



Agriculture in the United Kingdom

2018

Department for Environment, Food and Rural Affairs

Department of Agriculture, Environment and Rural Affairs (Northern Ireland)

Welsh Government, Knowledge and Analytical Services

The Scottish Government, Rural and Environment Science and Analytical Services



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Produced by:
Department for Environment, Food and Rural Affairs
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)
Welsh Government, Knowledge and Analytical Services
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Preface

Legal Basis

1. Agriculture in the United Kingdom (AUK) 2018 fulfils the requirement under the Agriculture Act 1993 that Ministers publish an annual report on such matters relating to price support for agricultural produce as they consider relevant. The Government will draw on this information when considering the policy issues, including proposals by the European Commission in respect to the Common Agricultural Policy (CAP) and the provision of agricultural support.

Changes

2. Some of the figures now given for past years may differ from those published in proceeding issues. This is because of the use of later information, changes in scope and nature of available data, and improvements in statistical methods. Where modifications to the data are made a 'Revisions' section will be added to the chapter to explain the changes.

National Statistics status

3. National Statistics status guarantees that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards. These statistics last underwent a full assessment [[Assessment Report 271 Statistics on Agriculture](#)] against the [Code of Practice for Statistics](#) in 2014. Since the latest review by the Office for Statistics Regulation, we have continued to comply with the Code of Practice for Statistics. We have also made improvements to enhance the quality of this publication by improving quality assurance procedures.

Content of document

4. The latest available data are used throughout this document. Most of the data are on calendar year basis and for 2018. Some data for 2018 are provisional and may be revised as more data becomes available.
5. The following points apply throughout:
 - All figures relate to the United Kingdom unless otherwise stated
 - Unless stated otherwise, Defra is the source for all data presented in tables and charts
 - In the tables
 - means 'nil' or 'negligible' (less than half the last digit shown)
 - .. means 'not available' or 'not applicable'
 - The figures for imports and exports include those from intervention stocks and the figures for exports include re-exports. Imports are based on country of consignment. Exports are based on country of reported final destination. The source of overseas trade statistics is HM Revenue and Customs
 - Where statistics are shown for the European Union (EU) as a whole they represent the present Member States in all the years regardless of when they became members
 - Values are expressed as either current or as a real term value:
 - Current (or nominal) value is the value expressed in historical monetary terms
 - Real term value is the current value adjusted to take account of inflation

Summary¹

Farm Structures

- The **Utilised Agricultural Area (UAA)** increased by 0.7% to 17.4 million hectares, covering 71% of land in the UK.
- The **total croppable** area decreased by 0.8% to 6.1 million hectares.
- The **cereal** crops area decreased by 2.4% to 3.1 million hectares.
- Total **pig** numbers have seen an increase of 0.9% to just over 5 million.
- **Sheep and lamb** numbers decreased by 3.0% to 34 million, largely due to a 4.1% decrease in the number of lambs under one year old to 17 million.
- The total **labour** force on commercial holdings has increased by 0.6% to 477 thousand.

Incomes and productivity

- **Agriculture's contribution to the national economy** remained at less than 1% and its share of employment rose slightly to 1.53%.
- **Farm Business Income (FBI)** varies greatly with 14% of UK farms failing to make a positive FBI in 2017/18 while just under a third of UK farms had a FBI of over £50,000
- **Total Income from Farming** fell by £929 million (17%) to £4,697 million between 2017 and 2018 in current price terms.
- **Gross output** increased by £583 million (2.2%) to £26,651 million.
- **Gross value added at basic price**, which identifies agriculture's contribution to the Gross Domestic Product (GDP), decreased by £626 million to £9,586 million, in current price terms a 6.1% fall.
- The cost of **intermediate consumption** rose by 7.6%, generally all costs were higher, particularly fuel, feed and fertiliser costs.
- The annual **Agricultural Price Index (API)** for agricultural outputs increased by 3.6%, while for agricultural inputs it increased by 6.3%.
- **Total factor productivity** of UK agriculture decreased by 2.1% between 2017 and 2018.

Commodities

- Harvested production of **wheat** decreased by 8.6% to 13.6 million tonnes. The value of production was 4.8% higher at just under £2.1 billion.
- **Oilseed rape** production decreased by 7.1% to 2.0 million tonnes due to lower yields offsetting an increase in area. The value of production was down 16% at £643 million.
- **Sugar beet** production decreased by 15% to 7.6 million tonnes. The value of production was 7.4% higher at £246 million.
- The value of **fruit** production decreased by 0.6% to £753 million.
- The value of **beef and veal** increased by 1.4% to £3.03 billion
- The value of **mutton and lamb** production increased by 4.7% to £1.26 billion
- **Pig meat** value of production decreased by 5.7% to £1.25 billion
- **Poultry meat** value increased by 8.6% to £2.63 billion
- The value of **milk and milk products** increased by 3.1% to £4.49 billion

¹ All figures quoted in this summary relate to 2018 and all change is between 2017 and 2018 unless otherwise stated

Environment

- Since the late 1990s **nitrogen and phosphate application rates** have fallen
- A comparison of **soil nutrient balances** (in kg per hectare) from the year 2000 to 2017 show a 19% decrease for **nitrogen** and a 38% decrease for **phosphate**.
- Between 2000 and 2017, estimated **nitrous oxide emissions** have fallen by 11%, and **methane** emissions have decreased by 10%.
- Between 2000 and 2016 estimated agricultural emissions of **ammonia** have fallen by 18%.
- The **farmland bird index** has decreased significantly since 1970 with the index for all farmland species in 2017 less than half of 1970 levels

Trade

- The value of food, feed and drink (FFD) exports was £22.5 billion, an increase of £0.2bn (0.9%) in real terms.
- The value of food, feed and drink imports fell by £0.1bn (0.3%) in real terms to £46.8bn.
- As a result, the trade gap in food, feed and drink narrowed by £0.3bn (1.3%) to £24.3bn.

Organics

- The **area of land farmed organically** fell by 8.4% to 474,000 hectares.
- The **area in-conversion** as a percentage of the total organic area rose for the fourth consecutive year.

Food chain

- In 2017 the agri-food sector in the United Kingdom accounted for a total estimated Gross Value Added (GVA) of £121 billion or 6.6% of national GVA.
- Employment in the agri-food sector rose 1.8% over the 12 month period to the fourth quarter of 2018 to around 4 million
- Total factor productivity of the UK food chain beyond the farmgate has risen by 1.5% between 2016 and 2017. Productivity in the wider economy has fallen in 2017 by 0.2%.
- Expenditure on food eaten out decreased 0.7% in 2018, whilst expenditure on household food increased 1.5%.

Chapter 1

Key events

Government and policy

1. On 12 September 2018 Defra introduced the Agriculture Bill to Parliament. This is legislation to deliver a cleaner and healthier environment for future generations after nearly half a century under EU rules.
2. The Countryside Stewardship application round for 2019 agreements opened on 15 January 2018. In response to feedback, significant improvements were made to the scheme, including four new and improved Mid-Tier Wildlife Offers, making it simpler and easier for farmers and land managers to apply. On 1 October 2018, Defra moved the administration of Countryside Stewardship and Environmental Stewardship to the Rural Payments Agency.
3. The Withdrawal Agreement and Political Declaration on the future relationship between the UK and EU was agreed at a special meeting of the European Council on 25 November 2018. On 11 April 2019, the UK government and the European Council confirmed the decision to extend Article 50 until 31 October 2019.
4. On 13 December 2018 the Dame Glenys Stacey review of farm regulation was published, proposing a shake-up of the current regulation, with a more supportive, flexible and incentives-led approach recommended instead. We will be consulting on the review later in 2019.

Global factors

Exchange rates

5. The relationship between the Pound and Euro has a key bearing on the fortunes of UK farming. Direct subsidies received by farmers are set in Euros then converted to Sterling in September each year. A strong Euro therefore increases the value in Pounds of the payments for that year. In addition, the majority of UK exports of agricultural commodities are made to the Eurozone. The pound weakened against the Euro throughout 2016 and 2017. It remained stable but weak in 2018, increasing the competitiveness of UK exports but also pushing up the price of imports, including inputs such as fertilisers and pesticides.

Cereal stocks

6. Commodities such as cereals are traded and the prices set globally. Global cereal production had been increasing for many years and in spite of increased use, global stocks reached a record level in 2017. In 2018 both production and stocks fell below the 2017 peak and this combined with record levels of demand supported global prices.

Weather²

7. 2018 was warmer than average for the UK, although not as warm as 2017. May, June, July and December were all much warmer than average. It was also a relatively dry year, particularly across the north of the UK, with June a very dry month in the south. This was a very sunny year, particularly May, June and July. Notable extreme events during the year included a spell of severe winter weather in late February and early March. This was the most significant spell of snow and low temperatures for the UK since 2010. High pressure dominated the summer – the warmest for the UK since 2006, the driest since 2003 and the sunniest since 1995.

² Source: Met Office: <https://www.metoffice.gov.uk/climate/uk/summaries/2018/annual>

Animal Health

Avian influenza

8. Since June 2017, there have been no detections of avian influenza in poultry or kept birds in the UK. The UK has retained its OIE country freedom status since September 2017.

Bovine spongiform encephalopathy (BSE)

9. In October 2018 a case of classical BSE was discovered in a farm in Aberdeenshire, Scotland's first classical BSE case since 2008. This was picked up by routine BSE surveillance, a requirement on all fallen cattle stock over 48 months (24 months if from Bulgaria, Romania or Croatia). The Animal and Plant Health Agency (APHA) immediately began an epidemiological investigation on the holding. An interim epidemiological report was sent to the World Organisation for Animal Health (OIE) who analysed the information and concluded on 26 December 2018 that Scotland qualifies for the re-instatement of a "controlled BSE risk" status from "negligible BSE risk". This brought Scotland's status back in line with the rest of GB. The result of the epidemiological investigation was that no plausible source of infection could be traced. More information can be found at: www.gov.scot/publications/bse/

Bovine Tuberculosis (bTB)³

10. From January 2018, the government expanded the Edge Area of England to include all parts of the counties previously split between the High Risk and Edge Areas. The additional parts of the Edge Area became subject to six-monthly surveillance testing from the same date. In November 2018 the government published a report of an independent review of its 25 year bovine TB eradication strategy. It advises on what further actions might be prioritised to ensure progress towards the government's target of achieving officially bovine TB free status for England by 2038. Industry-led licensed badger culling was undertaken for the first time in the low risk area of England in response to discovery of TB infected badgers linked with herd breakdowns. Elsewhere, the pace of expansion of badger culling across the high risk and edge areas of England continued and grant funding for badger vaccination resumed following an easing of the shortage of vaccine.
11. Wales launched a refreshed approach to TB eradication in late 2017. New regionalised measures are tailored to reflect the disease drivers in each TB incidence area. Bespoke Action Plans in persistent TB breakdown herds were introduced where enhanced measures are put in place in order to clear TB. In certain persistent TB breakdown herds badgers are tested and those testing positive are euthanized. In November 2018, in response to a spike in new TB incidents, enhanced measures were put in place in the Intermediate TB Area North in North East Wales. Additional contiguous testing around breakdown herds, effectively doubling the effort in these higher risk herds, was put in place. This additional testing was supported by veterinary 'Keep it Out' visits, targeting herds which test clear to a contiguous test to provide information on steps keepers can take to reduce the risk of having a TB breakdown. The requirement for farmers to provide a veterinary pregnancy diagnosis for in-calf animals at valuation came into force on 1 November 2018. Since 2017 the TB compensation cap was reduced from £15,000 to £5,000. The total saved since the £5,000 cap was introduced is £44,600.
12. In Scotland in 2018 there were 12 new confirmed TB breakdowns, which is consistent with another year of officially TB-free status. Changes to disease control measures and compensation arrangements for Bovine TB were introduced in December 2018. Key changes include the completion of post movement testing on the original holding of destination before animals are permitted to move again, the introduction of a two-tier cap on compensation for individual animals (£7,500 for pure bred pedigree animals & £5,000 for non-pedigree animals) and reduced compensation payments for overdue testing or where animals have been illegally moved on to restricted premises.
13. In Northern Ireland DAERA continued to respond to the recommendation of the TBSPG (TB strategic partnership group) with the introduction of three major changes in TB policy. Firstly all reactor tests are now read under severe interpretation. Also all herds that have had a TB breakdown are now subject to a second check herd test 6 months after the first 6 month post derestriction check test. Additionally, in all OTW herds, DAERA are also compulsorily removing as negative in contacts any animals with significant skin readings in the last three years. These measures have enhanced TB detection rates. The Reactor Quality assurance pilot has been completed with preliminary analytical results anticipated being available during summer 2019.

³ More information on Bovine Tuberculosis can be found at the TB hub: www.tbhub.co.uk

Chapter 2 Structure of Industry

Summary

In 2018 compared with 2017:

- The **Utilised Agricultural Area** (UAA) decreased by 0.7% to 17.4 million hectares, covering 71% of land in the UK.
- The **total croppable** area decreased by 0.8% to 6.1 million hectares.
- The **cereal** crops area decreased by 2.4% to 3.1 million hectares.
- The area of **oilseed** crops planted increased by 3.4% to 609 thousand hectares.
- The **dairy herd** remained almost unchanged at 1.9 million.
- Total **pig** numbers have seen an increase of 0.9% to just over 5 million.
- **Sheep and lamb** numbers decreased by 3.0% to 34 million, largely due to a 4.1% decrease in the number of lambs under one year old to 17 million.
- The total **labour** force on commercial holdings has increased by 0.6% to 477 thousand.

Note

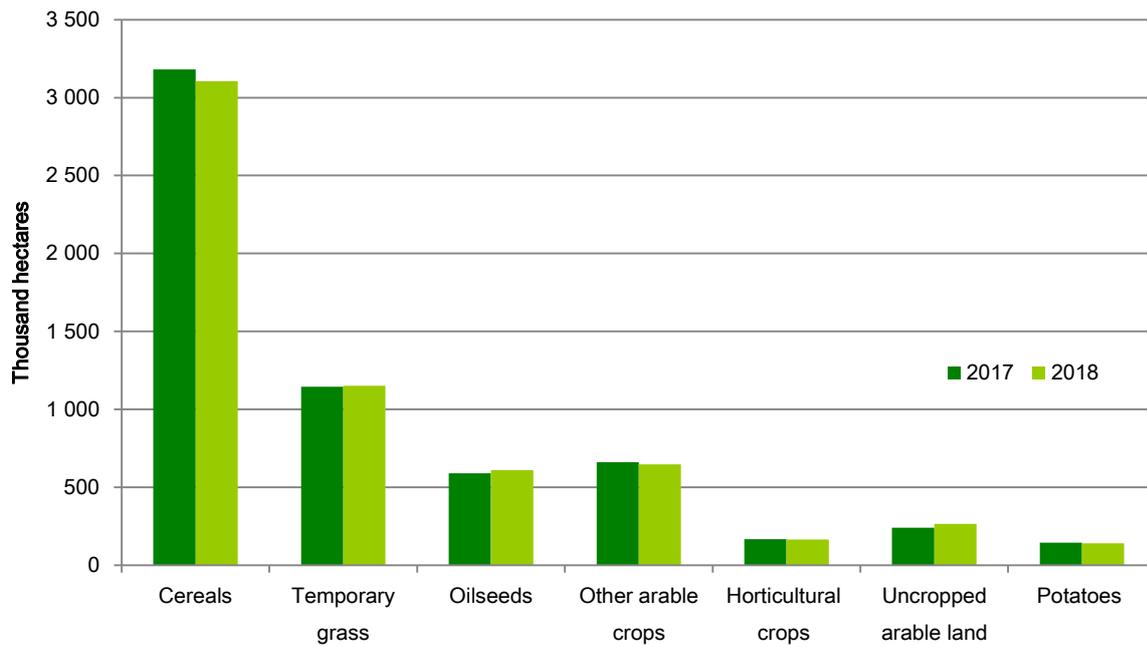
Throughout this publication the 2018 crop areas and volumes of production are based on revised figures published by Defra on 31 May 2019⁴. Production values for 2018 will be updated as part of the next scheduled publication of the aggregate accounts in November 2019. The **monetary production values** for some crops may therefore show a small degree of inconsistency with **areas and volumes**.

Introduction

1. The tables in this chapter show the size and structure of the agricultural industry in the United Kingdom. They provide information on land use and livestock numbers, on the distribution of these between holdings, on the labour force and the age of farm holders.
2. Data in this chapter are sourced primarily from the June Surveys of Agriculture carried out in the four UK countries each year. The exceptions to this are the holder age data (sourced from the EU Farm Structure Survey) and most of the land use data in Scotland (sourced from Single Application Form (SAF) subsidy data). Cattle data is sourced from the Cattle Tracing System (CTS) in England, Wales and Scotland and the Animal and Public Health Administration (APHIS) system in Northern Ireland.
3. From 2009 onwards, England data relate to “commercial” holdings only. The term “commercial” covers all English holdings which have more than 5 hectares of agricultural land, 1 hectare of orchards, 0.5 hectares of vegetables or 0.1 hectares of protected crops, or more than 10 cattle, 50 pigs, 20 sheep, 20 goats, or 1,000 poultry. These thresholds are specified in the EU Farm Structure Survey Regulation EC 1166/2008.
4. For more information on the June Survey and for more detailed results please see:
England: <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>
Scotland: <http://www.gov.scot/Topics/Statistics/Browse/Agriculture-Fisheries/PubFinalResultsJuneCensus>
Wales: <http://gov.wales/statistics-and-research/?topic=Environment+and+countryside&lang=en>
Northern Ireland: <https://www.daera-ni.gov.uk/topics/statistics>

⁴ The 2018 crop area figures were revised in May 2019. You can find the revised figures at <https://www.gov.uk/government/statistics/farming-statistics-final-crop-areas-yields-livestock-populations-and-agricultural-workforce-at-1-june-2018-uk>

Chart 2.1 Breakdown of croppable area on agricultural holdings, June 2018 compared to 2017



Land use, crop areas and livestock numbers (chart 2.1, tables 2.1 and 2.2)

5. At June 2018 the UAA was 17.4 million hectares, covering 71% of the total UK land area. UAA is made up of arable and horticultural crops, uncropped arable land, common rough grazing, temporary and permanent grassland and land used for outdoor pigs. It does not include woodland and other non-agricultural land.
6. On the whole, the proportion of croppable land used for each purpose remained similar between 2017 and 2018, however some categories did see value changes (Chart 2.1).
7. Cereal crops accounted for 51% of the croppable area. Wheat and barley were the predominant cereal crops at 1.7 and 1.1 million hectares respectively. The area of barley planted in the UK halved from 2 million hectares in 1984 to a low of 0.9 million hectares in 2006. However, since then the area has increased slightly and now sits at 1.1 million hectares.
8. The area of oilseed rape increased in 2018 by 3.7% to 583 thousand hectares, after five years of decreases.
9. The total number of cattle and calves decreased between 2017 and 2018, by 1.1% from just over 10 million to 9.9 million. The beef and dairy herds have remained largely unchanged in recent years at approximately 1.6 and 1.9 million animals respectively.
10. The UK population of sheep and lambs decreased by 3.0% to 34 million animals, largely due to a 4.1% decrease in the number of lambs to 17 million. The female breeding flock also decreased by 2.3% to 16 million.
11. The total number of pigs in the UK increased by 0.9%, from almost 5.0 million in 2017 to just over 5.0 million in 2018. The main reason for this was the 1.2% increase in fattening pigs, largely due to the 2.2% rise in the England figures which account for 81% of the UK fatteners.
12. The total number of poultry in the UK increased by 3.6% to 188 million birds in 2018 compared to almost 182 million in 2017. Table chickens account for 66% of the total and rose by 5.4% to almost 124 million birds. Laying and breeding fowl also saw an increase, rising by 0.9% and 2.6% respectively between 2017 and 2018.

Table 2.1 Agricultural land use (a)

Enquiries: Caitlin Clark on +44 (0) 3000 600 170

email: farming-statistics@defra.gov.uk

Thousand hectares	At June of each year				
	2014	2015	2016	2017	2018 (e)
Utilised agricultural area (UAA) (b)	17 240	17 147	17 360	17 476	17 361
UAA as a proportion of total UK area	71%	70%	71%	72%	71%
Total agricultural area	18 456	18 428	18 662	18 835	18 703
Common rough grazing	1 199	1 199	1 199	1 198	1 195
Total area on agricultural holdings	17 257	17 229	17 463	17 637	17 509
Total croppable area	6 278	6 059	6 073	6 131	6 084
Total crops	4 722	4 679	4 667	4 745	4 667
Arable crops	4 559	4 505	4 505	4 577	4 502
Cereals	3 179	3 100	3 132	3 181	3 106
Oilseeds (includes linseed and borage)	691	670	608	590	609
Potatoes	141	129	139	145	140
Other crops	548	606	627	661	647
Horticultural crops	164	174	162	168	165
Uncropped arable land (c)	160	214	262	241	265
Temporary grass under 5 years old	1 396	1 167	1 144	1 144	1 152
Total permanent grassland	9 755	9 880	10 079	10 138	10 072
Grass over 5 years old	5 824	6 078	6 118	6 135	6 178
Sole right rough grazing (d)	3 930	3 801	3 961	4 003	3 895
Other land on agricultural holdings	1 224	1 290	1 312	1 368	1 353
Woodland	897	961	978	1 037	1 016
Land used for outdoor pigs	8	9	10	10	10
All other non-agricultural land	318	320	323	321	326

Source: UK Agriculture departments June Survey/Census of Agriculture/ AF land data Scotland. For more details please see the introduction section of this chapter

(a) Figures for England relate to commercial holdings only, as described in point 3 of the introduction.

