Agriculture in the UK Evidence Pack
October 2021 update
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This publication presents a range of key statistics on farming and its environmental impacts. It is structured in the same way as the publication *Agriculture in the UK 2020* and complements the information published in that report.

The evidence and narrative presented here is based on the latest available data at the time that *Agriculture in the UK* was published. The majority of data is for the 2020 calendar year but in some cases data are for earlier years where more recent data is unavailable.

This publication will next be updated in the summer of 2022, to data for the 2021 calendar year.
In 2020, agriculture contributed around 0.5% to the United Kingdom’s economy. Agriculture provides half of the food we eat, employs almost half a million people and is a key part of the food and drink sector, which contributed £127bn to the economy in 2019.

In 2020, farmers and land managers managed 71% of the UK’s land, and through them we can safeguard our natural environment and ensure the highest standards of animal and plant health.

This Agriculture in the UK evidence pack brings together existing statistics on agriculture to summarise the current state of the agricultural industry.
Structure of Industry

Farming Income
Accounts
Productivity
Prices
Crops & Livestock
Inputs
Public Payments
Environment
Organic Farming
Overseas Trade
Food Chain
In 2019, the UK agriculture industry was made up of 219,000 farm holdings. In 2020, the utilised agricultural area was 17.3 million hectares of land, 71% of the UK land total.

The Utilised Agricultural Area (UAA) includes arable and horticultural crops, uncropped arable land, land for outdoor pigs, temporary and permanent grassland and common rough grazing.

Total utilised agricultural area has remained between 17 and 18 million hectares since 2000.

In 2020, the total croppable area was 6.0 million ha, or around 1/3 of the UAA.

In 2019, 1.6% of UK arable land was used to produce bioenergy crops, an increase of around 1% since 2015. Around 20% of this land was used for biofuel (biodiesel and bioethanol).

**In 2020:**

- Pigs: 5.1 million
- Poultry: 182 million
- Dairy Herd: 1.9 million
- Other arable crops: 719 thousand ha (4% UAA)
- Oilseeds: 415 thousand ha (2% UAA)
- Horticulture: 166 thousand ha (1% UAA)
- Potatoes: 142 thousand ha (1% UAA)
- Cereals: 3.0 million ha (18% UAA)
- Uncropped arable land: 362 thousand ha (2% UAA)

Permanent grassland is grassland that has not been sown in the last 5 years.

The average UK farm size in 2019 was 81 hectares. However, almost half of all farms were less than 20 hectares in size.
How are farm types classified in England?

Across England, many farms undertake more than one type of farming, and so farms are classified according to their main output within one of nine main farm types.

- General Cropping
- Cereals
- Mixed
- Horticulture
- Poultry
- Pigs
- Dairy
- Grazing livestock - lowland
- Grazing livestock - less favoured area

The varied topography and climate of England means that some sectors are more concentrated in some regions than others. Figures reported here are for 2019.

- **Sheep** are commonly farmed in hillier areas, particularly where cool summers and high rainfall are unsuitable for growing crops. 21% of England’s sheep herd is in the South West and 19% in the North West.

- The hillier upland regions are typically colder and wetter than the lowlands.

- **Poultry** can be reared indoors and require less land compared to other types of farming. Therefore, poultry farming is less dependent on environmental factors such as climate, altitude or soil type.

- **Pig farming** is concentrated close to where the feed is produced. 37% of England’s pigs are reared in Yorkshire and The Humber.

- **Moist air brings wet weather to the west of the England.**

- The warm, wet climate and gentler hills of the west of England make it suitable for **dairy farming.** 39% of England’s dairy herd is farmed in the South West.

- **Hot air brings dry summers to the East of England.**

- Warm summers and flat land makes the East suitable for **cropping.** 62% of England’s sugar beet and 27% of wheat is grown here.
What are the characteristics of farmers and employees?

Horticulture was the most labour-intensive farm type in 2019, with 7.2 workers per holding compared to 2 or fewer workers per holding for all other farm types. The majority of farm holders in England in 2016 were male (84%) and over a third were aged 65 or more.

Agriculture typically has an ageing workforce. In 2016, over a third of all farm holders in England were over the age of 65 years. Just 2% of holders were aged less than 35 years.

We capture information on the age and gender of farm holders less frequently. The most up to date data available is for 2016.
How many people are employed within agriculture in the UK?

In the UK in 2020, agriculture employed almost half a million people, 1.4% of the UK workforce, who were mainly involved in business ownership or management.

472,100 people were employed in the agricultural sector in the UK in 2020.

England: 301,500
Scotland: 67,700
Northern Ireland: 51,100
Wales: 52,800

The size of the UK agricultural labour force has remained largely stable over the past decade ranging between 464,000 and 481,000.

In 2020, 64% of those employed in the agricultural sector in the UK were either as farmers, business partners, directors or the spouse.

All agriculture workers (472,100)
Farmers, business partners, directors, spouses (300,600)
Regular employees, salaried managers, casual workers (171,500)

In 2016:
Agriculture typically has an ageing workforce. In 2016, over a third of all farm holders in the UK were over the age of 65 years. Just 3% of holders were aged less than 35 years.

85% of farm holders in the UK in 2016 were male
15% of farm holders in the UK in 2016 were female

We capture information on the age and gender of farm holders less frequently. The most up to date data available is for 2016.
How does average farm size vary across the English Regions?

In 2019, the average farm size in England was 87ha, however farms in the North East had the largest average farm size of 144ha and farms in the West Midlands were, on average, the smallest at 67ha.

Average farm size in England and each Region 2019 in hectares (ha)

- **North East**: 144ha
- **Yorkshire & Humber**: 93ha
- **North West**: 77ha
- **East Midlands**: 102ha
- **West Midlands**: 67ha
- **East of England**: 121ha
- **South East**: 86ha
- **South West**: 68ha

The proportion of farm size >100ha is greater in the North East than any other region, which may be due to the number of large estates in the North East. Large estates are also relevant to the high number of tenant farmers in this region. Northumberland, for example, has several large, ancestral estates and has the highest rate of tenanted land in the country. There are also large shooting estates in the Pennines, and the coastal arable belt tends to have larger farms.

Farm type is also a factor, as there is a high proportion of LFA farms, which tend to be larger because of the grazing area required. There are less dairy farms in the North East, which tend to be smaller in area.
In England, how many farms are owner occupied and how many are tenanted?

In England in 2017, the majority of farms (52%) are owner occupied and the North East has the greatest proportion of holdings that are wholly tenanted.

Of all the farms in England…

- 52% Owner occupied
- 14% wholly tenanted
- 34% mixed tenure (owning and renting the land that they farm)

Wholly tenanted farms have a younger age profile: 18% had a farmer aged under 45 in 2016 compared to 6% of farms that were solely owned.

Farms of mixed tenure tend to be larger than farms that are wholly owned or wholly tenanted.

