product output		968	65	74
Area payment (Protein or energy crop supplements)		0	0	0
Total		**12,112**	**812**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		1,104	74	37
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		589	39	48
Crop protection materials		147	10	24
Other crop costs (including levies and commission)		377	25	25
Fuel for heating & drying		108	7	7
Total		**2,325**	**156**	**83**
Gross Margin		**9,786**	**656**	**318**

Table 4.9 Beans gross margin

2012 harvest year	Sample	20	crops	
	Sample weighted	177	crops	
	Average crop area	29.0	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		49.62	1.71	0.86
Price of crop sold (£/t)		309		11
Crop output		15,812	544	270
By product output		70	2	13
Area payment (Protein or energy crop supplements)		0	0	0
Total		**15,882**	**547**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		2,468	85	46
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		758	26	32
Crop protection materials		58	2	6
Other crop costs (including levies and commission)		433	15	22
Fuel for heating & drying		87	3	5
Total		**3,803**	**131**	**63**
Gross Margin		**12,079**	**416**	**263**

Table 4.10 Fertility crop gross margin

2012 harvest year	Sample	12	crops	
	Sample weighted	253	crops	
	Average crop area	22.0	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		0.00	0.00	0.00
Price of crop sold (£/t)		-		-
Crop output		0	0	0
By product output		211	10	19
Area payment (Protein or energy crop supplements)		0	0	0
Total		**211**	**10**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		1,284	58	57
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		60	3	11
Crop protection materials		10	0	1
Other crop costs (including levies and commission)		73	3	9
Fuel for heating & drying		0	0	0
Total		**1,427**	**65**	**54**
Gross Margin		**-1,216**	**-55**	**60**

Table 4.11 Field vegetable gross margin

2012 harvest year	Sample	10	crops	
	Sample weighted	113	crops	
	Average crop area	26.8	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		2258.49	84.30	853.37
Price of crop sold (£/t)		-		-
Crop output		183,167	6,837	5,390
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**183,167**	**6,837**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		24,565	917	528
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		1,614	60	54
Crop protection materials		2,438	91	87
Other crop costs (including levies and commission)		16,775	626	720
Fuel for heating & drying		0	0	0
Total		**45,392**	**1,694**	**1,140**
Gross Margin		**137,775**	**5,143**	**4,381**

Table 4.12 Flowers gross margin

2012 harvest year	Sample	11	crops	
	Sample weighted	293	crops	
	Average crop area	3.1	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		0.04	0.01	0.22
Price of crop sold (£/t)		-		-
Crop output		19,147	6,142	4,717
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**19,147**	**6,142**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		2,098	673	587
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		178	57	101
Crop protection materials		20	6	47
Other crop costs (including levies and commission)		1,808	580	487
Fuel for heating & drying		0	0	1
Total		**4,103**	**1,316**	**834**
Gross Margin		**15,044**	**4,826**	**4,290**

Table 4.13 Top fruit gross margin

2012 harvest year	Sample	12	crops	
	Sample weighted	294	crops	
	Average crop area	4.7	hectares	
Crop Yield and Output		**per crop**	**per ha**	**std dev**
Yield (tonnes and tonnes/ha)		15.84	3.36	3.12
Price of crop sold (£/t)		-		-
Crop output		19,501	4,140	3,923
By product output		0	0	0
Area payment (Protein or energy crop supplements)		0	0	0
Total		**19,501**	**4,140**	
Variable Costs		**per crop**	**per ha**	**std dev**
Seed		331	70	107
Fertiliser (incl. lime, purchased FYM, trace elements, etc.)		618	131	129
Crop protection materials		1,511	321	320
Other crop costs (including levies and commission)		6,822	1,448	1,449
Fuel for heating & drying		0	0	0
Total		**9,283**	**1,971**	**1,922**
Gross Margin		**10,218**	**2,169**	**2,026**

4.3 Organic Livestock enterprises

Table 4.14 Sample distribution of organic livestock margin data (>10 records) by robust farm type and size (2007SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000	Large (>€250,000)	All
Cereals	1	6	6	13
General cropping	2	2	3	7
Horticulture	4	6	0	10
Pigs	0	0	0	0
Poultry	4	0	2	6
Dairy	2	25	47	74
LFA Grazing	28	12	14	54
Lowland Grazing	57	13	3	73
Mixed	20	16	16	52
All	**118**	**80**	**91**	**289**

Table 4.15 Sample size for organic livestock gross margin analysis

Enterprise	Sample		Premium	
	Sample size	Weighted sample size	Sample size	Weighted sample size
Dairy cows	39	305	13	110
Dairy followers	30	252	10	90
LFA sucklers	15	98	-	-
Lowland sucklers	63	1042	21	302
Fat cattle from suckler bred calves or stores	46	615	15	146
Store cattle from suckler bred calves or stores	32	558	11	119
Lowland sheep	40	666	13	198
LFA sheep (upland)	14	72	-	-
Laying hens	10	185	-	-

Table 4.16 Dairy cows gross margin - sample

Sample size	39			
No farms in population	305			
Production information				
Average cow numbers	115			
Enterprise grazing livestock units	116			
Total milk produced (litres)	711105			
Total milk produced per cow (lt/cow)	6177			
Average price of milk sold (pence/lt)	33.75			
Calves per cow (sold or transferred)	0.88			
Herd replacement rate (%)	23%			
Adjusted forage area (including commons)	91.91			
Stocking rate (cows per adj. forage ha.)	1.25			
Stocking rate (GLUs per adj. forage ha.)	1.26			
Enterprise Output	**Total**	**per cow**	**per litre**	**per adj for ha**
	(£)	**(£)**	**(pence)**	**(£)**
Milk	239965	2085	33.8	2611
Calves and other dairy related output	12076	105	1.7	131
Less Herd Depreciation	22215	193	3.1	242
Total Gross Output (A)	**229826**	**1997**	**32.3**	**2500**
Variable Costs				
Concentrates	70295	611	9.9	765
Coarse fodder	4141	36	0.6	45
Vet and Medicines	7084	62	1.0	77
Other livestock costs	25393	221	3.6	276
Total Variable Costs (B)	**106913**	**930**	**15.0**	**1163**
Gross Margin before forage (A-B) = (C)	**122913**	**1067**	**17.3**	**1337**
Forage Variable Costs (D)	1769	15	0.3	19
Gross Margin after forage (C-D) = (E)	**121144**	**1052**	**17.0**	**1318**
Prices				
Average quota leasing in price (pence/lt)	n/a			
Calf price (£/calf)	119			
Cull cow price (£/cow)	791			
Replacement heifer/cow price (£/head)	1419			
Forage Costs				
Fertilizer (£/ha)	1			
Seed (£/ha)	11			
Spray (£/ha)	0			
Other crop costs (£/ha)	7			
Total (£/ha)	19			
Unadjusted forage area excluding commons	89.54			

Table 4.17 Dairy cows gross margin - premium

Premium sample size	13			
No farms in population	110			
Production information				
Average cow numbers	128			
Enterprise grazing livestock units	129			
Total milk produced (litres)	928409			
Total milk produced per cow (lt/cow)	7234			
Average price of milk sold (pence/lt)	34.45			
Calves per cow (sold or transferred)	0.90			
Herd replacement rate (%)	25%			
Adjusted forage area (including commons)	86.25			
Stocking rate (cows per adj. forage ha.)	1.49			
Stocking rate (GLUs per adj. forage ha.)	1.50			
Enterprise Output	**Total**	**per cow**	**per litre**	**per adj for ha**
	(£)	**(£)**	**(pence)**	**(£)**
Milk	319873	2492	34.5	3709
Calves and other dairy related output	14766	115	1.6	171
Less Herd Depreciation	22963	179	2.5	266
Total Gross Output (A)	**311676**	**2428**	**33.6**	**3614**
Variable Costs				
Concentrates	93589	729	10.1	1085
Coarse fodder	3430	27	0.4	40
Vet and Medicines	8071	63	0.9	94
Other livestock costs	27673	216	3.0	321
Total Variable Costs (B)	**132762**	**1035**	**14.3**	**1540**
Gross Margin before forage (A-B) = (C)	**178914**	**1393**	**19.3**	**2074**
Forage Variable Costs (D)	2333	18	0.3	27
Gross Margin after forage (C-D) = (E)	**176581**	**1375**	**19.0**	**2047**
Prices				
Average quota leasing in price (pence/lt)	n/a			
Calf price (£/calf)	127			
Cull cow price (£/cow)	942			
Replacement heifer/cow price (£/head)	1459			
Forage Costs				
Fertilizer (£/ha)	0			
Seed (£/ha)	16			
Spray (£/ha)	0			
Other crop costs (£/ha)	10			
Total (£/ha)	27			
Unadjusted forage area excluding commons	86.14			

Table 4.18 Dairy followers gross margin – sample and premium

	Sample		Premium	
No farms in sample	30		10	
No farms	252		90	
Production information				
Enterprise grazing livestock units *	41		49	
Adjusted forage area (including commons)	29.09		32.38	
Stocking rate (GLUs per adj. forage ha.)	1.40		1.52	
Enterprise Output	**Total**	**per adj for ha**	**Total**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**
Cattle output	37112	1276	54308	1677
Total Output (A)	**37112**	**1276**	**54308**	**1677**
Variable Costs				
Concentrates	10890	374	11501	355
Coarse fodder	2233	77	2637	81
Vet and Medicines	638	22	548	17
Other livestock costs	5636	194	8917	275
Total Variable Costs (B)	**19396**	**667**	**23603**	**728**
Gross Margin before forage (A-B) = (C)	**17716**	**609**	**30704**	**949**
Forage Variable Costs (D)	238	8	326	10
Gross Margin after forage (C-D) = (E)	**17478**	**601**	**30378**	**939**
Prices				
Dairy heifer transfer or sale price £	1388		1385	
Finished cattle price £	1059		1008	
Store cattle price £	618		592	
Forage Costs				
Fertilizer (£/ha)	0		1	
Seed (£/ha)	5		6	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	3		3	
Total (£/ha)	8		10	
Unadjusted forage area excluding commons	28.90		31.16	
* excludes stock away on agist				

