Department for Environment Food & Rural Affairs

18 June 2020

Total Income from Farming for the Regions of England, first estimates for 2019

This release presents the first estimates of Total Income from Farming (TIFF) for the regions of England for 2019. Second estimates incorporating data that becomes available later this year will be published in January 2021. Total Income from Farming is the total profit from all farming businesses on a calendar year basis. It measures the return to all entrepreneurs for their management, labour and capital invested.

These regional statistics are a disaggregation of the data used to produce the Total Income from Farming in England figures. Further statistics for the regions of England, based mainly on other data sources, can be found in Agricultural Facts: England Regional Profiles.

Key Messages

- Total Income from Farming (TIFF) for England was £3,995 million in 2019. This was an increase of £534 million (15%) compared with 2018. When adjusted for inflation, this becomes a £471 million increase (13%).
- TIFF was higher in 2019 than in 2018 for all regions of England, with increases ranging from 10% (South West) to 27% (North West). These increases become 8.1% and 25% when adjusted for inflation.
- The East of England made the biggest contribution to England Total Income from Farming in 2019 at £885 million (22%), followed by the East Midlands at £751 million (19%). The North East made the smallest contribution at £85 million (2.1%).
- When expressed on a 'per hectare of agricultural land' basis, the East of England had the highest Total Income from Farming in 2019 at £634 per hectare. The region with the lowest was the North East, at £142 per hectare. These compare with an England average of £438 per hectare.
- For every year from 2010-19, the East of England was the region with the highest Total Income from Farming and the North East the lowest. Regional shares of TIFF have remained stable over time.

Contents

What you need to know about this release 1

Notes to aid user – things you need to know: 2

Section 1 – How did the regions contribute to Total Income from Farming (TIFF) in England in 2019? 3

1.1 Regional income levels and shares 3

1.2 Income per hectare 5

Section 2 – How did the main components of TIFF vary between the regions of England in 2019? 6

Section 3 – How has TIFF changed over time in the regions of England? 8

Section 4 – How did different outputs vary between regions in 2019? 10

4.1 Definition of output groups 10

4.2 Output groups by NUTS1 region 12

4.3 Regional variations at a finer spatial scale 13

Section 5 - Regional Profiles 17

5.1 Regional profile introduction and user guide 17

5.2 North East regional profile 19

5.3 North West regional profile 20

5.4 Yorkshire & The Humber regional profile 21

5.5 East Midlands regional profile 22

5.6 West Midlands regional profile 23

5.7 East of England regional profile 24

5.8 South East regional profile 25

5.9 South West regional profile 26

Section 6 - About these statistics 27

6.1 Methodology for regional production and income accounts 27

6.2 Quality Assurance 30

6.3 Main users and uses of the aggregate agricultural accounts 31

Section 7 - Glossary 32

7.1 Description of ‘Total Income from Farming’ measure 32

7.2 Regional classification 32

7.3 Definition of terms used in this Statistical Notice and datasets 33

What you need to know about this release

Contact details

Responsible statistician: Robin Karfoot, Room 202 Foss House, Kings Pool, 1-2 Peasholme Green, York, YO1 7PX.

Telephone enquiries: 0208 026 6449.

Email: farmaccounts@defra.gov.uk

Media enquiries: 0345 051 8486

Public enquiries: 02080 266449

National Statistics and Official Statistics

Publications with National Statistics status meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards. The aggregate agricultural accounts for England and the UK are designated as National Statistics. These regional estimates are based on a method to apportion the England totals between the different English regions. Whilst this methodology is in accordance with the Code of Practice for Official Statistics, it introduces additional inherent uncertainty such that these estimates are designated as Official Statistics, rather than National Statistics.

Notes to aid user – things you need to know:

- The term ‘income’ used throughout this Notice refers to Total Income from Farming (TIFF). This is the total profit from all farming businesses on a calendar year basis.
- The remainder of this publication looks at either 2019 in isolation, or time series from 2010-19. Where time series are considered, they are always expressed in real terms (2019 prices), adjusted to take into account inflation to allow more meaningful comparisons between years over the longer term.
- The accompanying datasets contain both real terms (adjusted for inflation) and current prices (not adjusted for inflation) time series to best suit the varied preferences of users.
- ‘Basic prices’ include direct subsidies on production (as opposed to unlinked subsidies such as Basic Payment Scheme). In England these have been zero since 2012. For the purposes of this release, the impact is limited to time series involving 2010 and 2011, though even there the magnitude of direct subsidies is negligible.
- ‘NUTS’ (Nomenclature of Units for Territorial Statistics) is the geographical classification used throughout this Statistics Notice. Further information on NUTS.
- This Statistics Notice presents an overview of the agricultural accounts for England, apportioned mostly for each region of England (NUTS1 level). London has been combined with the South East of England due to the very low levels of agricultural production in London.
- The full agricultural accounts for each region can be found in the dataset that accompanies this notice, together with more aggregated versions of the accounts for individual counties and unitary authorities (NUTS2/NUTS3 level).
- For queries regarding correct use of these statistics please get in touch with the Defra Farm Accounts team at farmaccounts@defra.gov.uk.

Section 1 - How did the regions contribute to Total Income from Farming (TIFF) in England in 2019?

1.1 Regional income levels and shares

Total Income from Farming for England was £3,995 million in 2019. Figures 1.1.1 and 1.1.2 show the extent of the variation in TIFF between the regions. The East of England made the biggest contribution to England TIFF with £885 million (22%), followed by the East Midlands at £751 million (19%). The region with the lowest TIFF was the North East, at £86 million (2.1%).

Figure 1.1.1: Total Income from Farming for England in 2019, by region (£ million)

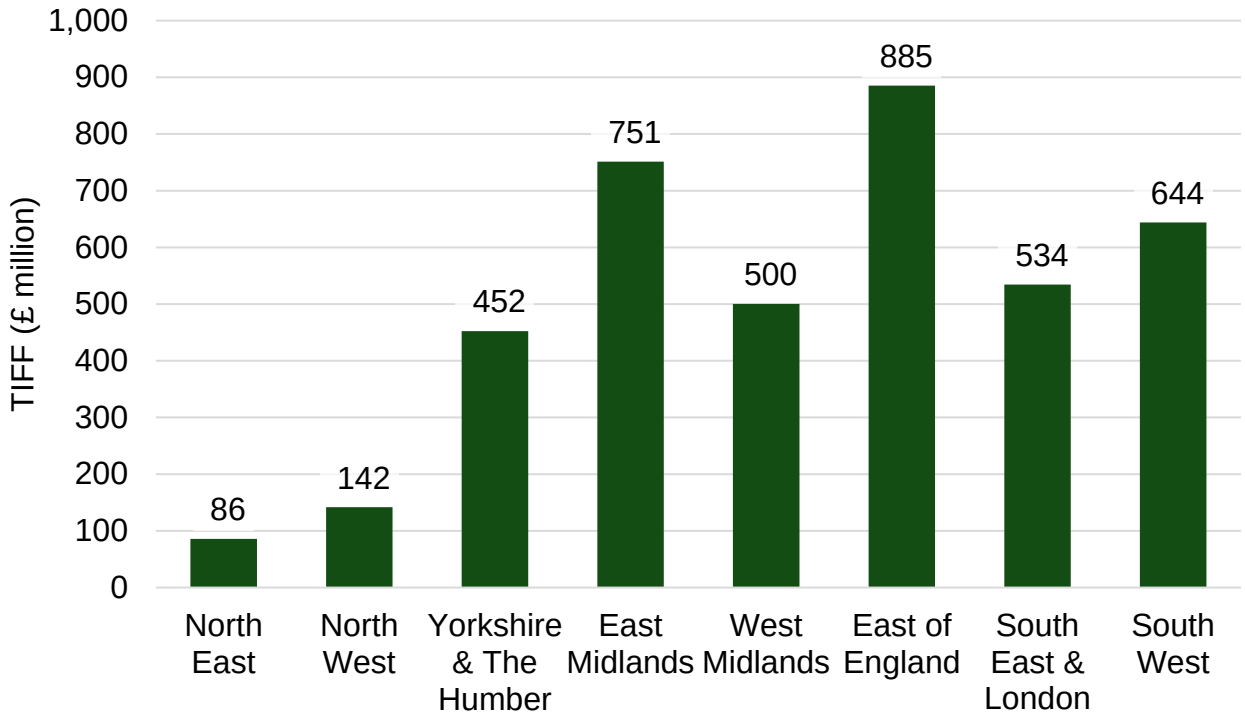
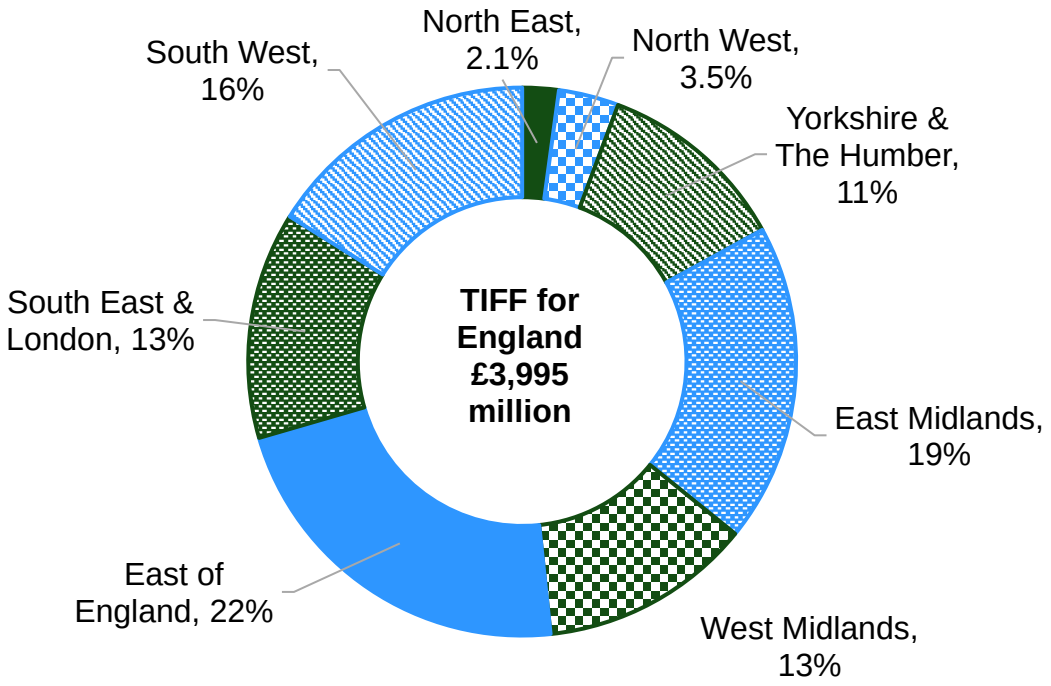


Figure 1.1.2: Regional Share of England Total Income from Farming, 2019



The key drivers of agricultural income include the volume of production, commodity prices and the cost of inputs. These are themselves driven by a range of factors such as the weather, exchange rates, oil price and global supply and stocks of commodities. As a result, agricultural incomes tend to be volatile and fluctuate from year to year.

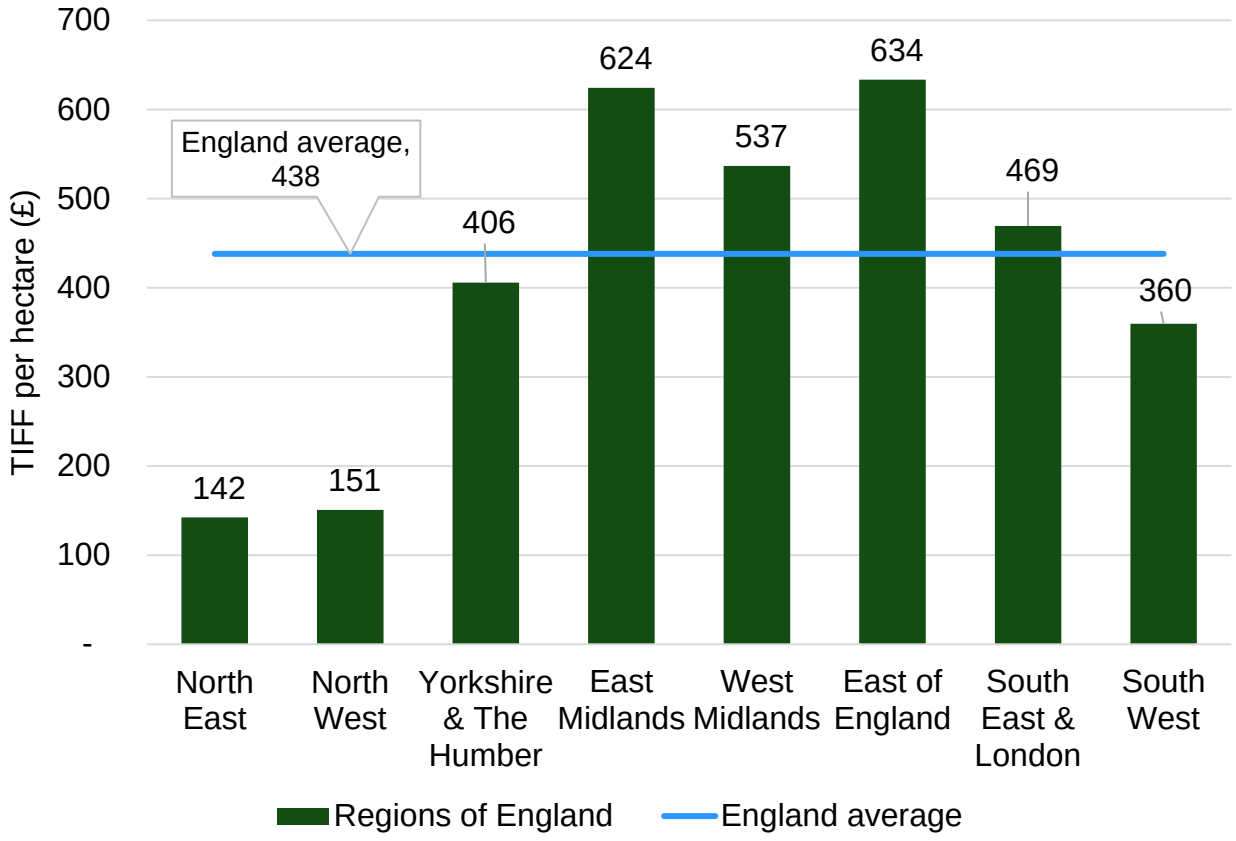
A range of external factors contribute to regional variations in farming, including climate, soils, topography and altitude. These in turn influence what commodities are produced and how efficiently, and hence the value of production and incomes achieved. The regions of England also vary considerably in size and as a result total incomes are strongly linked to the total agricultural area in each.