(b) UAA includes all arable and horticultural crops, uncropped arable land, common rough grazing, temporary and permanent grassland and land used for outdoor pigs (it excludes woodland and other non-agricultural land).

(c) Includes all arable land not in production, including land managed in Good Agricultural and Environmental Condition (GAEC12 pre 2015), wild bird cover and game cover.

(d) Also includes mountains, hills, heathland or moorland.

(e) Results for 2018 were revised in May 2019 to take account of corrections to the English data. More information on the revisions and the scale of the changes can be found in the updated statistical release here: <https://www.gov.uk/government/collections/structure-of-the-agricultural-industry>

Table 2.2 Crop areas and livestock numbers (a)

Enquiries: Caitlin Clark on +44 (0) 3000 600 170

 email: farming-statistics@defra.gov.uk

	At June of each year				
	2014	2015	2016	2017	2018 (e)
Crop areas (thousand hectares)					
Total area of arable crops	4 559	4 505	4 505	4 577	4 502
of which:					
wheat	1 936	1 832	1 823	1 792	1 748
barley	1 080	1 101	1 122	1 177	1 138
oats	137	131	141	161	171
rye, mixed corn and triticale	26	35	45	52	49
oilseed rape	675	652	579	562	583
linseed	15	15	27	26	25
potatoes	141	129	139	145	140
sugar beet (not for stockfeeding)	116	90	86	111	114
peas for harvesting dry and field beans	139	213	228	233	193
maize	183	187	194	197	221
Total area of horticultural crops	164	174	162	168	165
of which:					
vegetables grown outdoors	116	123	113	117	116
orchard fruit (b)	23	26	25	24	24
soft fruit & wine grapes	9	10	10	11	11
outdoor plants and flowers	12	13	12	13	12
glasshouse crops	3	3	3	3	3
Livestock numbers (thousand head)					
Total cattle and calves	9 837	9 919	10 033	10 004	9 891
of which:					
cows in the dairy herd (c)	1 841	1 895	1 897	1 891	1 883
cows in the beef herd (d)	1 569	1 576	1 596	1 589	1 558
Total sheep and lambs	33 743	33 337	33 943	34 832	33 781
of which:					
female breeding flock	16 026	16 024	16 304	16 669	16 286
lambs under one year old	16 936	16 528	16 840	17 340	16 621
Total pigs	4 815	4 739	4 866	4 969	5 012
of which:					
sows in pig and other sows for breeding	349	352	360	361	352
gilts in pig	57	56	55	55	58
Total poultry	169 684	167 579	172 607	181 818	188 442
of which:					
table fowl	110 374	107 056	110 639	117 619	123 946
laying flock (including pullets)	37 146	36 998	38 058	39 510	39 852
breeding flock	11 258	12 511	12 740	13 429	13 771
turkeys, ducks, geese and all other poultry	10 907	11 014	11 170	11 260	10 872

Source: June Surveys/Census of Agriculture/SAF land data Scotland. Also Cattle Tracing System/APHIS (for cattle data). For more details please see the introduction section of this chapter

(a) Figures for England relate to commercial holdings only, as described in point 3 of the introduction.

(b) Includes non-commercial orchards.

(c) Dairy cows are defined as female dairy cattle over 2 years old with offspring

(d) Beef cows are defined as female beef cattle over 2 years old with offspring

(e) Results for 2018 were revised in May 2019 to take account of corrections to the English data. More information on the revisions and the scale of the changes can be found in the updated statistical release here: <https://www.gov.uk/government/collections/structure-of-the-agricultural-industry>

Numbers and sizes of holdings and enterprises (tables 2.3 and 2.4)

Please note, due to a delay in producing the England 2018 holding level dataset, these figures relate to 2017 and not 2018.

13. The number of agricultural holdings was 222 thousand in 2012 and decreased by 2.4% to 217 thousand in 2017. Within that time period the total area on holdings increased by 2.8%, therefore average area of all holdings increased by 5.4% to 81.4 hectares in 2017. Similarly the average croppable area of holdings increased 4.0% between 2012 and 2017.

Table 2.3 Numbers of holdings by size group (a) (c)

Enquiries: Caitlin Clark on +44 (0) 3000 600 170

email: farming-statistics@defra.gov.uk

	2012		2017	
	Number of holdings (thousand)	Hectares (thousand)	Number of holdings (thousand)	Hectares (thousand)
At June of each year				
Total area on holdings under 20 hectares	104	694	103	682
20 to under 50 hectares	42	1 399	41	1 359
50 to under 100 hectares	34	2 428	32	2 262
100 hectares and over	42	12 628	41	13 334
Total	222	17 149	217	17 637
Average area (hectares)		77		81
Average area on holdings with >=20 hectares		139		149
Croppable area (b)				
0.1 to under 20 hectares	49	309	46	303
20 to under 50 hectares	20	652	19	630
50 to under 100 hectares	15	1 089	14	1 005
100 hectares and over	19	4 208	17	4 193
Total	103	6 258	97	6 131
Average croppable area (hectares)		61		63

Source: June Surveys/Census of Agriculture/SAF land data Scotland. For more details please see the introduction section of this chapter

- (a) Figures for England relate to commercial holdings only, as described in point 3 of the introduction.
 (b) Croppable area is defined as land under crops, temporary grass under five years old and uncropped arable land.
 (c) England figures for 2018 are currently unavailable and so this table has not been updated with UK 2018 data

Table 2.4 Numbers of holdings by size group and country at June 2017 (b)

Enquiries: Caitlin Clark on +44 (0) 3000 600 170

email: farming-statistics@defra.gov.uk

	England (a)		Wales		Scotland		Northern Ireland	
	Number of holdings (thousand)	Hectares (thousand)						
Total area on holdings								
Under 20 hectares	42	303	19	112	32	159	10	107
20 to under 50 hectares	21	692	6	206	6	188	9	273
50 to under 100 hectares	18	1 283	5	347	5	343	4	289
100 hectares and over	25	6 898	5	1 022	9	5 064	2	350
Total	106	9 176	35	1 687	51	5 754	25	1 020
Average area (hectares)		87		48		113		41
Average area on holdings with >=20 hectares		139		99		292		62

Source: June Surveys/Census of Agriculture/SAF land data Scotland. For more details please see the introduction section of this chapter

- (a) Figures for England relate to commercial holdings only, as described in point 3 of the introduction.
 (b) England figures for 2018 are currently unavailable and so this table has not been updated with UK 2018 data

14. The agricultural workforce in 2018 increased by 0.6% to 477 thousand people compared to 2017. Farmers, business partners, directors and spouses account for the majority (62%) of the total labour force.

Table 2.5 Agricultural labour force on commercial holdings (a) (d)

Enquiries: Caitlin Clark on +44 (0) 3000 600 170

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Thousands	At June of each year				
	2014	2015	2016	2017	2018
Total labour force (incl. farmers and spouses)	476	476	466	474	477
Farmers, business partners, directors and spouses	294	294	290	294	296
Full time	140	142	139	141	145
Part time (b)	155	152	151	153	152
Regular employees, salaried managers and casual workers	181	183	176	180	181
Regular employees (c)	115	115	..	..	..
Full time	72	73	..	..	..
Part time (b)	43	43	..	..	..
Seasonal, casual or gang labour	66	67	..	..	..

Source: June Surveys/Census of Agriculture

(a) Figures for England relate to commercial holdings only, as described in point 3 of the introduction.

(b) Part time is defined as less than 39 hours per week in England and Wales, less than 38 hours per week in Scotland and less than 30 hours per week in Northern Ireland.

(c) Regular employees includes salaried managers as not all UK countries collect separate estimates.

(d) For labour force numbers in earlier years see <https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june>

Age of holders (table 2.6)

15. Table 2.6 shows the proportion of holders by age group. Agriculture typically has an aging workforce. In the United Kingdom, around a third of all holders were over the typical retirement age of 65 years while the proportion of young people aged less than 35 years was around 3%.
16. The proportions of holders in the central age bands of 45-54 years and 55-64 years have remained broadly unchanged over the previous decade. Since 2005 the proportion in the 35-44 years old band has decreased by 5 percentage points whilst the proportion in the oldest band, 65 years and over, has increased by 5 percentage points.
17. The average age of holders is defined using the median. This is the middle value when all holders' ages are ranked in order. In 2016 the median age for holders in the UK was 60 years old, an increase of 1 year from 2013.

Table 2.6 Proportion of holders in each age group (a)(b)

Enquiries: Serena Abbott on +44 (0) 3000 600 170

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	2003	2005	2007	2010 (c)	2013 (c)	2016 (c)
	% of holders					
Holdings' age						
Under 35 years	3	3	3	3	3	3
35 - 44 years	15	14	12	11	10	9
45 - 54 years	24	23	23	25	25	23
55 - 64 years	29	29	29	29	28	29
65 years and over	29	31	33	32	34	36
Median age (years)	58	58	59	59	59	60

Source: EU Farm Structure Survey

(a) The holder is defined as the person in whose name the holding is operated. The data in this table relate to all holders whether or not the holder is also the manager of the holding.

(b) Holdings run by an organisation (such as limited companies or institutions) do not have a holder and are therefore excluded from these figures.

(c) Figures from 2010 onwards relate to commercial holdings only for all of the UK. More information on commercial holdings can be found in the introduction section.

Chapter 3 Farming Income

Summary

- **Agriculture's contribution to the national economy** remained at less than 1% and its share of employment rose slightly to 1.53%.
- **Total Income from Farming** in the United Kingdom was £4.7 billion; England is the largest contributor accounting for 71% of this total, Scotland 14%, Northern Ireland 7.7% and Wales 6.5%.
- **Farm incomes across the EU** as a whole fell (-3.6%) with the United Kingdom being one of eighteen countries to show a fall between 2017 and 2018.
- **Farm Business Income (FBI)** varies greatly with 14% of UK farms failing to make a positive FBI in 2017/18 while just under a third of UK farms had a FBI of over £50,000

Introduction

1. This chapter presents Farm Business Income and Total Income from Farming data.
2. **Farm Business Income (FBI)** is the preferred measure for comparisons of farm type and represents the return to all unpaid labour (farmers, spouses and others with an entrepreneurial interest in the farm business) and to all their capital invested in the farm business including land and farm buildings.

Farm Business Income equals:

Total output from agriculture (includes crop and livestock valuation change) *plus*

Total output from agri-environment schemes *plus*

Total output from diversification *plus*

Single/Basic payment scheme *less*

Expenditure (costs, overheads, fuel, repairs, rent, depreciation, paid labour) *plus*

Profit / (loss) on sale of fixed assets.

3. **Total Income from Farming (TIFF)** represents business profits and remuneration for work done by owners and other unpaid workers. It is used to assess United Kingdom agriculture as a whole.

Total Income from Farming equals:

Gross output at basic prices *plus*

Other subsidies less taxes *less*

Total intermediate consumption, rent, paid labour *less*

Total consumption of fixed capital (depreciation) *less* interest

4. Differences and similarities

Farm Business Income

- the preferred measure for comparisons of farm type;
- covers the 12 month period March to February;
- does not subtract imputed rent for owner occupiers;

- complete range of on-farm activities including income from diversified activities where they are included in the farm accounts;
- treatment of stocks: the change in the book value of stocks between the start and end of the accounting year.

Total Income from Farming

- the main aggregate measure of farm income used to assess United Kingdom agriculture as a whole;
- covers the calendar year;
- does not subtract imputed rent for owner occupiers;
- complete range of on-farm activities including income from diversified activities where they are included in the farm accounts;
- treatment of stocks: the physical changes in stocks valued at average calendar year prices.

Real term trends and summary measures in farming income (table 3.1 and chart 3.1)

Real term value is where previous year's data is adjusted to take account of inflation so the values are comparable.

5. Table 3.1 shows summary measures from the aggregate agriculture accounts. More information on the agriculture account can be found in Chapter 4.

6. 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, UK agricultural income tends to be volatile and fluctuate from year to year.

7. Incomes have generally followed an overall upward trend from the year 2000 (chart 3.1). However, in 2015, despite high levels of production that year Total Income from Farming (TIFF) fell sharply driven by lower commodity prices and a less favourable exchange rate. In 2016 the exchange rate improved but a poor harvest and continued low commodity prices kept income low. In 2017, TIFF increased to the second highest level in 20 years (second only to the value in 2013), as a result of a favourable combination of a weaker pound, strong commodity prices and high levels of production.

8. In 2018 incomes fell from this high level in spite of the total value of production remaining high. The value of production increased slightly on the year with lower crop yields being more than offset by strong commodity prices. However, the price of key inputs (particularly energy, fertilisers and feed) increased sharply pushing up the costs of production. As a result incomes fell by 18% to just below £4.7 billion.

9. Total Income from Farming per Annual Work Unit (AWU) of entrepreneurial labour is an alternative measure of income that takes into account the labour used to produce that income and allows comparisons to be made with other countries. It follows a similar trend to Total Income from Farming, but owing to a decline in the number of farmers and other unpaid workers has performed better from the year 2000 onwards (chart 3.1).

10. In 2018 total Income from Farming per AWU of entrepreneurial labour was 19% lower than 2017 at £24,000 million.

Chart 3.1 Long term trends in real terms at 2018 prices

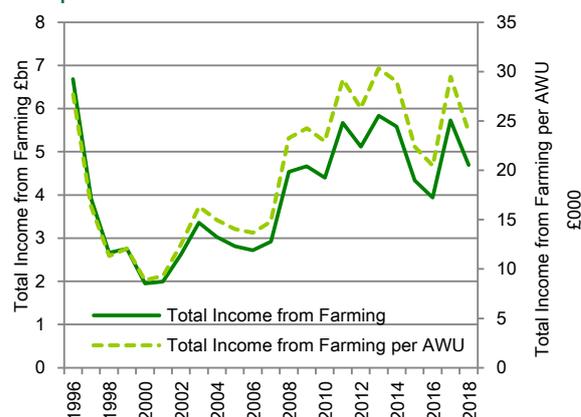


Table 3.1 Summary measures from the aggregate agriculture accounts

Enquiries: Helen Mason on +44 (0)20 802 66256

 email: farmaccounts@defra.gov.uk

£ million (unless otherwise specified)

Year	Net value added at factor cost	Income from farming			
		Total Income from Farming	Compensation of employees	Income from agriculture of total labour input	Total Income from Farming per AWU of entrepreneurial labour (a)
Current prices		A	B	A + B	(£)
2004	5 000	2 304	1 894	4 198	11 400
2005	4 928	2 193	1 944	4 136	11 000
2006	4 923	2 183	1 973	4 155	11 000
2007	5 205	2 403	2 004	4 407	12 200
2008	6 667	3 844	2 065	5 910	19 700
2009	6 821	4 016	2 165	6 181	20 900
2010	6 741	3 846	2 226	6 071	20 000
2011	8 160	5 052	2 342	7 394	26 000
2012	7 781	4 630	2 354	6 984	23 800
2013	8 636	5 379	2 411	7 790	27 900
2014	8 588	5 235	2 403	7 639	27 200
2015	7 558	4 078	2 499	6 577	21 100
2016	7 313	3 785	2 530	6 314	19 600
2017	9 235	5 626	2 627	8 253	28 900
2018	8 438	4 697	2 739	7 436	24 000
In real terms, 2018 prices (b)		A	B	A + B	(£)
2004	6 572	3 029	2 489	5 518	15 000
2005	6 318	2 811	2 492	5 303	14 000
2006	6 130	2 718	2 456	5 174	13 700
2007	6 323	2 919	2 434	5 353	14 800
2008	7 868	4 537	2 438	6 975	23 200
2009	7 925	4 666	2 515	7 181	24 200
2010	7 711	4 399	2 546	6 945	22 900
2011	9 163	5 674	2 630	8 303	29 200
2012	8 599	5 117	2 601	7 718	26 300
2013	9 374	5 839	2 617	8 456	30 300
2014	9 159	5 584	2 563	8 148	29 000
2015	8 028	4 332	2 654	6 986	22 400
2016	7 613	3 940	2 633	6 573	20 500
2017	9 406	5 731	2 676	8 407	29 500
2018	8 438	4 697	2 739	7 436	24 000

(a) An annual work unit (AWU) represents the equivalent of an average full-time person engaged in agriculture.

(b) Uses GDP deflator

Summary measures by country (table 3.2)

- Table 3.2 shows main measures, at current price, for the agriculture industries in England, Wales, Scotland and Northern Ireland and for the United Kingdom as a whole. It also presents the contribution that agriculture makes to the economy and employment for each country.
- In 2018, Total Income from Farming in the United Kingdom is £4,697 million; England is the largest contributor accounting for 71% of this total, Scotland 14%, Northern Ireland 7.7% and Wales 6.5%.
- In 2018 United Kingdom agriculture accounted for 1.53% of the workforce with England agriculture employing 1.17% of the workforce, and with Scotland, Wales and Northern Ireland employing 2.57%, 3.66% and 6.06% respectively.

Table 3.2 Summary measures by country at current price

Enquiries: Helen Mason on +44 (0)20 802 66256

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	2014	2015	2016	2017	2018 (provisional)
Gross output at basic prices £ million					
United Kingdom	25 834	24 078	23 192	26 068	26 651
England	19 180	18 032	17 201	19 266	19 658
Wales	1 644	1 475	1 421	1 592	1 677
Scotland	3 088	2 816	2 781	3 106	3 182
Northern Ireland	1 922	1 755	1 788	2 103	2 134
Intermediate consumption £ million					
United Kingdom	15 998	15 286	14 886	15 856	17 065
England	11 509	11 097	10 804	11 426	12 309
Wales	1 185	1 057	1 044	1 082	1 178
Scotland	1 857	1 753	1 692	1 881	1 997
Northern Ireland	1 447	1 379	1 345	1 467	1 581
Gross value added at basic prices £ million					
United Kingdom	9 836	8 792	8 306	10 212	9 586
England	7 671	6 935	6 398	7 841	7 349
Wales	459	418	376	511	498
Scotland	1 230	1 063	1 089	1 225	1 186
Northern Ireland	475	376	443	636	553
Total Income from Farming £ million					
United Kingdom	5 235	4 078	3 785	5 626	4 697
England	3 835	3 097	2 724	4 079	3 358
Wales	273	190	178	351	308
Scotland	821	593	621	729	672
Northern Ireland	306	199	262	467	360
Agriculture's share of total regional gross value added at basic prices (a) %					
United Kingdom	0.60	0.52	0.47	0.56	0.51
England	0.55	0.48	0.42	0.50	..
Wales	0.82	0.72	0.63	0.83	..
Scotland	0.95	0.81	0.81	0.88	..
Northern Ireland	1.34	1.01	1.15	1.60	..
Agriculture's share of total regional employment %					
United Kingdom (b)	1.55	1.53	1.47	1.48	1.53
England (b)	1.16	1.16	1.12	1.13	1.17
Wales	4.35	4.11	3.73	3.62	3.66
Scotland	2.57	2.50	2.42	2.53	2.57
Northern Ireland	5.86	5.90	5.72	5.84	6.06

(a) Data on regional GVA for 2018 are not yet available

(b) Estimates for England are based on employment on 'commercial holdings' only

Comparison of income measures in EU member states (chart 3.2)

14. Eurostat, the statistical office of the European Union, produces three indicators to measure the reward from agricultural activity based on data provided by Member States. These include:

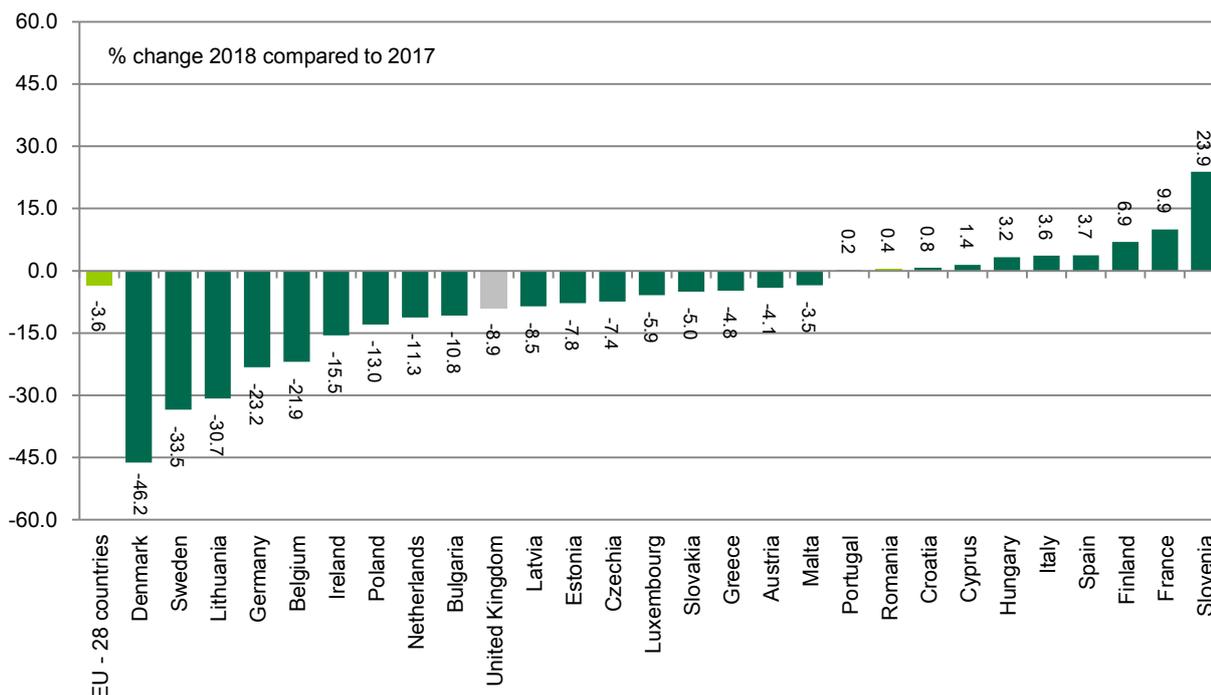
- Indicator A - Index of the real income of factors in agriculture per annual work unit, which corresponds to the real (i.e. deflated) net value added at factor cost of agriculture per total annual work unit.
- Indicator B - Index of real net agricultural entrepreneurial income, per unpaid annual work unit.
- Indicator C - Net entrepreneurial income of agriculture.