Table 4.19 LFA sucklers gross margin - sample

	Sample		
No farms in sample	15		
No farms in population	98		
Production information			
Average cow numbers	46		
Enterprise grazing livestock units *	45		
Calves per cow	0.96		
Herd replacement rate (%)	17%		
Adjusted forage area (including commons)	63.48		
Stocking rate (cows per adj. forage ha.)	0.72		
Stocking rate (GLUs per adj. forage ha.)	0.71		
Enterprise Output	**Total**	**per cow**	**per adj for ha**
	(£)	**(£)**	**(£)**
Suckler calves †	21298	465	336
Less Herd Depreciation	3477	76	55
Total Output (A)	**17821**	**389**	**281**
Variable Costs			
Concentrates	2113	46	33
Coarse fodder	571	12	9
Vet and Medicines	960	21	15
Other livestock costs	3220	70	51
Total Variable Costs (B)	**6865**	**149**	**108**
Gross Margin before forage (A-B) = (C)	**10956**	**240**	**173**
Forage Variable Costs	252	6	4
Gross Margin after forage (A-B) = (C)	**10704**	**234**	**169**
Prices			
Calf price (£/calf) *	485		
Cull cow price (£/cow)	823		
Replacement heifer/cow price (£/head)	1062		
Forage Costs			
Fertilizer (£/ha)	1		
Seed (£/ha)	1		
Spray (£/ha)	0		
Other crop costs (£/ha)	1		
Total (£/ha)	4		
Unadjusted forage area excluding commons	136.30		
* excludes stock away on agist			
† Calf price is as sold off the cow or a transfer value at weaning			

Table 4.20 Lowland sucklers gross margin - sample and premium

	Sample			Premium		
No farms in sample	63			21		
No farms in population	1042			302		
Production information						
Average cow numbers	33			41		
Enterprise grazing livestock units *	32			41		
Calves per cow	0.85			0.97		
Herd replacement rate (%)	15%			15%		
Adjusted forage area (including commons)	40.76			42.27		
Stocking rate (cows per adj. forage ha.)	0.81			0.96		
Stocking rate (GLUs per adj. forage ha.)	0.79			0.97		
Enterprise Output	**Total**	**per cow**	**per adj for ha**	**Total**	**per cow**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Suckler calves †	13315	403	327	20375	502	482
Less Herd Depreciation	1790	54	44	1305	32	31
Total Output (A)	**11524**	**349**	**283**	**19069**	**470**	**451**
Variable Costs						
Concentrates	761	23	19	589	15	14
Coarse fodder	352	11	9	402	10	10
Vet and Medicines	629	19	15	925	23	22
Other livestock costs	1706	52	42	2195	54	52
Total Variable Costs (B)	**3448**	**105**	**85**	**4111**	**102**	**98**
Gross Margin before forage (A-B) = (C)	**8077**	**244**	**198**	**14958**	**368**	**353**
Forage Variable Costs	421	13	10	348	9	8
Gross Margin after forage (A-B) = (C)	**7656**	**231**	**188**	**14611**	**359**	**345**
Prices						
Calf price (£/calf) *	586			621		
Cull cow price (£/cow)	913			967		
Replacement heifer/cow price (£/head)	977			975		
Forage Costs						
Fertilizer (£/ha)	1			2		
Seed (£/ha)	6			4		
Spray (£/ha)	0			0		
Other crop costs (£/ha)	3			2		
Total (£/ha)	10			8		
Unadjusted forage area excluding commons	43.45			45.60		
* excludes stock away on agist						
† Calf price is as sold off the cow or a transfer value at weaning						

Table 4.21 Fat cattle from suckler bred calves or stores gross margin - sample and premium

	Sample		Premium	
No farms in sample	46		15	
No farms in population	615		146	
Production information				
Enterprise grazing livestock units *	40		51	
Adjusted forage area (including commons)	47.89		41.90	
Stocking rate (GLUs per adj. forage ha.)	0.83		1.21	
Enterprise Output	**Total**	**per adj for ha**	**Total**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**
Cattle output	29157	609	47482	1133
Total Output (A)	29157	609	47482	1133
Variable Costs				
Concentrates	3192	67	3106	74
Coarse fodder	594	12	1106	26
Vet and Medicines	522	11	745	18
Other livestock costs	3436	72	4953	118
Total Variable Costs (B)	7744	162	9910	236
Gross Margin before forage (A-B) = (C)	**21413**	**447**	**37572**	**897**
Forage Variable Costs (D)	663	14	677	16
Gross Margin after forage (C-D) = (E)	**20750**	**433**	**36895**	**881**
Prices				
Dairy heifer transfer or sale price £	1550		n/a	
Finished cattle price £	1195		1364	
Store cattle price £	861		855	
Forage Costs				
Fertilizer (£/ha)	3		4	
Seed (£/ha)	8		7	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	3		5	
Total (£/ha)	14		16	
Unadjusted forage area excluding commons	57.24		39.30	
* excludes stock away on agist				

Table 4.22 Store cattle from suckler bred calves or stores gross margin - sample and premium

	Sample		Premium	
No farms in sample	32		11	
No farms in population	558		119	
Production information				
Enterprise grazing livestock units *	14		14	
Adjusted forage area (including commons)	22.74		20.07	
Stocking rate (GLUs per adj. forage ha.)	0.62		0.70	
Enterprise Output	**Total**	**per adj for ha**	**Total**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**
Cattle output	6983	307	11834	590
Total Output (A)	**6983**	**307**	**11834**	**590**
Variable Costs				
Concentrates	478	21	980	49
Coarse fodder	113	5	96	5
Vet and Medicines	197	9	178	9
Other livestock costs	1244	55	1309	65
Total Variable Costs (B)	**2032**	**90**	**2563**	**128**
Gross Margin before forage (A-B) = (C)	**4951**	**217**	**9271**	**462**
Forage Variable Costs (D)	134	6	62	3
Gross Margin after forage (C-D) = (E)	**4817**	**211**	**9208**	**459**
Prices				
Dairy heifer transfer or sale price £	n/a		n/a	
Finished cattle price £	1037		999	
Store cattle price £	707		756	
Forage Costs				
Fertilizer (£/ha)	3		1	
Seed (£/ha)	2		1	
Spray (£/ha)	0		0	
Other crop costs (£/ha)	1		1	
Total (£/ha)	6		3	
Unadjusted forage area excluding commons	25.69		18.91	
* excludes stock away on agist				

Table 4.23 Lowland sheep (2012 lamb crop) gross margin - sample and premium

	Sample			Premium		
No farms in sample	40			13		
No farms in population	666			198		
Production information						
Average ewe numbers	137			125		
Enterprise grazing livestock units *	22			20		
Lambs reared per ewe	1.35			1.72		
Flock replacement rate (%)	35%			31%		
Adjusted forage area (including commons)	26.71			19.09		
Stocking rate (ewes per adj. forage ha.)	5.14			6.56		
Stocking rate (GLUs per adj. forage ha.)	0.82			1.06		
Enterprise Output	**Total**	**per ewe**	**per adj for ha**	**Total**	**per ewe**	**per adj for ha**
	(£)	**(£)**	**(£)**	**(£)**	**(£)**	**(£)**
Lambs †	15046	110	563	18781	150	984
Wool	460	3	17	407	3	21
Less Flock Depreciation	1767	13	66	1651	13	86
Total Output (A)	**13739**	**100**	**514**	**17536**	**140**	**919**
Variable Costs						
Concentrates	1973	14	74	1476	12	77
Coarse fodder	172	1	6	210	2	11
Vet and Medicines	989	7	37	954	8	50
Other livestock costs	1543	11	58	1295	10	68
Total Variable Costs (B)	**4677**	**33**	**175**	**3935**	**32**	**206**
Gross Margin before forage (A-B) = (C)	**9063**	**67**	**339**	**13602**	**108**	**713**
Forage Variable Costs (D)	143	1	5	89	1	5
Gross Margin after forage (C-D) = (E)	**8919**	**66**	**334**	**13512**	**107**	**708**
Prices	**£/hd**	**% sales**		**£/hd**	**% sales**	
Fat Lamb price	77	78		83	91	
Store Lamb price	65	21		71	8	
Ewe Lamb price	71	1		93	0	
Draft ewe price	109			96		
Cull ewe price (£/ewe)	69			67		
Wool price (£/kg)	1.28			1.19		
Replacement price (£/head)	105			105		
Forage Costs						
Fertilizer (£/ha)	0			0		
Seed (£/ha)	4			3		
Spray (£/ha)	0			0		
Other crop costs (£/ha)	1			2		
Total (£/ha)	5			5		
Unadjusted forage area excluding commons	30.34			19.19		
* excludes stock away on agist						
† includes all enterprise output except wool						

Table 4.24 LFA sheep (upland) (2012 lamb crop) gross margin - sample

	Sample		
No farms in sample	14		
No farms in population	72		
Production information			
Average ewe numbers	475		
Enterprise grazing livestock units *	71		
Lambs reared per ewe	1.56		
Flock replacement rate (%)	39%		
Adjusted forage area (including commons)	89.35		
Stocking rate (ewes per adj. forage ha.)	5.32		
Stocking rate (GLUs per adj. forage ha.)	0.79		
Enterprise Output	**Total**	**per ewe**	**per adj for ha**
	(£)	**(£)**	**(£)**
Lambs †	59969	126	671
Wool	1745	4	20
Less Flock Depreciation	4373	9	49
Total Output (A)	**57340**	**121**	**642**
Variable Costs			
Concentrates	8233	17	92
Coarse fodder	1098	2	12
Vet and Medicines	3914	8	44
Other livestock costs	6271	13	70
Total Variable Costs (B)	**19517**	**40**	**218**
Gross Margin before forage (A-B) = (C)	**37824**	**81**	**424**
Forage Variable Costs (D)	423	1	5
Gross Margin after forage (C-D) = (E)	**37401**	**80**	**419**
Prices	**£/hd**	**% sales**	
Fat Lamb price	78	85	
Store Lamb price	51	8	
Ewe Lamb price	93	7	
Draft ewe price	137		
Cull ewe price (£/ewe)	60		
Wool price (£/kg)	1.25		
Replacement price (£/head)	87		
Forage Costs			
Fertilizer (£/ha)	2		
Seed (£/ha)	2		
Spray (£/ha)	0		
Other crop costs (£/ha)	1		
Total (£/ha)	5		
Unadjusted forage area excluding commons	102.59		
* excludes stock away on agist			
† includes all enterprise output except wool			

APPENDIX 1 – ALTERNATIVE FARM INCOME MEASURES

Farm Corporate Income

FCI is calculated by subtracting the value of unpaid manual and managerial labour from FBI; see Appendix 7 for more detail. A comparison of Table 5.1 with Table 3.5 shows the considerable difference between the two profitability measures and demonstrates how care must be taken in choosing and using farm income measures.