Area is considered in Section 1.2 and type of farming is explored in Section 4.

1.2 Income per hectare

Figure 1.2.1 expresses TIFF per hectare of agricultural land. The overall pattern remains similar to that seen for absolute values (Figure 1.1.1), but the extent of the variation is reduced.

Figure 1.2.1: Total Income from Farming per hectare of agricultural land in 2019, by region (£/ha)



The East of England was highest at £634 per hectare, narrowly ahead of the East Midlands (£624 per hectare). The North East was still lowest at £142 per hectare, only slightly behind the North West (£151 per hectare). Considering region area brings the North East closer to the other regions, but the North East and North West still had roughly one third of the average TIFF per hectare of farmed land in England.

The regions with the greatest TIFF per hectare in 2019 were largely lowland areas with relatively warm and dry climates, making them more suitable for growing crops. They also tended to generate relatively more output from pigs and poultry (tends to be more intensive) rather than beef and sheep (tends to be more extensive).

Section 2 - How did the main components of TIFF vary between the regions of England in 2019?

Total (Gross) output and intermediate consumption show very similar patterns across the regions with input costs strongly linked to output values. As a result, farm incomes show the same overall variation.

Table 2.1: Aggregate agricultural accounts values, by region, 2019

£ million

Region	Gross output (1)	Intermediate Consumption (2)	Gross Value Added [(1)-(2)]	Total Income from Farming
North East	780	553	227	86
North West	1,839	1,269	570	142
Yorkshire & The Humber	2,464	1,522	943	452
East Midlands	3,044	1,703	1,341	751
West Midlands	2,425	1,404	1,021	500
East of England	3,395	1,911	1,485	885
South East & London	2,259	1,306	953	534
South West	4,054	2,487	1,567	644

The measure Gross Value Added (GVA) is equivalent to Gross Domestic Product for agriculture. It tells us about the overall contribution to the national economy and can be used as a measure of the size of the industry. It is a simple calculation that subtracts Intermediate Consumption from Gross Output. Total Income from Farming (TIFF) is calculated by taking GVA, deducting fixed costs and labour costs and adding direct payments.

GVA shows a broadly similar pattern to TIFF across the regions although there are notable differences. In particular, the South West has the highest GVA in spite of TIFF being considerably lower than both the East of England and the East Midlands. Similarly, the North West and Yorkshire & the Humber both show a GVA that is relatively high compared with their TIFF.

Figure 2.1: Gross Output, Intermediate Consumption and Gross Value Added, by region, 2019 (£ million)

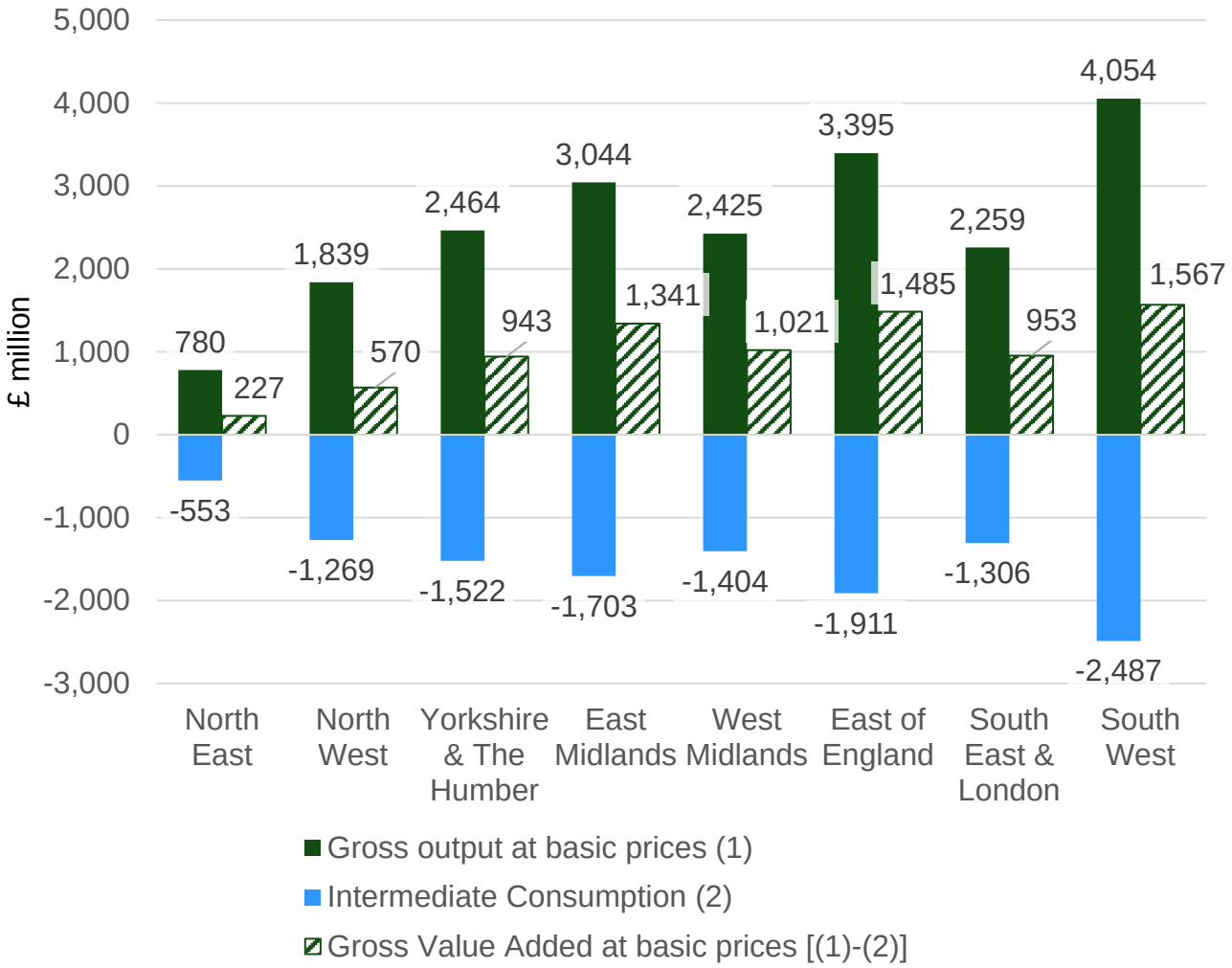


Figure 2.1 is a visual representation of data from Table 2.1 above. It shows that the East Midlands, the East of England and the South West had reasonably similar levels of Gross Value Added (GVA) in 2019. However, the South West had higher levels of both outputs and intermediate consumption compared to the other two regions. The main difference between the areas is the high concentration of Dairy and Beef & Sheep in the South West, compared to cropping and Pigs & Poultry in the East of England and East Midlands.

Section 3 - How has TIFF changed over time in the regions of England?

Total Income from Farming has followed broadly the same trend since 2010 in all regions.

Figure 3.1: Total Income from Farming by region in real terms, 2010 to 2019 (£ million)

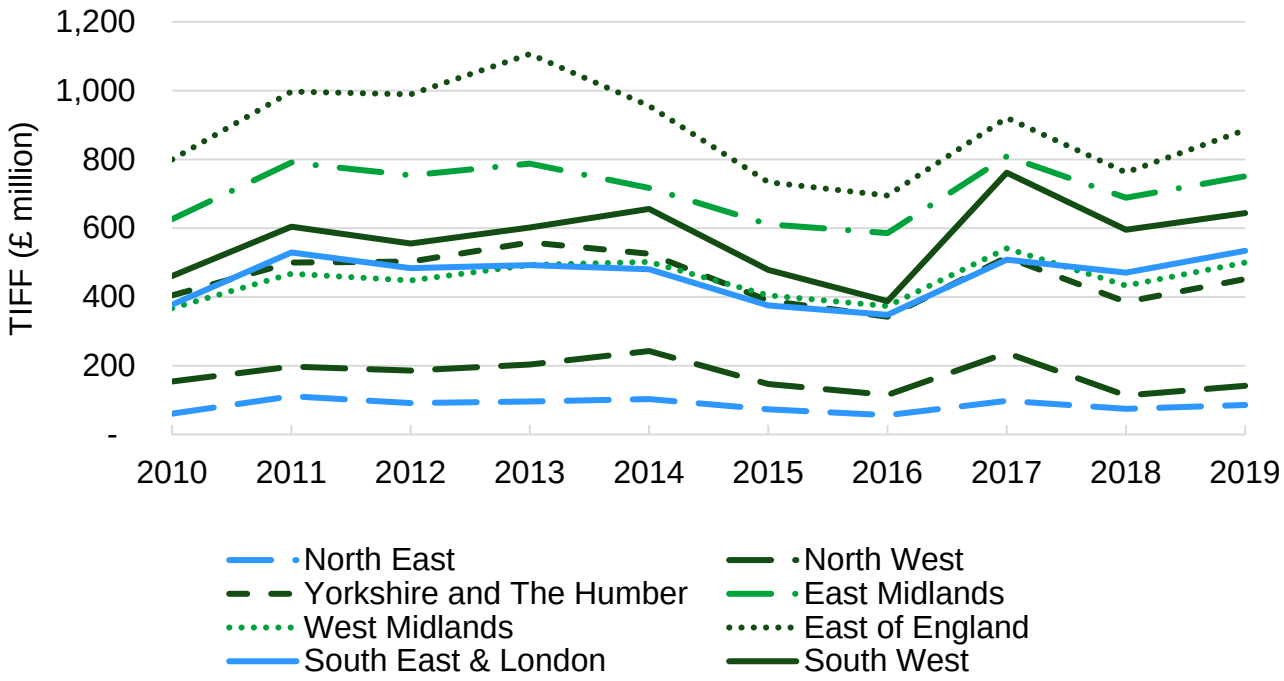


Figure 3.1 shows how TIFF has changed over time in each region. The values are in real terms, which means they have been adjusted for inflation. The trend is very similar in all eight regions. In most years, the incomes in all regions go up, or they all go down. More analysis of the trends in TIFF for England as a whole can be found in the 'Total income from farming in England' statistical release.

To simplify and characterise the results, the regions can be considered to be clustered into three groups with TIFF broadly around £150 million (North East, North West), £500 million (Yorkshire and The Humber, West Midlands, South East) and £700 million (East of England, East Midlands, South West). These clusters have remained fairly stable over time, with the one exception being the South West, which between 2010 and 2019 has varied between the top of the middle cluster and bottom of the top cluster. Aside from this, the trends over this time period have been very consistent and the order of the regions when ranked by TIFF has remained almost constant.

Depending on external drivers (particularly commodity prices), some farm types can have a profitable year whilst other types have a difficult year. A typical example is when cereal prices are high, arable farms benefit whereas livestock farms can suffer as a result of higher feed prices. There are widely recognised regional variations in farm types with more dairy and grazing livestock production in the West and more cropping in the East. However, the data suggests that most of the time, regional fortunes are aligned.

One feature of Figure 3.1 which stands out is the sharp rise in TIFF for the South West between 2016 and 2017. TIFF rose for all regions between 2016 and 2017 and one reason for this was a considerable increase in milk prices, to which the South West has a large exposure. In addition to this, the region saw a big increase in its share of the plants and flowers sector in the same year.

Section 4 - How did different outputs vary between regions in 2019?

4.1 Definition of output groups

The agricultural accounts capture all farm production and thus cover a large and diverse range of outputs. In the agricultural accounts, these outputs are combined into sub-categories and categories in a hierarchy, for example wheat falls into the sub-total for "cereals" and cereals into the category "crops". As a result, making comparisons for all output items across eight regions is complex and difficult to present clearly. To simplify this presentation and aid analysis and interpretation, outputs have been grouped into six clear and logical groups (see Table 4.1.1).

Table 4.1.1 Output group names and their component account items

Group name	Component account items
Combinables & Sugar Beet	Cereals Industrial crops Forage Plants Other crop products (straw)
Veg, Hort & Potatoes	Vegetables and Horticultural Products Potatoes Fruit
Pigs & Poultry (1)	Pigs Poultry-meat Eggs
Beef & Sheep (1)	Cattle Sheep and goats Other (minor) livestock and livestock products
Dairy	Milk (excluding goats milk)
Diversification	Other non-separable secondary activities Equines

(1) All animal production excludes Gross Fixed Capital Formation.

The account items shown in Table 4.1.1. all contribute to ‘Gross Output at basic prices’. However there are some additional account items, which also contribute to ‘Gross Output at basic prices’ that have been excluded from this analysis of output groups. They are as follows:

Table 4.1.2 Account items excluded from the Output Groups

Account item	Reason for Exclusion
Gross Fixed Capital Formation (GFCF) in livestock	This is an accounting tool and is counterbalanced by ‘Consumption of Fixed Capital’ (CFC) on the other side of the account.
Agricultural Services	This represents contracting and is exactly netted off on the other side of the account as the agricultural industry is both the provider and consumer of these services.
Total subsidies on product. (These are subsidies linked directly to production.)	These have been zero for England since 2012 and were very small in 2010 and 2011.

4.2 Output groups by NUTS1 region

This section looks at variation of outputs between regions at NUTS1 level (Government Office Region).