Types of Tenancies in England

- Full Agricultural Tenancies (FAT), which generally have lifetime security of tenure.
- Farm Business Tenancies (FBT), which can be formal and informal (i.e. based on the same principles as an FAT but without the accompanying legal documentation).
- FATs and FBTs can be with and without Direct Payment entitlements and can include buildings/other assets.
- Seasonal agreements include licences for grazing and/or mowing - these can also include SPS/BPS entitlements.

Of the wholly tenanted farms in England…

- 22% of holdings (960) in the North East were wholly tenanted, accounting for 30% of the farmed area in the North East.
- In each of the other regions, 15% or less of holdings were wholly tenanted, accounting for less than 20% of land.

Average rents per hectare are greatest in the East and on cropping and dairy farms reflecting the quality of land needed and the demand.
How is farm business profit calculated and what was the average for all farms in England in 2017/18 and 2019/20?

Farm Business Income (FBI) is a measure of net profit, calculated as Farm Business Outputs (revenue) minus Farm Business Inputs (costs). Between 2017/18 and 2019/20 the average profit for all farms was £48,800, with Direct Payments equivalent to the largest share of this (53%).

### Average inputs and outputs for all farms from 2017/18 – 2019/20

**Agriculture (£249,900)**
Main measure of the value of crop and livestock outputs.

On average, across all farm types the agricultural part of the business made a small profit of £6,000 between 2017/18 and 2019/20.

**Diversification (£23,800)** Non-agricultural work of an entrepreneurial nature, on or off farm, but utilising farm resources, such as running a farmhouse bed and breakfast.

**Agri-environment (£5,500)** Payments to deliver environmental outcomes, compensating for income foregone in providing them.

**Direct Payments (£28,800)** Direct Payments are farm subsidy payments from the EU under the Common Agricultural policy. They are paid to farm businesses based on the amount of agricultural land they maintain.

**Costs (£259,800)**
Around half of costs to farmers are variable, changing depending on the level of production, and the other half are fixed, of which machinery is their largest.

**Farm Business Income (£48,800)**
The amount that a farm business has left after costs to invest, pay taxes and pay salaries.

**Inputs** are resources used in the production process, such as feed, materials, labour and machinery, measured in physical or financial terms.

**Outputs** values include the total value of crops produced, livestock enterprise output, by-products, forage and cultivations, and miscellaneous output.
How has economic performance of all farm businesses changed between 2009/10 and 2019/20?

Average performance has changed little since 2009/10 for the business as a whole. The difference between the top 25% and bottom 25% has grown very slightly.

The average performance at the farm business level has changed little since 2009. The difference in performance between the top and bottom 25% of farm businesses has grown since 2009.

Ratio of economic performance, top 25% vs bottom 25%:

<table>
<thead>
<tr>
<th>Year</th>
<th>Top 25%</th>
<th>Average</th>
<th>Bottom 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1.7</td>
<td></td>
<td></td>
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<tr>
<td>2010</td>
<td>1.9</td>
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<td></td>
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<tr>
<td>2011</td>
<td>1.8</td>
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<td>2012</td>
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<tr>
<td>2016</td>
<td>1.9</td>
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<tr>
<td>2017</td>
<td>2.0</td>
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<td></td>
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<tr>
<td>2018</td>
<td>2.0</td>
<td></td>
<td></td>
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<tr>
<td>2019</td>
<td>2.0</td>
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</tbody>
</table>

Farm Business Income (FBI) is calculated as the difference between Farm Business Outputs and Farm Business Inputs. It does not include an imputed cost for unpaid labour. When calculating farm economic performance, unpaid labour is included as a cost. This allows a fairer comparison between farms with employees and those that use unpaid (often family) labour.
What are the most profitable farm business types?

Between 2017/18 and 2019/20, 20% of all farms made a profit of more than £75k, with dairy, pigs and general cropping having the greatest proportion of farms in this group. Mixed and grazing livestock farms more likely to make a loss.

While Farm Business Income averages are useful to get a sense of how profitable the sector or a particularly farm type is overall, averages can mask the variation in profitability.

Thus, while there are some farms in every farm type who are not making a profit currently, there are also a large proportion of farms who are, demonstrating the potential for farms to be more profitable overall.

<table>
<thead>
<tr>
<th>Key (Average in brackets)</th>
<th>Dairy</th>
<th>Lowland grazing livestock</th>
<th>LFA grazing livestock</th>
<th>Cereals</th>
<th>Mixed</th>
<th>Poultry</th>
<th>Pigs</th>
<th>Horticulture</th>
<th>General cropping</th>
<th>All farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than £75k</td>
<td>More than £75k</td>
<td>More than £75k</td>
<td>More than £75k</td>
<td>More than £75k</td>
<td>More than £75k</td>
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<td>£0k to less than £10k</td>
<td>£0k to less than £10k</td>
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<tr>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
<td>Less than £0 (make a loss)</td>
</tr>
</tbody>
</table>

A majority of Dairy farms (51%) made more than 75k, however even with these farms 7% made a loss.

69% of Grazing Livestock farms in the Less Favoured Areas and almost 76% of Lowland Grazing Livestock farms had a profit of less than £25k per year.

19% poultry farms made a profit of over £75k, but over 20% also made less than £10k.
How does profit (Farm Business Income) vary across the different farm types in England?

Profit (Farm Business Income) varies across the different farm types, and over the period 2017/18 to 2019/20 dairy farms were most profitable and grazing livestock farms the least.

Average Farm Business Income (£)

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Agriculture</th>
<th>Agri-environment</th>
<th>Diversification</th>
<th>Direct Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>£48,800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td>£54,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>£41,700</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td>£40,800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>£14,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowland Grazing Livestock</td>
<td>£21,700</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LFA Grazing Livestock</td>
<td>£98,200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td>£76,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General cropping</td>
<td>£59,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals</td>
<td>£110%</td>
<td></td>
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</tbody>
</table>
| Mixed and grazing livestock farms made a loss from the agriculture side of the business as their costs of production outweighed the value of their output.

Around three-fifths of Farm Business Income came from the agricultural side of the business for dairy, horticulture and poultry farms.

Over 80% of Farm Business Income came from Direct Payments for grazing livestock and mixed farms.
How does economic performance vary between the highest and lowest performing farms in England?

Between the years 2017/18 and 2019/20, across all farms types in England, the average performance of the top 25% of farms was 1.6 times better than the bottom 25%. The largest gap was among LFA Grazing Livestock and Pigs, and smallest within Poultry.

For the top 25% of farms across each sector, cereal farms had the best average performance with outputs 42% higher than their inputs.

Comparing average economic performance of the top 25% of farms to the bottom 25% of farms shows the largest performance gap was among horticulture and grazing livestock farms and pigs. If the bottom 25% of farms improved to become more in line with the average then productivity for the whole sector would increase.

