

Farm Business Survey

A summary from

Organic Farming in England

2016/2017



Charles Scott

April 2018

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The full version of this report is available from:

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Foreword to the Twelfth Series

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

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

As we produce this twelfth series of independent reports, agricultural and horticultural businesses need to prepare for the future if they are to prosper as the market and policy landscapes change. Businesses that understand their costs of production and their relative strengths within a sector will be best placed to compete irrespective of what the future may bring. With this series of reports we aim to help inform agricultural and horticultural businesses about the economics of the sector in which they operate, in order to aid management decision making. It is of crucial importance to recognise that this valuable series of reports would not be possible without the direct support of our farmer and grower co-operators and the wider support of agricultural and horticultural businesses and sector stakeholders. Our thanks therefore go to the farmers and growers who assist us in this valuable work through their participation in the FBS.

Professor Paul Wilson

Chief Executive Officer, Rural Business Research

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www.ruralbusinessresearch.co.uk

Executive Summary from Organic farming in England 2016/17

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This report uses data from the 2016/17 Farm Business Survey of 1763 farms, of which 141 are organic. Several measures of performance have been used in this report and Farm Business Income (FBI) is used as the main measure. Farm Business Output (FBO) has been split into four sources; agriculture, agri-environment, diversification and the Basic Payment. Total costs have also been broken down into selected cost centres. Organic farms have been compared year-on-year using an identical sample and a full sample comparison of organic and non-organic farms is made for the current year. Gross margin data for individual organic crop and livestock enterprises is presented whenever enterprise sample size is 10 farms or more.

Four of the six farm types recorded higher farm profitability per hectare (FBI/ha) for the organic farms over their non-organic counterparts and these differences were statistically significant for three of these four farm types: cropping, dairy and LFA grazing. These differences were broadly similar when using Net Farm Income per hectare (NFI/ha). At the farm level however only the organic dairy and LFA grazing farm groups recorded a higher FBI/farm - this difference was only significant for the LFA grazing group. When measured by NFI/farm, both groups showed a significantly higher level of profit. With the exception of the LFA grazing group the higher FBI is universally due to a lower expenditure on costs, and despite an overall lower farm output. The organic LFA grazing group has both a greater farm output and a greater expenditure on costs than the non-organic LFA grazing farms. On a year-on-year basis, FBI/ha increased for all organic farm types except cropping and dairy farms.

Organic cropping farms earned on average an FBI of £338/ha, £91/ha more than the non-organic cropping farms but at the farm level the average organic cropping farm recorded a lower FBI than the non-organics. The difference was significant at the per hectare level but not at the farm level. The higher FBI/ha was due to a lower expenditure on costs per hectare (£1,163/ha versus £1,280/ha) and despite a lower total farm output per hectare (£1,503 versus £1,524). Net farm income was also significantly higher for organic cropping farms at per hectare level. Organic cropping farms saw a decrease in FBI/ha of 6% between 2015/16 and 2016/17. This decrease in profitability was due to a 6% increase in total costs and despite a 2% increase in total farm output.

The FBI/ha for organic horticulture farms of £1,372/ha was lower than that of the non-organics by £189/ha (although not significant). Non-organic horticulture farms operated a much more intensive operation than organic horticulture farms; FBO being

£14,633/ha for non-organics versus £4,477/ha for organic farms. The total costs for non-organic horticulture farms were £13,070/ha but £3,104/ha for organic farms. The FBI/ha on an identical sample of 12 organic horticulture farms increased by 11% between 2015/16 and 2016/17. This was due to a 15% increase in total farm output and despite an 18% increase in total costs. The small sample size of the identical sample means that some care must be taken in interpreting the year-on-year results.