Figure 4.2.1 Value of output groups by region, 2019 (£ million)

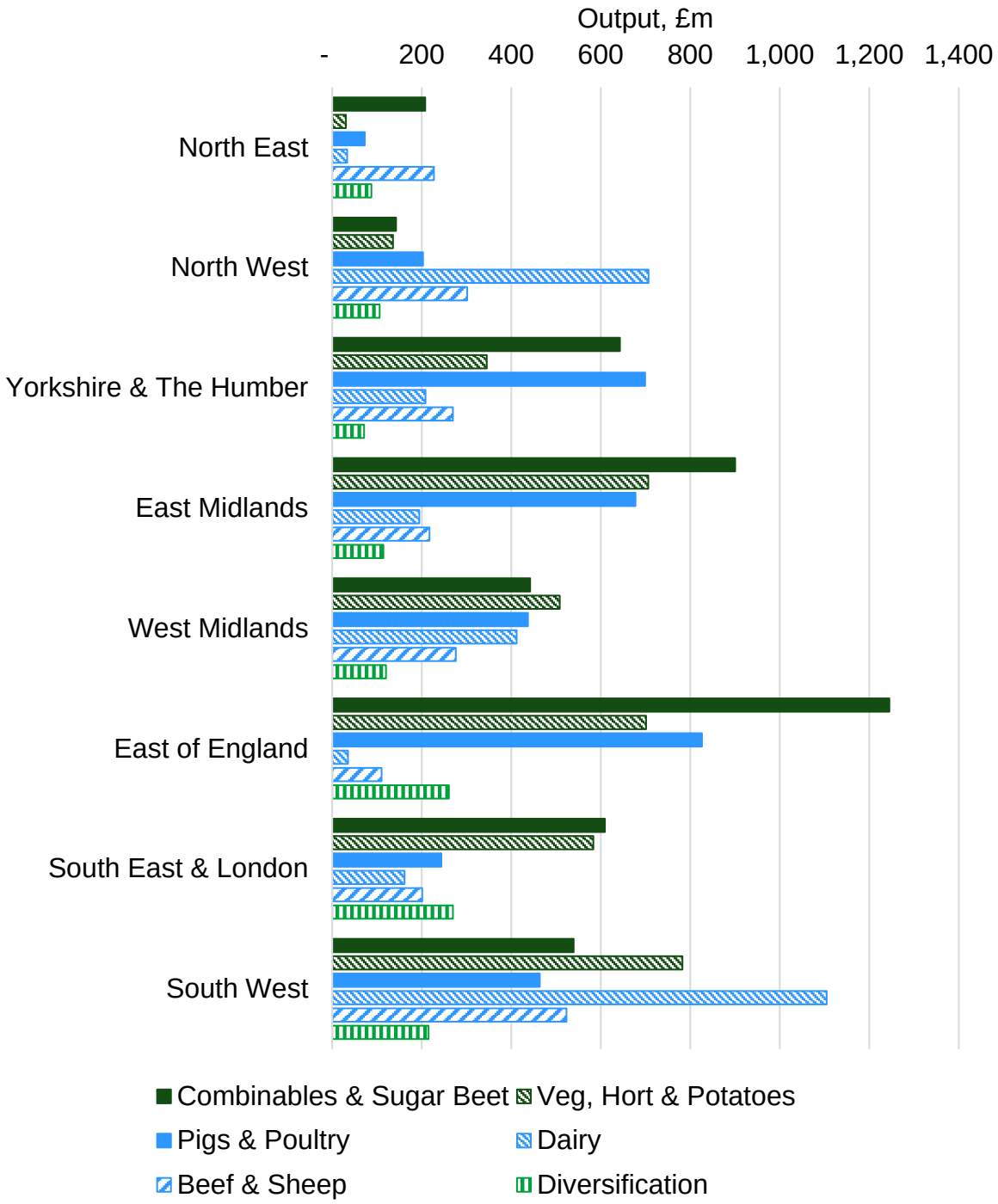


Figure 4.2.1 shows that whilst there are clear regional differences in the scale of output values, all regions had some level of production for all six groups.

Key points for output groups in 2019 include:

- The largest contributions in an individual region were made by 'Combinables & Sugar Beet' in the East of England and Dairy in the South West, both of which were over £1.1 billion.

- The West Midlands had the most balanced outputs, with four categories ('Combinables & Sugar Beet', 'Veg, Hort & Potatoes', 'Pigs & Poultry' and Dairy) contributing over £400 million each.

- The East of England and the East Midlands both had very similar output patterns, with a prevalence of 'Combinables & Sugar Beet', 'Veg, Hort & Potatoes' and 'Pigs and Poultry'.

- In spite of a small overall contribution to TIFF (2.1%), the North East makes a more significant contribution to England 'Beef and Sheep' output, at around 11%. Similarly, whilst the North West contributes 3.5% to England's TIFF, it has a 25% share of England Dairy output.

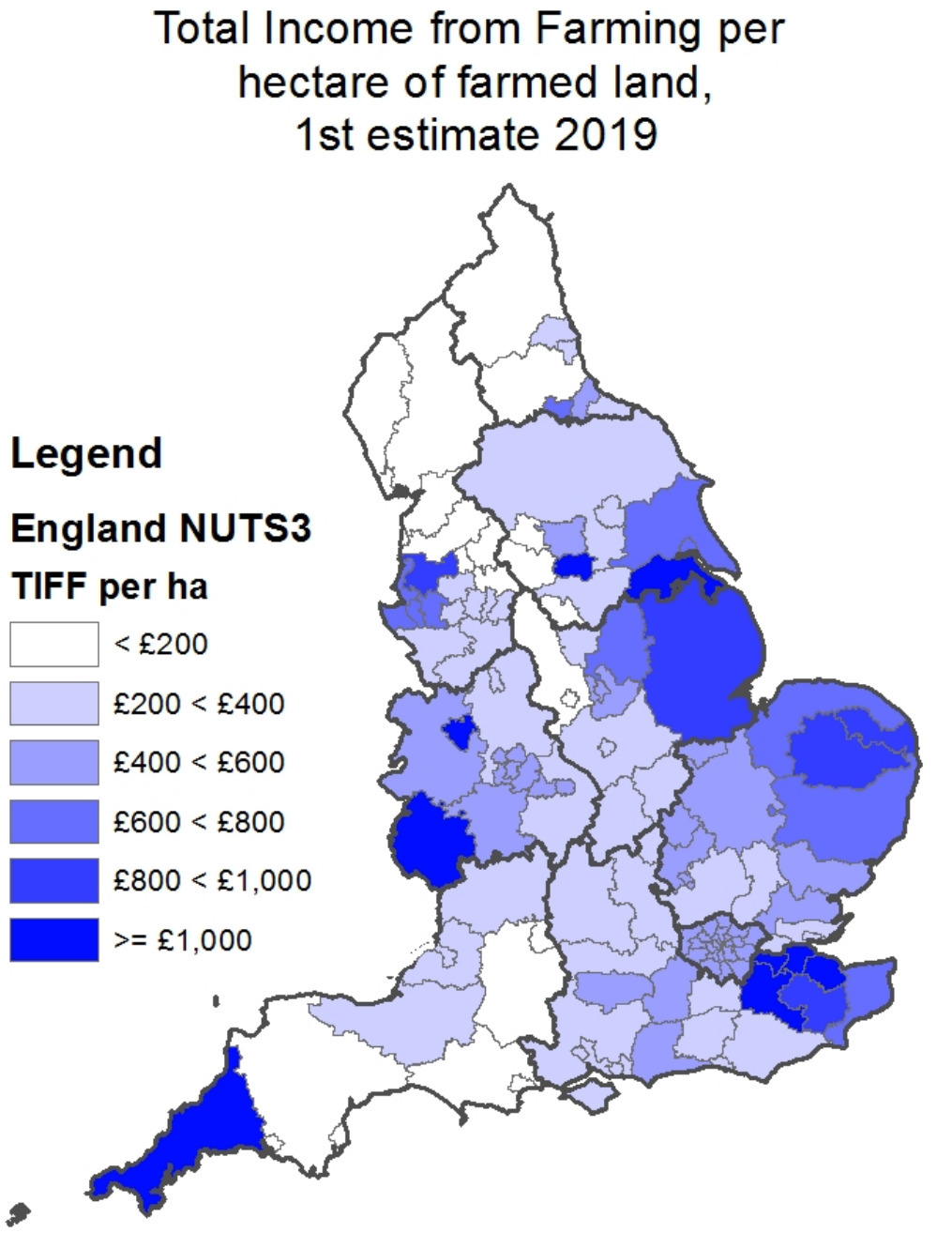
- The value of 'Beef & Sheep' output was similar (about £220 million) in both the North East and the East Midlands. However, Beef & Sheep represented the largest output in the North East, whereas three outputs in the East Midlands ('Combinables & Sugar Beet', 'Veg, Hort & Potatoes' and 'Pigs & Poultry') were worth at least three times as much.

4.3 Regional variations at a finer spatial scale

This section looks at variation between regions at NUTS 3 level (County and Unitary Authority).

This is a more detailed geographical level than covered in the rest of this statistical notice. A subset of the agricultural accounts at NUTS3 level is available in a dataset that accompanies this notice. Mapping using NUTS3 conveys far more information than at NUTS1 level, however, NUTS3 estimates are derived using data from fewer observations and so are more uncertain. NUTS3 territories with very low levels of farming have been amalgamated with neighbouring NUTS3 territories to avoid any risk of disclosing confidential data. Therefore, the information displayed for some of the smaller territories marked on the map represents estimates for larger, amalgamated territories. The accompanying dataset provides the details of these amalgamations.

Figure 4.3.1: Total Income from Farming per hectare of farmed land in 2019, by NUTS3 territory



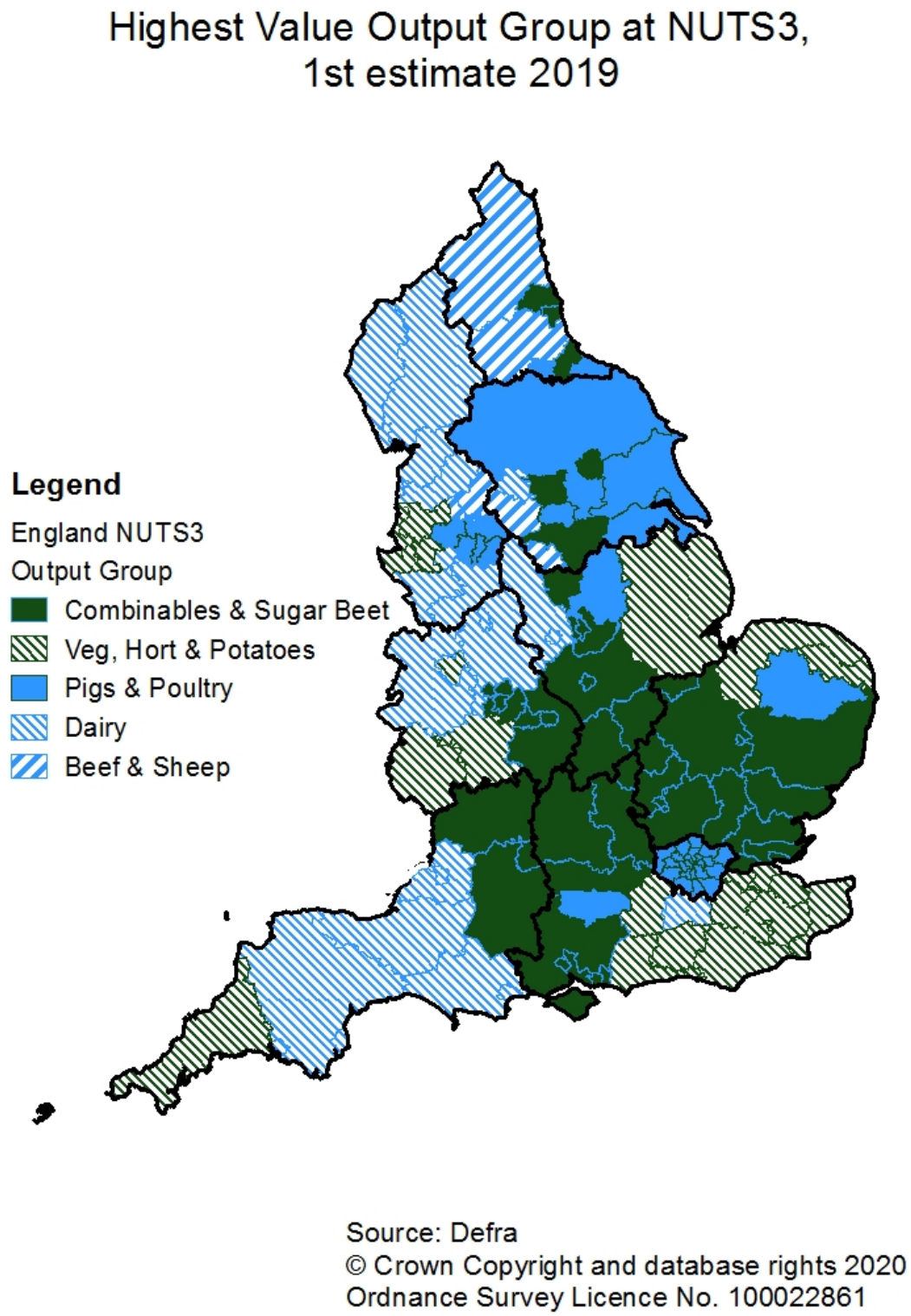
Source: Defra

Figure 4.3.1 shows Total Income from Farming per hectare of farmed land at NUTS3 level. It can be seen from Figure 4.3.1 that large parts of England had a TIFF per ha of farmed land under £600, with fewer areas with higher returns. Users should note that the map depicts TIFF per ha of farmed land and the concentration of farmed land as a proportion of all land will vary between NUTS3 territories. The differences observed are largely related to the types of farming present. The areas with the lowest TIFF per ha of farmed land are predominantly grazing livestock areas in the north of England and south west. Most of these NUTS3 territories include upland areas where geographical and climatic challenges restrict farming options and lead to an extensive approach that will lower returns per hectare used.

The darker areas with higher TIFF per hectare of farmed land all have significant concentrations of intensive livestock (pigs and poultry) or intensive horticulture. Darlington, Wakefield and North Nottinghamshire have significant output from pigs and poultry. Kent, Cornwall and South West Lancashire are hotspots for horticulture (production of fruit, vegetable or ornamentals), whilst some areas such as Norfolk, Lincolnshire, Herefordshire, and Telford have concentrations of both intensive horticulture and intensive livestock. Users should be aware that making accurate estimates for intensive sectors such as pigs, poultry and horticulture is difficult due to the structure of those industries and therefore extra caution should be observed when considering these figures.

