Department for Environment Food & Rural Affairs

01 August 2014

Farm Accounts in England – Results from the Farm Business Survey 2012/13 (Revised: Appendix 1 Table E)

The latest farm incomes were released on 19 December 2013; these are sourced from the 2012/13 Farm Business Survey (which covers the 2012 harvest). Figures are for March/February years with the most recent year shown therefore ending February 2013. The results examine farm incomes, outputs and costs for farm types, farm sizes and regions.

Data on the income of farm businesses is used in conjunction with other information on the agricultural sector to help inform policy decisions (e.g. Reform of Pillar 1 and Pillar 2 of Common Agricultural Policy) and to help monitor and evaluate current policies relating to agriculture in the United Kingdom. It also informs wider research into the economic performance of the agricultural industry. The data are provided to the EU as part of the Farm Accountancy Data Network (FADN) and are also used widely by the industry for benchmarking purposes.

Forecasts of income by farm type for the year ending February 2014 and covering the 2013 harvest will be published in January 2014 and can be found at https://www.gov.uk/government/collections/farm-business-survey#documents

Key results

- Average Farm Business Income fell across most farm types in 2012/13 (the exceptions being specialist pig and poultry farms) as the effect of the poor growing season and harvest was felt across both the cropping and livestock sectors.
- For the cropping sector lower yields and quality were offset to some extent by higher prices. However the additional impact of higher costs resulted in a fall in incomes.
- On dairy and grazing livestock farms (lowland and LFA) the impact of higher feed costs was a key driver behind lower incomes.
- For specialist pig and specialist poultry farms, incomes increased via higher output which was only partially offset by higher input costs, particularly for feed.
- The single payment for 2012/13 was on average 12% lower than the previous year due to the pound strengthening against the euro.

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Background

Farm Accounts in England is the primary publication from the Farm Business Survey. It provides information on farm incomes, outputs and costs for the various farm types, farm sizes, regions and economic performance.

The main income measure used is Farm Business Income. For non-corporate businesses, Farm Business Income represents the financial return to all unpaid labour on the farm (farmers and spouses, non-principal partners 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. Farm Business Income is essentially the same as Net Profit, which, as a standard financial accounting measure of income, is used widely within and outside agriculture.

Further information on the Farm Business Survey covering survey methodology, accuracy and reliability can be found in the survey details section of this publication.

Detailed tables covering income, outputs and costs can be found here. Enterprise level gross margins are also provided.

Detailed results

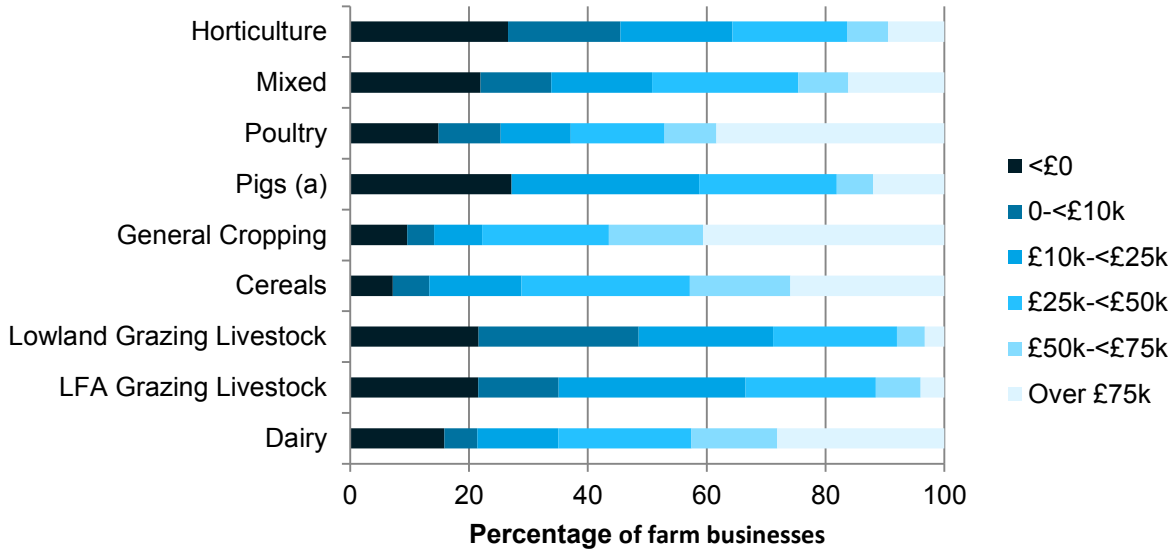
Figures are for March/February years with the most recent year shown, therefore ending February 2013. This covered the **2012** harvest and includes the Single Farm Payment due in the 2012/13 accounting year.

1 Overview across all farm types

Average farm business income across all farm types decreased by 30% to £46,600 compared to 2011/12. This was due to the poor growing season and harvest which was felt across both the cropping and livestock sectors.

Figure 1 shows how variable farm business income is both between and within farm types. Over a fifth of horticulture, mixed, specialist pig and grazing livestock farms failed to make a profit in 2012/13. More than a quarter of dairy farms had an income of less than £25,000 whilst a similar proportion made more than £75,000. In the arable sector (cereals and general cropping farms) around three quarters of farms had an income greater than £25,000. The variation in incomes within farm type reflects different production costs between farms which are influenced by a number of factors such as size, location, soil type etc. Within some types there is also a wider range of agricultural activities undertaken; e.g. horticulture includes specialist glasshouse farms, specialist fruit, specialist hardy nursery stock and market garden vegetable producers who may experience large differences in their production costs and outputs.

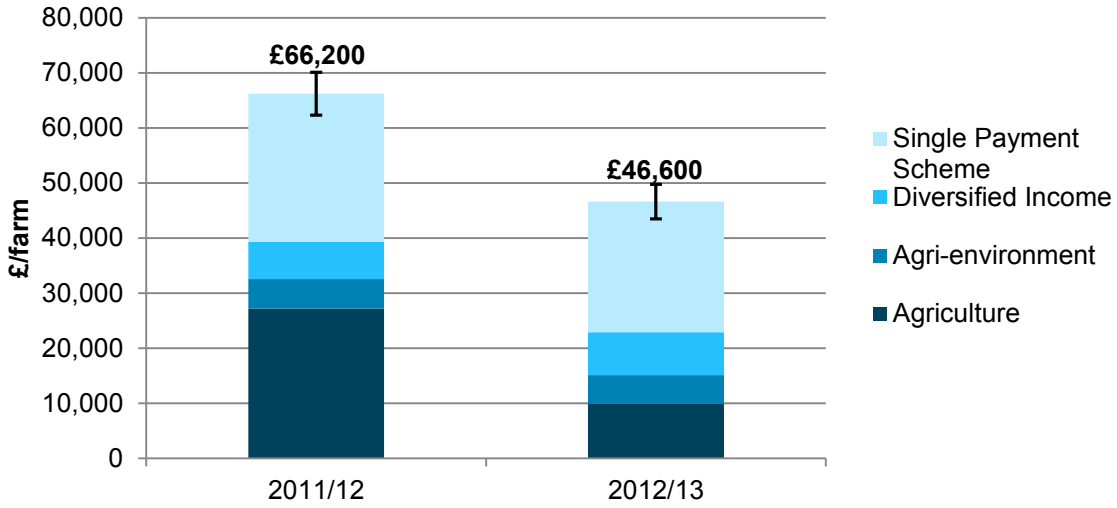
Figure 1: Distribution of Farm Business Income by farm type, 2012/13



Source: Farm Business Survey, England
(a) For Pigs the 0-<£10K band has been combined with £10K-<£25K band to prevent disclosure.

Farm business income can be considered as comprising of income from four different 'segments' (i.e. cost centres) of the business: agriculture, agri-environment, diversification and the single payment. However, as the methodology to allocate costs to each of these segments involves a degree of estimation, results should be interpreted with caution. Figure 2 below shows that in 2012/13 the contribution from agriculture across all farm types fell by 64% compared to the previous year. In 2012/13 the Single Payment Scheme (SPS) cost centre contributed over 50% to the total farm business income. The single payment for 2012/13 was on average 12% lower than the previous year due to the pound strengthening against the euro (table 5.19).

Figure 2: Farm business income broken down into cost centres, England 2011/12 to 2012/13 (all farm types)



Source: Farm Business Survey, England
The figures in bold above each column are the average farm business income per farm.

2 Weather

Autumn 2011 saw temperatures above average. Exceptionally warm weather occurred in late September and early October. Rainfall totals were close to average for both September and October but below average in November. There were large variations across the country from the relatively dry south east to the much wetter North West. The favourable conditions meant that drilling for 2012 crops progressed well and crop establishment was generally good.

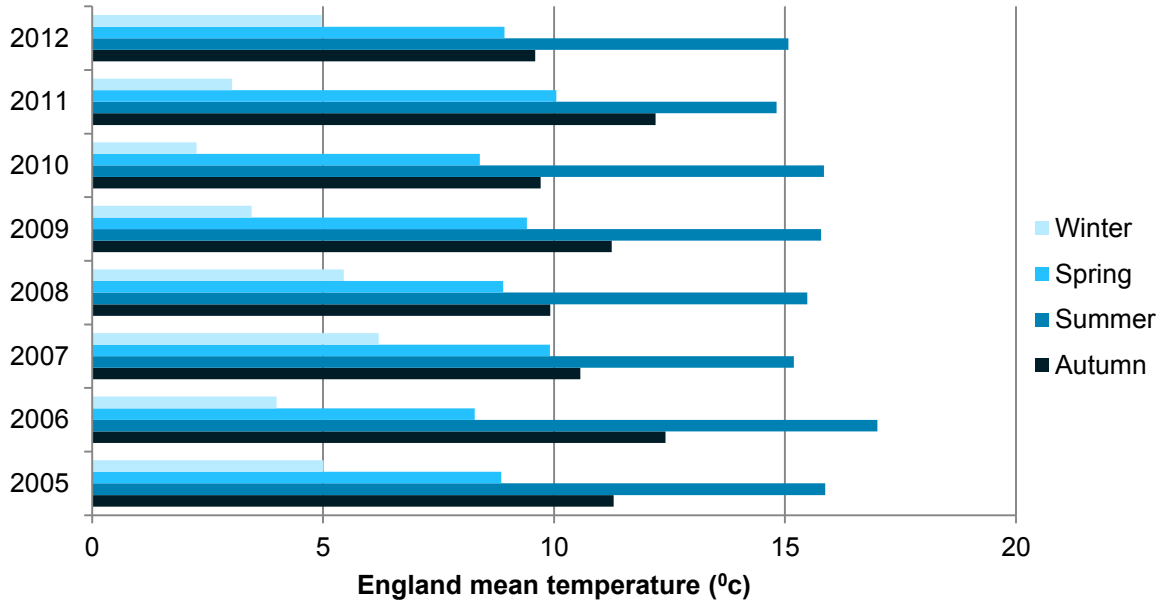
The winter months were mild with temperatures above average (figure 3). December was mild particularly in southern areas; temperatures were above average. January was mostly mild; the last few days saw the onset of a cold spell that lasted two weeks with sharp frost and snowfalls. February was mild. Rainfall was below average in January and February with many counties in eastern and southern England recording less than 75% of normal rainfall (figure 4). In February a drought was declared in south-east England and hosepipe bans were subsequently announced in March. The relatively mild and dry winter resulted in continued good winter crop establishment. However the mild conditions led to some disease problems, notably mildew and rust.

Spring 2012 saw above average temperatures throughout March, but April was the coldest recorded since 1989 and was, unusually, colder than March. The cooler weather continued until the last 10 days of May. It was the driest March since 1953 but in contrast April was the wettest on record. It was particularly wet across eastern and southern England. Heavy snowfalls and a record wet April caused considerable lamb losses.

The summer months were cooler than average. It was an exceptionally wet summer across most of the country, especially in June and July (figure 4). The low temperatures together with the unusually high rainfall had a significant effect on crop yield and the quality at harvest. Quality and quantity of forage crops were also affected.

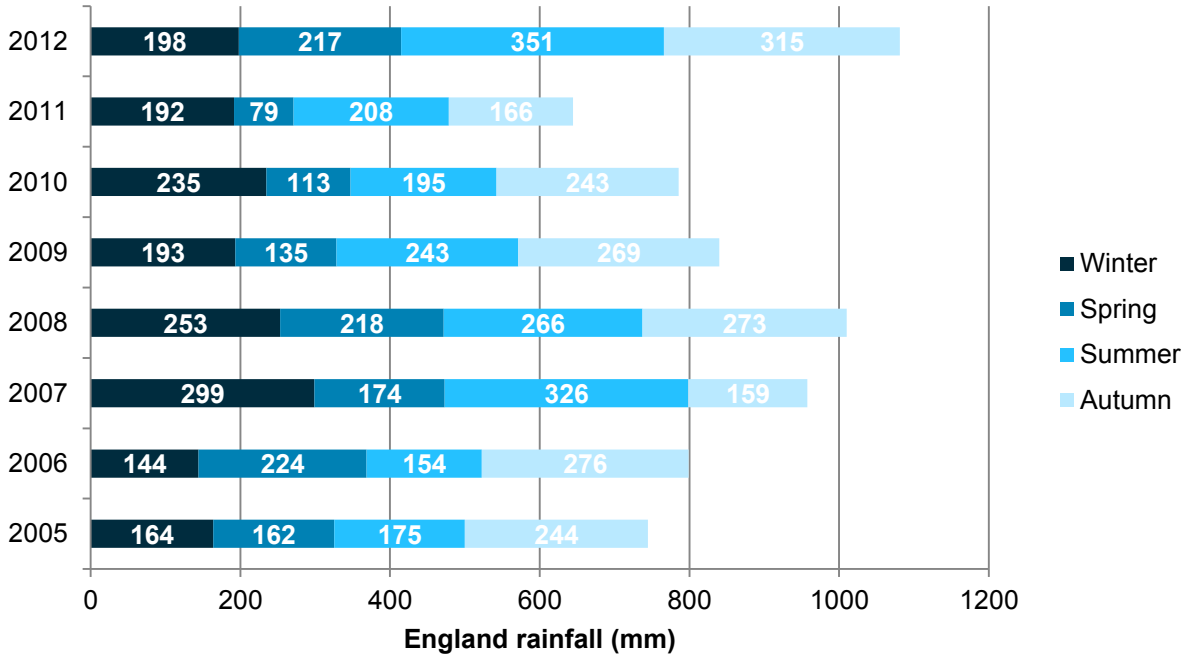
Autumn 2012 saw temperatures below average (figure 3). Rainfall was above average in September, close to average for October and above average for November; there were marked regional variations. The wet weather impacted on drilling 2013 crops, with farmers struggling to drill crops on heavy land. The delayed harvested also impacted on the drilling of 2013 crops as seed was not available as early as usual.

