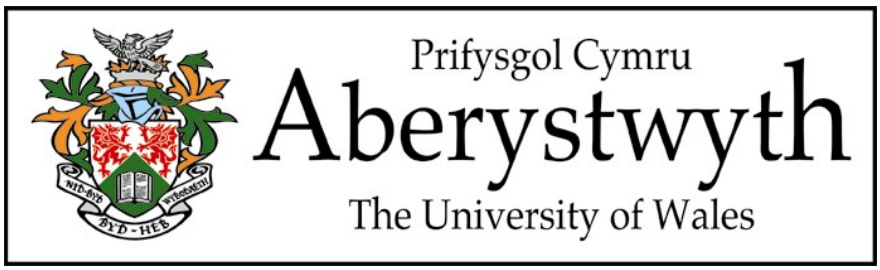

ORGANIC FARM INCOMES IN ENGLAND AND WALES 1999/00 AND 2000/01

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November 2004

Organic Research Group
Institute of Rural Sciences

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Contract reference: OF 0189

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Additional organic and conventional farm data was supplied by DEFRA (with whom copyright rests) by means of the Farm Business Survey data archive. Although all efforts are made to ensure the quality of the farm data derived from this source, the copyright holder, the original data producer, the Department for Environment, Food and Rural Affairs and the Data Archive bears no responsibility for the accuracy or comprehensiveness of these materials, or for their further analysis or interpretation.

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Summary

This report presents results from research work carried out for the Department for Environment, Food and Rural Affairs (DEFRA) on the financial performance of organic farms for 1999/00 and 2000/01 financial years. The aim of the report is to collate financial data for organic farms differentiated by farm type, in order to provide continuity between previous studies (project code: OF 0190) on the economics of organic farming covering years 1995/96 to 1998/99 and new research work carried out by the Institute of Rural Sciences, UWA, to obtain financial information for organic farms for the period 2001/02 to 2003/04 (project code: OF 0189).

The financial data in this report were not collected directly, but were derived from other DEFRA-funded studies. Data are from farms of varied sizes within the samples for each farm type and not always of adequate sample size. This was particularly the case for horticulture while other datasets mainly comprised five farms or more per farm type. A cautious approach is required when viewing smaller farm samples as it is not possible to draw conclusions on the organic sector from these results; but may permit observation of data trends for the particular set of farms within the sample. Where possible, to provide an idea of economic trends over time, continuous farm data for 1998/99 and in some cases for 2001/02 are shown alongside the 1999/00 and 2000/01 data.

The report highlights results for organic cropping, horticulture, dairy, lowland and LFA cattle and sheep farms and one set of results for in-conversion dairy farms. Comparable conventional farm datasets are shown alongside some organic datasets for comparison. This was the case for both organic and in-conversion dairy farms and LFA and lowland cattle and sheep farms for 2000/01 datasets only.

From this report, the financial data show that most farm types under organic management had positive net farm incomes (NFI) with the exception of the in-conversion dairy farm sample. Management and investment incomes (MII) were positive values for all farm types with the exception of lowland and LFA cattle and sheep farms from the FBS sample. The financial trends varied by farm type between 1999/00 and 2000/01 with the organic cropping farm sample experiencing over 60% reduction in NFI, whilst organic dairy and LFA cattle and sheep farm incomes increased at varying levels over the two years. For all farm types where comparable data are shown alongside the organic farm sample, the organic sample showed higher NFI and MII values with the exception of the in-conversion dairy farm sample where income values were lower than the comparable dataset.

Gross margin data are presented for organic dairy herds, LFA suckler cows and finished beef stock and LFA breeding ewe flocks. Arable gross margins are shown for winter wheat, spring wheat, oats, beans and potatoes crops and horticultural data are available for potatoes, carrots, beetroot and calabrese.

1. Introduction

This report presents results from research work carried out for the Department for Environment, Food and Rural Affairs (DEFRA) on the financial performance of organic farms over the years 1999/00 and 2000/01.

The aim of the research reported here was to assess the financial performance of organic farms, differentiated by farm types, in order to:

- inform DEFRA policy-making with respect to organic farming, arable and livestock commodity support programmes and agri-environmental policy, and
- provide a basis for assessments by farmers, advisors and other interested parties of the farm-level implications of conversion to and continued organic farming.

The specific contract objectives included the collation of financial data collected under four different DEFRA-funded research projects. These projects covered: organic dairy farming (project codes: OF 0146 & OF 0190), hill livestock (project code: OF 0147)) arable farms (project code: OF 0145) and horticultural farms (project code: OF 0191). Additionally, both organic farm data and comparable conventional farm data contained within the Farm Business Survey data archive have been included where possible.

Overall, this report aims to fill the information gap in financial data between the last economic research project on organic farming carried out for MAFF (project OF 0190, covering financial years 1995/96 to 1997/98[1], 1998/99[2]) and the current economic project on organic farming funded by DEFRA to similarly collect time series data on organic farm types for the period 2001/02[3] to 2003/04.

[1] Fowler, S.M., Lampkin. N.H., and P Midmore. (2000) Organic Farm Incomes in England and Wales 1995/96 – 1997/98. Welsh Institute of Rural Studies, Aberystwyth. Report for MAFF project code: OF 0190 URL www.organic.aber.ac.uk/library/Organic Farm Incomes.pdf.

[2] Fowler, S.M., Wynne-Jones, I. and Lampkin. N.H. (2001) Organic Farm Incomes in England and Wales 1998/99. Welsh Institute of Rural Studies, Aberystwyth. Report for MAFF project code: OF 0190 URL www.organic.aber.ac.uk/library/Organic Farm Incomes.pdf.

[3] Jackson, A., Lampkin, N. & Fowler, S. (2004) Organic Farm Incomes in England and Wales 2001/02. Welsh Institute of Rural Sciences, Aberystwyth. Report for DEFRA, project code: OF 0189

2. Methods

2.1 Organic farm data sources and collection methods

Financial results have been derived from organic farm businesses in England and Wales with account years ending between July and the following April; the majority of farms falling between December and April. Where the farm financial year falls outside of the December to April bracket, an artificial year-end is used to avoid year-ends occurring during the growing season.

Four different DEFRA-funded projects contributed data to this report (Table 2). As a result, it has not been possible to standardise whole farm figures for all farm types in a similar format; this is further detailed below by referring to each data source provider.

1. Organic Hill Livestock Production (ADAS Redesdale [Project code: OF 0147])

This project aims to evaluate the effects of conversion and continued management of a hill/upland livestock system in organic farming. To help interpret the physical and financial performance of the organic unit at Redesdale, a network of linked farms was established to support the main research project. There has been a difficulty in maintaining a consistent sample of farms in this project. Consequently, only farm income data for five of the linked farms were supplied by ADAS to IRS. All were costed using the ADAS Business Recording Service.

2. Organic Arable Farming (ADAS Terrington [Project code: OF 0145])

A similar network of linked farms was associated with this project, which aimed to evaluate the effects of converting and the continued organic management of specialist arable farms. Whole farm income data from four linked predominantly cropping farms were provided by ADAS and a further farm was added from IRS data to provide data for a five farm average.

3. Organic Milk Production (IGER, IRS, ADAS [Project code: OF 0146])

This DEFRA funded project to study the conversion of IGER's Tŷ Gwyn dairy unit to organic milk production also used the linked farms approach. Six of these farms, now in full organic production, were used to provide data for the report (Table 2). The data were collected by IRS using the Integrated Accounts System (IAS) used by Farm Business Survey centres.

4. HDRA (Henry Doubleday Research Association [Project code: OF 0191])

A DEFRA funded study, also using the linked farms approach, on the conversion of horticultural units/cropping farms introducing horticultural enterprises has been undertaken by HDRA in association with HRI's Wellesbourne and Kirton sites. Again, some problems with maintaining farmer commitment throughout the duration of this project have prevented wholefarm data from more than five farms being presented, although gross margin data has been included. Further details about this project can be obtained through HDRA's Economic division[4].

5. DEFRA: UK Data Archive

Each year, Farm Business Survey Centres around the UK submit FBS data to DEFRA. Within the remit of this project, it has been possible to obtain organic farms that form part of the farm sample from other FBS centres in the UK because of the introduction of organic

[4] See: www.hdra.org.uk for further details about this research work.

indicators in 1999. From this search, 30 farms were recorded as having in-conversion or organic enterprises in 1999/00 and 70 farms in 2000/01. The population of the database with a reasonable number of organic farms during these years has allowed organic farm income data for some farm types to be shown, namely organic dairy, in-conversion dairy, lowland cattle and sheep and LFA cattle and sheep farms. In some cases, in-conversion data and organic data was merged in order to form a group with sufficient numbers. A breakdown of the organic FBS farms is shown in Table 1 for 1999/00 and 2000/01 financial years.

Table 1 Breakdown of FBS farms by type and organic status in England and Wales, 1999/00 and 2000/01

Organic status	***> 70% organic***		*< 70% organic*		***> 70% In-conversion***		*< 70% In-conversion*		***Totals***	
Farm type / year	**99/00**	**00/01**	99/00	00/01	**99/00**	**00/01**	99/00	00/01	99/00	00/01
Cropping				3	**1**	**1**	5	8	**6**	**12**
Horticulture	**1**			2			4	4	**5**	**6**
Pigs and poultry									**-**	**-**
Dairy	**1**	**11**			**10**	**16**	1	1	**12**	**28**
Cattle and sheep										
LFA		**2**			**2**	**11**	1		**3**	**13**
Lowland		**2**	1		**5**	**4**	1		**7**	**6**
Mixed	**1**	**2**		3	**1**				**2**	**5**
Total	**3**	**17**	1	8	**19**	**32**	12	13	**35**	**70**

Table 2 Distribution of organic farms by type and source of data, 1999/00 and 2000/01

Data source	*ADAS Redesdale*	*ADAS Terrington*	*IRS*		*HDRA*	*UK Data Archive*	***Total***
Farm Type	*Hill livestock*	*Arable*	*Dairy*	*Other*	*Horti-culture*	*Various*	
Cropping		4		1			**5**
Horticulture					4		**4***
Pigs and poultry							**0**
Dairy (organic)			3+3GM			9	**12+3GM**
Dairy (conversion)						11	**11**
Cattle and sheep LFA	5 + 2GM					8	**13+2GM**
Lowland						5	**5**
Mixed							**0**
Total	5 +2GM	4	3	1	4	33	**51**

GM – Gross margin data only as no whole farm financial data available.
* - horticultural farms are not included within this report due to insufficient sample number

2.2 Farm samples and farm classification

The total farm sample in this report consists of 51 organic farms. It should be noted that the data were gathered using a variety of methods, depending on the source as described above (Table 2), but processed according to standardised Farm Business Survey guidelines set down by DEFRA (Farm Business Division). In some cases such as horticultural farms, only gross margin information for specific enterprises is included from the wholefarm dataset.

Farms were classified by constituent EC type (1985 EC Typology described in Commission Decision 85/377/EEC) and for the purposes of this report are presented in groups by robust type according to the UK farm classification system (revised 1994)[5] (see Table 2 and Appendix 2 for more information). The use of constituent EC types relies on the use of standard gross margins (SGMs) from which European Size Units (ESUs) are derived (which in turn allow classification into EC types), a typology system originally devised for conventional agricultural systems.

To ensure anonymity of results for farmers participating in these surveys, no data are presented for groups of less than five farms. Robust types 1 (Cereals) and 2 (General Cropping), are merged to present enough farms in each sample to maintain confidentiality.

Data for pigs and poultry and mixed farms are not shown in this report due to a lack of data, representing an information gap for these farm types in the organic farming sector.

2.3 Continuous sampling and interpretation of results

To achieve comparability in the datasets, continuous data samples are mostly shown. This means that the whole farm data represents financial results for a continuous (identical) set of farms per farm type for each financial year shown, unless otherwise stated. However, this was not always the case for gross margin information, especially for the cropping gross margins where data were derived from various farms of different farm types.

Overall, there were limited data available for the main farm types shown, namely cropping, horticulture, LFA cattle and sheep with the exception of dairy farm types. Therefore, it is not possible to place a significant degree of confidence in the data in terms of providing an accurate financial picture for organic farms in general for each farm type shown.

[5] See http://statistics.defra.gov.uk/esg/publications/fab/2003/excel.asp for further information on the farm accounting system employed in England and Wales by DEFRA Economics Division.

2.4 Farm comparisons

A feature within this report includes presentation of organic data alongside cluster farm data derived from conventional farms within the Farm Business Survey data archive to provide a means for comparison. By generating comparison farm data, it is possible to determine and understand further the economic performance of organic farms, their relative competitiveness and the impact of policy on them in relation to conventional farms.

2.4.1 Background

Issues relating to comparing results from organic and conventional farms have been discussed by Lampkin and Padel (1994) and Offermann and Nieberg (2000).[6]

The conventional farms selected need to be 'comparable'. The objective is to isolate the effect of the farming system on profits, so the choice of characteristics for comparison must be restricted to 'non-system determined' factors, i.e. location (climate, topography, soil, and market distance), size and tenure. The use of clusters of similar conventional farms to compare with each organic farm has the advantage over paired farm comparisons in that the specific circumstances of individual conventional farms do not distort the comparison. The average for a group of organic farms can then be compared with the average for the group of matched clusters with greater confidence when the farm size, type and location characteristics of the organic and conventional groups are similar.

The idea of using clusters of conventional farms as comparisons has been used in previous studies using a hierarchical cluster analysis technique on the basis of Euclidean squared difference; however, the method of clustering has been changed in this study.

2.4.2 Conventional farm selection

For each organic farm recorded, the aim was to generate a cluster of at least 3 comparable conventional farms (CCF) from the Farm Business Survey database (DEFRA, 2000)[7]. The emphasis for selection of comparable conventional farms for this study was to focus on resource endowment identifiers/variables. The resource endowment of the holding is normally independent of the organic or conventional management, and is a reflection of the resources with which the farm manager can run the farm business.

The main identifiers required to be identical for determining resource endowment include:

- Region (Farm Business Survey province), which assists with selecting farms with similar production conditions (i.e. location, market distance, institutional and policy frameworks)
- Less Favoured Area and Non- Less Favoured Area status (Table 3)
- Altitude (Table 4)
- Main farm type, which is more descriptive typing than robust type (Table 5).

To prevent limiting the number of CCF's unduly and to allow some flexibility in deriving the comparison farm data, the above variables were reassigned different codes.

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[6] Offermann, F. and Nieberg, H. (2000) Profitability of Organic Farming in Europe. Paper presented at the Agricultural Economics Society Annual Conference, Manchester.

[7] Department for Environment, Food and Rural Affairs (Farm Business Division). Farm Business Survey Data, 2000/01 [Computer File]. Colchester, Essex: The Data Archive [Distributor] 9th October 2003.