Ratio of economic performance, top 25% vs bottom 25%:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Top 25%</th>
<th>Bottom 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Lowland Grazing Livestock</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>LFA Grazing Livestock</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Cereals</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>General cropping</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>All_farms</td>
<td>1.6</td>
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</tr>
</tbody>
</table>

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Accounts
How much does agriculture contribute to the UK economy?

In 2020, agriculture contributed £9.4bn (0.49%) of the total net UK economy. The figures for this were similar in 2019, where England provided 78% of the value, Wales contributed 4%, Scotland 13% and Northern Ireland 5%.

In 2019:

agriculture contributed £10.4bn (0.53%) of the total net UK economy. As in previous years, England contributed the largest share (78%).

Agriculture £9.4 billion in 2020

The total net UK economy was worth a total of £1.92 trillion in 2020, of which agriculture contributed 0.49% (£9.4bn). The amount that agriculture contributes to the UK economy has varied little over the past few years.
What overall value of goods and services did agriculture produce and consume in 2020?

In 2020, agriculture generated £26.7bn worth of produce while consuming £17.3bn worth of goods and services, giving a net contribution to the UK economy of £9.4bn.

**£26.7 bn**
Total economic activity in the *production* of new agricultural goods and services

**£17.3 bn**
Intermediate *consumption* of goods and services to produce agricultural output

57% of livestock output is in the form of meat, 29% through milk, 9% through acquiring farming stock and 5% through eggs.

Producing agricultural products generates a demand for goods and services from other industries in the wider economy.

Gross Output (£26.7bn) less Intermediate Consumption (£17.3bn) = Gross Value Added (£9.4bn)
What is the total income (profit) from farming in the UK?

In the UK in 2020, the total profit of all farm businesses (Total Income from Farming) was £4.1bn. This is the gross value added (£9.4bn) minus depreciation of farm assets (£4.6bn), payment of wages, rent, interest and taxes (£3.7bn) and addition of farm subsidies (£3.2bn).

How is Total Income from Farming calculated?

\[
\text{Total Income from Farming} = \text{Gross Value Added} - \text{Wages} - \text{Asset Depreciation} + \text{Subsidies on production (b)}
\]

In 2020 these values were:

**Wages, rent, interest & taxation**
- Total value: £3.7bn
  - Breakdown by type:
    - Wages (inc. pensions): £2.77
    - Rent: £0.54
    - Interest: £0.44
    - Taxes on production: -£0.10

**Asset Depreciation**
- Total value: £4.6bn
  - Breakdown by type:
    - Equipment: £2.12
    - Livestock (a): £1.45
    - Buildings: £1.06

**Subsidies on production (b)**
- Total value: £3.2bn
  - Breakdown by type:
    - Basic Payment Scheme: £2.80
    - Agri-environment payments: £0.37
    - Less favoured areas support scheme: £0.03
    - Animal disease compensation: £0.03

(a) includes those held for draft, breeding or dairy purposes

(b) Subsidies on production* comes from the breakdown of UK agricultural accounts, and does not reflect the nature of payments, but is used here for consistency with other publications relating to Total Income from Farming; for example, agri-environmental schemes are not a subsidy and are based on income forgone.
How does the total income (profit) from farming vary from year to year?

Profit as measured by Total Income from Farming (TIFF) varies from year to year and therefore it is important to consider more than just one year when interpreting the performance of agriculture.

Exchange Rates
Farm income is exposed to variations in exchange rates. A weak pound is generally good for farming as UK agricultural goods become more competitive on the world market and imports become more expensive and less attractive.

Direct Payments
£/€ exchange rate affects income from Direct Payments, which is calculated in Euros. A weakening of the pound against the Euro increases the value of subsidy payment paid in pounds sterling.

Volatility
Income can be quite volatile with year-on-year rises and falls of over 40% over the last 20 years.

External shocks
Many products are traded globally, and droughts or disease in other countries cause shortages in production that can influence world commodity prices, impacting on the domestic market.

Production
Year on year, volumes of outputs remain relatively unchanged, whereas the prices farmers receive for what they produce can vary considerably. As a result incomes can rise and fall annually by up to 50%.

Weak Sterling
Reduces the pressure on farms to find efficiency gains which impact on growth.
What was England’s Total Income from Farming and how did the contribution by Region vary in 2019?

In England in 2019, after deductions for wages, rent, interest and asset depreciation and taking subsidy contributions into account, the total income from farming in England was £4.0bn, with the East of England contributing the most (22%) and the North East the least (2%).

Total Income from Farming (TIFF) in England and the proportion from each Region 2019

- **£4.0bn**
  - Total Income from Farming in England 2019
- **North East** £86 million
  - 2% of TIFF in England.
- **Yorkshire & Humber** £452 million
  - 11%
- **East Midlands** £751 million
  - 19%
- **West Midlands** £500 million
  - 13%
- **South West** £644 million
  - 16%
- **South East** £534 million
  - 13%
- **North West** £142 million
  - 4%

**Top 3 England outputs:**

- Dairy £2.9bn
- Wheat £2.3bn
- Poultry £2.2bn

England’s net contribution to the UK economy from agriculture was £8.1bn. To calculate TIFF, the following are deducted or added to this:

**Minus Asset Depreciation values**

- Equipment £1.6bn
- Livestock £1.0bn
- Buildings £0.8bn

**Minus wages, rents and interest values**

- Wages £2.1bn
- Rents £0.5bn
- Interest £0.3bn

**Plus Subsidy value** £2.2bn
What is productivity and how has UK agricultural productivity changed over time?

Productivity is a measure of the efficiency with which businesses turn inputs into outputs, indicating the economic competitiveness of a sector. Total factor productivity (TFP) in agriculture has increased by 50% since 1973, due to a 32% increase in outputs and a 12% decrease in inputs.

Productivity improves if the same use of inputs produces a larger volume of output*, or if the same volume of output is achieved from a smaller volume of inputs. The two main ways of measuring this are:

**Labour Productivity (LP)** is a measure of average output per unit of labour and is calculated as:

\[
\text{Labour Productivity} = \frac{\text{total output (by volume or value)}}{\text{total volume of labour inputs}}
\]

**Total Factor Productivity (TFP)** is a measure of how well agriculture turns inputs into outputs and is calculated as:

\[
\text{Total Factor Productivity} = \frac{\text{total volume of outputs}}{\text{total volume of inputs}}
\]

Index (1973=100) of agricultural inputs*, outputs and total factor productivity since 1973

<table>
<thead>
<tr>
<th>Year</th>
<th>TFP Growth</th>
<th>Total Outputs Growth</th>
<th>Total Inputs Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>+50%</td>
<td>+32%</td>
<td>-12%</td>
</tr>
</tbody>
</table>

How do farmers view productivity?