Organic dairy farms recorded an FBI/ha of £386/ha, £69/ha more than the non-organic dairy farms. Total farm output was £581/ha lower on the organic dairy farms, but their costs were £584/ha lower. There is a larger, and significant, difference in profitability (of £115/ha) at the NFI/ha level when ownership costs and imputed labour etc. are taken into account. Organic dairy farms were typically smaller with an average of 191 Grazing Livestock Units (GLU) on 153ha compared to 266 GLU on 156ha for the non-organics. Between 2015/16 and 2016/17 the FBI/ha on organic dairy farms fell by 6%; this due to a 7% decrease in output and despite a 7% decrease in costs.

As has been the case for some years organic LFA grazing farms continue to be more profitable than their non-organic counterparts. The average FBI/farm, of £37,341/farm, is £10,679 more than the non-organic farms and is significant at the farm level and at the per hectare level. When using NFI, the difference in profitability is also statistically significant at both the farm and per hectare level. Organic LFA grazing farms saw both a greater output per hectare and a higher total costs figure per hectare. The average size of an organic LFA grazing farm is 150 adjusted hectares (adj. ha) carrying 126 GLU whereas a non-organic farm is typically 127 adj. ha and carrying 91 GLU. Organic LFA grazing farms saw a 22% increase in FBI/ha between 2015/16 and 2016/17 – down to a 24% rise in total output (despite a 4% fall in agri-environment type revenues) and despite a 24% increase in total costs.

In 2016/17 organic lowland grazing farms recorded an average FBI/ha of £165/ha compared to their non-organic counterparts' of £169/ha – this difference was not significant (at either the farm or the per hectare level). The average FBO/ha for organic farms was £204/ha less than the FBO/ha for the non-organics, primarily due to a lower output from agriculture but organic farms had considerably lower total costs (by £202/ha). The profitability of organic lowland grazing farms in 2016/17 was the same as in 2015/16 with the identical sample achieving an FBI of £243/ha in 2016/17. This was achieved with a 3% increase in output and despite a 4% increase in total costs to £711/ha.

Organic mixed farms earned an FBI/ha of £192/ha, £13/ha more than their non-organic equivalents (of £179/ha). The NFI/ha was also higher, by £48/ha, but these differences are not statistically significant. While organic mixed farms earned £266/ha less in total farm output they also spent £274/ha less in total costs. Organic mixed farms saw a 5% rise in FBI from 2015/16 to 2016/17 to £196/ha. This was due to a 14% increase in FBO to £1,549/ha, and despite a 16% or £187/ha increase in total costs to £1,362/ha.

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1 Organic farming in the United Kingdom

1.1 Area

The area of organic farmland in England in 2016 is recorded as 281,769 hectares down from a peak of 391,76ha in 2010 (DEFRA 2017). The organic share of total utilised agricultural area (UAA) in the UK was 2.8% in 2016 - this amounts to 4.1% of the EU organic area (Eurostat 2018).

1.2 Producers

Producer and processor numbers have been steadily declining throughout the UK since 2007 to a low of 6,002 in 2014 but have since increased slightly since then to 6,063 in 2016. England has 76% of the UK organic producers and processors (4,848 in 2015) and in 2016 saw the largest increase (5.8%) in producers and processors although these were all organic processors; i.e. the number of producers continues to decline (DEFRA 2017).

1.3 Output and sales

Sales of organic products in the UK increased by 6% in 2017 to a total sales value of £2.22bn. This is the sixth annual increase in a row to a seven-year high and now exceeds the pre-recession high of £2.11bn in 2008.

See the full report of Organic Farming in England 2016/17 for a more detailed breakdown of organic areas, producer & processor numbers and consumption trends of organic produce.

2 Methods

This report presents financial and physical farm data for the 2015/16 and 2016/17 financial years. Data were collected using the standard Farm Business Survey methodology for all farms¹ by the six Rural Business Research (RBR) Units in England; Newcastle University, Askham Bryan College, University of Nottingham, University of Cambridge, University of Reading, and Duchy College.