Figure 3: Mean temperature (^{0}c), 2005 - 2012
Seasons: Winter=Dec-Feb, Spring=Mar-May, Summer=June-Aug, Autumn=Sep-Nov



Source: Met Office

Figure 4: Rainfall in England (mm), 2005 – 2012
Seasons: Winter=Dec-Feb, Spring=Mar-May, Summer=June-Aug, Autumn=Sep-Nov

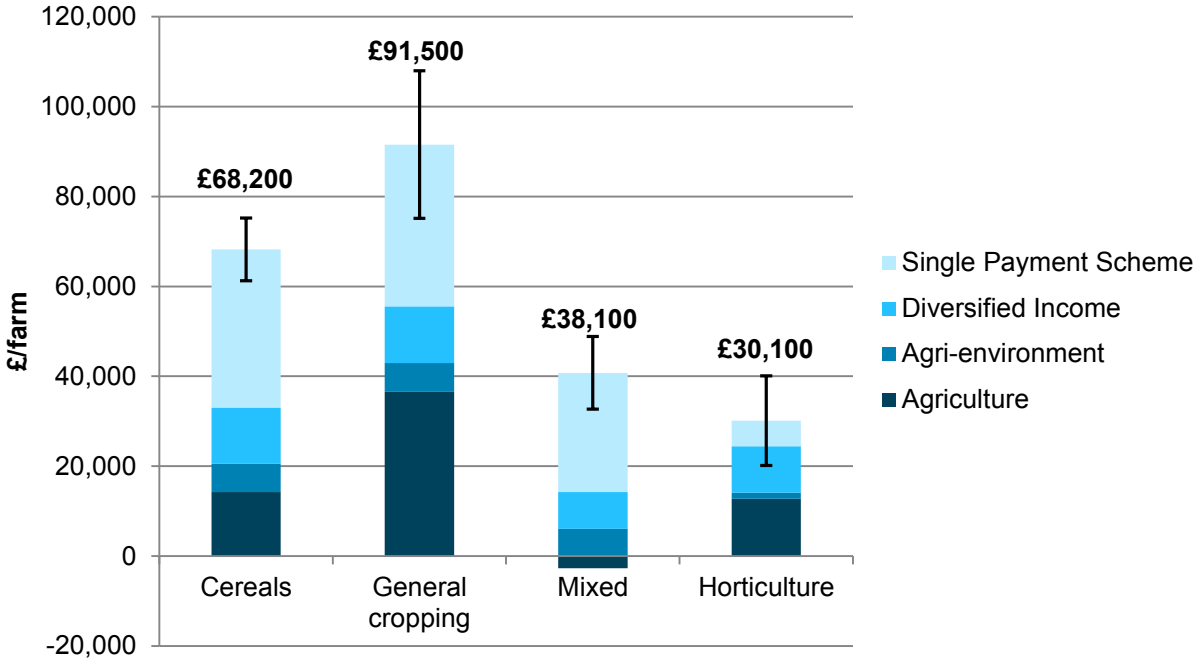


Source: Met Office

3 Results by Farm Type

The following section provides detailed results for each farm type. Detailed tables covering income, outputs and costs for each farm type can be found at: https://www.gov.uk/government/publications/farm-accounts-in-england-201213

Figure 5: Farm business income of cropping farms, broken down by cost centres 2012/13



Source: Farm Business Survey, England
The figures in bold above each column are the average farm business income per farm.

3.1 Cereal farms

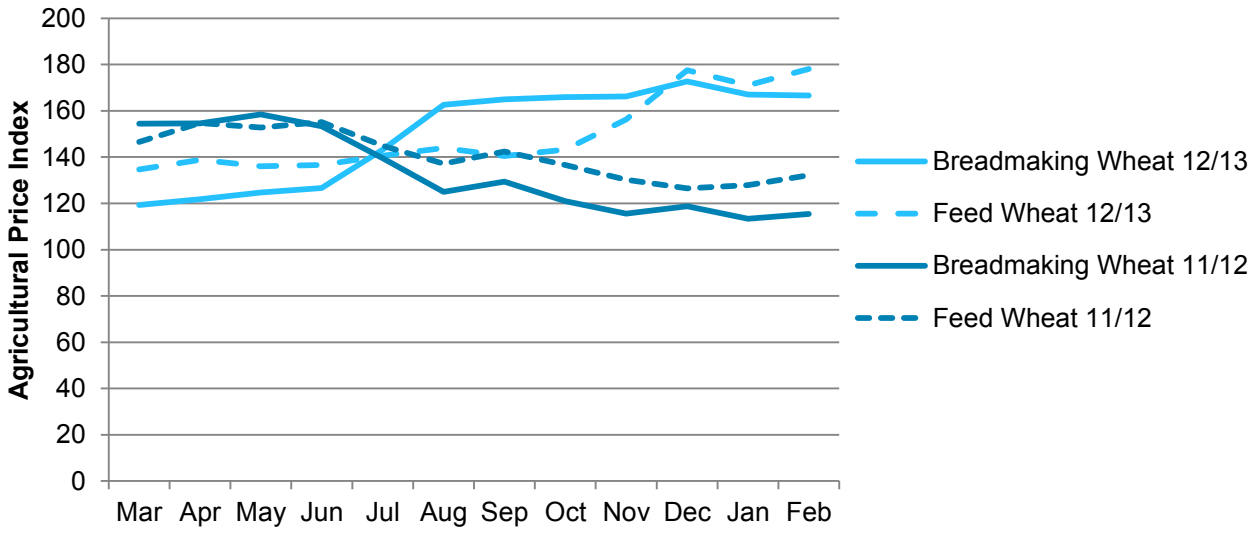
In 2012/13 average farm business income fell by 27% to £68,200 per farm. Both the yield (table A) and quality of cereal and oilseed rape crops were affected by the poor growing season, but a substantial increase in prices (figure 6) driven by global markets meant that overall output from the crop enterprises, particularly winter barley (output increased by 35% compared to 2011/12, see table 5.2), increased. However higher input costs, particularly for seed, fertiliser (figure 7) and crop protection offset this, resulting in a net fall in average incomes.

Table A: Average Crop yields, 2009-2012

	Yield (tonnes per hectare)			
Crop	2009	2010	2011	2012
Wheat (England)	7.9	7.6	7.7	6.7
Barley (England)	5.9	5.7	5.6	5.7
Oilseed rape (England)	3.3	3.5	3.9	3.4
Potatoes (UK)	44.3	43.8	41.2	29.8
Sugar beet (England)	74.0	55.1	75.4	60.7

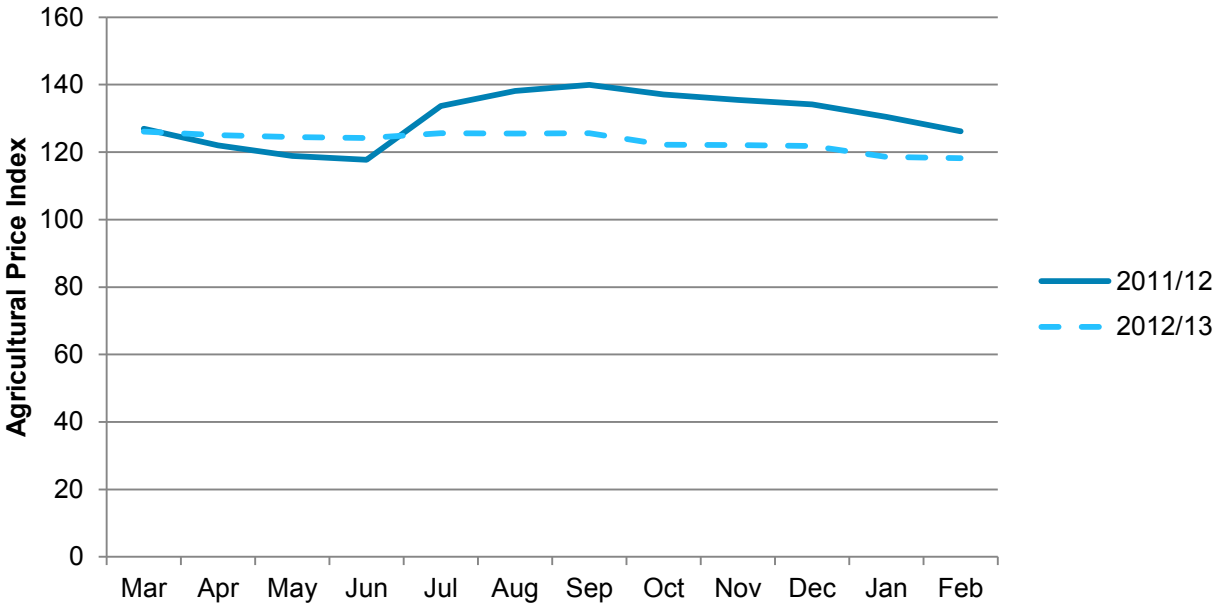
Source: Defra, RPA

Figure 6: Average wheat prices- March 2011 to February 2013



Source: Index of Producer Prices of Agricultural

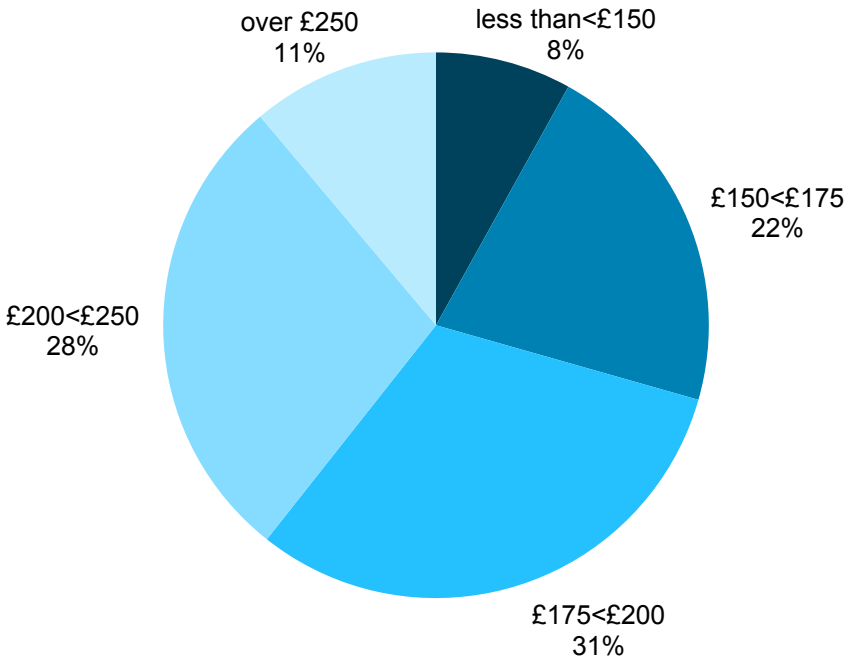
Figure 7: Average fertilisers and soil improvers prices - March 2011 to February 2013



Source: Index of Producer Prices of Agricultural

Figure 8 shows the proportion of wheat grown in England for the 2012 harvest within various bands of production costs. The costs are on a full economic basis including an imputed charge for any unpaid labour (including that of the farmer and spouse), as well as an imputed rental charge for owner occupied land. Note also that this analysis covers spring and winter wheat and includes organic and in-conversion wheat. The average cost of production of all wheat grown was just under £200/tonne whilst the average selling price was approximately £180 per tonne. The analysis indicates that just over 25% of wheat growers covered their costs of production. This represents a marked difference to the 2011 harvest when the average cost of production was £154 with an average selling price of just over £157 per tonne.

Figure 8: Production cost of wheat, 2012 harvest



Source: Farm business Survey, England

(a) Production costs shown here include all financial aspects of wheat enterprises such as any unpaid labour (including that of the farmer and spouse), and an estimated rental equivalent for land that is owned. Note also that this analysis covers spring and winter wheat and includes organic and in-conversion wheat.