Figure 4.3.2 depicts the output group (see Section 4.1 for definitions) with the highest output within each NUTS3 territory. There are clear geographical concentrations of the output groups with Dairy dominant in many western areas and Combinables & Sugar Beet or Pigs & Poultry dominant in many eastern areas. However, within each NUTS1 region, there are at least three different output groups dominant in the individual NUTS3 territories. Areas dominated by Veg, Hort & Potatoes are scattered around, though there is a cluster in the far south east of England. Beef & Sheep dominate only in the upland areas of the North East and the Pennines. Users should note that ‘dominant’ output groups have different output shares in different NUTS3 territories, though this information is not displayed by the map.

Figure 4.3.2: Output Group with highest value, by NUTS3 territory



Section 5 - Regional Profiles

5.1 Regional profile introduction and user guide

5.1.1 Regional profile introduction

Each of the eight NUTS1 regions (London is included with the South East) have a one-page profile presented in this section. The profiles are designed to provide an overview of the dominant types of agriculture in each region and their financial importance in 2019 and earlier years. A user guide based on a fictitious 'Region X' is presented in 5.1.2 to help explain the content and details of the profile sheets.

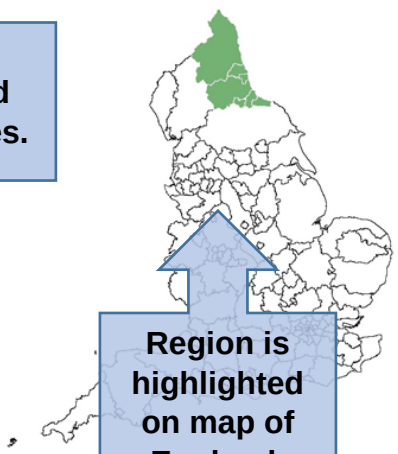
5.1.2 Regional profile user guide

Table X: Key statistics for Region X in 2019

		2019	% of
Gross output at basic prices			
of which:	*Combinables & Sugar Beet*		
	Veg, Hort & Potatoes	28	1%
	Pigs & Poultry		
	Dairy		1%
	Beef & Sheep	23	1%
	Diversification	86	7%
Total intermediate consumption		557	5%
Gross value added at basic prices		202	3%
Direct payments		144	7%
Total Income from Farming		64	2%

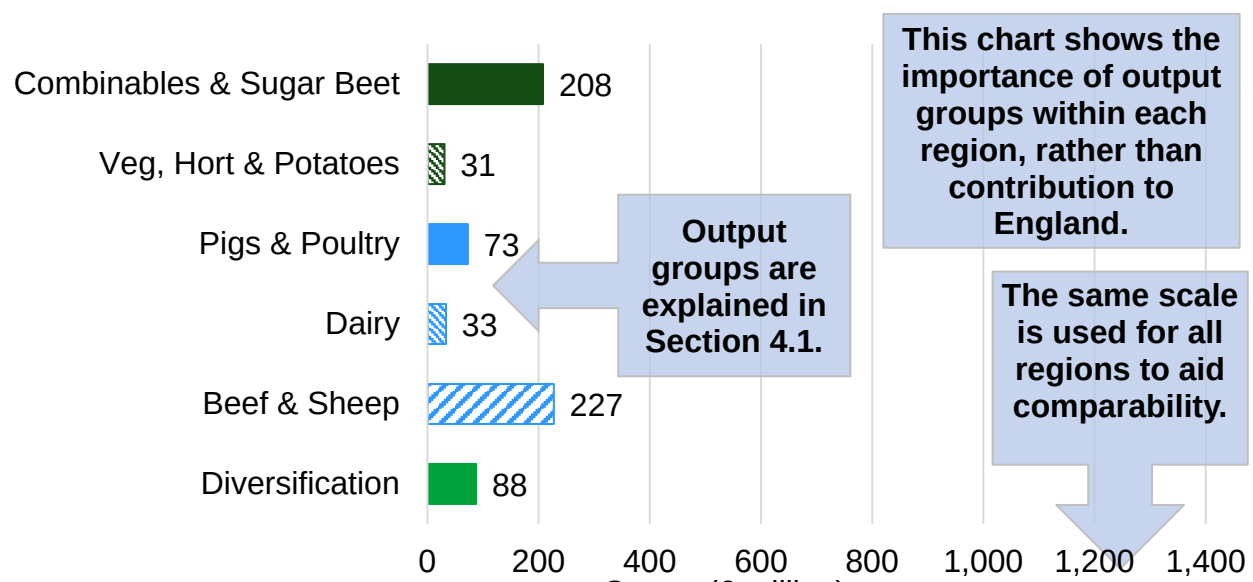
Gross output also includes GFCF and Agricultural Services.

The full account for each region is in the accompanying dataset.



Region is highlighted on map of England.

Figure X: Value of output groups in Region X, 2019 (£ million)

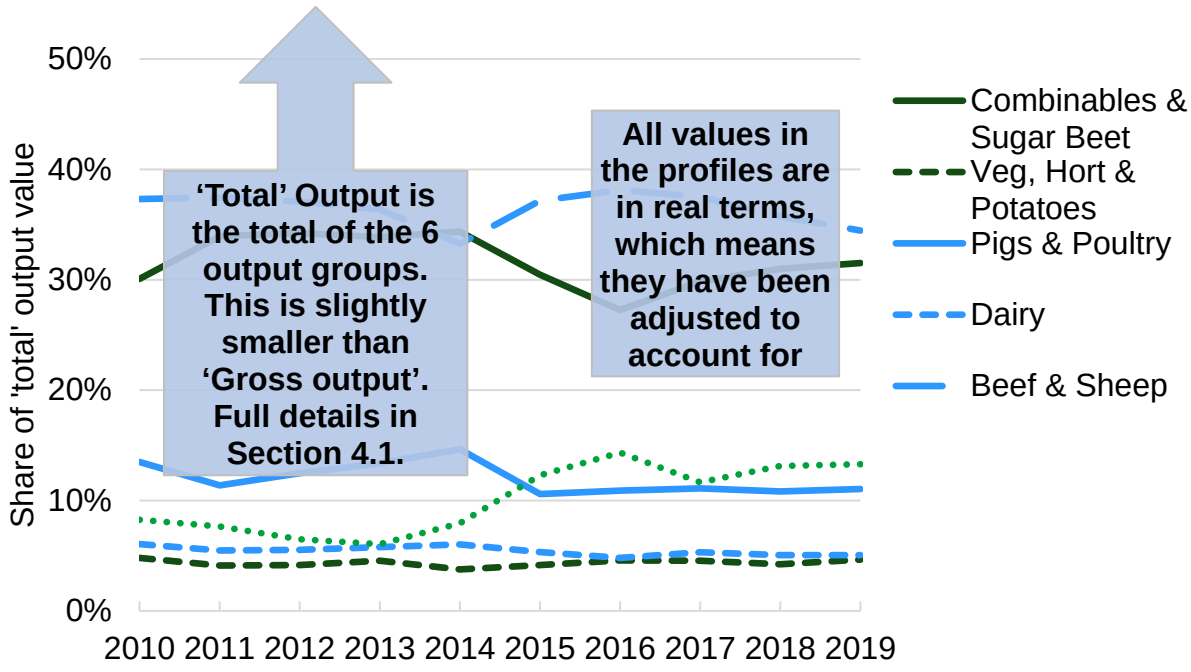


This chart shows the importance of output groups within each region, rather than contribution to England.

Output groups are explained in Section 4.1.

The same scale is used for all regions to aid comparability.

Figure X Share of 'total' output value for Region X, 2010-19, real terms



'Total' Output is the total of the 6 output groups. This is slightly smaller than 'Gross output'. Full details in Section 4.1.

All values in the profiles are in real terms, which means they have been adjusted to account for

Key points give an overview of the region and how it compares to others.

Key Points for the Region X region: Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X. Key points text for Region X.

5.2 North East regional profile

Table 5.2.1: Key statistics for the North East region in 2019

		2019 (£m)	% of England
Gross output at basic prices		780	4%
of which:	*Combinables & Sugar Beet*	208	4%
	Veg, Hort & Potatoes	31	1%
	Pigs & Poultry	73	2%
	Dairy	33	1%
	Beef & Sheep	227	11%
	Diversification	88	7%
Total intermediate consumption		553	5%
Gross value added at basic prices		227	3%
Direct payments		149	7%
Total Income from Farming		86	2%

Figure 5.2.1: Value of output groups in the North East, 2019 (£ million)

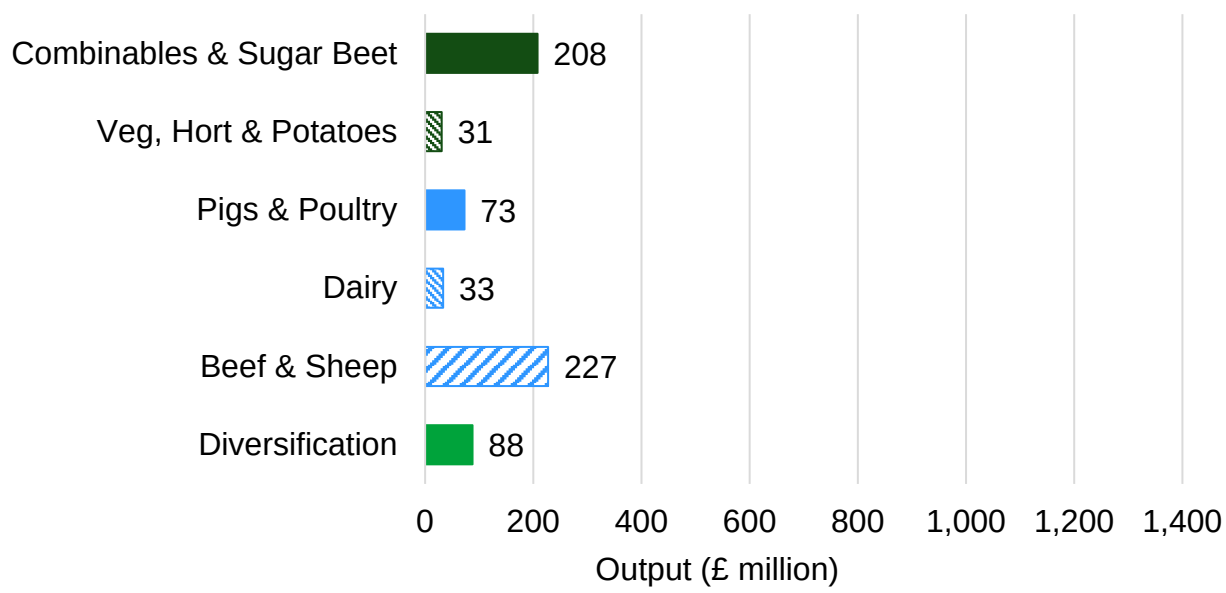
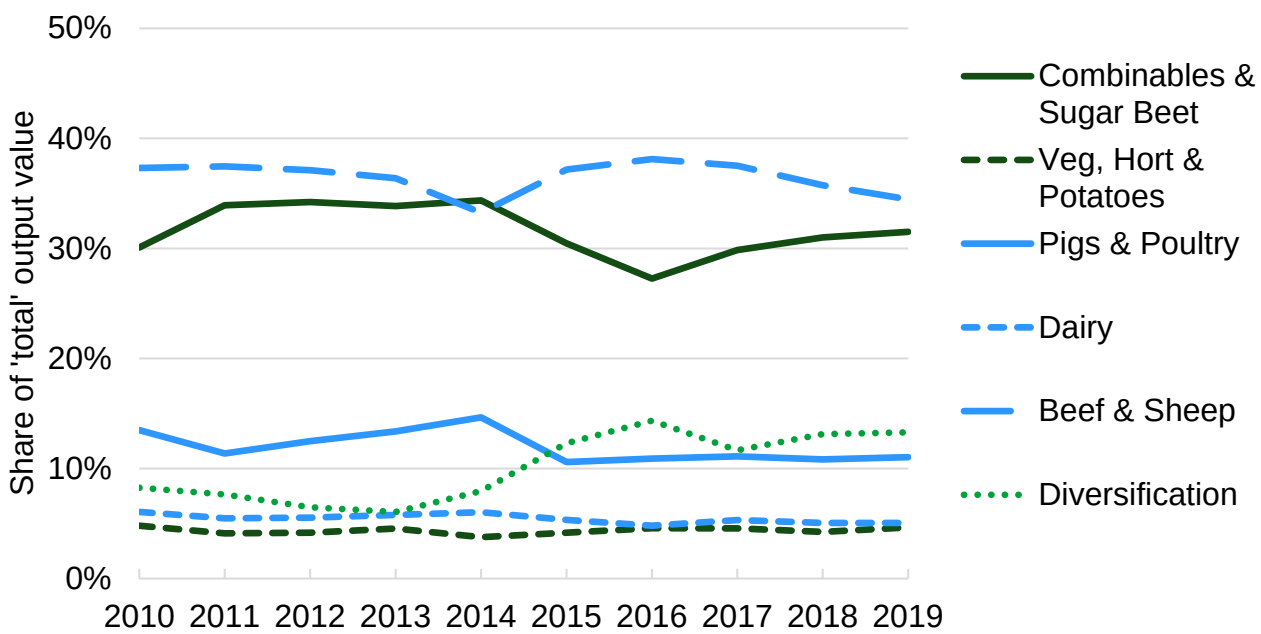


Figure 5.2.2 Share of 'total' output value for the North East, 2010-19, real terms



Key Points for the North East region: From 2010, the NE has had the lowest TIFF of all regions, even when its relatively small farmed area is taken into account by using a 'per hectare' measure. The NE is heavily reliant on output from 'Combinables & Sugar Beet' and 'Beef & Sheep' and has almost no output from 'Veg, Hort & Potatoes'. The contribution of Direct Payments were required to ensure a positive TIFF in the North East in every year from 2010-19.