Table 3 Recoding of LFA codes to simplify the clustering procedure

Less favoured Area Codes		LFA types
All land outside LFA	1	**1**
All land inside SDA	2	**2**
All land inside DA	3	
50%+ in LFA of which 50%+ in SDA	4	
50%+ in LFA of which 50%+ in DA	5	
<50%+ in LFA of which 50%+ in SDA	6	**3**
<50%+ in LFA of which 50%+ in DA	7	

Table 4 Altitude codes for farms in the FBS/FADN system

Altitude Description	Code
Most of holding below 300m	1
Most of holding at 300m to 600m	2
Most of holding at 600m or above	3

Table 5 The distinction between main type and robust types in the FBS/FADN system

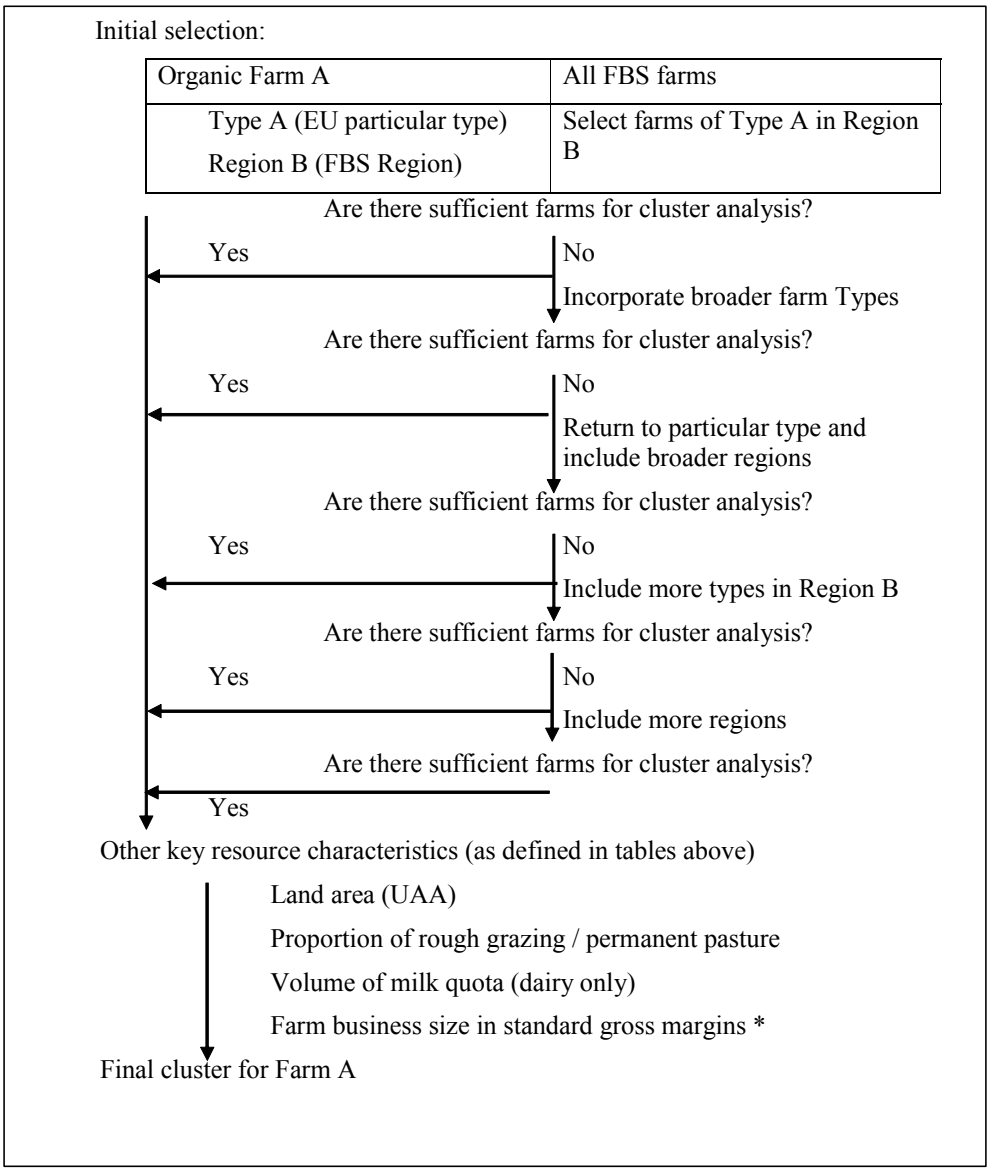
Farming Description	Main type	Robust type
Cereals	1	1
General cropping	2	
Specialist fruit	3	2
Specialist glass	4	
Other horticulture	5	
Specialist pigs	6	3
Specialist poultry	7	
Mixed pigs & poultry	8	
Dairy (LFA)	9	4
Dairy (lowland)	10	
Specialist sheep (SDA)	11	5
Specialist beef (SDA)	12	
Mixed cattle & sheep (SDA)	13	
Cattle & sheep (DA)	14	
Cattle & sheep (lowland)	15	6
Cropping and dairy	16	7
Cropping, cattle & sheep	17	
Cropping, pigs & poultry	18	
Cropping & mixed livestock	19	
Mixed livestock	20	

To identify comparable farm data with similar resource endowment, pre-defined ranges were used for land (utilisable agricultural area), milk quota ownership (dairy farms only), proportion of permanent pasture and rough grazing land and the farm business size in standard gross margins (ESU) per farm. The range was defined by a percentage deviation from the value of the respective organic farm (e.g. +/- 20%) and/or an absolute value to prevent organic farms with small values being lost from the sample. Overall, the

combination of variables can be taken as a reasonable guide to identifying comparable resource endowment.

For all farm types, a standard procedure was undertaken to determine the comparable data selection per organic farm based on a hierarchical clustering approach. For the selection of comparable farm data in this study, there were sufficient comparable conventional data present per organic farm and therefore, it was not necessary to include adjacent regions or increase pre-defined ranges per farm type as set out in the clustering methodology (See Box 1 and Table 6).

Box 1 Conventional farm selection procedure



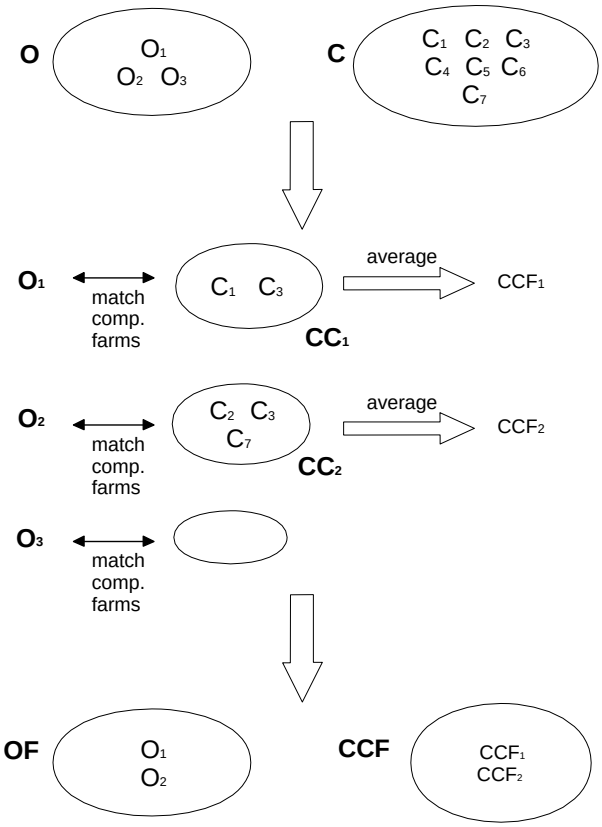
Farm business size, as measured by standard gross margins, is a measure of the potential economic activity of the particular mix and size of enterprises on the farm.

Table 6 Summary table to show the procedure used per farm type and the comparable farm results achieved

	Dairy (identical)	Dairy (organic)	Dairy (In-conversion)	Cattle and sheep Lowland	Cattle and sheep LFA
Financial year	**1999-2001**	**2000/01**	**2000/01**	**2000/01**	**2000/01**
Total organic farms	**5**	**9**	**11**	**5**	**8**
Baseline clustering criteria					
Utilisable agricultural area [UAA] (+/- %)	30	25	30	20	20
Quota owned (+/- %)	30	30	30	n/a	n/a
Permanent Pasture [PP] (+/- %)	n/a	n/a	n/a	30	30
Rough Grazing [RG] (+/- %)	n/a	n/a	n/a	20	20
Economic Size Units [ESU] (+/- %)	30	30	30	20	20
LFA status/altitude	identical	Identical	identical	identical	identical
Main type	identical	Identical	identical	identical	identical
Region	identical	Identical	identical	identical	identical
No. of farms for which baseline cluster (min 3) obtained	5	9	12	5	8
(as a percent)	**100%**	**100%**	**100%**	**100%**	**100%**
Modifications required to achieve clusters for remaining farms					
Regional (broader selection)	-	-	-	-	-
Regional and/or RG/PP and/or UAA (broader selection)	-	-	-	-	-
LFA/altitude (non-identical criteria)	-	-	-	-	-
Main type (incorporate broader farm type definition)	-	-	-	-	-
Resulting final cluster statistics					
Average number of farms in cluster per organic farm	6	6.6	9.6	9.8	7.3
% of organic farms clustered	**100**	**100**	**100**	**100**	**100**
No. of organic farms with more than 5 farms (CCF) per cluster	6	6	9	5	7
% of organic farms with more than 5 farms (CCF) per cluster	**100**	**67**	**82**	**100**	**87.5**
Range of CCF per organic farm per farm type: Minimum	5	3	3	6	4
Maximum	7	12	24	16	17

Once the comparable conventional farm data was identified from the main Farm Business Survey database (sample C) for the organic farms (sample O), the comparable conventional farm data was averaged. This effectively creates a single ('artificial') comparable conventional farm CCF_1 for each organic farm[8]. Note that farms from sample C could be used more than once. To arrive at set OF, all organic farms with no comparable data were removed from sample O, leaving set OF an average of sample O and CCF an average of sample C for which the robust type data was based for further comparative analysis in this report.

Box 2. Diagram to show the procedure to determine comparable farm data per farm type



2.4.3 Interpretation of cluster results

It should be noted that the farms have been classified by Standard Gross Margins (SGMs), a typology system originally devised for conventional agricultural systems and therefore not entirely appropriate for these organic farms (see Appendix 2). Further, because of the systematic differences in structure on organic farms, clustering conventional farms is still only an approximate guide to the possible performance of organic farms if they were managed conventionally or vice versa.

The data source for the cluster farm comparisons is sufficiently large for a degree of confidence in the average; however, there is still a possibility for outliers (especially larger farms) to have some influence on the average.

[8] Offermann, F. (2004) Selection of comparable conventional farms: Some considerations for a general guideline. Unpublished project guidelines, Further Development of European Organic Farming Policy Project (www.irs.aber.aber.ac.uk).

3. Presentation of results

3.1 Whole farm data

Results for each type of organic farm are simple averages. Within summary sections on each farm type, tables show breakdowns of average outputs, inputs and incomes for whole farms and in £/ha; for cropping, dairy and lowland and LFA cattle and sheep farms.

Throughout the text, the terms *input* and *output* are used to define financial values rather than physical quantities (for further definitions of terms please see Appendix 3).

Within Appendix 1, Tables A1 to A7 give details of outputs, inputs, incomes and some performance measures for five farm types. Asset and liability information is shown for Farm Business Survey derived data only. Where physical information was available in addition to the financial data collected, figures for livestock units per forage hectare, and labour units per farm, are presented. Where direct data were not available, labour units have been derived from wages paid using standard agricultural wages (based on Agricultural Wages Board). All labour-use figures presented are, however, very approximate.

Tables provide whole farm totals averaged for each farm type, and weighted averages per hectare of UAA over the farms or holdings. Values per hectare of total UAA are used (rather than measures per hectare in specific enterprises) because presenting the whole farm situation reflects the interdependence of enterprises. The fact that, for instance, organic horticultural holdings cannot crop their entire land in one year has a considerable influence on the overall farm profitability.

The effect of breeding livestock revaluations is reflected in the difference shown in full tables in the Appendices as the difference between NFI including and excluding Breeding Livestock Appreciation (BLSA). References in the text to NFI, ONI and Cash Income are excluding BLSA; MII includes BLSA.

3.2 Income measures

In the presentation of the MII and NFI results, a number of adjustments are made to make farms comparable with each other as far as resource endowment is concerned:

- Land and property: all farms are treated as tenanted – a rental value is imputed as an expense for owner-occupied land. The costs of permanent improvements to farms, together with any capital grants relating to such work, are therefore excluded from these income calculations, although such landlord-type improvements are reflected in higher rent or rental value charges.
- Capital: all farms are treated as if they have no borrowings – debt servicing charges incurred by farmers on farm borrowing or the leasing of equipment are ignored for the purposes of calculating NFI and MII, but such charges are taken into account in calculating Occupier's Net Income (ONI) and cash income.
- Labour: all labour, including unpaid labour, used on farms is treated as if paid – for MII, notional values for farmer and spouse manual labour are also included.

MII therefore represents a return to management, whether paid or not, and tenant-type capital invested in the farm, whether borrowed or not. Thus, as well as the usual variable and fixed costs, it includes a nominal charge for farmer and spouse physical labour, but not management time, and a charge for depreciation of machinery (but not the actual costs of machinery purchased in that period). Interest payments are not included.

NFI represents the return to farmer and spouse for their manual and managerial labour and on the tenant-type capital invested in the farm. NFI can be derived from MII by deducting the cost of paid management, and adding back the notional charge for farmer and spouse labour.

ONI and Cash Income definitions exclude these notional charges and reflect actual land, property and capital costs. The measure closest to the normal definition of profit is that of ONI, as it excludes nominal charges for unpaid labour of farmer and spouse as well as any nominal rents charged, but includes interest charges and depreciation of buildings and works. ONI and Cash Income more closely represent the actual situations on farms, but comparisons with other farms are less reliable because of differences in land tenure, reliance on unpaid labour, and owner equity.

For further definitions of terms see Appendix 3.

4. Results highlights

The results presented cover the two financial years 1999 and 2000. Table 7 highlights the main income measures for each farm type on a £/hectare basis. More detailed financial data can be found in the subsequent sections and complete whole farm results in Appendix 1.

Table 7 Farms data summary (£/ha), average NFI and MII, 1999/00 and 2000/01

Farm type	Number of farms	Management and Investment Income 1999/00	Management and Investment Income 2000/01	Net Farm Income excluding BLSA 1999/00	Net Farm Income excluding BLSA 2000/01
Cropping					
Organic	5	474	155	516	190
Non-Organic	-	-	-	-	-
Horticulture					
Organic	4	40	127	27	112
Non-Organic	-	-	-	-	-
Dairy (identical sample)					
Organic	5	121	252	339	399
Non-Organic	30	-131	-62	140	106
Dairy (organic)					
Organic	9	-	266	-	332
Non-Organic	60	-	49	-	152
Dairy (in-conversion)					
Organic	11	-	-79	-	62
Non-Organic	125	-	10	-	179
LFA cattle and sheep (ADAS)					
Organic	5	48	71	111	121
Non-Organic	-	-	-	-	-
LFA cattle and sheep (FBS)					
Organic	8	-	-1	-	75
Non-Organic	59	-	-37	-	38
Lowland cattle and sheep					
Organic	5	-	-88	-	77
Non-Organic	48	-	-130	-	12

From the available data, management and investment incomes (MII) are positive for all farm types with the exception of the in-conversion dairy, lowland and LFA cattle and sheep data retrieved from the Farm Business Survey database. MII represents the income available after subtracting outputs (actual and notional) from inputs (actual and notional) and accounting for farmer/spouse labour and paid management. Lowland cattle and sheep farms had the lowest MII among the farm types shown overall followed by in-conversion dairy and LFA (FBS) cattle and sheep farms in 2000/01. The cropping data shows the biggest fall in MII between the years followed by dairy (identical), although the availability of data for all farm types for both years is limited. These trends were similar for net farm income (NFI). The comparable conventional datasets showed mostly negative or lower values for MII and NFI with the exception of the comparable data for the in-conversion dairy sample where the MII and NFI were higher.