15. Eurostat's preferred measure of agricultural income is Indicator A. This indicator measures fixed factors (e.g. land, capital, labour) regardless of whether or not they are owned by the farmer, and whether or not the labour is hired or part of the farmer's family. Chart 3.2 shows the change between

2018 and 2017 for all Member States in the European Union (28 countries). These data are preliminary and are based on estimates of the Economic Accounts for Agriculture as at January 2019.

16. The decrease in agricultural income per worker (Indicator A) in the European Union as a whole of 3.6% masks the figures for individual countries which can show considerable variation.
17. There are eighteen countries where agricultural income per worker in 2018 is lower than in 2017 with Denmark showing the largest fall (-46%). The United Kingdom ranked tenth among the countries showing decreases, with incomes down 8.9%.
18. Of the ten countries showing higher agricultural income per worker Slovenia showed the highest increase of 24%.

Chart 3.2 Changes in incomes from agricultural activity across the EU: Indicator A (a)



(a) 2018 preliminary data for EU member states (EU28) as at January 2019

Source: Eurostat

Farm business incomes by farm type (table 3.3)

19. Estimates of Farm Business Income for 2018/19 (i.e. year ending February 2019 and harvest 2018) at current prices are shown in table 3.3 for England, Wales and Northern Ireland alongside outturn data for earlier years. These estimates include Basic Payment Scheme receipts which are recorded as due for the appropriate accounting year, e.g. receipts of the 2018 Basic Payment Scheme are recorded in the 2018/19 accounting year. Note that forecasts of Farm Business Income for 2018/19 are not produced in Scotland.
20. The estimates of Farm Business Income discussed below are averages. It should be noted that within the different farm types and across different regions there are a range of incomes around the averages published here.
21. The weather is expected to have been a key influencing factor for incomes across farm types in 2018/19. The challenging conditions generally reduced crop yields, although this was offset by price rises for many crops. Increased crop prices led to higher feed costs for livestock farms and many also had to purchase more feed due to the cold late spring and summer drought. Compared to 2017, the average 2018 Basic Payment is expected to decrease by around 1 percent across all farm types. This reflects the small change to the Euro / Sterling exchange rate in the September of each year when the payment rates are determined.
22. On cereal farms in England, average income is expected to increase by around 13% in 2018/19. Total crop output is forecast to be 9% higher driven by increases to cereal prices, influenced by global weather conditions and the potential negative impact of these on the harvest. The price increases are expected to be offset by a reduction in average yields which suffered as a result of the cold, late spring

and hot dry summer. These factors are predicted to be only partially offset by a rise in total input costs, including machinery depreciation, fuel and oil.

23. Average incomes are forecast to decrease by about 8% on general cropping farms in England. Input costs are expected to rise, in particular for fuel, fertiliser and machinery depreciation, more than offsetting a small increase in output (largely driven by higher cereal prices). Although other crops also saw price increases (peas, beans, potatoes and sugar beet) crop output overall was impacted by the heat and drought resulting in reduced yields.
24. On dairy farms in England, average income is expected to decrease by 22% percent in 2018/19 driven largely by a rise in input costs, particularly for feed. This is the result of higher cereal prices and a rise in the amount of feed required during the cold spring and summer drought conditions. These increases are predicted to more than offset a small rise in output. The picture is similar on dairy farms in Wales and Northern Ireland with incomes forecast to decrease by a 23% and 24% respectively with similar drivers to England.
25. In Northern Ireland, average income on grazing livestock farms in Less Favoured Areas (LFAs) is forecast to fall by around 18%. In England, income for this farm type is expected to reduce by the same percentage with input costs forecast to increase, especially for feed, while overall output remains at a similar level to 2017/18. For lowland grazing livestock farms in England, average income is expected to fall by 29%. Higher feed costs are again predicted to be major driver while a decrease in livestock output reflects a fall in average cattle prices and reduced numbers of store and finished lambs due to challenging weather conditions. In Wales, decreases in Farm Business Income on both LFA and Lowland and grazing livestock farms of 9% and 29% respectively are forecast.
26. On specialist pig farms in England average Farm Business Income is forecast to be £1,000 in 2018/19 compared to £31,300 in 2017/18. Increased feed costs (which are a substantial proportion of costs on this type of farm) are predicted to be the major contributing factor. Although production increased slightly, output from pigs is predicted to decrease by 2% reflecting falls in average prices for cull sows, clean pigs, weaner and stores.
27. Forecasts for specialist poultry farms are subject to a considerable degree of uncertainty reflecting the structure of the sector and the relatively small sample of these farms in the FBS in England. Average incomes on poultry farms in England are forecast to fall by 45%. A modest predicted increase in output for poultry and eggs is expected to be offset by a larger increase to inputs, driven by increased feed costs.
28. Incomes on mixed farms in England are expected to decrease by 10%. The changes reported above for specialist farm types will all have influenced the incomes for this farm type.

Table 3.3 Farm business income by country and type of farm (a)

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Average farm business income per farm (£ farm)	Accounting years ending on average in February					
	2013/14 (b)	2014/15	Standard Output (SO) Typology		2017/18	2018/19
			2015/16 (c)	2016/17		Provisional
At current prices						
England						
Cereals	49 500	45 000	35 500	43 000	64 000	73 000
General cropping	67 500	52 000	62 500	70 000	93 500	85 000
Dairy	88 000	84 000	44 000	50 000	119 500	93 000
Grazing livestock (lowland)	15 000	18 500	12 000	16 000	22 000	16 000
Grazing livestock (LFA)	14 500	14 500	19 000	27 000	28 500	24 000
Specialist pigs	65 000	49 500	21 500	58 000	31 500	1 000
Specialist poultry	157 000	127 000	106 500	54 000	96 000	53 000
Mixed	29 500	21 500	18 500	29 000	42 000	38 000
Wales						
Dairy	77 000	70 000	33 000	31 500	82 500	64 500
Grazing livestock (lowland)	28 500	27 000	16 500	22 500	24 000	17 000
Grazing livestock (LFA)	19 000	22 000	22 000	23 000	27 000	24 500
Scotland (d)						
Cereals	23 000	15 500	9 500	21 500	35 000	..
General cropping	58 500	31 500	36 500	56 500	66 000	..
Dairy	75 000	81 000	6 500	41 500	73 000	..
Grazing livestock (lowland)	30 500	26 000	12 000	19 000	31 500	..
Grazing livestock (LFA)	21 500	22 000	18 000	25 000	24 500	..
Mixed	24 500	11 000	1 500	23 500	29 000	..
Northern Ireland						
Dairy	61 500	45 500	12 000	23 500	68 000	51 500
Grazing livestock (LFA)	14 500	14 500	17 000	21 500	17 500	14 500
United Kingdom (e)						
Cereals	46 500	42 000	33 000	41 000	61 500	..
General cropping	66 000	48 500	56 500	67 000	86 500	..
Dairy	79 500	73 500	32 500	40 500	99 000	..
Grazing livestock (lowland)	16 500	19 000	12 500	17 000	22 000	..
Grazing livestock (LFA)	17 500	18 500	19 000	24 500	25 000	..
Specialist pigs	66 000	49 000	21 500	58 000	36 000	..
Specialist poultry	157 000	127 000	106 500	54 000	96 000	..
Mixed	29 500	20 000	15 500	27 500	39 500	..
ALL TYPES (Including Horticulture)	38 500	35 500	26 500	33 500	49 000	..
In real terms (at 2017/18 prices) (f)						
United Kingdom						
Cereals	49 500	44 000	34 500	42 000	61 500	..
General cropping	70 500	51 000	59 000	68 500	86 500	..
Dairy	85 000	76 500	34 000	41 500	99 000	..
Grazing livestock (lowland)	17 500	20 000	13 000	17 000	22 000	..
Grazing livestock (LFA)	18 500	19 500	20 000	25 000	25 000	..
Specialist pigs	70 500	51 500	22 000	59 000	36 000	..
Specialist poultry	167 500	133 000	111 000	55 500	96 000	..
Mixed	31 000	21 000	16 000	28 500	39 500	..
ALL TYPES (Including Horticulture)	41 000	37 000	28 000	34 500	49 000	..

(a) Figures rounded to nearest £500.

(b) England, Wales and Northern Ireland results from 2013/14 onwards derived from 2010 standard output coefficients. Scotland are derived from 2007 standard output coefficients.

(c) Scotland results derived from 2010 standard outputs coefficients.

(d) Scotland results revised for each year to reflect new weighting methodology.

(e) UK totals include farm types that are present though not listed individually for some member countries.

(f) Uses GDP deflator.

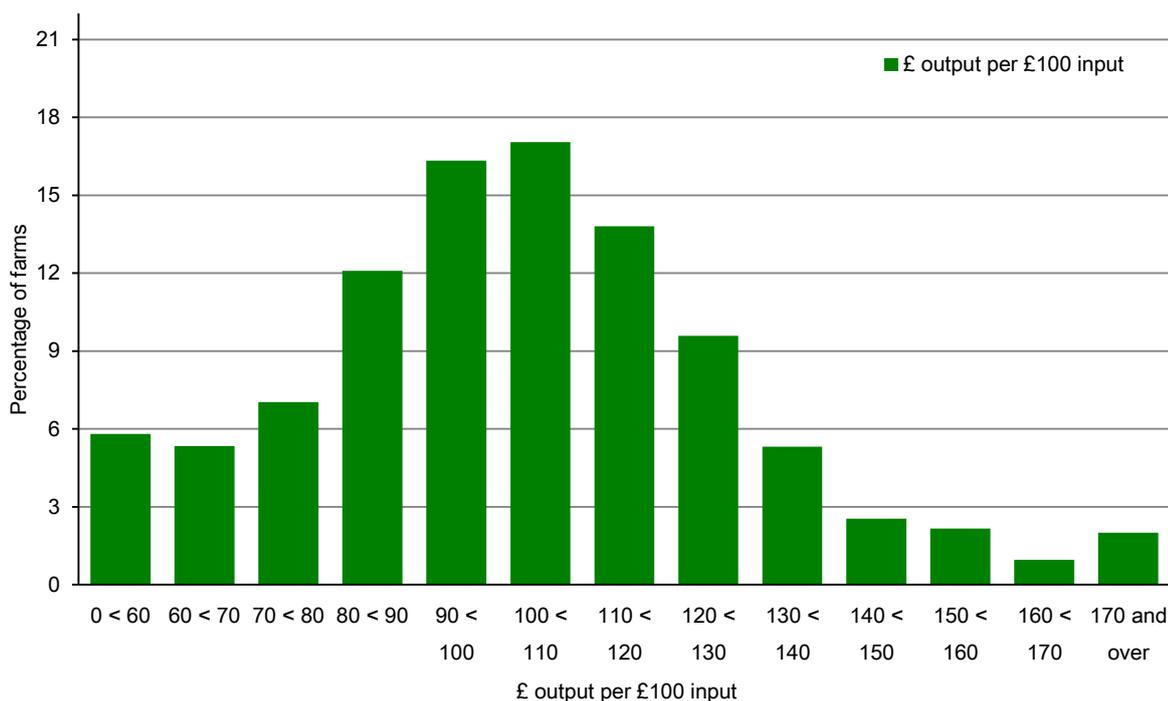
Distribution of farm incomes and performance (table 3.4 and chart 3.3)

29. Table 3.4 shows the variation in the level of Farm Business Income, Net Farm Income and Cash Income across farms in England, Wales, Scotland and Northern Ireland for 2017/18.
30. Around 14% of farms in the UK failed to make a positive Farm Business Income although there was some variation between countries. The proportion in Wales and Scotland was higher at 16% and 17% respectively, and lower in Northern Ireland at 11%. Around 41% of farms in the UK fell into the lower income brackets (less than £20,000). At the top end of the scale, just under a third of farms in the UK had a Farm Business Income of more than £50,000. However there was again some variation between UK countries in this highest income band category, with Wales and Northern Ireland having 22% and 23% of farms in the highest income band, while for England and Scotland the proportion of farms was 33% and 34% respectively.
31. A greater proportion of farms fall into the lower band income ranges for Net Farm Income. This is because Net Farm Income is a narrower measure of income; it is net of an imputed rent on owned land and an imputed cost for unpaid labour (apart from farmer and spouse). On this basis 26% of farms in the UK failed to make a profit.
32. Chart 3.3 shows the differences in performance of farms in England for 2017/18. Performance is measured as £ of output per £100 of input. An imputed value for unpaid labour is added to the input costs. The chart illustrates the significant variation in performance with 47% of farms failing to recover their costs in that year.

Chart 3.3 Distribution of performance (a) across farms 2017/18: England only

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(a) Performance based on the ratio of farm business output to farm business costs which includes an adjustment for unpaid labour.

Table 3.4 All farm types: distribution of farm incomes by country 2017/18

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Percentage of farms	England	Wales	Scotland	Northern Ireland	United Kingdom
Farm Business Income					
Less than zero	14	16	17	11	14
1 to less than £5,000	5	5	6	4	5
£5,000 to less than £10,000	5	10	7	12	7
£10,000 to less than £20,000	13	15	11	23	14
£20,000 to less than £30,000	12	15	9	13	12
£30,000 to less than £50,000	17	16	17	14	16
£50,000 and over	33	22	34	23	31
Average (£ thousand per farm)	57	35	35	34	49
Net Farm Income					
Less than zero	27	25	26	24	26
1 to less than £5,000	8	9	6	7	8
£5,000 to less than £10,000	6	11	6	9	7
£10,000 to less than £20,000	12	20	14	17	14
£20,000 to less than £30,000	8	10	10	12	9
£30,000 to less than £50,000	13	10	15	11	13
£50,000 and over	26	16	22	20	24
Average (£ thousand per farm)	41	23	24	29	35
Cash Income					
Less than zero	7	7	8	6	7
1 to less than £5,000	5	3	3	2	4
£5,000 to less than £10,000	5	6	3	7	5
£10,000 to less than £20,000	10	13	9	14	11
£20,000 to less than £30,000	10	17	9	16	11
£30,000 to less than £50,000	18	21	20	24	19
£50,000 and over	46	33	48	31	43
Average (£ thousand per farm)	84	52	57	53	73

Revisions to Total Income from Farming

33. Total Income from Farming is sensitive to small percentage changes in the values of outputs and intermediate consumption. A combination of a revision downwards in output and revision upwards in intermediate consumption leads to more sizeable revisions in percentage terms to Gross Value Added and Total Income from Farming. Any revisions are largely planned, as more data become available and estimates are replaced with actual data.

Revisions to Farm Business Survey

34. Compared to the provisional 17/18 results published in the 2017 edition of AUK, the outturns published for England were higher for cereals, general cropping, dairy, grazing livestock LFA, grazing livestock lowland, specialist poultry and mixed farms while those for specialist pig farms were lower. Except for dairy farms, grazing livestock lowland and specialist pig farms all of 17/18 provisional results were within confidence intervals of the final outturns. Average income for dairy farms was higher than expected largely due to under estimations of the value of output from cattle and the volume of milk produced. For lowland grazing livestock farms, average incomes were also higher than predicted, due to a small over-estimation of output (3%) and a similar small under estimation of inputs. Both outputs and costs were over-estimated for specialist pig farms, this was partly due to changes in the composition of the small sample size for this type of farm.
35. In Wales, incomes on dairy and grazing livestock LFA farms were higher than the provisional 17/18 results. Average Farm Business Income on lowland grazing livestock farms were less than expected, remaining lower than in any of the seven years 2008/09 to 2014/15.

36. In Northern Ireland, incomes on dairy farms were lower than the provisional 17/18 results reflecting higher than predicted input costs. For grazing livestock farms in the LFA income was less than forecast, influenced by lower than expected Single Farm Payment receipts.

Chapter 4 Accounts

Summary

- **Total Income from Farming** fell by £929 million (17%) to £4,697 million between 2017 and 2018 in current price terms.
- **Gross output** increased by £583 million (2.2%) to £26,651 million.
- **Crop** output increased by 1.7% and whilst the hot, dry weather conditions typically reduced yields this was offset by price rises for many crops.
- Output of **livestock for meat** increased by 2.9%, though prices were generally higher the challenging weather conditions affected volumes.
- Output of **livestock products** increased by 3.5%.
- The cost of **intermediate consumption** rose by 7.6%, generally all costs were higher, particularly fuel, feed and fertiliser costs.
- **Gross value added at basic price**, which identifies agriculture's contribution to the Gross Domestic Product (GDP), decreased by £626 million to £9,586 million, in current price terms a 6.1% fall.
- The euro/sterling exchange rate was almost identical to 2017 and as a result the value of payments under the **Basic Payment Scheme** were little changed.
- **Total Income from Farming per annual work unit (AWU)**⁵ of entrepreneurial labour (farmers and other unpaid labour) fell by 19% in real terms to £23,957.

Note

Throughout this publication the 2018 crop areas and volumes of production are based on revised figures published by Defra on 31 May 2019. Production values for 2018 will be updated as part of the next scheduled publication of the aggregate accounts in November 2019. The **monetary production values** for some crops may therefore show a small degree of inconsistency with **areas and volumes**.

Introduction

1. This chapter shows production and income accounts for agriculture in the United Kingdom. Table 4.1 shows the value in real terms and table 4.2 shows the values in current price. Real term value is where previous years' data is adjusted to take account of inflation so the values are comparable. Current price values are based on prices in the year in question. Table 4.3 presents the year on year changes in outputs and inputs at current price. See Table 4.4 for a list of definition of terms used in tables 4.1, 4.2 and 4.3.
2. These accounts conform to internationally-agreed accounting principles required by both the United Kingdom's National Statistics and by Eurostat, the statistical office of the European Union.
3. Unless otherwise stated all comparisons are with the previous year (2017).

⁵ AWU equals input of one person engaged in the agricultural activities of the farm business on a full-time basis for one year.

Real term value, overall trends (table 4.1)

4. Real term value is where previous years' data is adjusted to take account of inflation to allow more meaningful comparisons between years over time.
5. 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, UK agricultural income tends to be volatile and fluctuate from year to year.
6. Incomes have generally followed an overall upward trend over the last 20 years. However, in 2015, despite high levels of production that year Total Income from Farming (TIFF) fell sharply driven by lower commodity prices and a less favourable exchange rate. In 2016 the exchange rate improved but a poor harvest and continued low commodity prices kept income low. In 2017, TIFF increased to the second highest level in 20 years (second only to the value in 2013), as a result of a favourable combination of a weaker pound, strong commodity prices and high levels of production.
7. In 2018 incomes fell from this high level despite the total value of production remaining high. The value of production increased slightly with lower crop yields being more than offset by strong commodity prices. However, the price of key inputs (particularly energy, fertilisers and feed) increased sharply pushing up the costs of production. As a result incomes fell by £1,034 million (-18%) to just below £4.7 billion, although incomes were much higher in 2017, this was only slightly below the 5 year average, £388 million or 8% lower.
8. Total Income from Farming per Annual Work Unit (AWU) of entrepreneurial labour is an alternative measure of income that takes into account the labour used to produce that income and allows comparisons to be made with other countries. It follows a similar trend to Total Income from Farming, but owing to a decline in the number of farmers and other unpaid workers has performed better over the last 20 years.

Table 4.1 Production and income accounts in real terms (adjusted to take account of inflation)

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£ million (real terms) (f)

	2014	2015	2016	2017	2018
					(provisional)
Total crop output	9 766	9 088	8 431	9 401	9 388
Total livestock output	15 322	14 025	13 279	14 693	14 800
10 Other agricultural activities	1 196	1 166	1 135	1 165	1 163
11 Inseparable non-agricultural activities	1 248	1 259	1 250	1 247	1 253
12 Output (at market prices)(a)	27 532	25 539	24 096	26 506	26 604
13 Total subsidies (less taxes) on product (b)	22	38	46	47	47
14 Gross output at basic prices (12 + 13)	27 554	25 577	24 142	26 553	26 651
25 Total intermediate consumption	17 063	16 238	15 496	16 151	17 065
26 Gross value added at market prices (12 - 25)	10 469	9 301	8 601	10 355	9 538
27 Gross value added at basic prices (14 - 25)	10 491	9 339	8 647	10 402	9 586
28 Total consumption of Fixed Capital	4 361	4 214	4 219	4 199	4 336
29 Net value added at market prices (26 - 28)	6 107	5 087	4 381	6 156	5 203
30 Net value added at basic prices (27 - 28)	6 129	5 125	4 427	6 203	5 250
31 Other taxes on production	- 106	- 101	- 97	- 97	- 96
32 Other subsidies on production (b)	3 136	3 004	3 283	3 300	3 283
33 Net value added at factor cost (30 + 31 + 32)	9 159	8 028	7 613	9 406	8 438
34 Compensation of employees	2 563	2 654	2 633	2 676	2 739
35 Rent	592	597	597	581	572
36 Interest (d)	720	728	726	707	697
37 Total Income from Farming (33 - 34 - 35 - 36)	5 584	4 332	3 940	5 731	4 697
Annual Work Unit agricultural labour input (thousand head) (d)	193	193	193	194	196
Total Income from Farming per annual work unit (£) (d)	28 967	22 406	20 455	29 477	23 957

(a) Output is net of VAT collected on the sale of non-edible products. Figures for output at market prices exclude subsidies on products.