For the purpose of this report, an organic farm is defined as a farm business that has at least 70% of the Utilisable Agricultural Area (UAA) certified as organic in 2016/17. The organic farm data are presented as full and identical samples where applicable and sample size allows. The data are analysed for comparisons between years and with non-organic farms. Data from participating farms are used to compile a fully reconciled management profit and loss account. The surveyed farms had financial year-ends between 31st December 2016 and 5th April 2017 and consequently reflect the 2016 lamb crop and the 2016 arable harvest.

2.1 Data sample: farm type and region

¹ Details of the data collection methodology for the farm accounting method used in England and Wales by DEFRA, are available from:

<https://www.gov.uk/government/collections/farm-business-survey>

This report uses data from the Farm Business Survey of 1763 farms, 141 of which are organic. Of the 141 organic farms; 124 are entirely organic and 17 farms have some non-organic enterprises or land area. A further 16 farms have some organic enterprises but with less than 70% of their UAA being classified as organic, they are considered non-organic in this report. Therefore organic enterprises from non-organic farms may be included in the Gross margin analysis section of this report. The distribution of surveyed organic farms by type and region are presented in Table 1 and Table 2.

Table 1 The distribution of surveyed organic farms by farm type 2016/17

Robust farm type	No.	%
Cereals	11	8
General cropping	2	1
Horticulture	13	9
Pigs	1	1
Poultry	4	3
Dairy	37	26
LFA Grazing	19	13
Lowland Grazing	30	21
Mixed	24	17
All farms	141	100

Table 2 The distribution of surveyed organic farms by region 2016/17

Region	No	%
North East	17	12
North West	8	6
Yorks. & Humber	5	4
East Midlands	10	7
West Midlands	19	13
East of England	16	11
South East	19	13
South West	47	33
All farms	141	100

2.2 Data sample: farm type and size

The distribution of the sample by farm size is shown in Table 3. The farm size categories are based on the 2010SO (Standard Output) methodology used by DEFRA - see Appendix 2 – for more information. Farm area, unless specified as Utilisable Agricultural Area (UAA) is the total adjusted area (TAA) this includes: adjusted sole occupier rough grazing, adjusted shared grazing and short term rentals (less than 1 year).

The 2016/17 dataset was evenly distributed overall across the size bands with each band contributing approximately one third each, but within farm type groups the distribution was

somewhat less even. Dairy and lowland grazing farm types made up the largest proportion of the data sample with 26% and 21% respectively.

Table 3 Organic sample distribution by size (2010 Standard Output)

Farm size band	Small (€2,500- 100,000)	Medium (€100,000- 250,000)	Large (>€250,000)	All
All	48	44	49	141
% distribution	34	31	35	100

2.3 Data sample: Limitations

Due to the small sample size (2) of the organic general cropping farm type this farm type has been merged with organic cereals and the combined group is referred to as cropping farms in this report. Further, there is only one organic pig farm in the survey and insufficient poultry (4) farms to present their data.

