



23 January 2020

Total Income from Farming for the Regions of England *Second estimates for 2018*

This release presents the second estimates of Total Income from Farming (TIFF) for the regions of England for 2018. These second estimates reflect newly available data and offer improved accuracy over the first estimates published in September 2019.

Total Income from Farming is the total profit from all UK farming businesses on a calendar year basis. It measures the return to all entrepreneurs for their management, labour and capital invested.

These statistics are based on and consistent with the data used to produce the [Total Income from Farming in England](#) results. Further statistics for the regions of England based mainly on other data sources can be found in [Agricultural Facts: England Regional Profiles](#).

Key Points

- Total Income from Farming (TIFF) for England was £3,305 million in 2018. This was a decrease of £763 million (19%) compared to 2017. When adjusted for inflation, this becomes a £839 million decrease (20%).
- TIFF was lower in 2018 than in 2017 for all regions of England, with decreases ranging from 11% (South East) to 51% (North West). These decreases become 13% and 52% when adjusted for inflation.
- The East of England made the biggest contribution to England Total Income from Farming in 2018 at £727 million (22%), followed by the East Midlands at £654 million (20%). The North East made the smallest contribution at £64 million (2%).
- When expressed on a 'per hectare of agricultural land' basis, the East Midlands had the highest Total Income from Farming in 2018 at £544/ha. The region with the lowest was the North East, at £106/ha. These compare to an England average of £362/ha.
- For every year from 2010-18, 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.

Introductory notes for users

Notes to aid user understanding of this statistical release:

- *The term 'income' used throughout this Notice refers to Total Income from Farming. This is the total profit from all farming businesses on a calendar year basis.*
- *The remainder of this publication looks at either 2018 in isolation, or time series from 2010-18. Where time series are considered, they are always expressed in real terms (2018 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.*
- *This Statistics Notice mostly presents an overview of the agricultural accounts for England, apportioned 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 this region.*
- *The full accounts 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).*
- *'NUTS' is a geographical classification refers to The Nomenclature of Units for Territorial Statistics. Further information on NUTS can be found [here](#).*
- *For queries regarding correct use of these statistics, please contact Defra's [Farming Accounts team](#).*

Section 1 – How did the regions contribute to Total Income from Farming (TIFF) in England in 2018?

Total Income from Farming for England was £3,305 million in 2018. 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 tends 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.

These factors are explored further in [Chart 1.3](#) (area) and [Section 4](#) (type of farming).

Charts 1.1 and 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 £727m (22%), followed by the East Midlands at £654 million (20%). The region with the lowest TIFF was the North East, at £64 million (2%).

Chart 1.1: Regional Share of England Total Income from Farming, 2018

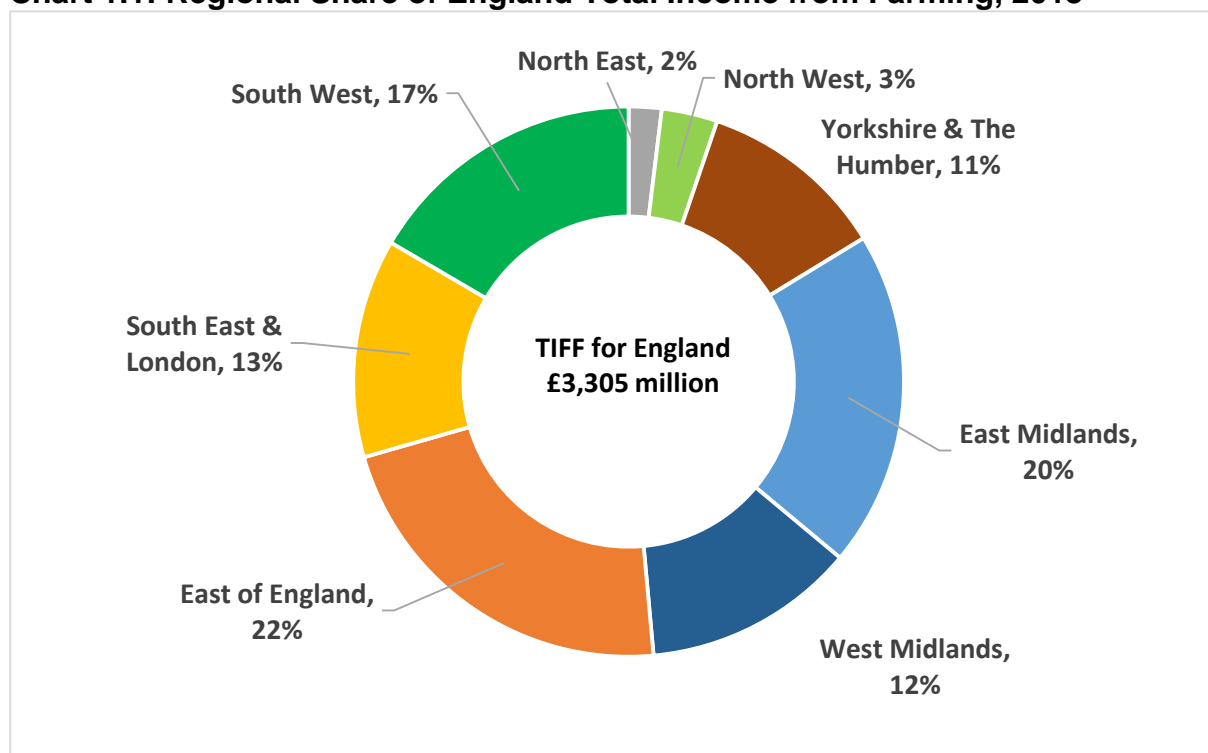


Chart 1.2: Total Income from Farming for England in 2018, by region (£ million)

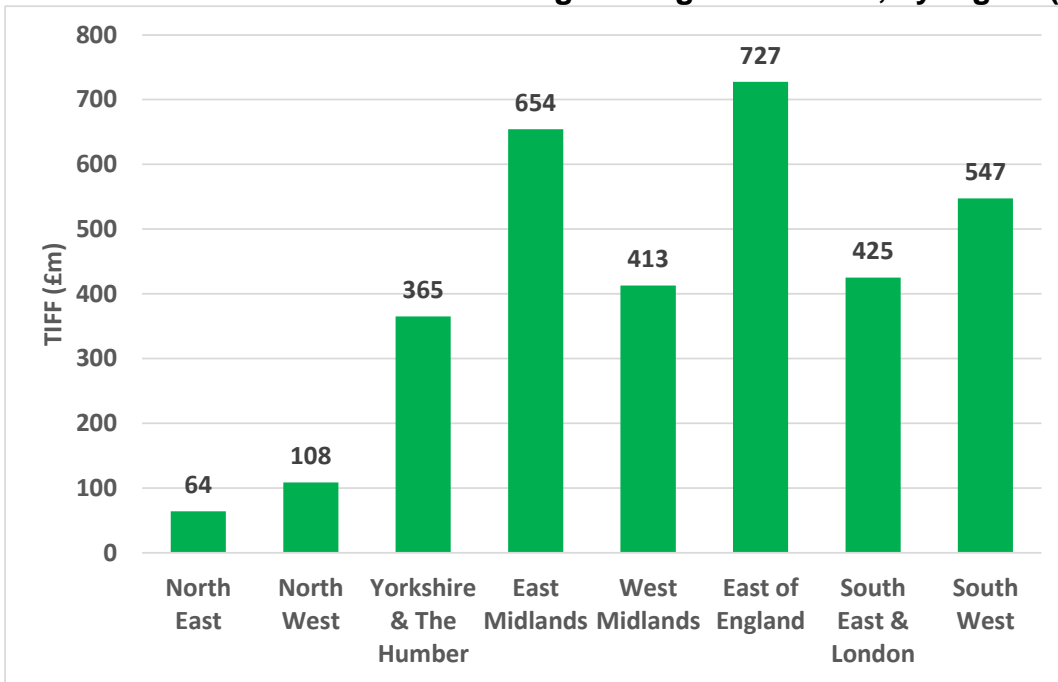
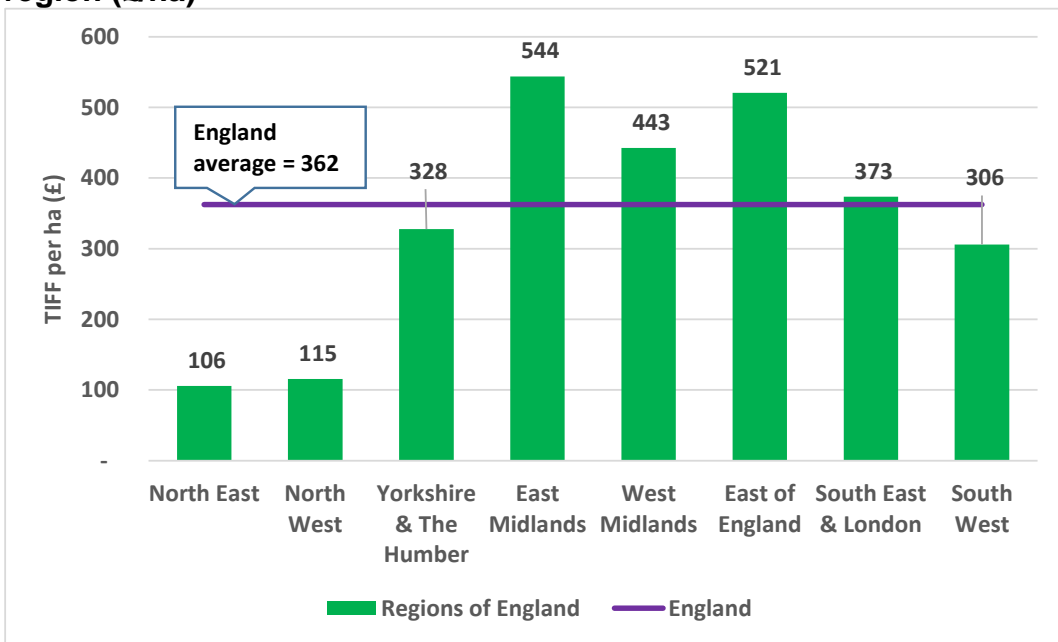


Chart 1.3: Total Income from Farming per hectare of agricultural land in 2018, by region (£/ha)



When TIFF is expressed per hectare of agricultural land (Chart 1.3), the extent of the variation is reduced but the overall pattern remains similar to that seen for absolute values. The East Midlands was highest at £544/ha, ahead of the East of England (£521/ha). The North East was still lowest at £106/ha, but is closer to the other regions due to having the smallest area.

The regions with the greatest TIFF per hectare in 2018 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 2018?