Figure 5.1 FCI/farm for organic and non-organic farms by farm type 2012/13

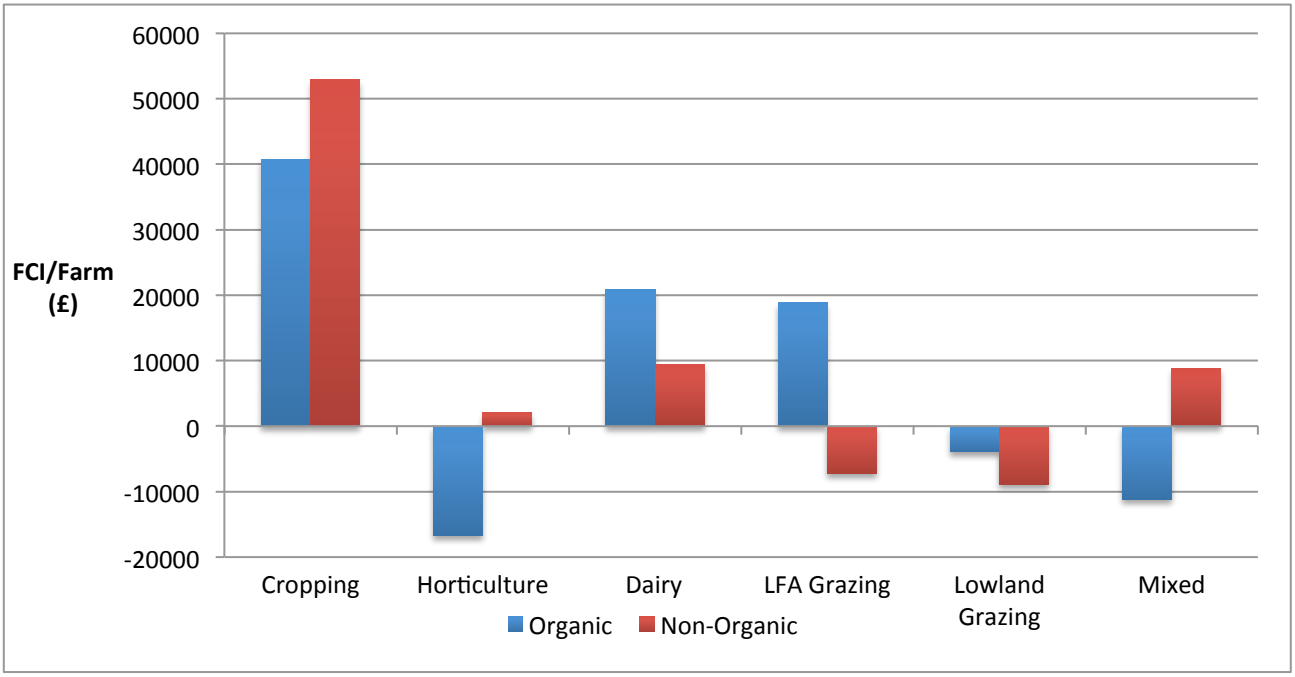


Table 5.1 Differences in FCI between organic and non-organic farms 2012/13 - per farm

FCI/Farm (£) 2012/13	Organic Mean	Non-Organic Mean	Difference	Significance
Cropping	40743	52888	-12145	-
Horticulture	-16665	2138	-18803	**
Dairy	20871	9354	11517	*
LFA Grazing	18806	-7183	25988	**
Lowland Grazing	-3875	-8879	5004	**
Mixed	-11130	8759	-19889	**
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

Figure 5.1 and Table 5.1 show FCI/farm for organic and non-organic farms for 2012/13. The data shows that FCI was significantly lower for organic horticulture and mixed farms compared to their non-organic counterparts. However, FCI for non-organic farms was significantly lower than organic farms for dairy, LFA grazing and lowland farm types.

Farm Investment Income

FII is calculated by adding net interest payments to Farm Corporate Income; see Appendix 7 for more detail.

Figure 5.2 FII/farm for organic and non-organic farms by farm type 2012/13

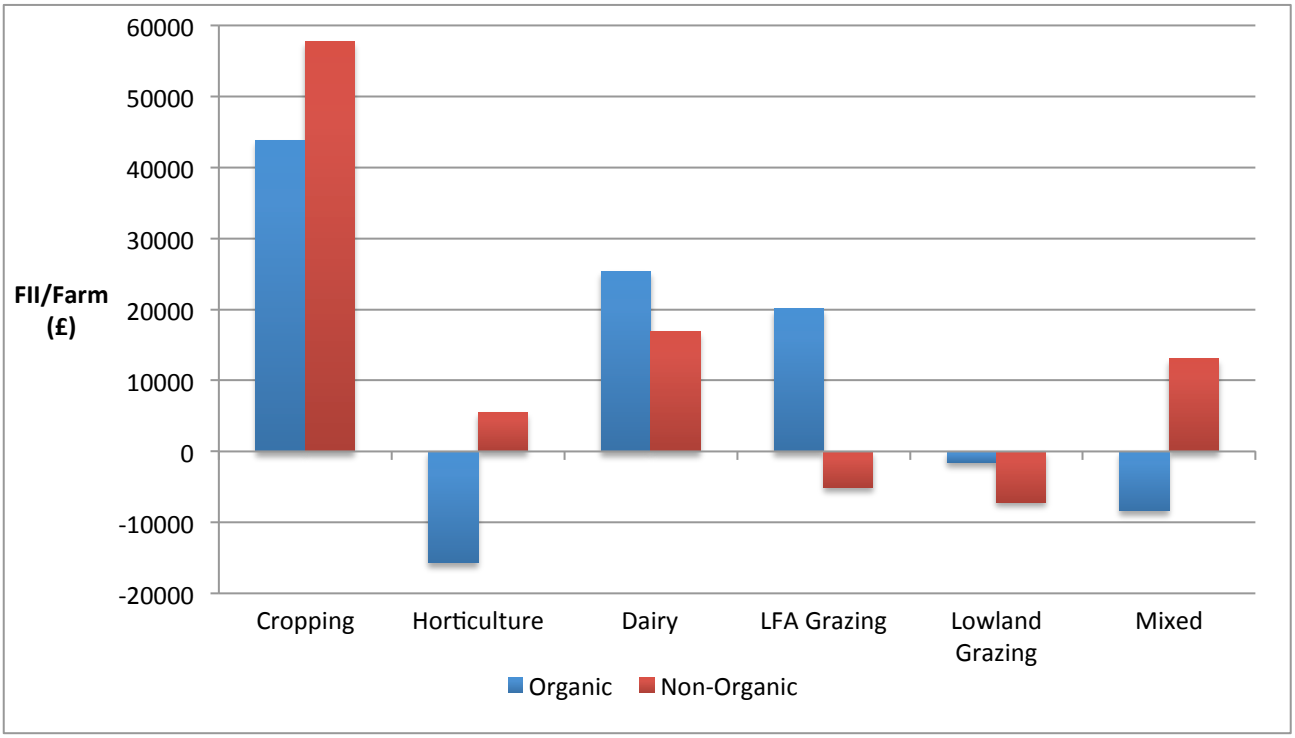


Table 5.2 Differences in FII between organic and non-organic farms 2012/13 - per farm

FII/Farm (£) 2012/13	Organic Mean	Non-Organic Mean	Difference	Significance
Cropping	43761	57727	-13966	-
Horticulture	-15691	5490	-21182	**
Dairy	25366	16878	8488	-
LFA Grazing	20108	-5040	25148	**
Lowland Grazing	-1524	-7126	5602	**
Mixed	-8301	13087	-21388	**
(- not significant, * significant at 10% (slight), ** at 5% (moderate), *** at 1% (strong))				

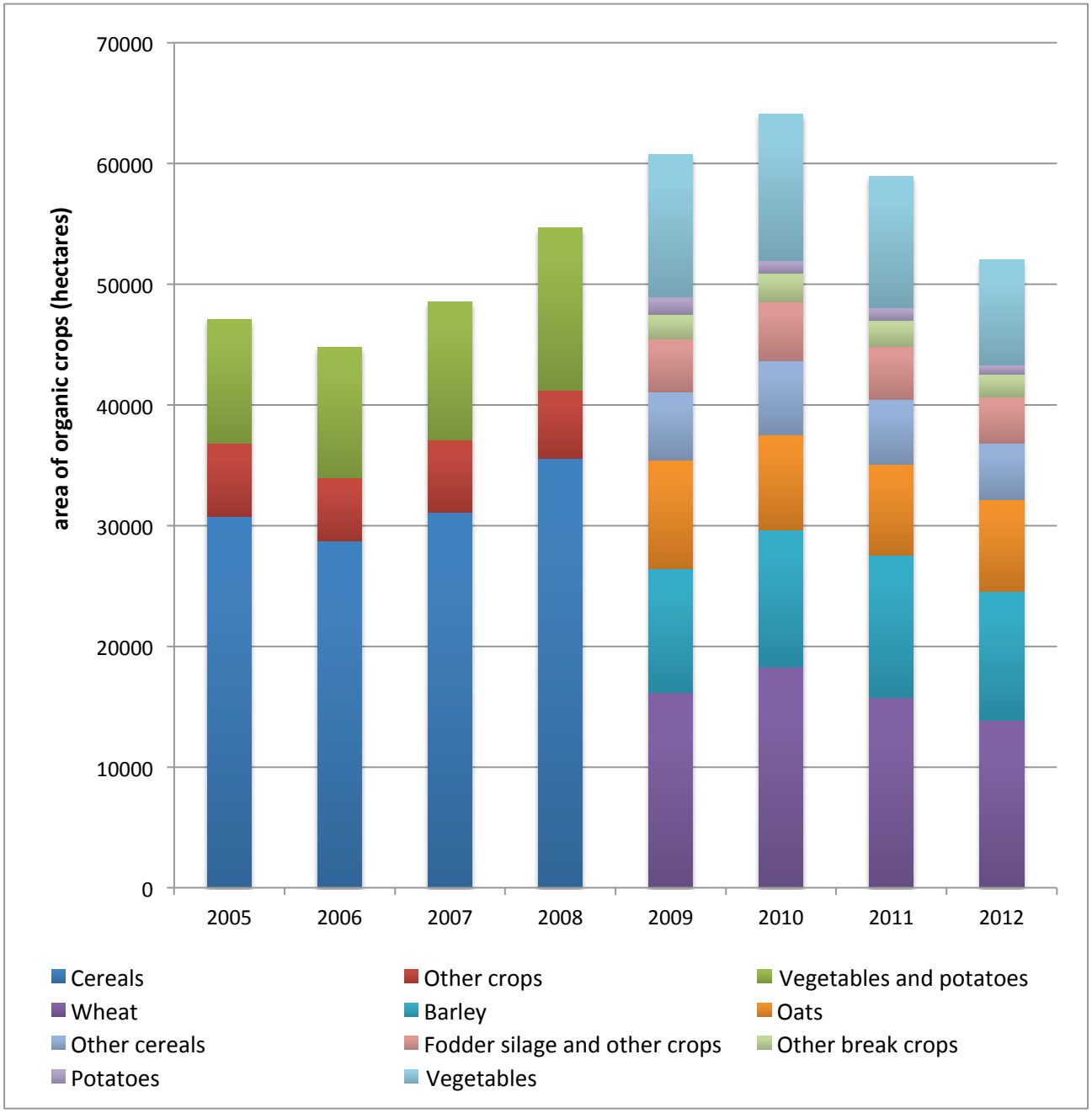
Figure 5.2 and Table 5.2 show FII/farm for organic and non-organic farms for 2012/13. The data shows very similar results to that of FCI with the only exception being that FII for the dairy farm type was not statistically greater for organic farms than non-organic farms as was the case for FCI.