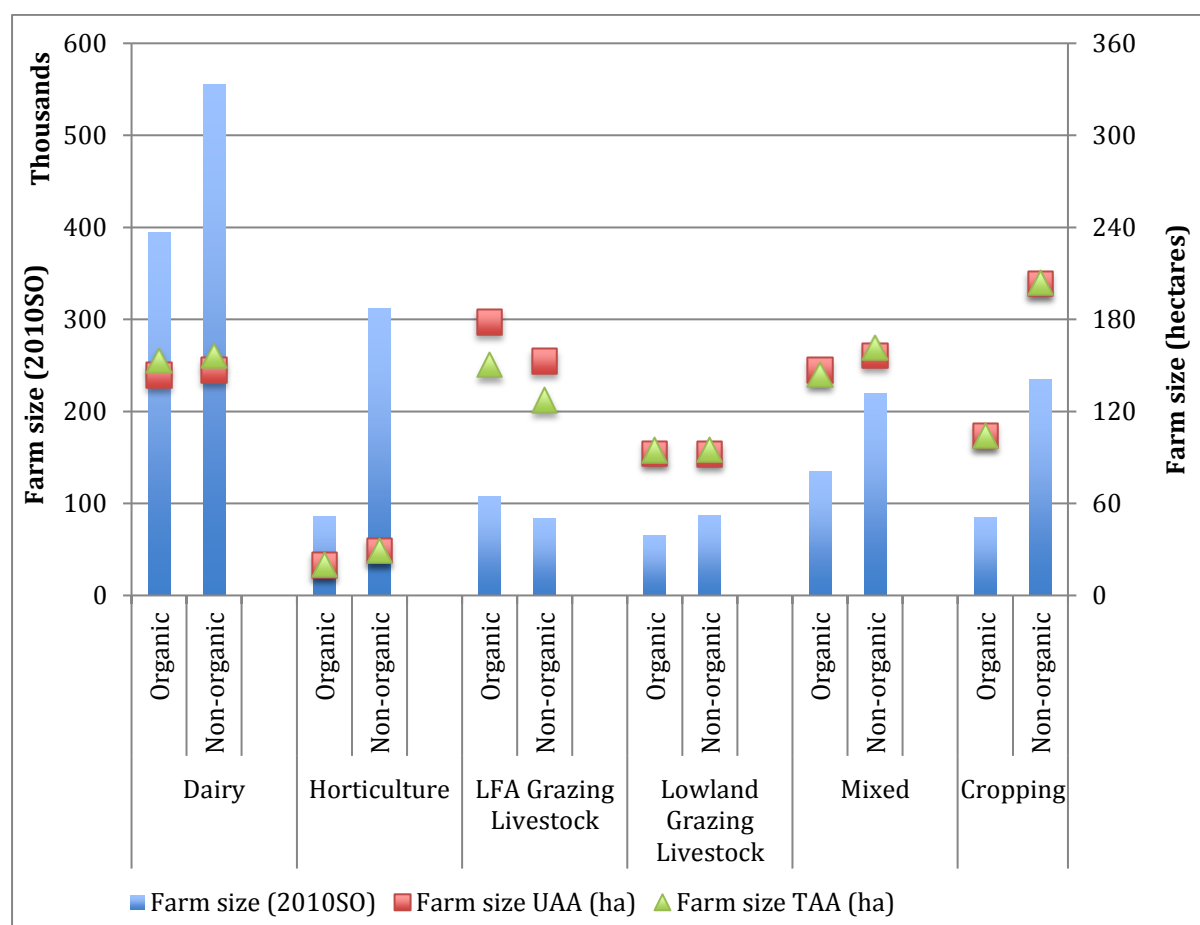
In the organic horticulture group some care must be taken in interpreting the results. The 2016/17 sample of 13 farms is composed of 3 subgroups: 2 specialist fruit, 4 specialist glass, and 7 other horticulture i.e. not a uniform group of producers. Furthermore the non-organic sample of 175 farms has a subgroup composition of: 44 specialist fruit, 57 specialist glass, 40 specialist hardy nursery stock and 34 other horticulture. The non-organic horticultural farms are clearly not perfectly comparable to the organic sample and hence the degree of caution advised above.

The identical sample of horticultural farms used to compare the 2015/16 and 2016/17 farming years is limited to 12 farms. These farms do have a fairly consistent sub-group composition between the years (only one farm changes subgroup) but the very small sample size means that great care must be taken in interpreting the identical sample results.

2.4 Farm size

The common measure of farm size of Standard Output (SO) represents a theoretical business size in terms of agricultural output generated. This measure allows for a comparison of business size across farms of varying types of farm but does not necessarily correspond to the area of land farmed. Figure 1 shows the weighted farm sizes for the 2016/17 sample measured by SO and two alternative measures of farm size by farm area; Utilisable Agricultural Area (UAA) and by total adjusted area (TAA). While there is little difference between the area measurements of UAA and TAA in most groups, in the case of LFA grazing farms there is a marked difference. The choice of farm size and area measurement is therefore critical when benchmarking and making comparisons across farm types. The measure of area used throughout this report is TAA.