Table 2.1: Aggregate agricultural accounts values, by region, 2018

£ million

Region	Gross output At basic prices (1)	Intermediate consumption (2)	Gross Value Added at basic prices [(1)-(2)]	Total Income from farming
North East	759	557	202	64
North West	1,802	1,276	526	108
Yorkshire & The Humber	2,377	1,535	843	365
East Midlands	2,948	1,720	1,228	654
West Midlands	2,334	1,415	919	413
East of England	3,243	1,932	1,312	727
South East & London	2,153	1,319	835	425
South West	3,951	2,504	1,446	547

Table 2.1 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.

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 which 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 to their TIFF.

Chart 2.1: Gross Output, Intermediate Consumption and Gross Value Added, by region, 2018 (£ million)

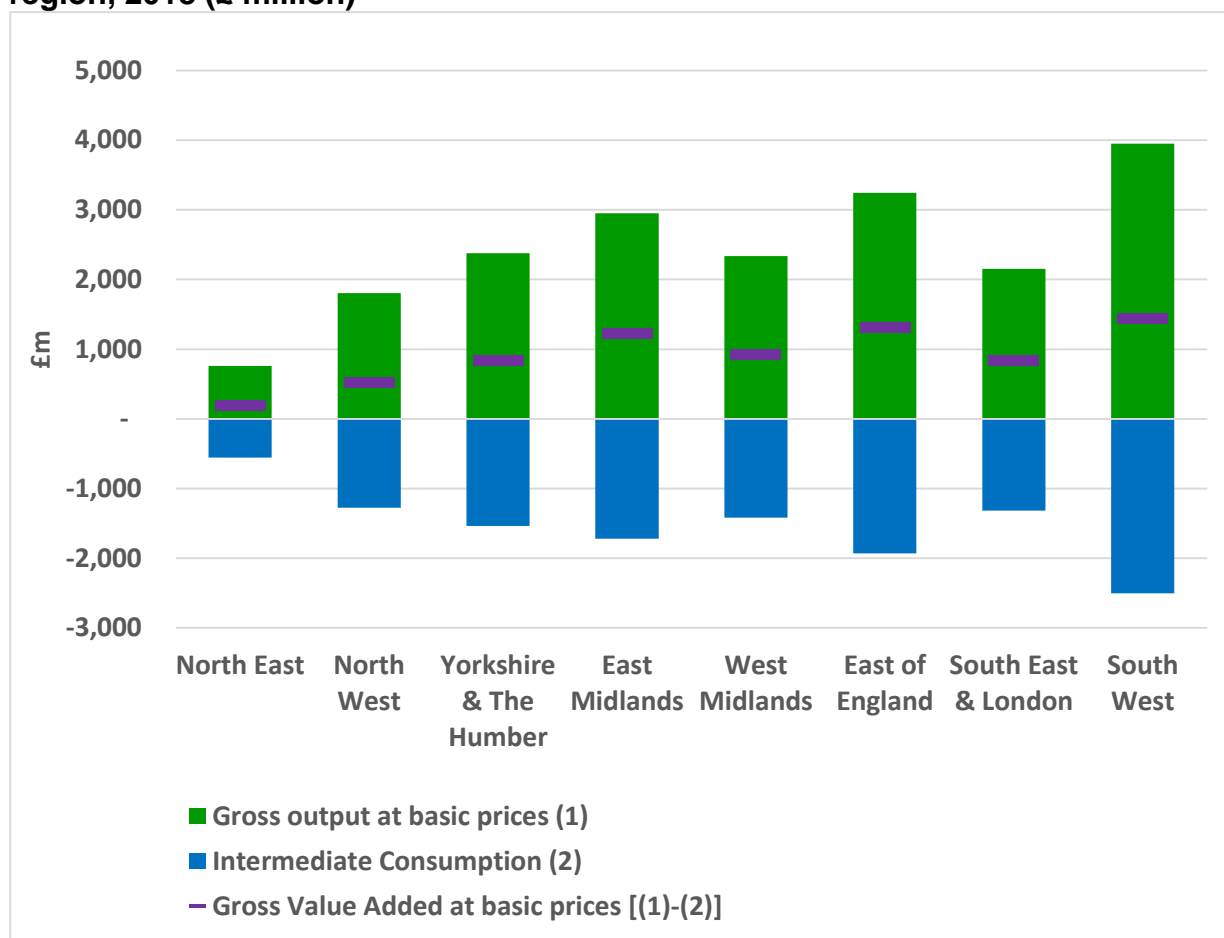


Chart 2.1 is a visual representation of data from Table 2.1 above. It shows that the East Midlands, the East of England and the South West had similar levels of Gross Value Added (GVA) in 2018 (purple line). However, the South West had higher levels of both outputs and intermediate consumption compared to the other two regions. This can be explained by the types of enterprises within each region. The South West had far more dairy and grazing livestock which led to higher input costs compared to the cropping and intensive livestock which are more prevalent in the East of England and the East Midlands.

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

Chart 3.1 shows how Total Income from Farming has varied between regions and the change over time since 2010. The figures here have been adjusted for inflation.

Chart 3.1: Total Income from Farming by region in real terms, 2010 to 2018 (£ million)

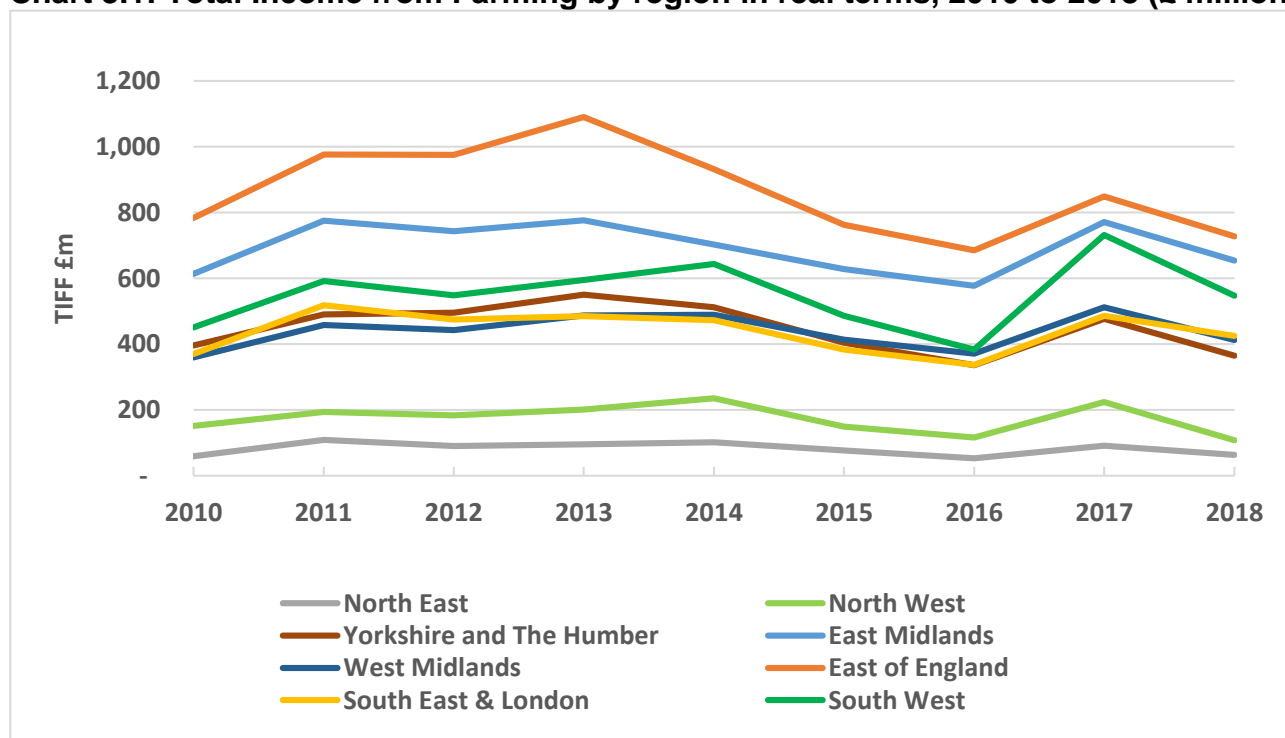


Chart 3.1 shows that Total Income from Farming has followed broadly the same trend since 2010 across all regions. More analysis of the trends in TIFF for England as a whole can be found in the [‘Total income from farming in England’](#) statistical release.

To simplify and characterise the results, the regions could be considered to be clustered into three groups with TIFF broadly around £200 million (North East, North West), £400 million (Yorkshire and The Humber, West Midlands, South East) and £600 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 2018 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.

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. 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.

Section 4.1 – How did different outputs vary between regions in 2018?

The agricultural accounts capture all farm production and hence 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 8 regions is complex and difficult to present clearly. To simplify this presentation and aid analysis and interpretation, outputs have been grouped into 6 clear and logical groups (see below).

The six output groups are constructed as follows:

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	Pigs (excluding GFCF) Poultry-meat (excluding GFCF) Eggs
Beef & Sheep	Cattle (excluding GFCF) Sheep and goats (excluding GFCF) Other (minor) livestock and livestock products
Dairy	Milk (excluding goats milk)
Diversification	Other non-separable secondary activities Equines

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

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 have been zero since 2012 and were very small in 2010 and 2011.

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

Chart 4.1.1 Value of outputs by region, 2018 (£ million)