4.1 Cropping farms

Two years' data from four of the farms studied by ADAS Terrington are shown with the fifth farm derived from an IRS cropping and dairy farm. Despite a dairy influence on the results, the cropping output from these farms is 76% and 68% of total output for 1999/00 and 2000/01 financial years respectively. All farms had a grazing livestock enterprise present and no farms had any pig or poultry enterprises. The organic status of the farms averaged at 41% of the total farmed area managed as organic with one larger farm (more than 1100 ha) only having 3% of the farm area managed as organic. Consequently, whole farm data may be influenced by conventional cropping, although gross margin data are organic data only.

The main difference in the dataset for farm output is a 20% drop in cropping output with arable area payments remaining at a similar level. This is reflected in crop gross margins (see section 5.4) where yields and prices were affected between the different years. For instance, gross margins for winter wheat decreased by 20%, for potatoes by 35% and for oats by 14% between the two years. Farm inputs rose for all categories with the exception of cropping inputs, which decreased. Overall, NFI and MII are positive values for both years; however, there is a 67% reduction in income between the two years.

Table 8 Summary data for cropping farms (£/farm & £/ha), 1999/00 and 2000/01

Financial year data	1999/00		2000/01	
Sample number (identical)	**Organic = 5**		**Organic = 5**	
Average farm size (UAA)	436.6		443.4	
Business size (ESU)	-		-	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	73674	217	77155	195
Livestock subsidies	6919	27	8202	29
Cropping outputs	306616	1062	247054	661
Arable area payments	56876	137	58000	132
Miscellaneous	47331	141	58605	197
Agri-env. payments	-	-	-	-
TOTAL OUTPUTS	**491415**	**1584**	**449016**	**1214**
Livestock inputs	22900	59	26807	66
Crop inputs	91124	249	84330	212
Labour	89664	261	99720	274
Machinery	70170	245	76322	243
General	29626	113	34002	91
Land & rent	72345	141	72517	139
TOTAL INPUTS	**375830**	**1068**	**393700**	**1025**
NFI	**115586**	**516**	**55317**	**190**
Less farmer / spouse labour	4287	42	4499	36
Add paid management	8300	10	7346	8
Add BLSA	-	-	-	-
MII	**113598**	**474**	**54071**	**155**
ONI	72156	339	14086	37

4.2 Time series data for organic dairy farms

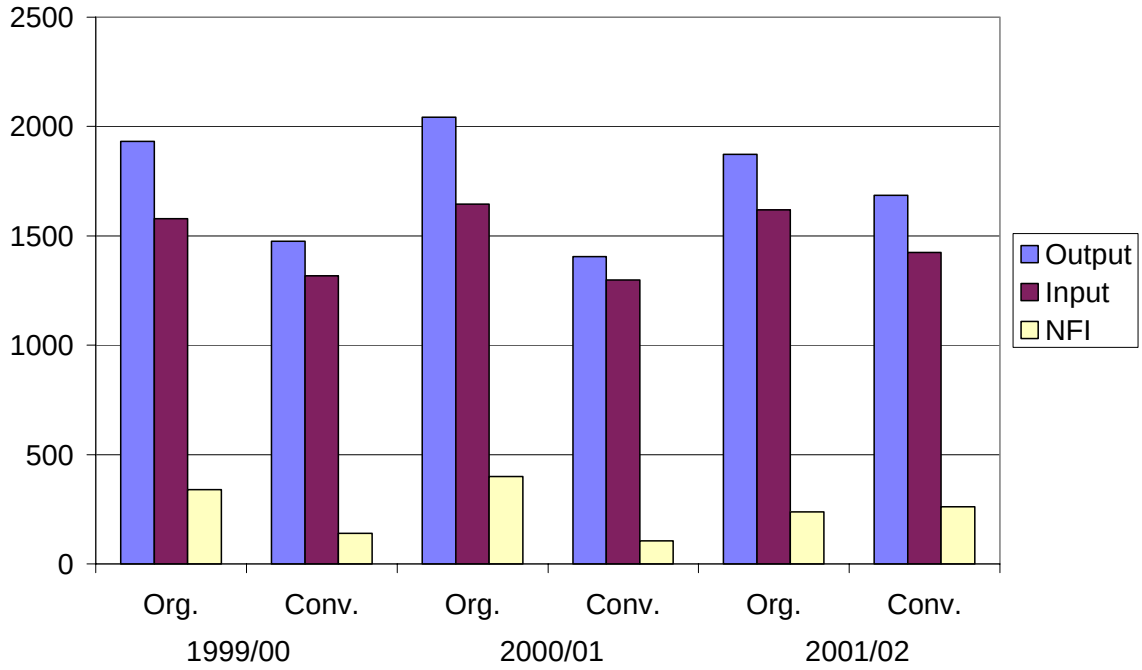
The data presented are from an identical sample of organic farms for three financial years from 1999/00 to 2001/02 alongside comparable conventional farm data. Four of the five organic farms started selling organic milk in 1999 or before and the fifth in 2000. The latter farm achieved organic status in 1999. Two of the five farms were in less-favoured areas in Wales, whilst the other three were lowland dairy farm types located in the North, the South West and the Central and Eastern England regions.

Overall, the comparable conventional data for the organic dairy sample indicates good matches for the utilisable agricultural area and standard gross margins, although UAA was 9% greater for the organic dairy sample compared to the comparable farm data. Other variables of interest include similar cow numbers, cropping area, annual labour units and the percentage of owner equity.

Table 9 Summary data for organic dairy farms (£/ha), 1999/00 to 2001/02

Financial year data	**1999/2000**		**2000/01**		**2001/02**	
Sample category	Org.	Conv.	Org.	Conv.	Org.	Conv.
Sample number (identical)	5	30	5	30	5	30
Average farm size (UAA)	89.9	81.7	89.9	84.2	93.8	83.4
Business size (ESU)	83	80	93	81	97	83
	£/ha		**£/ha**		**£/ha**	
Livestock outputs	1525	1214	1647	1182	1530	1457
Livestock subsidies	7	32	10	29	17	29
Cropping outputs	124	105	119	73	131	84
AAPS / Set-aside	54	43	36	41	43	39
Miscellaneous	93	56	92	64	70	65
Agri-env. payments	115	9	139	14	65	11
TOTAL OUTPUTS	**1918**	**1458**	**2043**	**1404**	**1857**	**1685**
Livestock inputs	638	431	687	446	704	529
Crop inputs	103	121	72	111	65	117
Labour	178	201	198	190	182	211
Machinery	278	267	296	261	300	277
General	146	108	146	106	131	111
Land & rent	235	190	245	183	238	180
TOTAL INPUTS	**1579**	**1318**	**1644**	**1298**	**1619**	**1425**
NFI	339	140	399	106	237	260
Less farmer/spouse labour	154	200	161	200	163	208
Add paid management	0	0	0	0	0	0
Add BLSA	-64	-71	14	32	9	12
MII	**121**	**-131**	**252**	**-62**	**83**	**65**
ONI	269	134	305	101	149	268
Cash Income	462	390	469	328	335	507

Figure 1 Outputs, inputs and NFI on dairy farms (£/ha), 1999/00 to 2001/02



For the comparable data, the average output from livestock is 84% of total output compared to 81% for the organic sample. The majority of livestock output is derived from milk sales, therefore this variable is largely determined by the average milk price and milk yield achieved per cow over the three year period. For the organic sample, milk price increased from 23 pence per litre in 1999/00 to 25 pence per litre in 2000/01 and fell back to 23 pence in 2001/02 for this sample. However, milk yield reduced by 11% over the period giving rise to lower livestock output. Conversely, the comparable dairy data had a one penny drop in milk price in 2000/01 to 17 pence per litre, which rose to 20 pence per litre by 2001/02 whilst increasing average milk yield per cow by 3.5%. This resulted in an increase in livestock output over the period. Other key differences between the samples included a greater cropping output from organic farms and higher livestock subsidies for the comparable data.

The main differences between inputs included greater livestock costs on the organic farms, which could be expected due to higher feed costs associated with organic feed compared to conventional feeds. Similarly expected, cropping inputs were lower on the organic farms compared to the comparable dataset.

Overall, the organic sample showed a greater net farm income (NFI) in comparison to the comparable data for 1999/00 and 2000/01. In 2001/02, this was not the case as the reduction in organic milk price coupled with a corresponding increase in the milk price for the conventional sample resulted in a lower NFI for the organic sample. However, the Management and Investment Income (MII) indicator for the organic sample was greater than the comparable data for all three years. Further information regarding organic dairy farm data can be derived from the 2001/02 DEFRA report on organic farm incomes[9].

[9] Jackson, A.J., Lampkin, N.H. and Fowler, S. (2004) Organic Farm Incomes in England and Wales 2001/02. Welsh Institute of Rural Sciences, University of Wales Aberystwyth. Report for DEFRA Contract reference: OF 0189

4.3 FBS organic dairy farm data

In total, 9 organic lowland dairy farms were present within the Farm Business Survey data archive for 2000/01 only. The organic data are shown alongside comparable conventional farm data derived form the clustering procedure (Table 11). From the organic data, one farm was located in Wales, four in South West England, two from the North and two from Central and Eastern England.

The total land area was approximately 8% higher and dairy cow numbers were 10% higher in the organic sample compared to the comparable (Conv.) data with standard gross margin data identical between samples. Overall, there were only an additional five livestock units carried on the organic farms compared to the comparable farm data.

Key differences in the financial data include a greater level of output from livestock for the organic data, mainly attributed to milk price and yield differences. Here, the organic sample averaged 26 pence per litre with 5054 litres per cow and the comparable data 18 pence per litre at 5819 litres per cow. Other differences in output included greater cropping outputs from the comparable data, also indicated by the greater cropping area for this dataset.

Table 10 Summary data for FBS organic dairy farms (£/farm & £/ha), 2000/01

Financial year data	2000/01		2000/01	
Sample number	**Organic = 9**		**Conv. = 60**	
Average farm size (UAA)	122.7		112.8	
Business size (ESU)	105		105	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	184818	1507	123537	1095
Livestock subsidies	1412	12	2705	24
Cropping outputs	1380	11	9903	88
AAPS / Set-aside	2832	23	5634	50
Miscellaneous	8402	68	8043	71
Agri-env. payments	13501	110	1861	16
TOTAL OUTPUTS	**212344**	**1731**	**151683**	**1344**
Livestock inputs	66228	540	41141	365
Crop inputs	4027	33	11705	104
Labour	20930	171	21923	194
Machinery	31638	258	26516	235
General	15030	123	11658	103
Land & rent	33846	276	21582	191
TOTAL INPUTS	**171700**	**1400**	**134526**	**1192**
NFI	40737	332	17157	152
Less farmer/spouse labour	18064	147	16477	146
Add paid management	0	0	153	1
Add BLSA	10083	82	4682	41
MII	**32664**	**266**	**5515**	**49**
ONI	39682	324	15724	139
Cash Income	40195	328	29669	263

The organic data shows higher livestock input costs compared to the comparable data. This was largely associated with feed expenses, which were approximately double the value of the comparable dataset. Cropping inputs were again greater for the comparable dataset as indicated above.

Overall, the Net Farm Income was greater for the organic data than the comparable data. Furthermore, seven or 78% of the farms within the organic sample had a greater NFI compared to their individual comparable dataset.

Table 11 Summary cropping data for FBS organic dairy farms, 2000/01

	Enterprise output (£)		Area (ha)		Yield (t / ha)		Price (£ / t)	
	Org	Con	Org	Con	Org	Con	Org	Con
Wheat	1821	6309	3.2	8.9	5.3	6.9	65	71
Barley	402	4633	0.6	8.0	4.8	5.6	100	70
Other cereals	299	496	0.6	1.0	4.0	4.7	0	0
Total cereals	**2522**	**11439**	**5**	**18**	**N/A**	**N/A**	**N/A**	**N/A**
Oil seed rape	0	642	0.0	1.1	0.0	2.4	0	115
Linseed	0	37	0.0	0.1	0.0	0.0	0	0
Peas/Beans	83	592	0.2	1.1	3.7	3.3	n/d	n/d
Potatoes	0	144	0.0	0.1	0.0	25.0	0	81
Sugarbeet	0	0	0.0	0.0	0.0	0.0	0	0
Horticulture	0	0	0.0	0.0	n/d	n/d	n/d	n/d
Other	0	0	0.0	0.0	n/d	n/d	n/d	n/d
Total (all)	**2604**	**12854**	**5**	**20**	**N/A**	**N/A**	**N/A**	**N/A**

	Enterprise output (%)		Area (%)	
	Org	Con	Org	Con
Wheat	70	49	68.4	43.8
Barley	15	36	13.3	39.5
Other cereals	11	4	13.1	4.7
Total cereals	**97**	**89**	**95**	**88**
Oil seed rape	0	5	0.0	5.3
Linseed	0	0	0.0	0.6
Peas/Beans	3	5	5.2	5.6
Potatoes	0	1	0.0	0.5
Sugarbeet	0	0	0.0	0.0
Horticulture	0	0	0.0	0.0
Other	0	0	0.0	0.0
Total (all)	**100**	**100**	**100**	**100**

4.4 FBS in-conversion dairy farm data

From the Farm Business Survey archive, there were 12 organic in-conversion dairy farms. These are shown alongside comparable conventional farm data (Table 13). Geographically, three of the farms were located in the North, six in South West, one in Central and Eastern England and two in Wales.

The average farm size and business size are similar for both the comparable farm data and the in-conversion farm data, as were other key variables including dairy cow numbers. On average, there were 9.6 comparable conventional farms per in-conversion farm.

The main differences between the two samples include lower livestock outputs and livestock subsidies and higher cropping subsidies and agri-environmental payments in the in-conversion sample compared to the comparable data. It should be noted that the implied milk price for the in-conversion sample was a penny lower than the comparable data at 17 pence per litre. Input costs were fairly similar between the samples, although labour costs were 33% higher for the in-conversion sample. Overall, the NFI for the in-conversion sample was lower than the comparable data and MII was negative for the in-conversion as opposed to a positive MII for the comparable data.