3.2 General cropping farms

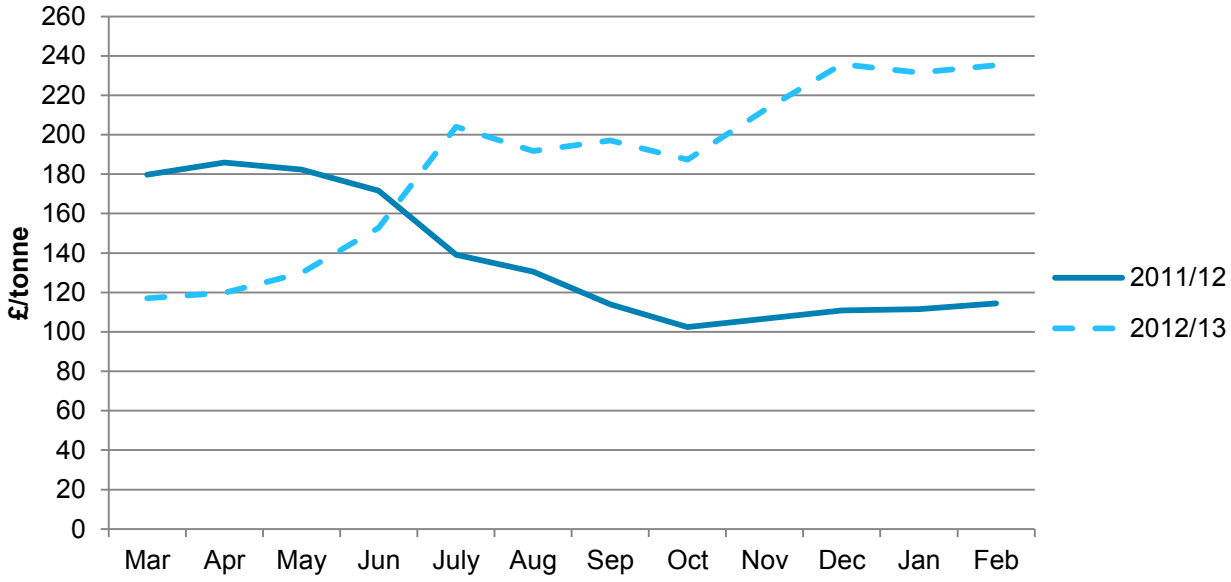
Average farm business income on general cropping farms in 2012/13 decreased by around 10% to £91,500 compared to 2011/12. Output from potatoes was considerably higher than for the previous year due to an increase in prices (figure 9), more than offsetting lower yields. Total agricultural output fell due to a lower output from the other cropping enterprises, particularly wheat and sugar beet (14% and 30% respectively, table 5.4). This reflects changes to the sample with a smaller cropping area compared to the previous year. Input costs also fell (table 5.4) although this can be attributed to a reduced tillage area. On a per hectare basis, agricultural costs on these farms increased in line with those on cereal farms.

Average farm business income for the low performers (based on the ratio of outputs to inputs[1]) in 2012/13 was -£4,100 compared to an average of £186,000 for the high performers (table 7.4). For the low performers the share of farm business income from agriculture was negative (-£34,600). Although their output from agriculture was high (£186,200), this was offset by high variable and fixed costs (£99,900 and £122,300 respectively). For the high performers, agriculture accounted for 60% of the average farm business income.

[1] For a detailed definition see http://webarchive.nationalarchives.gov.uk/20130315143000/http://www.defra.gov.uk/statistics/foodfarm/farmmanage/fbs/aboutfbs/datacollection/

In 2011/12 the definition has been adjusted to add in a charge for unpaid labour to the inputs. To enable comparisons to made, this revised definition has been applied to the 2010/11 FBS.

Figure 9: Average potato maincrop prices - March 2011 to February 2013



Source: Potato Weekly, British Potato Council

3.3 Mixed farms

Incomes on mixed farms fell by nearly 50% in 2012/13 to around £38,100. Total farm output fell by over 20% with a lower output across both crop and livestock enterprises. Total costs fell by around 15%. Output from diversified enterprises (table 5.16) increased by 10% compared with the previous year. The Single payment made up a significant proportion of the average farm business income (70%, figure 5).

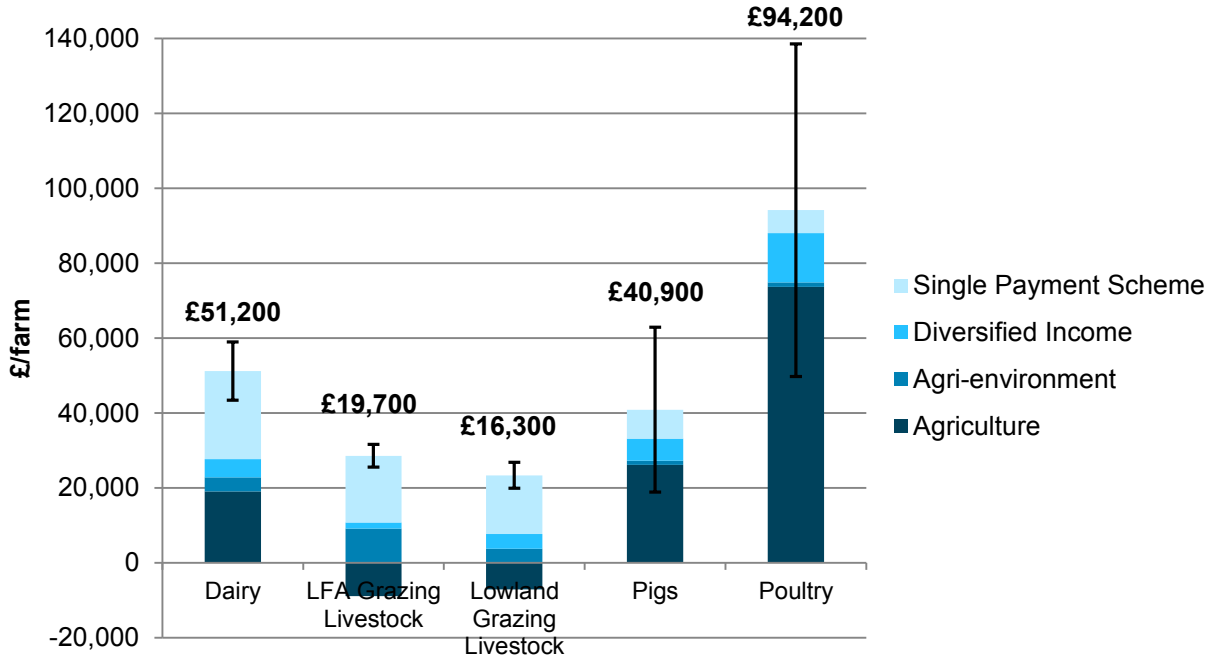
Some of the differences noted are likely to be due to a slightly different sample compared to last year. This is because relatively small changes to cropping and stocking on farms that don't have a strongly dominant enterprise (as these are) can result in individual farms switching designated farm types between years.

3.4 Horticulture farms

Farms in the horticulture sample cover the three main sectors of fruit, vegetables and non-edibles, grown both under cover and in the open. The incomes presented are the average across all of these sectors.

Incomes decreased by over 40% in 2012/13 for horticultural farms. This was due to the poor growing season reducing the output from fruit, flowers, bulbs and hardy nursery stock. Total farm output was 9% lower in 2012/13 (table 5.18) although output from outdoor vegetables and potatoes increased (19% and 83% respectively) reflecting higher farm gate prices (figure 9) and a higher yield for some crops. Total costs fell by 4% (table 5.18). Low performers made on average a loss of £7,500 in 2011/12 while high performers made an average income of £113,200 (table 7.18).

Figure 10: Farm Business Income broken down by cost centre for livestock farms 2012/13



Source: Farm Business Survey, England
The figures in bold above each column are the average farm business income per farm.

3.5 Dairy farms

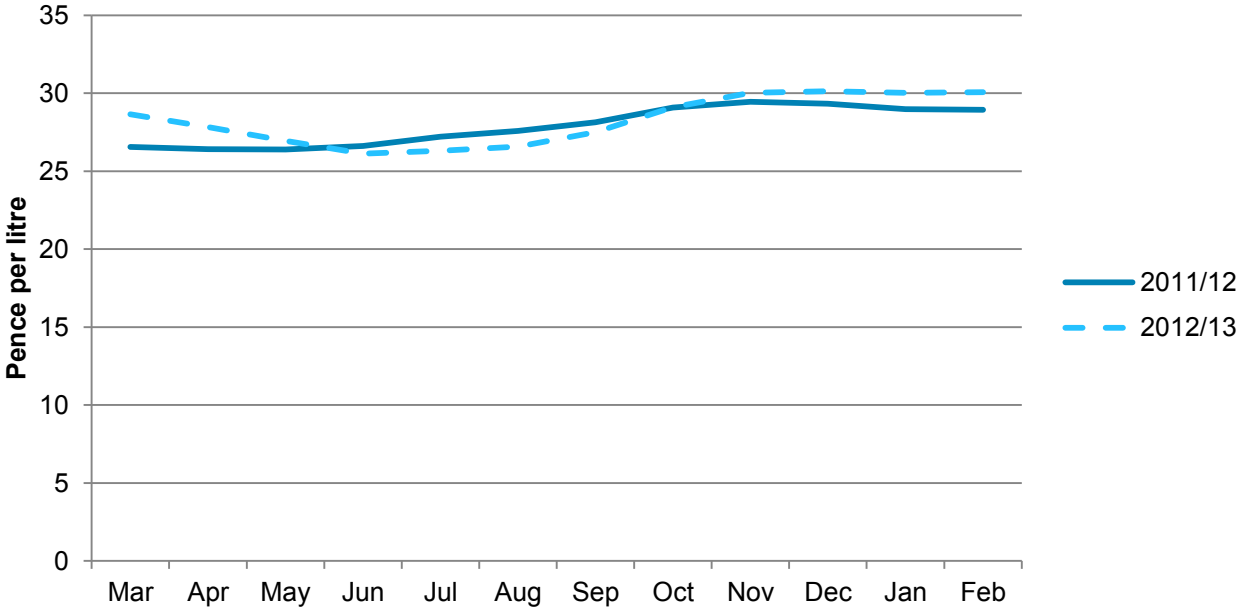
The average farm business income on dairy farms was £51,200 in 2012/13 a decrease of over 40% compared to the previous year. Agricultural output was 3% higher than the previous year; due to a small increase in milk prices (figure 11) and an increase in average herd size (table 6.5).This is in line with national trends as shown in table B. However total inputs costs increased by 12% compared to the previous year (table 5.6), particularly purchased feed (figure 12) which increased by 21%. In some areas of the country dairy farmers had to re-house cows over the summer due to the high rainfall. This resulted in additional feed and animal health costs.

Table B: Average herd size for dairy cows [(b),] 2010-2012

	2010	2011	2012
Average number of dairy cows (all herds)	77	79	82
Average number of dairy cows on holdings with >=10 dairy cows	122	126	131

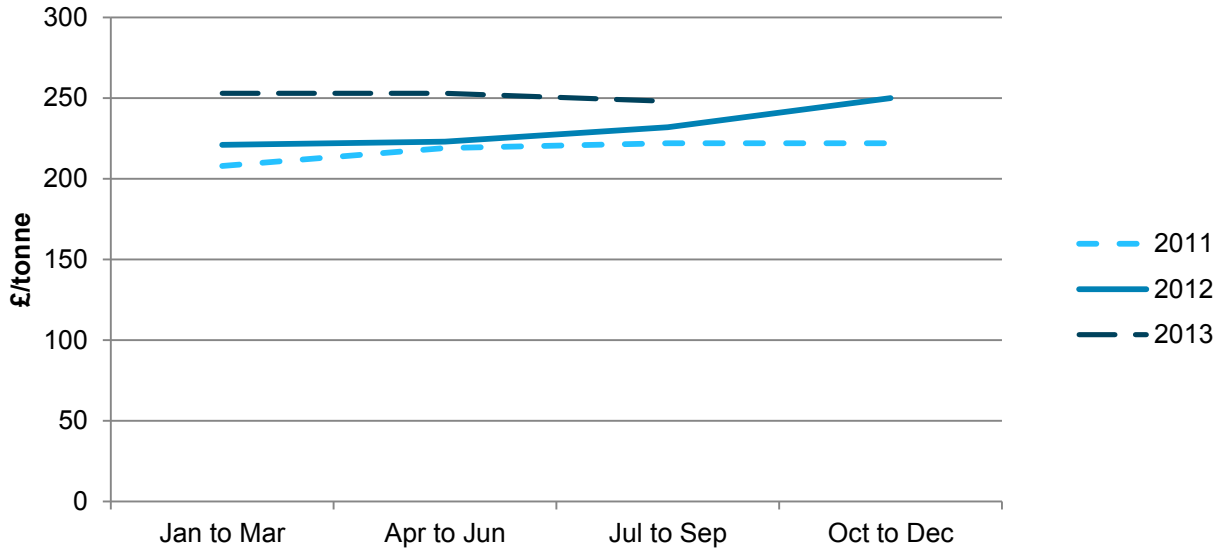
Source:June Agricultural Survey, England
(b) Dairy cows are defined as female dairy cows over 2 years old with offspring

Figure 11: Average farmgate milk prices- March 2011 to February 2013



Source: Milk prices surveys Defra, RERAD,DARD (NI)

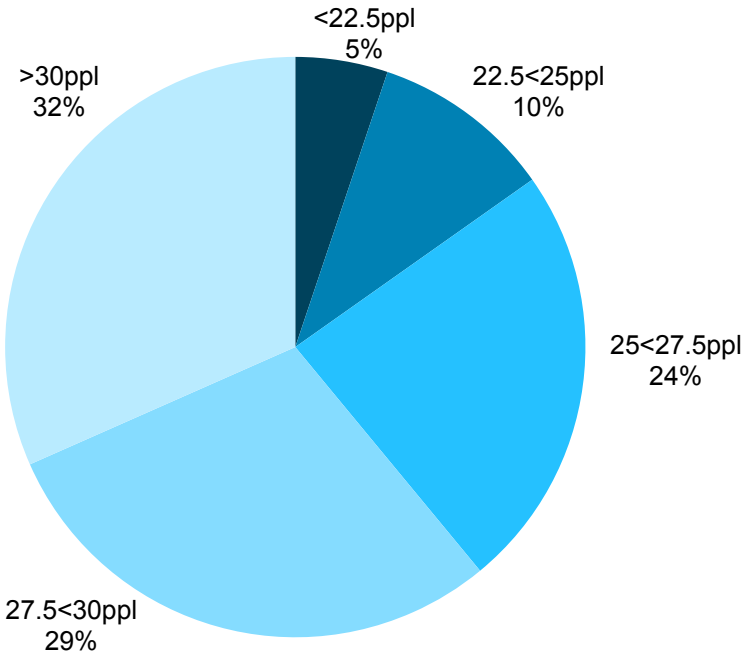
Figure 12: Average compound feed prices for Cattle and Calves- Quarterly 2011 to 2013



Source: Average Compound Feed Prices by Main Livestock categories, Great Britain

The average price received by dairy farmers in the FBS was 29p per litre of milk whilst the average cost of production was 28.5p per litre. There was considerable variation in production costs for milk, as shown in the figure 13.