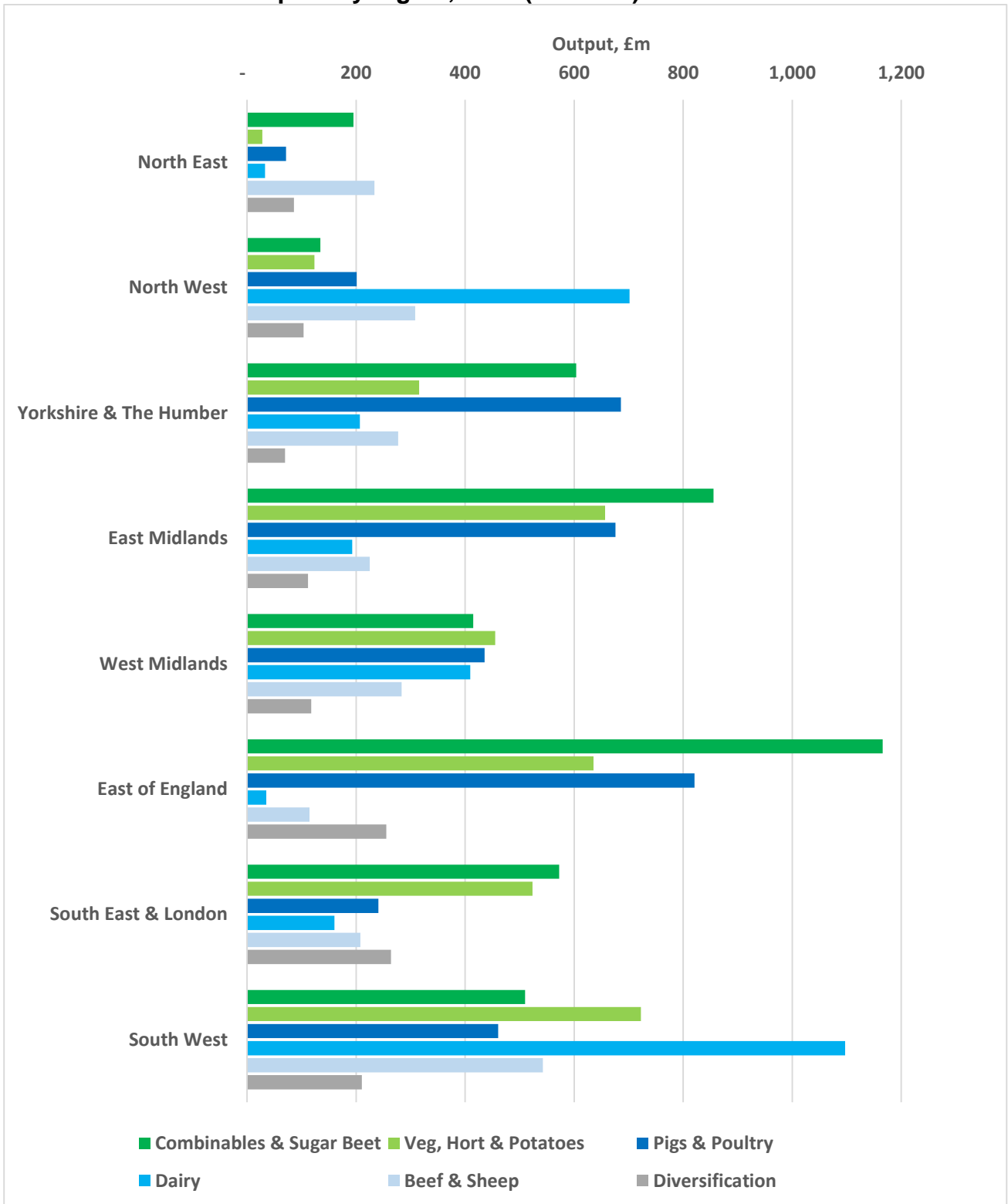


Chart 4.1 shows that whilst there are clear regional differences in the scale of output values, all regions had some level of production for all 6 groups.

Key points for output groups in 2018 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 billion.
- The West Midlands had the most balanced outputs, with 4 categories ('Combinables & Sugar Beet', 'Veg, Hort & Potatoes', 'Pigs & Poultry' and Dairy) contributing just 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%), the North East makes a more significant contribution to England 'Beef and Sheep' output, at around 11%.
- The value of 'Beef & Sheep' output was similar (about £230 million) in the North East and the East Midlands, but was the largest output in the North East whereas three outputs in the East Midlands ('Combinables & Sugar Beet', 'Veg, Hort & Potatoes' and 'Pigs & Poultry') were considerably higher in value.

Section 4.2 – 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. Limited NUTS3 level data is available in an accompanying dataset. Mapping using NUTS3 conveys far more information than at NUTS1 level, however NUTS3 estimates are derived using data from fewer observations and as such are subject to a higher level of uncertainty. NUTS3 territories with very low levels of farming have been amalgamated with neighbouring NUTS3 to avoid any risk of disclosing confidential data. Therefore the information displayed for some of the smaller territories marked on the map represents larger, amalgamated territories. The dataset specifies the details of these amalgamations.

Figure 4.2.1 below shows Total Income from Farming per hectare of farmed land at NUTS3 level. It can be seen from Figure 4.2.1 that large parts of England have a TIFF per ha of farmed land under £400, 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 will vary between NUTS3s. 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, along with a smaller patch encompassing the South Downs. Most of these NUTS3s include upland areas where geographical and climatic challenges restrict farming options and lead to an extensive approach which will lower returns per hectare used.

The darker areas with higher TIFF per ha of farmed land all have significant concentrations of intensive livestock (pigs and poultry) or intensive horticulture. Kent, Cornwall and South West Lancashire are hotspots for horticulture (production of fruit, vegetable or ornamentals). Wakefield and North Nottinghamshire have significant output from pigs and poultry, whilst some areas such as Norfolk, Lincolnshire, Herefordshire and Telford have 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.