APPENDIX 2 – ORGANIC CROPPING

Organic Crop Areas

There were 2,457 organic crop producers in England in 2012, some 11 per cent fewer than the 2,707 in 2011. Figure 6.1 shows the area of fully organic crops in England from 2005 to 2012. From a peak of 64,000 hectares in 2010, the organic area reduced in 2011 reaching 52,000 hectares in 2012.

Figure 6.1 Area of Organic Crops in England, 2005 to 2012



Relative to the previous year, most combinable crop areas were 12 per cent lower with the exception of oats; the area of this crop increased very slightly. Among higher value crops, potato and vegetable crop areas reduced by 27 and 20 per cent respectively.

Organic Business Performance

Our sample of 23 Cereals and General Cropping farms averaged 209 hectares and carried similar cropping to the previous year. When comparing between years, it should be noted that the sample included a small reduction in the potato area. This contributed to the reduced crop output but also to lower variable cost expenditure and lower fixed costs, and therefore a less intensive production system.

From a small positive Farm Business Income (FBI) in 2011, organic arable farms generated an FBI of -£75 per hectare in 2012. The main reason for the less favourable performance was the reduction in crop yield. Higher crop prices failed to mitigate the low crop yields.

Table 6.1 Agriculture Output and Costs

Agriculture Output & Costs - Organic farms in England - (Cereals and General Cropping)				
	2011/12		2012/13	
Farms in Sample	22		23	
Area of farm (hectares)	182.8		208.8	
Owner occupied area (%)	63.9		68.4	
AGRICULTURAL OUTPUT (£)	**Per farm**	**Per hectare**	**Per farm**	**Per hectare**
Crop output (excluding subsidies)	154,646	846	142,301	682
Livestock output (excluding subsidies)	4,985	27	7,253	35
Coupled subsidies	683	4		
Other agricultural output	7,927	43	6,796	33
TOTAL AGRICULTURAL OUTPUT	168,241	920	156,351	749
AGRICULTURAL COSTS				
VARIABLE COSTS (£)				
Crop specific costs	29,763	163	32,089	154
Livestock specific costs	2,040	11	2,695	13
Miscellaneous variable costs	539	3	525	3
TOTAL VARIABLE COSTS	32,342	177	35,309	169
GROSS MARGIN (£)	135,900	744	121,041	580
FIXED COSTS (£)				
Regular labour	15,968	87	21,099	101
Casual labour	7,556	41	7,247	35
Machinery fuel and oil	11,864	65	11,438	55
Other machinery costs (excl. fuel, oil, depreciatior	10,362	57	10,750	51
Machinery, glasshouse and other depreciation	17,864	98	18,952	91
Contract costs	20,975	115	22,911	110
Bank charges and professional fees	5,301	29	5,233	25
Water, electricity, & general	10,516	58	11,265	54
Net interest	1,487	8	2,674	13
Rent paid	16,972	93	15,309	73
Property maintenance	602	3	565	3
Depreciation of buildings and works	2,614	14	4,454	21
Miscellaneous fixed costs	7,702	42	5,454	26
TOTAL FIXED COSTS (£)	129,782	710	137,351	658
Profit/ (Loss) on sale of assets	1,216	7	687	3
FARM BUSINESS INCOME (Agriculture - £)	7,333	40	-15,622	-75
CROPPING (mean area (hectares))	ha		ha	
Winter wheat	24.6		24.2	
Winter barley	4.3		8.8	
Spring barley	16.5		15.4	
Beans for stockfeed	-		-	
Winter oilseed rape	-		-	
Maincrop potatoes	1.8		1.7	
Sugar beet	-		-	

Organic Gross Margins

All Crops

In 2012, organic farmers achieved the lowest yields that we have recorded since we started to calculate organic gross margins in 2006. Not only were they the lowest absolute yields, but they were also the lowest yields relative to non-organic crops that we have recorded.

However, for most organic crops, the prices were the highest achieved in recent years reflecting high basic commodity prices since organic premiums were below average for all crops except spring wheat.

For all combinable crops, growers spent more on fertiliser in 2012 than in previous years. The increases exceeded expected changes due to price rises suggesting increased applications of certified products. However, many organic producers do not apply purchased fertiliser to their crops. Similarly, growers spent more on crop protection in 2012 than in 2011, but many growers did not apply crop protection materials.

Wet spring conditions promoted crop growth but growers reported greater problems with weeds than in previous drier years.

Winter Wheat

Table 6.2 Winter wheat gross margin

Gross Margin - Winter Wheat - Organic				
	2011/12		2012/13	
Farms in Sample	40		30	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	25.98		29.68	
Yield (tonnes and tonnes per hectare)	119.6	4.6	87.1	2.9
Price (£ per tonne)	242		279	
OUTPUT (£)				
Crop sold	28,247	1,087	22,141	746
Feed used on-farm	714	27	2,154	73
Straw and by-products	1,713	66	1,522	51
TOTAL OUTPUT	30,673	1,181	25,817	870
VARIABLE COSTS (£)				
Seeds (including homegrown)	2,345	90	2,538	86
Fertilisers	472	18	949	32
Crop protection	97	4	285	10
Other crop costs	617	24	592	20
Drying and heating costs	83	3	131	4
TOTAL VARIABLE COSTS	3,614	139	4,496	151
GROSS MARGIN (£)	27,059	1,042	21,321	718

At £718 per hectare, winter wheat achieved the lowest gross margin recorded in the survey. The yield of 2.9 tonnes per hectare was only 42 per cent of that achieved by the non-organic crop. This represented a significant penalty as organic wheat usually yields at nearer to 50 per cent of non-organic.

At £279 per hectare, the 2012 winter wheat price was the highest recorded. At harvest organic feed wheat traded for £275 per tonne. Quality was generally poor with low specific weights, especially in the South of England. By October, prices had risen to around £280 per tonne.

Variable costs totalled £151 per hectare. The lower use of fertiliser and crop protection has reduced the exposure of organic producers to price rises. For example, winter wheat variable cost expenditure increased by 48 per cent in the previous six years, but for non-organic farmers, the increase was 92 per cent.

Spring Wheat

Table 6.3 Spring wheat gross margin

Gross Margin - Spring Wheat - Organic				
	2011/12		2012/13	
Farms in Sample	21		17	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	18.38		13.75	
Yield (tonnes and tonnes per hectare)	59.7	3.2	36.9	2.7
Price (£ per tonne)	249		299	
OUTPUT (£)				
Crop sold	14,380	782	10,490	763
Feed used on-farm	470	26	538	39
Straw and by-products	651	35	700	51
TOTAL OUTPUT	15,501	844	11,728	853
VARIABLE COSTS (£)				
Seeds (including homegrown)	1,947	106	1,342	98
Fertilisers	391	21	322	23
Crop protection	19	1	66	5
Other crop costs	499	27	309	22
Drying and heating costs	74	4	47	3
TOTAL VARIABLE COSTS	2,931	159	2,086	152
GROSS MARGIN (£)	12,571	684	9,642	701

The spring wheat gross margin of £701 per hectare was achieved at a low yield of 2.7 tonnes per hectare, but at a price of £299 per hectare. Less organic spring wheat was fed on the farm than any other crop. Together with the high price, this suggests that the crop was in demand for milling.

Spring wheat seed was relatively expensive at £98 per hectare.

Spring Barley

Table 6.4 Spring barley gross margin

Gross Margin - Spring Barley - Organic				
	2011/12		2012/13	
Farms in Sample	43		42	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	22.41		20.91	
Yield (tonnes and tonnes per hectare)	88.0	3.9	56.1	2.7
Price (£ per tonne)	236		266	
OUTPUT (£)				
Crop sold	18,096	808	13,191	631
Feed used on-farm	2,636	118	1,736	83
Straw and by-products	1,397	62	1,396	67
TOTAL OUTPUT	22,128	988	16,322	780
VARIABLE COSTS (£)				
Seeds (including homegrown)	1,935	86	1,780	85
Fertilisers	464	21	861	41
Crop protection	23	1	64	3
Other crop costs	375	17	555	27
Drying and heating costs	108	5	133	6
TOTAL VARIABLE COSTS	2,905	130	3,393	162
GROSS MARGIN (£)	19,223	858	12,929	618

Spring barley is the organic crop that is grown by the greatest number of organic producers.

The gross margin of £618 per hectare was achieved at a low yield, of 2.7 tonnes per hectare but high price. The average price recorded in the survey was £266 per tonne. Feed barley prices were around £260 per tonne at harvest and £270 per tonne in October.

Spring barley was grown at the highest average variable cost expenditure, of £162 per hectare, however this varied between growers. The average cost of purchased fertiliser was £41 per hectare.

Winter Oats

Table 6.5 Winter oats gross margin

Gross Margin - Winter Oats - Organic				
	2011/12		2012/13	
Farms in Sample	19		16	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	8.71		11.81	
Yield (tonnes and tonnes per hectare)	35.4	4.1	39.2	3.3
Price (£ per tonne)	234		257	
OUTPUT (£)				
Crop sold	7,766	891	8,935	756
Feed used on-farm	506	58	1,156	98
Straw and by-products	613	70	1,014	86
TOTAL OUTPUT	8,885	1,020	11,105	940
VARIABLE COSTS (£)				
Seeds (including homegrown)	644	74	785	66
Fertilisers	45	5	338	29
Crop protection	2	0	21	2
Other crop costs	85	10	174	15
Drying and heating costs	35	4	100	9
TOTAL VARIABLE COSTS	811	93	1,419	120
GROSS MARGIN (£)	8,074	927	9,686	820

Winter oats were the best performing combinable crop in 2012 with a gross margin of £820. Like non organic winter oats, they provided a higher return than winter wheat.

Although winter oats gave a poor yield of only 3.3 tonnes per hectare, this represented only a ten per cent reduction on the long term average yield, suggesting that oats were more tolerant of the 2012 growing conditions than other crops. The crop was sold at a high price, in this case £257 per tonne. Oat of milling quality sold for £265 per tonne at harvest and £270 per tonne in October. Feed crops would be worth about £15 per tonne less.

Of all organic crops, winter oats had the lowest variable costs of only £120 per hectare.