Figure 13: Production costs [(a)] of milk, 2012/13



Source: Farm business Survey, England

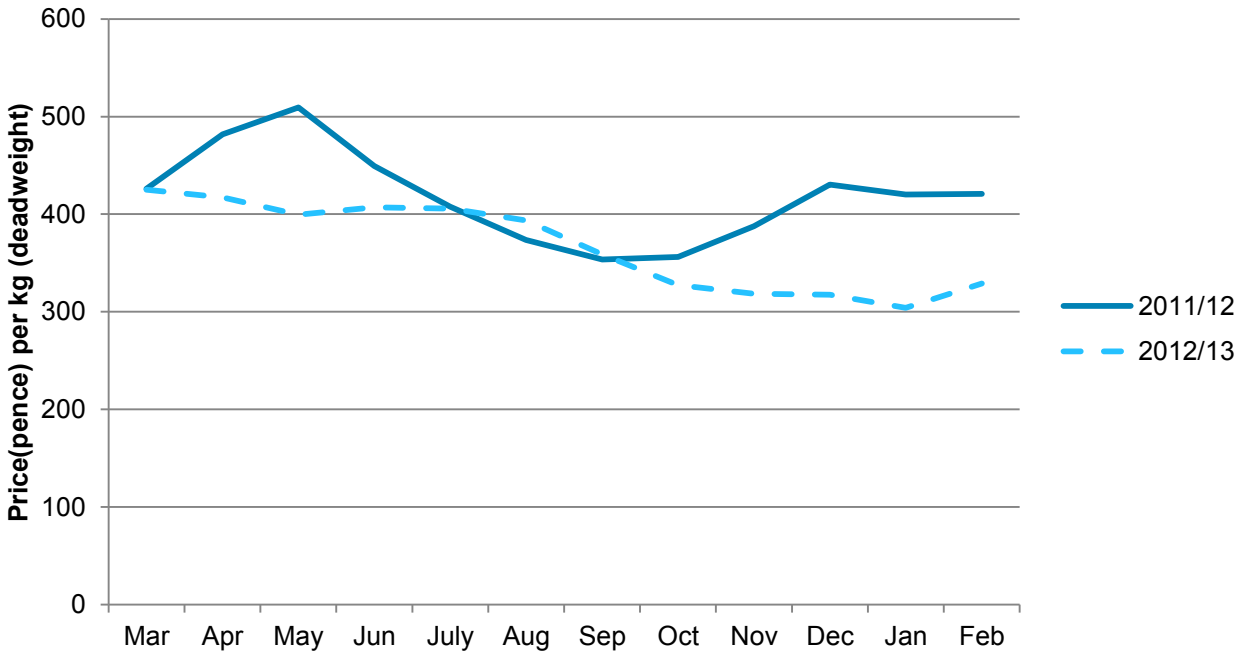
(a) Production costs shown here include all financial aspects of dairy enterprises such as any unpaid labour (including that of the farmer and spouse), herd depreciation and an estimated rental equivalent for land that is owned. An allowance is also made for non-milk revenue, most of which is from the sale of dairy calves, which is applied as a reduction to cost. This is to take into account the value of by-products from milk production. As a result, the production costs here represent the price that would have to be paid on all milk produced for dairy enterprises to break even.

3.6 Grazing livestock farms (lowland)

On lowland grazing livestock farms, incomes decreased in 2012/13 by around 50% to £16,300. Total output fell by 12% due to lower prices for sheep (figure 14). Total input costs were also slightly higher (2%); costs for purchased feed and fodder were 9% higher than in 2011/12 (table 5.8). On average these farms failed to make a positive return from agriculture reflecting the difficult conditions for beef and sheep farmers throughout the year. In some regions of the country, mortality rates were higher than average for both sheep and cattle due to the wet weather.

The contribution from single payment schemes was significant on these farms (96%, figure 10). Due to the lower exchange rate the single payment was 14% lower than the previous year.

Figure 14: Average price for all sheep – March 2011 to February 2013



Source: Agriculture and Horticulture Development Board (Meat Services)

3.7 Grazing livestock farms (LFA)

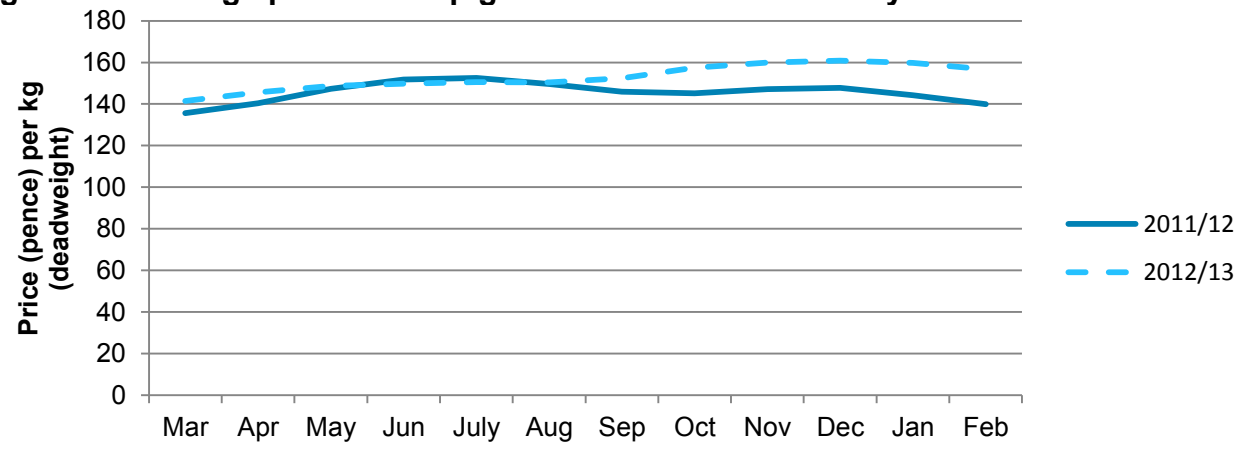
Average farm business income fell by a third on LFA grazing livestock farms to £19,700 in 2012/13. Output from livestock enterprises decreased slightly by 5% (table 5.10), in particular output from 'sheep and wool' decreased by 8%. Considerable losses of lambs were recorded due to the heavy snow and wet weather in some regions. Total input costs increased by 7%, the cost of purchase feed and fodder increased by 20%. Average farm business income for the low performers was negative in 2011/12 (-£7,300) while the average for high performers was £46,400 (table 7.10). The high performers made, on average, £2,900 from agricultural enterprises whilst the low performers made a loss of over £20,000, demonstrating the reliance on other sources of income.

3.8 Specialist Pigs

On specialist pig farms average incomes were 7% higher at £40,900 compared to the previous year. Total agricultural output increased by 3%, in particular output from pig enterprises increased by 7% (table 5.12); this was due to higher prices (figure 15). The increase in costs was slightly less than the increase in output, particularly as feed costs did not increase to the extent expected, the net effect being an increase in average incomes.

The relatively small size of the sector and of the sample in the survey means that our estimates are subject to greater levels of uncertainty than in other sectors. The 95% confidence interval for the average farm income for pigs in 2012/13 is £18,900-£62,900; we are 95% confident that this range contains the true average farm business income for the pig sector. Within the specialist pig sample, one farm is having a large influence on the average farm business income; excluding this farm from the results gives an average income of £30,600, with a 95% confidence interval of £17,400-£43,900.

Figure 15: Average price for all pigs - March 2011 to February 2013



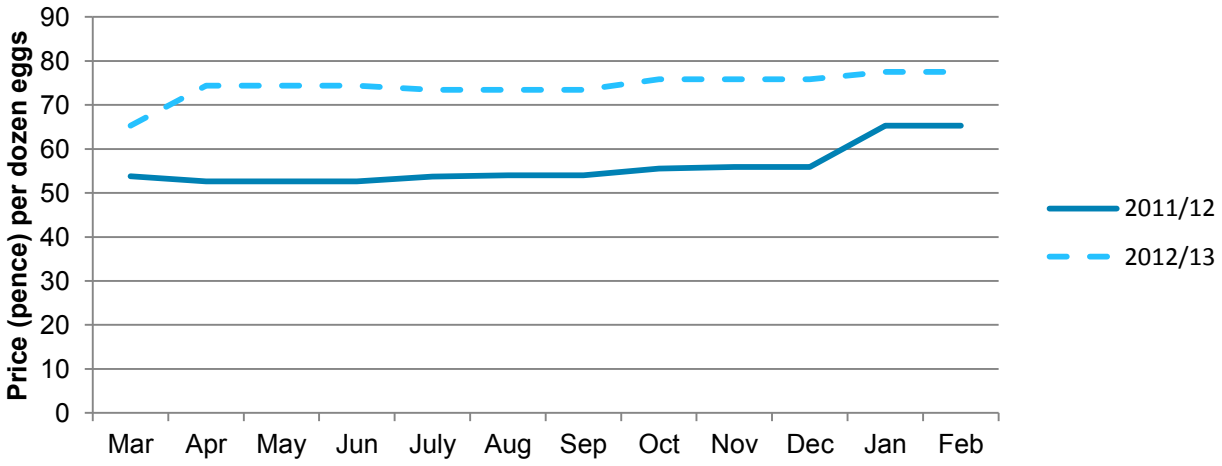
Source: Agriculture and Horticulture Development Board (Meat Services)

3.9 Specialist Poultry

Average farm incomes more than doubled on specialist poultry farms in 2012/13 (£94,200). This was due to a substantial increase in output (16%, table 5.14) via a higher output from the broiler and other poultry enterprise (22%). Although egg prices increased, average output from eggs was unchanged due to a slight fall in production (2%). Input costs also increased (11%) on these farms but to a lesser extent than output.

The nature of this sector means that the income of individual farms can change considerably from year to year. These fluctuations impact industry totals directly, but also make the results more difficult to verify. This, along with the relatively small size of the sector and of the sample in the survey, means that our estimates are subject to greater levels of uncertainty than in other sectors. The 95% confidence interval for the average farm income for poultry in 2012/13 is £49,800 -£138,600; we are 95% confident that this range contains the true average farm business income for poultry. The weighting methodology was changed in 2012/12 to improve the accuracy of the results for farms with poultry. For further information about the weighting methodology and the reliability of results please see the section on survey details.

Figure 16: Average prices for eggs (medium intensive)- March 2011 to February 2013



Source: Quarterly UK Egg Packing Station Survey

4 Diversification

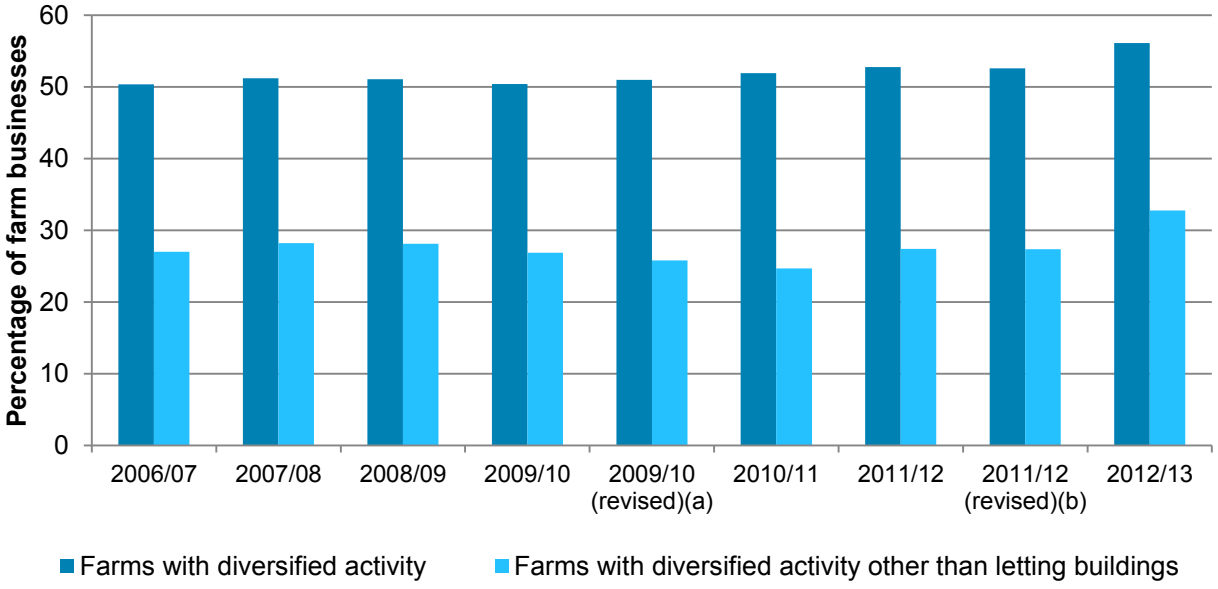
A possible and rational response to the changing position of agriculture in the UK economy is for farmers to seek to enhance their income from sources other than conventional farming production through diversifying their business activities.