Figure 4.2.1

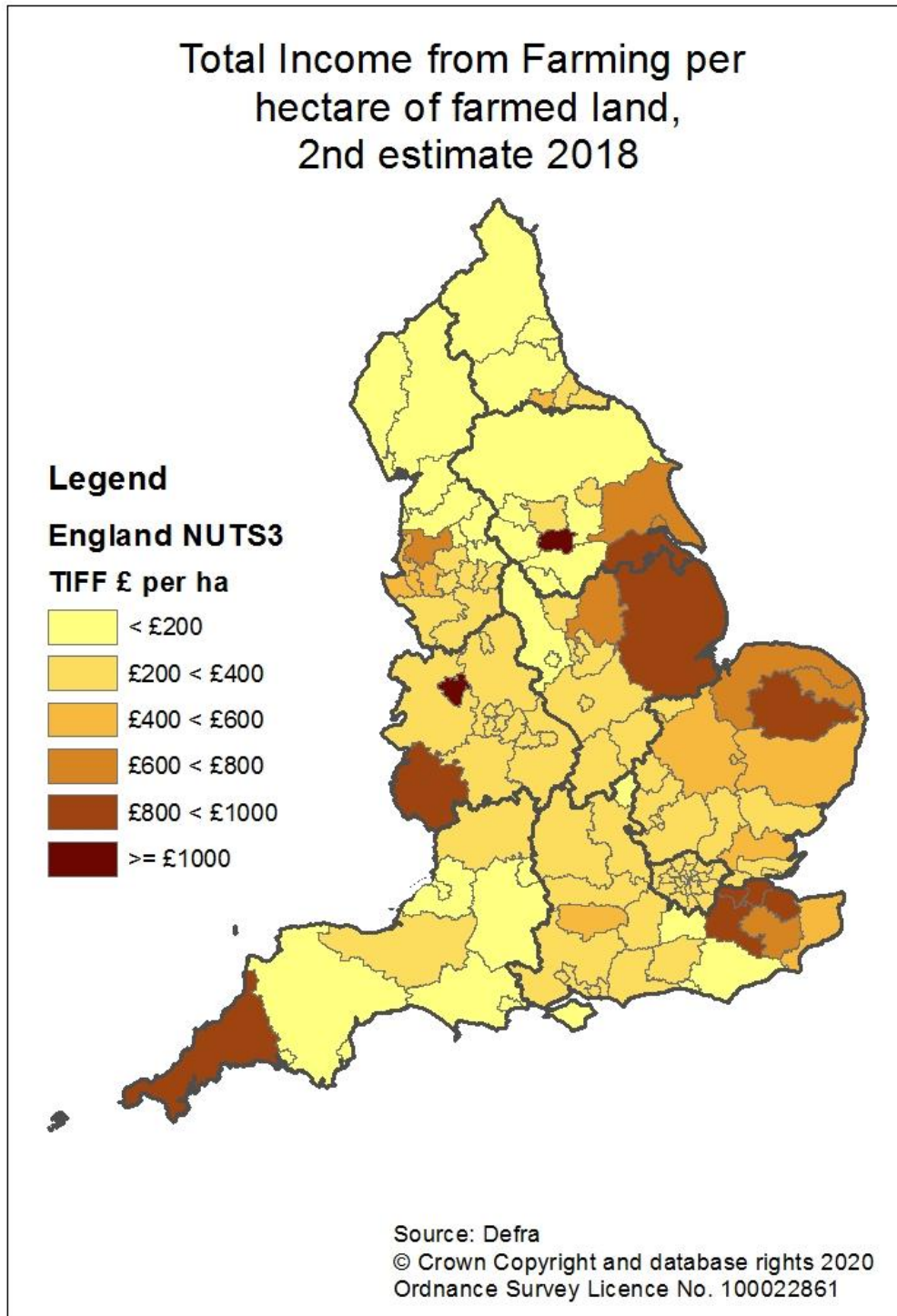


Figure 4.2.2

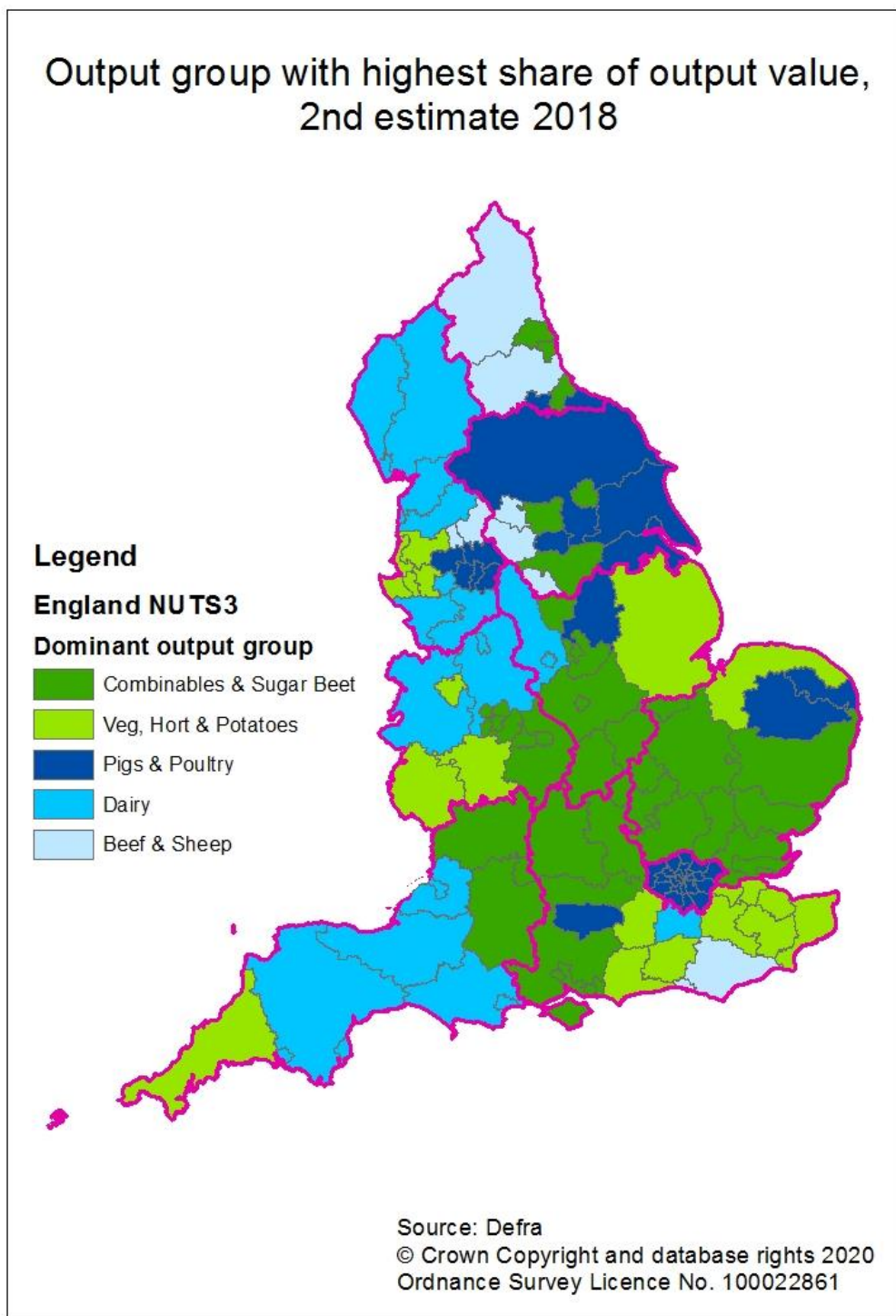


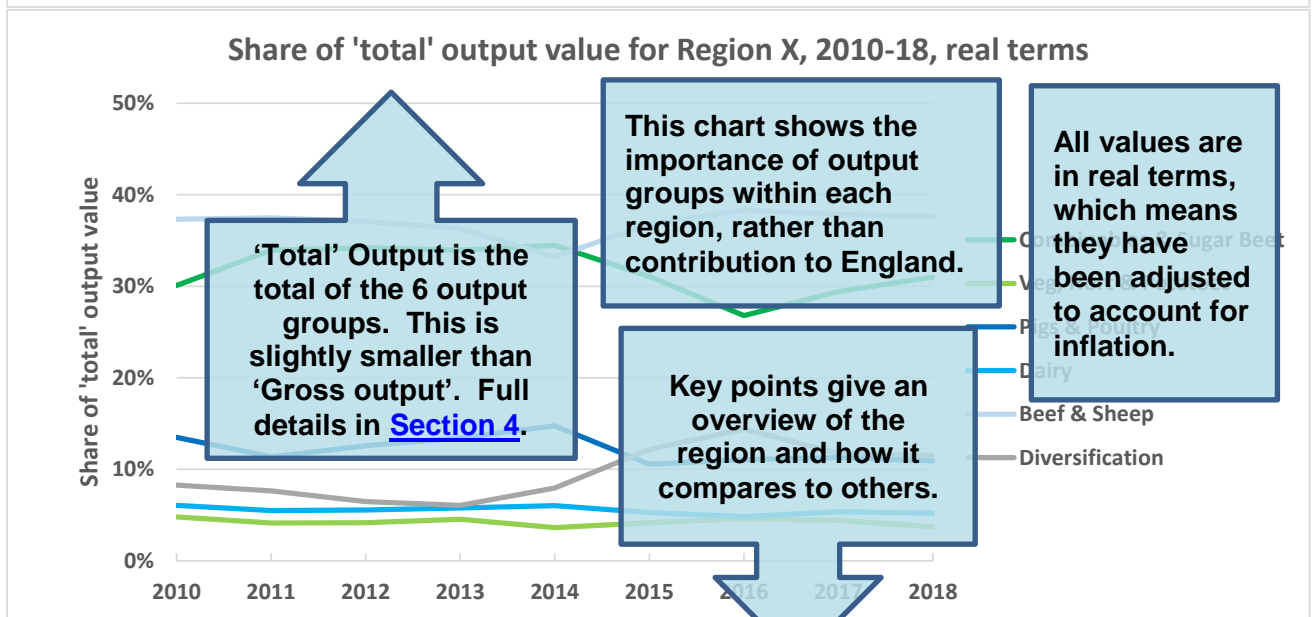
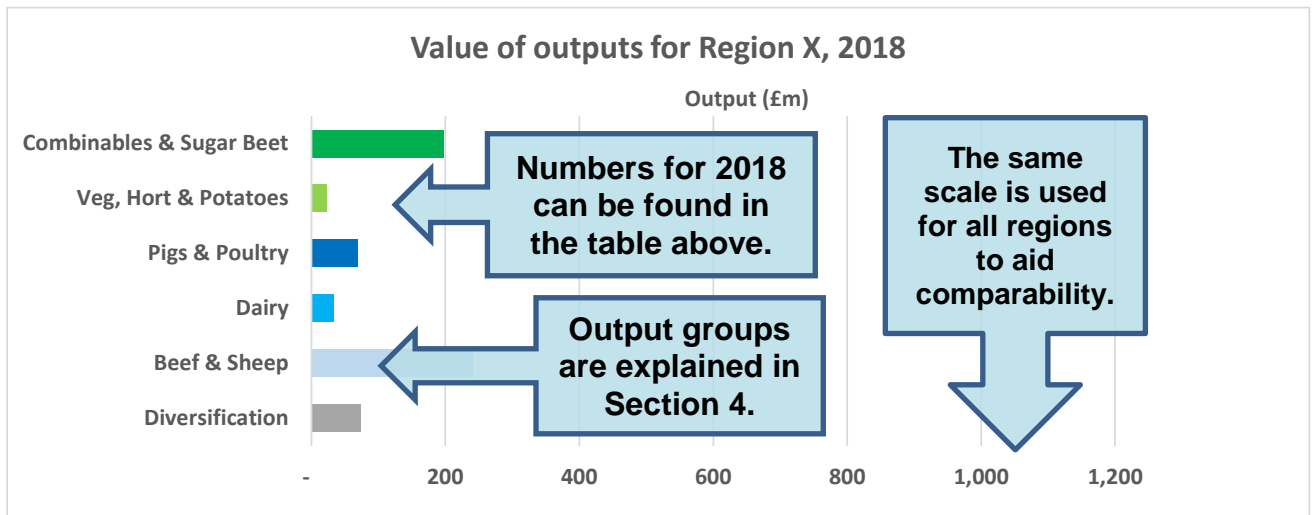
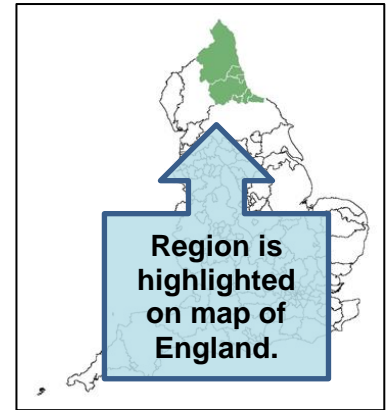
Figure 4.4.2 above depicts the output group (see Section 4.1 for definitions) with the largest share of output. It can be seen that within each NUTS1 region, there are at least three different output groups dominant in the individual NUTS3 territories. There are clear geographical concentrations of the output groups with Dairy dominant in many western areas and Combinables & Sugar Beet or Pigs & Poultry dominant in many eastern areas. Areas dominated by Veg, Hort & Potatoes are dotted around, though there is a cluster in the far south east of England. Beef & Sheep only dominates in the upland areas of the North East and the Pennines, along with East Sussex. Users should note that 'dominant' output groups have different output shares in different NUTS3s, though this cannot be seen from the map.

Section 5 – Regional Profiles

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 2018 and earlier years. A user guide is presented below to help explain the content and details of the profile sheets.

Regional profile

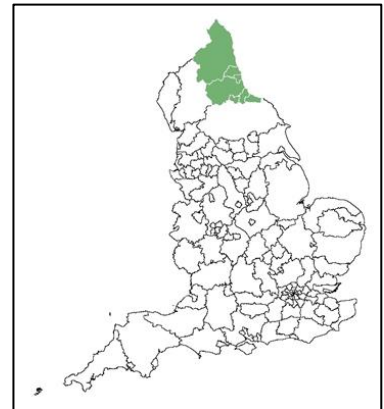
	2018 (£m)	% of England
Gross output at basic prices		4%
of which: <i>Combinables & Sugar Beet</i>		4%
<i>Veg, Hort & Potatoes</i>		1%
<i>Pigs & Poultry</i>	70	2%
<i>Dairy</i>	33	1%
<i>Beef & sheep</i>		11%
<i>Diversification</i>		6%
Total intermediate consumption		4%
Gross value added at basic prices		3%
Direct payments		7%
Total Income from Farming	70	2%



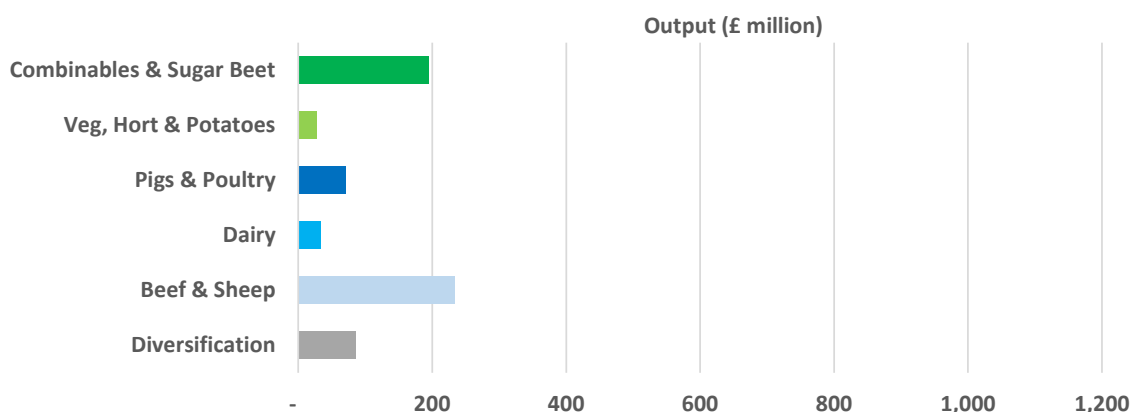
Key Points for Region X: Total Income from Farming for Region X is dominated by...