Figure 1 Farm size by Standard Output and area (2016/17)



3 Whole-farm results

3.1 Presentation of results

The report focuses on two main income measures: Farm Business Income (FBI) and Net Farm Income (NFI). FBI has been the headline farm income measure since the mid 2000s; it represents the financial return to all unpaid labour (farmers and spouses, non-principal partners and directors, and their spouses and family workers) and on all their capital invested in the farm business, including land and buildings. However, FBI excludes imputed rental values for owner-occupied land and unpaid labour, both of which are included in NFI.

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

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

See the full report of Organic Farming in England 2016/17 for a statistical analysis by farm type, at the farm and per hectare level, between 2015/16 and 2016/17 and between organic and non-organic farms in 2016/17.

4 Detailed costs and returns by farm type

The following section provides a detailed breakdown by farm type on a per farm and per hectare basis, of revenue by cost centre and farm income measures for: an identical sample of organic farms year-on-year (2015/16 and 2016/17) and the full sample (2016/17) on an organic versus non-organic basis. This commentary focuses on the per hectare results, which, as discussed above, minimises the effect of farm size on the results. Year-on-year percentage changes are based on whole farm figures.

See the full report of Organic Farming in England 2016/17 for detailed physical and financial by farm type between 2015/16 and 2016/17 and between organic and non-organic farms in 2016/17.

5 Enterprise Gross Margins

5.1 Data sample

The distribution of available crop and livestock margin data by robust farm type and size for organic farms are shown in Table 4 and Table 6.

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

Table 5 and Table 7 show the sample size of organic crop and livestock enterprises that have been analysed to gross margin level. Where sample numbers allowed, analyses for a premium group (top third by weighted numbers by: GM/litre, GM/head or GM/ha) are presented.

See the full report of Organic Farming in England 2016/17 for detailed physical and financial analysis of organic enterprises to gross margin level.

5.2 Organic cropping enterprises gross margins

Table 4 Sample distribution of organic crop margin data (>10 records) by robust farm type and size (2010SO)

Robust farm type	Small (€2,500- 100,000)	Medium (€100,000-250,000)	Large (>€250,000)	All
Cereals	7	11	2	20
General cropping	4	1	9	14
Horticulture	5	5	1	11
Pigs	0	0	0	0
Poultry	0	0	1	1
Dairy	0	0	18	18
LFA Grazing	5	3	4	12
Lowland Grazing	7	8	4	19
Mixed	8	20	13	41
All	36	48	52	136

Table 5 Sample size for organic crop gross margin analysis

Enterprise	Sample size	Weighted sample size	Average Crop area (ha)	Premium sample size	Weighted sample size	Average crop area (ha)
Winter wheat	20	218	26.1			
Spring wheat	13	188	19.1			
Spring barley	40	431	17.1	13	141	18.3
Winter oats	12	99	22.5			
Spring oats	20	364	16.3			
Spring beans	10	124	16.3			
Field vegetables	10	196	13.2			
Market garden veg	11	439	3.5			

5.3 Organic livestock enterprises gross margins

Table 6 Sample distribution of organic livestock margin data (>10 records) by robust farm type and size (2010SO)

Robust farm type	Small (€2,500-100,000)	Medium (€100,000-250,000)	Large (>€250,000)	All
Cereals	3	0	3	6
General cropping	2	2	1	5
Horticulture	0	2	0	2
Pigs	0	1	0	1
Poultry	0	0	2	2
Dairy	2	19	46	67
LFA Grazing	14	15	12	41
Lowland Grazing	29	20	3	52
Mixed	9	16	16	41
All	59	75	83	217