Diversification is widely thought to offer considerable scope for improving the economic viability of many farm businesses. Many farm diversification activities can also provide benefits for the wider rural economy and community by, for example, encouraging and providing additional job opportunities.

Most farm businesses engage in other activities in addition to those carried out on their own farm, even if only hire work for another farmer. However, the definition of diversified activity adopted here excludes agricultural work on another farm and is restricted to non-agricultural work of an entrepreneurial nature on or off farm but which utilises farm resources.

Using this definition, 56% of farm businesses in England have some diversified activity which is an increase of 3% on 2011/12. This increase could be due to more farmers supplementing their income with diversified activities, due to the poor growing season and harvest in 2012. The main diversified activity is letting out buildings for non-agricultural use; when this is excluded, the proportion of farms with some other diversified activity is 33% for 2012/13 (figure 17).

Figure 17: Percentage of farms with diversified activities – England 2006/07 to 2012/13



Source: Farm Business Survey, England

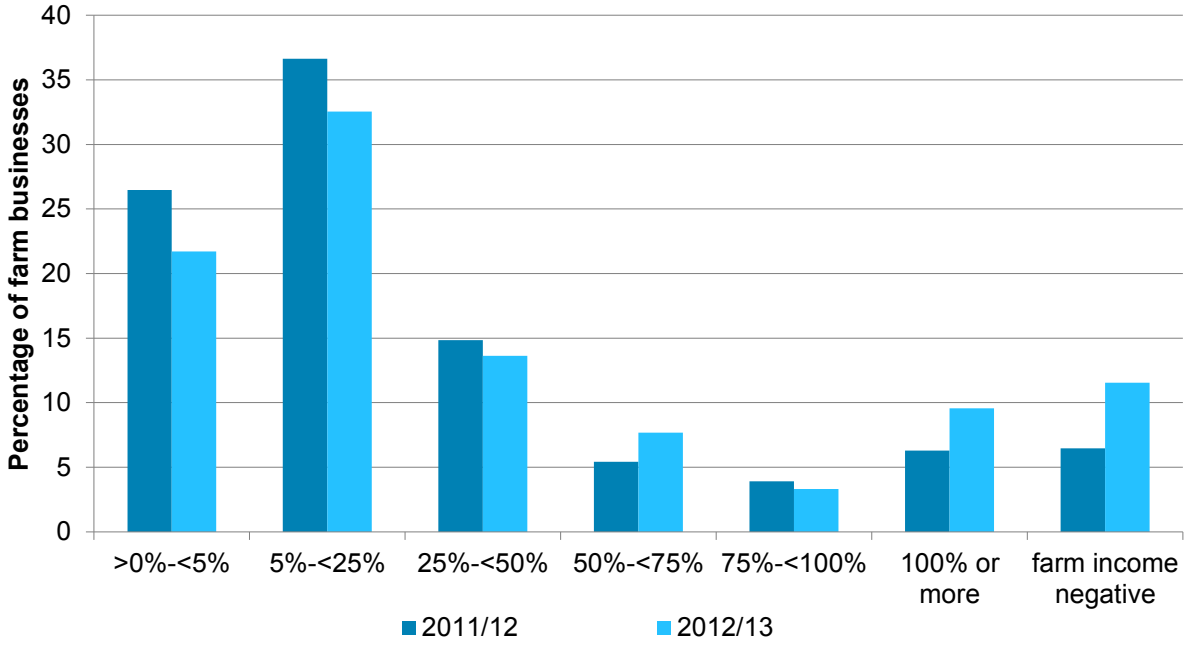
(a) In 2010/11 changes were made to the minimum size threshold (≥ 25,000€) and also to the classification of farms. These changes were backdated to 2009/10. Previous years are not directly comparable. Prior to the 2010/11 campaign, the coverage of the FBS was restricted to those farms of size ½ Standard Labour Requirement (SLR) or more

(b) A revised weighting frameworks separating specialist poultry meat from specialist layers was implemented in 2012/13. These changes were backdated to 2011/12

Data on diversification is also collected through the Farm Structure Survey. This shows that in 2010 24,900 holdings had diversified activities other than letting farm buildings, which was around 24% of the total farm holdings population for England. These results are broadly comparable with those presented in figure 17, but readers should note the different coverage of the two sources. See table 15.2 for more information.

Total income from diversified activities in 2012/13 was £440 million a 16% increase on 2011/12 (£380m in 2011/12). Diversified enterprises accounted for 17% of total farm income in 2012/13 (£2,620 million) although there were wide variations between farms (figure 18)

Figure 18: Distribution of farms according to proportion of Farm Business Income coming from diversification — England 2011/12-2012/13



Source: Farm Business Survey, England

For 34% of businesses with diversified activities, income from these activities accounts for a quarter or more of the total farm income (in 2011/12 30% of farms derived a quarter or more of their income from diversification); while for 21% of businesses, the estimated income from diversification exceeds the income from the rest of the farm business (this figure was 16% in 2011/12). Twelve per cent of farm businesses with diversified activities had negative farm business income. Farms with no diversification are excluded from this analysis.

A total of £440m of diversified income is generated by the 31,500 farms. These had an average diversified enterprise income of £12,900 (table C). For the 20,800 farms which let out buildings, the income they obtain from this (£330m) is over 20% of their total farm income (£1,470m). For the 3,700 farms with food processing and retailing enterprises this proportion is also over 20% (£40m of £170m).

Table C: Income from diversified enterprises — England 2012/13

	No. of farms	% of farms	Total farm income for these farms (£m)	Income of diversified enterprise (£m)	Average enterprise income[(a)] (£/farm)
Farm Business income (incl. diversification)	56,100		2,620		
Farms which engage in:					
Diversified enterprises (all kinds)	31,500	56%	1,890	440	12,900
letting buildings for non-farming use	20,800	37%	1,470	330	13,800
processing/retailing of farm produce	3,700	7%	170	40	8,200
sport and recreation	6,700	12%	450	30	3,700
tourist accommodation and catering	2,000	4%	100	10	7,900
other diversified activities	6,000	11%	500	30	3,700

Source: Farm Business Survey, England

(a) Average here refers to the mean calculated over farms which have that enterprise

Although over half of all farms have diversified activity, the total value of diversified enterprise output (£800m) is only 5% of total farm business output (£16,260 million). For farms which engage in any diversified enterprise, average diversified enterprise output from diversification is £25,500 (table D). For farms which have diversified enterprises, the output for these enterprises (£800m) equates to 7% of their total farm output (£11,040m). Letting buildings for non-farming use accounts for 58% diversified output, while the contribution from tourism is relatively minor. On average, the largest enterprises by value of output are processing and retailing of farm produce (£33,300), compared with £9,700 for sport and recreation enterprises.

Table D: Value of output from diversified enterprises - England 2012/13

	No. of farms	% of farms	Total farm output for these farms (£m)	Output of diversified enterprise (£m)	Average diversified enterprise output[(a)] (£/farm)
Farm Business Output (incl. diversification)	56,100	100%	16,260		
Farms which engage in:					
Diversified enterprises (all kinds)	31,500	56%	11,040	800	25,500
letting buildings for non-farming use	20,800	37%	8,110	460	22,200
processing/retailing of farm produce	3,700	7%	1,190	120	33,300
sport and recreation	6,700	12%	2,330	60	9,700
tourist accommodation and catering	2,000	4%	500	50	23,900
other diversified activities	6,000	11%	2,980	100	17,400

Source: Farm Business Survey, England

(a) Average here refers to the mean calculated over farms which have that enterprise

Survey details

Survey content and methodology

The Farm Business Survey (FBS) is an annual survey providing information on the financial position and physical and economic performance of farm businesses in England. The sample of around 1,900 farm businesses covers all regions of England and all types of farming with the data being collected by face to face interview with the farmer. Results are weighted to represent the whole population of farm businesses that have at least 25 thousand Euros of standard output[2] as recorded in the annual June Survey of Agriculture and Horticulture. In 2012 there were just over 56 thousand farm businesses meeting this criteria[3].

For further information about the Farm Business Survey please see:
https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey

Data analysis

The results from the FBS relate to farms which have a standard output of at least 25,000 Euros. Initial weights are applied to the FBS records based on the inverse sampling fraction for each design stratum (farm type by farm size). Table E shows the distribution of the sample compared with the distribution of businesses returned at the Census. These initial weights are then adjusted (calibration weighting[4]) so that they can produce unbiased estimators of a number of different target variables.

The weighting methodology was changed for 2012/13 to improve the reliability of the results for farms with poultry. The change was two-staged. A split of specialist poultry farms into egg and poultrymeat producers was introduced to the inverse sampling fraction stage. In addition, the FBS estimates of total number of laying birds and total number of table birds are now calibrated to match those from the previous June Survey of Agriculture and Horticulture. This practice is already in place for other livestock counts (as well as crop areas and farm counts) to draw strength from the increased robustness of the much larger sample of the June Survey. The egg and poultrymeat sectors are able to move separately, recognising their differing fortunes.

The results in this release for 2011/12 have been produced under the new weighting methodology to provide a fair comparison to last year. The change to the weighting procedure impacts heavily on the specialist poultry and mixed farm types and as such results for these farm types should not be compared across the two weighting methodologies. The results for all other farm types are still affected as small numbers of poultry exist on those farms and some calibrations (such as the total number of farms in each size band) work across all farm types. However these impacts are minimal so it is

[2] For a definition of standard output please see the UK classification document here
https://www.gov.uk/farm-business-survey-technical-notes-and-guidance

[3] Prior to the 2010/11 campaign, the coverage of the FBS was restricted to those farms of size ½ Standard Labour Requirement (SLR) or more. For a definition of SLR please see the UK classification document here:
https://www.gov.uk/farm-business-survey-technical-notes-and-guidance

[4] Further information on calibration weighting can be found here:
https://www.gov.uk/farm-business-survey-technical-notes-and-guidance

valid to compare results for these farm types across both weighting methodologies, whilst exercising some caution in respect of the small changes that are likely.

Accuracy and reliability of the results

In common with other statistical surveys, the above published estimates of income from the Farm Business Survey are subject to sampling error, as we are not measuring the whole population.

We show error bars based on 95% confidence intervals for mean Farm Business Income as a measure of uncertainty that may apply to the estimated means. These error bars show the range of values that may apply to the figures. They mean that we are 95% confident that this range contains the true value. They are calculated as the standard errors (se) multiplied by 1.96 to give the 95% confidence interval (95% CI).

For the Farm Business Survey, the confidence limits shown are appropriate for comparing groups within the same year only; they should not be used for comparing with previous years since they do not allow for the fact that many of the same farms will have contributed to the Farm Business Survey in both years.

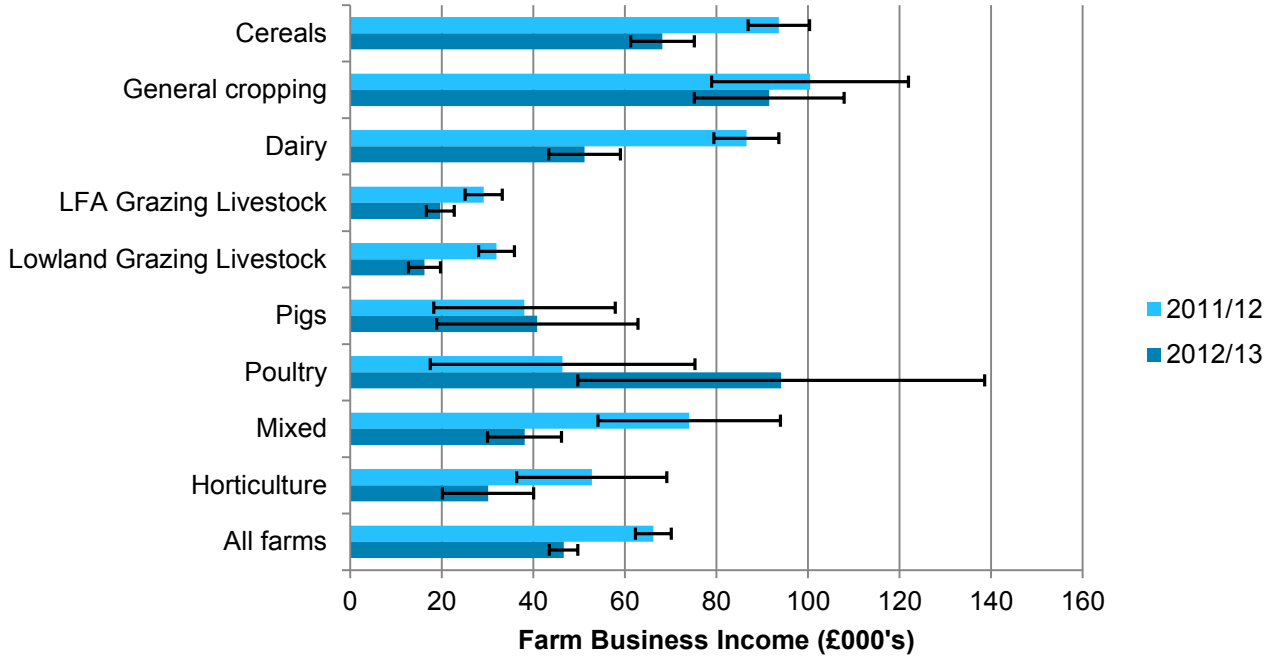
Standard errors (and therefore confidence intervals) only give an indication of the sampling error. They do not reflect any other sources of survey errors, such as non-response bias.