Table 12 Summary data for FBS in-conversion dairy farms (£/farm & £/ha), 2000/01

Financial year data	2000/01		2000/01	
Sample number	**In-conv. = 11**		**Conv. 125**	
Average farm size (UAA)	79.5		77.1	
Business size (ESU)	77		79	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	97023	1220	104385	1354
Livestock subsidies	868	11	2852	37
Cropping outputs	2316	29	3108	40
AAPS / Set-aside	3201	40	1475	19
Miscellaneous	6210	78	5158	67
Agri-env. payments	10363	130	502	7
TOTAL OUTPUTS	**119981**	**1509**	**117480**	**1523**
Livestock inputs	38364	482	36822	477
Crop inputs	6278	79	7494	97
Labour	19015	239	13592	176
Machinery	23331	293	19895	258
General	9864	124	8888	115
Land & rent	18192	229	16956	220
TOTAL INPUTS	**115044**	**1447**	**103647**	**1344**
NFI	4953	62	13834	179
Less farmer/spouse labour	14843	187	16534	214
Add paid management	0	0	0	0
Add BLSA	3626	46	3467	45
MII	**-6280**	**-79**	**766**	**10**
ONI	5158	65	12622	164
Cash Income	21552	271	27661	359

Table 13 Summary cropping data for FBS in-conversion dairy farms, 2000/01

	Enterprise output (£)		Area (ha)		Yield (t / ha)		Price (£ / t)	
	Org	Con	Org	Con	Org	Con	Org	Con
Wheat	821	1566	1.1	2.2	4.1	7.8	122	68
Barley	977	1376	1.7	2.6	4.8	5.3	80	65
Other cereals	590	79	1.2	0.2	3.7	4.5	0	0
Total cereals	**2388**	**3020**	**4**	**5**	**N/A**	**N/A**	**N/A**	**N/A**
Oil seed rape	0	0	0.0	0.0	0.0	0.0	0	0
Linseed	0	0	0.0	0.0	0.0	0.0	0	0
Peas/Beans	1074	0	2.1	0.0	2.0	0.0	n/d	n/d
Potatoes	0	0	0.0	0.0	0.0	0.0	0	0
Sugarbeet	0	0	0.0	0.0	0.0	0.0	0	0
Horticulture	0	15	0.0	0.0	n/d	n/d	n/d	n/d
Other	0	38	0.0	0.1	n/d	n/d	n/d	n/d
Total (all)	**3462**	**3073**	**6**	**5**	**N/A**	**N/A**	**N/A**	**N/A**

	Enterprise output (%)		Area (%)	
	Org	Con	Org	Con
Wheat	24	51	18.6	44.0
Barley	28	45	27.0	51.5
Other cereals	17	3	19.8	3.3
Total cereals	**69**	**98**	**65**	**99**
Oil seed rape	0	0	0.0	0.0
Linseed	0	0	0.0	0.0
Peas/Beans	31	0	34.6	0.0
Potatoes	0	0	0.0	0.0
Sugarbeet	0	0	0.0	0.0
Horticulture	0	0	0.0	0.1
Other	0	1	0.0	1.1
Total (all)	**100**	**100**	**100**	**100**

4.5 LFA cattle and sheep farms

The LFA cattle and sheep farm data in this section has been derived from ADAS Redesdale. The data shown are from five identical organic farms for the financial years 1999/00 and 2000/01.

On comparing the identical sample over the two years, the Net Farm Income between years is similar. However, the financial data are quite different. For instance, there was a substantial increase in agri-environmental payments while livestock subsidy payments reduced during this two year period. Livestock output increased overall, which is indicated in the gross margin section with higher gross margin figures shown in 2000/01 compared to 1999/00 for the LFA beef enterprise for both suckler cows and finished beef animals.

There was similar variability in the input data, particularly for labour where on one farm there was a 25-fold increase in labour and management costs. Additionally, livestock costs increased; however this is not reflected in the gross margin data or the livestock figures over the two year period.

Table 14 Summary data for ADAS LFA farms (£/farm & £/ha), 1999/00 and 2000/01

Financial year data	1999/00		2000/01	
Sample number (identical)	**Organic = 5**		**Organic = 5**	
Average farm size (UAA)	214.7		214.7	
Business size (ESU)	-		-	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	45950	214	50492	235
Livestock subsidies	28118	131	23396	109
Cropping outputs	31209	145	37339	174
Arable area payments	0	0	0	0
Miscellaneous	6624	31	6921	32
Agri-env. payments	8149	38	22937	107
TOTAL OUTPUTS	**120049**	**559**	**141084**	**657**
Livestock inputs	16066	75	20963	98
Crop inputs	8501	40	6261	29
Labour	4177	19	18012	84
Machinery	42104	196	34940	163
General	12836	60	18801	88
Land & rent	12505	58	16127	75
TOTAL INPUTS	**96188**	**448**	**115104**	**536**
NFI	**23861**	**111**	**25980**	**121**
Less farmer / spouse labour	13645	64	10673	50
Add paid management	-	-	-	-
Add BLSA	-	-	-	-
MII	**10216**	**48**	**15307**	**71**
ONI	11080	52	13505	63

4.6 FBS LFA cattle and sheep farms

Farm business survey data are shown below for organic LFA farms alongside a conventional comparison for the 2000/01 financial year. Three of the organic farms were located in the North, with the remaining five located in Wales.

The average farm size and standard gross margin data are similar between both samples. The average livestock units carried on farm was greater for the comparable data with a greater number of sheep carried than the organic sample. In terms of cropping data, the organic farm sample grew more crops focusing on cereals, namely barley and other cereals such as triticale, but it is likely that this formed part of the home-feed ration as opposed to off-farm sales.

Key differences in output data included greater livestock outputs and subsidies for the comparable data and lower agri-environmental payments for the organic sample. For inputs, variable inputs including livestock and cropping inputs were lower for the organic sample whilst fixed type inputs were greater for the organic sample. Overall, the average Net Farm Income was greater for the organic sample where five of the organic farms had a greater NFI than their comparable dataset.

Table 15 Summary FBS data for LFA farms (£/farm & £/ha), 2000/01

Financial year data	2000/01		2000/01	
Sample number	**Organic = 8**		**Conv. = 59**	
Average farm size (UAA)	155.6		149.1	
Business size (ESU)	44		47	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	31398	202	38859	261
Livestock subsidies	22081	142	24173	162
Cropping outputs	733	5	1323	9
AAPS / Set-aside	927	6	219	1
Miscellaneous	11154	72	12845	86
Agri-env. payments	16359	105	995	7
TOTAL OUTPUTS	**82651**	**531**	**78414**	**526**
Livestock inputs	19216	123	25507	171
Crop inputs	2999	19	5367	36
Labour	11451	74	8018	54
Machinery	16088	103	14880	100
General	8129	52	5862	39
Land & rent	13149	84	13142	88
TOTAL INPUTS	**71031**	**456**	**72777**	**488**
NFI	11620	75	5637	38
Less farmer/spouse labour	12540	81	11576	78
Add paid management	813	5	0	0
Add BLSA	0	0	402	3
MII	**-107**	**-1**	**-5537**	**-37**
ONI	10856	70	6579	44
Cash Income	26314	169	20208	135

Table 16 Summary cropping data for FBS LFA farms, 2000/01

	Enterprise output (£)		Area (ha)		Yield (t / ha)		Price (£ / t)	
	Org	Con	Org	Con	Org	Con	Org	Con
Wheat	0	222	0.0	0.4	0.0	6.4	0	65
Barley	1795	290	4.3	0.6	3.8	5.2	68	70
Other cereals	305	240	1.1	0.5	1.7	5.3	0	0
Total cereals	**2100**	**752**	**5**	**1**	**N/A**	**N/A**	**N/A**	**N/A**
Oil seed rape	0	0	0.0	0.0	0.0	0.0	0	0
Linseed	0	0	0.0	0.0	0.0	0.0	0	0
Peas/Beans	0	0	0.0	0.0	0.0	0.0	n/d	n/d
Potatoes	0	174	0.0	0.1	0.0	27.0	0	68
Sugarbeet	0	0	0.0	0.0	0.0	0.0	0	0
Horticulture	0	0	0.0	0.0	n/d	n/d	n/d	n/d
Other	0	0	0.0	0.0	n/d	n/d	n/d	n/d
Total (all)	**2100**	**926**	**5**	**2**	**N/A**	**N/A**	**N/A**	**N/A**

	Enterprise output (%)		Area (%)	
	Org	Con	Org	Con
Wheat	0	24	0	24
Barley	85	31	80	38
Other cereals	15	26	20	32
Total cereals	**100**	**81**	**100**	**94**
Oil seed rape	0	0	0	0
Linseed	0	0	0	0
Peas/Beans	0	0	0	0
Potatoes	0	19	0	6
Sugarbeet	0	0	0	0
Horticulture	0	0	0	0
Other	0	0	0	0
Total (all)	**100**	**100**	**100**	**100**

Given the availability of two LFA data sources for organic farms, it is worth noting the key differences/similarities between the ADAS and FBS datasets. For 2000/01, the average farm size for the ADAS data is greater than the FBS data. The proportion of livestock outputs to livestock subsidies is 0.5 for the ADAS data and 0.7 for the FBS sample. However, the stocking rates between the samples were identical and the stock number carried was similar.

Cropping has a greater influence on the ADAS results where the average cropping area per farm was 28 hectares compared to an average of 5 hectares for the FBS data. This is particularly relevant given that the ADAS organic farms were located in the North of England where there could be greater cropping opportunities in LFA areas. With this in mind, it is difficult to compare the two samples, especially as the input/output data are influenced by cropping and this has an overall bearing on the Net Farm Income, which was higher for the ADAS data than the FBS sample.

4.7 FBS Lowland cattle and sheep farms

In total, data from five organic farms were available for the lowland cattle and sheep farm analysis. These are shown alongside comparable conventional farm data (Table 18). Geographically, two farms were in the South West region, one farm in Central and Eastern England and the remaining two were in Wales.

Both the average farm size and total gross margins (business size) were similar for the two samples. Stocking rate and stock numbers were mostly similar although the organic sample, with a slightly greater land area, also had a few more cattle on average than the comparable data sample. The average cropping area was higher for the organic sample by 1 hectare with slightly more wheat and barley grown for the year (Table 19).

Overall, both the outputs and inputs were similar for both farm samples. However, the slightly lower total output coupled with slightly higher total inputs for the comparable data shows a lower Net Farm Income (NFI) compared with the organic sample. The Management and Investment Income is negative for both samples. In total, 3 of the organic farms had a greater NFI than their comparable conventional dataset.

Table 17 Summary FBS data for lowland farms (£/farm & £/ha), 2000/01

Financial year data	2000/01		2000/01	
Sample number	**Organic = 5**		**Conv. = 48**	
Average farm size (UAA)	84.8		82.2	
Business size (ESU)	36		33	
	£/farm	£/ha	£/farm	£/ha
Livestock outputs	29604	349	28099	342
Livestock subsidies	11663	137	11821	144
Cropping outputs	6554	77	5302	65
AAPS / Set-aside	3766	44	2031	25
Miscellaneous	2506	30	6967	85
Agri-env. payments	5326	63	547	7
TOTAL OUTPUTS	**59419**	**700**	**54767**	**666**
Livestock inputs	0	128	12782	156
Crop inputs	3741	44	4315	53
Labour	5788	68	6696	81
Machinery	12537	148	11417	139
General	6843	81	5786	70
Land & rent	13091	154	12752	155
TOTAL INPUTS	**42001**	**623**	**53748**	**654**
NFI	6533	77	1019	12
Less farmer/spouse labour	15614	184	13397	163
Add paid management	0	0	0	0
Add BLSA	1597	19	1682	20
MII	**-7484**	**-88**	**-10695**	**-130**
ONI	6046	71	3258	40
Cash Income	15199	179	12609	153

Table 18 Summary cropping data for FBS lowland farms, 2000/01

	Enterprise output (£)		Area (ha)		Yield (t / ha)		Price (£ / t)	
	Org	Con	Org	Con	Org	Con	Org	Con
Wheat	1956	911	2.7	1.4	3.5	6.6	122	73
Barley	3667	2784	6.2	5.5	3.4	4.9	114	69
Other cereals	198	407	0.2	0.8	4.1	5.0	0	0
Total cereals	**5822**	**4102**	**9**	**8**	**N/A**	**N/A**	**N/A**	**N/A**
Oil seed rape	0	0	0.0	0.0	0.0	0.0	0	0
Linseed	0	40	0.0	0.1	0.0	0.0	0	0
Peas/Beans	0	74	0.0	0.2	0.0	2.2	n/d	n/d
Potatoes	0	0	0.0	0.0	0.0	0.0	0	0
Sugarbeet	0	0	0.0	0.0	0.0	0.0	0	0
Horticulture	0	0	0.0	0.0	n/d	n/d	n/d	n/d
Other	1300	0	2.9	0.0	n/d	n/d	n/d	n/d
Total (all)	**7121**	**4215**	**12**	**8**	**N/A**	**N/A**	**N/A**	**N/A**

	Enterprise output (%)		Area (%)	
	Org	Con	Org	Con
Wheat	27	22	23	17
Barley	51	66	52	69
Other cereals	3	10	2	10
Total cereals	**82**	**97**	**76**	**97**
Oil seed rape	0	0	0	0
Linseed	0	1	0	2
Peas/Beans	0	2	0	2
Potatoes	0	0	0	0
Sugarbeet	0	0	0	0
Horticulture	0	0	0	0
Other	18	0	24	0
Total (all)	**100**	**100**	**100**	**100**

5. Gross margins

Table 19 to Table 28 present gross margin results for specific livestock and crop enterprises from organic study farms for 1998/99 and 2000/01 and also for dairy herds in 2001/02. Horticultural data are also shown for four field crops for 1999/00 and 2000/01. Gross margin figures are based on simple averages for the arable and livestock gross margins and on weighted averages for the horticultural data. Overall, figures are derived from certified organic enterprises and may include livestock sold at conventional prices. It should also be noted that the gross margin tables do not necessarily contain data from the same farms in all years.

For some enterprise gross margins, data from less than five farms are shown in some years. Consequently, data cannot be regarded as representative of the enterprise but rather as a guide to what was experienced by the number of farms shown.

Care should be taken in assessing the suckler and finishing beef gross margins with standard farm management projections. Some 24-month beef figures base the costs on the purchase of weaned calves at market, whereas the figures in Table 20 assume calves taken in at 12 months (at market price) from the suckler enterprise. Therefore, the suckler enterprise (Table 20) carries the costs of rearing the calves to 12 months, and is credited with the greater value (based on market price) of their transfer to the beef enterprise at that point. As different systems are employed on each farm, assumptions were made concerning the split of feed and veterinary costs to the different cattle enterprises. These assumptions are listed in the tables.

5.1 Dairy gross margins

Results shown are from commercial organic dairy farms and are presented as an identical sample of six farms in each year for three successive years.

Table 19 Dairy gross margins (£/cow), 1999/00 to 2001/02

	1999/2000	2000/01	2001/02
Number of herds	6	6	6
Average farm area - actual ha	270.4	270.4	273.7
-effective ha	252.1	252.1	255.4
Average size of the farm business (ESU)	207.3	153.8	180.3
Average size of herd (dairy cows)	126	125	121
Average milk yield (litres per cow)	5365	5122	5350
Implied milk price (ppl)	30.65	29.64	24.23
Enterprise output (£ per cow)			
Milk disposals (1)	1644	1518	1296
Calves - sales and transfers out	42	45	40
Bulls & cows - sales and transfers out	59	45	72
Net milk quota	-82	-35	29
Valuation change	-16	12	-36
Less: purchases & transfers in	108	115	103
Total enterprise output	**1539**	**1470**	**1298**
Variable costs (£ per cow)			
Concentrates	161	179	186
Purchased bulk feed	0	1	13
Stock keep	0	0	0
Veterinary & medicines	35	28	26
Other livestock costs - dairy	250	223	153
Total variable costs	**447**	**431**	**378**
Margin over concentrates	1482	1338	1097
Gross margin before forage costs	**1092**	**1038**	**920**
Gross margin including forage costs	1010	966	819
Forage variable costs (£ per farm)			
Seeds	4787	2633	4477
Fertilisers	2476	460	2347
Sprays	616	0	0
Other forage costs	7567	11348	13626
Total forage variable costs	**15446**	**14441**	**20450**
% of forage variable costs to dairy	67	63	60
Forage varable costs per cow	82	73	101

(1) Including milk to calves and farmhouse

Milk disposals account for most of the reduction in average output between 1999/00 and 2001/02. This was principally due to a penny decrease in average milk price received per litre in 2000/01 and a further reduction to 24 pence per litre in 2001/02, with similar levels of milk produced per cow over the years. The increase in livestock sales and transfers along with net milk quota had a minor effect on enterprise output.