(b) Subsidies (less taxes) on product: payments linked to the production of agricultural products. Other subsidies on production: payments not linked to production from which agricultural producers can benefit as a consequence of engaging in agricultural activities e.g. Basic Payment Scheme, agri-environment schemes.

(c) Interest charges on loans for current farming purposes and buildings and works less interest on money held on short term deposit.

(e) Annual Work Unit (AWU) equals the work performed by one person who is occupied on an agricultural holding on a full-time basis in one year

(f) GDP deflator used to convert current prices (table 4.2) to real term price

Current price (tables 4.2 and 4.3)

9. Current price values are based on prices in the year in question.
10. In 2018 Total Income from Farming decreased by £929 million to £4,697 million, a 17% decrease on 2017. The main contributors to this are the rise in animal feed (+£509 million), goods and services (+£358million), fertiliser (+£116 million), energy (£113 million) and labour costs (£112 million). Conversely the value of the output of potatoes fell by £220 million and oilseed rape by £122 million.
11. Gross value added at basic price, which identifies agriculture's contribution to the Gross Domestic Product (GDP), fell by 6% (£626 million) to £9,586 million.

Outputs: Crops

12. Overall output of crops value rose by £159 million or 1.7% to £9,388 million.
13. Cereal harvests were down on last year. Whilst cropped area changed little on the year, yields fell notably as a result of the prolonged dry, hot weather. The value of production was boosted by better prices offsetting the falls in production.
14. The value of wheat rose by £95 million to £2,084 million. Lower yields and a decrease in planted area resulted in volumes falling by 8.6%, with quality better than expected. Higher prices compensated for the fall in volume and boosted the value.
15. Production of barley was down well below the 5 year average as a result of decreases in both planted area and yield. However the overall value rose by £85 million to £957 million as a result of higher prices (up 19%).
16. Oilseed rape fell in value by £122 million to £643 million, mainly driven by lower production (-7.1%). Yields fell back to more average levels following the record high of 2017 whilst planted area increased by 3.7%.
17. The value of sugar beet rose by £17 million to £246 million wholly driven by price (+26%). Whilst planted area was 2.9% higher, yields were down by 17% on the 2017 record high resulting in a 15% fall in production.
18. Potatoes fell in value by £220 million to £641 million. Both reduced planted area (-3.2%) and lower yields (-15%) affected by the summer drought contributed to a 19% fall in production. Price fell by 8%, with the price recovery throughout the year failing to offset the low prices at the start of the year.
19. The value of vegetables decreased by £38 million to £1,417 million, driven by lower volumes as a result of the challenging weather conditions. Planting was delayed due to the cold, wet spring and subsequent drought of the hot dry summer. Higher prices (+8.0%) failed to offset falls in production (-12%). Fruit fared better and despite a late start to the season, the hot, dry weather resulted in an early harvest with production slightly up on the year (+1.4%). Overall the value of fruit rose by £17 million to £769 million with price up 0.8%.
20. The value of other crop products, including seeds and straw increased significantly by £337 million to £776 million. Demand for straw from the livestock industry resulted in an increase in both production and price however this higher value is reflected in the costs livestock farmers incurred which is shown in other goods and service costs.

Outputs: Livestock

21. Overall the value of total livestock output was 2.6% higher at £14,800 million.
22. The value of milk increased by £136 million to £4,487 million, primarily price driven. Despite a slight fall in dairy cow numbers and the dry weather conditions affecting grass growth production levels were maintained. The average price of milk in 2018 (calendar year) was 29.26 pence per litre (ppl), 0.56 ppl (1.9%) higher than 2017.
23. The value of eggs rose by £17 million to £641 million, entirely volume driven as throughput at egg packing stations rose by 5.2% putting downward pressure on price (-2.3%).

24. The value of livestock primarily for meat rose by £236 million with increases seen in all sectors, with the exception of pigs. The value of cattle meat increased by £43 million to £3,031 million, production was slightly up on the year and price rose by 1.0%.
25. Pig meat fell in value by £76 million to £1,250 million. Price fell by 6.9%, as a result of over production early in the year and a continued downward pressure on price in the autumn/winter, in spite of this price was still around 14% higher than 2016. Production levels rose by 1.3% although carcase weights were unchanged.
26. The value of sheep meat rose by £57 million to £1,258 million, price driven as volumes were lower. The cold late spring affected lambing and the hot dry summer affected finishing and as a result production decreased by 3.4%. Price was the highest seen in recent years, the stabilising of sterling supported exports and boosted prices.
27. Poultry meat rose in value by £208 million to £2,626 million, the highest recorded value. Continued expansion of the sector to meet demand boosted production (+5.7%) with price 2.8% higher than the previous year.

Intermediate consumption

28. The total cost of intermediate consumption rose by £1,209 million to £17,065 million. All intermediate consumption costs rose with animal feed, other goods and services, energy and fertiliser showing the largest increases.
29. The cost of animal feed rose by £509 million to £5,615 million, a combination of increased volumes and feed price. The extreme weather conditions led to greater demand by the livestock sector as the late, cold spring kept livestock inside for longer and the hot summer affected forage and grass growth. The higher cereal prices kept the annual average feed price up on the year.
30. Energy costs rose by £113 million to £1,346 million, global oil prices continued to rise in 2018, pushing up energy costs however weather conditions and efficiency savings helped reduce usage on farm.
31. Fertiliser costs rose by £116 million to £1,345 million, a consequence of the higher oil price as usage was down.
32. Other goods and service costs rose by £358 million to £3,603 million reflecting the increased demand for straw by the livestock industry.

Gross Value Added

33. Gross value added at basic price, which identifies agriculture's contribution to the Gross Domestic Product (GDP), decreased by 6.1% (£626 million) to £9,586 million.

Net value at factor cost

34. Net Value Added at factor cost, which is Gross Value Added at basic prices adjusted for consumption of fixed capital, other taxes on production and other subsidies on production, is estimated to have decreased by £797 million (-9%) to £8,438 million.

Compensation of employees

35. The total value of compensation to employees was £2,739 million, a rise of £112 million (+4.3%). In line with the national living wage increase average labour costs were higher whilst labour volume was slightly down on the previous year.

Other subsidies on production

36. Direct payments, including payments on product (worth £47 million), rose to £3,330 million. The value of the Basic Payment Scheme was just slightly above 2017 payments at £2,750 million, maintained due to the stable exchange rate. Payments are set in Euros and converted to sterling each year using the exchange rate set by the European Central Bank every September. In 2018 €1=89.3 pence compared to €1=89.5 pence in 2017.

Table 4.2 Production and income accounts at current prices

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£ million (current prices)

	2014	2015	2016	2017	2018 (provisional)
Output at market prices (a)					
1 Output of cereals	3 460	2 970	2 424	2 963	3 160
of which: wheat	2 454	2 052	1 628	1 989	2 084
barley	900	828	704	871	957
oats	99	85	87	98	114
2 Output of industrial crops	1 160	1 053	859	1 193	1 052
of which: oilseed rape	684	711	541	764	643
protein crops	123	137	132	153	115
sugar beet	315	173	150	229	246
other industrial crops	23	23	23	32	32
3 Output of forage plants	218	216	201	205	236
4 Output of vegetables and horticultural products	2 367	2 473	2 630	2 817	2 756
of which: fresh vegetables	1 202	1 324	1 340	1 454	1 417
plants and flowers	1 166	1 149	1 290	1 363	1 339
5 Output of potatoes (including seeds)	682	627	788	860	641
6 Output of fruit	622	690	697	752	769
7 Output of other crop products including seeds	648	528	500	439	776
Total crop output (sum 1 - 7)	9 156	8 556	8 099	9 229	9 388
8 Output of livestock	8 997	8 710	8 764	9 351	9 549
primarily for meat	7 468	7 436	7 534	8 164	8 399
of which: cattle	2 611	2 757	2 775	2 988	3 031
pigs	1 264	1 080	1 099	1 326	1 250
sheep	1 122	1 118	1 153	1 202	1 258
poultry	2 250	2 260	2 282	2 418	2 626
gross fixed capital formation	1 528	1 273	1 230	1 187	1 149
of which: cattle	959	702	669	674	664
pigs	5	4	5	6	5
sheep	330	289	291	251	193
poultry	234	278	265	257	287
9 Output of livestock products	5 368	4 494	3 992	5 073	5 251
of which: milk	4 594	3 734	3 301	4 351	4 487
eggs	679	681	603	624	641
Total livestock output (8 + 9)	14 365	13 203	12 756	14 424	14 800
10 Other agricultural activities	1 122	1 097	1 091	1 144	1 163
11 Inseparable non-agricultural activities	1 170	1 186	1 201	1 225	1 253
12 Output (at market prices) (sum 1 to 11)	25 813	24 042	23 147	26 022	26 604
13 Total subsidies (less taxes) on product (b)	21	36	44	46	47
14 Gross output at basic prices (12 + 13)	25 834	24 078	23 192	26 068	26 651

continued

Table 4.2 Production and income accounts at current prices (*continued*)

£ million (current prices)		2014	2015	2016	2017	2018
						(provisional)
Intermediate consumption						
15	Seeds	766	711	733	735	760
16	Energy	1 377	1 190	1 133	1 233	1 346
	of which: electricity and fuels for heating	372	378	362	403	435
	motor and machinery fuels	1 005	811	771	831	911
17	Fertilisers	1 462	1 392	1 268	1 230	1 345
18	Plant protection products	941	963	953	977	1 000
19	Veterinary expenses	457	462	453	467	492
20	Animal feed	5 007	4 676	4 478	5 106	5 615
	of which: compounds	2 999	2 845	2 769	3 193	3 516
	straights	1 413	1 291	1 221	1 296	1 420
	feed produced and used on farm or purchased from other farms	595	540	488	618	679
21	Total maintenance	1 606	1 540	1 551	1 591	1 609
	of which: materials	960	949	955	1 003	1 019
	buildings	646	592	595	588	590
22	Agricultural services	1 122	1 097	1 091	1 144	1 163
23	FISM	96	95	104	128	131
24	Other goods and services (c)	3 166	3 161	3 122	3 245	3 603
25	Total intermediate consumption (sum 15 to 24)	15 998	15 286	14 886	15 856	17 065
26	Gross value added at market prices (12 - 25)	9 815	8 756	8 262	10 166	9 538
27	Gross value added at basic prices (14 - 25)	9 836	8 792	8 306	10 212	9 586
28	Total consumption of Fixed Capital	4 089	3 967	4 053	4 122	4 336
	of which: equipment	1 719	1 757	1 811	1 893	2 019
	buildings	968	969	987	1 013	1 044
	livestock	1 403	1 240	1 254	1 217	1 273
	cattle	910	733	693	694	738
	pigs	5	4	5	5	4
	sheep	290	287	278	256	265
	poultry	197	217	279	261	265
29	Net value added at market prices (26 - 28)	5 726	4 789	4 209	6 044	5 203
30	Net value added at basic prices (27 - 28)	5 747	4 825	4 253	6 090	5 250
31	Other taxes on production	- 99	- 95	- 93	- 95	- 96
32	Other subsidies on production (b)	2 940	2 828	3 154	3 240	3 283
33	Net value added at factor cost (30 + 31 + 32)	8 588	7 558	7 313	9 235	8 438
34	Compensation of employees	2 403	2 499	2 530	2 627	2 739
35	Rent	555	562	573	570	572
36	Interest (d)	394	420	426	411	429
37	Total Income from Farming (33 - 34 - 35 - 36)	5 235	4 078	3 785	5 626	4 697

(a) Output is net of VAT collected on the sale of non-edible products. Figures for output at market prices exclude subsidies on products.

(b) Subsidies (less taxes) on product: payments linked to the production of agricultural products. Other subsidies on production: payments not linked to production from which agricultural producers can benefit as a consequence of engaging in agricultural activities e.g. Basic Payment Scheme, agri-environment schemes.

(c) Includes livestock and crop costs, water costs, insurance premiums, bank charges, professional fees, rates, and other farming costs.

(d) Interest charges on loans for current farming purposes and buildings and works less interest on money held on short term deposit.

Table 4.3 Changes in outputs and inputs at current price

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£ million		Current price value		Changes %		
		2017	2018	value	volume	price
Output at market prices (a)						
1	Output of cereals	2 963	3 160	7	- 5	12
	of which: wheat	1 989	2 084	5	- 4	9
	barley	871	957	10	- 7	18
	oats	98	114	16	7	8
2	Output of industrial crops	1 193	1 052	- 12	- 12	-
	of which: oilseed rape	764	643	- 16	- 5	- 12
	protein crops	153	115	- 25	- 41	28
	sugar beet	229	246	7	- 15	26
	other industrial crops	32	32	- 2	- 2	-
3	Output of forage plants	205	236	15	15	-
4	Output of vegetables and horticultural products	2 817	2 756	- 2	- 6	4
	of which: fresh vegetables	1 454	1 417	- 3	- 10	8
	plants and flowers	1 363	1 339	- 2	- 2	1
5	Output of potatoes (including seeds)	860	641	- 26	- 19	- 8
6	Output of fruit	752	769	2	1	1
7	Output of other crop products including seeds	439	776	77	39	27
Total crop output (sum 1 - 7)		9 229	9 388	2	- 4	6
8	Output of livestock	9 351	9 549	2	1	1
	primarily for meat	8 164	8 399	3	2	1
	of which: cattle	2 988	3 031	1	-	1
	pigs	1 326	1 250	- 6	1	- 7
	sheep	1 202	1 258	5	- 3	8
	poultry	2 418	2 626	9	6	3
	gross fixed capital formation	1 187	1 149	- 3	- 5	1
	of which: cattle	674	664	- 2	- 3	2
	pigs	6	5	- 17	12	- 26
	sheep	251	193	- 23	- 24	1
	poultry	257	287	12	10	1
9	Output of livestock products	5 073	5 251	4	1	2
	of which: milk	4 351	4 487	3	-	3
	eggs	624	641	3	5	- 2
Total livestock output (8 + 9)		14 424	14 800	3	1	2
10	Other agricultural activities	1 144	1 163	2	- 1	3
11	Inseparable non-agricultural activities	1 225	1 253	2	-	2
12 Output (at market prices) (sum 1 to 11)		26 022	26 604	2	- 1	3
13	Total subsidies (less taxes) on product (b)	46	47	3	..	2
14 Gross output at basic prices (12 + 13)		26 068	26 651	2	- 1	3

continued

Table 4.3 Changes in outputs and inputs at current price (*continued*)

£ million		Current price value		Changes %		
		2017	2018	value	volume	price
Intermediate consumption						
15	Seeds	735	760	3	- 1	5
16	Energy	1 233	1 346	9	- 2	11
	of which: electricity and fuels for heating	403	435	8	-	8
	motor and machinery fuels	831	911	10	- 3	13
17	Fertilisers	1 230	1 345	9	- 3	13
18	Plant protection products	977	1 000	2	-	2
19	Veterinary expenses	467	492	5	- 2	8
20	Animal feed	5 106	5 615	10	3	7
	of which: compounds	3 193	3 516	10	3	7
	straights	1 296	1 420	10	1	9
	feed produced and used on farm or purchased from other farms	618	679	10	6	3
21	Total maintenance	1 591	1 609	1	- 3	4
	of which: materials	1 003	1 019	2	- 2	3
	buildings	588	590	-	- 4	5
22	Agricultural services	1 144	1 163	2	- 1	3
23	FISM	128	131	2	..	..
24	Other goods and services (c)	3 245	3 603	11	5	6
25	Total intermediate consumption (sum 15 to 24)	15 856	17 065	8	1	6
26	Gross value added at market prices (12 - 25)	10 166	9 538	- 6	..	..
27	Gross value added at basic prices (14 - 25)	10 212	9 586	- 6	..	..
28	Total consumption of Fixed Capital	4 122	4 336	5	2	4
	of which: equipment	1 893	2 019	7	2	4
	buildings	1 013	1 044	3	- 1	4
	livestock	1 217	1 273	5	2	2
	cattle	694	738	6	4	3
	pigs	5	4	- 18	10	- 25
	sheep	256	265	3	1	2
	poultry	261	265	2	-	1
29	Net value added at market prices (26 - 28)	6 044	5 203	- 14	..	..
30	Net value added at basic prices (27 - 28)	6 090	5 250	- 14	..	..
31	Other taxes on production	- 95	- 96	1	..	..
32	Other subsidies on production (b)	3 240	3 283	1	..	..
33	Net value added at factor cost (30 + 31 + 32)	9 235	8 438	- 9	..	..
34	Compensation of employees	2 627	2 739	4	-	4
35	Rent	570	572	-	..	..
36	Interest (d)	411	429	4	..	..
37	Total Income from Farming (33 - 34 - 35 - 36)	5 626	4 697	-17	..	..

(a) Output is net of VAT collected on the sale of non-edible products. Figures for output at market prices exclude subsidies on products.

(b) Subsidies (less taxes) on production: payments linked to the production of agricultural products. Other subsidies on production: payments not linked to production from which agricultural producers can benefit as a consequence of engaging in agricultural activities e.g. Basic Payment Scheme, agri-environment schemes.

(c) Includes livestock and crop costs, water costs, insurance premiums, bank charges, professional fees, rates, and other farming costs.

(d) Interest charges on loans for current farming purposes and buildings and works less interest on money held on short term deposit.

Capital (table 4.4)

37. The agricultural balance sheet (table 4.4) values the assets and liabilities for agriculture at the end of each calendar year and estimates the net worth of the industry. Net worth is estimated to be £250 billion at December 2017, the latest year for which data is available and shows a fall of 4.4% on 2016. For the second year running land prices showed a decline (-5.5%) with significant price difference across both land type and regions. Total liabilities is estimated to be 8.8% higher.

Table 4.4 Aggregate balance sheet for the agricultural industry

Enquiries: Helen Mason on +44 (0)20 802 66256

email: farmaccounts@defra.gov.uk

£ million	2013	2014	2015	2016	2017
At current prices					
Assets					
Fixed (a):					
Land (b)	216 347	232 223	227 107	224 649	212 326
Buildings, plant, machinery and vehicles	32 716	33 325	33 731	34 615	36 015
Breeding livestock	8 225	7 232	5 781	6 557	6 300
Total fixed	257 288	272 780	266 619	265 821	254 640
Trading livestock	4 129	4 234	4 207	4 210	4 363
Crops and stores	3 959	3 989	3 999	3 726	3 976
Debtors, cash deposits	5 487	5 740	5 743	5 933	6 891
Total current	13 575	13 963	13 949	13 869	15 230
Total Assets	270 863	286 742	280 568	279 690	269 870
Liabilities					
Long and medium term:					
AMC and SASC (c)	1 777	1 980	1 992	2 230	2 131
Building Societies and Institutions	1 144	1 316	1 182	1 164	1 615
Bank loans	6 740	7 534	7 994	8 756	9 523
Family Loans	524	536	444	522	505
Other	23	70	75	66	88
Total long and medium term	10 208	11 437	11 688	12 739	13 863
Short term:					
Leasing	82	61	53	47	35
Hire purchase	1 296	1 347	1 395	1 428	1 455
Trade Credit	2 081	1 879	1 654	1 866	2 401
Bank overdrafts	2 226	2 134	2 290	2 247	2 186
Other	45	120	43	39	41
Total short term	5 730	5 541	5 434	5 628	6 118
Total Liabilities	15 938	16 978	17 122	18 367	19 981
Net worth	254 925	269 765	263 446	261 323	249 889

In real terms (as deflated by the gdp deflator):

Indices 2013 = 100

GDP deflator	100	102	102	104	106
Total assets	100	104	101	99	94
Total liabilities	100	105	105	111	118
Net worth	100	104	101	98	92

(a) The valuations of land and breeding livestock are at average market prices; cost, net of consumption of fixed capital; those of buildings, plant, machinery and vehicles are replacement

(b) Includes values for arable land and pasture in Great Britain & Northern Ireland based on land area from June Surveys.

(c) Agricultural Mortgage Company (AMC) and Scottish Agricultural Securities Corporation (SASC).

Revisions

38. Any revisions are largely planned, as more data become available and estimates are replaced with actual data.
39. Total Income from Farming is sensitive to small percentage changes in the values of outputs and intermediate consumption. A combination of a revision downwards in output and revision upwards in intermediate consumption leads to more sizeable revisions in percentage terms to Gross Value Added and Total Income from Farming.

Summary

- **Total factor productivity** of UK agriculture decreased by 2.1% between 2017 and 2018.
- This **decrease** was driven by a fall in production volumes combined with a slight increase in volumes of inputs.
- Volume of all **outputs** decreased by 1.8% was driven by a decrease for crops, partially offset by a small increase for livestock and livestock products.
- Volume of all **inputs** increased but by only 0.3%
- **Since 1973 total factor productivity** has increased by over 53% driven by a 36% increase in the volume of outputs and a 12% fall in the volume of inputs.

Note

Throughout this publication the 2018 crop areas and volumes of production are based on revised figures published by Defra on 31 May 2019. Production values for 2018 will be updated as part of the next scheduled publication of the aggregate accounts in November 2019. The **monetary production values** for some crops may therefore show a small degree of inconsistency with **areas and volumes**.