From an economic perspective, improving productivity in the agricultural sector increases the productive capacity of the economy, leading to economic growth and improved international competitiveness. Farmers taking part in discussion groups understood ‘productivity’ to relate to profitability rather than its economic definition, and view productivity as part of their objectives for business growth and sustainability. The importance assigned to productivity depends on whether farmers’ motivations are closer to profit and business growth, or lifestyle and environmental stewardship.

Productivity and the environment - Reducing input use by using more efficient production systems improves productivity, in addition to providing beneficial environmental outcomes from reduced use of natural resources and other inputs.
How does agricultural productivity compare to other sectors in the UK economy?

In 2020, the agriculture sector had an average labour productivity of £15 output per hour, the second lowest figure of all sectors and £21 less per hour than the average for the whole economy (£36).

Labour Productivity (LP) is a measure of average output per unit of labour and is calculated as:

\[
\text{Labour Productivity} = \frac{\text{total output (by volume or value)}}{\text{total volume of labour inputs}}
\]

Labour productivity is lower for agriculture than for many other sectors of the UK economy.

This could be due to an extent to the relatively low market value of agricultural products and relatively lower bargaining power compared to other primary industries such as mining and quarrying that extract high-value resources such as diamonds.

Agriculture’s relatively low labour productivity may also be due in part to the relatively high hours worked in the sector, with workers on average working for 44 hours per week compared to the economy-wide average of 29.
How does UK agricultural productivity compare with international competitors?

International comparisons of Total Factor Productivity (TFP) show that the UK has seen smaller improvements than some competitors over the past 30 years, however due to limitations with aggregate calculations it is important to also consider comparisons on a sector level.

Growth in Total Factor Productivity (TFP) since 1991 (%)*

<table>
<thead>
<tr>
<th>Year</th>
<th>France</th>
<th>United States</th>
<th>Netherlands</th>
<th>New Zealand</th>
<th>UK</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>82%</td>
<td>54%</td>
<td>52%</td>
<td>35%</td>
<td>18%*</td>
<td>4%</td>
</tr>
</tbody>
</table>

UK TFP has grown by 18% since 1991, however this rate of improvement has not kept pace with some other countries.

While Direct Payments are likely to have held back productivity-enhancing incentives in the UK, other EU countries have seen greater agricultural productivity growth whilst also receiving this subsidy.

There is potential for improvement in each of the ‘pillars’ of productivity: Ideas and Innovation, People and Information, Investment and Competition.

However, direct comparisons with other countries are not straightforward.

While the UK agriculture sector appears to perform poorly when compared to other countries, care must be taken when interpreting these comparisons. TFP growth rates do not take into account the differences in absolute productivity; although the UK seems to have lower growth; it may be that productivity in the UK was already high and competitors are catching up. Variance in the standards of production in each country are also not accounted for in these comparisons. Aggregate data does not allow for the different types of farms found in each country. For instance the UK has a greater proportion of grazing livestock farms than the Netherlands, which tend to have lower average farm productivity overall regardless of country, and therefore a greater number of these in any one country will result in overall productivity seeming lower due to the particular types of farm.

* A simplified methodology is used here to calculate globally comparable estimates of TFP growth. This means that the UK TFP growth shown in this chart differs to Defra’s published TFP statistics.
How have the prices received by farmers for the main UK agricultural outputs changed over time?

The prices farmers have received for their produce have fluctuated over time, and the factors behind this are often outside of their control.

Price indices for selected agricultural commodities 1990-to-2020

- Fresh Vegetables: The price of fresh vegetables has risen steadily since 1988
- Cattle and calves: After a peak in 2013 the milk price fell sharply, recovering in 2017 and remaining stable since.
- Milk: Cereals prices rose steadily throughout the first half of 2020 then increased rapidly in the second half of 2020 as a result of a rise in wheat prices.

These indices have a base year of 1990=100. Price indices measure relative price changes compared to a reference point or base year which is given a value of 100. The base year and the basket of goods used to calculate the index needs to be updated over time to reflect changing market trends, and for the Agricultural Price Index is updated every five years in accordance with the standardised methodology agreed across the EU.

Many determinants of output prices are outside the control of farmers. Increased global supply, changing consumer tastes and weather patterns are key external price determinants, particularly in heavily traded sectors like cereals.
Crops and Livestock
How many of each farm type are there in England and how much land do they use?

In England in 2019, the most numerous farm type was grazing livestock in lowland areas (30% of total), and cereals farms accounted for the largest farmed area (32% of total).

**Number of farms by sector type.**
Total Farm Holdings: 106,100

- **30%** Grazing Livestock (Lowland) 32,200 Farms
- **17%** Cereals 17,600 Farms
- **19%** General Cropping 20,100 Farms
- **12%** Grazing Livestock (LFA) 12,400 Farms
- **8%** Mixed 8,500 Farms
- **6%** Dairy 5,900 Farms
- **3%** Horticulture 3,500 Farms
- **3%** Poultry 2,800 Farms
- **2%** Unclassified 1,200 Farms
- **1%** Pigs 1,900 Farms

**Area of land used by sector type.**
Total Farmed Area: 9.2 million hectares (ha)

- **32%** Cereals 3.0 m ha
- **17%** General Cropping 1.6 m ha
- **14%** Grazing Livestock (LFA) 1.3 m ha
- **15%** Grazing Livestock (Lowland) 1.4 m ha
- **10%** Mixed 0.9 m ha
- **9%** Dairy 0.8 m ha
- **2%** Horticulture 148k ha
- **1%** Poultry 90k ha
- **<1%** Unclassified 5,724 ha
- **1%** Pigs 80k ha
Which products contribute most to the value of UK agricultural output?

In 2020 63% of the total value of the UK’s agricultural production comes from livestock, of which dairy and beef are the largest sectors.

<table>
<thead>
<tr>
<th>Product</th>
<th>Value (bn)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock</td>
<td>£15.1bn</td>
<td>63%</td>
</tr>
<tr>
<td>Dairy</td>
<td>£4.4bn</td>
<td>18%</td>
</tr>
<tr>
<td>Beef</td>
<td>£2.9bn</td>
<td>12%</td>
</tr>
<tr>
<td>Poultry</td>
<td>£2.8bn</td>
<td>12%</td>
</tr>
<tr>
<td>Sheep</td>
<td>£1.3bn</td>
<td>6%</td>
</tr>
<tr>
<td>Pigs</td>
<td>£1.4bn</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>£1.3bn</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crop</th>
<th>Value (bn)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops</td>
<td>£9.0bn</td>
<td>37%</td>
</tr>
<tr>
<td>Potatoes</td>
<td>£0.8bn</td>
<td>3%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>£3.0bn</td>
<td>12%</td>
</tr>
<tr>
<td>Fruit</td>
<td>£1.0bn</td>
<td>4%</td>
</tr>
<tr>
<td>Cereals</td>
<td>£2.8bn</td>
<td>11%</td>
</tr>
<tr>
<td>Vegetables/Flowers</td>
<td>£3.0bn</td>
<td>12%</td>
</tr>
<tr>
<td>Industrial Crops</td>
<td>£0.7bn</td>
<td>3%</td>
</tr>
</tbody>
</table>

For livestock ‘Other’ is the value of animals going into the breeding herd/flock.