Spring Oats

Table 6.6 Spring oats gross margin

Gross Margin - Spring Oats - Organic				
	2011/12		2012/13	
Farms in Sample	23		24	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	8.78		14.92	
Yield (tonnes and tonnes per hectare)	27.8	3.2	44.9	3.0
Price (£ per tonne)	247		248	
OUTPUT (£)				
Crop sold	6,048	689	10,330	693
Feed used on-farm	837	95	813	54
Straw and by-products	295	34	968	65
TOTAL OUTPUT	7,180	818	12,112	812
VARIABLE COSTS (£)				
Seeds (including homegrown)	787	90	1,104	74
Fertilisers	176	20	589	39
Crop protection	14	2	147	10
Other crop costs	158	18	377	25
Drying and heating costs	38	4	108	7
TOTAL VARIABLE COSTS	1,173	134	2,325	156
GROSS MARGIN (£)	6,007	684	9,786	656

Spring Oats achieved a gross margin of £656 per hectare. This crop yielded poorly at 3.0 tonnes per hectare but sold at the high price of £248 per tonne.

Triticale

Table 6.7 Triticale gross margin

Gross Margin - Triticale - Organic				
	2011/12		2012/13	
Farms in Sample	12		13	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	12.20		10.58	
Yield (tonnes and tonnes per hectare)	34.3	2.8	30.6	2.9
Price (£ per tonne)	188		225	
OUTPUT (£)				
Crop sold	3,462	284	5,888	557
Feed used on-farm	3,006	246	997	94
Straw and by-products	923	76	1,105	104
TOTAL OUTPUT	7,391	606	7,990	755
VARIABLE COSTS (£)				
Seeds (including homegrown)	1,239	102	1,036	98
Fertilisers	21	2	176	17
Crop protection			1	0
Other crop costs	144	12	142	13
Drying and heating costs	30	2	39	4
TOTAL VARIABLE COSTS	1,434	118	1,394	132
GROSS MARGIN (£)	5,957	488	6,597	623

Triticale was the only combinable organic crop with an improved gross margin in 2012 at £623 per hectare (£488 per hectare in 2011). The yield of 2.9 tonnes per hectare was marginally higher than in 2011. Merchants quoted triticale prices at harvest of around £262 per tonne, rising to £270 per tonne in October. However, the survey shows an average price of £225 per tonne, possibly after deductions for quality.

Triticale straw was a relatively valuable component of triticale output, accounting for 14 per cent of the value of crop produced.

Although triticale is relatively inexpensive to grow, seed is relatively costly at £98 per hectare.

Beans

Table 6.8 Beans gross margin

Gross Margin - Beans Harvested Dry - Organic				
	2011/12		2012/13	
Farms in Sample	28		20	
	Per farm	Per hectare	Per farm	Per hectare
Area per farm (hectares)	26.63		29.05	
Yield (tonnes and tonnes per hectare)	71.4	2.7	49.6	1.7
Price (£ per tonne)	282		319	
OUTPUT (£)				
Crop sold	19,367	727	13,745	473
Feed used on-farm	724	27	2,067	71
Straw and by-products	156	6	70	2
Area payment	977	37		
TOTAL OUTPUT	21,224	797	15,882	547
VARIABLE COSTS (£)				
Seeds (including homegrown)	2,374	89	2,468	85
Fertilisers	303	11	758	26
Crop protection	11	0	58	2
Other crop costs	244	9	433	15
Drying and heating costs	25	1	87	3
TOTAL VARIABLE COSTS	2,957	111	3,803	131
GROSS MARGIN (£)	18,267	686	12,079	416

For the fourth successive year, beans for stockfeed gave the lowest organic combinable gross margin, at £416 per hectare. The further benefit of growing beans, that we do not account for in the gross margin calculation, is that they fix nitrogen to the benefit of other crops in the rotation.

Organic beans proved to be the least resilient crop in the wet conditions of 2012; the yield of 1.7 tonnes per hectare was 28 per cent lower than the long term average and only 42 per cent of the yield achieved by non-organic beans.

Beans sold for around £295 per tonne at harvest and £300 per tonne in October, achieving a price of £319 per tonne.

Arable Fertility Crop

Arable fertility crops form an important part of the rotation on some organic farms. Whilst providing little output, these crops incurred variable costs of £65 per hectare in 2012 (£61 per hectare in 2011).

APPENDIX 3 – ORGANIC LOWLAND CATTLE AND SHEEP

Organic Lowland Grazing Producers

Table 7.1 compares the organic farms with the conventional producers[2].

The organic farms are smaller than their conventional counterparts (97% of the area) but they own a greater percentage of the land they farm at 62% compared to 54%.

Table 7.1 Farm Business Income for Conventional and Organic farms, 2012/2013

Type of Production	Conventional	Organic
Number of farms in group	231	36
Average farmed area (hectares)	101.9	98.5
Average proportion of owned total farmed area	54%	62%
	£ per farm	
Output		
Livestock and crops	72,686	47,455
Agri-environment type schemes	4,146	9,611
Single Payment Scheme	17,154	20,875
Other	12,825	17,127
TOTAL FARM OUTPUT	106,811	95,068
Variable costs		
Livestock specific costs	27,148	12,520
Crop specific costs	8,639	2,921
TOTAL VARIABLE COSTS	35,787	15,441
TOTAL GROSS MARGIN	**71,024**	**79,627**
Fixed costs		
Labour	6,161	7,560
Machinery	23,842	24,361
General farming costs	10,718	12,737
Land & Property	12,533	11,308
Interest paid	1,866	2,666
TOTAL FIXED COSTS	55,120	58,632
FARM BUSINESS INCOME	**15,904**	**20,995**

[2] For full details of Conventional and Organic producers see the Analysis of English Grazing Livestock Farms (Lowland) – Organic and Conventional, page 77

Output from the organic farms is lower when compared to conventional equivalents; with the output from livestock and crops 65% of the conventional level, and total output being 89% of the conventional farms.

The output from the agri-environment type schemes is approaching two and a half times higher for the organic producers. Output from the Single Payment Scheme (SPS) is also higher per farm and £44 higher per hectare for the organic producers. The organic lowland cattle and sheep farms generally take less short-term grazing agreements than the conventional farms due to organic status and registration. Therefore there is a lower incidence of the landlord retaining the single payment and so the organic producers receive a higher payment per hectare. The 'Other' sources of output are higher for the organic farms, £4,302 per farm.

With the lower 'farming' output, organic farms have lower variable costs; being only 43% of the level of conventional producers. The resulting total gross margin per farm for the organic farmers is 112% of the conventional level. Fixed costs for the organic farms are higher per farm; 106% of the level of the conventional producers, and relative to total output, is much higher than the conventional producers.

The Farm Business Income (FBI) per farm for the organic producers is £5,091 (or 32%) higher than their conventional counterparts. This is the first time in the last five years that the organic producers have outperformed their conventional contemporaries. The FBI of the organic farms roughly equals the Single Payment whereas the conventional producers' FBI was only 93% of the Single Payment.

Table 7.2 illustrates some of the physical differences between the types of production; organic producers keep 97 fewer ewes and 15 fewer 'Other cattle', slightly more than three quarters the level of the conventional total livestock units. Stocking rates on organic farms are 78% of the conventional level, which in itself is not very high at 1.02 Livestock Units per hectare.

Organic producers tend to reseed their grassland more frequently so have more temporary grassland than conventional producers.

Table 7.2 Land and Livestock Details- Organic and Conventional Production, 2012/2013

	Conventional	Organic
Farmed area (ha)	101.9	98.5
Crops (ha)	7.1	4.6
Temporary grass (ha)	13.7	18.8
Permanent grass (ha)	68.8	65.7
Rough grazing (ha)	5.9	4.5
Average No. of Beef cows	23	27
Average No. of Other Cattle	85	70
Average No. of Ewes	179	82
Total Livestock Units	95.0	72.8
GLU's per adjusted Ha	1.02	0.80

Both types of production have very 'strong' end of year balance sheets with their balance sheet ratios very similar. The conventional producers have lower net worth, as they own less land and therefore have lower total assets. Their total liabilities are 84% of the organic producers level (see Table 7.11 Balance Sheet 2012/13 (end of year) page 81).

Table 7.3 illustrates the sources of output and costs for the differing types of production relative to the level of output achieved. The organic producers have higher environmental type payments, Single Payment Scheme and Other output relative to total output, and less 'livestock & crops' which now amounts to only half of the output. This makes organic production potentially more vulnerable to changes to the support given to farming in the form of the Single Payment Scheme and the agri-environmental schemes. The Conventional producers are more reliant on the 'market place' than Organic producers, so are therefore less affected by any changes to the support regime.

For the organic producers, the lower variable costs but higher fixed costs in comparison to output of the organic producers, results in a higher Farm Business Income per £100 output.

Table 7.3 Type of Production- Income and Costs illustrated 'Per £100 Output', 2012/2013

	Conventional	Organic
	£ per £100 output	
OUTPUT		
Livestock & crops	68	50
Agri-environmental type schemes	4	10
Single Payment Scheme	16	22
Other	12	18
TOTAL FARM OUTPUT	100	100
TOTAL VARIABLE COSTS	34	16
TOTAL GROSS MARGIN	**66**	**84**
FIXED COSTS		
Labour	6	8
Machinery	22	26
General farming costs	10	13
Land & Property	12	12
Interest	2	3
TOTAL FIXED COSTS	52	62
FARM BUSINESS INCOME	**14**	**22**

Gross Margin data from the Lowland Grazing Livestock farms

Gross margins for a number of enterprises on organic Lowland Grazing Livestock farms are summarized in Tables 7.4 to 7.6 with full details given in Tables 7.13 to 7.15. Where sample sizes allow, premium group figures are also produced and shown alongside the average figures.

Table 7.4 summarizes the gross margin from lowland beef cow enterprises for conventional and organic producers. The gross margin per cow is 17% higher for organic producers than for conventional producers, but with lower stocking rates the gross margin per hectare for the organic producers is lower than the conventional producers.

Table 7.4 Lowland Beef Cow Gross Margin data

Gross margins per cow, per LU and per hectare (Weighted performance)				2012/2013
		CONVENTIONAL		ORGANIC
		Average	Premium*	Average
Cows per herd		38	35	31
Stocking rate:	LU/ha	1.01	0.85	0.74
		£ per cow		
Output		425	529	366
Variable Costs		206	144	111
Gross Margin per head		219	385	256
Gross Margin per LU		219	382	258
Gross Margin per Hectare		222	327	188
* Top third selected by level of gross margin per cow				

For lowland beef bred finishing systems the lower variable costs per head for the organic producers more than compensates for their lower output, leaving the average conventional beef bred finisher with lower gross margin per head. The stocking rates on the conventional farms are higher than on the organic producers' farms so gross margin per hectare is closer but still favours the organic producers (Table 7.5).