North East regional profile

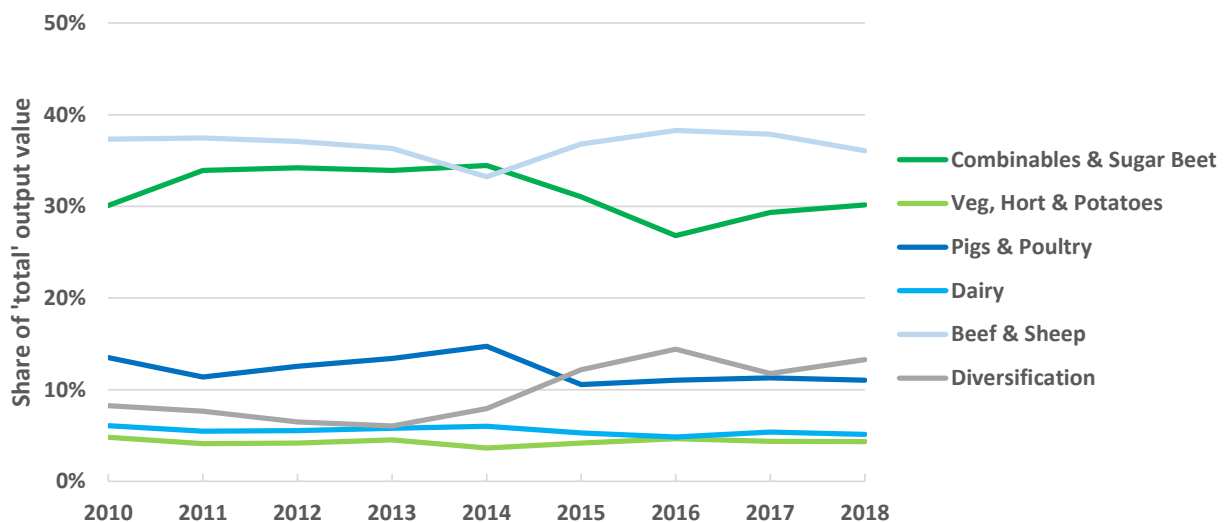
	2018 (£m)	% of England
Gross output at basic prices	759	4%
<i>of which: Combinables & Sugar Beet</i>	195	4%
<i>Veg, Hort & Potatoes</i>	28	1%
<i>Pigs & Poultry</i>	72	2%
<i>Dairy</i>	33	1%
<i>Beef & sheep</i>	234	11%
<i>Diversification</i>	86	7%
Total intermediate consumption	557	5%
Gross value added at basic prices	202	3%
Direct payments	144	7%
Total Income from Farming	64	2%



Value of outputs for North East, 2018



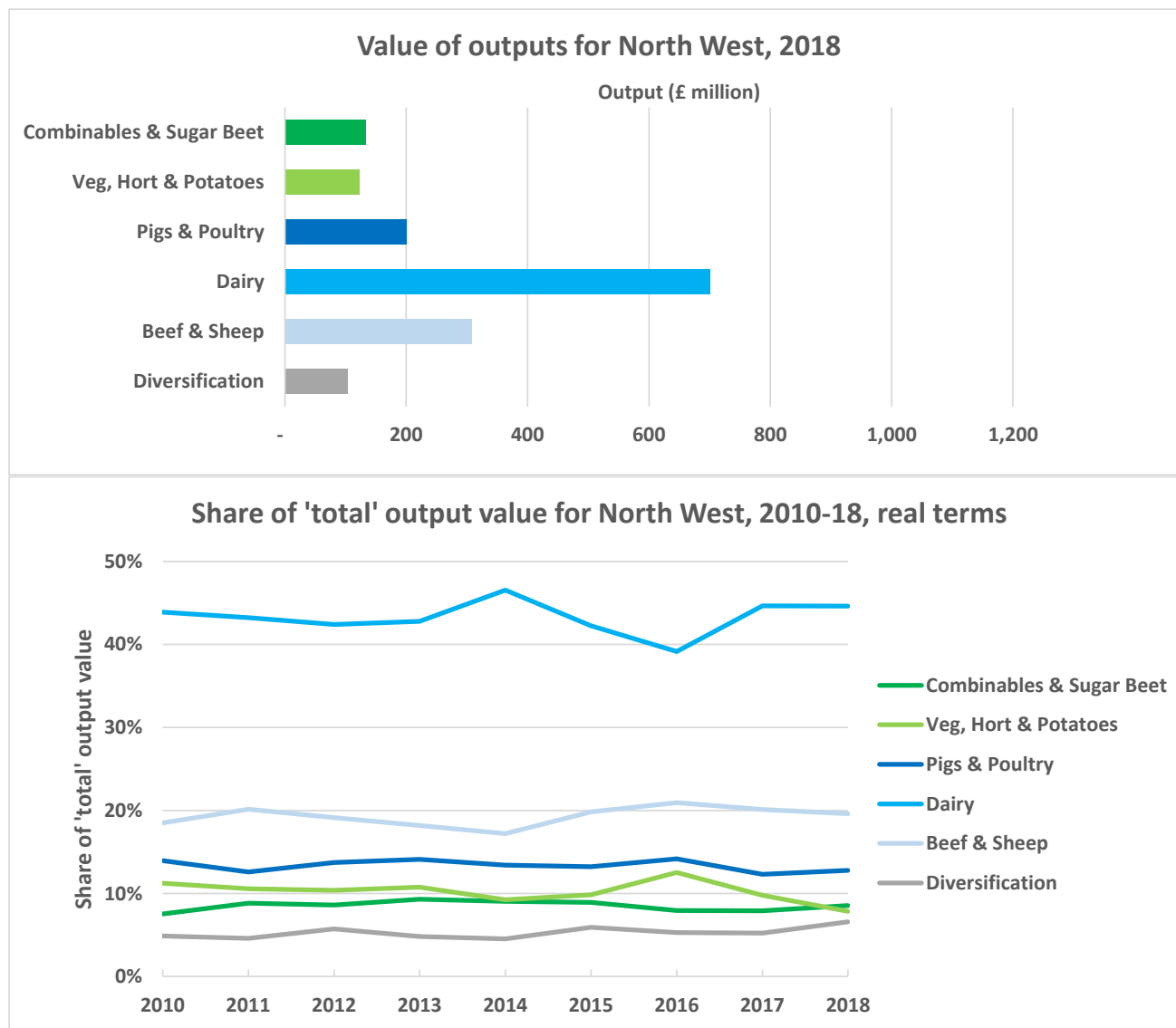
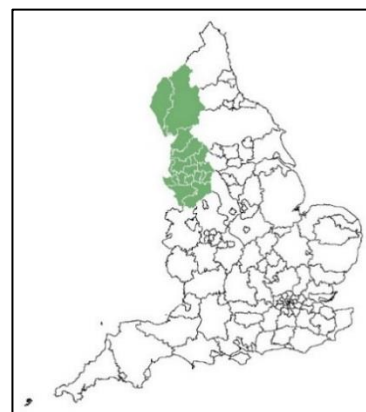
Share of 'total' output value for North East, 2010-18, real terms



Key Points for the North East region: From 2010, the NE has had the lowest TIFF 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 2010-18.

North West regional profile

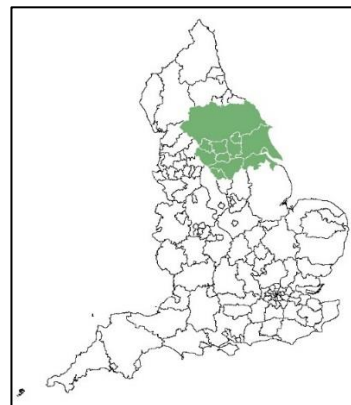
	2018 (£m)	% of England
Gross output at basic prices	1,802	9%
<i>of which: Combinables & Sugar Beet</i>	134	3%
<i>Veg, Hort & Potatoes</i>	123	4%
<i>Pigs & Poultry</i>	201	6%
<i>Dairy</i>	702	25%
<i>Beef & sheep</i>	308	14%
<i>Diversification</i>	104	9%
Total intermediate consumption	1,276	10%
Gross value added at basic prices	526	7%
Direct payments	224	11%
Total Income from Farming	108	3%



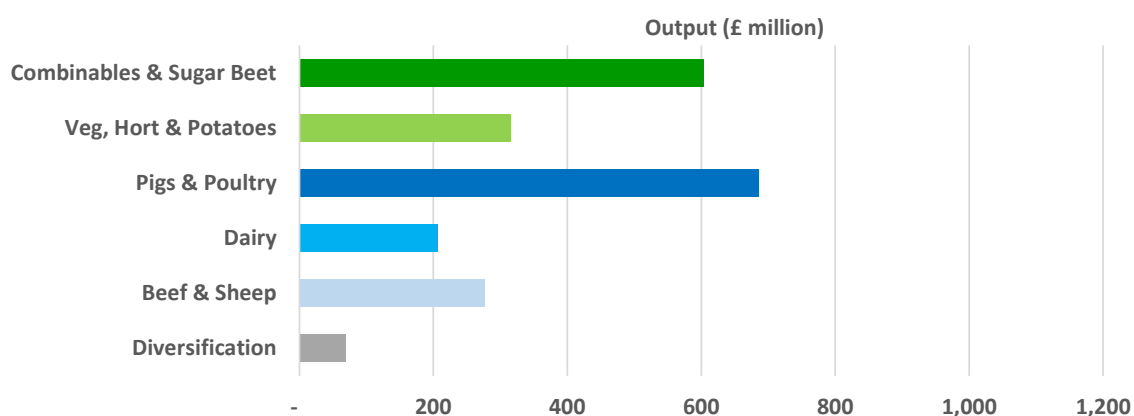
Key Points for the North West region: Dairy dominates output in North West, contributing about 45% of total output. The region was responsible for 25% of England Dairy output in 2018 and 14% of Beef and Sheep output. North West has consistently accounted for the second highest output from sheep, behind 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 2010-18, but this relied on the contribution of Direct Payments in every year except 2014, which was a very strong year for milk output.

Yorkshire & The Humber regional profile

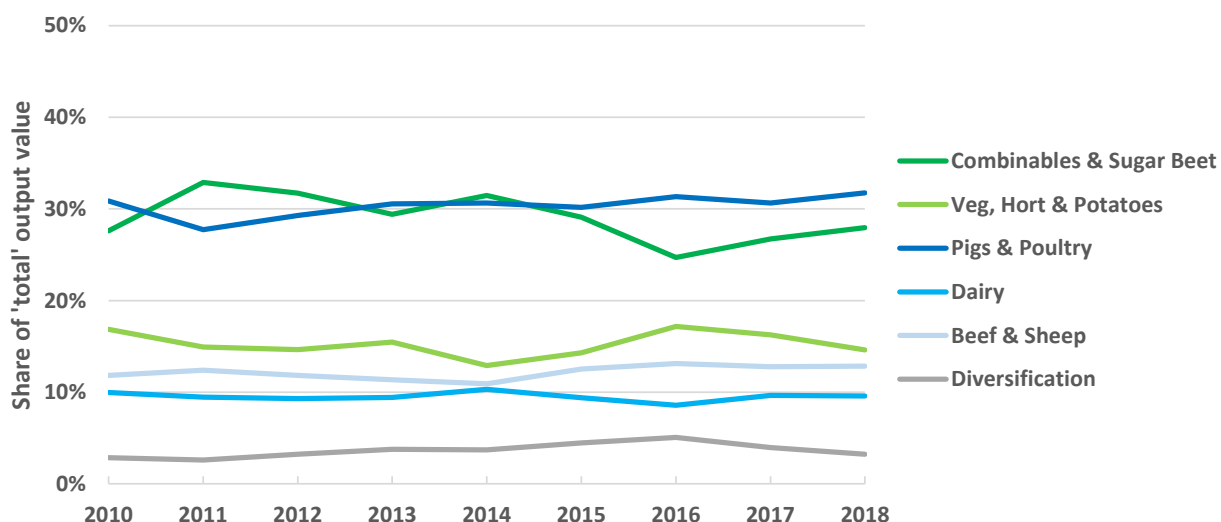
	2018 (£m)	% of England
Gross output at basic prices	2,377	12%
<i>of which: Combinables & Sugar Beet</i>	604	14%
<i>Veg, Hort & Potatoes</i>	316	9%
<i>Pigs & Poultry</i>	686	19%
<i>Dairy</i>	207	7%
<i>Beef & sheep</i>	277	13%
<i>Diversification</i>	70	6%
Total intermediate consumption	1,535	13%
Gross value added at basic prices	843	12%
Direct payments	262	13%
Total Income from Farming	365	11%