Dairy had the highest value of output of all agricultural sectors in the UK in 2020, at £4.4bn.

Vegetables/Flowers and Cereals are the two largest crop outputs.

For crops ‘Other’ includes forage plants and other crop products, including seeds.

*This table shows only the main contributors to crops and livestock product value.*
How does the output from agricultural production vary across England?

Livestock is the principal output in the West of England, with dairy having the highest value. Crops are generally more prevalent in the East, however pigs and poultry also have high output values.

Agricultural outputs have been summarised into five main groups:

- Cereals* & Sugar Beet
- Veg, Hort & Potatoes
- Pigs & Poultry
- Dairy
- Beef & Sheep

*Cereals include industrial crops, forage plants and other crop products

Dairy and Beef & Sheep dominate the West of England, with Dairy production in the South West accounting for just over 5% of all England’s agricultural outputs. Agricultural output from livestock and crops is fairly balanced in the West Midlands.

Combinables & Sugar Beet and Vegetables, Horticulture & Potatoes are more dominant in the East, although Pigs & Poultry are also high value outputs in the East.
Inputs
What are the costs of production for farmers?

Around half of costs to farmers are variable, changing depending on the level of production, and the other half are fixed, of which machinery is their largest.

Variable costs change as the level of output varies. For example if a farmer plants more crops they need to purchase more seed or would need more casual labour for harvesting.

Fixed costs are constant in the short term meaning they are the same regardless of how much the farmer produces. In the longer term these can vary, for example, through negotiation of lower rent or purchasing of cheaper machinery.

<table>
<thead>
<tr>
<th>Total variable costs (£132,900)</th>
<th>Total fixed costs (£126,900)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops £45,400</td>
<td>Property £30,400</td>
</tr>
<tr>
<td>Livestock £65,800</td>
<td>Machinery £40,100</td>
</tr>
<tr>
<td>Other £21,700</td>
<td>Regular labour £22,700</td>
</tr>
</tbody>
</table>
<pre><code>                                                             | General farming costs £34,600 |
</code></pre>

Other variable costs
This contains mainly contractor costs and casual labour which increase or decrease depending on the amount produced by the farm.

Rents
Rents on average for all farm types, contributed 40% (or 12,100) to total property costs, or 5% of all input costs between 2017/18 and 2019/20.
Many farms have no rental costs as they are owner occupied. For wholly tenanted farms, rental costs made up 12% (£30,931) of their total costs.

General costs
This group includes items such as bank charges, professional fees, water, electricity, net interest payments, bad debt write off.
Water and electricity comprise around a half of these costs.
How can better input management help to reduce variable costs?

Costs from crops and livestock inputs can be reduced by practices such as improving feed efficiency, selective breeding of animals and/or following a detailed crop nutrient management plan developed with a qualified advisor.

Reducing livestock costs

Feed Efficiency

Animal feed is expensive for farmers, and inefficient conversion to a product for human consumption (meat, eggs and dairy) is costly. The feed conversion ratio (FCR) is the amount of feed required to produce 1kg of live weight. Since 2010, FCR has improved for poultry and pigs, indicating greater feed efficiency and increased productivity in these sectors.

Choosing the most appropriate feeds and ensuring the right balance of protein and nutrients can help farmers reduce costs and optimise production.

Breeding

Selecting traits in livestock can improve productivity and efficiency. Estimates from the Beef Feed Efficiency Programme suggest profits could increase by 40% if feed efficiency was incorporated into breeding programmes.

The estimated breeding value (EBV) measures the genetic worth of an animal for traits like meat production. However, in 2021, over half of holdings rarely or never used bulls with high EBV when breeding beef cattle.
How can better input management help to reduce variable costs?

Costs from crops and livestock inputs can be reduced by practices such as improving feed efficiency, selective breeding of animals and/or following a detailed crop nutrient management plan developed with a qualified advisor.

**Reducing crop costs**  
**Nutrient Management**

Farmers need to make advance decisions on input use, without having information on the conditions, future yield or the price that the product will be sold at. Because of this, farmers may use standardised quantities (e.g. as recommended within RB209 fertiliser manual), or apply excessive amounts to try and secure a better yield. Excessive use of inputs reduces profits as the cost of using more than is optimal may exceed the revenue gained. Nutrient excess also contributes to poor water and air quality, as well as GHG emissions. Farmers can optimise inputs so every unit of input increases profit.

Nutrient management practices like taking soil type, climate and crop demands into account could reduce the amount of fertiliser needed, reducing costs. However, nearly 1/2 of holdings do not have a nutrient management plan.

The majority of holdings spread manure, slurry or fertilisers, and limiting the use of nitrogen rich fertilisers to economically efficient levels can save money. However, around 29% of relevant holdings do not have a manure management plan.

Measuring soil fertility allows farmers to determine the type and amount of fertiliser that needs to be applied, minimising unnecessary fertiliser application. However, nearly 1/3 of relevant farms do not test the nutrient content of their soil.
How profitable are farms without Direct Payments?

On average, with Direct Payments excluded from their accounts, over the period 2017/18 to 2019/20, for every £100 spent, farm businesses made £109, meaning a profit of £9 per £100 inputs.

Farm Profitability (profit for every £100 inputs)

Profitability groups are defined by ordering farms by profitability from 1-100 (1st being least profitable and 100th being most profitable) and dividing these into 10 groups, so that 10% of all farms fall within each group.

More profitable farms produce more output for every £100 of input. Unlike farm performance, this measure does not include unpaid labour as a cost. Overall, farms received £109 in outputs for every £100 spent, an average profit of £9 per farm.

Most farms have the potential to be profitable. However, when looking at farm profitability by farm characteristic (such as farm type, economic size, land ownership status and farmer age), some characteristics are more prevalent in the bottom 10% than the top 10%. For example, 75% of farms in the bottom 10% are Grazing Livestock or Mixed farms compared to 33% in the top 10%.

Farm characteristics of the top 10% and bottom 10%

<table>
<thead>
<tr>
<th>Top 10%</th>
<th>Bottom 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>21% are Grazing Livestock or Mixed farms</td>
<td>34%</td>
</tr>
<tr>
<td>46% very small economic farm size</td>
<td>53%</td>
</tr>
<tr>
<td>4% are wholly tenanted</td>
<td>18%</td>
</tr>
<tr>
<td>27% are aged at least 65 (farmer)</td>
<td>38%</td>
</tr>
</tbody>
</table>

Average profit for every £100 spent by profitability group (2017/18 to 2019/20) excluding Direct Payments.