Introduction (chart 5.1)

1. Productivity is a measure of how well inputs are converted into outputs giving an indication of the efficiency and competitiveness of the agriculture industry. While external factors such as weather conditions or disease outbreaks may have short term impacts on productivity, it is developments in productivity over a longer period that constitute one of the main drivers of agricultural income.
2. The headline measure, total factor productivity, shows the change in the volume of output leaving the industry per unit of all inputs entering the industry, including fixed capital and labour. The partial factor productivity indicators show the volume of output leaving the industry per unit of one particular type of input, in this case intermediate consumption, consumption of fixed capital, labour and land.

Chart 5.1 Total factor productivity



Total factor productivity

3. Total factor productivity of the agriculture industry in the United Kingdom is estimated to have decreased by 2.1% between 2017 and 2018. This is driven by a fall in overall levels of production combined with a slight increase in the volumes of inputs.
4. The volume of all outputs decreased by 1.8% after the high point seen in 2017. This was mainly driven by a 7.2% decrease for crops, only partially offset by a small increase for livestock (1.5%) and livestock products (1.3%).
5. The volume of all inputs increased by 0.3%, contributing to the overall fall in productivity.
6. Since 1973 total factor productivity has increased by over 53% driven by a 36% increase in the volume of outputs and a 12% fall in the volume of inputs.

Details of volume changes of outputs and inputs (table 5.1)

7. Total volume of all crops decreased by 7.2% compared to 2017. Cereal volumes fell by 5.8% driven by falls for both wheat and barley. Oilseed rape and sugar beet saw decreases of 4.7% and 15% respectively for 2018.
8. Compared to 2017 there was a small (1.5%) increase in the volume of all livestock outputs. This was mainly driven by an increase of 1.5% for meat production plus a small increase of 0.3% for milk.
9. The increased meat production was driven by increases for poultry (+5.7%) and pigs (+1.3%) partly offset by a fall for sheep (-3.4%). Cattle and other animal both remained almost unchanged with increases of 0.5% or less.
10. Compared to 2017 there was a small increase of 0.3% in the volume of all inputs including labour. Intermediate consumption fell slightly, by 0.1%, with all items expect animal feed and plant protection products showing a fall. Animal feed is the single largest input and showed an increase of 2.4% overall. This was driven by increases of +3.1% for compounds and +0.6% for straights.

Table 5.1 Total factor productivity volume indices

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	2013	2014	2015	2016	2017	2018
						2010=100 (provisional)
1 Output of cereals	92.6	118.8	120.4	107.0	108.4	102.1
wheat	75.9	109.7	109.1	97.2	96.7	90.6
rye	90.9	90.9	90.9	90.9	77.3	81.8
barley	154.3	153.5	164.5	142.3	152.8	143.2
oats and summer cereal mixtures	150.6	114.4	119.4	122.3	120.2	133.2
other cereals	106.0	105.1	89.3	77.8	95.0	126.8
2 Output of industrial crops	98.6	111.6	109.5	84.7	106.0	93.3
oil seeds	95.2	108.3	111.3	78.9	96.1	91.6
oilseed rape	95.4	110.3	114.0	79.6	97.4	92.8
other oil seeds	86.4	54.6	39.7	66.4	64.2	60.2
protein crops	68.9	81.8	124.2	113.2	124.5	73.6
sugar beet	129.2	142.6	95.3	87.1	136.6	116.7
other industrial crops	101.1	101.1	101.1	101.1	104.9	102.7
3 Output of forage plants	121.3	121.3	121.3	121.3	121.3	121.3
4 Output of vegetables and horticultural products	97.6	100.1	100.4	100.4	101.9	95.5
fresh vegetables	97.4	102.7	103.2	101.8	103.3	93.2
plants and flowers	97.7	97.3	97.4	98.9	100.4	97.9
5 Output of potatoes	113.0	144.0	137.3	131.2	151.3	121.6
6 Output of fruit	100.2	106.9	110.4	101.7	107.8	109.3
7 Output of other crop products	119.1	133.9	125.5	116.0	106.3	132.2
Total crop output (sum 1 - 7)	97.9	113.4	113.5	104.3	110.6	102.7
8 Output of livestock (meat)	102.9	102.7	105.7	108.5	109.4	111.1
cattle	98.0	96.3	100.2	104.2	102.9	103.4
pigs	111.9	115.8	119.9	124.6	122.4	124.0
sheep	103.3	108.3	110.1	106.5	108.8	105.0
poultry	105.5	102.5	105.1	109.0	113.4	119.9
other animals	100.0	100.0	99.4	99.4	99.4	99.4
9 Output of livestock products	100.2	107.2	110.7	107.5	112.3	113.7
milk	100.5	108.5	112.4	107.5	111.9	112.3
eggs	99.5	100.0	103.4	107.9	112.4	118.1
raw wool	97.4	99.8	101.2	102.3	100.5	100.4
other animal products	85.6	103.5	80.5	86.6	113.1	143.3
Total livestock output (8 + 9)	101.8	104.5	107.8	108.4	110.7	112.3
10 Inseparable non-agricultural activities	115.4	113.2	120.4	122.6	122.1	122.0
11 All outputs	100.9	108.0	110.3	107.5	111.1	109.1

continued

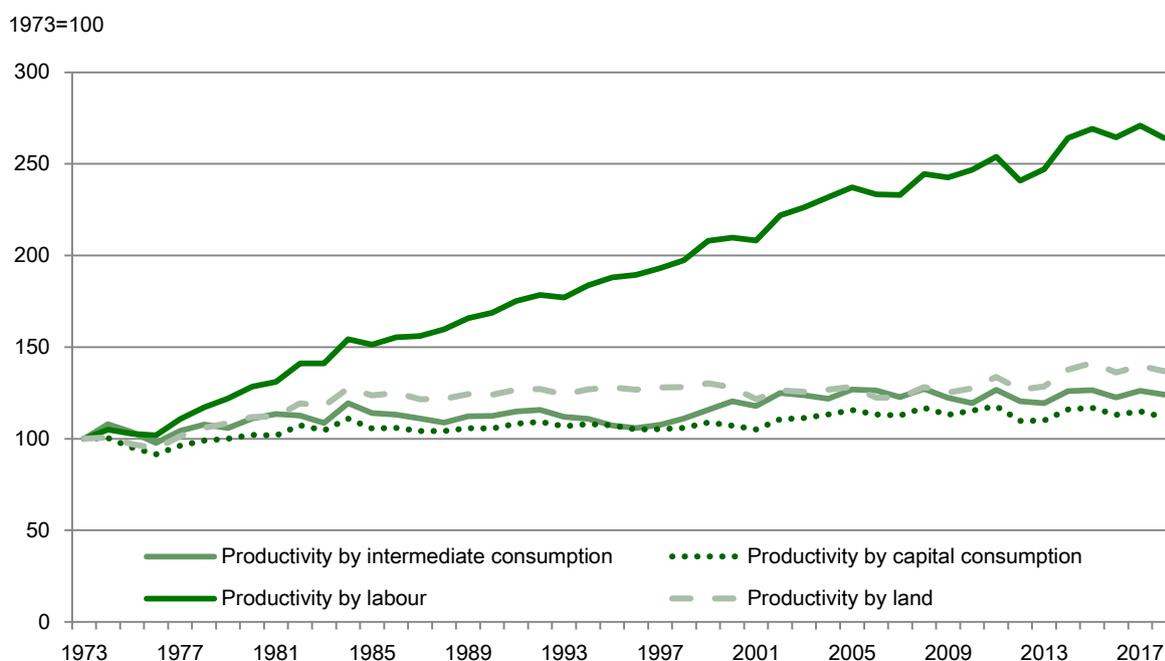
Table 5.1 Total factor productivity volume indices (*continued*)

	2010=100					
	2013	2014	2015	2016	2017	2018
	(provisional)					
12 Seeds	107.0	107.0	105.8	107.3	109.7	108.5
13 Energy	97.0	95.8	98.1	98.0	95.2	93.4
electricity and fuels for heating	87.4	80.2	82.7	80.0	84.0	84.0
motor and machinery fuels	100.9	102.2	104.5	105.9	99.1	96.4
14 Fertilisers	99.2	100.5	100.7	113.3	99.7	96.7
15 Plant protection products	124.9	130.6	134.0	132.7	131.8	132.3
16 Veterinary expenses	104.1	105.6	106.0	103.5	106.1	103.5
17 Animal feed	98.9	101.3	105.5	104.9	108.2	110.7
compounds	109.3	109.9	114.5	116.3	122.5	126.3
straights	82.1	87.4	90.8	86.3	84.5	85.0
18 Total maintenance	100.5	106.8	102.4	102.6	101.9	99.3
materials	102.2	103.0	101.7	101.2	104.2	102.6
buildings	97.6	112.9	103.5	104.9	98.1	94.0
19 FISIM	100.0	100.0	100.0	100.0	100.0	100.0
20 Other goods and services	98.5	96.8	99.3	97.3	101.0	101.0
21 Intermediate consumption	101.0	102.5	104.2	104.8	105.2	105.1
22 Consumption fixed capital (excluding livestock)	105.9	107.3	108.8	109.5	111.3	112.7
equipment	110.8	113.7	116.7	118.5	122.0	124.7
buildings	98.4	97.7	96.9	96.1	95.3	94.6
23 All Labour	100.8	100.9	101.2	100.4	101.3	102.0
Compensation of employees	101.7	101.8	102.0	99.9	101.2	101.7
Entrepreneurial workers (farm and specialist contractor)	100.3	100.5	100.8	100.6	101.3	102.2
24 Land	100.1	100.0	99.5	100.7	101.4	101.7
25 All Inputs and Entrepreneurial Labour	101.4	102.4	103.5	103.7	104.4	104.8
Total factor productivity (11 divided by 25)	99.5	105.5	106.6	103.7	106.4	104.2
Partial factor productivity indicators						
Productivity by intermediate consumption (11 divided by 21)	99.9	105.4	105.9	102.6	105.7	103.8
Productivity by capital consumption (11 divided by 22)	95.3	100.7	101.4	98.2	99.8	96.9
Productivity by labour (11 divided by 23)	100.1	107.0	109.0	107.1	109.8	107.0
Productivity by land (11 divided by 24)	100.8	108.0	110.9	106.7	109.6	107.4

Partial factor productivity (chart 5.2)

11. Partial productivity shows the impact key inputs have on productivity. It measures total outputs against a part of the inputs. The figures below clearly show that labour is the key input in driving productivity gains. Productivity by labour shows a steady increase over the whole period. Labour volumes are now approximately half of what they were in 1973. However over the last few years growth in labour productivity is due to increased output rather than a reduction in labour number.

Chart 5.2 Partial productivity indicators



Revisions

12. Revisions are generally made owing to the availability of more up-to-date data or as a result of methodology reviews.
13. The main change in recent years has been the introduction of land in the productivity indicator, introduced for the 2014 estimates. The volume of land is based on the utilised agricultural area. The price associated for land is the rental value. Owned land is given a notional rent value. Due to the value associated to land it has become a key component of the productivity indicator. The overall impact of land on the indicator was a slight reduction in productivity gains.

Chapter 6 Prices

Summary

In 2018 compared to 2017;

- The annual Agricultural Price Index (API) for agricultural outputs increased by 3.6%, while for agricultural inputs it increased by 6.3%.
- The average price of crop products rose by 6.9%, driven by increases in cereal, fresh vegetable and forage crop prices, and partially offset by declining potato prices.
- The average price of livestock and animal products rose by 1.5%. Most significant growth was seen across poultry and sheep sectors, which was offset by declining pig prices.
- The average price of agricultural inputs was driven by price rises across the majority of sectors. In particular, increased feedstuff prices and fertiliser prices had the greatest impact on total input price, with the cost of energy and fuels also increasing significantly in this time.

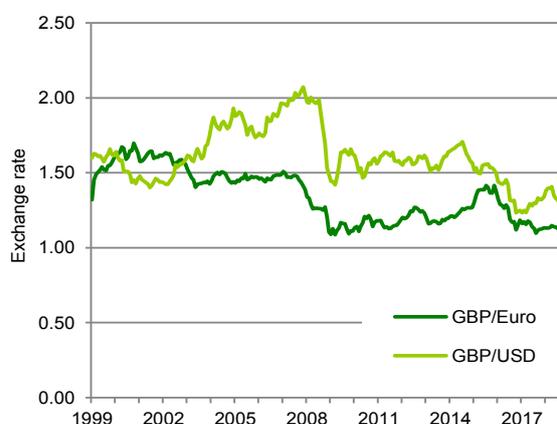
Data sources

1. The Agricultural Price Index (API) measures the monthly price changes in agricultural outputs and inputs for the UK. The output series reflects the prices farmers receive for their products, also referred to as farmgate price. Information is collected for all major crops (for example wheat and potatoes) and on livestock and livestock products (for example sheep, milk, and eggs).
2. The input series reflects the prices farmers pay for goods and services, and is split into two groups; goods and services currently consumed and goods and services contributing to investment. Goods and services currently consumed refer to items that are used up in the production process, for example fertiliser, or seed. Goods and services contributing to investment relate to items that are required but not consumed in the production process, such as tractors or buildings.

Exchange Rates (chart 6.1)

3. Fluctuating global currency prices can have significant effects on the prices of both agricultural inputs and outputs (chart 6.1). In 2018, the price of the pound against the euro remained stable but weak, benefitting farmers with augmented Basic Payment Scheme payments (payments are set in Euros) and export prices, while also increasing the cost of commonly imported farming inputs such as fertilisers and pesticides. In contrast, the pound rose against the dollar slightly during the first half of the year, before weakening again by the end of the year.

Chart 6.1 Exchange rate of sterling against the euro and US dollar



Annual Price Indices for 2018 (charts 6.2 to 6.9, table 6.1)

4. Compared to 2017, the annual index for agricultural outputs increased by 3.6% for outputs, and by 6.3% for inputs (chart 6.3). This follows a similar increase from 2016-2017, returning both inputs and outputs to their highest levels since 2013 (chart 6.2).
5. In comparison to 2017, the ratio of outputs to inputs has declined. This is unsurprising given the weak condition of the pound against global currencies, and is reflected in the reduced profits recorded across many farming sectors for 2018.

Chart 6.2 Monthly price index for all inputs and outputs from 2013 to 2018

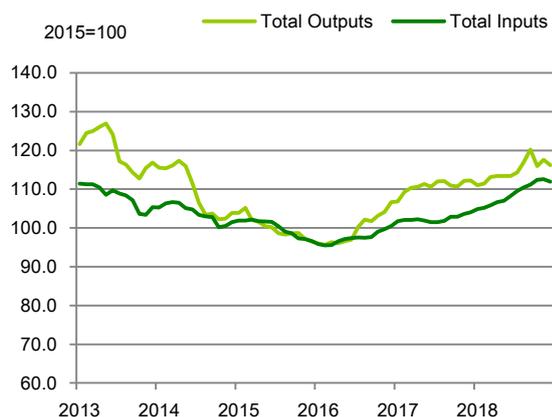
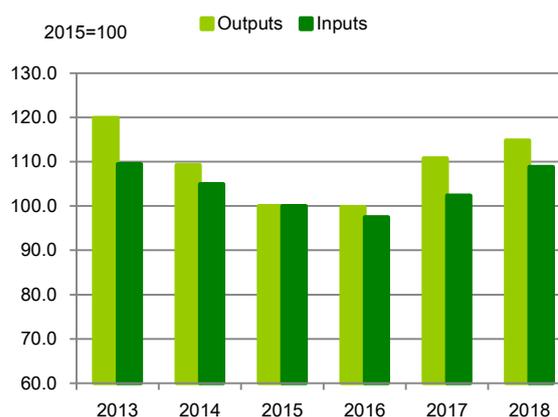


Chart 6.3 Annual price index for total inputs and outputs from 2013 to 2018



6. The average price of crop products rose by 6.9% in comparison to 2017, largely driven by increasing cereal prices. As can be seen from chart 6.4, cereal prices were broadly in line with 2017 for the first quarter of 2018, before experiencing a sharp and unprecedented rise throughout the second and third quarters. This price rise was as a result of extremely challenging weather conditions throughout 2018, with the cold spring delaying planting and leading to reduced supplies.
7. Forage crop prices (chart 6.5) were similarly inflated by weather conditions, with prices starting high in the first quarter following a poor summer in 2017, which led to shortages of hay and straw that continued well into 2018 as the cold spring limited outdoor grazing opportunities. However, prices dropped significantly following the summer, with farmers choosing to bale more straw than in a typical year, aided by the hot weather, resulting in excellent yields of straw despite reduced cereal yields.
8. In contrast, potato prices were relatively stable and showed a slight decline on the previous year, with the abundant 2017 harvest leading to ample supplies.
9. The average price of livestock and animal products rose only 1.5% in comparison to 2017, with sharp increases in sheep and poultry prices balanced by the reduction in pork prices. Monthly sheep and lamb prices (chart 6.6) were also affected by the weather. The cold spring led to an unusually high level of lamb mortality, with subsequent reduction in supply pushing prices far above 2017 levels in the first half of the year. This price rise was relatively short-lived, with prices in the second half of the year comparable to 2017.
10. In contrast, pig prices show little seasonal variation (chart 6.7), showing a reduction in price index in comparison to 2017 throughout the entire year. This decline in prices was as a result of many contributing factors, including a turbulent global pork market affected by new tariffs and African Swine Fever, increased production in comparison to 2017 in both the UK and across the EU, and a decline in retail sales of pork.
11. Animal feedstuff prices (chart 6.8) were one of the largest contributors to the increase in total input costs, showing an 8.2% increase on 2017 prices. This continues an upward annual trend in feedstuff prices since 2016, and is driven primarily by rising cereal costs.

12. Fertiliser and soil improver prices (chart 6.9) show a similar pattern of increases, with over 12% growth in prices since 2017, and annual increases since 2016. Prices were largely driven by increases in the cost of nitrogen fertilisers, and were influenced by several interacting factors including increasing energy prices, growing global demand, and the impact of the weak pound on the traditionally more affordable imported fertilisers.