Value of outputs for Yorkshire & The Humber, 2018



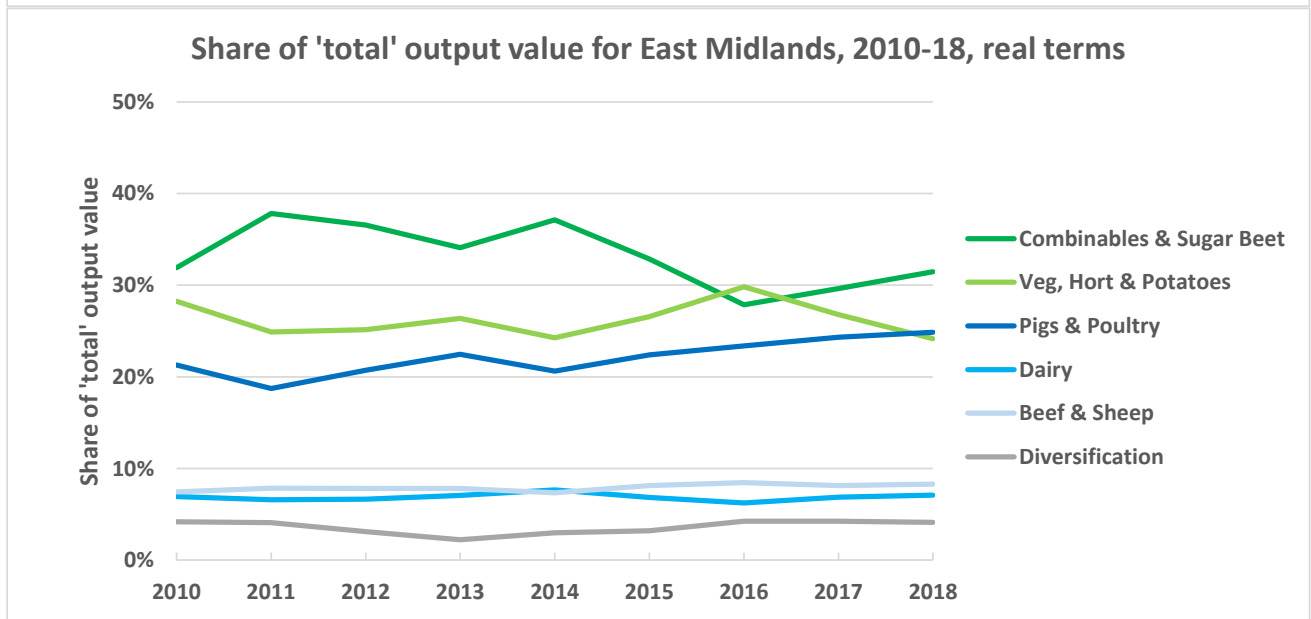
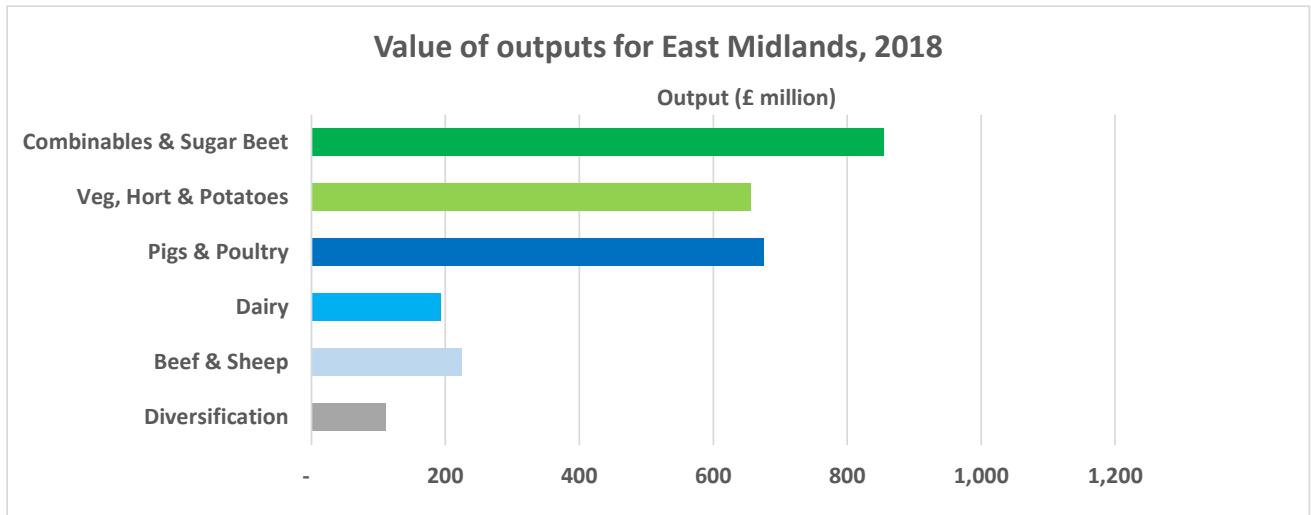
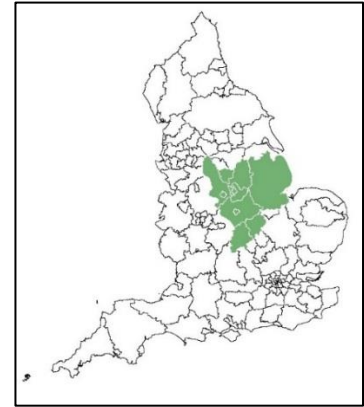
Share of 'total' output value for Yorkshire & The Humber, 2010-18, real terms



Key Points for the Yorkshire & The Humber (Y&H) region: 'Combinables & Sugar Beet' and 'Pigs & Poultry' are the main contributors to output in the region with roughly 30% each over 2010-18. Y&H has the highest absolute output of any region from Pigs. The region is quite varied with upland areas in the north and west and areas more suitable for arable in the south and east.

East Midlands regional profile

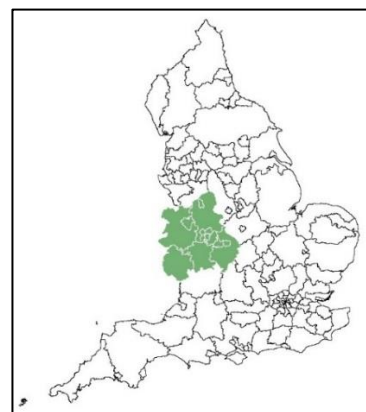
	2018 (£m)	% of England
Gross output at basic prices	2,948	15%
<i>of which: Combinables & Sugar Beet</i>	856	19%
<i>Veg, Hort & Potatoes</i>	657	19%
<i>Pigs & Poultry</i>	676	19%
<i>Dairy</i>	193	7%
<i>Beef & sheep</i>	225	10%
<i>Diversification</i>	112	9%
Total intermediate consumption	1,720	14%
Gross value added at basic prices	1,228	17%
Direct payments	272	13%
Total Income from Farming	654	20%



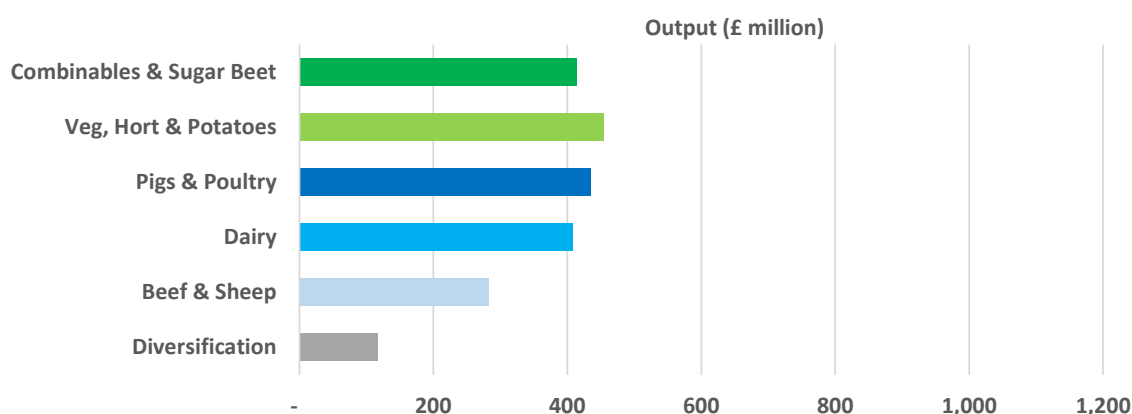
Key Points for the East Midlands region: TIFF has been consistently high in the East Midlands, driven by output from cropping and poultry. Lincolnshire is a particularly high output area with a TIFF comparable to several entire NUTS1 regions. Dairy and 'Beef & Sheep' have contributed only 5-10% to regional output but in absolute terms these were still each worth around £200m in 2018. 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.