38% of farms spent more on inputs than they received from their outputs (excluding Direct Payments).

On average, the bottom 10% need to reduce inputs costs by 34%. These farms would need a longer transition period to adjust than farms making smaller losses.
Environment
What is the environmental opportunity of agriculture?

A number of public goods arise from a well-managed landscape, including recreational and environmental benefits.

Public goods are goods or services that no one can be stopped from using and where one person's use does not affect another’s. For the environment, this includes such goods as an attractive landscape or a public park. If left to the market alone, the benefits to society provided by these goods would be underprovided or not provided at all, due to a lack of profit incentive.

Farming and forestry can safeguard natural capital and provide public goods such as the provision of beauty, heritage and engagement. Farmland and woodland can provide thriving plants and wildlife as well as contributing to the provision of cleaner air and water.

Government can use policy to provide incentives for the delivery of public goods. Policies such as environmental stewardship schemes can reward the delivery of public goods by incentivising farmers to adopt beneficial practices or measures.

Around £4bn* worth of environmental benefits from farmland, forestry, woodland and trees per year in the UK, including:

- More than 116 thousand miles of rights of way in England, as footpaths, bridleways and byways.
- £182m* of air filtration benefits from farmland in the UK.
- Farmland is the destination of around 48% of all visits to the natural environment in England, around 4.1 billion visits every year.
- Farmland management contributes to the protection of iconic landscape features, such as dry stone walls.
- The value of educational visits to farmland (UK) is estimated at £1.86m*

Natural Capital refers to the elements of the natural environment that provide valuable goods and services to people, such as water, food and recreation.

*2015 value in 2017 prices
What is the environmental challenge of agriculture in relation to water quality?

Water quality can be adversely affected by farming through run-off of fertilisers, pesticides and slurry and through erosion of soil, which is washed off farmland.

- **Soil and Sediment**: Soil and sediment enter water when rain and wind erode soil, leading to nutrient enrichment and siltation, which impact fish and invertebrates and cause ecological damage.

- **Nutrients from Fertilisers**: Nitrogen and phosphorus enter the water cycle via groundwater and run-off, causing harmful blooms of plant life that deoxygenate rivers and lakes.

- **Pesticides & Ammonia**: Pesticides and ammonia can be toxic to many aquatic plants & animals, killing fish and invertebrates.

It is estimated that agriculture accounts for around 61% of the total nitrogen and 28% of phosphorus load in river water in England and Wales.

- **Nitrogen, phosphorus, fine sediment and low oxygen cause damage to aquatic ecology**

64% of all surface and groundwater bodies in the UK failed to achieve good or high status in 2019. The majority of these water body failures are due to urban and other non-agricultural pollution, but around 28% of failures were related to agriculture and rural land management. Increased nutrients and sediment in water increase the cost of water treatment, and negatively impact bathing water quality.

- **Nitrogen and Phosphorous**: Nitrogen and Phosphorous from manure, slurry and fertiliser application can make its way into surface waters and aquifers. Improvements in nutrient management practices and slurry and manure storage can help to reduce water pollution.

- **17% Nitrogen reduction in total nitrogen fertiliser application in the UK between 2000 and 2020.**

- **27% Phosphorus reduction in phosphorus fertiliser applications between 2000 and 2020 in the UK.**
What is the environmental challenge of agriculture in relation to soil health?

Soil is an essential natural resource, with poor management causing erosion, compaction, and depletion of nutrients, organic matter and biodiversity.

**Why are soils important?**

One quarter of the planet’s biodiversity is found in its soils. Soil and its organisms play vital roles in supporting food production, plant and tree health, nutrient cycling, carbon storage and sequestration, water storage and quality, and flood prevention.

Poor soil management can lead to:

- Compaction from livestock and machinery, leading to increased flood risks for downstream areas and reduced crop yields.
- Increased greenhouse gas emissions and loss of the carbon stored in soils.
- Erosion by wind and water, leading to less fertile soils and pollution in surface and coastal waters.
- Poor soil structure and nutrient balances, reducing fertility and provision of public goods.
- Loss of soil biodiversity.

**What is the current state?**

**In England and Wales:**

- **2 million** hectares of soil are at risk of erosion in England and Wales.
- **4 million** hectares of soil are at risk of compaction.
- **40 to 60%** of organic carbon lost from arable soils caused by intensive agriculture.
- **£0.9bn to £1.4bn** estimates of cost of soil degradation per year.
- **95% of UK land carbon stock is held in our soils.**

**Healthy living soils provide:**

- The medium for producing most of our food
- Carbon storage, reducing the carbon footprint of farming
- Water filtration, storage and flood prevention
- A habitat for a huge variety of organisms
- Nutrient and organic matter recycling
- A medium for producing most of our food

**How can agriculture help soils?**

Careful management is needed to make the use of soil resources by agriculture sustainable.

- Zero tillage systems may increase organic matter in the root zone, helping nutrient and water retention, and also reduce fossil fuel use.
- Planting cover crops and careful management of hillside fields can reduce erosion rates.
- Reducing compaction leads to increases in soil fertility and farm productivity, and helps to retain water in upland catchments.
- Organic farming and other agroecological approaches can protect and enhance the health of agricultural soils, for example, through the use of legumes, crop rotations and organic manures.
What is the environmental challenge of agriculture in relation to greenhouse gas emissions?

Agriculture is responsible for 10% of the UK’s greenhouse gas emissions, mainly through emissions of methane and nitrous oxide from grazing livestock and fertilisers.

**Carbon dioxide** (CO\(_2\)) is a major greenhouse gas, but agriculture is only responsible for around 2% of UK CO\(_2\) emissions. These are mainly though use of energy and fuel, which can be reduced by improving efficiency, and by generating energy from renewable sources on-farm.

**Methane** (CH\(_4\)) is a more potent greenhouse gas than CO\(_2\), particularly over short timescales. Agriculture is responsible for almost half of the UK’s total emissions.

**Nitrous oxide** (N\(_2\)O) is the most potent greenhouse gas that agriculture emits, having a warming effect that is around 300 times stronger than CO\(_2\). Agriculture emits 68% of the UK total.

**Carbon sequestration:**

Land managers can and do help mitigate climate change by increasing carbon storage through the creation of more forests and woodland, and to a lesser extent, through good management to restore the organic carbon content of soils to its natural maximum. These practices can also improve the nutrient and water holding capacity of soils, which provides agronomic benefits. There is also potential to reduce the contribution of degraded peatlands to GHG emissions through restoration activities.

**£3.1bn**
cost of UK greenhouse gas emissions from agriculture in 2015.

10% estimated fall in nitrous oxide emissions from agriculture since 2000

10% estimated fall in methane emissions from agriculture since 2000

90% of agricultural N\(_2\)O emissions are a result of nitrogen fertiliser application

Grazing livestock are responsible for nearly 90% of methane emissions

![UK Greenhouse Gas Emissions (2019) in CO\(_2\) Equivalents](image)
What is the environmental challenge of agriculture in relation to ammonia emissions?