Chart 6.4 Monthly cereal price index 2017 and 2018

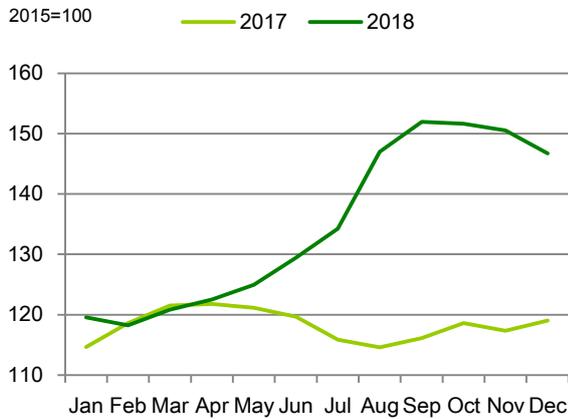


Chart 6.5 Monthly forage plant price index 2017 and 2018

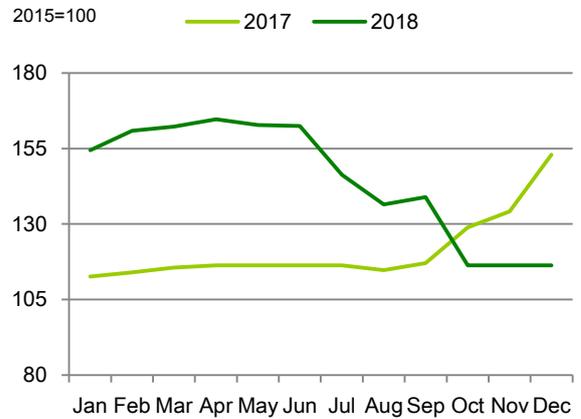


Chart 6.6 Monthly sheep and lamb price index 2017 and 2018

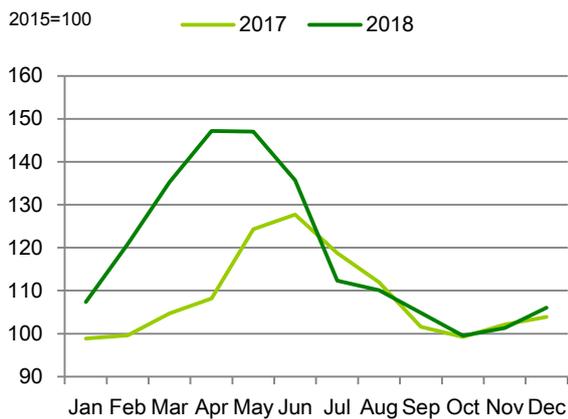


Chart 6.7 Monthly pig price index 2017 and 2018

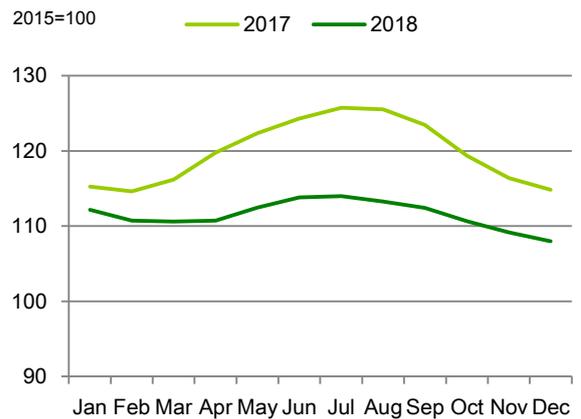


Chart 6.8 Monthly feedstuff price index 2016 to 2018

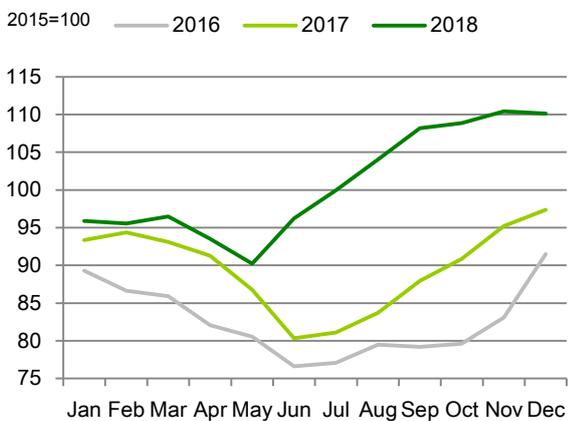


Chart 6.9 Monthly fertiliser price index 2016 to 2018

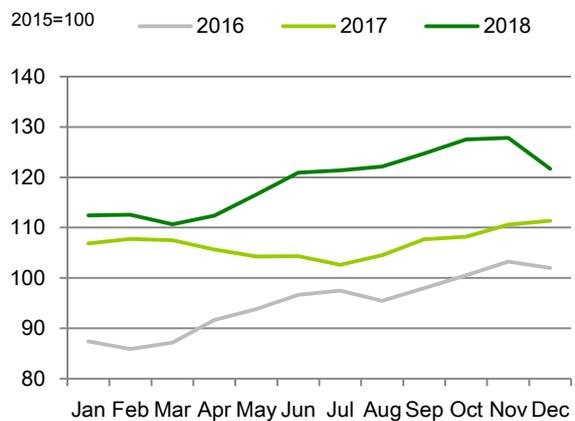


Table 6.1 Price indices for outputs and inputs

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2015=100	2013	2014	2015	2016	2017	2018
All Outputs	119.9	109.3	100.0	99.8	110.8	114.8
Crop products	125.3	106.3	100.0	104.9	113.8	121.7
Cereals	149.0	117.3	100.0	97.8	118.1	135.6
Wheat	149.9	119.7	100.0	96.7	118.8	132.4
Barley	145.1	112.0	100.0	100.3	116.1	145.0
Oats	160.3	103.9	100.0	105.2	118.1	134.3
Potatoes	147.7	98.1	100.0	131.8	125.1	121.1
Industrial Crops	123.3	103.3	100.0	103.4	115.8	112.7
Oilseed Rape	133.6	104.9	100.0	110.0	127.2	118.6
Sugar Beet	96.0	99.0	100.0	95.1	92.4	97.5
Forage plants	121.4	113.7	100.0	106.3	121.3	144.9
Fresh Vegetables	104.0	97.4	100.0	109.7	106.5	119.0
Fresh Fruit	103.6	96.4	100.0	107.6	115.3	119.5
Flowers and plants	103.5	102.1	100.0	100.8	105.1	105.3
Other crop products	100.0	100.0	100.0	100.0	100.0	100.0
Animals and animal products	116.2	111.3	100.0	96.6	108.9	110.6
Animals (for slaughter & export)	110.4	103.5	100.0	99.7	106.8	108.3
Cattle and calves	109.3	97.8	100.0	97.0	104.1	104.1
Pigs	126.6	121.2	100.0	98.3	119.8	111.5
Sheep and lambs	105.9	108.0	100.0	106.0	108.0	117.5
All Poultry	106.3	101.5	100.0	100.6	102.8	107.2
Animal products	126.1	124.4	100.0	91.6	112.4	114.2
Milk	129.3	128.8	100.0	92.4	117.4	119.7
Eggs	110.3	103.0	100.0	85.2	83.6	82.2
All Inputs	109.5	105.0	100.0	97.5	102.4	108.8
All goods and services currently consumed in agriculture	112.7	106.3	100.0	96.9	102.4	109.3
Seeds	119.2	105.6	100.0	101.7	99.5	104.7
Energy and lubricants	121.8	117.6	100.0	94.9	106.8	119.2
Fertilisers and soil improvers	111.5	105.0	100.0	82.6	89.6	100.8
Plant protection products	95.3	100.1	100.0	100.0	103.2	105.2
Veterinary services	98.6	99.4	100.0	100.4	101.0	109.2
Animal feedingstuffs	128.9	111.6	100.0	96.7	104.6	113.2
Straight feedingstuffs	142.4	115.9	100.0	99.3	109.3	121.0
Compound feedingstuffs	120.6	109.0	100.0	95.5	102.4	109.6
Maintenance of Materials	97.8	99.6	100.0	101.2	103.2	106.6
Maintenance of Buildings	101.1	101.8	100.0	99.3	104.5	109.6
Other goods and services	99.9	100.6	100.0	101.2	103.9	105.9
Goods and services contributing to investment	93.5	98.8	100.0	100.2	102.1	106.8
Materials	90.9	98.2	100.0	100.6	101.5	106.3
Buildings	100.5	101.1	100.0	99.4	103.4	107.9

Revisions

Revisions were made to years 2015 onwards for potatoes, cereals and fertilisers. The entire data series was rescaled to reflect the change to base year 2015=100.

Farmers' share of the value of food items (table 6.2)

13. While farmers are the primary producers of food goods, these are rarely sold directly to the consumer. More usually, goods are processed to a greater or lesser extent before they reach the retail market. As a result, the retail price paid is shared between the farmer and various other processors, distributors and retailers (see chapter 14 for more details on the food chain). By comparing the farmgate price and the retail price, it is possible to estimate the farmer's share of the individual items, as well as the overall farmgate share of a weighted basket of common food items.
14. In 2017 the farmgate share of the retail price of a basket of items covering staples of agricultural production was 41%, increasing slightly from 2016. The absolute level of the farmgate share is sensitive to which retail products are chosen for the basket; some have a greater amount of added value beyond the farmgate and it would therefore be expected that the share accounted for by the farmer would be lower.
15. Table 6.2 shows the items in the basket and how the farmers' share has changed for each. Items are weighted according to their value to farmers in the United Kingdom. Items which do not have a recorded value are not weighted in the final basket.
16. Meat and dairy products are influenced by the underlying feed costs required in production – crops are likewise affected by weather conditions. International trade and changes to currency exchange rates also have an impact and the farmgate share will reflect the relative influences of these factors in any given year.

Table 6.2 Farmers' share of the value of a basket of food items 2012-2017

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		% farmgate share by year					Weight in 2017 basket	
		2012	2013	2014	2015	2016	2017	
Farmers' overall share of basket		38	41	38	36	37	41	
Farmgate product	Retail product							
Apples	Dessert apples per kg	43	34	32	32	34	38	0.8%
Beef	Untrimmed beef ⁽¹⁾ per kg	54	58	50	49	49	51	17.7%
Carrots	Carrots per kg	47	44	35	48	60	54	1.1%
Cabbages	Cabbage, hearts, per kg	30	38	37	51	47	45	0.7%
Chicken	Oven ready roasting chicken, fresh or chilled per kg	39	40	39	41	44	47	13.7%
Eggs	Size 2 eggs per dozen	27	29	27	30	27	38	4.5%
Lamb	Untrimmed lamb ⁽¹⁾ per kg	53	53	52	48	51	51	7.9%
Onions	Onions per kg	24	34	37	39	48	47	1.0%
Pork	Untrimmed pork ⁽¹⁾ per kg	40	42	40	35	35	42	9.3%
Potatoes	Old loose white potatoes per kg	23	22	17	18	26	25	5.6%
Tomatoes	Tomatoes per kg	39	44	46	45	50	53	0.8%
Milk	Whole milk per litre	35	39	39	32	30	38	30.8%
Iceberg lettuce	Iceberg lettuce each	45	41	45	59	75	61	-
Dessert pears	Dessert pears p per kg	34	27	28	27	32	33	0.1%
Cucumber	Cucumber each	19	20	23	31	35	31	0.3%
Cauliflower	Cauliflower each	59	51	56	54	70	53	0.3%
Processed goods								
Farmgate product	Retail product							
Wheat	White loaf sliced, 800g	11	10	9	8	8	8	3.8%
Sugar beet	Sugar per kg	19	21	22	23	25	23	1.6%
Milk	Cheddar cheese per kg	29	33	32	26	25	32	0.1%
Pork	Pork sausages	25	25	24	21	21	24	-

(1) Farm gate prices from Defra, retail prices from the Office for National Statistics and the Agriculture & Horticulture Development Board (AHDB).

Summary

In 2018 compared to 2017;

- Harvested production of **wheat** decreased by 8.6% to 13.6 million tonnes. The value of production was 4.8% higher at just under £2.1 billion.
- **Oilseed rape** production decreased by 7.1% to 2.0 million tonnes due to lower yields offsetting an increase in area. The value of production was down 16% at £643 million.
- **Sugar beet** production decreased by 15% to 7.6 million tonnes. The value of production was 7.4% higher at £246 million.
- The value of **vegetable** production decreased by 2.6% to £1.4 billion.
- The value of **fruit** production decreased by 0.6% to £753 million.

Note

Throughout this publication the 2018 crop areas and volumes of production are based on revised figures published by Defra on 31 May 2019⁶. Production values for 2018 will be updated as part of the next scheduled publication of the aggregate accounts in November 2019. The **monetary production values** for some crops may therefore show a small degree of inconsistency with **areas and volumes**.

⁶ The 2018 crop area figures were revised in May 2019. You can find the revised figures at <https://www.gov.uk/government/statistics/farming-statistics-final-crop-areas-yields-livestock-populations-and-agricultural-workforce-at-1-june-2018-uk>

Cereals (tables 7.1 to 7.4)

Table 7.1 Total cereals

Enquiries: Allan Howsam on +44 (0)20 802 66123

 email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	3 179	3 099	3 128	3 181	3 106 ^(b)
Volume of harvested production (a)	24 468	24 734	21 967	22 999	21 085 ^(b)
Value of production (£ million)(c)	3 460	2 970	2 424	2 963	3 160 ^(b)
Supply and use					
Production	24 468	24 734	21 967	22 999	21 085 ^(b)
Imports from : the EU	2 728	2 770	2 216	2 487	3 356
the rest of the world	1 440	1 032	1 164	1 708	1 908
Exports to : the EU	1 797	2 816	3 638	1 821	1 343
the rest of the world	676	1,022	1,285	65	82
Total new supply	26 163	24 698	20 423	25 309	24 924
Change in farm and other stocks	2 786	1 512	- 3 093	623	- 151
Total domestic uses	23 377	23 186	23 517	24 685	25 075
Production as % of total new supply for use in the UK	94%	100%	108%	91%	85%

(a) All cereal production estimates have been standardised to 14.5% moisture content.

(b) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

(c) Includes arable area payments, but excludes set-aside payments and farm saved seed. Taxes, where applicable, are deducted.

- Total cereal production of wheat, barley, oats and minor cereals (rye, triticale and mixed grain) in the UK was 21 million tonnes, an 8.3% decrease compared to 2017. This fall was due to a reduction in the area of wheat and barley and a drop in yields, driven by the hot dry summer. The value of production increased by 6.6% to just under £3.2 billion, primarily due to higher domestic prices. Tables 7.2, 7.3 and 7.4 provide more detailed information for wheat, barley and oats respectively.
- Harvested production of wheat was 8.6% lower in 2018 than 2017 at 13.6 million tonnes. The value of production was 4.8% higher at just under £2.1 billion, due to higher prices. The value of production of barley increased by 9.8% in 2018 to £957 million and the value of production of oats increased by 16% to £114 million⁷.
- The area of wheat decreased by 2.5% and the area of barley by 3.3% whereas the area of oats increased by 6.3%. For barley there was a decline in the area of winter barley of 8.6% to 387 thousand hectares and a smaller decrease in spring barley area of 0.3% to 751 thousand hectares. Average yields for wheat, barley and oats were lower than 2017 and below the 5 year average. Harvest 2018 was influenced by the cold wet spring which delayed planting of some spring sown crops and the hot dry conditions from July to mid-August affected grain fill and therefore yields to some extent. Heavier clay soils were able to retain more moisture and better able to sustain crops during the prolonged hot spell. As a result of these conditions the harvest started earlier than usual but unsettled weather in late August and September slowed progress making the 2018 harvest rather protracted.
- Demand for domestic wheat for flour milling (including starch and bio-ethanol) was 7.2% lower than 2017 at 6.6 million tonnes. With the flour milling sector using a similar total quantity of wheat as in 2017 (and less imported wheat required due to high domestic quality), it was the biofuels sector that caused the most change in overall usage. The two UK biofuels plants did not run at full capacity or were shut down for periods in 2018, and used increased quantities of imported wheat and maize at the expense of domestic wheat when they were in operation.
- Total wheat imports were 32% higher than 2017 at almost 2.5 million tonnes. Wheat exports have fallen further following a negative step-change in December 2016. Exports in 2018 were 358 thousand tonnes (and 646 thousand in 2017) compared to just over 2.9 million tonnes in 2016. The availability of UK wheat for export has decreased since the large crop of the 2015 harvest was largely

⁷ Value of crop does not incorporate the changes to areas and production published on 31 May 2019 and are consistent with those published in Chapter 4.

used up by June 2017 and competition from other wheat exporting countries contributed to the drop in exports. Barley exports decreased by 19% to 851 thousand tonnes in 2018. The UK has surplus barley to export but faces competition from other EU countries for markets. Oat exports were 23% higher at 32 thousand tonnes, the majority of UK export is to EU countries.

6. Wheat and barley prices for 2018 were above 2017 levels. UK supplies of both cereals were tight for the second successive year and demand from the compound animal feed sector increased (even allowing for increased usage of competitively priced maize). Demand for barley from the Brewing, malting and distilling sector was 0.8% lower than 2017. Demand for barley from the animal feed sector (including Fed-on-Farm) increased in 2018 by 1.5%. UK oats usage is dominated by the oat milling sector which has been growing over the last decade and reached a record 544 thousand tonnes in 2018.
7. For data and information for cereals on a crop year basis (July to June) please see the official UK cereal balance sheets published by the Agriculture and Horticulture Development Board at: <https://cereals.ahdb.org.uk/markets/supply-and-demand/uk-supply-and-demand.aspx>

Table 7.2 Wheat

Enquiries: Allan Howsam on +44 (0)20 802 66123

email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	1 936	1 832	1 823	1 792	1 748 ^(b)
Yield (tonnes per hectare)	8.6	9.0	7.9	8.3	7.8
Volume of harvested production (a)	16 606	16 444	14 383	14 837	13 555 ^(b)
Value of production (£ million)(c)	2 454	2 052	1 628	1 989	2 084 ^(b)
of which : sales	1 900	1 759	1 823	1 743	1 969
on farm use	159	144	106	182	198
change in stocks	395	149	- 300	64	- 84
Prices (£ per tonne)					
Milling wheat	159	138	120	140	156
Feed wheat	147	121	112	134	149
Supply and use					
Production	16 606	16 444	14 383	14 837	13 555 ^(b)
Imports from :					
the EU	1 369	1 131	918	1 283	1 823
the rest of the world	455	451	564	610	668
Exports to :					
the EU	804	1 519	2 163	635	356
the rest of the world	339	483	772	11	2
Total new supply	17 287	16 024	12 930	16 084	15 688
Change in farm and other stocks	2 665	1 118	- 2 443	356	165
Total domestic uses	14 622	14 906	15 372	15 728	15 523
of which : flour milling	6 725	6 591	6 876	7 138	6 621
animal feed	6 565	7 075	7 270	7 347	7 633
seed	291	281	283	278	279
other uses and waste	1 042	959	943	964	989
Production as % of total new supply for use in the UK	96%	103%	111%	92%	86%
% of home grown wheat in milling grist	82%	85%	87%	87%	81%

(a) All cereal production estimates have been standardised to 14.5% moisture content.

(b) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

(c) Excludes farm saved seed

Table 7.3 Barley

Enquiries: Allan Howsam on +44 (0)20 802 66123

 email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	1 080	1 101	1 122	1 177	1 138 ^(b)
Yield (tonnes per hectare)	6.4	6.7	5.9	6.1	5.7
Volume of harvested production (a)	6 911	7 370	6 655	7 169	6 510 ^(b)
Value of production (£ million)(c)	900	828	704	871	957 ^(b)
of which : sales	687	598	567	635	724
on farm use	220	190	190	235	248
change in stocks	- 6	41	- 53	1	- 16
Prices (£ per tonne)					
Malting barley	146	127	120	137	160
Feed barley	121	107	100	115	139
Supply and use					
Production	6 911	7 370	6 655	7 169	6 510 ^(b)
Imports from : the EU	100	179	123	112	102
the rest of the world	-	5	2	4	0
Exports to : the EU	796	1 079	1 288	996	773
the rest of the world	335	535	509	53	78
Total new supply	5 880	5 940	4 983	6 236	5 761
Change in farm and other stocks	202	448	- 666	197	- 312
Total domestic uses	5 670	5 482	5 643	6 030	6 030
of which : brewing/distilling	1 925	1 831	1 831	1 880	1 864
animal feed	3 440	3 430	3 592	3 922	3 981
seed	177	182	181	189	183
other uses and waste	135	49	45	48	45
Production as % of total new supply for use in the UK	118%	124%	134%	115%	113%

(a) All cereal production estimates have been standardised to 14.5% moisture content.

(b) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

(c) Excludes farm saved seed

Table 7.4 Oats

Enquiries: Allan Howsam on +44 (0)20 802 66123

email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	137	131	141	161	171 ^(b)
Yield (tonnes per hectare)	6.0	6.1	5.8	5.4	5.0
Volume of harvested production (a)	820	799	816	875	850 ^(b)
Value of production (£ million)(c)	99	85	87	98	114 ^(b)
of which : sales	81	69	67	74	88
on farm use	28	20	21	25	26
change in stocks	- 9	- 4	- 1	- 1	0
Prices (£ per tonne)					
Milling oats	128	112	111	125	136
Feed oats	111	99	97	112	122
Supply and use					
Production	820	799	816	875	850 ^(b)
Imports from: the EU	34	48	30	52	36
the rest of the world	-	-	-	0	0
Exports to: the EU	66	77	32	25	31
the rest of the world	1	4	4	1	1
Total new supply	787	766	810	901	854
Change in farm and other stocks	- 83	- 53	16	70	-5
Total domestic uses	870	819	794	831	859
of which : milling	499	513	519	539	544
animal feed	348	283	251	265	286
seed	18	19	20	23	24
other uses and waste	4	4	4	4	4
Production as % of total new supply for use in the UK	104%	104%	101%	97%	100%

(a) All cereal production estimates have been standardised to 14.5% moisture content.

(b) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

(c) Excludes farm saved seed

Straw

8. Cereal straw production in 2018 was estimated at 8.9 million tonnes; an increase of 40% on 2017 (6.4 million tonnes). There was concern at the beginning of the harvest that the dry conditions during the late spring and summer would result in a shortage of supply. This was mitigated by arable farmers responding to market conditions, taking advantage of the increase in prices by baling more straw than normal. Baling of straw was helped by good weather throughout much of the early part of harvest, meaning that straw was able to be baled with few delays. In a typical year around 60% of the wheat area would be baled but in 2018 this increased to 85%, which was the main driver in the large increase in production, overriding the below average cereal yields. 2018 cereal straw production was valued close to £88 million⁷; an 85% increase on the 2017 value of £47.2 million.

Oilseed rape and linseed (tables 7.5 and 7.6)

9. As a result of drought conditions and low seed moisture content, yields for oilseed rape (OSR) fell by 11% to 3.45t/ha. Early stages of the harvest had to be carried out at night in an attempt to avoid pod shattering due to the hot, dry weather. Later harvests were actually helped by damper conditions which helped retain moisture, and crops grown on the cooler coastal districts also fared better. The value of oilseed rape production was £643 million, down 16% on 2017 (£764 million). The area planted increased by 3.8% to 583 thousand hectares (562 thousand hectares in 2017) with an average oil content of 44%. At 2 million tonnes the volume of harvested production was down 7.1% on 2017 (2.2 million tonnes). The average price was £326 (average prices weighted by volumes of sales (£ per tonne)), similar to 2017.

Table 7.5 Oilseed rape; United Kingdom

Enquiries: Lisa Brown on +44 (0)20 802 66340

 email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	675	652	579	562	583 ^(a)
Yield (tonnes per hectare)	3.6	3.9	3.1	3.9	3.4
Volume of harvested production	2 460	2 542	1 775	2 167	2 012 ^(a)
Value of production (£ million)	684	711	541	764	643 ^(a)
of which : sales	647	702	637	706	656
change in stocks	37	9	-96	58	-13
Prices (£ per tonne)	278	280	305	353	310
Supply and use					
Production	2 460	2 542	1 775	2 167	2 012 ^(a)
Imports from: the EU	77	87	63	223	206
the rest of the world	10	-	-	122	0
Exports to: the EU	333	283	274	143	135
the rest of the world	38	24	25	-	0.2
Total new supply	2 176	2 322	1 539	2 368	2 083
Production as % of total new supply for use in the UK	113%	109%	115%	91%	97%

(a) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

Table 7.6 Linseed; United Kingdom

Enquiries: Lisa Brown on +44 (0)20 802 66340

 email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares)	15	15	27	26	25
Yield (tonnes per hectare)	2.7	1.9	1.8	1.8	1.8
Volume of harvested production	39	29	48	46	43
Value of production (£ million)	15	9	14	15	16
of which : sales	16	9	13	15	16
change in stocks	- 1	-	1	-	-
Supply and use					
Production	39	29	48	46	43
Imports from: the EU	13	13	14	15	9
the rest of the world	2	1	1	1	1
Exports to: the EU	33	16	15	22	1
the rest of the world	-	-	-	-	-
Total new supply	21	27	47	40	52
Production as % of total new supply for use in the UK	186%	106%	101%	116%	83%

Sugar beet (table 7.7)

10. The farm gate value of sugar beet was £246 million in 2018, up from £229 million in 2017. This increase was due to a year on year increase in price of 26% at £32.30 per tonne. Although planted area showed an increase of 2.9% at 110 thousand hectares, harvested production fell by 15% to 7.6 million tonnes. Yields were 69t/ha, down 17% from the record high of 83t/ha the previous year. After a poor spring with delayed establishment and a dry summer, the crop recovered due to good conditions through the milder than average winter. Whilst yields are still below average the crop was better than initially forecast. Most growers took to the end of the campaign to complete their contract tonnage and the average price is up on the previous year.