West Midlands regional profile

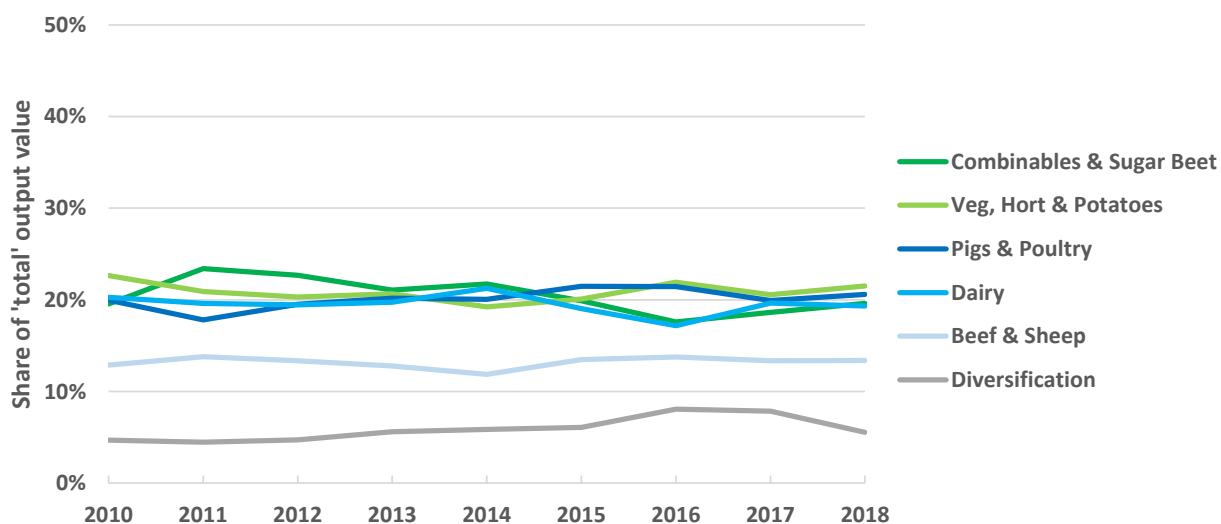
	2018 (£m)	% of England
Gross output at basic prices	2,334	12%
<i>of which: Combinables & Sugar Beet</i>	415	9%
<i>Veg, Hort & Potatoes</i>	455	13%
<i>Pigs & Poultry</i>	436	12%
<i>Dairy</i>	409	14%
<i>Beef & sheep</i>	283	13%
<i>Diversification</i>	118	10%
Total intermediate consumption	1,415	12%
Gross value added at basic prices	919	13%
Direct payments	215	10%
Total Income from Farming	413	12%



Value of outputs for West Midlands, 2018



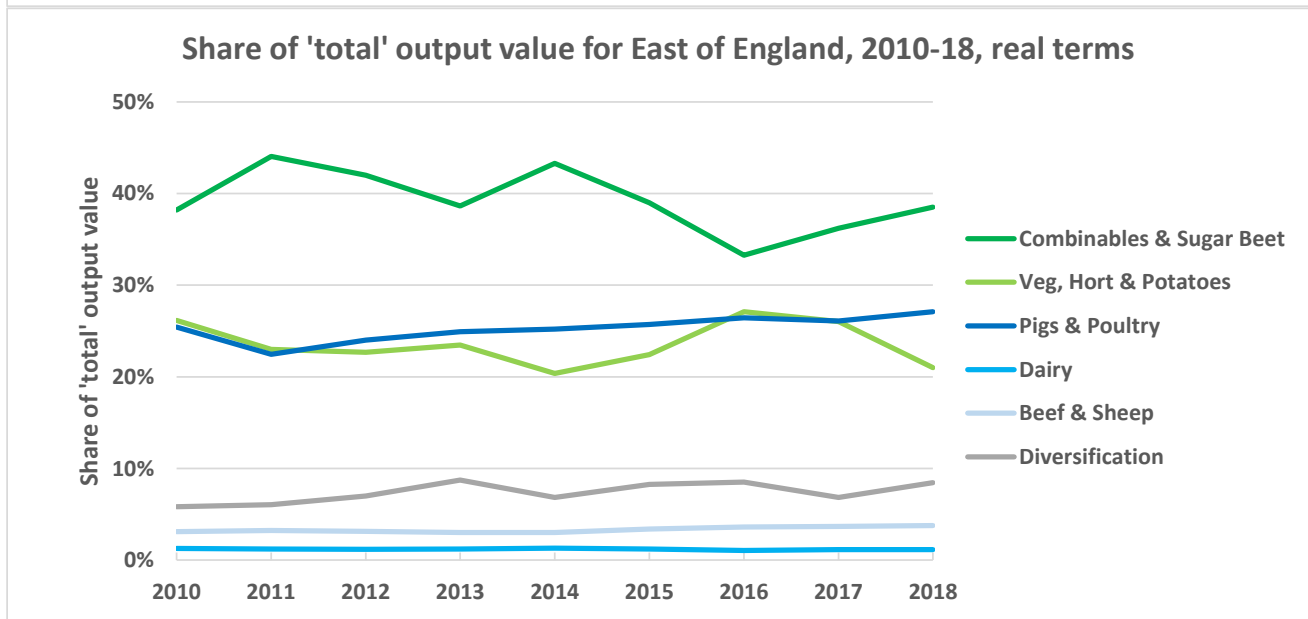
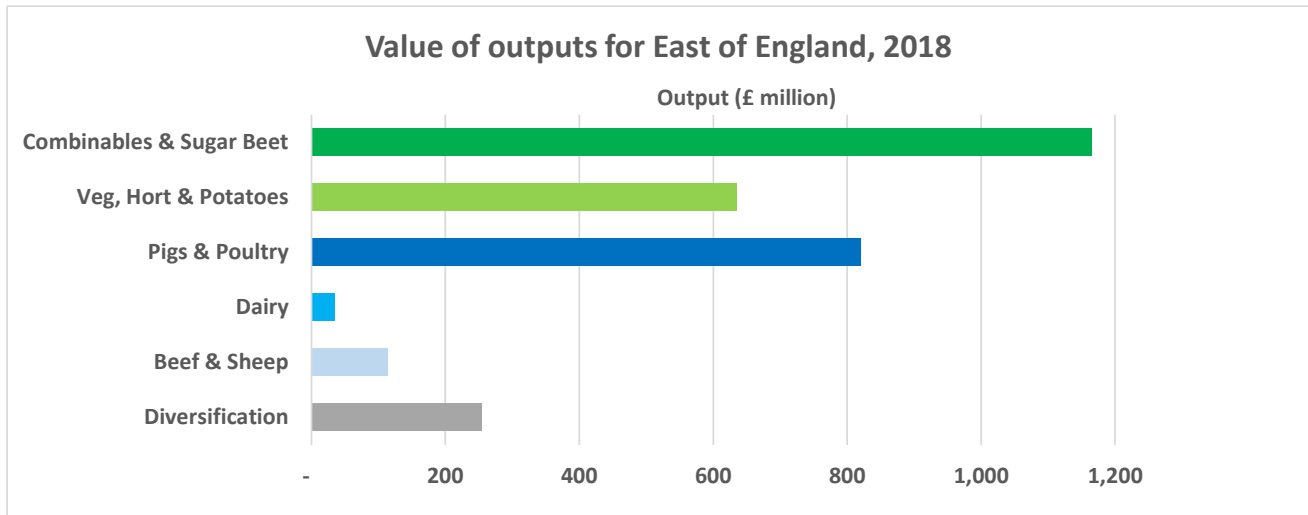
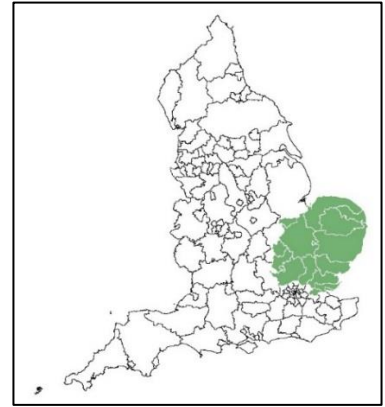
Share of 'total' output value for West Midlands, 2010-18, real terms



Key Points for the West Midlands region: The West Midlands has the most balanced range of outputs with output of around £400m 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.

East of England regional profile

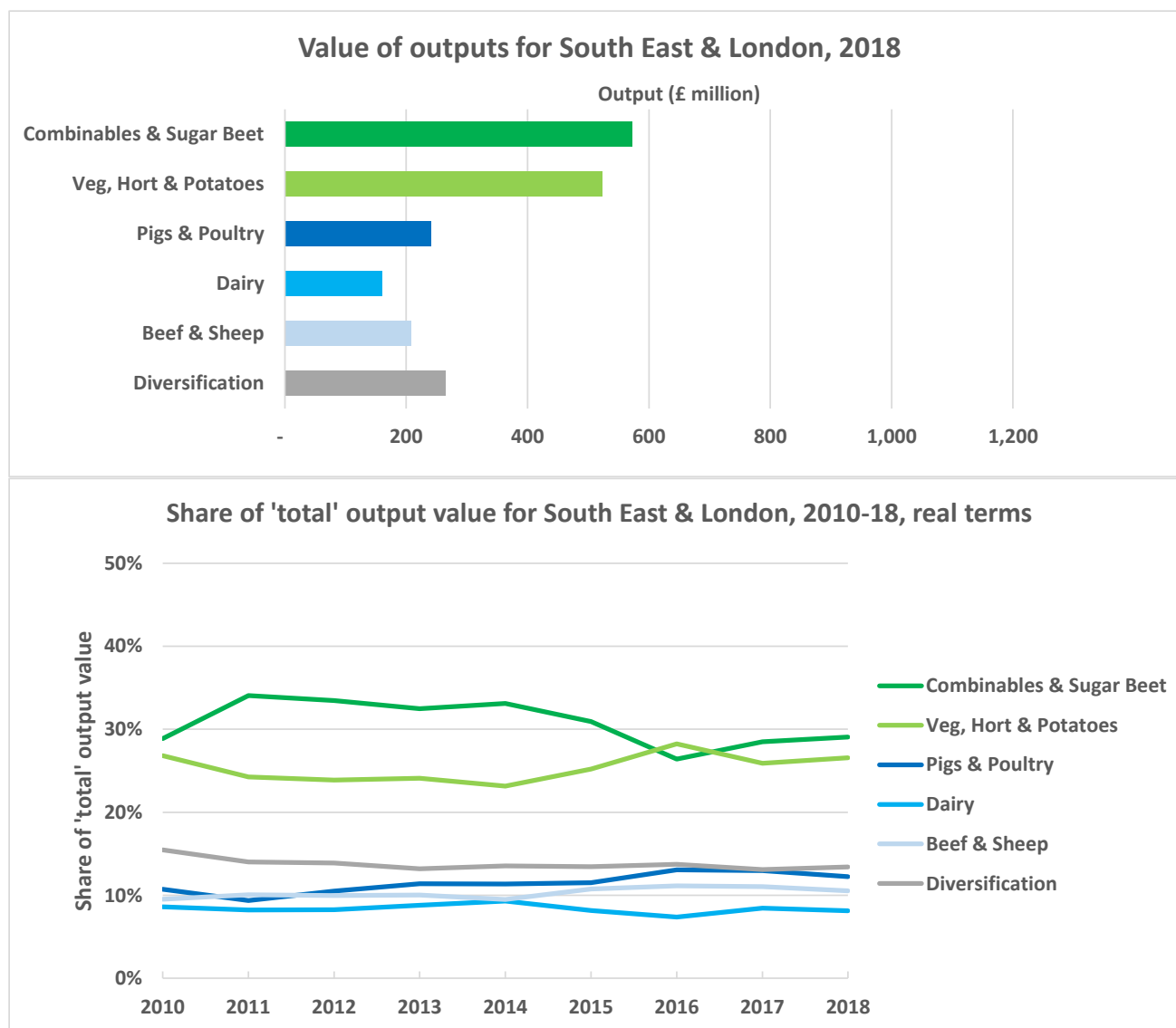
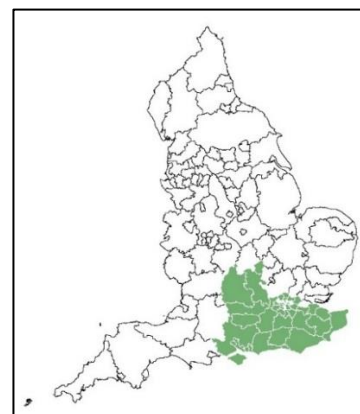
	2018 (£m)	% of England
Gross output at basic prices	3,243	17%
<i>of which: Combinables & Sugar Beet</i>	1,166	26%
<i>Veg, Hort & Potatoes</i>	635	18%
<i>Pigs & Poultry</i>	821	23%
<i>Dairy</i>	35	1%
<i>Beef & sheep</i>	114	5%
<i>Diversification</i>	255	21%
Total intermediate consumption	1,932	16%
Gross value added at basic prices	1,312	18%
Direct payments	317	15%
Total Income from Farming	727	22%