Agriculture was responsible for 88% of UK emissions of ammonia in 2019, mainly from livestock farming and fertiliser use.

18% overall fall in agricultural emissions of ammonia between 1990 and 2019, due partly to declining cattle numbers, better manure and slurry management, and reduced fertiliser use, although this trend has reversed in recent years.

Ammonia emissions affect human health, reduce air quality, can cause soil acidification, harm vegetation and contribute to air pollution. 88% of UK ammonia emissions came from agriculture in 2019, mainly from livestock farming and mineral fertiliser use.

Cattle are the largest source of ammonia, but it is also associated with chicken and pig farms, and with slurry and fertiliser use. Poor storage of slurry and manure can lead to high levels of pollution, and many farmers have taken steps to improve this.

Farmers can also limit the use of nitrogen-rich fertilisers to economically efficient levels, storing and applying them safely and efficiently, as excess nitrogen can be converted to ammonia by microbial processes.

Ammonia emissions can combine with industrial and transport emissions, forming harmful fine particulates which cause smog in urban areas and impact public health.

£1.44bn costs to human health and the environment from UK agriculturally-produced ammonia in 2019 (in 2017 prices).
What is the environmental challenge of agriculture in relation to biodiversity?

Farming practices can have many impacts that can lead to a reduction in wildlife biodiversity (including loss of habitats and food sources). The UK farmland bird index, an indicator of the state of wildlife generally, has fallen to less than half its 1970 value.

Bird populations are often used as indicators of the state of wider wildlife biodiversity, as they occupy a wide range of habitats, respond to environmental stresses that affect other groups of wildlife and are often high up their respective food chains.

Some farming practices have negative impacts on bird populations, and on wildlife more generally. The vast majority of England’s wildlife depends on the remaining areas of semi-natural habitat that are less intensively farmed within the countryside.

However, many farmers and land owners are actively playing their part to conserve and enhance the countryside’s wide network of trees, hedgerows, ponds, ditches and other watercourses. Many options to do so are included within agri-environment agreements.

Agriculture and Biodiversity

There have been historic trade-offs between farming and biodiversity, with the conversion of natural habitats into intensively managed farmland.

Land sharing integrates delivering environmental benefits and producing food on the same land, for example through current agri-environment schemes.

Land sparing protects natural habitats by separating them from intensive agriculture, for example through nature reserves. Sparing of land is then balanced by sustainable intensification of farming on agricultural land.

These two models benefit biodiversity on different scales, and a combination of different approaches will be needed in different landscapes and habitats.
What are the main farming systems?

In the UK 97% of farmed area is classified as conventional and 3% is classified as organic in 2020.

**Conventional**
97% Total Farmed Area

The majority of land in the UK is farmed conventionally. There are two types of conventional agriculture:

**Intensive Farming**

- Increases productivity through increasing inputs.
- Inputs, such as capital, labour, and chemicals are high relative to land area.
- Output per hectare tends to be high.

For example intensively farmed livestock may be housed indoors and fed on arable by-products.

**Extensive Farming**

- Increases productivity through farming more land.
- Inputs are relatively low, as is output per hectare. More land is therefore needed to produce the same amount of food as intensive farming.

For example extensively reared livestock may be kept on pasture and grass fed for most of the year.

**Organic**
3% Total Farmed Area

489,000 ha are farmed organically, using natural methods to control pests and disease to minimise damage to the environment and wildlife. Herbicides, synthetic pesticides and antibiotics are banned. All foods sold as organic must go through a certification process.

- 82% of organically farmed land in the UK is pasture (permanent and temporary)
- 9% of organically farmed land in the UK is for cereals. (43k ha)
- 62% of the total UK organic area is in England

How many animals are reared organically, and what proportion of total UK livestock do they represent?

- 3.8 million (2.1%)
- 731k (2.2%)
- 304k (3.2%)
- 27k (0.5%)

Agriculture in the UK Evidence Pack
The UK’s food production to supply ratio, an indicator of the ability of UK agriculture to meet domestic consumer demands, stood at 74% for indigenous foods in 2020.

Historically, the UK has been a large net importer of food. To have a resilient food chain, it is advantageous to have a diverse range of food sources, including imports from a wide range of stable economies. The chart below shows some of our most important products, where circle size indicates sector size (£).

For fresh fruit, the food production to supply ratio was just 16% in 2020, highlighting the need for imports to meet domestic demand.

The food production to supply ratios of sheep and milk were 110% and 105% respectively in 2020 showing that domestic production more than met domestic consumer demand.

Indigenous food excludes those foods not commercially grown in the UK, such as bananas, which could not reasonably be grown in our climate.
What are the origins of food consumed in the UK?

In 2020, half of all food (54%) consumed in the UK was of UK origin, with the majority of the rest of food consumed (28%) of EU origin.

Since 1988, the amount of food consumed in the UK of UK origin has fallen from 66% to 54%, whilst the amount of food consumed of EU origin has risen from 18% to 28% over the same period. The amount of food consumed from each region outside the UK and EU has remained stable over time.

Please note: The origins of food consumed in the UK looks purely at the breakdown of food that the UK actually consumes, and should not be confused with the Food Production to Supply Ratio chart.
What agricultural food products do we import and export most of?

In 2018, we imported more agricultural or lightly-processed food products than we exported, with the exception of offal, milk and cream, milk powder and potatoes.

This chart shows a selection of agricultural food products, collated from HMRC trade statistics.

For most products, the value of imports was much higher than exports in 2018. Products with a higher export value than import value are highlighted in bold.

### Meat & meat products
We imported more of all meats and meat products in 2018, other than edible offal and other meat (which includes goat, for example).

### Fruit & vegetables
The highest value import categories were fresh fruit and fresh vegetables.
Where does the food we import come from?

In 2018, the UK imported £17.3 billion worth of agricultural or lightly-processed food products, with the majority (£12.7 billion) coming from the EU.

Source of imports to the United Kingdom of agricultural or lightly processed food products and the proportion imported from each region.

- **EU**: 74%
  - 100% of UK bacon, ham and pork and 99% cheese imports are from the EU.
  - 26% of total UK wheat imports are from North America.
  - 7% of UK bacon, ham and pork and 99% cheese imports are from the EU.
  - 5% of total UK wheat imports are from North America.
- **Rest of Europe**: 2%
  - 45% poultry product imports from here.
  - 83% UK lamb and mutton imports from here.
- **North America**: 5%
  - 26% of total UK wheat imports are from North America.
  - 7% of total UK wheat imports are from North America.
- **South America**: 7%
  - 7% of total UK wheat imports are from North America.
  - 7% of total UK wheat imports are from North America.
- **Africa**: 6%
  - 7% of total UK wheat imports are from North America.
  - 7% of total UK wheat imports are from North America.
- **Asia**: 5%
  - 7% of total UK wheat imports are from North America.
  - 7% of total UK wheat imports are from North America.
- **Oceania**: 3%
  - 7% of total UK wheat imports are from North America.
  - 7% of total UK wheat imports are from North America.