Table 7.5 Lowland Beef Finishing - Beef bred finished cattle enterprise Gross Margin data 2012-2013

Gross margins per head, per LU and per hectare			
	CONVENTIONAL		ORGANIC
	Average	Premium*	Average
Number of head per farm	119	92	54
Stocking rate: LU/Ha	1.75	1.62	1.54
	£ per head		
Output	484	520	414
Variable Costs	279	185	106
Gross Margin per head	205	335	308
Gross Margin per LU	359	543	475
Gross Margin per Hectare	628	879	733
* Top third selected by level of gross margin per head			

The gross margin details for lowland ewes are given in Table 7.6 showing an advantage in margin of £12 per ewe in favour of the organic producers compared to conventional producers despite the lamb price being higher for conventional producers. On a per hectare basis this advantage is lost with the higher stocking rates on the conventional farms, however the stocking rates for both types of production are considered to be low. In comparison to the 2011/12 organic lowland sheep gross margin there has been a £5 decrease per ewe; variable costs were higher and output unchanged despite the sale value of finished lambs falling by £2 per head.

Table 7.6 Lowland Ewe Gross Margin data, 2012/2013

Gross margins per ewe and per hectare			
	CONVENTIONAL		ORGANIC
	Average	Premium*	Average
Ewes per flock	341	308	143
Average lamb sale price - £/lamb	76.0	77.7	75.1
Stocking rate - ewes per hectare	5.12	7.54	4.45
	£ per head		
Output	97.5	129.3	99.4
Variable Costs	46.8	49.7	36.7
Gross Margin per head	50.6	79.6	62.7
Gross Margin per LU	320	481	385
Gross Margin per Hectare	259	600	279
*Top third selected by gross margin per ewe			

Analysis of English Grazing Livestock Farms (Lowland) – Organic and Conventional

Table 7.7 Grazing Livestock (Lowland) farms in England

Gross Output, Variable Costs and Farm Gross Margin, 2012/2013		
	Conventional	Organic
Number of farms in group	231	36
Average farmed area (hectares)	101.88	98.48
Average proportion of owned total farmed area	54%	62%
	£ per farm	
Output		
Cattle	42,497	30,248
Sheep	18,215	8,370
Other livestock	763	1,207
Crops	7,932	4,417
Forage	3,278	3,213
Hill Payments (UELS/UTP)	0	0
Environmentally Sensitive Area	522	0
Countryside Stewardship	765	1,156
Higher and Entry Level Stewardship	2,753	4,522
Organic Aid/ Organic Entry Level Stewardship	0	3,872
Other management/ agri- environment schemes	107	62
Single Payment Scheme	17,154	20,875
Rental income	3,936	7,158
Contract work	4,031	1,655
Miscellaneous output	4,739	8,042
Interest received	118	272
TOTAL FARM OUTPUT	106,811	95,068
Variable costs		
Concentrates	15,271	5,377
Purchased fodder	1,472	786
Veterinary and medicines	2,785	1,433
Other livestock costs	7,620	4,925
Seeds	1,077	1,711
Fertilisers	5,605	426
Crop protection	1,133	61
Other crop costs	824	724
TOTAL VARIABLE COSTS	35,787	15,442
TOTAL GROSS MARGIN	**71,024**	**79,627**

Table 7.8 Fixed Costs, Farm Business Income, Farm Corporate Income and Farm Investment Income 2012/13

	Conventional	Organic
	£ per farm	
TOTAL GROSS MARGIN	**71,024**	**79,627**
Fixed costs		
Paid regular labour	4,706	5,106
Directors remuneration	119	1,649
Casual labour	1,336	804
Contract	5,395	5,138
Machinery repairs	4,170	4,307
Machinery fuel	5,029	4,270
Machinery depreciation	9,247	10,644
Other depreciation	0	1
Electricity	883	1,072
Other fuel	308	422
Water	1,015	1,031
Insurance	3,429	3,343
Professional fees	1,848	2,471
Other general costs	3,235	4,398
Property maintenance	3,981	3,680
Rent, hired in keep and bare land	5,337	4,778
Rates	169	245
Buildings depreciation	3,047	2,605
Long-term interest	1,066	1,941
Short-term interest	801	725
TOTAL FIXED COSTS	55,119	58,631
FARM BUSINESS INCOME	**15,905**	**20,996**
Less - All unpaid labour	24,927	23,120
***Equals* - FARM CORPORATE INCOME**	**-9,022**	**-2,124**
Plus - Net Interest	1,748	2,394
***Equals* - FARM INVESTMENT INCOME**	**-7,274**	**270**

Table 7.9 Alternative income measures 2012/13

Reconciliation between Net Farm Income and Farm Business Profit			
		Conventional	**Organic**
	FARM BUSINESS INCOME	**15,905**	**20,996**
Plus-	Directors remuneration	119	1,649
Less-	Net income from assets associated with the farm business	0	0
Plus-	Buildings and works depreciation	3,047	2,605
Plus-	Landlord type expenses	394	328
Plus-	Imputed rental income	295	383
Less-	Imputed rent and rental value	11,702	12,237
Plus-	Net Interest	1,748	2,394
Less-	Unpaid labour of partners	3,837	3,208
Equals-	**NET FARM INCOME****	**5,969**	**12,909**
** Excluding Breeding Livestock Stock Appreciation			

Table 7.10 Land use and indicators of technical efficiency 2012/13

	Conventional	Organic
Number of farms in group	231	36
Average farmed area (hectares)	101.88	98.48
Average proportion of owned total farmed area (%)	54%	62%
Land use		
Area of crops	7.1	4.6
Temporary grass	13.7	18.8
Permanent grass	68.8	65.7
Fodder crops	1.2	2.8
Rough grazing	5.9	4.5
Uncropped, fallow and turf	0.4	1.0
Forage hired in	4.8	1.2
Stocking		
Average number of dairy cows	1	0
Average number of beef cows	23	27
Average number of other cattle	85	70
Average number of ewes	179	82
Average number of other sheep	187	85
Grazing livestock units	GLU's per farm	
Dairy cows	1.2	0.0
Beef cows	11.6	13.6
Other cattle	52.3	45.4
Sheep	28.3	12.9
Other livestock	1.6	0.9
Total	**95.0**	**72.8**
GLUs per ha	1.01	0.78
GLUs per adjusted ha	1.02	0.80

Table 7.11 Balance Sheet 2012/13 (end of year)

	Conventional	Organic
Number of farms in group	231	36
Average farmed area (hectares)	101.88	98.48
Average proportion of owned total farmed area (%)	54%	62%
	£ per farm	
End of year assets & liabilities		
Land & buildings	825,278	987,022
Milk quota	30	11
Single Payment Scheme	22,747	27,970
Machinery	52,328	60,429
Tenant's other assets	331	88
Breeding livestock	45,679	35,653
Total fixed assets	946,393	1,111,174
Trading livestock	48,802	34,371
Crops	1,783	996
Forage and cultivations	5,525	5,497
Stores	4,975	1,978
Debtors and loans	8,404	15,031
Bank credit and cash	23,093	12,209
Other current assets	0	0
Total current assets	92,583	70,081
Total Assets	**1,038,976**	**1,181,255**
Financed by		
AMC	19,170	14,586
Bank loans	15,270	36,758
Other long term	9,337	6,225
Total long term	43,778	57,569
HP and lease	3,854	5,575
Creditors	7,715	7,068
Bank overdraft	18,078	16,967
Other short term	172	66
Total current liabilities	29,819	29,676
Total Liabilities	**73,597**	**87,245**
Net worth	**965,379**	**1,094,010**
Balance sheet ratios		
% Owner equity (net worth v.total assets)	93%	93%
% Fixed assets vs. total assets	91%	94%
Gearing (long-term loans v.total assets)	4%	5%
Total debt (external liabilities v.net worth)	8%	8%

Table 7.12 Fund flows 2012/13

	Conventional	Organic
Number of farms in group	231	36
Average farmed area (hectares)	101.88	98.48
Average proportion of owned total farmed area (%)	54%	62%
	£ per farm	
Funds available from trading		
Farm Business Income	15,905	20,996
Buildings and works depreciation	3,047	2,605
Machinery depreciation	9,247	10,645
Change in valuation *	-562	-6,031
Trading net fund flow surplus	**27,636**	**28,215**
Funds used for farm investments		
Net property and quota purchases	1,498	15,251
Net landlord capital purchases	3,564	3,035
Net machinery and equipment purchases	10,389	15,954
Capital net fund flow	15,451	34,240
Total farm fund flow surplus	**12,185**	**-6,025**
Funds used for private expenditure		
Private drawings	22,749	24,393
Net private funds introduced	2,350	20,586
Private fund outflow	-20,399	-3,807
Total net fund flow surplus	**-8,214**	**-9,832**
Increase in loans and deposits	4,604	10,977
Increase in bank balance	-3,587	-70
Increase in cash in hand	14	1
Increase in debtors	-1,007	316
Increase in creditors	-970	-898
Net change in funding	**8,214**	**9,832**
* An increase in valuation is represented by a negative, with funds being used to increase the live and deadstock valuation.		

Gross Margin details for the Lowland Grazing Livestock Farms. Average Figures for Organic farms

Table 7.13 Organic lowland beef cows gross margins 2012/13

Gross margins per cow, per LU and per hectare (Weighted average performance)		**2012/13**
		Average
Number of farms		28
Cows per herd		31
Stocking rate:	LU/ha	0.74
	ha/LU	1.36
		£ per cow
Output:	calf output	410.8
	depreciation	-44.8
ENTERPRISE OUTPUT (excl. BLSA)		**366.0**
Concentrates		19.5
Coarse fodder		8.8
Veterinary and medicines		17.0
Other livestock costs		45.2
Forage †		20.0
TOTAL VARIABLE COSTS ‡		**110.5**
GROSS MARGIN per cow (excl. BLSA)		**255.5**
GROSS MARGIN per LU (excl.BLSA)		258
GROSS MARGIN per hectare (excl. BLSA)		188
Concentrates per £100 output		5
Averages - previous year		
Stocking rate:	LU/ha	0.77
Gross Margin: £/cow		256.7
Gross Margin: £/ha		198
† Forage includes seeds, fertilisers, sprays and other crop costs		
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.		