5.3 North West regional profile

Table 5.3.1: Key statistics for the North West region in 2019

		2019 (£m)	% of England
Gross output at basic prices		1,839	9%
of which:	*Combinables & Sugar Beet*	142	3%
	Veg, Hort & Potatoes	136	4%
	Pigs & Poultry	203	6%
	Dairy	707	25%
	Beef & Sheep	302	14%
	Diversification	106	9%
Total intermediate consumption		1,269	10%
Gross value added at basic prices		570	7%
Direct payments		232	11%
Total Income from Farming		142	4%

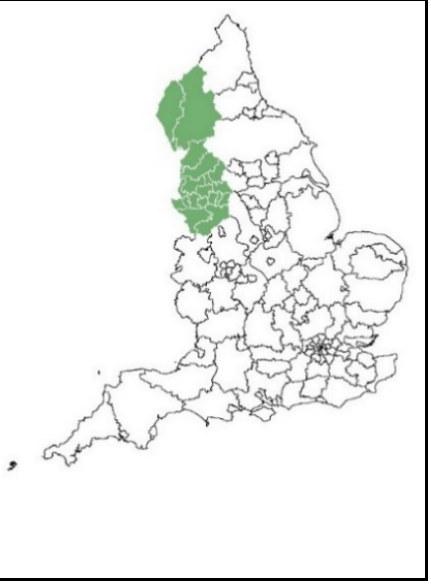


Figure 5.3.1: Value of output groups in the North West, 2019 (£ million)

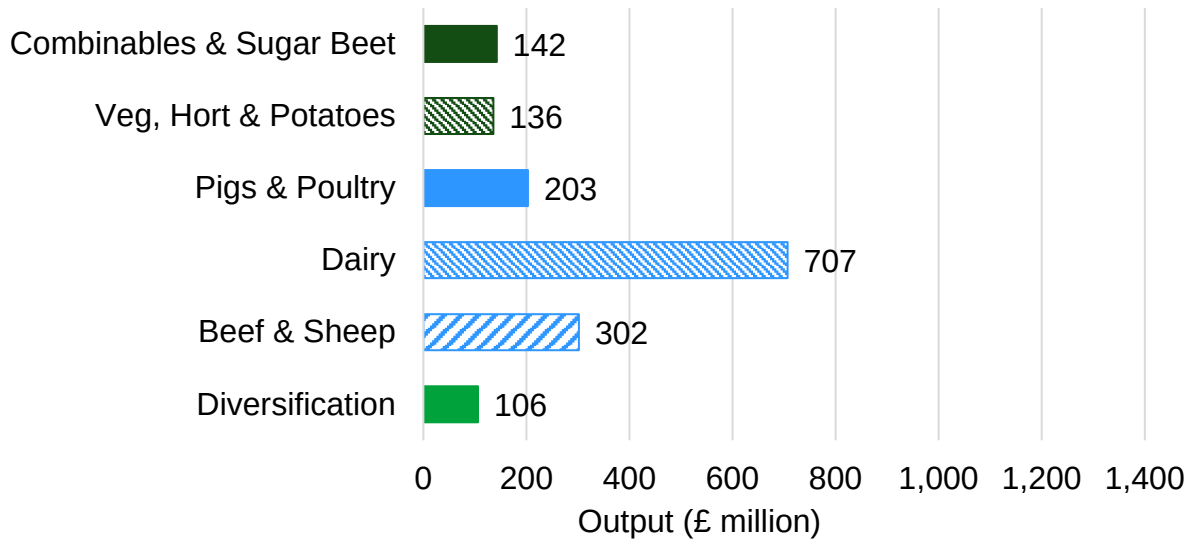
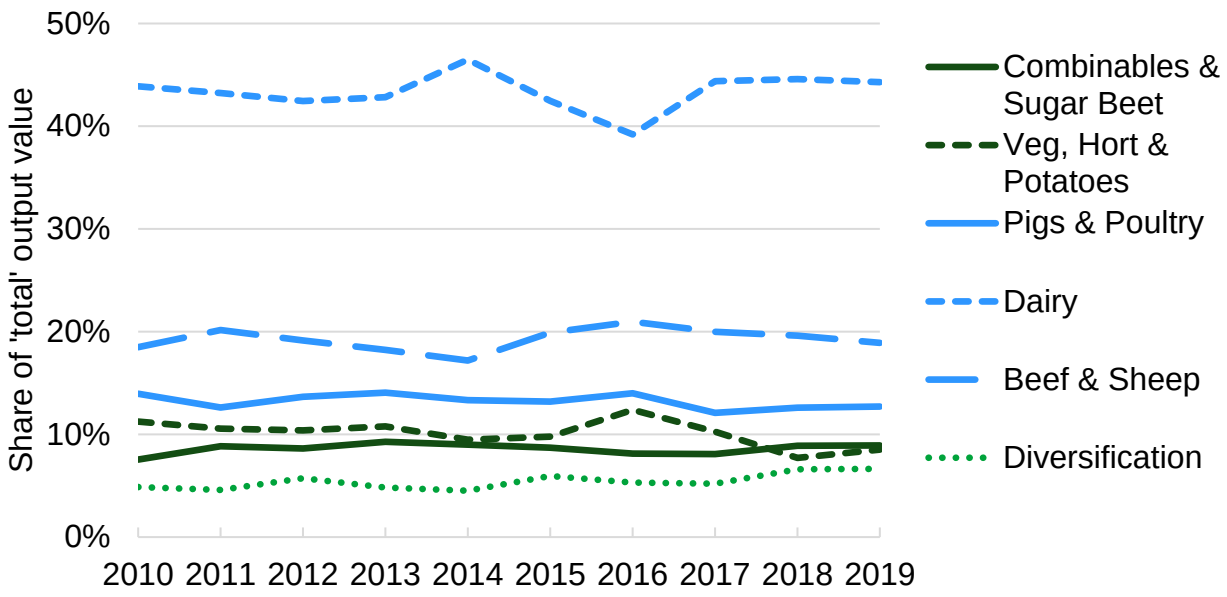


Figure 5.3.2 Share of 'total' output value for the North West, 2010-19, real terms



Key Points for the North West region: Dairy dominates output in North West, contributing about 45% of total output. The region was responsible for 25% of England Dairy output in 2019 and 14% of Beef and Sheep output. North West has consistently accounted for the second highest output from sheep, behind South West. Cropping of all kinds is very limited due to the relatively cold and wet climate and significant upland areas in the north of the region. TIFF for the North West was positive in every year 2010-19, but this relied on the contribution of Direct Payments in every year except 2014, which was a very strong year for milk output.

5.4 Yorkshire & The Humber regional profile

Table 5.4.1: Key statistics for the Yorkshire & The Humber region in 2019

		2019 (£m)	% of England
Gross output at basic prices		2,464	12%
of which:	*Combinables & Sugar Beet*	643	14%
	Veg, Hort & Potatoes	345	9%
	Pigs & Poultry	699	19%
	Dairy	208	7%
	Beef & Sheep	270	13%
	Diversification	71	6%
Total intermediate consumption		1,522	13%
Gross value added at basic prices		943	12%
Direct payments		271	13%
Total Income from Farming		452	11%

Figure 5.4.1: Value of output groups in Yorkshire & The Humber, 2019 (£ million)

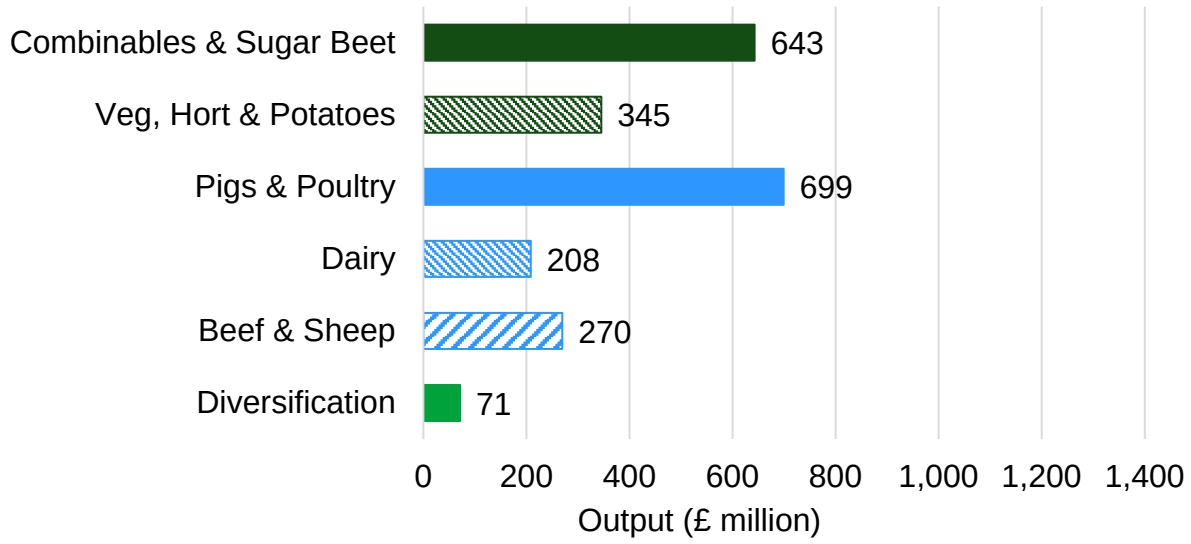
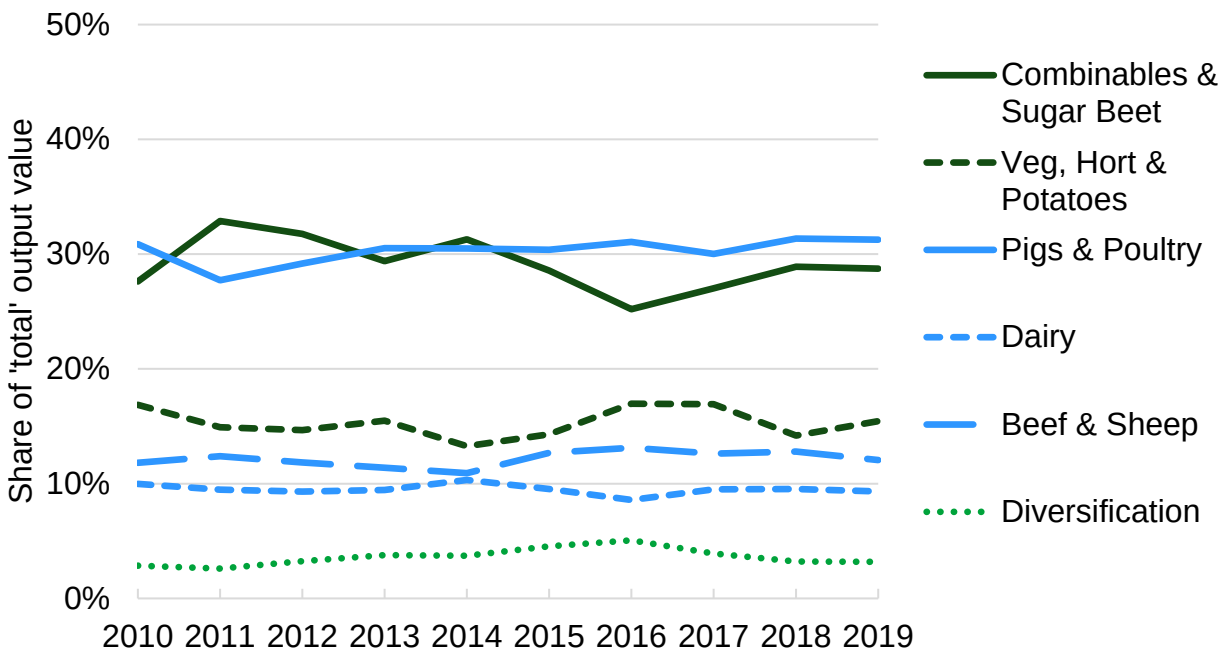


Figure 5.4.2 Share of 'total' output value for Yorkshire & The Humber, 2010-19, real terms



Key Points for the Yorkshire & The Humber region: 'Combinables & Sugar Beet' and 'Pigs & Poultry' are the main contributors to output in the region with roughly 30% each over 2010-19. Y&H consistently has the highest absolute output of any region from Pigs. The region is quite varied with upland areas in the north and west most suitable for Dairy and Beef & Sheep and areas more suitable for arable in the south and east.