Compared with 1999/00, there is slightly increased expenditure on concentrates and purchased bulk feed. A reduction in other livestock costs gives rise to lower variable costs overall. The result of decreasing outputs with corresponding decreasing inputs with the exception of feed costs was a 14% drop in gross margin before forage costs.

5.2 LFA suckler cow and beef gross margins

Compared to previous economic studies on organic farming in the LFA, the gross margin results for LFA suckler cows are not untypical with the exception of 1999/00, which is particularly low on a £ per cow basis (Table 20).

Table 20 LFA farms, suckler cow gross margins (£/cow), 1998/99 to 2000/01

	1998/99	1999/00	2000/01
No. of farms	7	7	6
Average number of cows / herd	40	45	44
Forage costs / LU (£ per cow)	42	n/a	n/a
Enterprise output (£ per cow)			
Subsidies (1)	247	228	167
Sales / transfers (2)	228	216	239
Cull sales (3)	60	35	37
Replacements	-181	-128	-108
Valuation change	66	17	12
Total output	**420**	**368**	**347**
Variable costs (£ per cow)			
Feed	64	78	40
Vet & med	22	16	11
Sundries	31	39	27
Total variable costs	**117**	**133**	**78**
Gross margin before forage costs	**303**	**235**	**269**

Assumptions and notes:

1. SCP and HLCA, 1st BSPS
2. Calf and weaner sales and transfers out at 12 months
3. Cow and bull sales

The main effect on output was a reduction in subsidies received over the financial years; however, this is not a reflection of subsidy levels at the time which remained similar and then increased following Agenda 2000. The reduction in subsidy output is partly offset by a reduction in replacement costs. Feed costs decreased overall for the three year period as did vet and medicine and sundry costs. The lowest gross margin was produced in 1999/00 with

output affected by the lowest sales and transfers and overall high variable costs, particularly feed costs. However, the gross margin for 2000/01 was better despite lower output due to lower variable costs. No data was available for forage costs for this class of livestock.

The gross margin results for finishing beef are shown in Table 21. On average, subsidy outputs increased over the three year period, although this is not representative of any increases in subsidy levels for beef youngstock. Changes in valuation and purchases and transfers into the beef enterprise remained relatively static with the exception of 1999/00 financial year. Overall, beef sales and transfers had a downward trend with the lowest sales seen in 1999/00.

Similarly, variable costs had a downward trend with feed costs reduced by half over the period with minor decreases in vet and med and sundry cost items. Despite a downward trend in sales, the reduction in costs offset any reductions in gross margin before forage which increased by 18% in 2000/01 compared to 1998/99.

Table 21 LFA farms, finishing beef gross margins (£/head), 1998/99 to 2000/01

	1998/99	**1999/00**	**2000/01**
No. of farms	13	7	6
Enterprise size (head)	13	38	37
Forage costs / LU	n/a	n/a	n/a
Enterprise output (£ per head)			
Subsidies	43	40	64
Sales / transfers	527	409	495
Purchases / transfers in	-284	-249	-275
Valuation change	41	34	41
Total output	**327**	**234**	**325**
Variable costs (£ per head)			
Feed (1)	81	68	45
Vet & med	12	4	7
Sundries	40	42	37
Total variable costs	**133**	**114**	**88**
Gross margin before forage costs	**194**	**120**	**237**

Assumptions and notes:
1. Feed split 80:20 finishing beef: suckler cows

5.3 LFA sheep gross margins

The sample for LFA farms includes farms with direct sales; on those farms the final price received has been recorded, and on-farm direct costs of sales included in sundry inputs. A decrease in subsidies had a negative effect on sheep output overall, although a slight increase in sales/transfers buffered the subsidy reduction.

An increase in feed, vet and medicine and sundry costs caused an average increase of over £4 in inputs per ewe. The resulting lower outputs and increased inputs over these years showed a 33% reduction in gross margins excluding forage costs. Average variable costs for upland ewes were lower in 1998/99 than in the previous two years.

In comparison to previous economic studies of organic LFA flocks, gross margins have indicated an upward trend peaking in 1998/99. Previous years typically showed higher subsidy payments and lower variable costs.

Table 22 LFA farms, breeding sheep gross margins (£/ewe), 1998/99 to 2000/01

	1998/99	**1999/00**	**2000/01**
No. of farms	7	8	7
Average number of ewes per flock	519	521	523
Forage costs / LU (£ per ewe)	12.00	N/A	N/A
Rearing %	111	112	108
Enterprise output (£ per ewe)			
Subsidies	31.7	21.7	18.2
Sales / transfers	28.5	39.2	31.0
Cull sales	3.4	2.3	4.4
Wool	1.8	1.0	1.5
Replacements	-3.6	-5.6	-2.9
Valuation change	7.7	0.5	1.9
Total output	**69.5**	**59.0**	**54.2**
Variable costs (£ per ewe)			
Feed	5.5	6.4	7.1
Vet & med	2.0	3.4	3.1
Sundries	2.6	6.6	4.1
Total variable costs	**10.1**	**16.5**	**14.2**
Gross margin before forage costs	**59.4**	**42.5**	**39.9**

5.4 Crop gross margins

Gross margins are presented for five arable crops for the 1998/99 to 2000/01 harvest years with the exception of beans where no organic data was available for 1998/99. The data exclude subsidy income to enable production factors and price trends to be studied in isolation from subsidy income. For conversion to actual enterprise gross margins the relevant subsidy level can be added.

The gross margin trends for crop enterprises are strongly influenced by the combination of yield levels and prices received. Most organic grain crops saw an increase in price per ton for 1999/00 followed by a reduction for 2000/01 with the exception of beans and potatoes, which had converse pricing.

Horticulture data are also shown for carrots, calabrese, beetroot and potatoes. Gross margin figures were similar for potatoes and beetroot between years despite some variation on price and yields, while carrots and calabrese had more marked variation. The gross margin on carrots dropped by 40% and on calabrese increased by 75%.

Table 23 Gross margins for winter wheat (£/ha), 1998/99 to 2000/01

	1998/99 Average	*1999/00* Average	*2000/01* Average
No. of farms	14	7	5
Area (ha)	21.0	27.7	24.8
Crop yield (t/ha)	3.6	3.8	3.5
Crop price (£/t)	191	200	184
Cropping output	**694**	**811**	**641**
Seed	64	61	45
Fertiliser	2	0	0
Sprays	0	0	0
Other	3	3	4
Total variable costs	69	63	49
GROSS MARGIN	**624**	**747**	**592**

Table 24 Gross margins for spring wheat (£/ha), 1998/99 to 2000/01

	1998/99 Average	*1999/00* Average	*2000/01* Average
No. of farms	10	5	5
Area (ha)	21.0	20.5	14.2
Crop yield (t/ha)	3.1	2.7	2.5
Crop price (£/t)	179	202	197
Cropping output	**553**	**592**	**501**
Seed	71	75	67
Fertiliser	0	13	23
Sprays	5	6	0
Other	6	2	12
Total variable costs	83	97	97
GROSS MARGIN	**470**	**496**	**404**

Table 25 Gross margins for oats (£/ha), 1998/99 – 2000/01

	1998/99 Average	*1999/00* Average	*2000/01* Average
No. of farms	7	5	6
Area (ha)	15.0	23.7	22.8
Crop yield (t/ha)	4.1	3.4	3.1
Crop price (£/t)	160	191	180
Cropping output	**641**	**646**	**553**
Seed	57	66	56
Fertiliser	0	20	10
Sprays	0	6	12
Other	2	1	0
Total variable costs	**59**	**93**	**78**
GROSS MARGIN	582	553	475

Table 26 Gross margins for beans (£/ha), 1999/00 and 2000/01

	1999/00 Average	*2000/01* Average
No. of farms	4	4
Area (ha)	16.2	17.1
Crop yield (t/ha)	2.7	2.3
Crop price (£/t)	189	221
Cropping output	**558**	**523**
Seed	63	64
Fertiliser	0	0
Sprays	0	0
Other	6	0
Total variable costs	67	64
GROSS MARGIN	**491**	**459**

Table 27 Gross margins for potatoes (£/ha), 1998/99 – 2000/01

	1998/99 Average	*1999/00* Average	*2000/01* Average
No. of farms	11	6	5
Area (ha)	11.0	9.2	13.2
Crop yield (t/ha)	16.0	23.9	16.6
Crop price (£/t)	331	272	333
Cropping output	**5252**	**6772**	**4632**
Seed	550	1054	787
Fertiliser	62	25	16
Sprays	49	29	23
Casual labour	135	157	143
Crop sundries	169	191	199
Total variable costs	965	1456	1168
GROSS MARGIN	**4287**	**5316**	**3464**

Table 28 Agronomic and economic summary for horticultural enterprises for 1999/00 and 2000/01 cropping season

	Potatoes[1]		Carrots[1]		Calabrese[1]		Beetroot[1]	
	99/00	**00/01**	**99/00**	**00/01**	**99/00**	**00/01**	**99/00**	**00/01**
OUTPUT								
Marketable yield (t/ha)	24.0	24.0	43.0	29.0	3.6	5.4	14.0	18.7
Price per tonne (£)	227	234	200	157	919	887	250	200
TOTAL(£/ha)	**5372**	**5511**	**8584**	**4533**	**3276**	**4782**	**3450**	**3724**
VARIABLE COSTS (£/ha)								
Seeds/transplants	1006	773	548	478	528	416	237	349
Fertilisers (FYM)	27	48	38	0	38	47	63	38
Crop protection	187	333	84	8	130	288	43	40
Casual labour	28	387	3364	1313	669	989	593	946
Other	64	72	29	0	178	9	16	6
TOTAL(£/ha)	**1312**	**1612**	**4063**	**1800**	**1543**	**1749**	**952**	**1379**
GROSS MARGIN (£/ha)	**4060**	**3899**	**4521**	**2734**	**1733**	**3033**	**2498**	**2345**
ALLOCATED FIXED COSTS (£/ha)								
Cultivations	209	238	202	120	170	129	151	183
Planting/drilling	146	97	37	52	288	168	39	48
Weeding	219	107	145	196	86	110	150	174
Mechanical Harvest	430	358	486	293	0	39	389	401
Other	131	133	214	0	204	118	164	72
TOTAL(£/ha)	**1135**	**933**	**1084**	**661**	**748**	**564**	**893**	**878**
NET MARGIN (£/ha)	**2925**	**2966**	**3437**	**2073**	**985**	**2469**	**1605**	**1467**

[1]Weighted averages according to area grown at least 3 farms [2]All crops sold net of all market charges (transport, grading, packaging, commission) **Source: HDRA (2001)**

6. Appendices

6.1 Appendix 1. Detailed Farm Results

Table A1 Results of cropping farms, 1999/00 - 2000/01

	Identical Sample			
Financial year data	1999/00		2000/01	
Sample number	Organic = 5		Organic = 5	
Farm size (adj ha).	436.6		443.4	
OUTPUT	**£/farm**	**£/ha**	**£/farm**	**£/ha**
Grazing livestock	72284	214	72495	187
Non-grazing livestock	1389	3	4660	8
Livestock subsidy	6919	27	8202	29
Cereals	101929	275	110435	238
Other cash crops	204687	787	136619	423
Crop subsidies	56876	137	58000	132
Diversified enterprises	2410	17	6137	53
Other income	44921	124	52468	144
TOTAL	**491415**	**1584**	**449016**	**1214**
VARIABLE COSTS				
Feedstuffs	10273	22	14009	32
Other livestock costs	12628	37	12798	34
Seeds	31965	110	31017	93
Fertiliser	19679	32	18531	29
Sprays	18673	35	18200	32
Other crop costs	20800	78	16667	59
Diversified enterprise vc	0	0	0	0
Change in valuation	8	-6	-84	-2
TOTAL	**114024**	**308**	**111138**	**277**
GROSS MARGIN	**377391**	**1276**	**337879**	**937**
FIXED COSTS				
Labour & management	81618	210	91188	226
Power & mach: dep'n	29262	100	27283	88
leasing	420	0	1	0
fuel & power	9912	33	14612	44
contract & hire	14324	61	11951	50
repairs, tax & ins	16252	51	22475	61
Property: dep'n	6738	34	6976	27
rent	63535	103	62159	106
repairs	7063	22	11292	29
Interest	9502	47	10354	43
Sundry overheads	22564	91	22710	63
TOTAL	**261189**	**753**	**281001**	**737**
PROFIT / CASH INCOME	**116202**	**523**	**56877**	**200**

Table A1 Results of cropping farms, 1999/00 - 2000/01

INCOME MEASURES				
	£/farm	**£/ha**	**£/farm**	**£/ha**
PROFIT / CASH INCOME	116202	523	56877	200
Add interest	9502	47	10354	43
Minus notional rent	2072	4	3382	6
Minus unpaid labour	8046	51	8532	48
NET FARM INCOME	**115586**	**516**	**55317**	**190**
Add paid management	8300	10	7346	8
Minus farmer & spouse labour	4287	42	4499	36
MANAGEMENT INVEST. INCOME	**113598**	**474**	**54071**	**155**
OCCUPIERS NET INCOME	**72156**	**339**	**14086**	**37**

LAND UTILISATION - hectares per farm		
ORGANIC & INCONVERSION		
Cereals	57	74
Break crops	1	3
Potatoes, veg etc..	15	18
Set-aside/fallow	17	12
Grass & forage crops	87	77
TOTAL	**176**	**185**
NON-ORGANIC		
Cereals	136	128
Combinable breaks	14	14
Roots, veg etc..	50	48
Set-aside/fallow	14	21
Grass & forage crops	25	21
TOTAL	**239**	**228**
Let land	35	52
TOTAL	**437**	**444**
Percentage organic	40%	42%
Percentage forage	25%	22%
Percentage set-aside	13%	13%

Table A2 Results of identical organic dairy farms, 1999/00 - 2001/02

Sample Number		5		5		5	
Average farm size (UAA)		89.9		89.9		93.8	
Business size (ESU)		83		93		97	
		£/farm	**£/ha**	**£/farm**	**£/ha**	**£/farm**	**£/ha**
Dairy -	milk output	106718	1188	108912	1212	104954	1119
	cattle	-3107	-35	-3880	-43	609	6
	net quota	133	1	1097	12	2747	29
	valuation change	2616	29	2549	28	-3463	-37
Other cattle	output	13168	147	11047	123	12125	129
	valuation change	-283	-3	4569	51	5179	55
	subsidies	326	4	536	6	1540	16
Sheep -	total output	949	11	214	2	133	1
	valuation change	-426	-5	-38	0	3	0
	subsidies	333	4	375	4	74	1
Other livestock		17243	192	23560	262	21260	227
Arable crops	output	10165	113	11636	130	11321	121
	subsidies	2080	23	1957	22	2178	23
By products	forage & cults	967	11	-959	-11	937	10
	subsidies (set-aside)	2745	31	1313	15	1899	20
Miscellaneous (incl.	benefit value of farmhouse	8377	93	8258	92	6575	70
	- organic grants	600	7	8566	95	2852	30
	- other agri-env.payments	9718	108	3880	43	3276	35
	FARM REVENUE	172324	1918	183593	2043	174200	1857
INPUTS							
Feeds	purchased concentrates	29971	334	32677	364	38266	408
	homegrown concentrates	5194	58	6699	75	6074	65
Purchased fodder, Tack and stock keep		2829	31	3446	38	4857	52
Veterinary and medicines		3331	37	2693	30	2512	27
Other livestock costs		15983	178	16240	181	14307	153
Seeds -	purchased and homegrowr	6307	70	4044	45	4157	44
Fertilisers		1527	17	724	8	608	6
Crop protection		492	5	30	0	0	0
Other crop costs		960	11	1677	19	1348	14
Labour	paid incl. paid managemen	9708	108	10370	115	8344	89
	casual	3389	38	4032	45	4837	52
Machinery	contract	10852	121	10702	119	13540	144
	repairs	5761	64	6117	68	5448	58
	fuels	1988	22	2206	25	2150	23
General farming costs		13126	146	13127	146	12263	131
Land expenses		3044	34	3463	39	2765	29
Rent		4177	46	4357	48	4357	46
	FARM EXPENSES	118638	1320	122603	1364	125834	1341
Excess of expenses over revenue		53686	597	60990	679	48366	516
Notional inputs							
- rental value/imputed rent		13921	155	14187	158	15188	162
- unpaid labour		2868	32	3408	38	3911	42
- machinery depreciation		6422	71	7562	84	6991	75
		23212	258	25157	280	26090	278
NET FARM INCOME (excl. BLSA)		30474	339	35833	399	22276	237