Key Points for the East of England region: This region has had the highest TIFF of any region in every year 2010-18, contributing 22% of England TIFF in 2018. In 2018, the East of England made the biggest contribution to England output for 'Combinables & Sugar Beet', 'Veg, Hort & Potatoes' and 'Pigs & Poultry'. 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. The region is the primary sugar beet producing area of England.

South East & London regional profile

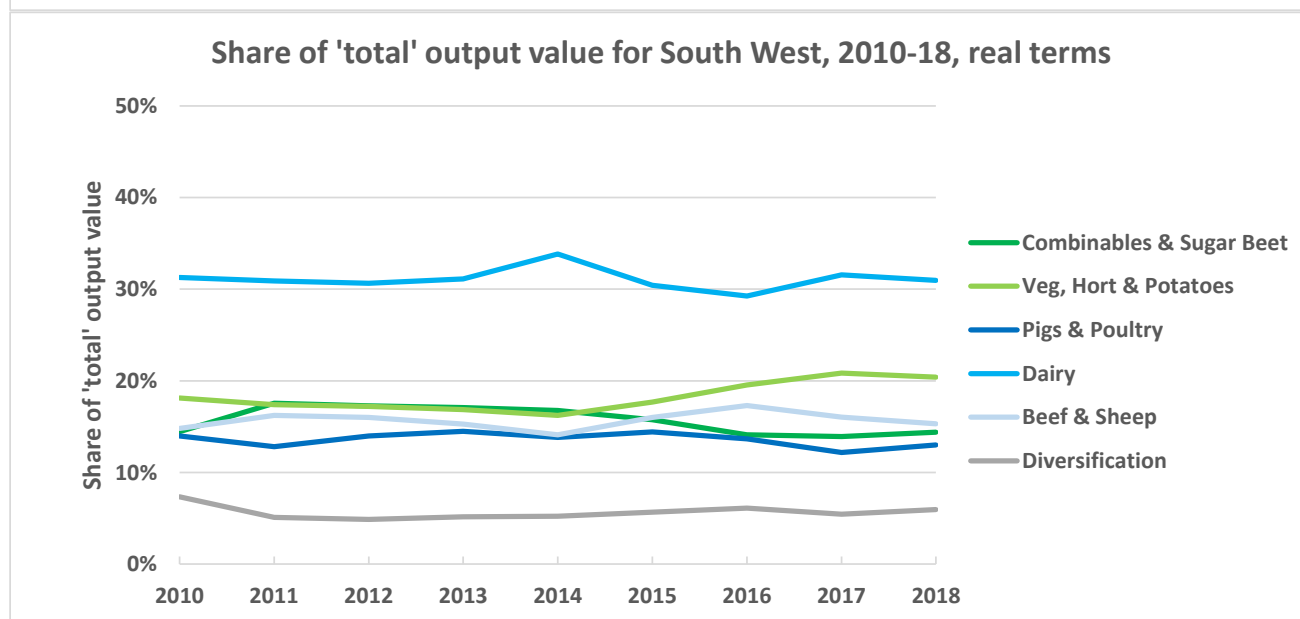
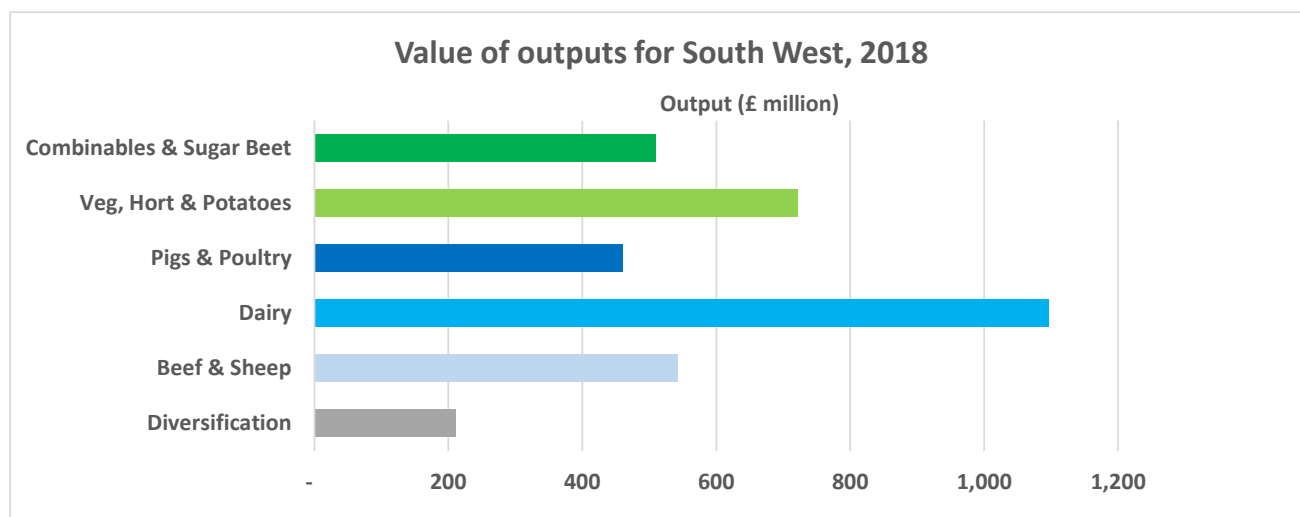
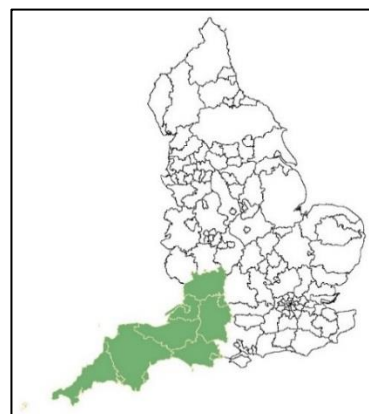
	2018 (£m)	% of England
Gross output at basic prices	2,153	11%
<i>of which: Combinables & Sugar Beet</i>	573	13%
<i>Veg, Hort & Potatoes</i>	524	15%
<i>Pigs & Poultry</i>	241	7%
<i>Dairy</i>	160	6%
<i>Beef & sheep</i>	208	9%
<i>Diversification</i>	264	22%
Total intermediate consumption	1,319	11%
Gross value added at basic prices	835	11%
Direct payments	254	12%
Total Income from Farming	425	13%



Key Points for the South East & London 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 (27%) than in any other region in 2018. 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 2018, Pigs & Poultry output was £241m, the third lowest of the 8 regions. In 2018, diversification output in the South East & London was £264m, the highest in any region.

South West regional profile

	2018 (£m)	% of England
Gross output at basic prices	3,951	20%
<i>of which: Combinables & Sugar Beet</i>	510	11%
<i>Veg, Hort & Potatoes</i>	722	21%
<i>Pigs & Poultry</i>	461	13%
<i>Dairy</i>	1,097	39%
<i>Beef & sheep</i>	543	25%
<i>Diversification</i>	211	17%
Total intermediate consumption	2,504	20%
Gross value added at basic prices	1,446	20%
Direct payments	403	19%
Total Income from Farming	547	17%



Key Points for the South West region: The South West has the largest farmed area and had the third largest TIFF in every year 2010-18. TIFF per hectare was lower than the England average in 2018, partly due to upland areas in Devon, Cornwall and Somerset. Output from Dairy was almost £1.1bn in 2018, equating to 31% 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 2010-18.

Annex – Background Information

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. A measure of individual farm incomes, Farm Business Income, designed to compare performance across different types of farming, is available at:

<https://www.gov.uk/government/statistics/farm-accounts-in-england>.

Definition of terms used in this Statistical Notice and datasets

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 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.

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.

Information on Nomenclature of Units for Territorial Statistics (NUTS) can be found at: <https://www.ons.gov.uk/methodology/geography/ukgeographies/eurostat>.

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.

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 can be found [here](#).

The regional accounts for England are constructed by apportioning each account item value (£) for England to the 133 NUTS3 regions (County/unitary authorities) using regional estimates from the 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 which has the precise 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 comes from the FBS. Due to the 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 a NUTS3 distribution. This allocation has been weighted by the values of outputs to take into account 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 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 the near future.

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.

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.

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 with a 10 month overlap is used as a proxy for calendar years. For example, FBS year 2017-18 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 on 1 June 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 further their understanding should contact <mailto:farmaccounts@defra.gov.uk>.

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 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 it was conducted with an enhanced sample size and therefore is considered to be more accurate than more recent surveys). At NUTS2 level this only impacts on London, however at NUTS3 level, 133 areas have been reduced to 80, using a bespoke set of geographical areas. Despite this, users should be aware that the level of uncertainty will increase in smaller NUTS areas and that the size of NUTS areas varies enormously at both NUTS2 and NUTS3 levels.

First and second estimates

For every year of the agricultural accounts, a first estimate of the England account is published in May 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 subject to some changes too.

This publication is the regional equivalent of the England account and therefore first and second estimates are also published, 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 previous year. For example, the 2018 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.

Other Revisions

The figures published for 2018 second estimates reflect a correction made to regional coefficients since the publication of the 2018 first estimates. The impacts are complex, but in general had the effect of moving costs from areas with significant shares of the poultrymeat sector to areas with significant shares of the horticulture sector.

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 England regions. Whilst this method is robust it introduces additional uncertainty such that these estimates are designated as Official Statistics in compliance with the Code of Practice for Official Statistics (<http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>).

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 release can be found on the GOV.UK website at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/aggregate-agricultural-accounts>.

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 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.

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 (<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 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.

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