Table 7 Sample size for organic livestock gross margin analysis

Enterprise	Sample		Premium	
	Sample size	Weighted sample size	Sample size	Weighted sample size
Dairy cows	36	332	11	108
LFA suckler cows	16	208	10	63
Lowland suckler cows	42	793	15	261
Dairy followers	27	263	9	84
Fat cattle from suckler bred calves or stores	35	640	10	195
Store cattle from suckler bred calves or stores	22	543	-	-
Lowland sheep	26	372	11	123
LFA sheep (upland)	13	125	-	-

6 Appendix 1 – Reports in this series

Crop Production in England

Dairy Farming in England

Hill Farming in England

Horticulture Production in England (Horticultural Business Data)

Lowland Grazing Livestock Production

Pig Production in England

Poultry Production in England

Details available at: www.ruralbusinessresearch.co.uk

7 Appendix 2 – Definition of terms

I. BUSINESS OUTPUTS, INPUTS, COSTS AND INCOME

1. **Farm Business Income** for sole traders and partnerships represents the financial return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers) and on all their capital invested in the farm business, including land and buildings. For corporate businesses it represents the financial return on the shareholders capital invested in the farm business. It is used when assessing the impact of new policies or regulations on the individual farm business. Although Farm Business Income is equivalent to financial Net Profit, in practice they are likely to differ because Net Profit is derived from financial accounting principles whereas Farm Business Income is derived from management accounting principles. For example in financial accounting output stocks are usually valued at cost of production, whereas in management accounting they are usually valued at market price. In financial accounting depreciation is usually calculated at historic cost whereas in management accounting it is often calculated at replacement cost.

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

3. **Farm Investment Income (FII)** represents the return on *all* capital invested in the farm business *whether borrowed or not*, to risk and to entrepreneurship. It is a general measure of the profitability of farming as an activity rather than of a particular business. It is derived by adding net interest payments to Farm Corporate Income. Since currently the data for Farm Corporate income are only approximate, so too are the data for Farm Investment Income.

4. **Net Farm Income (NFI)** is intended as a consistent measure of the profitability of tenant-type farming² that allows farms of different business organisation, tenure and

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

indebtedness to be compared. It represents the return to the farmer and spouse alone for their manual and managerial labour and on the tenant-type capital³ invested in the farm business. To represent the return to farmer and spouse alone, a notional deduction is made for any unpaid labour provided by non-principal partners and directors, their spouses and by others; this unpaid labour is valued at average local market rates for manual agricultural work.

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

5. **Cash income** is the difference between total revenue and total expenditure. Revenue is: receipts adjusted for debtors; and expenditure is: purchases adjusted for creditors. It is assumed, therefore, that all end of year debtor and creditor payments are settled in full, even though this may happen beyond the end of the accounting year. Cash income represents the cash return to the group with an entrepreneurial interest in the business (farmers and spouses, non-principal partners and directors and their spouses and family workers) for their manual and managerial labour and on all their investment in the business.

6. **Family farm income** is a measure of farm income used by the European Commission. It is based upon actual tenure and indebtedness. However, it is a broader measure than net farm income in that it represents the return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers). It also includes breeding livestock stock appreciation although it cannot be realised without reducing the productive capacity of the farm.

II. CROPPING, STOCKING AND LABOUR TABLES

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

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

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

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

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

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

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

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

13. **Total livestock units** are used as an approximate measure of stocking intensity and are based on the estimated energy requirements of different species and ages of livestock. The factors used are set out in Appendix 2 of '*Farm Incomes in the United Kingdom 1999/00*'.