Table 7.14 Organic finished cattle from beef bred calves or stores

Gross margins per head, per LU and per hectare (Weighted average performance)		2012/13
		Average
Number of farms		15
Cattle per herd		54
Average finished animal sale price - £/head		1086
Stocking rate:	LU/ha	1.54
	ha/LU	0.65
		£ per head
OUTPUT		**413.8**
Concentrates		35.0
Coarse fodder		11.3
Veterinary and medicines		8.0
Other livestock costs		47.4
Forage †		15.8
TOTAL VARIABLE COSTS ‡		**106.1**
GROSS MARGIN per head		**307.7**
GROSS MARGIN per LU		475
GROSS MARGIN per hectare		733
Concentrates per £100 output		8
Averages - previous year		
Stocking rate:	LU/ha	1.57
Gross Margin: £/head		333.4
Gross Margin: £/ha		826
Average finished sale price- £ /head		1002
† Forage includes seeds, fertilisers, sprays and other crop costs		
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.		

Table 7.15 Organic lowland breeding ewes

Gross margins per ewe and per hectare		**2012/13**
		Average
Number of flocks		16
Ewes per flock		143
Average lamb sale price - £/lamb		75.1
Stocking rate - ewes per hectare		4.45
		£ per head
Output -	lambs	107.5
	wool	3.8
	depreciation	-11.9
ENTERPRISE OUTPUT (excl. BLSA)		**99.4**
Concentrates		14.5
Coarse fodder		1.0
Veterinary and medicines		6.6
Other livestock costs		11.1
Forage †		3.4
TOTAL VARIABLE COSTS ‡		**36.7**
GROSS MARGIN per ewe (excl. BLSA)		**62.7**
GROSS MARGIN per LU (excl.BLSA)		385
GROSS MARGIN per hectare (excl. BLSA)		279
Concentrates per £100 of output		15
Averages - previous year		
Stocking rate:		5.35
Gross Margin: £/ewe		67.4
Gross Margin: £/ha		360
Average finished sale price- £ /head		77.5
† Forage includes seeds, fertilisers, sprays and other crop costs		
‡ Restricted to concentrates, coarse fodder, veterinary and medicines, other livestock costs and forage.		

APPENDIX 4 – ORGANIC LFA CATTLE AND SHEEP

For some years there had been a steady increase in the number of LFA farms converting to certified organic production methods. Organic areas and livestock numbers peaked in 2009/10 and have since experienced a slight decline. The current sample of 246 English LFA grazing farms includes 22 fully organic farms. Within this there are 13 organic suckler herds and 11 organic upland flocks.

Table 8.1 compares suckler herd performance to the gross margin (GM) and net margin (NM) level across organic and non-organic farms. The non-organic suckler herd output is £11/cow more than the organic output but due to higher variable costs (particularly forage costs) the gross margin is £21/cow below the organic average. As can be seen from the standard deviation figures and the spread of GMs there is considerable variation across farms. Organic fixed costs are £53/cow higher than the non-organics so that at the net margin level (excepting farmer and spouse labour) the non-organic farms have a £36/cow advantage. After allowing for the farmer and spouse labour (of £135/cow) the final net margins are -£297/cow and -£336/cow for non-organic and organic respectively. The stocking rate for the organic farms, of 0.65 GLU/total adjusted area (including commons and all land rented in) is 25% less than that of the non-organics.

Table 8.1 LFA Suckler Herd Performance Non-organic and Organic

2012/13	Non-organics	std dev	Organics	std dev
Number of farms	162		13	
Number of farms (weighted)	3791		93	
	£ per cow			
Enterprise Output (excl. BLSA)	**381**	**257**	**370**	**131**
BLSA	51	65	55	31
Total Variable costs	**194**	**122**	**167**	**81**
Concentrates	45	49	48	46
Purchased fodder and keep	18	33	13	19
Vet costs	21	18	21	14
Other livestock costs	56	76	69	40
Forage variable costs	54	36	16	15
Gross Margin (excl. BLSA)	**187**	**271**	**204**	**146**
Gross Margin range	*-911 to 2198*		*47 to 488*	
Total Fixed costs	**349**	**168**	**402**	**123**
Total costs	**544**	**220**	**569**	**160**
Enterprise NM (excl. BLSA)	-162	250	-198	162
Enterprise NM after F&S labour (excl. BLSA)	**-297**	**285**	**-336**	**182**
Stocking rate (GLUs/total adj ha)	0.81	0.34	0.65	0.27

Table 8.2 compares organic and non-organic Upland LFA flocks to the GM and NM level. Organic enterprise output is £2/ewe higher than non-organic output at £97/ewe. Variable costs per ewe are £11/head lower for the organics resulting in a gross margin of £58/ewe for organic flocks and £46/ewe for the non-organic flocks. Fixed costs are £71/ewe for organic flocks and £60/ewe for non-organics – this results in net margins (after farmer and spouse labour) of -£35/ewe and -£45/ewe for organic and non-organic flocks respectively.

Table 8.2 LFA Upland Flock Performance Non-organic and Organic

2012/13	Non-organics	std dev	Organics	std dev
Number of farms	113		11	
Number of farms (weighted)	2774		63	
	£ per ewe			
Enterprise Output (excl. BLSA)	**95**	**34.3**	**97**	**27.2**
BLSA	-1	3.0	1	4.0
Total Variable costs	**50**	**20.3**	**39**	**12.7**
Concentrates	23	15.3	16	7.2
Purchased fodder and keep	3	4.1	2	3.2
Vet costs	7	3.6	9	2.6
Other livestock costs	10	3.9	10	3.1
Forage variable costs	8	4.5	2	2.4
Gross Margin (excl. BLSA)	**46**	**29.7**	**58**	**23.8**
Gross Margin range	*-38 to 191*		*6 to 84*	
Total Fixed costs	**60**	**21.1**	**71**	**18.8**
Total costs	**110**	**31.9**	**110**	**25.6**
Enterprise NM (excl. BLSA)	-15	27.6	-14	27.6
Enterprise NM after F&S labour (excl. BLSA)	**-43**	**31.6**	**-35**	**26.5**
Stocking rate (GLUs/total adjusted ha)	0.76	0.31	0.73	0.27
Lambing rate (born & reared/ewe)	1.43	0.34	1.48	0.25

Table 8.3 compares whole farm profitability across all four cost centres between the 22 fully organic farms and the remainder of the sample. This table shows that the overall difference in profit favours the organic farms by about £20,000 on any income measure. This is down mainly to the higher profitability of the Agriculture cost centre (by about £10,000) and a greater Single Farm payment (also by about £10,000). Organic farms also earn more from Agri-environmental schemes but less from Diversification than the Non-organic LFA farms.

Table 8.3 LFA Grazing Livestock Farms: Business Output, Input Costs and Income, 2012 lamb year, Organic vs Non-organic

Derivation of farm income measures	Cost Centre (£ per farm)									
	Agriculture		**Agri-environment and other payments**		**Diversification out of agriculture**		**Single Payment Scheme**		**Farm Business Income**	
	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic	Non-organic	Organic
% contribution of centre revenue to total:	67%	63%	11%	13%	3%	0%	19%	23%		
Total output (Revenue)	**70,482**	**82,294**	**11,492**	**17,133**	**3,007**	**366**	**20,065**	**30,199**	**105,046**	**129,992**
Variable costs	40,901	38,406	81	732	116	122	2	2	41,100	39,262
Total Gross margin	**29,581**	**43,888**	**11,411**	**16,400**	**2,891**	**244**	**20,064**	**30,198**	**63,946**	**90,729**
Fixed costs	39,227	43,878	2,398	3,249	1,215	1,071	2,507	2,532	45,347	50,731
Total Costs	**80,127**	**82,284**	**2,479**	**3,982**	**1,331**	**1,194**	**2,509**	**2,534**	**86,447**	**89,993**
Profit/(loss) on sale of fixed assets	522	239							522	239
Farm Business Income	**-9,124**	**249**	**9,012**	**13,151**	**1,676**	**-828**	**17,556**	**27,666**	**19,121**	**40,238**
Adjustment for unpaid manual labour	24,674	20,547	737	780	892	105	0	0	26,303	21,432
Farm Corporate Income	**-33,798**	**-20,298**	**8,275**	**12,371**	**783**	**-933**	**17,556**	**27,666**	**-7,183**	**18,806**
Interest payments (net of interest received)	1,946	1,230	58	24	80	12	58	36	2,143	1,302
Farm Investment Income	**-31,851**	**-19,068**	**8,333**	**12,395**	**864**	**-921**	**17,614**	**27,702**	**-5,040**	**20,108**
% contribution of centre total costs to total:	93%	91%	3%	4%	2%	1%	3%	3%		
								Imputed rent	8,531	12,556
								Ownership charges	2,472	3,741
								Director's remuneration	0	0
								Unpaid labour of principal farmer and spouse	21,794	17,940
								Net Farm Income	**10,694**	**29,233**
								Holding gains not included in farm income	51,873	67,661
Non-organic Sample size (unweighted)	**224**							Breeding Livestock Appreciation (BLSA)	1,245	1,670
Number (weighted)	**6,010**							Revaluation of machinery, permananet crops, glasshouse, quota	1,497	1,131
Organic Sample size (unweighted)	**22**							Revalutation of land	49,131	64,861
Number (weighted)	**169**							**Management and Investment Income**	**-11,075**	**11,326**

APPENDIX 5 – ORGANIC DAIRY PRODUCTION

Background

McHoul *et al*. (2014) in their annual *Dairy Farming in England* report based upon the FBS, report farm level and gross margin data for an overall sample of conventional and organic dairy farms combined, plus separate analyses of these two sub-sectors of the dairy industry. The contribution presented in this report focuses largely upon the results for organic dairy farms in England, however comparisons are made with conventional dairy production in order to place the results for organic dairying in a more general context.

Data and Results

Data were taken from the 2012/13 FBS returns and analysed following the methodologies described in McHoul *et al*. (2014). McHoul *et al*. (2014) provide analyses of the conventional and organic dairy farms overall for English Dairy Farming and these are reproduced here within the *Organic Farming in England* report, with acknowledge that the results and description below draw heavily upon McHoul *et al.* (2014).

Table 9.1 provides the farm level returns for the overall sample of conventional and organic farms combined, together with results presented separately for conventional and organic producers. The analysis covers 2011/12 and 2012/13 to provide comparison across the two years. For the 2012/13 year, of the 314 dairy farms in the overall sample, 275 are conventional dairy farms and 39 are organic dairy farms. It is interesting to note that for conventional farms, FBI fell by 42% from £624/ha to £360/ha, whereas on organic farms FBI rose by 1% from £380/ha to £384/ha. In 2012/13 organic FBI, examined on a per average farm basis (£53,284), rose above that of conventional farms (£51,138), in contrast to the previous year whereby average conventional dairy farm FBI was considerably greater than average organic dairy farm FBI. Examining organic production in more detail, total farm output increased by 4% from £2,405/ha in 2011/12 to £2,510/ha in 2012/13; specifically milk and calf output increased by 9% from £1,551/ha to £1,693/ha. Organic farm variable costs increased by 12% from £890/ha to £997/ha; fixed costs also increased, but to a lesser extent, by 3% equating to a rise from £1,165/ha to £1,199/ha.