5.5 East Midlands regional profile

Table 5.5.1: Key statistics for the East Midlands region in 2019

		2019 (£m)	% of England
Gross output at basic prices		3,044	15%
of which:	*Combinables & Sugar Beet*	900	19%
	Veg, Hort & Potatoes	706	19%
	Pigs & Poultry	678	19%
	Dairy	195	7%
	Beef & Sheep	217	10%
	Diversification	114	9%
Total intermediate consumption		1,703	14%
Gross value added at basic prices		1,341	17%
Direct payments		281	13%
Total Income from Farming		751	19%

Figure 5.5.1: Value of output groups in the East Midlands, 2019 (£ million)

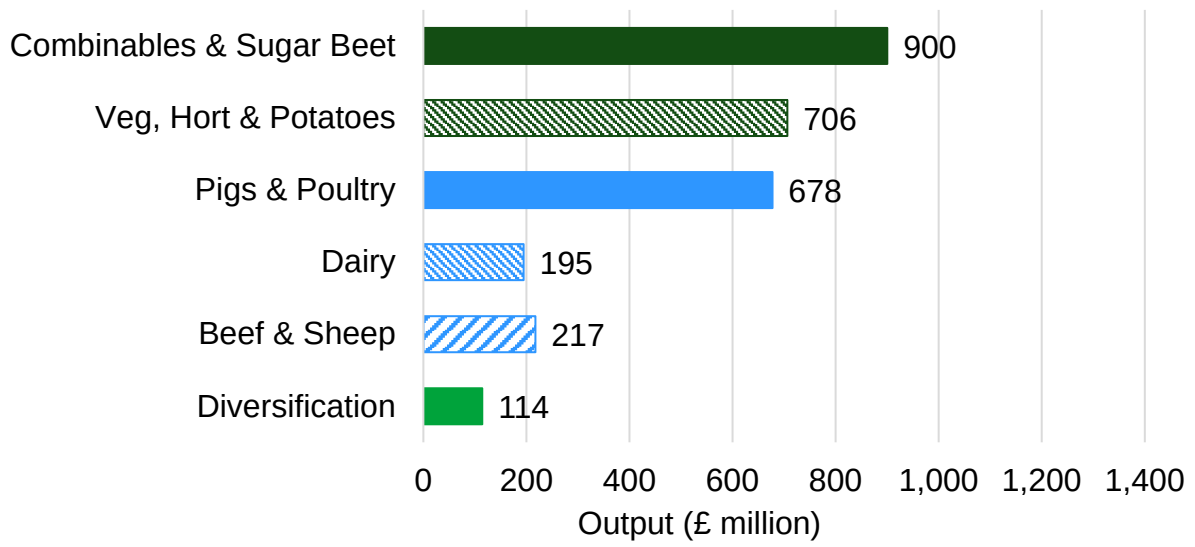
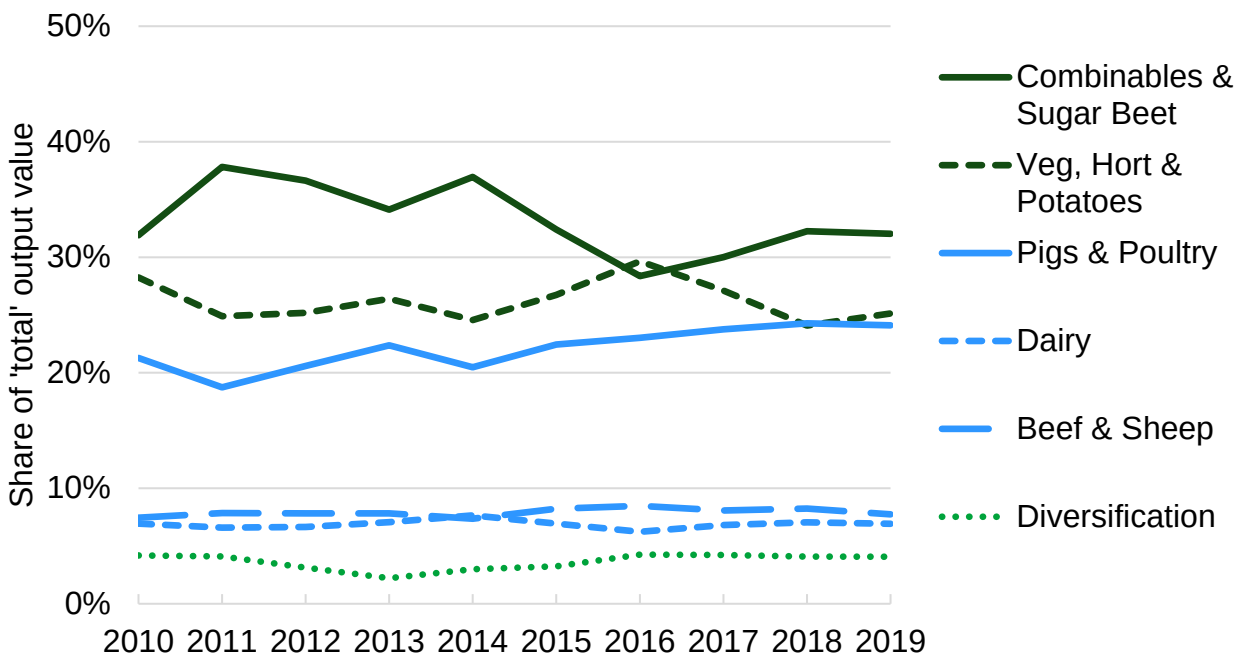


Figure 5.5.2 Share of 'total' output value for the East Midlands, 2010-19, real terms



Key Points for the East Midlands region: TIFF has been consistently high in the East Midlands, driven by output from cropping and poultry. Lincolnshire is a particularly high output area with a TIFF comparable to several entire NUTS1 regions. In 2019, the East Midlands region contributed 19% of England 'Veg, Hort & Potatoes' output, more than any other NUTS1 region. Dairy and 'Beef & Sheep' have contributed only 5-10% to regional output over the period 2010-19, but in absolute terms these were still each worth around £200 million in 2019. Derbyshire accounts for approximately half of the dairy output in the region and is more similar to counties to its west than the rest of the East Midlands region.

5.6 West Midlands regional profile

Table 5.6.1: Key statistics for the West Midlands region in 2019

		2019 (£m)	% of England
Gross output at basic prices		2,425	12%
of which:	*Combinables & Sugar Beet*	442	9%
	Veg, Hort & Potatoes	508	13%
	Pigs & Poultry	437	12%
	Dairy	412	14%
	Beef & Sheep	276	13%
	Diversification	120	10%
Total intermediate consumption		1,404	12%
Gross value added at basic prices		1,021	13%
Direct payments		223	10%
Total Income from Farming		500	13%

Figure 5.6.1: Value of output groups in the West Midlands, 2019 (£ million)

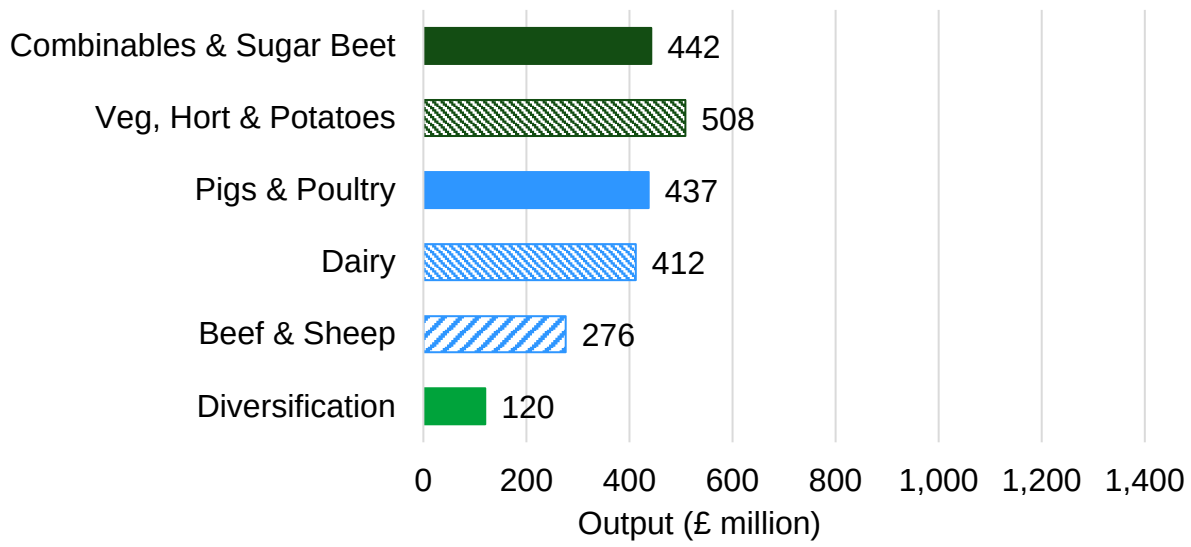
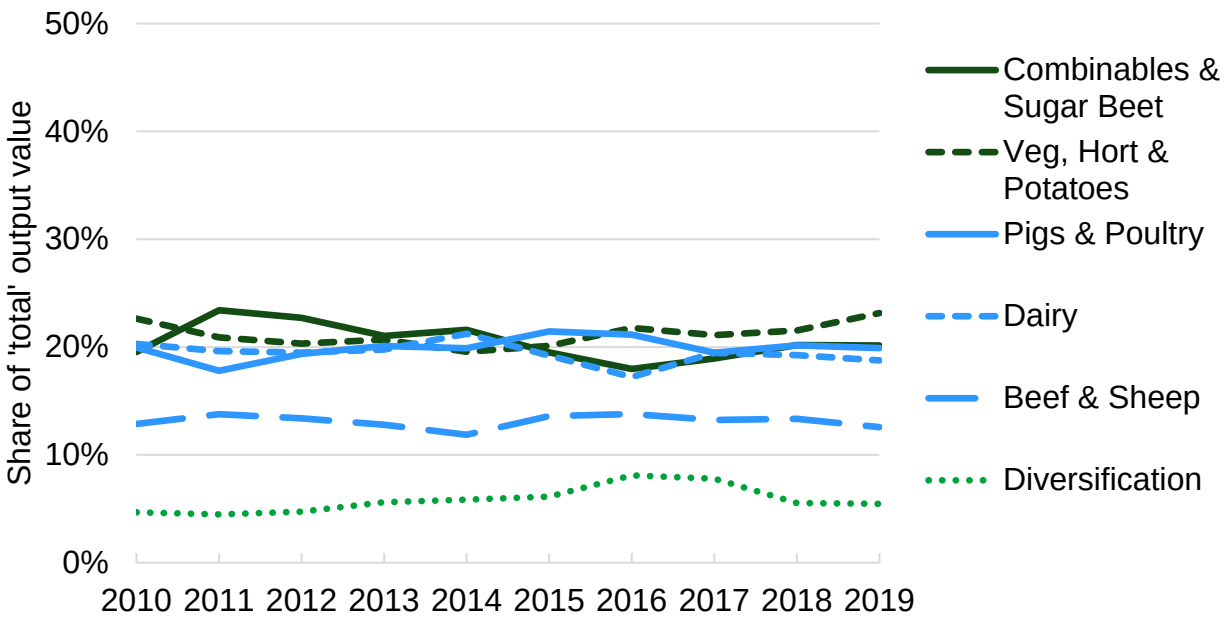


Figure 5.6.2 Share of 'total' output value for the West Midlands, 2010-19, real terms



Key Points for the West Midlands region: The West Midlands is the region with the most balanced range of outputs. Output in 2019 was around £400-500 million from both cropping groups, Dairy and Pigs & Poultry. The south west of the region is one of the main fruit producing areas in England and the north of the region has a high concentration of dairy activity. TIFF per hectare of agricultural land was £537 in 2019, the third highest of the eight regions in England.

5.7 East of England regional profile

Table 5.7.1: Key statistics for the East of England region in 2019

		2019 (£m)	% of England
Gross output at basic prices		3,395	17%
of which:	*Combinables & Sugar Beet*	1,245	26%
	Veg, Hort & Potatoes	701	18%
	Pigs & Poultry	826	23%
	Dairy	35	1%
	Beef & Sheep	110	5%
	Diversification	261	21%
Total intermediate consumption		1,911	16%
Gross value added at basic prices		1,485	18%
Direct payments		328	15%
Total Income from Farming		885	22%

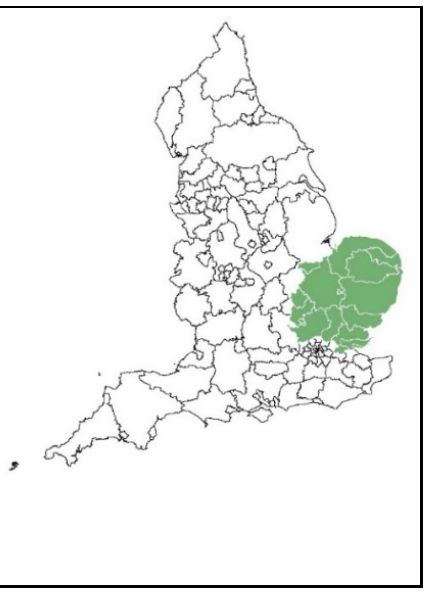


Figure 5.7.1: Value of output groups in the East of England, 2019 (£ million)

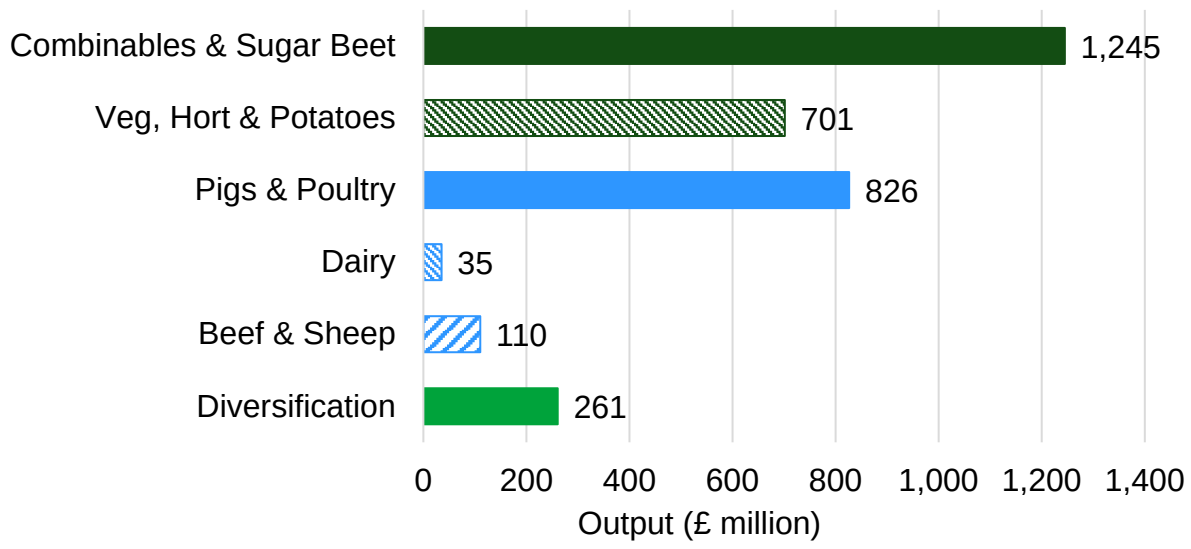
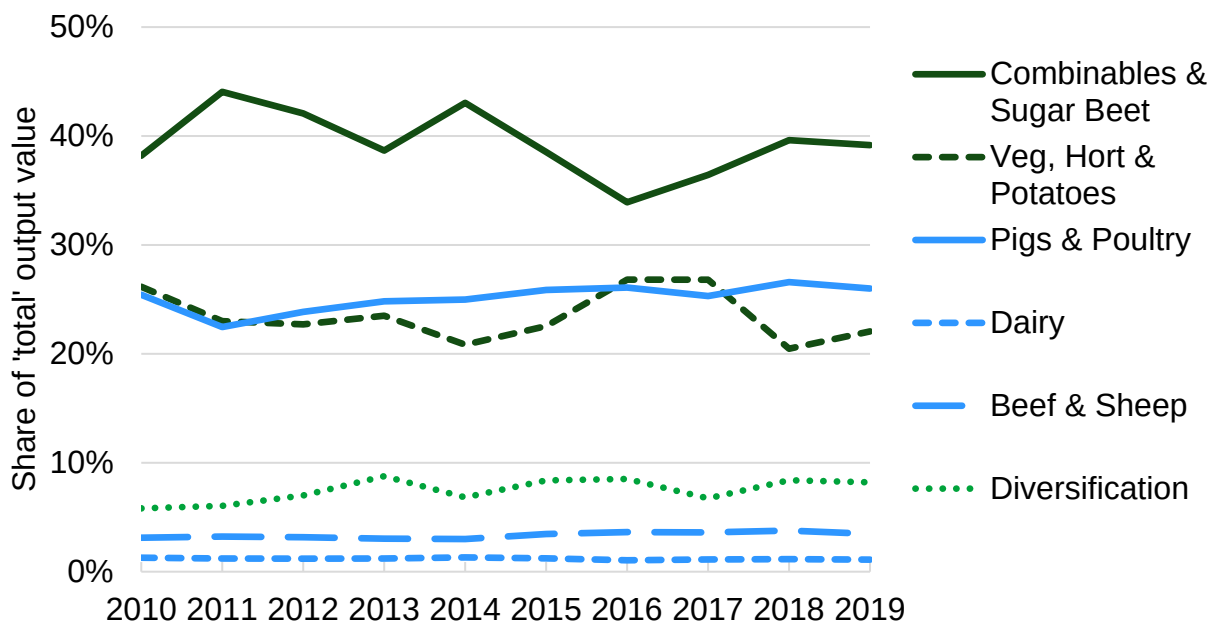