Figure 19 shows average farm business income split by farm type, with 95% confidence limits as range bars around the averages. The smaller range of possible values that could apply to grazing livestock, dairy, cereal and mixed farms types reflects relatively large sample sizes and the relative homogeneity of these sectors in terms of the range of income levels across the farms in each of these types.

The range of values that could apply to general cropping and horticulture farm types reflect a more diverse range of agricultural activities, e.g. general cropping is made up of arable crop and field scale vegetable producers, while horticulture includes specialist fruit producers, hardy nursery stock and fruit and vegetables grown in glasshouses. As a result these sectors are less homogeneous in terms of income levels.

Confidence limits for specialist pig and poultry farms are affected by the relatively small samples and a huge range in scale of production. Figure 1 shows the presence of farms at opposite ends of the income scale.

Figure 19: Average farm business income by farm type, with 95% confidence limits, England 2011/12 and 2012/13



Source: Farm Business Survey, England

Availability of results

Detailed tables covering income, outputs and costs for each farm type can be found here https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey#publications

Defra statistical notices can be viewed on the Food and Farming Statistics pages on the Defra website at https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics. This site also shows details of future publications, with pre-announced dates.

User engagement

As part of our ongoing commitment to compliance with the Code of Practice for Official Statistics (http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html), we wish to strengthen our engagement with users of these statistics and better understand the use made of them and the types of decisions that they inform. Consequently, we invite users to make contact to advise us of the use they do, or might, make of these statistics, and what their wishes are in terms of engagement. Feedback on this statistical release and enquiries about these statistics are also welcome.

Please contact Charles Mbakwe at fbs.queries@defra.gsi.gov.uk.

Appendix 1: Classification of Survey Farms by Type of Farming and Size of Business

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

   http://webarchive.nationalarchives.gov.uk/20130315143000/http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-landuselivestock-june-results-typology.pdf.

   Further details on farm classification may be found at: http://webarchive.nationalarchives.gov.uk/20130315143000/http://www.defra.gov.uk/statistics/foodfarm/farmmanage/fbs/aboutfbs/datacollection/.

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

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

4. Farms in the sample are grouped by type of farm based on the EC system of classification defined by Commission Decision 85/377/EEC (with minor modifications to adapt it to United Kingdom conditions) and Standard Outputs per hectare of crop area and per head of livestock estimated over the period 2005-2009.

5. The Standard Output (SO) is a financial measure used to classify farm type. Standard outputs measure the total value of output of any one enterprise - per head for livestock and per hectare for crops. For crops, this will be the main product (e.g. wheat, barley, peas) plus any by-product that is sold, for example straw. For livestock it will be the value of the main product (milk, eggs, lamb, pork) plus the value of any secondary product (calf, wool) minus the cost of replacement. Up until 2010, standard gross margins were used for the classification of farms. The difference between standard outputs and standard gross margins is that no variable costs are deducted in the derivation of standard outputs. Each farm is assigned a total SO by aggregating the SOs for its agricultural enterprises. The farm is classified into a 'particular' type of farming by evaluating the proportion of its total SO deriving from different enterprises. In the EC typology the particular types are grouped into seventeen principal types. The latter are not entirely suitable for use in the United Kingdom and alternative groupings have therefore been adopted for the Farm Business Survey. Table D at the end of this appendix shows how the constituent EC particular types are grouped to give twenty main types and nine robust types.

6. The varied nature of the definitions used for the EC particular types of farming does not permit a simple description to be given of all of the main types adopted in the Survey but the chief characteristics may be summarised as follows:

Dairy	Farms where the dairy enterprise, including followers, accounts for over two-thirds of their total SO.
LFA grazing livestock	Farms with more than two-thirds of their total SO in cattle and sheep except holdings classified as dairy. A farm is classified as in the LFA if 50% or more of its total area is in the EC Less Favoured Area (both Disadvantaged and Severely Disadvantaged).
Lowland grazing livestock	Farms with more than two-thirds of their total SO in cattle and sheep except holdings classified as dairy. A farm is classified as "lowland" if less than 50% of its total area is in the EC Less Favoured Area.
Cereals	Farms on which cereals, oilseeds, peas and beans harvested dry and land set aside account for over two-thirds of their total SO (holdings with more than two-thirds of their total SO in set-aside are excluded from the survey results).
General cropping	Farms with over two-thirds of their total SO in arable crops (including field scale vegetables) or a mixture of arable and horticultural crops; and holdings where arable crops account for more than one-third of total SO and no other grouping accounts for more than one-third.
Specialist pigs	Farms on which pigs account for over two-thirds of their total SO.
Specialist poultry	Farms on which poultry account for over two-thirds of their total SO.
Mixed farms	Farms where crops account for one-third, but less than two-thirds of total SO and livestock accounts for one-third, but less than two-thirds of total SO. It also includes holdings with mixtures of cattle and sheep and pigs and poultry and holdings where one or other of these groups is dominant, but does not account for more than two-thirds of the total SO.

7. The Less Favoured Areas (LFA) classification was established[5] in 1975 as a means to provide support to mountainous and hill farming areas. Within the LFA are the Severely Disadvantaged Areas (SDA) and the Disadvantaged Areas (DA). The SDA are more environmentally challenging areas and largely upland in character. A map showing the LFA, SDA and DA can be seen in Figure 20 at the end of this appendix. Further

[5] Council Directive 75/268/EEC.

information about LFA classification can be found here
http://archive.defra.gov.uk/rural/countryside/uplands/land-classification.htm

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

Part-time	(less than 1)
Small	(greater than or equal to 1 less than 2)
Medium	(greater than or equal to 2 less than 3)
Large	(greater than or equal to 3)

9. The average economic and physical sizes of farms as estimated from the FBS sample and as recorded in the June Survey are shown according to type of farming and size in Table E at the end of this appendix. Such comparisons cannot be exact because there are some differences of detail between classification procedure in the Survey and that used in the analyses of holdings in the Census. In the analyses of the Census standard outputs are applied to the cropping and stocking as recorded at the day of the Census: in the Survey they are applied to the hectares of crop and average numbers of livestock over the year as a whole. Moreover, in the Survey, the minimum unit is a whole farm, which may comprise more than one holding, while in the Census the holdings making up a farm may be treated separately.

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

Table D: UK Farm Classification

UK FARM CLASSIFICATION SYSTEM (REVISED 2010): COMPOSITION OF ROBUST, MAIN AND OTHER FARM TYPES BY CONSTITUENT EC TYPE

Robust Types (a)	Main Types	Constituent EC Types
Cereals	1 Cereals	151
General Cropping	2. General Cropping	161, 162, 163, 166, 613, 614, 615
Horticulture	3 Specialist Fruit	361
	4 Specialist Glass	211, 212, 213
	5 Specialist Hardy Nursery Stock	232
	6 Other Horticulture	221, 222, 223, 231, 233, 351, 352, 353, 354, 362, 363, 364, 365, 380, 611, 612, 616
Specialist Pigs	7 Specialist Pigs	511, 512, 513
Specialist Poultry	8 Specialist Poultry	521, 522, 523
Dairy	9 Dairy (LFA)	450 (LFA)
	10 Dairy (lowland)	450 (non-LFA)
LFA Grazing Livestock	11 Specialist Sheep (SDA)	481 (SDA)
	12 Specialist Beef (SDA)	460 (SDA)
	13 Mixed Grazing Livestock (SDA)	470, 482, 483, 484(SDA)
	14 Various Grazing Livestock (DA)	460, 470, 481, 482, 483, 484(DA)
Lowland Grazing Livestock 484 (non-LFA)	15 Various Grazing Livestock (lowland)	460, 470, 481, 482, 483,
Mixed	16 Cropping and Dairy	831, 832
	17 Cropping, Cattle and Sheep	833, 834
	18 Cropping, Pigs and Poultry	841
	19 Cropping and Mixed Livestock	842, 843, 844
	20 Mixed Livestock	530, 731, 732, 741, 742
	Other Types	
Non classifiable (b)	21 Non classifiable holdings	900

Notes:

(a) 1985 EC Typology described in Commission Decision 85/377/EEC as amended by Commission Decisions 94/376/EC, 96/393/EC and 99/725/EC.

(b) Not included in Farm Business Survey results.

Figure 20: Less Favoured Areas, Severely Disadvantaged Areas and Disadvantaged areas in England

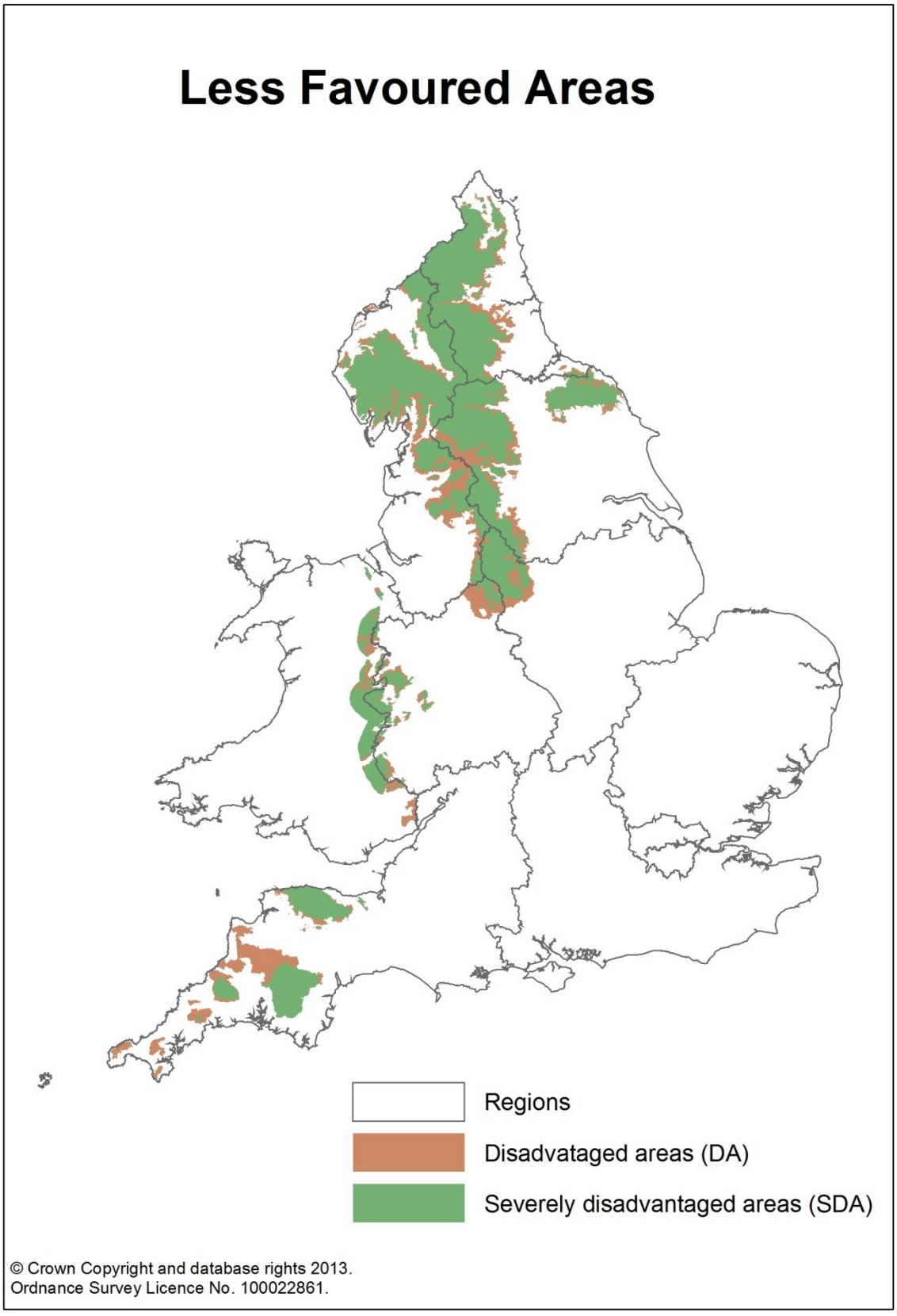
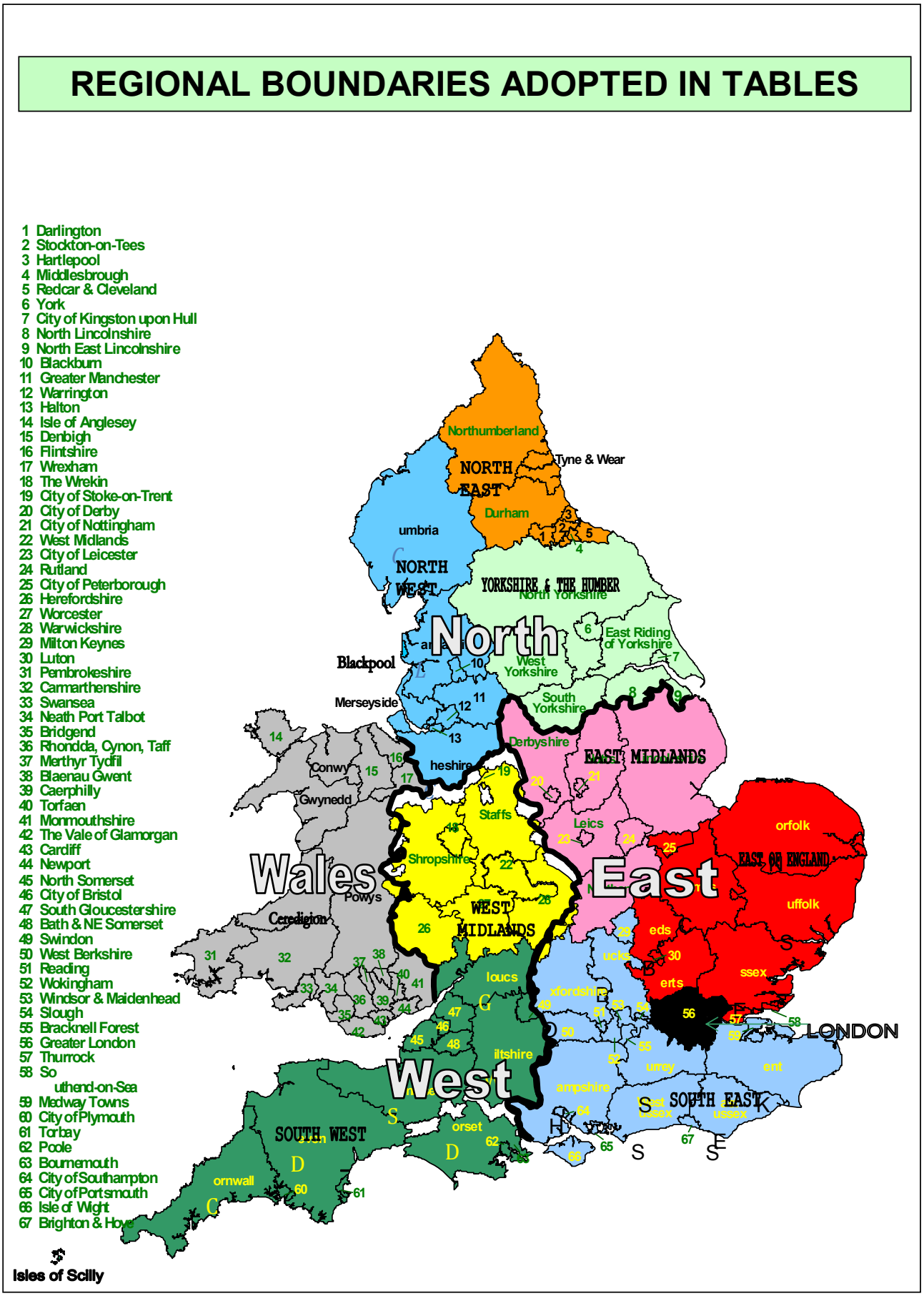