Table A2b Results of identical conventional dairy farms, 1999/00 - 2001/02

Sample Number		30		30		30	
Average farm size (UAA)		81.7		84.2		83.4	
Business size (ESU)		80		81		83	
		£ / farm	**£ / ha**	**£ / farm**	**£ / ha**	**£ / farm**	**£ / ha**
Dairy -	milk output	84998	1041	82348	978	100481	1205
	cattle	668	8	-3055	-36	-481	-6
	net quota	-928	-11	276	3	1886	23
	valuation change	-131	-2	1402	17	-41	0
Other cattle	output	11012	135	12196	145	15492	186
	valuation change	297	4	2899	34	1339	16
	subsidies	1063	13	1364	16	1708	20
Sheep -	total output	3617	44	3416	41	3345	40
	valuation change	-426	-5	-171	-2	-566	-7
	subsidies	1521	19	1099	13	676	8
Other livestock		40	0	225	3	49	1
Arable crops	output	6500	80	6011	71	4752	57
	subsidies	2808	34	2794	33	2380	29
By products	forage and cults	2062	25	152	2	2240	27
	subsidies (set-aside)	699	9	694	8	905	11
Miscellaneous (incl. benefit value of farmhouse		4565	56	5355	64	5451	65
	- organic grants	0	0	345	4	189	2
	- other agri-env.payments	731	9	869	10	724	9
	FARM REVENUE	119097	1458	118221	1404	140530	1685
INPUTS							
Feeds	purchased concentrates	16954	208	19121	227	22730	273
	homegrown concentrates	2786	34	3665	44	3573	43
Purchased fodder, Tack and stock keep		1819	22	1772	21	2637	32
Veterinary and medicines		3546	43	3273	39	3770	45
Other livestock costs		10089	124	9740	116	11420	137
Seeds -	purchased and homegrown	1434	18	1298	15	1365	16
Fertilisers		5606	69	5690	68	6209	74
Crop protection		1766	22	1646	20	1390	17
Other crop costs		1068	13	725	9	778	9
Labour	paid incl. paid management	6651	81	5597	66	5646	68
	casual	783	10	944	11	2220	27
Machinery	contract	5427	66	5642	67	5764	69
	repairs	4267	52	4297	51	5051	61
	fuels	2569	31	3187	38	3050	37
General farming costs		8857	108	8962	106	9291	111
Land expenses		2026	25	2250	27	1904	23
Rent		3961	48	3676	44	3791	45
	FARM EXPENSES	79608	975	81486	968	90589	1086
Excess of expenses over revenue		39489	483	36735	436	49940	599
Notional inputs							
- rental value/imputed rent		9530	117	9496	113	9301	112
- unpaid labour		8979	110	9481	113	9737	117
- machinery depreciation		9537	117	8854	105	9199	110
		28046	343	27830	331	28236	339
NET FARM INCOME (excl. BLSA)		11443	140	8905	106	21704	260

Table A2 Results of identical organic dairy farms, 1999/00 - 2001/02

	1999/2000		2000/01		2001/02	
INCOME MEASURES	**£/farm**	**£/ha**	**£/farm**	**£/ha**	**£/farm**	**£/ha**
NET FARM INCOME (excl. BLSA)	30474	339	35833	399	22276	237
Less farmer and spouse labour	13856	154	14441	161	15326	163
Add managerial input of paid manager	0	0	0	0	0	0
Add BLSA	-5746	-64	1229	14	812	9
Management and Investment Income	10873	121	22621	252	7762	83
NET FARM INCOME (excl. BLSA)	30474	339	35833	399	22276	237
plus net rental value/imputed rent	12537	140	12795	142	13701	146
minus occupier's expenses	486	5	524	6	1163	12
minus interest payments	11921	133	12800	142	11239	120
minus build & works depreciation	6422	71	7930	88	9632	103
OCCUPIER'S NET INCOME	24181	269	27374	305	13943	149
plus other imputed items	3400	38	3940	44	4443	47
plus fixed asset depreciation	13538	151	14918	166	16476	176
minus valuation changes	-411	-5	4048	45	3412	36
NOTIONAL CASH INCOME	41531	462	42185	469	31449	335
TENANT'S CAPITAL - £ per farm						
Machinery	43780	487	47552	529	48344	515
Livestock	63893	711	66015	735	71493	762
Crops	5988	67	5037	56	4504	48
Stores	2438	27	1787	20	1874	20
TOTAL	116099	1292	120391	1340	126214	1345
PERFORMANCE INDICATORS						
Milk price	0.18		0.23		0.23	
Milk yield per forage hectare (litres)	4146		4019		7774	
Milk yield per cow (litres)	3017		2667		5010	
Milk sales per cow (£)	541		602		1158	
Stocking rate (LU per eff.ha)	1.4		1.5		1.6	
LU/forage ha	1.7		1.8		1.9	
Annual Labour Units per farm	2.5		2.7		2.8	
of which farmer & spouse	1.2		1.2		1.2	
Owner Equity (%)	79.2		78.1		77.5	
ONI/Net worth (%)	4.4		5.2		2.6	
Return on tenant's capital (%)	9.4		18.8		6.2	
Return on all capital (%)	2.2		4.0		1.8	

Table A2b Results of identical conventional dairy farms, 1999/00 - 2001/02

	1999/2000		2000/01		2001/02	
INCOME MEASURES	**£ / farm**	**£ / ha**	**£ / farm**	**£ / ha**	**£ / farm**	**£ / ha**
NET FARM INCOME (excl. BLSA)	11443	140	8905	106	21704	260
Less farmer and spouse labour	16356	200	16799	200	17306	208
Add managerial input of paid manager	0	0	0	0	0	0
Add BLSA	-5827	-71	2659	32	1003	12
Management and Investment Income	-10740	-131	-5234	-62	5402	65
NET FARM INCOME (excl. BLSA)	11443	140	8905	106	21704	260
plus net rental value/imputed rent	7995	98	7835	93	7292	87
minus occupier's expenses	276	3	290	3	305	4
minus interest payments	4833	59	4450	53	4448	53
minus build & works depreciation	3363	41	3460	41	1873	22
OCCUPIER'S NET INCOME	10966	134	8539	101	22370	268
plus other imputed items	9004	110	9494	113	9737	117
plus fixed asset depreciation	12899	158	12314	146	11072	133
minus valuation changes	987	12	2748	33	942	11
NOTIONAL CASH INCOME	31883	390	27599	328	42237	507
TENANT'S CAPITAL - £ per farm						
Machinery	56141	687	53976	641	53755	645
Livestock	65846	806	65917	783	70325	843
Crops	9010	110	9277	110	8883	107
Stores	4162	51	4070	48	4452	53
TOTAL	135159	1655	133240	1583	137414	1648
PERFORMANCE INDICATORS						
Milk price	0.18		0.17		0.20	
Milk yield per forage hectare (litres)	10073		10342		11303	
Milk yield per cow (litres)	6223		6230		6457	
Milk sales per cow (£)	1128		1083		1282	
Stocking rate (LU per eff.ha)	1.6		1.7		1.8	
LU/forage ha	1.9		1.9		2.0	
Annual Labour Units per farm	2.8		2.7		2.7	
of which farmer & spouse	1.4		1.4		1.4	
Owner Equity (%)	88.5		86.5		86.7	
ONI/Net worth (%)	2.2		1.9		4.9	
Return on tenant's capital (%)	-7.9		-3.9		3.9	
Return on all capital (%)	-1.2		-0.3		1.7	

Table A2 Results of identical organic dairy farms, 1999/00 - 2001/02

LAND UTILISATION - hectares per farm		1999/2000	2000/01	2001/02
Tillage - maincrops		10.8	12.1	11.0
Tillage - fodder		8.2	6.1	7.5
Grassland	Grazing, hay and silage	63.9	67.8	68.6
Fallow, land let & set aside		5.8	2.7	5.6
Rough grazing	Effective	1.1	1.1	1.1
Utilisable agricultural area (Effective ha.)		89.9	89.9	93.8
Woods, roads and buildings		5.0	5.0	5.0
TOTAL AREA (Actual ha.)		94.0	94.0	98.0
of which forage area		**73.2**	**75.0**	**77.2**

LIVESTOCK CARRIED - L.U per farm	LU	No's	LU	No's	LU	No's
Dairy cows	80.6	81	86.4	86	88.4	88
Beef cows	0.0	0	0.0	0	0.0	0
Other cattle	35.0	74	41.2	76	49.2	95
Breeding sheep	0.5	5	0.1	1	0.0	1
Other sheep	0.2	4	0.0	0	0.0	0
Pigs	0.0	0	0.0	0	0.0	0
Poultry	6.0	3502	6.2	3604	6.7	3912
Other livestock	1.2	2	1.5	2	1.3	2
TOTAL (L.U.)	123.5		135.4		145.6	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	371458	371218	371218	374654	374654	376686
Buildings, improvements and fixtures	40922	40100	40100	47082	47082	57013
Machinery	43082	44478	44478	50626	50626	46061
Livestock	66045	61741	61741	70288	70288	72697
Produce and goods in store	8362	8459	8459	5470	5470	7285
Quotas	161773	155378	155378	112727	112727	112675
Credit balances	17174	11622	11622	14052	14052	10216
TOTAL	708815	692996	692996	674899	674899	682634
EXTERNAL LIABILITIES						
Long and medium term loans	94547	87731	87731	93833	93833	103639
Short term loans	15695	9823	9823	13111	13111	8776
Overdrafts	36637	46252	46252	40573	40573	41076
TOTAL	146879	143806	143806	147516	147516	153491
NET WORTH	**561937**	**549190**	**549190**	**527383**	**527383**	**529143**

Table A2b Results of identical conventional dairy farms, 1999/00 - 2001/02

LAND UTILISATION - hectares per farm		1999/2000	2000/01	2001/02
Tillage - maincrops		12.6	13.2	11.5
Tillage - fodder		4.9	4.5	5.9
Grassland	Grazing, hay and silage	64.2	67.2	65.4
Fallow, land let & set aside		-0.8	-1.4	-0.1
Rough grazing	Effective	0.8	0.8	0.8
Utilisable agricultural area (Effective ha.)		81.7	84.2	83.4
Woods, roads and buildings		5.4	5.6	5.6
TOTAL AREA (Actual ha.)		82.7	85.2	84.4
of which forage area		**70.0**	**72.4**	**72.0**

LIVESTOCK CARRIED - L.U per farm	LU	No's	LU	No's	LU	No's
Dairy cows	77.1	77	77.5	78	80.3	80
Beef cows	0.7	1	1.9	2	1.5	2
Other cattle	45.4	84	51.3	95	55.3	102
Breeding sheep	6.5	78	6.6	81	6.6	81
Other sheep	2.5	61	2.4	61	2.3	57
Pigs	0.1	1	0.0	0	0.0	0
Poultry	0.0	2	0.0	2	0.0	0
Other livestock	0.0	0	0.0	0	0.0	0
TOTAL (L.U.)	132.2		139.7		146.0	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	268566	275210	275210	274935	274935	274935
Buildings, improvements and fixtures	15618	13732	13732	12460	12460	11499
Machinery	56852	55431	55431	52522	52522	54988
Livestock	68898	62524	62524	69457	69457	71193
Produce and goods in store	12540	14036	14036	13230	13230	13440
Quotas	136633	132774	132774	84103	84103	84979
Credit balances	15441	13278	13278	13346	13346	17220
TOTAL	574548	566984	566984	520053	520053	528252
EXTERNAL LIABILITIES						
Long and medium term loans	29491	31474	31474	28446	28446	26339
Short term loans	9327	8085	8085	10302	10302	12353
Overdrafts	24577	25375	25375	31299	31299	31649
TOTAL	63394	64933	64933	70047	70047	70341
NET WORTH	**511154**	**502051**	**502051**	**450006**	**450006**	**457911**

Table A3 Results of FBS organic dairy farms, 2000/01

		Organic		Conventional	
Sample Number		9		60	
Average farm size (UAA)		122.7		112.8	
Business size (ESU)		105		105	
		£/farm	**£/ha**	**£/farm**	**£/ha**
Dairy -	milk output	143372	1169	101365	898
	cattle	-11302	-92	-3226	-29
	net quota	2170	18	-184	-2
	valuation change	7695	63	703	6
Other cattle	output	16701	136	16396	145
	valuation change	12639	103	5807	51
	subsidies	1262	10	2249	20
Sheep -	total output	524	4	2211	20
	valuation change	173	1	190	2
	subsidies	150	1	456	4
Other livestock		12844	105	275	2
Arable crops	output	1615	13	8944	79
	subsidies	1289	11	4475	40
By products forage and cults	output	-236	-2	959	8
	subsidies (set-aside)	1543	13	1160	10
Miscellaneous (including benefit	value of farmhouses)	8402	68	8043	71
	- organic grants	9929	81	1335	12
	- other agri-env.payments	3572	29	526	5
	FARM REVENUE	212344	1731	151683	1344
INPUTS					
Feeds	purchased concentrates	40081	327	20970	186
	homegrown concentrates	3743	31	4723	42
Purchased fodder, Tack and stock keep		4442	36	2056	18
Veterinary and medicines		2809	23	3492	31
Other livestock costs		15153	124	9900	88
Seeds -	purchased and homegrown	2423	20	2214	20
Fertilisers		459	4	6206	55
Crop protection		328	3	2052	18
Other crop costs		818	7	1233	11
Labour	paid incl. paid management	16976	138	14958	133
	casual	1670	14	1301	12
Machinery	contract	11500	94	6325	56
	repairs	7582	62	6224	55
	fuels	3421	28	3764	33
General farming costs		15030	123	11658	103
Land expenses		5333	43	2290	20
Rent		11268	92	7152	63
	FARM EXPENSES	143036	1166	106519	944
Excess of expenses over revenue		69309	565	45164	400
Notional inputs					
- rental value/imputed rent		17245	141	12140	108
- unpaid labour		2284	19	5664	50
- machinery depreciation		9135	74	10203	90
		28664	234	28007	248
NET FARM INCOME (excl. BLSA)		40737	332	17157	152