Table 7.7 Sugar

Enquiries: Lisa Brown on +44 (0)20 802 66340

email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Sugar Beet (c)					
Area (thousand hectares)	117	84	80	107	110
Yield (tonnes per hectare)	80	74	71	83	69
Volume of harvested production	9 310	6 218	5 687	8 919	7 620
Value of production (£ million)	315	173	150	229	246
Sugar content (%)	17.2	17.3	17.3	17.8	17.9
Prices (average market price (£ per adjusted tonne)) (a)					
	33.9	27.8	26.3	25.7	32.3
All Sugar (refined basis)					
Production (b)	1 446	978	897	1364	1 080
Imports from:					
the EU	476	586	402	530	526
the rest of the world	699	546	601	458	422
Exports to:					
the EU	232	258	224	157	236
the rest of the world	94	75	46	46	125
Total new supply	2 296	1 776	1 632	2 147	1 666
Production as % of total new supply for use in the UK	63%	55%	55%	64%	65%

(a) Average price for all sugar, including transport allowance and bonus

(b) Sugar coming out of the factory in the early part of the new year is regarded as being part of production in the previous calendar year.

(c) These estimates are derived from data provided by British Sugar as all UK sugar beet is grown under contract, and differs slightly from the area figure estimated as part of the June survey in table 2.2

Protein crops (Peas and Beans) (table 7.8)

11. The overall area of pulses in 2018 showed a decrease from those seen in 2017 with a fall in both the pea and bean area. Pulses remain a popular crop option to on-going greening requirements of the Common Agricultural Policy although restrictions on the use of plant protection products on crops grown on Ecological Focus Areas (EFA) may reduce the area planted. Pulses are a good source of energy and protein and can be used in the diets of poultry, cattle and pigs as well as aquaculture and pet food. This table excludes vining peas.
12. The total area of field peas decreased by 4.9% in 2018 to 38 thousand hectares. The estimated proportion of this area utilised for animal feed increased to 84% from 53% in 2017. Total production for animal feed increased by 5.5% to an estimated 90 thousand tonnes. Subsequently the proportion of total area used for human consumption decreased to 16% with production falling by 77% to an estimated 17 thousand tonnes. Field peas suffered both in terms of yield and quality in 2018 hence the large proportion of the crop utilised for animal feed because it did not meet specification for human consumption.
13. The area of field beans was 20% lower than last year at 155 thousand hectares and production decreased by 48% to an estimated 402 thousand tonnes. Field beans suffered more in hot/dry conditions than field peas; high levels of bruchid beetle damage⁸, small bean size and staining meant that the majority of the UK bean crop was unsuitable for human consumption and went for animal feed.

Table 7.8 Protein crops; United Kingdom

Enquiries: Allan Howsam on +44 (0)20 802 66123

email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Peas for harvesting dry					
Area (thousand hectares)	32	44	51	40	38 ^(c)
Yield (tonnes per hectare) (a)	4.0	4.1	3.7	4.0	2.8
For animal feed (b)					
Volume of harvested production	70	100	65	85	90
Value of production (£ million)	13	12	9	12	18
For human consumption					
Volume of harvested production	68	95	121	75	17
Value of production (£ million)	13	14	18	11	3
Field beans					
Area (thousand hectares)	107	170	177	193	155 ^(c)
Yield (tonnes per hectare) (a)	4.2	4.4	3.7	4.0	2.6
Volume of harvested production	448	738	651	771	402 ^(c)
Value of production (£ million)	84	97	91	117	81 ^(c)

(a) 2016 and 2017 yields based on 5 year average for both peas and beans

(b) The figures presented here cover only that part of the crop which is assumed to be used for stockfeed including for pets and specialist bird food. It also includes an estimate for those varieties originally grown for human consumption but did not meet the required grade. The percentage utilised for animal feed is variable with typical estimates ranging from 30-60%

(c) There is a small inconsistency between the value of production and the area/volume (see main report for more details).

⁸ More details regarding bruchid beetles and their effect on protein crops can be found at: <https://horticulture.ahdb.org.uk/download/3291/file>

Fresh vegetables (table 7.9)

14. The value of vegetable production fell by 2.6% to £1.4 billion in 2018, with total production falling by 12% at 2.4 million tonnes.
15. A cold, wet start to the year, with higher than average rainfall in March and April provided wet conditions delaying drilling until late April or May. With the following heatwave and subsequent drought across most of the country, development of spring and summer sown crops were negatively affected, unless irrigation facilities were available. Even with irrigation, the sustained heatwave meant that crops had to be prioritised with alliums and brassicas particularly affected. Onion production fell by 12% to 333 thousand tonnes whilst broccoli production also fell by 19% to 58 thousand tonnes.
16. Domestic production as a percentage of total new supply to the UK for all fresh vegetables was 52% compared to 57% in 2017.
17. Further information on Horticulture statistics can be found at: <https://www.gov.uk/government/collections/horticultural-statistics>

Table 7.9 Fresh vegetables

Enquiries: Lisa Brown on +44 (0)20 802 66340

email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)		Calendar year				
		2014	2015	2016	2017	2018 (provisional)
Production						
Area (thousand hectares):		117	124	113	118	117
of which:	grown in the open (a)	116	123	113	117	116
	protected (b)	1	1	1	1	1
Value of production (£ million):		1 202	1 324	1 340	1 454	1 417
of which:	grown in the open	854	959	1 006	1 122	1 086
	protected	347	365	334	332	331
Selected crops:	cabbages	65	72	84	86	72
	carrots	102	124	141	155	172
	cauliflowers	42	43	49	41	50
	calabrese	30	31	37	62	53
	lettuces	145	143	171	201	190
	mushrooms	142	154	148	148	145
	onions	104	106	126	134	132
	tomatoes	118	120	102	110	73
Prices (farm gate price (£ per tonne))						
Selected crops:	cauliflowers	452	473	593	478	561
	tomatoes	1 196	1 226	1 053	1 290	1 089
Supply and use						
Total production		2 758	2 780	2 591	2 699	2 376
Imports from:	the EU	1 940	2 032	2 093	1 923	2 012
	the rest of the world	408	389	276	260	283
Exports to:	the EU	116	133	94	89	110
	the rest of the world	51	41	61	41	35
Total new supply		4 940	5 027	4 805	4 753	4 525
Production as % of total new supply for use in the UK		56%	55%	54%	57%	52%

(a) June survey area for vegetables and salad crops

(b) Excludes area of mushrooms

Plants and flowers (table 7.10)

18. The value of production in the ornamental sector fell 1.8% to £1.3 billion in 2018. The cold start of the year along with the summer drought slowed demand due to worries around irrigation. Record sales in June and continued demand through to the end of the year recovered most of the weak early season demand. The impact of the extreme cold on the majority of stock was limited as plants were still dormant, but the summer drought reduced the size and availability of some tree species. Overall hardy nursery stock showed a 2.4% decrease in value at an estimated £911 million (£934 million in 2017).
19. Flowers in bloom showed a 6.7% decrease in value at an estimated £121 million (£130 million in 2017).
20. The pot plant sector saw a 2.5% increase in value at £307 million (£299 million in 2017).

Potatoes (table 7.11)

21. The season started with cold wet conditions resulting in delayed planting in the first half of the year with excess rainfall hampering field work. With prices in the first half of the year low, growers in wetter regions were questioning whether it worth lifting the crop at all. The second half of the year was dominated by the unusually hot weather, and prices recovered well. It is estimated that just over 50% of the UK crop had access to irrigation which left nearly half the domestic crop open to the negative impacts of the hot weather.
22. The value of potatoes was £641m, a decrease of 26% from 2017 (£860m). The price for potatoes for human consumption was lower at £172/t, compared to £177/t in 2017.
23. The value of sales for human consumption in 2018 was £635m, 3.6% less than the £658m sold in 2017.
24. Harvested production fell by 19% to 5.0 million tonnes with the production used for human consumption falling by 26% to 3.2 million tonnes.

Fresh Fruit (table 7.12)

25. After another relatively mild autumn the first four months of 2018 were often very cold with temperatures below average, which resulted in growth starting at least two weeks later than usual. From June onwards the summer weather was hot and dry which brought forward the normal harvest date of crops. It is very unusual for top fruit crops to start the season with late bud development and then go on to have an early harvest. Unlike the previous year there were no damaging late spring frosts. Pick-your-own businesses and farm shops had another good year, helped by the favourable weather.
26. The value of fruit production rose by 2.2% to £769 million, with orchard fruit increasing by 7.8% to £243 million and soft fruit decreasing by 0.2% to £526 million. The value of dessert apples increased by £35 million to £124 million a 39% increase on 2017. Meanwhile the value of culinary apples continued to increase with a 5.0% increase to £42 million. The value of cherries showed the largest year on year fall of 50% at just under £12 million. The effect of the 2017 bumper crop, alongside the cold weather at blossoming time and smaller fruit development due to the long dry summer resulted in yields of 4.7t/ha, 47% lower than the 2017 crop.
27. Domestic production of fresh fruit as a percentage of total new supply for use in the UK was little changed at 17%.
28. Further information on Horticulture statistics can be found at: <https://www.gov.uk/government/collections/horticultural-statistics>

Table 7.10 Plants and flowers

Enquiries: Lisa Brown on +44 (0)20 802 66340

email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar year				
	2014	2015	2016	2017	2018 (provisional)
Production					
Area (thousand hectares) (a):	12	13	12	13	12
Value of production (£ million)	1 166	1 149	1 290	1 363	1 339
of which: flowers and bulbs in the open (b)	42	45	..	..	..
hardy plants and flowers nursery stock	796	783	..	..	..
protected crops	328	321	..	..	..
flowers and bloom	..	..	93	130	121
pot plants	..	..	305	299	307
hardy ornamental nursery stock	..	..	892	934	911
Trade (£ million)					
Imports					
Bulbs	82	71	75	77	82
Cut flowers	692	665	748	745	769
Foliage	37	42	38	39	54
Indoor plants	136	127	136	127	137
Outdoor plants	66	62	74	80	85
Trees	55	56	52	67	87
Other	50	44	56	62	76
Total Imports (exc. Channel Islands)	1 117	1 067	1 178	1 199	1 291
Exports					
Bulbs	7	5	5	6	7
Cut flowers	24	23	29	40	39
Foliage	1	1	6	1	2
Indoor plants	5	5	5	5	8
Outdoor plants	4	3	3	4	3
Trees	4	4	2	3	4
Other	14	14	16	24	18
Total Exports (c)	59	55	66	83	80

(a) Areas relate to field areas multiplied by the number of crops in the year and hence differ from those shown in table 2.2.

(b) Including forced flower bulbs.

(c) Total may differ to components due to rounding.

Table 7.11 Potatoes (a)

Enquiries: Lisa Brown on +44 (0)20 802 66340

 email: lisa.brown@defra.gov.uk

Thousand tonnes (unless specified otherwise)		Calendar year				
		2014	2015	2016	2017	2018
		(provisional)				
Production						
Area sown (thousand hectares)		141	129	139	145	140
Area harvested (thousand hectares)		125	115	120	127	121
Yield (tonnes per hectare harvested)		47	49	45	49	42
Volume of harvested production		5 923	5 644	5 395	6 218	5 028
of which:	for human consumption	4 011	3 724	3 712	4 293	3 172
	seed	377	364	361	374	357
	stockfeed and waste	1 535	1 555	1 321	1 551	1 499
Sales		5 549	5 758	5 451	5 485	5 382
of which:	for human consumption	3 795	3 987	3 911	3 721	3 685
	seed	304	296	290	299	283
	sold for stockfeed	1 449	1 476	1 249	1 465	1 415
End year stocks		2 812	2 550	2 351	2 923	2 411
Change in stocks		216	- 262	- 199	572	- 513
Value of production (£ million)		682	627	788	860	641
of which:	sold for human consumption	541	565	728	658	635
	sold for seed (including farm saved seed)	97	84	85	86	80
	sold for stockfeed	15	15	13	15	14
	change in stocks	30	- 37	- 37	102	- 88
Prices (average price paid to registered producers (£ per tonne))						
	early/maincrop (for HC)	142	142	187	177	172
	seed	258	231	232	230	226
	stockfeed	10	10	10	10	10
Supply and use						
Total production		4 388	4 089	4 073	4 667	3 529
Imports		2 163	2 217	2 165	2 327	2 367
Exports		472	524	529	588	642
Net trade (negative means net export)		1 692	1 693	1 636	1 739	1 725
of which:	early/maincrop	72	55	49	23	- 8
	seed	- 94	- 93	- 90	- 90	- 91
	processed (raw equivalent)	1 713	1 731	1 678	1 806	1 824
Total new supply (raw equivalent)		6 079	5 782	5 709	6 406	5 254
Production as % of total new supply for use in the UK		72%	71%	71%	73%	67%

(a) Following a review of methodology in 2017, all figures shown here have been revised

Table 7.12 Fresh fruit

Enquiries: Lisa Brown on +44 (0)20 802 66340

email: lisa.brown@defra.gov.uk

Thousand tonnes (unless otherwise specified)		2014	2015	2016	Calendar year	
					2017	2018
						(provisional)
Production						
Area (thousand hectares):		33	36	35	35	34
of which:	orchard fruit (a)	23	26	25	24	24
	soft fruit	9	10	10	11	11
End year stocks (b)		71	71	68	57	83
Value of production (£ million) (c) (e):		629	695	697	752	769
of which:	orchard fruit	180	185	215	225	243
	soft fruit	449	510	483	527	526
of which:	sales	634	695	699	758	753
	change in stocks (b)	- 6	-	- 2	- 6	16
Selected crops:	dessert apples	75	77	99	89	124
	culinary apples	43	40	37	40	42
	pears	12	13	10	15	15
	raspberries (c)	116	131	120	136	129
	strawberries (c)	291	328	305	328	326
Prices (farm gate price (£ per tonne))						
Selected crops:	dessert apples	507	480	553	539	612
	culinary apples	441	450	469	470	434
	pears	482	488	480	546	564
	raspberries	6 119	7 188	7 445	8 195	8 559
	strawberries	2 338	2 460	2 578	2 602	2 516
Supply and use						
Total production		752	796	782	761	693
Imports from (d):	the EU	1 451	1 495	1 554	1 628	1 380
	the rest of the world	2 159	2 190	2 293	2 355	2 361
Exports to (d):	the EU	101	127	138	171	155
	the rest of the world	2	2	2	3	2
Total new supply		4 260	4 353	4 489	4 570	4 277
Change in stocks		- 9	1	- 4	- 11	26
Total domestic uses		4 269	4 352	4 493	4 581	4 251
Production as % of total new supply for use in the UK		18%	18%	17%	17%	16%

(a) Includes field area of commercial and non commercial orchards only.

(b) Stocks relate to apples and pears.

(c) Includes glasshouse fruit.

(d) From 2010 data no longer includes dried fruit

(e) excludes change in stocks for apples and pears

Revisions

29. There have been revisions to the data for wheat back to 2013, and for barley and oats back to 2015 due to changes in stocks data and methodology.

Chapter 8 Livestock

Summary

In 2018, compared with 2017:

- The value of **beef and veal** increased by 1.4% to £3.03 billion
- **Pig meat** value of production decreased by 5.7% to £1.25 billion
- The value of **mutton and lamb** production increased by 4.7% to £1.26 billion
- **Poultry meat** value increased by 8.6% to £2.63 billion
- The value of **milk and milk products** increased by 3.1% to £4.49 billion
- The value of **eggs** increased by 2.7% to £641 million

Meat production (table 8.1)

1. Total meat production increased by 3.3% to 4.05 million tonnes. There were increases in cattle, pigs and poultry production. The wet cold spring followed by the hot dry summer were not ideal conditions for grazing livestock and as a result, there was a decrease in sheep meat production.
2. Total value of meat increased by 2.9% to £8.17 billion. Most notable are pigs whose value decreased by 5.7% despite a 2.5% increase in production, due to a fall in prices; and sheep whose value increased by 4.7% despite a 3.3% decrease in production, due to a rise in prices. However, livestock feed costs were up this year due to increased demand and cost of some raw materials.

Table 8.1 Meat production

Enquiries: Julie Rumsey on +44 (0)20 802 66306

email: julie.rumsey@defra.gov.uk

	2014	2015	2016	2017	2018 (provisional)
Home-fed production ('000 tonnes)					
Cattle	871	880	916	904	925
Pigs	822	861	887	867	889
Sheep	306	309	300	309	299
Poultry	1 648	1 733	1 805	1 840	1 939
Total production	3 647	3 784	3 908	3 920	4 051
Value of production (£ million)					
Cattle	2 611	2 757	2 775	2 988	3 031
Pigs	1 264	1 080	1 099	1 326	1 250
Sheep	1 122	1 118	1 153	1 202	1 258
Poultry	2 250	2 260	2 282	2 418	2 626
Total value	7 247	7 215	7 308	7 934	8 166

Cattle and calves: beef and veal (table 8.2)

3. The value of beef and veal increased by 1.4% to £3.03 billion. The increase in value was production led with the volume of home-fed production increasing by 2.2%. This reversed the reduction seen in 2017 and reached a new 5 year high at 925 thousand tonnes. The finished cattle price increased slightly (0.6%) to 361.4 pence per kilo.

Table 8.2 Cattle and calves; beef and veal

Enquiries: Julie Rumsey on +44 (0)20 802 66306

email: julie.rumsey@defra.gov.uk

Thousand tonnes (unless otherwise stated)

	2014	2015	2016	2017	2018 (provisional)
Population					
Total cattle and calves (thousand head at June)	9 837	9 919	10 033	10 004	9 891
of which: dairy cows	1 841	1 895	1 897	1 891	1 883
beef cows	1 569	1 576	1 596	1 589	1 558
Production (a)					
Total home-fed marketings (thousand head)	2 678	2 655	2 803	2 772	2 835
of which: steers, heifers and young bulls	1 934	1 906	1 968	1 970	1 991
calves	142	122	147	136	143
cows and adult bulls	603	627	688	666	701
Average dressed carcass weight (kg):					
steers, heifers and young bulls	349	355	352	349	350
calves	47	54	63	63	70
cows and adult bulls	316	314	311	312	310
Production (dressed carcass weight):					
home-fed production	871	880	916	904	925
Value of production (£ million)	2 611	2 757	2 775	2 988	3 031
of which: value of home-fed production (a)	2 691	2 766	2 767	2 985	3 053
change in work-in-progress (b)	- 62	13	18	11	- 12
less imported livestock	19	22	10	7	10
plus breeding animals exported	1	-	-	1	-
Subsidies (c)	21	30	38	39	40
Value of production at basic price (£ million) (d)	2 632	2 788	2 812	3 027	3 071
Prices					
Finished cattle (pence per kg deadweight): All prime cattle	348.6	346.4	334.6	359.2	361.4
Supply and use (dressed carcass weight equivalent) (e)					
Home-fed production (a)	871	880	916	904	925
Imports from:					
the EU (f)	290	310	304	325	343
the rest of the world	36	32	28	20	22
Exports to:					
the EU	127	119	126	117	125
the rest of the world	9	9	14	16	15
Total new supply	1 061	1 095	1 108	1 116	1 150
Home-fed production as % of total new supply for use in the UK	82%	80%	83%	81%	80%

(a) Measures of home-fed marketings, dressed carcass weights, production and value include animals raised and slaughtered in the UK, excluding any animals removed from the food chain.

(b) A valuation of the change in work-in-progress of animals to be slaughtered.

(c) Comprising Scottish Beef Calf Scheme until 2014. From 2015 Scottish Sucker Beef Support Scheme.

(d) Including subsidies and taxes.

(e) Does not include meat offals or trade in preserved or manufactured meat products. Boneless meat has been converted to bone-in weights to enable calculation of home fed production as % of total new supply. Volumes may be different to those in Chapter 13 – Trade.

(f) Includes meat from imports of live finished animals.

Pigs and pig meat (table 8.3)

4. Pig meat production rose by 2.5% (22 thousand tonnes) in 2018 to 889 thousand tonnes; a 5 year high. The increase was driven by a 9.1% rise in slaughter throughput of sows and boars and a smaller increase in clean pigs (2.3%). The increased slaughter throughput was offset by a decrease in carcass weight of sows and boars of around 3 kilogrammes. The total pig population increased by 43 thousand head (0.9%) to just over 5 million head, although sow numbers fell by 2.6%. After a large increase in 2017, clean pig prices decreased by 6.5% (10.2 pence per kilo) in 2018, leading to a 5.7% (£76 million) decrease in the value of production to £1.25 billion.