Table E: Farm Business Survey 2012/13: Sample Characteristics – England by size groups (a)

Type of Farming	Size	Number of Businesses in Sample	Number of Businesses at June Survey 2012[(b)]	Average Size of Business by Standard Labour Requirement		Average Total Area (hectares)	
				Sample	June Survey 2012	Sample	June Survey 2012
Cereals	Part-Time	78	6,073	0.7	0.6	93	75
	Small	123	3,840	1.5	1.4	174	167
	Medium	51	1,713	2.5	2.4	261	271
	Large	78	1,965	5.7	5.3	597	572
	All Sizes	330	13,591	1.8	1.7	199	198
Genral Cropping	Part-Time	21	1,073	0.6	0.6	69	85
	Small	35	1,564	1.5	1.5	129	93
	Medium	26	1,078	2.5	2.5	193	134
	Large	79	1,923	8.4	9.6	413	385
	All Sizes	161	5,638	3.5	4.3	210	199
Dairy	Part-Time	4	202	0.7	0.7	36	36
	Small	36	877	1.6	1.6	58	55
	Medium	69	1,259	2.5	2.5	81	77
	Large	205	4,583	5.9	6.2	170	165
	All Sizes	314	6,921	4.8	4.8	142	131
Lowland Grazing Livestock	Part-Time	41	4,580	0.8	0.6	68	44
	Small	94	4,167	1.4	1.4	86	76
	Medium	53	1,563	2.5	2.4	108	114
	Large	79	1,673	5.2	5.3	237	234
	All Sizes	267	11,983	1.9	1.8	105	91
LFA Grazing Livestock	Part-Time	13	1,835	0.7	0.7	57	55
	Small	76	2,063	1.5	1.4	124	107
	Medium	55	1,036	2.5	2.4	156	198
	Large	102	1,245	5.0	4.9	269	413
	All Sizes	246	6,179	2.4	2.1	154	168
Specialist Pigs	Part-Time	7	245	0.6	0.6	23	13
	Small	10	267	1.6	1.6	21	23
	Medium	7	233	2.3	2.3	43	28
	Large	46	591	11.6	12.8	104	103
	All Sizes	70	1,336	5.5	6.5	58	57
Specialist Poultry	Part-Time	10	258	0.5	0.5	14	21
	Small	17	239	1.5	1.5	26	29
	Medium	15	250	2.5	2.4	32	37
	Large	47	610	11.5	14.1	56	86
	All Sizes	89	1,357	6.8	7.1	41	55
Mixed	Part-Time	19	1,381	0.7	0.7	59	61
	Small	47	1,585	1.6	1.5	105	97
	Medium	47	982	2.5	2.4	135	145
	Large	80	1,762	5.9	6.8	308	337
	All Sizes	193	5,710	2.8	3.1	159	171
Horticulture	Part-Time	22	481	0.7	0.7	21	12
	Small	25	766	1.5	1.5	21	14
	Medium	25	583	2.4	2.5	19	18
	Large	135	1,560	12.6	15.2	64	81
	All Sizes	207	3,390	5.9	7.9	38	45
All Types	Part-Time	215	16,128	0.7	0.6	73	59
	Small	463	15,368	1.5	1.4	114	101
	Medium	348	8,697	2.5	2.4	144	145
	Large	851	15,912	7.0	7.8	256	274
	All Sizes	1,877	56,105	3.0	3.2	147	145

(a) The estimates shown in this publication are based on sample results weighted by type and by size. (see Appendix 1, paragraph 11).
(b) Correction applied to Lowland grazing livestock and LFA grazing livestock farm types to exclude specialist horse enterprises.

Figure 21: Regional Boundaries Adopted in Tables



Appendix 2: Notes on Tables: Definitions of Terms

FBS Survey Terms

1. ***Accounting years:*** To ensure consistency in harvest/crop year and commonality of subsidies within any one FBS year, only farms which have accounting years ending between 31 December and 30 April inclusive are allowed into the survey. (For Scotland, accounting years up to 31 May are allowed).

   The FBS accounting year for an individual farm in the survey is normally the same as the tax year for that business (for convenience in compiling the account). The tax year will normally be chosen by the farmer, not the tax authorities.

   Aggregate results are presented in terms of an accounting year ending at end-February, the approximate average of all farms in the FBS. Thus the results relate, on average, to March - February years

Business Outputs, Inputs, Costs and Income

2. ***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. Note that prior to 2008/09 directors remuneration was not deducted in the calculation of farm business income. 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.

3. ***Farm corporate income*** **represents** the return on own capital invested in the farm business, to risk and to entrepreneurship. It is derived by deducting unpaid labour, both manual and managerial, from Farm Business 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.

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

5. ***Net Farm Income (NFI)*** is intended as a consistent measure of the profitability of tenant-type farming[6] which allows farms of different business organisation, tenure and indebtedness to be compared. It represents the return to the farmer and spouse alone for their manual and managerial labour and on the tenant-type capital[7] 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.

6. ***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.

7. ***Family farm income*** is given in Tables 1.4, 2.4 and 3.4. It 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.

Cropping, Stocking and Labour Tables

8. ***Utilised agricultural area*** is the crop area, including fodder, set-aside land, temporary and permanent grass and rough grazing in sole occupation (but not

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

[7] 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.

shared rough grazing) i.e. the agricultural area of the farm. It includes bare land and forage let out for less than one year.

9. ***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).

10. ***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).

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

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

13. ***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.

14. ***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'.*

15. ***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.

Outputs, Inputs and Farm Business Income Tables

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

(a) ***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.

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

(c) ***Livestock enterprise output*** comprises the total sales of livestock and livestock products 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 - see paragraph 17) has been excluded from individual livestock enterprise outputs. However, changes in the numbers of breeding livestock between the opening and closing valuation and the total valuation change of trading livestock are included. Unlike crop enterprise output, livestock enterprise output is calculated on an accounting year basis.

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

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

Total variable costs	These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.
Purchased concentrate feed and fodder	This represents expenditure on feeds and feed additives, including charges for agistment and rented keep.
Home-grown concentrate feed and fodder	This includes ex-farm value of all home produced cereals, beans, milk (excluding direct suckling), etc. fed on the farm both from the current and previous years' crops.
Veterinary fees and medicines	This consists of veterinary fees and the cost of all medicines.
Other livestock costs	This comprises straw bought specifically for costs bedding materials, breeding costs (including AI and stud fees), miscellaneous dairy expenses, disinfectants, marketing and storage costs of animal products, Milk Development Council levy and other livestock costs not separately identified.

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

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

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

Other crop costs These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, British Potato Council levy, baling twine and wire (though not fencing wire).

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

Labour (excluding farmer and spouse) This comprises wages and employer's insurance contributions, payments in kind, and salaried management. To calculate net farm income an imputed charge for unpaid labour is made, excluding that of the farmer and spouse, valued at the rate of comparable paid labour. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income (i.e. it is a component of net farm income).

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

Machinery running costs These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.

Land and building inputs	For the calculation of farm business income these comprise any rent paid, insurance, rates and repairs to land and buildings incurred by the whole business. In the derivation of net farm income land and building costs also include an imputed rental charge for owner occupiers but exclude those costs associated with land ownership such as the insurance of farm buildings, and landlord-type repairs and upkeep.
Depreciation of machinery, glasshouses and permanent crops	Depreciation provisions in respect of machinery, glasshouses and permanent crops (e.g. orchards) are shown on a current cost basis. The rates of depreciation used (generally on a diminishing balance basis for machinery and straight line for glasshouses and permanent crops) are intended to reflect the degree of deterioration of the assets.
Other general farming costs	These consist of electricity, heating fuel, water for all farming purposes, insurance (excluding labour and farm buildings), bank charges, professional fees, vehicle licences, and other miscellaneous expenses not recorded elsewhere.
Interest payments	Interest charges on loans taken out for business purposes, net of interest receipts on monies invested temporarily outside the business, are deducted in the calculation of farm business income.
Depreciation of buildings and works	This is calculated on a current cost basis (generally on a straight line basis over 10 years) with an adjustment to allow for the effect of capital grants.

18. ***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 5.

Balance Sheet Tables

19. ***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.

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

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

22. ***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.

Yields and Implied Output Prices

23. ***Crop yields*** are calculated as total production divided by crop area.

24. ***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.

Flow of Funds Statement

25. ***The Flow of Funds Statement*** demonstrates how funds have been generated by the business (source of funds) and where these funds have been spent (disposal of funds). It shows the importance of Net Farm Income as a source of funds compared to other sources such as sales of property, changes in loans outstanding and other funds introduced (e.g. from a private source). To derive the amount of cash funds generated by the business a number of adjustments are made to net farm income; specifically depreciation, imputed costs and unpaid labour costs are added back to net farm income. The total cash sources are completed by adding in sales of property, changes in loans outstanding and transfers into the business of funds from outside. The disposals show how the funds have been spent, for example purchase of property and quotas, capital expenditure and private drawings. The difference between the sources and disposals is a surplus if total sources are greater than total disposals and a deficit if total disposals are greater than total sources.

26. ***The reconciliation of the flow of funds*** shows how the surplus or deficit has been distributed in terms of financial assets and financial liabilities, i.e. the change between the opening and closing valuations in terms of bank balance, cash-in-hand, debtors and creditors.

Appendix 3: Methodology for the Allocation and Apportionment of Costs in Section I (Diversified Activities, Single Payment Scheme, Agri-Environment Schemes) in the Farm Business Survey in England and Wales.

Background

A working party was set up to investigate the apportionment / allocation of costs in Section I. This working party proposed a methodology for the apportionment / allocation to FBSTG on 15 October 2008.

In response to QA recommendations, RBR had made considerable advances, via RO discussion with co-operators and through professional judgement, in terms of ensuring an enhanced coverage of allocating costs in Section I in 2007/08 than had previously been achieved.

At FBSTG concerns were raised with respect to the mechanism proposed and the philosophical principle of the cost allocation / apportionment approach proposed. The issue was referred to FBSPB.

FBSPB agreed that an enhanced mechanism for allocation of costs in Section I was required and that this should be based upon a combination of RO professional judgement and discussion with co-operators and via a mechanistic approach for other costs. It was recognised that it would be unlikely that any methodology that was proposed would achieve definitively accurate results and that any methodology introduced would be subject to review, post analysis of results.

FBSPB tasked RBR with proposing a revised mechanism for the apportionment and allocation of costs in Section I. In conjunction with Defra and FBSTG members, a draft proposal was developed, circulated and tested. The methodology to be implemented for 2008/09 is set out below.

First the methodology centres upon RO allocation / apportionment for labour (direct and overhead) across Section I activities. This relies upon ROs discussing labour usage with the co-operator and following the approach in Section P.

Second, machinery costs within Section I continue to be allocated by ROs where these are known (as currently), with a mechanistic approach for the allocation of "overhead" machinery costs.