Table A3 Results of FBS organic dairy farms, 2000/01

	Organic 2000/01		Conventional 2000/01	
INCOME MEASURES	**£/farm**	**£/ha**	**£/farm**	**£/ha**
NET FARM INCOME (excl. BLSA)	40737	332	17157	152
Less farmer and spouse labour	18064	147	16477	146
Add managerial input of paid manager	0	0	153	1
Add BLSA	10083	82	4682	41
Management and Investment Income	32664	266	5515	49
NET FARM INCOME (excl. BLSA)	40737	332	17157	152
plus net rental value/imputed rent	14615	119	10011	89
minus occupier's expenses	369	3	523	5
minus interest payments	8047	66	7116	63
minus build & works depreciation	7253	59	3805	34
OCCUPIER'S NET INCOME	39682	324	15724	139
plus other imputed items	2284	19	5664	50
plus fixed asset depreciation	16388	134	14008	124
minus valuation changes	18159	148	5727	51
NOTIONAL CASH INCOME	40195	328	29669	263
TENANT'S CAPITAL - £ per farm				
Machinery	47156	384	58102	515
Livestock	92095	751	82875	734
Crops	7210	59	10810	96
Stores	2204	18	5677	50
TOTAL	148666	1212	157464	1395
PERFORMANCE INDICATORS				
Milk price	0.26		0.18	
Milk yield per forage hectare (litres)	7218		8810	
Milk yield per cow (litres)	5054		5819	
Milk sales per cow (£)	1302		1040	
Stocking rate (LU per eff.ha)	1.4		1.5	
LU/forage ha	1.5		1.9	
Annual Labour Units per farm	2.9		2.8	
of which farmer & spouse	1.5		1.3	
Owner Equity (%)	81.2		84.5	
ONI/Net worth (%)	7.3		2.9	
Return on tenant's capital (%)	22.0		3.5	
Return on all capital (%)	6.6		2.0	

Table A3 Results of FBS organic dairy farms, 2000/01

LAND UTILISATION - hectares per farm		Organic 2000/01	Conventional 2000/01
Tillage - maincrops		4.7	20.1
Tillage - fodder		8.4	7.7
Grassland	Grazing, hay and silage	106.8	83.6
Fallow, land let & set aside		2.5	1.3
Rough grazing	Effective	0.1	0.1
Utilisable agricultural area (Effective ha.)		122.7	112.8
Woods, roads and buildings		8.4	5.8
TOTAL AREA (Actual ha.)		123.0	113.0
of which forage area		**115.4**	**91.4**

LIVESTOCK CARRIED - L.U per farm		LU	No's	LU	No's
	Dairy cows	110.0	110	98.7	99
	Beef cows	0.1	0	0.8	1
	Other cattle	60.0	110	65.1	121
	Breeding sheep	1.4	13	4.4	41
	Other sheep	0.3	7	1.2	31
	Pigs	0.0	0	0.6	4
	Poultry	3.4	2000	0.0	4
	Other livestock	0.0	0	0.0	0
	TOTAL (L.U.)	175.2		170.8	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	338361	340270	342679	342819
Buildings, improvements and fixtures	36202	37236	18523	16762
Machinery	45177	49135	59462	56742
Livestock	76800	107391	77185	88565
Produce and goods in store	10589	8240	16972	16002
Quotas	156981	105039	141049	92737
Credit balances	22215	21046	20689	19124
TOTAL	686324	668358	676559	632750
EXTERNAL LIABILITIES				
Long and medium term loans	71519	65004	63412	58902
Short term loans	18067	22920	11759	14534
Overdrafts	28040	38055	23090	24919
TOTAL	117626	125978	98261	98355
NET WORTH	**568699**	**542379**	**578298**	**534395**

Table A4 Results of FBS in-conversion dairy farms, 2000/01

		In-Conversion		Conventional	
Sample Number		11		125	
Average farm size (UAA)		79.5		77.1	
Business size (ESU)		77		79	
		£/farm	**£/ha**	**£/farm**	**£/ha**
Dairy -	milk output	86856	1092	85452	1108
	cattle	-4483	-56	-1719	-22
	net quota	1093	14	114	1
	valuation change	856	11	252	3
Other cattle	output	10394	131	13446	174
	valuation change	935	12	2212	29
	subsidies	452	6	1604	21
Sheep -	total output	1823	23	3714	48
	valuation change	-452	-6	192	2
	subsidies	416	5	1249	16
Other livestock		0	0	723	9
Arable crops	output	2131	27	2103	27
	subsidies	1628	20	1030	13
By products forage and cults	output	185	2	1006	13
	subsidies (set-aside)	1572	20	445	6
Miscellaneous (including benefit value of farmhouses)		6210	78	5158	67
- organic grants		9309	117	185	2
- other agri-env.payments		1054	13	318	4
	FARM REVENUE	119981	1509	117480	1523
INPUTS					
Feeds	purchased concentrates	20376	256	20011	259
	homegrown concentrates	2447	31	2113	27
Purchased fodder, Tack and stock keep		1856	23	2165	28
Veterinary and medicines		3102	39	3349	43
Other livestock costs		10582	133	9183	119
Seeds -	purchased and homegrown	2377	30	973	13
Fertilisers		2432	31	5271	68
Crop protection		360	5	655	8
Other crop costs		1108	14	595	8
Labour	paid incl. paid management	13159	165	6073	79
	casual	1069	13	1150	15
Machinery	contract	6738	85	5521	72
	repairs	5563	70	4191	54
	fuels	2975	37	2951	38
General farming costs		9864	124	8888	115
Land expenses		2544	32	1778	23
Rent		4122	52	4379	57
	FARM EXPENSES	90675	1140	79247	1028
Excess of expenses over revenue		29305	369	38233	496
Notional inputs					
- rental value/imputed rent		11526	145	10799	140
- unpaid labour		4788	60	6368	83
- machinery depreciation		8055	101	7232	94
		24369	306	24399	316
NET FARM INCOME (excl. BLSA)		4953	62	13834	179

Table A4 Results of FBS in-conversion dairy farms, 2000/01

	In-Conversion 2000/01		Conventional 2000/01	
INCOME MEASURES	**£/farm**	**£/ha**	**£/farm**	**£/ha**
NET FARM INCOME (excl. BLSA)	4953	62	13834	179
Less farmer and spouse labour	14843	187	16534	214
Add managerial input of paid manager	0	0	0	0
Add BLSA	3626	46	3467	45
Management and Investment Income	-6280	-79	766	10
NET FARM INCOME (excl. BLSA)	4953	62	13834	179
plus net rental value/imputed rent	9298	117	9016	117
minus occupier's expenses	407	5	253	3
minus interest payments	4446	56	5732	74
minus build & works depreciation	4239	53	4242	55
OCCUPIER'S NET INCOME	5158	65	12622	164
plus other imputed items	4788	60	6436	83
plus fixed asset depreciation	12295	155	11474	149
minus valuation changes	689	9	2870	37
NOTIONAL CASH INCOME	21552	271	27661	359
TENANT'S CAPITAL - £ per farm				
Machinery	47608	599	43025	558
Livestock	58126	731	64423	835
Crops	4466	56	5531	72
Stores	2006	25	2912	38
TOTAL	112207	1411	115890	1503
PERFORMANCE INDICATORS				
Milk price	0.17		0.18	
Milk yield per forage hectare (litres)	9523		11030	
Milk yield per cow (litres)	6131		6138	
Milk sales per cow (£)	1058		1085	
Stocking rate (LU per eff.ha)	1.6		1.8	
LU/forage ha	1.6		1.8	
Annual Labour Units per farm	2.7		2.5	
of which farmer & spouse	1.3		1.3	
Owner Equity (%)	84.2		83.7	
ONI/Net worth (%)	1.4		3.1	
Return on tenant's capital (%)	-5.6		0.7	
Return on all capital (%)	-0.5		1.1	

Table A4 Results of FBS in-conversion dairy farms, 2000/01

LAND UTILISATION - hectares per farm		In-Conversion 2000/01	Conventional 2000/01
Tillage - maincrops		6.1	4.9
Tillage - fodder		8.5	4.9
Grassland	Grazing, hay and silage	68.1	69.1
Fallow, land let & set aside		-5.9	-3.3
Rough grazing	Effective	2.4	1.5
Utilisable agricultural area (Effective ha.)		79.5	77.1
Woods, roads and buildings		5.1	5.4
TOTAL AREA (Actual ha.)		83.9	80.9
of which forage area		**79.0**	**75.5**

LIVESTOCK CARRIED - L.U per farm		LU	No's	LU	No's
	Dairy cows	82.1	82	79.4	79
	Beef cows	0.0	0	0.8	1
	Other cattle	38.0	68	47.6	88
	Breeding sheep	2.8	32	7.9	95
	Other sheep	0.6	13	2.3	56
	Pigs	0.0	0	0.4	2
	Poultry	0.0	0	0.3	143
	Other livestock	0.0	0	0.0	0
	TOTAL (L.U.)	123.5		138.6	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	210452	210452	247748	247487
Buildings, improvements and fixtures	16605	16451	20585	18727
Machinery	48222	46995	43920	42130
Livestock	55643	60610	61364	67481
Produce and goods in store	6799	6147	8332	8552
Quotas	151921	91331	124673	84543
Credit balances	11767	13563	12802	14450
TOTAL	501408	445548	519425	483370
EXTERNAL LIABILITIES				
Long and medium term loans	28899	28228	49112	48205
Short term loans	10838	12032	9506	10115
Overdrafts	24781	30026	20262	20398
TOTAL	64519	70286	78880	78717
NET WORTH	**436889**	**375262**	**440545**	**404653**

Table A5. Results for the LFA beef and sheep farms, 1999/00 to 2000/01

	Identical Sample			
Financial year data	1999/00		2000/01	
Sample number	Organic = 5		Organic = 5	
Farm size (adj ha).	214.7		214.7	
OUTPUT	**£/farm**	**£/ha**	**£/farm**	**£/ha**
Grazing livestock	44139	206	47842	223
Non-grazing livestock	1810	8	2649	12
Livestock subsidy	28118	131	23396	109
Cereals	27382	128	33030	154
Other cash crops	3826	18	4308	20
Crop subsidies	0	0	0	0
Diversified enterprises	8149	38	22937	107
Other income	6624	31	6921	32
TOTAL	**120049**	**559**	**141084**	**657**
VARIABLE COSTS				
Feedstuffs	5497	26	12951	60
Other livestock costs	10569	49	8012	37
Seeds	1296	6	3066	14
Fertiliser	5113	24	2775	13
Sprays	68	0	18	0
Other crop costs	2023	9	402	2
Diversified enterprise vc	2	0	0	0
Change in valuation	0	0	0	0
TOTAL	**24568**	**114**	**27224**	**127**
GROSS MARGIN	**95480**	**445**	**113860**	**530**
FIXED COSTS				
Labour & management	4177	19	18012	84
Power & mach: dep'n	10406	48	10385	48
leasing	131	1	122	1
fuel & power	4892	23	6294	29
contract & hire	20380	95	11091	52
repairs, tax & ins	6294	29	7047	33
Property: dep'n	2639	12	2851	13
rent	1976	9	797	4
repairs	2617	12	6183	29
Interest	7624	36	9890	46
Sundry overheads	10219	48	12618	59
TOTAL	**71355**	**332**	**85291**	**397**
PROFIT / CASH INCOME	**24125**	**112**	**28569**	**133**

Table A5. Results for the LFA beef and sheep farms, 1999/00 to 2000/01

INCOME MEASURES				
	£/farm	**£/ha**	**£/farm**	**£/ha**
PROFIT / CASH INCOME	24125	112	28569	133
Add interest	7624	36	9890	46
Minus notional rent	10529	49	15330	71
Minus unpaid labour	0	0	1828	9
NET FARM INCOME	**21220**	**99**	**21302**	**99**
Add paid management	0	0	0	0
Minus farmer & spouse labour	13645	64	10673	50
MANAGEMENT INVEST. INCOME	**7575**	**35**	**10629**	**50**
OCCUPIERS NET INCOME	**11080**	**52**	**13505**	**63**
LAND UTILISATION - hectares per farm				
Total number of hectares (ha)	329		331	
Total number of adjusted hectares (adj. ha)	215		215	
FORAGE AREA				
In-bye land (ha)	106		106	
Improved land (ha)	72		72	
Rough grazing (ha)	69		71	
TOTAL	**247**		**249**	
Improved land (adj ha)	57		57	
Rough grazing (adj ha)	24		24	
	187		**187**	
CROPPING AREA				
Cereals	10		10	
Cash crops	10		12	
Other	8		6	
TOTAL	**28**		**28**	
TOTAL FARMED AREA	**275**		**277**	
Buildings, roads, woods etc..	54		54	
Percentage of in-bye land	43%		43%	
Percentage of improved grassland	29%		29%	
Percentage of hill land	28%		28%	
STOCKING UNITS (GLU)				
Sheep	87		89	
Suckler cows	52		52	
Beef cattle	26		30	
Other	0		0	
TOTAL	**165**		**172**	
Stocking rate (GLU/adj. ha)	0.9		0.9	
Percentageof GLU as sheep	53%		52%	

Table A6. Results of FBS LFA beef and sheep farms, 2000/01

		Organic		Conventional	
Sample Number		8		59	
Average farm size (UAA)		155.6		149.1	
Business size (ESU)		44		47	
		£/farm	**£/ha**	**£/farm**	**£/ha**
Dairy -	milk output	0	0	1244	8
	cattle	0	0	-84	-1
	net quota	0	0	141	1
	valuation change	0	0	-26	0
Other cattle	output	17532	113	15926	107
	valuation change	-926	-6	-365	-2
	subsidies	10253	66	9123	61
Sheep -	total output	16026	103	23165	155
	valuation change	-1234	-8	-1142	-8
	subsidies	11827	76	15051	101
Other livestock		0	0	0	0
Arable crops	output	1224	8	930	6
	subsidies	927	6	207	1
By products forage and cults	output	-491	-3	393	3
	subsidies (set-aside)	0	0	11	0
Miscellaneous (including benefit	value of farmhouses)	11154	72	12845	86
	- organic grants	8026	52	0	0
	- other agri-env.payments	8333	54	995	7
	FARM REVENUE	82651	531	78414	526
INPUTS					
Feeds	purchased concentrates	8597	55	10649	71
	homegrown concentrates	1674	11	549	4
Purchased fodder, Tack and stock keep		2312	15	6164	41
Veterinary and medicines		2253	14	3699	25
Other livestock costs		4380	28	4446	30
Seeds -	purchased and homegrown	509	3	240	2
Fertilisers		1733	11	4200	28
Crop protection		40	0	140	1
Other crop costs		718	5	787	5
Labour	paid incl. paid management	7249	47	2968	20
	casual	414	3	838	6
Machinery	contract	3544	23	2666	18
	repairs	3856	25	3489	23
	fuels	3073	20	2894	19
General farming costs		8129	52	5862	39
Land expenses		2263	15	2061	14
Rent		2279	15	3290	22
	FARM EXPENSES	53022	341	54942	368
Excess of expenses over revenue		29629	190	23472	157
Notional inputs					
- rental value/imputed rent		8607	55	7791	52
- unpaid labour		3787	24	4212	28
- machinery depreciation		5614	36	5832	39
		18009	116	17835	120
NET FARM INCOME (excl. BLSA)		11620	75	5637	38