Figure 5.7.2 Share of 'total' output value for the East of England, 2010-19, real terms



Key Points for the East of England region: This region has had the highest TIFF of any region in every year 2010-19, contributing 22% of England TIFF in 2019. In 2019, the East of England made the biggest contribution to England output for 'Combinables & Sugar Beet' (26%) and 'Pigs & Poultry' (23%). Conversely there is very little in the way of Beef & Sheep and almost no Dairy with the dry climate, fertile soils and absence of uplands being much better suited to arable farming. The region is the primary sugar beet producing area of England.

5.8 South East regional profile

Table 5.8.1: Key statistics for the South East region in 2019

		2019 (£m)	% of England
Gross output at basic prices		2,259	11%
of which:	*Combinables & Sugar Beet*	609	13%
	Veg, Hort & Potatoes	584	15%
	Pigs & Poultry	244	7%
	Dairy	162	6%
	Beef & Sheep	201	9%
	Diversification	270	22%
Total intermediate consumption		1,306	11%
Gross value added at basic prices		953	12%
Direct payments		263	12%
Total Income from Farming		534	13%

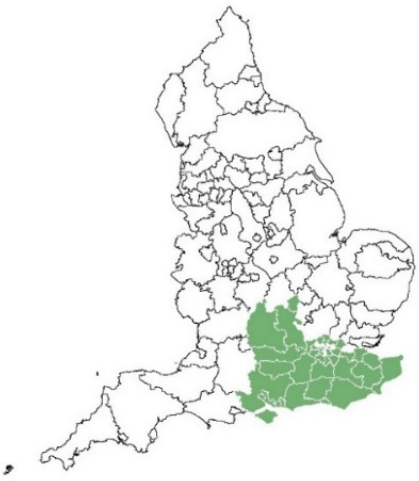


Figure 5.8.1: Value of output groups in the South East, 2019 (£ million)

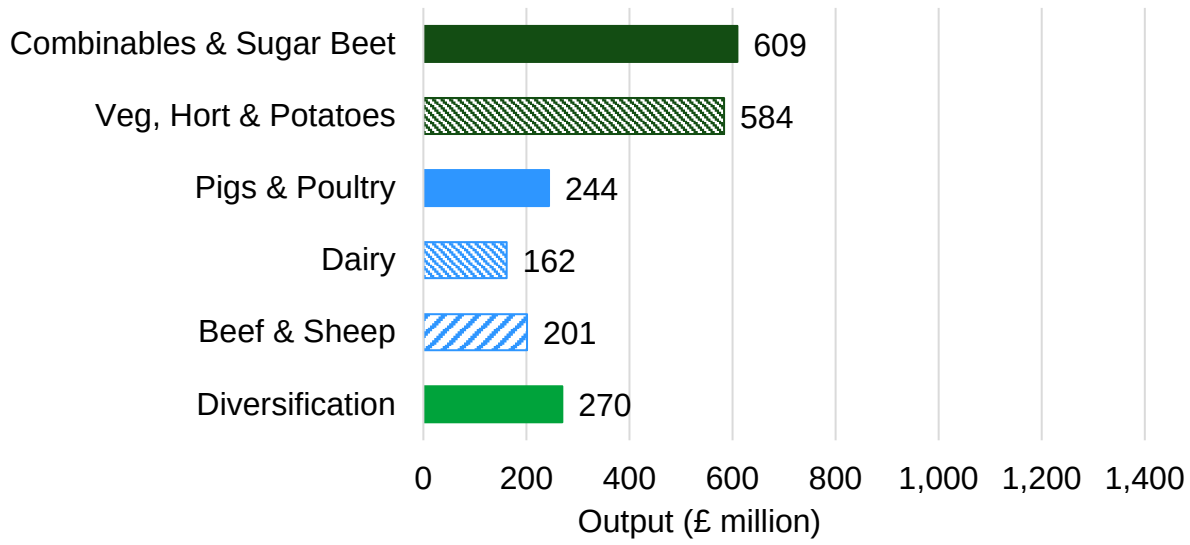
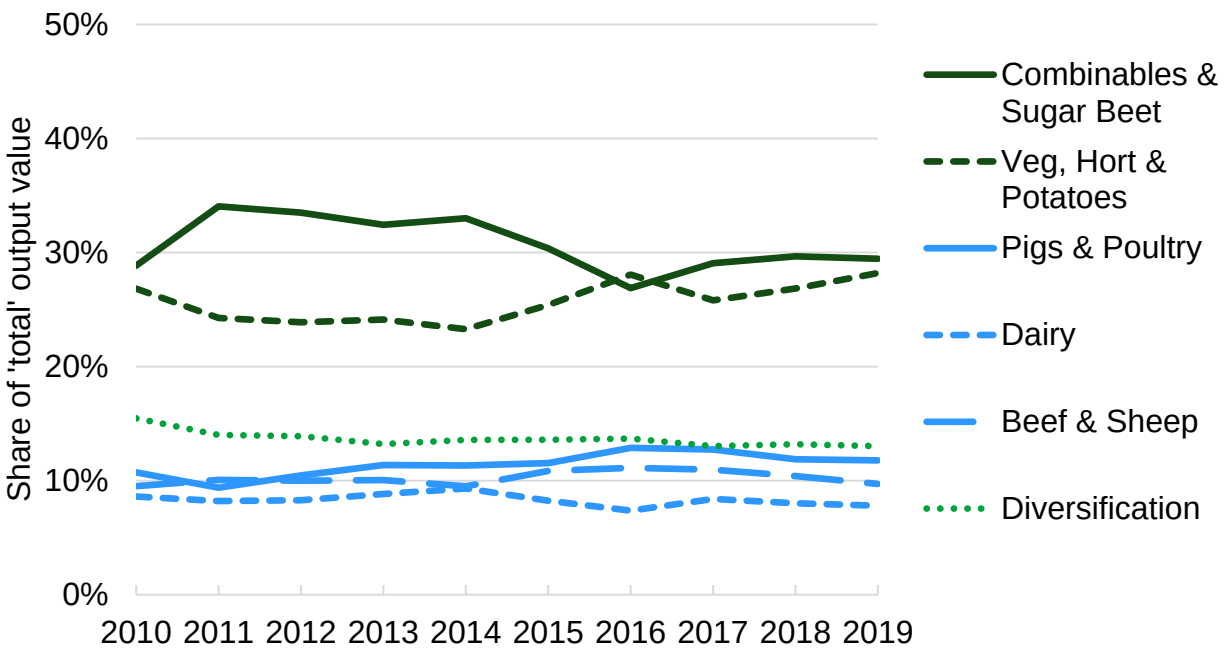


Figure 5.8.2 Share of 'total' output value for the South East, 2010-19, real terms



Key Points for the South East region: The majority of agricultural output in the South East region is from cropping, with 'Veg, Hort & Potatoes' responsible for a bigger share of output (28%) than in any other region in 2019. In common with the East Midlands and the East of England which also generate the majority of their output from cropping, the South East & London has little in the way of Dairy or Beef & Sheep, but also lacks significant output from Pigs & Poultry. In 2019, Pigs & Poultry output was £244 million, the third lowest of the eight regions. In 2019, diversification output in the South East & London was £270 million, the highest in any region.

5.9 South West regional profile

Table 5.9.1: Key statistics for the South West region in 2019

		2019 (£m)	% of England
Gross output at basic prices		4,054	20%
of which:	*Combinables & Sugar Beet*	539	11%
	Veg, Hort & Potatoes	782	21%
	Pigs & Poultry	464	13%
	Dairy	1,105	39%
	Beef & Sheep	523	25%
	Diversification	215	17%
Total intermediate consumption		2,487	20%
Gross value added at basic prices		1,567	19%
Direct payments		416	19%
Total Income from Farming		644	16%

Figure 5.9.1: Value of output groups in the South West, 2019 (£ million)

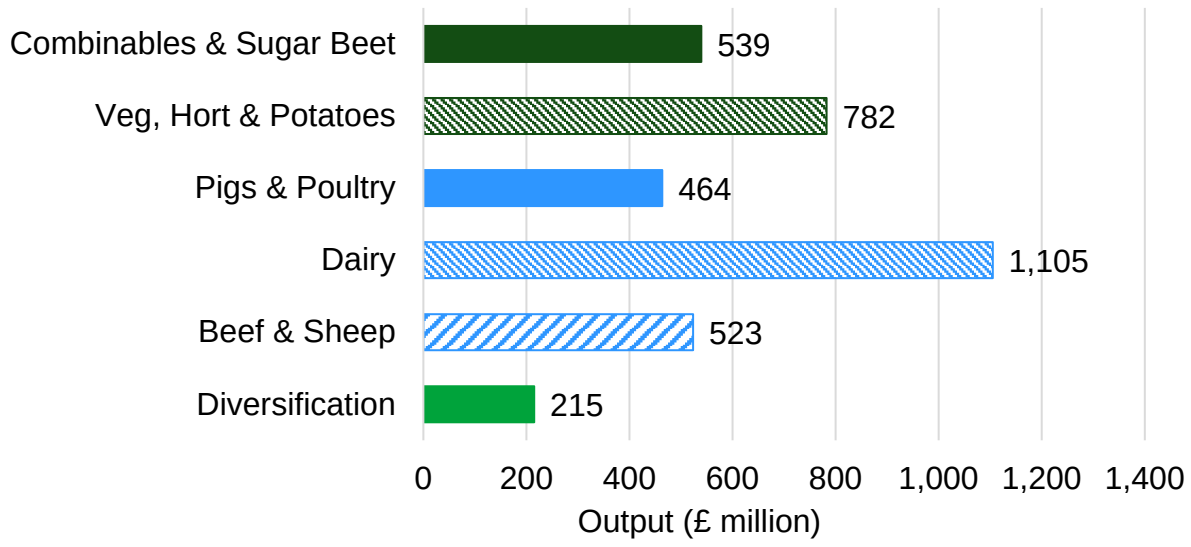
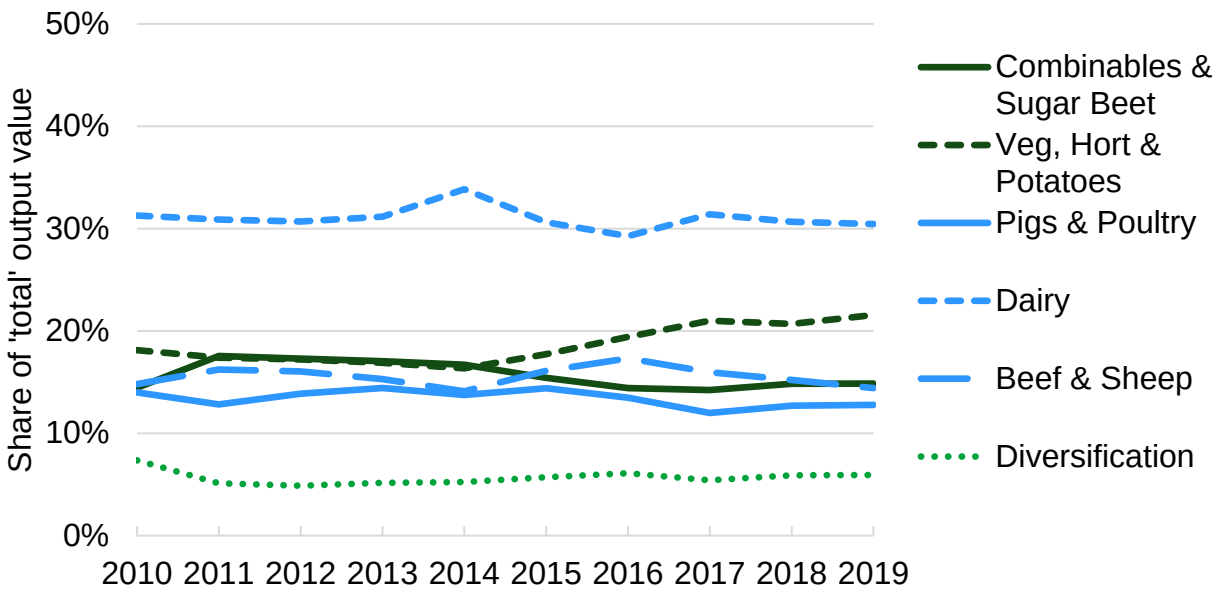


Figure 5.9.2 Share of 'total' output value for the South West, 2010-19, real terms



Key Points for the South West region: The South West has the largest farmed area and had the third largest TIFF in every year 2010-19. TIFF per hectare was lower than the England average in 2019, partly due to the limitations of upland areas in Devon, Cornwall and Somerset. Output from Dairy was £1.1 billion in 2019, equating to 30% of the region's total output and 39% of England Dairy output. The South West also had a higher output from 'Plants and Flowers' (a contributor to 'Veg, Hort & Potatoes') than any other region during 2010-19, most of which is found in Cornwall.