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

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

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

III. OUTPUTS, INPUTS AND FARM BUSINESS INCOME TABLES

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

- (a) **Livestock enterprise output** comprises the total sales of livestock and livestock products including *direct livestock subsidies* and production grants received, part of the valuation change (see below), produce consumed in the

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

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

(c) ***Crop enterprise output***, which is the total value of crops produced by the farm (other than losses in the field and in store). It includes crops used for feed and seed by the farm business and those consumed in the farmhouse and by farm labour. Crop enterprise output is calculated on a "harvest year" as distinct from an "accounting year" basis; that is, it refers only to those crops (with the exception of certain horticultural crops) wholly or partly harvested during the accounting year and excludes any crop carried over from the previous year. Thus valuation changes (between the previous and current crops) are not relevant and the total harvested yield of the crop is valued at market prices (plus any subsidies). However, any difference between the opening valuation of any stocks of previous crops and their ultimate disposal value (sales, used on farm and any end-year stocks) is included in total farm output.

(d) ***Miscellaneous output*** covers the value of output from those activities that are still within the agricultural cost centre but do not fall within either livestock or crop enterprise output. These will include revenue from wayleaves, agricultural hirework, sundry woodland sales, contract farming rent, miscellaneous insurance receipts, and compensation payments.

16. ***Agricultural costs*** comprise payments and the estimated value of non-cash inputs, including home-grown feed and seed, adjusted for changes in stocks and creditors between the beginning and end of the year.

<i>Total variable costs</i>	These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.
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<i>Purchased concentrate feed and fodder</i>	This represents expenditure on feeds and feed additives, including charges for agistment.
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<i>Home-grown concentrate feed and fodder</i>	This includes ex-farm value of all home produced cereals, beans, milk (excluding direct suckling), etc. fed on the farm both from the current and previous years' crops
<i>Veterinary fees and medicines</i>	This consists of veterinary fees and the cost of all medicines.
<i>Other livestock costs</i>	This comprises straw bought specifically for costs bedding materials, breeding costs (including AI and stud fees), miscellaneous dairy expenses, disinfectants, marketing and storage costs of animal products, Milk Development Council levy and other livestock costs not separately identified.
<i>Purchased and home-grown seeds</i>	This comprises expenditure on purchased seeds, plants and trees adjusted for changes in stocks. Home-grown seed from the previous crop is included and charged at estimated market price: any seeds from current crops and sown for a succeeding crop are excluded, but are included in the closing valuation of the crop and hence in enterprise output. This enables the value of home-grown seed used in the production of the current crop to be identified.
<i>Fertilizers</i>	This includes lime, fertilisers and other manures, and is adjusted for changes in stock. Fertilisers sown for next year's crops are treated as if they were still in store and are included in the closing valuation.
<i>Crop protection</i>	This includes costs of pre-emergent sprays, fungicides, herbicides, dusts and insecticides and other crop sprays.
<i>Other crop costs</i>	These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, British Potato Council levy, baling twine and wire (though not fencing wire).
<i>Total fixed costs</i>	These are the costs of labour, machinery, contract work, land and buildings, other general farming costs and depreciation.
<i>Labour (excluding farmer and spouse)</i>	This comprises wages and employer's insurance contributions, payments in kind, and salaried management. To calculate net farm income an imputed charge for unpaid labour is made, excluding that of the farmer and spouse, valued at the rate of comparable paid labour. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income (i.e. it is a component of net farm income).
<i>Contract costs</i>	These costs include expenditure on work carried out by agricultural contractors, including the costs of materials employed, such as fertilisers, unless these can be allocated to the specific heading. Costs of hiring machines to be used by the farm's own labour are also included. Expenditure on contract labour is only included here if it is associated with the hiring of a machine. Otherwise it is entered under (casual) labour.
<i>Machinery running costs</i>	These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.
<i>Land and building inputs</i>	For the calculation of farm business income these comprise any rent paid, insurance, rates and repairs to land and buildings incurred by the whole business. In the derivation of net farm income land and building costs also include an imputed rental charge for owner occupiers but exclude those costs associated with land ownership such as the insurance of farm buildings, and landlord-type repairs and upkeep.