Table A6. Results of FBS LFA beef and sheep farms

	Organic 2000/01		Conventional 2000/01	
INCOME MEASURES	**£/farm**	**£/ha**	**£/farm**	**£/ha**
NET FARM INCOME (excl. BLSA)	11620	75	5637	38
Less farmer and spouse labour	12540	81	11576	78
Add managerial input of paid manager	813	5	0	0
Add BLSA	0	0	402	3
Management and Investment Income	-107	-1	-5537	-37
NET FARM INCOME (excl. BLSA)	11620	75	5637	38
plus net rental value/imputed rent	7033	45	6444	43
minus occupier's expenses	209	1	256	2
minus interest payments	4721	30	2878	19
minus build & works depreciation	2867	18	2368	16
OCCUPIER'S NET INCOME	10856	70	6579	44
plus other imputed items	3787	24	4212	28
plus fixed asset depreciation	8482	54	8199	55
minus valuation changes	-3189	-20	-1218	-8
NOTIONAL CASH INCOME	26314	169	20208	135
TENANT'S CAPITAL - £ per farm				
Machinery	38634	248	40265	270
Livestock	65923	424	65803	441
Crops	4709	30	2882	19
Stores	206	1	1117	7
TOTAL	109472	703	110067	738
PERFORMANCE INDICATORS				
Stocking rate (LU per eff.ha)	0.9		1.1	
LU/forage ha	0.9		1.0	
Annual Labour Units per farm	2.1		1.8	
of which farmer & spouse	1.2		1.0	
Owner Equity (%)	86.5		90.5	
ONI/Net worth (%)	3.0		1.7	
Return on tenant's capital (%)	-0.1		-5.0	
Return on all capital (%)	0.5		-0.5	

Table A6. Results of FBS LFA beef and sheep farms

LAND UTILISATION - hectares per farm		Organic 2000/01	Conventional 2000/01
Tillage - maincrops		5.3	1.5
Tillage - fodder		0.3	0.5
Grassland	Grazing, hay and silage	120.5	114.5
Fallow, land let & set aside		-3.4	-6.1
Rough grazing	Effective	33.0	38.7
Utilisable agricultural area (Effective ha.)		155.6	149.1
Woods, roads and buildings		23.2	5.9
TOTAL AREA (Actual ha.)		299.5	282.9
of which forage area		**153.7**	**153.7**

LIVESTOCK CARRIED - L.U per farm		LU	No's	LU	No's
	Dairy cows	0.0	0	1.6	2
	Beef cows	33.3	44	29.0	39
	Other cattle	33.9	71	33.5	66
	Breeding sheep	61.9	774	72.9	912
	Other sheep	14.5	359	20.7	508
	Pigs	0.0	0	0.0	0
	Poultry	0.0	0	0.0	0
	Other livestock	0.0	0	0.0	0
	TOTAL (L.U.)	143.7		157.8	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	255939	246751	258416	261225
Buildings, improvements and fixtures	16155	13736	11566	10047
Machinery	37907	39361	41047	39483
Livestock	67003	64844	66369	65238
Produce and goods in store	5429	4400	3841	4156
Quotas	27224	20579	33470	24547
Credit balances	25651	21942	22486	21765
TOTAL	435307	411613	437194	426460
EXTERNAL LIABILITIES				
Long and medium term loans	33174	32477	12892	12758
Short term loans	4257	8150	3676	3370
Overdrafts	18974	14950	21358	24358
TOTAL	56405	55577	37925	40486
NET WORTH	**378902**	**356036**	**399269**	**385973**

Table A7. Results of FBS lowland beef and sheep farms, 2000/01

		Organic		Conventional	
Sample Number		5		48	
Average farm size (UAA)		84.8		82.2	
Business size (ESU)		36		33	
		£/farm	**£/ha**	**£/farm**	**£/ha**
Dairy -	milk output	0	0	270	3
	cattle	0	0	-16	0
	net quota	713	8	267	3
	valuation change	0	0	-1	0
Other cattle	output	15141	178	14349	175
	valuation change	-308	-4	420	5
	subsidies	8056	95	8220	100
Sheep -	total output	15386	181	11186	136
	valuation change	-1329	-16	691	8
	subsidies	3607	43	3602	44
Other livestock		0	0	934	11
Arable crops	output	3967	47	2695	33
	subsidies	3185	38	1607	20
By products forage and cults	output	2587	30	2607	32
	subsidies (set-aside)	581	7	424	5
Miscellaneous (including benefit	value of farmhouses)	2506	30	6967	85
-	organic grants	5326	63	0	0
-	other agri-env.payments	0	0	547	7
	FARM REVENUE	59419	700	54767	666
INPUTS					
Feeds	purchased concentrates	3701	44	5055	62
	homegrown concentrates	1782	21	1789	22
Purchased fodder, Tack and stock keep		675	8	1204	15
Veterinary and medicines		1156	14	1544	19
Other livestock costs		3572	42	3190	39
Seeds -	purchased and homegrown	1581	19	611	7
Fertilisers		1333	16	2752	33
Crop protection		0	0	598	7
Other crop costs		828	10	355	4
Labour	paid incl. paid management	3436	40	1710	21
	casual	747	9	594	7
Machinery	contract	3699	44	2470	30
	repairs	3062	36	2312	28
	fuels	2037	24	2036	25
General farming costs		6843	81	5786	70
Land expenses		1293	15	1285	16
Rent		3977	47	2619	32
	FARM EXPENSES	39721	468	35909	437
Excess of expenses over revenue		19698	232	18858	229
Notional inputs					
- rental value/imputed rent		7820	92	8848	108
- unpaid labour		1605	19	4392	53
- machinery depreciation		3739	44	4599	56
		13164	155	17839	217
NET FARM INCOME (excl. BLSA)		6533	77	1019	12

Table A7. Results of FBS lowland beef and sheep farms

	Organic 2000/01		Conventional 2000/01	
INCOME MEASURES	**£/farm**	**£/ha**	**£/farm**	**£/ha**
NET FARM INCOME (excl. BLSA)	6533	77	1019	12
Less farmer and spouse labour	15614	184	13397	163
Add managerial input of paid manager	0	0	0	0
Add BLSA	1597	19	1682	20
Management and Investment Income	-7484	-88	-10695	-130
NET FARM INCOME (excl. BLSA)	6533	77	1019	12
plus net rental value/imputed rent	6251	74	6824	83
minus occupier's expenses	219	3	205	2
minus interest payments	2913	34	2394	29
minus build & works depreciation	3607	43	1987	24
OCCUPIER'S NET INCOME	6046	71	3258	40
plus other imputed items	1605	19	4398	54
plus fixed asset depreciation	7346	87	6586	80
minus valuation changes	-203	-2	1632	20
NOTIONAL CASH INCOME	15199	179	12609	153
TENANT'S CAPITAL - £ per farm				
Machinery	25335	299	29228	356
Livestock	45608	538	44840	546
Crops	3081	36	4097	50
Stores	746	9	1661	20
TOTAL	74771	881	79826	971
PERFORMANCE INDICATORS				
Stocking rate (LU per eff.ha)	1.3		1.3	
LU/forage ha	1.4		1.4	
Annual Labour Units per farm	1.8		1.7	
of which farmer & spouse	1.4		1.1	
Owner Equity (%)	87.9		90.1	
ONI/Net worth (%)	2.0		0.9	
Return on tenant's capital (%)	-10.0		-13.4	
Return on all capital (%)	-1.0		-2.0	

Table A7. Results of FBS lowland beef and sheep farms

LAND UTILISATION - hectares per farm		Organic 2000/01	Conventional 2000/01
Tillage - maincrops		12.0	7.9
Tillage - fodder		3.8	1.6
Grassland	Grazing, hay and silage	71.6	70.6
Fallow, land let & set aside		-2.6	1.8
Rough grazing	Effective	0.0	0.3
Utilisable agricultural area (Effective ha.)		84.8	82.2
Woods, roads and buildings		4.7	3.0
TOTAL AREA (Actual ha.)		84.8	83.0
of which forage area		**75.4**	**72.4**

LIVESTOCK CARRIED - L.U per farm		LU	No's	LU	No's
	Dairy cows	0.0	0	0.5	1
	Beef cows	18.2	24	15.1	20
	Other cattle	50.6	84	43.3	80
	Breeding sheep	31.0	289	35.7	336
	Other sheep	9.1	226	8.3	202
	Pigs	0.0	0	0.8	5
	Poultry	0.0	0	0.0	5
	Other livestock	0.2	0	0.0	0
	TOTAL (L.U.)	109.0		103.8	

ASSETS - £ per farm	Opening Value	Closing Value	Opening Value	Closing Value
Land and Property	239851	239851	279756	284466
Buildings, improvements and fixtures	14728	13236	9646	8639
Machinery	25960	24710	29132	29323
Livestock	45628	45588	43473	46206
Produce and goods in store	3110	4544	5468	6048
Quotas	17171	11268	12740	8071
Credit balances	10667	12310	13963	17002
TOTAL	357115	351508	394178	399755
EXTERNAL LIABILITIES				
Long and medium term loans	18573	21123	13784	15382
Short term loans	5966	4037	3245	8060
Overdrafts	17538	17378	16349	16111
TOTAL	42077	42538	33378	39553
NET WORTH	**315038**	**308970**	**360800**	**360202**

6.2 Appendix 2 The Farm Classification System

For each farm in the survey, each hectare of crop area and each head of livestock are assessed in terms of Standard Gross Margins (SGMs). These SGMs are expressed in European Currency Units, with 1200 such units equivalent to 1 European Size Unit (ESU).

Farm size is measured for a particular farm by the number of ESUs registered in total, and thus is a measure of the size of the farm business. It is a measure of the economic size of holdings in terms of the value they add to variable inputs and thus differs from physical measures, such as area, which take no account of the intensity of production. The survey is designed to cover farms of at least 8 ESU in size.

Farm type is determined for a particular farm by the proportion of the SGM total accounted for by each enterprise. Precise details of the typology are complex, but may be summarised as follows:

Farm type	*Characteristics*
Cropping	In this report, two categories are combined:
Cereals	Farms on which cereals and other crops generally found in cereal rotations account for more than two thirds of their total SGM.
General cropping	Farms on which arable crops (including field scale vegetables) account for more than two thirds of their total SGM excluding farms classified as *cereals*.
Horticulture	Farms where horticultural crops or permanent crops including fruit, either alone or in combination, account for over one-third of total SGM and form the largest enterprise group.
Dairy	Farms where the dairy enterprise, including followers, accounts for over one third, and commonly over two-thirds of total SGM and is the largest enterprise group.
Cattle and Sheep	In this report, two categories are presented separately:
Lowland livestock	Farms outside the Less Favoured Areas on which grazing livestock, other than dairy cattle, account for over one-third, commonly over two-thirds, of total SGM, and form the largest enterprise group, or farms on which grazing livestock (except dairy cattle) and field crops each account for over one-third but less than two-thirds of total SGM.
LFA livestock	Farms in the Less Favoured Areas on which sheep, cattle or cattle and sheep together, other than dairy cattle, account for over one-third of total SGM, commonly over two-thirds and are the largest enterprise group.
Mixed	Farms with a range of enterprise where none clearly predominates.

6.3 Appendix 3 Definition of Terms

Breeding Livestock Appreciation (BLSA)
BLSA is that element of Net Farm Income resulting from changes in breeding livestock prices between the opening and closing valuations. It is calculated by multiplying for each category of breeding livestock the change in the opening and closing valuations by the average number of livestock in that category during the year.

Cash Income
Cash income is based on actual receipts and actual expenditure. It represents the difference between receipts and expenditure on current account, before depreciation charges and investment spending.

Effective Hectares (Eff.Ha)
The effective hectarage constitutes the total farm area minus the area occupied by roads, woodland, wasteland and buildings, and with rough grazings expressed in terms of their pasture equivalent. For example, on a particular farm 20 hectares of rough grazing in terms of its capacity to carry stock may be worth 4 hectares of permanent pasture - it is therefore regarded as being 4 effective hectares. A notional area is also estimated for the use made of any common grazings.

Enterprise Output
Enterprise output is all returns from an enterprise, plus the market value of any of its products transferred out to another enterprise, plus the market value of any production from the enterprise given to workers or consumed on the farm. In the case of livestock enterprises, the value of purchased livestock and the market value of livestock transferred in from another enterprise are deducted. All totals are adjusted for changes in valuation. Milk output includes quota transactions and any super-levies paid, have been deducted.

General Farming Costs
General farming costs include electricity, water and telephone charges, licences, insurances, subscriptions, professional charges, etc.

Livestock Units (LU) and Grazing Livestock Units (GLU)
Livestock numbers are converted to livestock units, which are based on estimated energy requirements, in order to calculate the total stocking of grazing livestock on the farm. The following conversion factors are used:

Dairy cow	1.00	Hill ewe	0.06
Beef/hill cow	0.75	Upland ewe	0.08
Beef/dairy bull	0.65	Lowland ewe	0.11
Beef/dairy heifer	0.80	Ram	0.08
Other cattle - 2 years old and over	0.80	Ewe lamb	0.08
- 1 to 2 years old	0.65	Other sheep 1 year and over	0.08
- under 1 year old	0.34	Store lamb under 1 yr.	0.04

Management and Investment Income (MII)
MII is total farm enterprise output less total inputs (including the value of the labour input of the farmer and spouse). It represents the reward for the farmer's (and spouse's) management and interest on the tenant's capital employed on the farm.

Margin over concentrates
Margin over concentrates is the difference between milk sales and the value of purchased and home grown concentrates used for the dairy herd.

Miscellaneous Output
Miscellaneous output includes contract work, farm cottage rents, benefit value of farmhouses, and profit on resale of purchased agricultural produce.

Net Farm Income (NFI)
NFI is total farm enterprise output less total inputs (excluding the value of the labour of the farmer and spouse). It is calculated as if all farms are tenanted, and represents the return to the farmer and spouse for their labour and management, and on the tenant-type capital of the business.

Net Worth
Net worth is the difference between total assets and total liabilities and represents the value of assets available to the business, all other claims against these assets having been met.

Occupier's Net Income
Occupier's net income is based on actual tenure and indebtedness. It represents the return to the farmer and spouse for their labour, management and investment in the farm business.

Other Crop Costs
Other crop costs include crop protection chemicals and other costs incurred specifically for crop enterprises and forage.

Other Livestock Costs
Other livestock costs include purchased bedding materials, and other costs incurred specifically for livestock enterprises.

Owner Equity
Owner equity is net worth expressed as a percentage of total assets.

Rental Value
For owner-occupied farms, a rental value is imputed to make it possible to compare results with farms on which rents have to be paid.

Return on All Capital
Return on all capital is management and investment income plus rental value expressed as a percentage of total capital.

Return on Tenant's Capital
Return on tenant's capital is management and investment income expressed as a percentage of total tenant's capital.

Tenant's Capital
Tenant's capital is the value of livestock, machinery, crops (including cultivations) and stores. In the tables, it is expressed as the average of the opening and closing valuations for these items.

Utilisable Agricultural Area
UAA is the land area that is actually farmed by the farmer excluding areas such as roads, farm yards, buildings woodlands, water or unused rough grazing.

Abbreviations used throughout text include:

CCF – Comparable Conventional Farms

ESU – Economic Size Unit

FBS – Farm Business Survey

LFA – Less Favoured Area

LSU – Livestock Unit

MII – Management and Investment Income

NFI – Net Farm Income

SGM – Standard Gross Margins

UAA – Utilisable Agricultural Area