Section 6 - About these statistics

6.1 Methodology for regional production and income accounts

This release contains regional breakdowns of the England agricultural account, which is published in a separate release. The methodology for the England agricultural account is published separately.

The regional accounts for England are constructed by apportioning each account item value (£) for England to the 133 NUTS3 territories (County/unitary authorities) using coefficients derived mostly from Farm Business Survey (FBS) and June Survey of Agriculture and Horticulture ('June Survey') data. The FBS records detailed annual account data from a relatively small panel of farms whereas the June Survey records a snapshot of crop areas and livestock numbers as at June 1st each year. NUTS1 (regional) and NUTS2 estimates are then derived through aggregation of NUTS3 account values. Whilst this principle is well-established, a new approach to apportioning to NUTS 3 regions was introduced from the 2018 first estimates (published September 2019). This methodology replaces that used for the 2017 first estimates (published August 2018 under the 'Agriculture in the English regions' series).

Apportionment of England output account items to NUTS3 level

For almost all output items, June Survey data has been used for the geographical location of crop areas and livestock counts. The most appropriate June Survey item has been matched with each account item, which can be done well for almost all account items of significant value. See 'Apportionment of other account items to NUTS3 level' below for exceptions.

Apportionment of England cost account items to NUTS3 level

The best source of cost data is the FBS. Due to its small sample size, FBS data becomes less reliable when split down to NUTS3 level. Therefore, for almost all account items relating to cost, farm typology has been used to provide a link between FBS cost data and output account items for which we have relevant NUTS3 data. This allocation has been weighted by the values of outputs to account for differences in scale and composition of farms of the same farm type in different geographical areas.

Apportionment of other account items to NUTS3 level

A few significant account items required different approaches. Output from 'Inseparable non-agricultural activities' (diversification) is apportioned between the regions using FBS data as there is no suitable item on the June Survey.

Both output values and costs for ‘Agricultural Services’ are apportioned using ‘Utilised Agricultural Area’ from the June Survey. Whilst not ideal, no more credible alternative is available. The same value for Agricultural Services appears as both an output and a cost in the account, so whilst the split is relevant when just considering outputs (or costs), overall, this item has no impact on TIFF. Gross Fixed Capital Formation (GFCF) and Consumption of Fixed Capital (CFC) in animals have been apportioned using June Survey items for the relevant animals.

‘Direct payments’ (farm subsidies) are also apportioned using ‘Utilised Agricultural Area’ from the June Survey. Testing using more precise Rural Payments Agency (RPA) data suggested only small differences at NUTS1 level. As a result the extra data source has not been adopted, but will be considered further in future.

Limitations of data sources

The FBS is based on an accounting year from March to February rather than calendar years. Testing with calendar year estimates constructed from two FBS years suggested negligible impact and therefore the FBS year with a 10 month overlap is used as a proxy for calendar years. For example, FBS year 2017-18 March 2017 to February 2018) is used as a proxy for 2017 in the calculation of 2017 coefficients.

Some enterprises are recognised as being particularly difficult to collect accurate regional data for, in particular intensive pigs, intensive poultry and horticulture (ornamentals, fruit and vegetables). These sectors are highly concentrated and often part of large countrywide businesses making them difficult to capture and represent accurately in both the June Survey and FBS, particularly with respect to location. Furthermore, stock numbers may fluctuate greatly in intensive livestock systems, so numbers recorded on 1 June (in the June Survey) may not accurately reflect the annual picture. Therefore users should exercise extra caution when considering regional estimates for these sectors.

The methodology for the regional agricultural accounts is complex and users wishing to deepen their understanding should contact the Defra Farm Accounts mailbox.

Limitations to reliability

Assumptions have had to be made about the level of variation within account items between geographical regions. In several cases, the account items that are being apportioned between regions are quite broad. Examples are ‘Fresh vegetables’, ‘Fresh fruit’, ‘Cattle’, ‘Pigs’, ‘Sheep and goats’ and ‘Poultry’ (meat). These will each cover several different types of crops/livestock, which are likely to have different values and costs per hectare/head and concentrations that vary by location. Even where account items represent a single crop (e.g. wheat), there will in reality be different yields and prices per hectare depending on factors such as climate, soil, use, local demand etc. A perfect model would include all of these variables, however, in most cases there is insufficient data to construct such a model.

Testing of the methodology has explored the impact of making additional assumptions about the values of different groups within single account items (for example poultry, where higher value turkeys, ducks and geese are concentrated in East of England). This testing concluded that the impact on regional (NUTS1) TIFF was not sufficient to justify the extra complexity. Therefore, for the purpose of the regional accounts, the units used to apportion account items are assumed to be identical across regions. For example a sheep in Cumbria is considered to be identical to a sheep in Devon and a hectare of wheat in Northumberland is considered to be identical to a hectare of wheat in Hampshire.

The simplifications made under this methodology may reduce accuracy and the level of uncertainty will increase at finer spatial resolutions. Users should give consideration to these limitations when using these results and drawing conclusions, particularly at NUTS3.

Level of detail of items within the accounts

Steps have been taken to prevent the publication of results with a high level of uncertainty and also to avoid disclosure of data for individual farmers. Whilst the full account is published at NUTS1 level, some of the more minor items are not shown at NUTS2 level and at NUTS3 level and only headline figures are shown. For the same reasons, geographical areas have been aggregated with neighbours to ensure that they contain at least 100 farms and 10,000ha of farmland. (This is based on the 2016 June Survey, which is the last time the survey was conducted with an enhanced sample size and therefore is considered to be more accurate than more recent surveys). At NUTS2 level this impacts only on London, however at NUTS3 level, 133 territories have been reduced to 80, creating a bespoke set of geographical territories. Despite this, users should be aware that the level of uncertainty will increase in smaller NUTS territories and that the physical area of NUTS territories varies enormously at both NUTS2 and NUTS3 levels.

First and second estimates

For every calendar year, a first estimate of the England agricultural account is published in May/June of the following year and a second estimate is published in the subsequent January. The second estimate is a routine revision to the first estimate to reflect newly available survey and administrative data. The biggest changes will be to the most recent year, however older years are usually also subject to some changes.

This publication is a regional breakdown of the England account so first and second estimates are also published, either in parallel with, or shortly after, the respective England level publications. The regional estimates are dependent on coefficients used to apportion England values to NUTS3 territories. These coefficients are based on survey and administrative data that varies year by year.

When ‘first’ estimates are published, data required to produce the coefficients is not available for the accounts year. Therefore first regional estimates are calculated

using the same coefficients as the second estimates of the previous year. For example, the 2019 first estimates published in September 2019 were produced using 2017 coefficients calculated using 2017 data. As a result, first regional estimates are subject to extra uncertainty because the coefficients used have not yet been updated to reflect data from the accounts year.

Second estimates are calculated using a new set of coefficients which *will* reflect data from the accounts year. For example, the 2018 second estimates published in January 2020 were produced using new 2018 coefficients calculated using 2018 data. It may also be necessary to revise coefficients for previous years to reflect revisions to the underlying data used in their production. This means that second regional estimates offer two significant improvements in accuracy compared to first estimates; firstly from the revisions to the England account values and secondly from the first use of new regional coefficients, designed to reflect the accounts year.

Revisions due to new methodology

In September 2019, this publication (Total Income from Farming for the Regions of England) replaced the regional element previously published under 'Agriculture in the English Regions', last published on 30 August 2018 for the 2017 first estimates. Total Income from Farming for the Regions of England covers only regional breakdowns of the agricultural accounts, with the England level estimates now being published separately as 'Total Income from Farming for England'. All the estimates in Total Income from Farming for the Regions of England have been produced using a new methodological approach to regional results, detailed above. The new methodology is intended to improve the accuracy of the results by using the same data source (June Survey of Agriculture and Horticulture) for the regional apportionment of both inputs and outputs. The old methodology that has been replaced used different data sources to provide the regional splits for inputs and outputs. It was concluded that these were sufficiently different to impact on the robustness and repeatability of the estimates.

6.2 Quality Assurance

Defra has in place quality assurance processes to check the accuracy and reliability of the underlying aggregate agricultural accounts that includes:

- Ongoing review of methods employed in the calculation of the accounts.
- Assessment of the quality of the estimates of components of the accounts with internal experts.
- Discussion of components of the accounts with external experts.
- Quality assessments made by Eurostat, the statistical office of the European Union.

In April 2019, Defra carried out an internal formal quality assurance of the new methodology used to apportion the England agricultural accounts to regional level. This involved inspection of the mechanics used to calculate the coefficients as well as the suitability of the data sources used. The quality assurance process was conducted by two experienced Defra economic advisors who were not involved in the production of the agricultural accounts or the regional estimates, but had a solid understanding of the available data sources and potential uses of regional accounts.

Summary quality report

A summary quality report for the underlying data on the Aggregate Agricultural Accounts and its statistical releases can be found on the GOV.UK website.

This is an overview note which is not release specific and was last updated in March 2019. It pulls together key qualitative information on the various dimensions of quality as well as providing a summary of methods used to compile the output. It relates to estimates of Total Income from Farming and aims to provide users with information on usability and fitness for purpose of these estimates.

Development areas

This publication is based on a new methodology (introduced for 2018 first estimates) providing increased confidence in the results. Results are expected to be disseminated further and publicised wider than in the past to reach more users. Whilst many simplifications to the coefficients have had to be assumed for reasons of practicality (as explained in the methodology section above), improvements will continue to be considered. One area to be reviewed further is the apportionment of farm subsidies, which is recognised as being likely to be of particular interest to some users. Suggestions from users are welcomed.

6.3 Main users and uses of the aggregate agricultural accounts

The aggregate agricultural accounts are used in conjunction with other economic information to:

- Monitor the productivity and competitiveness of the farming industry.
- Inform policy decisions and to help monitor and evaluate current policies relating to agriculture in the UK by Government and in the European Union by the European Commission.
- Inform stakeholders of the performance of the agricultural industry.
- Inform research into the economic performance of the agricultural industry.
- Total Income from Farming sets the context when looking at a number of policies; the agricultural industry, on average, contributes around £9 billion to the national economy and accounts for about 0.5% of national Gross Domestic Product. It is

most relevant to policies relating to Common Agricultural Policy reform and the competitiveness of farming.

User engagement

As part of our ongoing commitment to compliance with the Code of Practice for Official Statistics, 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 themselves known, 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 notice and enquiries about these statistics are also welcome.

Section 7 - Glossary

7.1 Description of 'Total Income from Farming' measure

Total Income from Farming is income generated by production within the agriculture industry including subsidies and represents business profits and remuneration for work done by owners and other unpaid workers. It excludes changes in the values of assets, including stocks, due to price changes but includes non-agricultural activities such as further processing or tourist activities where these cannot be separated from the agricultural business. It is the preferred measure of aggregate income for the agricultural industry conforming to internationally-agreed national accounting principles required by the UK National Accounts.

Total Income from Farming is designed to show the performance of the whole of the agricultural industry. Farm Business Income is a measure of individual farm incomes and is used by Defra to compare performance across different types of farming. More information about Farm Business Income.

7.2 Regional classification

The Nomenclature of Units for Territorial Statistics (NUTS) provides a single uniform breakdown for the production of regional statistics for the EU. In this statistical notice, statistics are presented at the NUTS1 level of regions in England, with additional breakdowns at NUTS2 and NUTS3 in the accompanying dataset.

Further information on Nomenclature of Units for Territorial Statistics (NUTS).

New versions of NUTS are released every year or two to reflect (usually minor) adjustments. This publication uses the latest version, NUTS 2016 throughout. NUTS classifications for England have been unchanged since the introduction of NUTS 2013.

7.3 Definition of terms used in this Statistical Notice and datasets

Term	Definition
Current price	The value based on prices during the reference year. Also known as 'nominal price'.
Real term prices	Prices adjusted to take account of inflation
Total Income from Farming	Income to those with an entrepreneurial interest in the agricultural industry, e.g. farmers, partners, spouses and most other family workers.
Agricultural industry	All activities taking place within businesses that carry out any agricultural activities. These businesses include all farms and specialist agricultural contractors.
Gross Fixed Capital Formation (GFCF) in livestock	The production of animals that will be used as the means of production, e.g. breeding animals.
Inseparable non-agricultural activities	Non-agricultural activities that are included within the business level accounts and are inseparable, e.g. some cases of bed and breakfast and recreation facilities
Output at market prices	Output excluding subsidies. The output of the agricultural industry includes some non-agricultural activities and transactions within the industry.
Basic prices	Market price plus directly paid subsidies that are linked to production of specific product. There have been no direct subsidies in England since 2013.
Subsidies (less taxes) on product	Subsidies and taxes linked to the production of a specific agricultural product. All subsidies are recorded on an 'as due' basis.
Other agricultural activities	Agricultural activities that do not result in sales of final product, e.g. quota leasing, contract work
FISIM	Financial Intermediation Services Indirectly Measured (FISIM) is an estimate of the value of services provided by financial intermediaries, such

Term	Definition
	as banks, for which no explicit charges are made, and which are paid for as part of the margin between rates applied to savers and borrowers.
Intermediate consumption	Goods and services consumed or used as inputs in the productive process e.g. feed, seeds, fertiliser, and pesticides.
Gross Value Added	Gross output less intermediate consumption.
Consumption of fixed capital (CFC)	The reduction in value (at current prices) of capital assets used in the production process, e.g. buildings, plant, machinery, vehicles and livestock.
Net Value Added	Gross Value Added at basic prices less consumption of fixed capital.
Other subsidies (less taxes) not linked to production	Subsidies and taxes not linked to production of a specific product, e.g. Single Payment Scheme, agri-environment payments, animal disease compensation.
Net Value Added at factor cost	Net Value Added at basic prices plus other subsidies (less taxes) on production.
Compensation of employees	The full costs of employees to the business including national insurance contributions.