All figures are annual import and export totals for 2018.
In 2018, the UK exported £4.7 billion worth of agricultural or lightly-processed food products, with the majority (£3.8 billion) going to the EU.

Destination of exports of agricultural or lightly processed food products from the United Kingdom and the proportion imported into each region.

- **EU**: 80%
  - 99% UK wheat, 98% UK bacon and ham, 97% UK milk and cream exports go to the EU
- **Rest of Europe**: 2%
- **Asia**: 10%
  - 51% UK edible offal and 22% UK pork exports go to Asia.
- **Africa**: 4%
  - 26% UK potato exports go to Africa
- **North America**: 3%
- **South America**: 0.1%
- **Oceania**: 0.5%

All figures are annual import and export totals for 2018.
Which countries do we trade the most (agricultural and lightly processed foods) with?

In 2018, Ireland, the Netherlands, Spain, France and Germany were the UK’s top trading partners, with a combined import total of £9.4bn and export total of £2.9bn for these 5 countries alone.

- **Ireland**
  - £2.4bn total imports
  - £1.4bn total exports
  - In particular, the UK imports £820million of beef and veal from Ireland and exports £270million of milk and cream to Ireland.

- **France**
  - £1.3bn total imports
  - £520m total exports
  - In particular, the UK imports £250million of cheese from France and exports £160million of lamb and mutton to France.

- **Spain**
  - £1.8bn total imports
  - In particular, the UK imports £770million of fresh vegetables and £670million of fresh fruit.

- **Netherlands**
  - £2.6bn total imports
  - £580m total exports
  - In particular, the UK imports £660million of fresh vegetables from the Netherlands, and exports £95million of beef and veal.

- **Germany**
  - £1.3bn total imports
  - £310m total exports
  - In particular, the UK imports £200million of Fresh fruit, £200million, £190million of pork, £180million of cheese and £170million of sausages from Germany, and exports £63million of Lamb and mutton to Germany.

All figures are annual import and export totals for 2018.
Food Chain
How have food prices and the amount British households spend on food changed over time?

Food is exerting greater pressure on household budgets since 2007 when food prices started to rise in real terms. Averaged over all households, 11% of spend went on food in 2018/19, however this proportion is higher for lower income households (15%) who are disproportionately affected by food price rises.

UK trend in food and non-alcoholic beverage prices in real terms, January 1996 to March 2020

- Food and non-alcoholic beverage prices rose 9.3% in real terms between 2008 and their peak in February 2014.
- In 2014, the food price inflation rate fell below overall inflation, and food prices started to fall as inflation fell below 0% for the first time since 2006. Food prices began to increase again at the start of 2017.

Successive spikes in the price of agricultural commodities since 2007 have led to higher retail food prices. They have not returned to the low price levels of pre-2007. Oil prices also rose over this period, and inflation was higher than historically, but food prices have risen above inflation.

Households can react in many ways to food price increases - they may simply spend more, or buy less of a type of product. They may also 'trade down' by switching to purchases of cheaper products within a food grouping.

A rise in food prices is more difficult for low income households to cope with because those on low incomes spend a greater proportion of their income on food - a rise in food prices has a disproportionately large impact on money available to spend elsewhere.

£28

average weekly UK household expenditure per person on food and non-alcoholic drinks in 2018/19 (not including eating out)

As consumers’ incomes rise they tend to spend a smaller proportion of their family budget on food and drink.

In 2018/19, households in the lowest 20% of household income spent a greater proportion of their household expenditure on food and drink (15%) compared with other households (11%).
How have consumer purchasing habits of some of the key agricultural products changed over time?

Purchases of fresh meat, milk and vegetables has decreased over the last 30 years, but we are buying more fruit and more meat in ready meals; this might be driven by trends in convenience and health and fluctuations in food prices.

### Fresh Meats*
Chicken, Beef, Pork, Lamb

All fresh meats have declined, apart from chicken. UK households purchased around a third as much lamb in 2018/19 (25g) as in 1987 (75g).

### Fresh & Ready Meats*
Fresh meat, Ready meals & takeaway

The overall decline in fresh meat is partly offset by meats in ready and takeaway meals, which has increased by 50% since 1987, to 235g.

### Vegetables & Fruit*
Vegetables, Fruit

Purchases of both fruit and vegetables jumped in the early 2000s before dropping off again. Both now stand at just over 1kg per week.

### Milk*
All milk, Whole, Semi-skimmed, Skimmed

Milk purchases overall have gradually decreased to around 1400ml in 2018/19. Whilst the purchase of whole milk has been decreasing, semi-skimmed has increased.

### What might be driving these changes?

#### Convenience

Meal preparation time has decreased from 60 minutes in 1980 to 33 minutes in 2017. This is reflected in consumers’ choices of meat types and the rise of prepared meats. There has also been an increase in people dining out.

#### Health

The impacts of the BSE crisis in 1996 is visible in meat purchases, and recent dietary advice on fats may have influenced purchases of whole milk.

#### Food Prices Fluctuations

Households can react in many ways to food price increases - they may simply spend more, or buy less of a type of product. They may also ‘trade down’ by switching to purchases of cheaper products within a food grouping.

*Household food only. Average quantity per person per week (g/ml). The data contain changes in recording periods, so not every year is exactly equivalent.
Do British consumers want to buy British food?

In 2018, when asked, the British public say they try to buy British food and believe it is important to support British farmers, but that isn’t wholly reflected in consumer behaviour.

78% of British surveyed consumers believe it is important to support British farmers.

59% say they try to buy British food whenever they can.

However, less than half said they are willing to pay more for British food, or said that they check where their food comes from before buying.

Consistently, price is the key factor determining purchasing for consumers. There is strong evidence from official statistics, Defra funded independent research and retailer research that price is the most important factor influencing consumer choice.

How do consumer preferences affect UK food imports and exports?

Although we can produce a wide range of foods in the UK, importing food from different climates means that consumers have the choice of seasonal food all year round.

International trade in meat allows producers, manufacturers and retailers to address deficits in certain cuts of meat:

• imports supplement the supply of those cuts most popular with British consumers such as bacon, leg of lamb, and chicken breast,
• the least popular cuts are exported to countries where there is a stronger demand (for example exporting pigs feet to China).
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<td><em>Farm structure survey – 2016, June survey of agriculture – Structure of the agricultural industry in England</em></td>
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<td>Rights of Way Condition Survey 2000 (Countryside Agency); Natural England United by our environment, our food, our future - NFU</td>
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