Thirdly, the methodology details a mechanism for direct allocation of known General Farming Costs within Section I by ROs (as currently undertaken), *plus* a mechanistic approach to the allocation of "overhead" general farming costs across Agriculture, Diversification, Agri-Environment Schemes, and the Single Payment Scheme, based upon output levels, with a 'dampened down' cost apportionment to Rental Income, Agri-Environment Schemes and the Single Payment Scheme cost centres, reflecting their lower resource use of these costs.

Fourth, the methodology sets out an approach which relies upon a straightforward mechanism, based upon Gross Margins, for the allocation of land and property costs (including rent/rental value) across Agriculture, Agri-Environment (AE) Schemes and the Single Payment Scheme (SPS) (all of which are users of land, generally simultaneously) whilst land and property costs to other diversified activities will draw

upon ROs applying the rental allocation to income bearing assets approach currently in use within the FBS. Other property costs to all diversified activities will use the Gross Margin mechanism.

Fifth, the methodology details that occupier expenses be allocated on the same basis as land and property costs.

Sixth, whilst excluded from NFI, interest received and charged is required in calculations for FBI measures. The methodology details that the apportionment of interest as currently calculated should be included in the individual farm returns post data completion, utilising imputed Section J costs and revenues.

Seven, it is recommended that a footnote accompanies the presentation of cost and FBI data across the four cost centres to ensure that stakeholders are aware of the methodology used to apportion costs.

Methodology

The following recommendations for allocation and apportionment of costs in Section I are proposed below.

1) Labour Costs

For Section I activities, ROs should allocate **direct labour costs** and add an element of **overhead labour costs** for each activity (including SPS and AE) in Section I. Labour hours for Section I activities should be allocated in Section B, which then feeds into Section I and Section P. This labour allocation should include an overhead allocation for labour hours, as Section P splits labour between direct labour and overheads. With respect to guidance to ROs in determining an "overhead" amount, ROs should seek to determine in discussion with the farmer what proportion of their time they spend on overheads, either specific to an enterprise or more generally across their farm business. Where a proportion of labour is allocated as overheads for the Farm Business overall (e.g. 10%) this would then be split pro-rata (on the basis of labour hours) across all enterprises, including Section I activities. The link between Section B, Section P and Section I is thus important in this context. Where direct labour hours are incurred, ROs should allocate an overhead amount of labour to the activity as noted above; for pragmatic purposes, where no direct labour is incurred (e.g. wayleave payments or other non-labour requiring revenue streams) there would be no requirement to specify an overhead labour element.

2) Machinery Costs

Machinery Cost Allocation / apportionment. ROs should allocate direct machinery cost to activities within Section I, ***where known***, following the current methodological approach. In addition, an "**overhead Machinery Cost**" will be allocated (for each of the following costs - Contract, Machinery Rental, Machinery equipment valuation etc, repairs and small tools, vehicle fuels and oils, car mileage expenses) on the basis outlined below, taking into account the output of the activity, with AE, SPS, and Rental Income allocation 'dampened down' to reflect their lower requirement of these activities for overhead machinery costs. Overhead machinery costs to all other

activities will be allocated on the basis of their full output. The proportion of total machinery costs defined as "overhead" will draw upon previous research. The following activities will be excluded from the apportionment of **overhead** machinery costs and the value of their output will be excluded from the apportionment methodology within Section I: [Imputed farmhouse and imputed farm cottage rental income {320, 321, 340}, capital credits {940}, appropriate share of machinery grants {276}, appropriate share of glasshouse grants {277}, permanent crop establishment grants {274}, disaster aid {272}, FMD Distress donations {990}, Co-op trading bonuses {930}, Miscellaneous insurance receipts {950}]. The apportionment of machinery general farming costs to other Section I activities will be as set as below.

Total of the following Machinery Costs for the Farm Business (Contract, Machinery Rental, Machinery equipment valuation etc, repairs and small tools, vehicle fuels and oils, car mileage expenses) (**Z_m**). Take the cost already allocated to the Section I activity (**Y_m**). Z_m-Y_m = **V_m** = Total machinery cost net of direct costs allocated in Section I (e.g "Machinery Rental to Agriculture and overheads for Section I". Assume that the overhead element of this is 11.3% (based upon report by Abigail Tiffin). Calculate the overhead machinery cost (e.g. Machinery Rental) to the business, after direct allocation to Section I, as 0.113 * V_m = **X_m**.

Obtain total output for Agriculture (OutputAg), Entry Level Scheme (OutputELS), Other agri-environmental schemes (OutputOAE), SPS (OutputSPS), Rental Income (OutputRental), Other section I Output (excluding those listed above) (OutputOtherSection I) and calculate the following

OutputAg = **G**

OutputELS * 0.1 = **H**

OutputOAE * 0.25 = **I**

OutputSPS * 0.1 = **K**

OutputRental * 0.1 = **L**

OutputOtherSection I = **M**

G + H+I+ K + L + M = **J**

Overhead machinery cost (**X_m**) is then allocated to each activity by

Overhead machinery cost to Agriculture = $X_m * \frac{G}{J}$

Overhead machinery cost to ELS = $X_m * \frac{H}{J}$

Overhead machinery cost to OAE = $X_m * \frac{I}{J}$

Overhead machinery cost to SPS = $X_m * \frac{K}{J}$

Overhead machinery cost to Rental = $X_m * \frac{L}{J}$

Overhead machinery cost to Other Section I activities = $X * \frac{M}{J}$

The cost allocated within Section I is then the direct machinery cost allocation ***plus*** the overhead machinery cost from the above formulaic approach. Note that this approach will allocate an overhead machinery cost for each type of cost where there is a positive output for the activity in Section I, for the listed machinery cost categories (assuming that the individual machinery cost for the business is greater than the cost already allocated to Section I, as will occur in most cases; where the machinery cost for the business is all allocated by the RO directly to activities in Section I, there will not be an "overhead" element to allocate via the mechanistic approach). Note that the machinery cost allocated to Agriculture will be the total machinery cost for the farm business minus the sum of machinery costs directly allocated in Section I and the overhead machinery costs apportioned to Section I.

3) General Farming Costs

For Section I activities **general farming costs** continue to be allocated directly by an RO ***where these are known*** for activities in Section I. In addition, an "**overhead General Farming Cost**" will be allocated (for each cost, e.g. electricity, professional fees) on the basis outlined below, taking into account the output of the activity, with AE, SPS, and Rental Income allocation 'dampened down' to reflect their lower requirement of these activities for general farming costs. General farming costs to other activities will be allocated on the basis of their full output. The following activities will be excluded from the apportionment of **overhead** general farming costs and the value of their output will be excluded from the apportionment methodology within Section I: [Imputed farmhouse and imputed farm cottage rental income {320, 321, 340}, capital credits {940}, appropriate share of machinery grants {276}, appropriate share of glasshouse grants {277}, permanent crop establishment grants {274}, disaster aid {272}, FMD Distress donations {990}, Co-op trading bonuses {930}, Miscellaneous insurance receipts {950}]. The apportionment of overhead general farming costs to other Section I activities will be as set as below.

Total of each general farming costs (GFC) for the Farm Business (e.g. Electricity) (**Z_g**). Take the Electricity already allocated to the Section I activity (**Y_g**). Zg-Yg = **Xg** = Agriculture and Overhead GFC (e.g "Electricity to Agriculture and overheads for Section I").

Obtain total output for Agriculture (OutputAg), Entry Level Scheme (OutputELS), Other agri-environmental schemes (OutputOAE), SPS (OutputSPS), Rental Income (OutputRental), Other section I Output (excluding those listed above) (OutputOtherSection I) and calculate the following

OutputAg = **G**

OutputELS * 0.1 = **H**

OutputOAE * 0.25 = **I**

OutputSPS * 0.1 = **K**

OutputRental * 0.1 = **L**

OutputOtherSection I = **M**

G + H + I + K + L + M = **J**

Agriculture and Overhead GFC ($\mathbf{X_g}$) is then allocated to each activity by

Agriculture and Overhead GFC to Agriculture = $X_g * \frac{G}{J}$

Agriculture and Overhead GFC to ELS = $X_g * \frac{H}{J}$

Agriculture and Overhead GFC to OAE = $X_g * \frac{I}{J}$

Agriculture and Overhead GFC to SPS = $X_g * \frac{K}{J}$

Agriculture and Overhead GFC to Rental = $X_g * \frac{L}{J}$

Agriculture and Overhead GFC to Other Section I activities = $X_g * \frac{M}{J}$

The cost allocated and apportioned within Section I is then the direct cost allocation ***plus*** the overhead general farming cost from the above formulaic approach. Note that this approach will allocate an overhead general farming cost for each type of cost where there is a positive output for the activity in Section I, for each general farming cost category (assuming that the individual general farming cost for the business is greater than the cost already allocated to Section I, as will occur in most cases; where the general farming cost for the business is all allocated by the RO directly to activities in Section I, there will not be an "overhead" element to allocate via the mechanistic approach).

4) Land and Property Costs

For AE and SPS (and Agriculture) activities, **land and property costs** (including rent/rental value) be allocated on the basis outlined below; this aspect being based upon cost allocation that takes into account the Gross Margin (GM) derived to the farm business from each of Agriculture, AE and SPS, and allocates land and property costs on this basis. The GM basis is proposed for Agriculture, AE and SPS, because it is at GM level that a farmer makes a decision about which, and whether, to grow crops or produce livestock products, or not undertake any Agriculture activity. As the

level of Agriculture activity falls on a farm, the allocation of land and property costs would increasingly fall on the SPS cost centre if the farm business only undertook Agriculture and SPS activities. The logical conclusion being that if a farmer ceased Agriculture production, all land and property costs would be apportioned to the SPS cost centre; if a farmer used only a small area of a farm for Agriculture and the majority under SPS without production, the majority of land and property costs would be apportioned to SPS. In typical examples, where all land is used for Agriculture, SPS (and AE), the majority of land and property costs would be apportioned to Agriculture unless the GM derived from Agriculture was particularly low. Land and property costs that are directly allocated to / for specific AE schemes (e.g. repair and maintenance of stiles) will be deducted from the total land and property costs to be apportioned across Agriculture, SPS and AE to ensure no double counting of costs occurs. Rent/rental value to diversified activities with income bearing assets will draw upon ROs applying the rental allocation to income bearing assets approach currently in use within the FBS. For those diversified activities with no income bearing assets, no overhead rent is applied. The remaining property costs will be allocated to all diversified enterprises on the basis of gross margins.

The proposed apportionment of rent / land and property costs for Agriculture, AE and SPS is set out below:

i) Total rent / land and property costs for the Farm Business (**A**)

ii) Total rent / land and property costs from diversified "market" activities plus any directly allocated costs to AE (**B**)

iii) Net rent / land property costs for Agriculture, AE and SPS to be apportioned given by A-B = (**C**)

iv) Sum GM for Agriculture, AE and SPS (**D**)

v) Calculate percentage of **D** attributed to Agriculture (**Ag%**), AE (**AE%**), and SPS (**SPS%**)

vi) Net rent / land and property cost apportioned to each activity is then given by

Rent / land and property cost to Agriculture = **Ag%** * **C**

Rent / land and property cost to AE = **AE%** * **C**

Rent / land and property cost to SPS = **SPS%** * **C**

Where the GM for Agriculture is negative, a zero cut off would be imposed to reflect a similar situation to whereby no agriculture activity took place (and hence no positive agricultural GM was generated). Where property costs have been directly allocated to AE, the total rent / land and property costs for AE will be the sum of the costs directly allocated, plus the apportionment (**AE%** * **C**) above**.**

5) Occupiers Expenses

Occupiers expenses (buildings works & net depreciation, insurance of farm buildings, landlord type repairs) will be applied and apportioned using the same methodology as land and property costs (tenants repairs & rates) noted above in Section 4.

6) Interest Charged and Received

Whilst excluded from NFI, interest is included within the calculation of FBI. The current apportionment of interest in the FBS as detailed in Table 9 of the GOR reports is "Interest payments have been allocated between cost centres in proportion to costs, and interest received in proportion to output". The above calculation will be incorporated in the individual farm returns post data completion by RBR at Duchy with inclusion of imputed Section J costs and revenues from Defra.

7) Presentation of data

It is recommended that the results of the cost apportionment and resulting FBS figures are reported with appropriate footnotes to provide a brief explanation of the methodology applied. It is recommended that the following text, or similar, be noted when the four cost centres' results are reported.

"The apportionment of land and property costs across the cost centres presented is based upon directly allocatable costs for diversified enterprises, with costs across agriculture, agri-environmental schemes and the single payment scheme apportioned on the basis of their respective gross margin contribution across these three cost centres. Apportionment of general farming costs and overhead machinery costs are based upon the respective output generated by each cost centre, weighted to reflect the degree to which each activity draws upon these costs."

For tabular results, a presentation of data as below would aid interpretation

Farm Business Income (FBI)	£20,000
Of which, by cost apportionment	
FBI Agriculture	£ 5,000
FBI Agri-environment	£ 2,000
FBI Diversification	£10,000
FBS Single Payment Scheme	£ 3,000

A further note will be required to alert users to the methodological change implemented in 2008/09, and that consequently 2008/09 cost and FBI data are not directly comparable with results from previous years.

Conclusion and Recommendation

The above methodology provides a mechanism for enhanced allocation of costs to Section I activity. Given the philosophical arguments surrounding the principle of cost

apportionment / allocation within Section I, it is argued that any approach should be as transparent as possible, easily understandable by ROs in terms of its implementation, and as interpretable to farmer co-operators and stakeholders who make use of the FBS data as possible.

The above methodology be implemented for 2008/09 FBS season. A brief review of a sample of accounts will be undertaken early in the 08/09 campaign, with a fuller review of the data returns after the 2008/09 to identify if further methodological changes are required.

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