<i>Depreciation of machinery, glasshouses and permanent crops</i>	Depreciation provisions in respect of machinery, glasshouses and permanent crops (e.g. orchards) are shown on a current cost basis. The rates of depreciation used (generally on a diminishing balance basis for machinery and straight line for glasshouses and permanent crops) are intended to reflect the degree of deterioration of the assets.
<i>Other general farming costs</i>	These consist of electricity, heating fuel, water for all farming purposes, insurance (excluding labour and farm buildings), bank charges, professional fees, vehicle licences, and other miscellaneous expenses not recorded elsewhere.
<i>Interest payments</i>	Interest charges on loans taken out for business purposes, net of interest receipts on monies invested temporarily outside the business, are deducted in the calculation of farm business income.
<i>Depreciation of buildings and works</i>	This is calculated on a current cost basis (generally on a straight line basis over 10 years) with an adjustment to allow for the effect of capital grants.

17. ***Breeding livestock stock appreciation*** represents the change in market prices of breeding cattle, sheep and pigs between the opening and closing valuations. It is not included in the calculation of farm business income but is shown separately within table 3.

IV. BALANCE SHEET TABLES

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

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

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

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

V. IMPLIED OUTPUT PRICES

22. ***Implied output prices*** are average unit returns excluding direct subsidies. For crops they are calculated by dividing the value of sales, closing stocks, farm house consumption, benefits in kind and own-produced feed by total production. Sales are value at prices actually received at the farm gate before the deduction of marketing charges paid direct by the farmer such as drying and cleaning costs. More detailed information about sales volumes is collected for livestock and, in this case, the unit returns refer to sales of livestock including casualties. In both cases, any compensation payments or insurance payouts for output produced in the current year and destroyed are included.

Source: DEFRA – Farm Accounts in England 2006/2007

<http://webarchive.nationalarchives.gov.uk/20130315143000/http://www.defra.gov.uk/statistics/foodfarm/farmmanage/fbs/publications/farmaccounts/>

Standard Output (SO)

SOs are representative of the level of output that could be expected on the average farm under “normal” conditions (i.e. no disease outbreaks or adverse weather). Different SOs are calculated for North England, East England, West England, Wales, Scotland and Northern Ireland to allow for the differences in output in different areas.

Standard outputs measure the total value of output of any one enterprise - per head for livestock and per hectare for crops. For crops this will be the main product (e.g. wheat, barley, peas) plus any by-product that is sold, for example straw. For livestock it will be the value of the main product (milk, eggs, lamb, pork) plus the value of any secondary product (calf, wool) minus the cost of replacement.

Up until 2010, Standard Gross Margins were used for the classification of farms. The difference between standard outputs and standard gross margins is that no variable costs are deducted in the derivation of standard outputs. A Defra note looking at the effects on the population by farm type as a result of the change from SGM's to SO's is available at:

http://webarchive.nationalarchives.gov.uk/20130123162956/http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-reviseclass_111221.pdf/

The SOs now in use are based on a five-year average centred on 2010. SO's are based on a five-year average in order to lessen the impact of yearly fluctuations on calculated SOs.

The 2010 SO's for England can be seen on Annex 1 under UK Farm Classification on the above site.

Source:

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

Adjusted Forage Area (adj. for. Ha)

The adjusted forage area allows an area of rough grazing to be equated to an equivalent area of flat mowable land. This therefore reflects the true stock carrying capacity of a parcel of land and allows meaningful comparisons on true farm stocking rates to be presented. This measure is particularly important for LFA farms with large tracts of poor quality land.

Total Adjusted Area (TAA)

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

References

DEFRA (2017) *Organic Farming*. [Online], Available at: <https://www.gov.uk/government/collections/organic-farming> (Accessed: 20 March 2018).

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Soil Association (2018) *Organic market report 2017*. Available at <http://www.soilassociation.org/marketreport> (Accessed: 20 March 2018).

Cover photo: *Courtesy of an organic beef herd in Northumberland*