Table 9.2 provides the dairy enterprise results for all farms and for conventional and organic farms as separate data. The "all farms" results shows that the average number of cows

increased by 2%, whilst average yield per cow decreased by 1.6% between 2011/12 and 2012/13. Despite the yield reduction, the overall value of milk output increased by £25 per cow (+1%) due to an increase in average milk price of 0.8 pence per litre (ppl) from 28.2ppl to 29.0ppl. Average herd size on organic farms in 2012/13 was 117.5 cows, almost identical to the 2011/12 average herd size. The 2012/13 average milk yield of 6,183 litres per cow is 1,396 litres lower than the conventional herd average, however the organic milk price is 4.9ppl higher, at 33.8ppl for organic farms compared to 28.9ppl for conventional farms. Given the lower yield but higher price on organic farms, total organic dairy output in 2012/13 of £2,001/cow is similar to £2,068/cow for conventional herds, demonstrating a narrowing of the gap between conventional and organic herds to £67/cow in contrast to £124/cow output gap in 2011/12. Variable costs rose by 10% (+£85) to £952/cow for organic farms in comparison to a 12% (+£119) increase to £1,097/cow for conventional farms in 2012/13. On organic farms these output and cost changes led to a small rise of 0.5% (+£5/cow) in gross margin. Consequently, this has resulted in organic farms returning a total gross margin of £1,050/cow in comparison to the return of £972/cow for conventional farms in 2012/13. This notable difference is in contrast to the 2011/12 results whereby the conventional farms produced a higher total gross margin of £1,057/cow compared to £1,045/cow for organic farms.

Table 9.1: Outputs, Inputs and Margins for All Farms, Conventional and Organic

	All		Conventional		Organic	
	11/12	12/13	*11/12*	12/13	*11/12*	12/13
Number of farms	*320*	314	*273*	275	*47*	39
Area (ha)	*142.68*	141.91	*141.67*	142.05	*153.23*	138.76
	£/ha		**£/ha**		**£/ha**	
Output						
Milk	*2248*	2382	*2290*	2410	*1656*	1769
Calf	*102*	121	*104*	122	*73*	88
Lease Quota (net)	*0*	0	*0*	0	*-2*	0
Other Dairy	*1*	1	*2*	2	*0*	0
Herd Replacement	*-238*	-252	*-242*	-256	*-176*	-164
Total Dairy Output	***2113***	**2252**	***2154***	**2277**	***1551***	**1693**
Other Livestock	*522*	529	*533*	537	*387*	354
Other	*573*	505	*575*	507	*466*	463
Total Farm Output	***3209***	**3286**	***3262***	**3321**	***2405***	**2510**
Variable Costs						
Home-grown Concentrates	*64*	71	*63*	71	*79*	86
Purchased Concentrates	*689*	832	*705*	846	*461*	522
Coarse Fodder	*52*	69	*52*	70	*46*	49
Other Livestock	*9*	11	*9*	11	*1*	2
Vet and Medicine	*94*	101	*96*	103	*58*	59
Other Livestock Costs	*224*	247	*226*	247	*198*	237
Seed	*32*	35	*32*	35	*26*	24
Fertiliser	*119*	136	*125*	142	*8*	6
Crop Protection	*31*	37	*32*	39	*2*	2
Other Crop Costs	*20*	22	*21*	22	*11*	11
Total Variable Costs	***1333***	**1560**	***1361***	**1585**	***890***	**997**
Fixed Costs						
Labour	*344*	376	*348*	379	*285*	305
Contract	*146*	148	*147*	149	*149*	126
Machinery Depreciation	*173*	189	*177*	191	*115*	138
Other Machinery	*197*	209	*199*	212	*150*	152
Miscellaneous	*265*	281	*267*	283	*233*	234
Rent and Rental Equivalent	*261*	280	*263*	282	*232*	244
Total Fixed Costs	***1386***	**1483**	***1400***	**1496**	***1165***	**1199**
Net Farm Income	***489***	**243**	***500***	**240**	***350***	**313**
Farmer / Spouse Labour	*198*	205	*200*	206	*177*	198
Management and Investment Income (MII)	***292***	**38**	***300***	**34**	***173***	**116**
Farm Business Income (FBI)	***608***	**361**	***624***	**360**	***380***	**384**

Table 9.2: Gross Margin Results for All Farms, Conventional and Organic

	All		Conventional		Organic	
	11/12	12/13	*11/12*	*12/13*	11/12	*12/13*
Number of farms	*297*	289	*257*	252	*40*	37
Average number cows	*148.9*	152.1	*150.6*	153.8	*116.1*	117.5
Average yield (litres)	*7648*	7528	*7700*	7579	*6322*	6183
Milk price (ppl)	*28.2*	29.0	*28.1*	28.9	*31.9*	33.8
	£/cow		**£/cow**		**£/cow**	
Output						
Milk	*2159*	2184	*2165*	2187	*2016*	2089
Calf	*98*	112	*98*	112	*96*	105
Lease Quota (net)	*0*	0	*0*	0	*0*	0
Other Dairy	*1*	1	*1*	2	*0*	0
Herd Replacement	*-228*	-231	*-229*	-233	*-200*	-193
Total Dairy Output	***2031***	**2066**	***2036***	**2068**	***1912***	**2001**
Variable costs						
Concentrates	*607*	690	*609*	693	*563*	611
Coarse Fodder	*35*	48	*35*	48	*37*	36
Vet and Medicine	*75*	79	*76*	80	*56*	62
Other Livestock Costs	*169*	176	*168*	174	*189*	220
Forage Costs	*88*	98	*91*	101	*22*	23
Total Variable Costs	***974***	**1091**	***978***	**1097**	***867***	**952**
Total Gross Margin	***1057***	**975**	***1057***	**972**	***1045***	**1050**

Discussion

The farm level financial returns (FBI/ha) from the FBS 2012/13 data for English dairy farms demonstrate that FBI of organic dairying was broadly in line with performance in 2011/12, in contrast to the reduction in FBI observed on conventional dairy farms. While milk price increases were noted for both sectors, conventional farms incurred greater increases in purchased concentrate costs (on a £/ha basis) together with increased fertiliser and crop protection costs. The impact of these farm level costs of production have been considerably smaller on organic dairy farms which are more frequently observed to be more reliant upon internal farm input systems than their conventional counterparts. Average fixed costs increased on both conventional and organic farms, but once again organic farms incurred lower cost increases than conventional dairy farms. At gross margin level it is instructive to examine the drivers behind the increase in gross margin on organic dairy enterprises and the decrease on conventional enterprises. Organic enterprises accrued an increase of £73/cow additional milk sales in 2012/13 in comparison to the additional £22/cow on conventional dairy enterprises. In addition, while organic dairy enterprises incurred an increase of £48/cow in concentrate costs, on conventional dairy enterprises this increased cost accounted for £84/cow. Hence, the main drivers of the difference in performance between the two sectors relates to the relatively large increase in milk output per cow observed in organic production, combined with the smaller increase in per cow concentrate costs. In 2012/13, when examined on a per cow basis, organic production outperformed conventional production. In summary, in contrast to previous years, the relative performance of organic dairy production at either per hectare farm level, or per cow gross margin level, marginally outperformed conventional dairy production.

Paul Wilson, Helen McHoul and Philip Robertson

References

McHoul, H., Robertson, P. and Wilson, P. (2014). *Dairy Farming in England 2012/13*. Available at http://www.ruralbusinessresearch.co.uk/

APPENDIX 6 – 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

APPENDIX 7 – 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[3] which allows farms of different business organisation, tenure and

[3] 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

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[4] 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).

for reasons of continuity, rather than to change the definition, pending the introduction of a wider measure to include all on-farm business activities.

[4] 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.

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.

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 which are still within the agricultural cost centre but do not fall within either livestock or crop enterprise output. These will include revenue from wayleaves, agricultural hirework, sundry woodland sales, contract farming rent, miscellaneous insurance receipts and compensation payments.

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 2007. SO's are based on a five-year average in order to lessen the impact of yearly fluctuations on calculated SOs.
The 2007 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 including those with areas of common grazing.

REFERENCES

Bawden, T. (2013) 'Organic farming hits the skids as recession-hit consumers desert the sector', *The Independent,* 16 June 2013 [Online]. Available at: http://www.independent.co.uk/environment/green-living/organic-farming-hits-the-skids-as-recessionhit-consumers-desert-the-sector-8660916.html (Accessed: 29 November 2013).

DEFRA (2011) *Farming Statistics Note on the Revised EC Classification of Farm Types: Effects on the June Survey Population and Farm Business Survey Sample in England.* [Online], Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182207/defra-stats-foodfarm-landuselivestock-june-results-typology.pdf (Accessed: 26 January 2014).

DEFRA (2012) *Farm Classification in the United Kingdom.* Available at: http://webarchive.nationalarchives.gov.uk/20130123162956/http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-UK_Farm_Classification.pdf (Accessed 22 December 2013).

DEFRA (2013) *Organic Farming.* [Online], Available at: https://www.gov.uk/government/collections/organic-farming (Accessed: 20 November 2013).

Euro Stat (2013) *Organic Farming.* [Online], Available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database (Accessed: 19 November 2013).

FAOSTAT (2013) *Agricultural area organic, total.* [Online], Available at: http://faostat.fao.org/site/377/DesktopDefault.aspx?PageID=377#ancor (Accessed: 15 November 2013).

Mintel (2013) 'Organic Food and Drink', *Mintel Oxygen Reports Platform* [Online]. Available at: http:/academic.mintel.com (Accessed: 10 November 2013).

Nutrition and Public Health Intervention Research Unit (2009) *Comparison of putative health effects of organically and conventionally produced foodstuffs: a systematic review,* London: Food Standards Agency. Available at http://www.food.gov.uk/multimedia/pdfs/organicreviewreport.pdf (Accessed: 18 November 2013).

Scottish Executive Environment and Rural Affairs Department (SEERAD) (2006) *Measures of Farm Income.* [Online] Available at: http://www.scotland.gov.uk/Resource/Doc/933/0041874.pdf (Accessed 20 January 2014).

Soil Association (2013a) *Organic market report*. Available at http://www.soilassociation.org/marketreport (Accessed: 16 December 2013).

Soil Association (2013b) *Organic Market Report 2013* [Online]. Available at http://www.soilassociation.org/LinkClick.aspx?fileticket=whbpEnZUd7A%3d&tabid=1984 (Accessed: 17 November 2013).

Cover photo: Wilcockson, S. (n.d.) *Cows at Cockle Park Farm, Northumberland*