Table 8.3 Pigs and pig meat

Enquiries: Julie Rumsey on +44 (0)20 802 66306

 email: julie.rumsey@defra.gov.uk

Thousand tonnes (unless otherwise specified)

	2014	2015	2016	2017	2018 (provisional)
Population					
Total pigs (thousand head at June)	4 815	4 739	4 866	4 969	5 012
of which: sows in pig and other sows for breeding	349	352	360	361	352
gilts in pig	57	56	55	55	58
Production (a)					
Total home-fed marketings (thousand head)	9 953	10 376	10 583	10 222	10 476
of which: clean pigs	9 698	10 117	10 311	9 970	10 202
sows and boars	255	259	272	252	274
Average dressed carcass weight (kg):					
clean pigs	81	81	82	83	83
sows and boars	146	146	146	146	143
Production (dressed carcass weight):					
home-fed production (a)	822	861	887	867	889
Value of production (£ million)	1 264	1 080	1 099	1 326	1 250
of which: value of home-fed production	1 256	1 084	1 094	1 317	1 253
change in work in progress (b)	6	- 4	4	9	- 3
less imported livestock	..	..	..	..	..
plus breeding animals exported	1	-	-	-	-
Prices (pence per kg deadweight)					
Clean pigs	159.0	131.7	129.1	156.9	146.7
Supply and use of pigmeat (dressed carcass weight equivalent) (c)					
Home-fed production (a)	822	861	887	867	889
Imports from:					
the EU (d)	733	738	798	803	792
the rest of the world	1	1	1	1	1
Exports to:					
the EU	156	160	160	171	173
the rest of the world	55	57	76	78	81
Total new supply	1 345	1 383	1 450	1 422	1 428
Home-fed production as % of total new supply for use in the UK	61%	62%	61%	61%	62%

(a) Measures of home-fed marketings, dressed carcass weights, production and value include animals raised and slaughtered in the UK, excluding any animals removed from the food chain.

(b) A valuation of the change in work in progress of animals to be slaughtered.

(c) Does not include meat offals or trade in preserved or manufactured meat products. Boneless meat has been converted to bone-in weights to enable calculation of home fed production as % of total new supply. Volumes may be different to those in Chapter 13 – Trade.

(d) Includes meat from imports of live finished animals.

Sheep and lambs: mutton and lamb (table 8.4)

5. The value of production rose by 4.7% (£57 million) to £1.26 billion. An increase in price of 6.8% (28 pence per kg) for clean sheep offset a 3.3% decrease in home fed production. A wet cold winter followed by a dry hot summer and continued uncertainty regarding the potential effects of Brexit have impacted on this sector more heavily than cattle or pigs. There was an overall decrease in slaughter throughput of 2.8% to 14.9 million head; a decrease of 3.4% (464 thousand head) of clean sheep against a 2.1% (34 thousand head) increase of rams and ewes. Carcase weights for rams and ewes fell by nearly 1 kg to 25.5 kg, but remained almost unchanged for clean sheep.

Table 8.4 Sheep and lambs; mutton and lamb

Enquiries: Julie Rumsey on +44 (0)20 802 66306

email: julie.rumsey@defra.gov.uk

Thousand tonnes (unless otherwise specified)

	2014	2015	2016	2017	2018
					(provisional)
Population					
Total sheep and lambs (thousand head at June)	33 743	33 337	33 943	34 832	33 781
of which: breeding flock 1 year and over	16 026	16 024	16 304	16 669	16 286
lambs under one year old	16 936	16 528	16 840	17 340	16 621
Production (a)					
Total home-fed marketings (thousand head)	15 061	15 195	15 023	15 338	14 908
of which: clean sheep and lambs	13 222	13 561	13 263	13 704	13 240
ewes and rams	1 838	1 633	1 760	1 634	1 668
Average dressed carcase weight (kg):					
clean sheep and lambs	19	20	19	19	19
ewes and rams	27	27	26	26	26
Production (dressed carcase weight):					
home-fed production (a)	306	309	300	309	299
Value of production (£ million)	1 122	1 118	1 153	1 202	1 258
of which: value of home-fed production	1 114	1 113	1 146	1 207	1 268
change in work in progress (b)	8	5	7	- 5	- 9
less imported livestock	-	-	-	-	-
plus breeding animals exported	-	-	-	-	-
Subsidies(c)	-	5	7	7	7
Value of production at basic prices (£ million) (d)	1 122	1 124	1 160	1 209	1 266
Prices					
Finished sheep (pence per kg dressed carcase weight) (e):					
Great Britain	420.61	381.13	402.78	415.79	444.09
Supply and use (dressed carcase weight equivalent) (f)					
Home-fed production (a)	306	309	300	309	299
Imports from:					
the EU (g)	15	12	13	21	21
the rest of the world	97	102	102	80	76
Exports to:					
the EU	100	86	87	97	92
the rest of the world	16	4	4	6	4
Total new supply	302	334	325	306	299
Home-fed production as % of total new supply for use in the UK	101%	93%	92%	101%	100%

(a) Measures of home-fed marketings, dressed carcase weights, production and value include animals raised and slaughtered in the UK, excluding any animals removed from the food chain.

(b) A valuation of the change in work in progress of animals to be slaughtered.

(c) Scottish Upland Sheep Support Scheme

(d) Including subsidies and taxes.

(e) Unweighted average of weekly prices at representative markets.

(f) Does not include meat offals or trade in preserved or manufactured meat products. Boneless meat has been converted to bone-in weights to enable calculation of home fed production as % of total new supply. Volumes may be different to those in Chapter 13 – Trade.

(g) Includes meat from imports of live finished animals.

Poultry and poultry meat (table 8.5)

6. Increased prices and production of table chickens and turkeys drove an overall increase of 8.6% (£208 million) in the value of the poultry meat sector to £2.63 billion. Production of poultry increased by 5.4% to 1.94 million tonnes, with table chickens accounting for 86% of the total. Between 2015 and 2017, turkey meat production decreased 19% (34 thousand tonnes) to the lowest level since 2009. In 2018 production increased by 6.6% (10 thousand tonnes). The upward movement on prices for turkeys, up by 4.6% (7.6 pence per kg) and table chickens, up by 3.1% (3.7 pence per kg) was not maintained for ducks and geese. Although they contribute only 1.7% of total poultry production, there were decreases in price of 20% (135 pence per kg) for geese and 4.6% (13.9 pence per kg) for ducks.

Table 8.5 Poultry and poultry meat

Enquiries: Julie Rumsey on +44 (0)20 802 66306

 email: julie.rumsey@defra.gov.uk

Thousand tonnes (unless otherwise specified)

	2014	2015	2016	2017	2018 (provisional)
Population					
Number (thousand head at June):	169 684	167 579	172 607	181 818	188 442
of which: table chickens	110 374	107 056	110 639	117 619	123 946
laying and breeding fowl (a)	48 404	49 509	50 798	52 939	53 623
turkeys, ducks, geese and all other poultry	10 907	11 014	11 170	11 260	10 872
Production					
Slaughterings (millions):	972	1 029	1 079	1 119	1 166
of which: table chickens	942	998	1 050	1 090	1 137
turkeys	15	17	16	14	15
ducks & geese	15	14	14	15	15
Production (carcase weight) (b):	1 648	1 733	1 805	1 840	1 939
of which: chickens and other table fowls	1 383	1 456	1 526	1 584	1 674
boiling fowls (culled hens)	58	65	82	77	76
turkeys	172	181	166	147	157
ducks & geese	34	31	31	33	32
Value of production (£ million):	2 250	2 260	2 282	2 418	2 626
of which: table chickens	1 741	1 739	1 769	1 905	2 076
change in work in progress in fowls (c)	3	6	3	14	10
turkeys, ducks, geese	393	401	371	348	369
exports of live poultry	77	93	134	129	141
hatching eggs for export	82	85	51	68	79
less live poultry imported	20	39	33	34	39
less hatching eggs imported	25	25	14	12	10
Prices (average producer prices (pence per kg carcase weight)):					
Chickens and other table fowls	125.5	119.0	115.4	119.9	123.6
Boiling fowls (culled hens)	9.7	9.6	9.4	9.4	9.5
Turkeys	165.3	167.2	162.6	164.9	172.5
Ducks	300.6	295.7	296.8	302.2	288.4
Geese	641.3	641.3	713.5	685.0	549.8
Supply and use (dressed carcase weight equivalent) (b)					
Production (a)	1 648	1 733	1 805	1 840	1 939
Imports from:					
the EU	479	512	558	537	548
the rest of the world	30	29	22	25	36
Exports to:					
the EU	245	233	209	273	272
the rest of the world	94	59	90	79	82
Total new supply	1 818	1 983	2 086	2 051	2 169
Production as % of total new supply for use in the UK	91%	87%	87%	90%	89%

(a) Hens and pullets kept mainly for producing eggs for eating.

(b) Does not include meat offals or trade in preserved or manufactured meat products. Boneless meat has been converted to bone-in weights to enable calculation of home fed production as % of total new supply. Volumes may be different to those in Chapter 13 – Trade.

(c) A valuation of the change in work-in-progress of fowls to be slaughtered.

Milk (table 8.6)

7. Milk production increased 0.3% (44 million) to 15.01 billion litres, almost reaching the peak seen in 2015. A fall of around 10 thousand in the dairy herd to 1.89 million head, alongside the increased production, indicates a rise in the average yield per cow of 66 litres (0.8%) to 7,959 litres per annum. The average milk price (across the 2018 calendar year, including bonus payments) was 29.7 pence per litre (ppl), a 2.8% (0.8ppl) increase on 2017. This increase was influenced by Arla's annual 13th payment to all its members being more than double that paid in 2017. The enhancement payout comes as Arla's Board of Representatives approved an earlier proposal to pay out the entire annual net profit of Arla Foods to farmer owners. This unprecedented move was proposed in the middle of last year as the co-operative recognised the tough financial situation facing farmers as a result of the summer drought. It is expected that Arla will return to their normal policy next year, of keeping some of the profits for reinvestment. The total value of production increased 3.1% (£136 million) to £4.49 billion.

Table 8.6 Milk

Enquiries: Julie Rumsey on +44 (0)20 802 66306

 email: julie.rumsey@defra.gov.uk

Million litres (unless otherwise specified)		2014	2015	2016	2017	2018
						(provisional)
Population and yield						
Dairy herd (annual average, thousand head) (a)		1 851	1 901	1 901	1 896	1 886
Average yield per dairy cow (litres per annum)		7 897	7 897	7 559	7 893	7 959
Production						
Milk from the dairy herd (b)		14 616	15 011	14 372	14 964	15 008
of which:						
raw milk leaving farm			14 753	14 123	14 708	14 750
milk processed on farm			129	117	118	120
on farm use (c)		119	129	133	138	138
Volume for human consumption		14 504	14 882	14 239	14 826	14 870
Value of production (£ million)		4 594	3 734	3 301	4 351	4 487
of which:						
raw milk leaving farm (d)		4 540	3 638	3 212	4 247	4 380
processed milk products from farm (e)		54	65	59	64	67
on farm use (c)			32	30	40	40
Prices (average price received by milk producers, net of delivery charges (pence per litre))						
Farmgate price of milk excluding bonus payments		31.6	24.5	22.6	28.7	29.3
Farmgate price of milk including bonus payments		31.7	24.7	22.7	28.9	29.7
Supply and use						
Production (excludes on farm use 2015 onwards)		14 623	14 882	14 239	14 826	14 870
Imports		185	158	82	129	107
Exports		586	677	725	912	931
Total new supply		14 221	14 363	13 596	14 043	14 046
of which:						
for liquid consumption		6 903	6 671	6 514	6 786	6 676
for manufacture		7 093	7 468	6 918	7 279	7 101
of which:						
butter		295	307	293	330	315
cheese		3 858	4 050	4 126	4 325	4 438
cream		302	312	283	300	281
yoghurt			291	309	374	385
condensed milk (f)		265	265	260	269	323
milk powders		1 633	1 654	1 089	1 144	871
other products		740	589	558	537	488
dairy wastage and stock change		82	225	164	- 22	269
other uses (g)		142	119	122	127	128
Production as a % of new supply		103%	104%	105%	106%	106%

(a) Average size of the dairy herd across the whole year, rather than the size at a particular time of year. Dairy herd is defined as dairy cows over two years of age with offspring.

(b) Excludes suckled milk. Milk from beef cows is no longer recorded as no longer considered significant. This item has been removed from this table but can still be found in the accompanying dataset to 2016.

(c) Farmhouse consumption and milk fed to livestock.

(d) Value of raw milk sold to other businesses (dairies) for processing.

(e) Value of milk and milk products processed on farm and sold direct to the consumer.

(f) Includes condensed milk used in the production of chocolate crumb and in the production of machine skimmed milk.

(g) Includes farmhouse consumption, milk fed to stock and on farm waste. Excludes suckled milk.

Hen eggs (table 8.7)

8. The number of laying fowl increased by 0.9% (341 thousand birds) to 39.85 million; although a smaller increase than the previous two years, numbers are the highest since 2005. The value of egg production for human consumption increased 2.7% to £641 million, £17 million higher than in 2017. An increase of 3.1% in the volume of production for human consumption (not including eggs for hatching) with only a small rise in the number of birds indicates an increase to the average yield per bird. The average yield is 289 eggs per bird, up from 283 in 2017. The average price of 66.9 pence per dozen is a fall of 0.2 pence per dozen on 2017.
9. Free range egg production continued its increase in market share to 50% of production, having increased by 3 percentage points on 2017. It now exceeds the share of Enriched cage systems which reduced by 4 percentage points to a 46% share. Organic and barn production continue at relatively low levels, picking up a little to make up the 4% difference between the two main production systems.

Table 8.7 Hen eggs

Enquiries: Julie Rumsey on +44 (0)20 802 66306

email: julie.rumsey@defra.gov.uk

Million dozen (unless otherwise specified)	Calendar years				
	2014	2015	2016	2017	2018
					(provisional)
Population					
Number of laying fowl (thousands)	37 146	36 998	38 058	39 510	39 852
Production					
Volume of production of eggs	971	997	1 031	1 074	1 109
of which: eggs for human consumption	839	866	899	931	959
eggs for hatching	108	111	115	119	124
other (a)	23	20	17	24	25
Value of production of eggs for human consumption (£ million) (b)	679	681	603	624	641
Prices (pence per dozen)					
Weighted average of eggs graded in the UK (c)	80.9	78.6	67.1	67.1	66.9
Supply and use					
UK production of eggs for human consumption	839	866	899	931	959
of which: eggs sold in shell	695	729	758	800	823
eggs processed	144	137	140	131	137
Imports from (d): the EU	157	174	170	165	157
the rest of the world	1	1	1	1	1
Exports to (d): the EU	11	9	11	12	35
the rest of the world	0.4	0.3	0.4	0.3	0.1
Total new supply	986	1 032	1 058	1 084	1 082
Production as % of total new supply for use in the UK	85%	84%	85%	86%	89%

(a) Includes hatching eggs for export and waste

(b) Eggs for hatching and hatching egg exports are not valued as they are included in the final value for poultry in table 8.5

(c) Represents the price paid by packers to producers in the United Kingdom and takes accounts of all egg systems - intensive, free range, barn and organic. Bonus payments are included

(d) Includes shell egg equivalent of whole (dried, frozen and liquid) egg, egg yolk and albumen.

Revisions

10. Figures in these tables for 2018 are provisional and may be subject to revision.
11. Revisions have been made to previous data due to on-going revisions caused by estimated survey data being replaced with actual data when it is received; survey respondents supplying amended figures for previous survey periods; changes to data supplied by Scotland and Northern Ireland and amended administrative data; updates to trade data supplied by HMRC; and methodological changes.

Chapter 9 Intermediate Consumption

Summary

In 2018:

- **Total cost of intermediate consumption** (inputs) rose by 7.6% to £17,065 million, in current price terms, compared to 2017.
- All intermediate consumption costs rose with animal feed, energy and fertiliser showing the largest increases.
- The total cost of all **animal feed** increased by 10% to £5.6 billion.
- **Energy** costs rose by £113 million to £1,346 million.
- **Fertiliser** costs rose by £116 million to £1,345 million.

Inputs

1. The cost of intermediate consumption rose by 7.6% to £17,065 million, driven by higher prices, in particular rising animal feed, energy and fertiliser prices.

Animal Feed (table 9.1)

2. The cost of animal feed is the largest item of expenditure recorded in the production and income account. Usage remained broadly level from 1993 to 2009 (around 25 million tonnes) before rising steadily to reach over 31 million tonnes in 2018. Despite this increased usage the value of animal feed used within the agricultural industry has closely followed trends in commodity prices, shaped by exchange rates and world prices.
3. The total value of all animal feed increased by 10% between 2017 and 2018 to £5.6 million and the total volume of all 'purchased' animal feed increased by 5.4% to 31 million tonnes. Total compound feed production increased by 3.9% with increases in sheep (+13%), cattle (+5.1%) and poultry (+4.4%) offsetting small decreases in calves (-0.9%) and pigs (-0.3%). The sheep sector was the most affected by the cold wet late winter / early spring which coincided with the seasonal peak in feed demand. The cold weather also affected forage availability and quality. In contrast the mild autumn and winter reduced demand. The poultry sector continues to grow and the pig sector remained subdued for most of the year. Besides compound feed usage there was an increase of 1% in purchased straight concentrates and an 11% increase in inter/intra farm sales.

Table 9.1 Animal Feed (a)

Enquiries: Allan Howsam on +44 (0)020 802 66123

email: allan.howsam@defra.gov.uk

Thousand tonnes (unless specified otherwise)	Calendar years				
	2014	2015	2016	2017	2018 (provisional)
Compounds (b)					
cattle	5 064	4 879	4 738	5 069	5 326
calves	250	264	256	283	281
pigs	1 963	2 040	1 991	2 014	2 009
poultry (c)	4 109	4 340	4 743	4 892	5 107
sheep	765	769	834	861	975
Total compounds plus imports less exports	12 137	12 632	12 907	13 497	14 020
Straight concentrates (d)	6 971	7 208	6 748	6 779	6 850
Non-concentrates (e)	525	525	525	525	525
Inter/intra farm transfer	8 978	8 946	8 404	8 903	9 917
Total all purchased animal feed	28 610	29 311	28 585	29 704	31 311
Value of purchased animal feed (£ million) (f)	5 007	4 676	4 478	5 106	5 615

- (a) Including direct inter-farm and intra-farm transfer and Maize for stockfeed
- (b) UK produced compounds, excludes imports and exports
- (c) Includes poultry feed produced by 'retail' compounders but excludes production from integrated poultry units which are included within the straight concentrates data
- (d) These are cereals, cereal offals, proteins and other high energy feeds.
- (e) Low energy bulk feeds expressed as concentrate equivalent. Brewers and distillers grains, hay, milk by-products and other low-energy bulk feeds expressed in terms of equivalent tonnage of high energy feeds.
- (f) See table 4.2 for a breakdown of this total.

Oil prices (chart 9.1)

4. Some inputs, such as fuels, electricity and fertilisers are closely linked to the oil price.

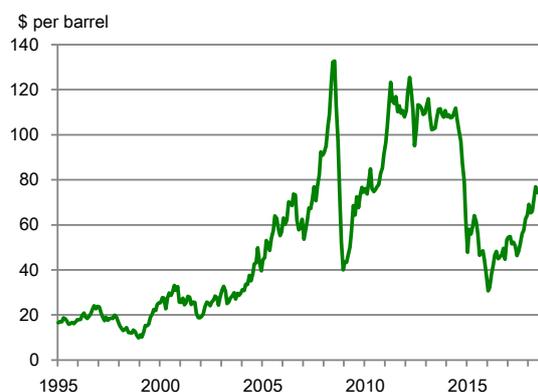
5. Chart 9.1 shows the trend in Europe Brent crude oil prices since 1985. Oil prices peaked in July 2008 at just over \$130 per barrel but fell sharply to the end of 2008 as a global crisis hit. Between 2010 to mid-2014 oil prices were high but relatively stable due to a weak global economy and tension in the Middle East.

6. From July 2014, as strong global production exceeded demand, prices fell rapidly and reached below \$40 per barrel by December 2015.

7. Through 2016 and 2017 prices recovered but remained low compared to the high levels seen between 2010 and 2014.

8. In 2018 prices continued to rise and by October had reached \$80 a barrel amid fears that US sanctions and production issues in South America would lead to shortages and as a result the cost of those agricultural inputs linked to oil prices increased. However prices fell sharply in November and ended the year at just under \$60 as global oversupply became a possibility.

Chart 9.1 Europe Brent Spot Price FOB



Source: US Energy Information Administration

Energy and fertiliser (charts 9.2 and 9.3)

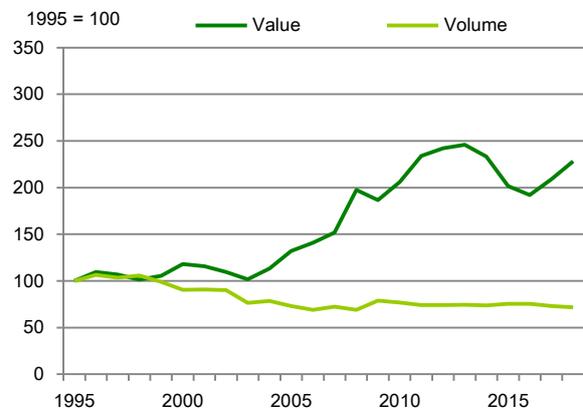
9. Energy costs rose by £113 million to £1,346 million as the global oil price increases pushed up costs however the hot, dry weather conditions and continued drive for efficiency savings helped reduce usage on farm.

10. Chart 9.2 shows that while the value of energy follows a similar pattern to that of the crude oil price (chart 9.1) volumes have remained relatively stable in recent years.

11. The price of oil directly affects the price of energy but also affects the cost of other inputs such as fertiliser, which has an energy intensive manufacturing process. The price of natural gas, used to synthesise atmospheric nitrogen, is a significant driver of the cost and is linked to the oil price.

12. Chart 9.3 shows that although fertiliser usage has significantly decreased since the mid-90s, the value of fertiliser used has increased, driven by price. In 2018 fertiliser costs rose by £116 million to £1,345 million, a consequence of the higher oil price as usage was down.

Chart 9.2 Energy index for value and volume



Other input costs

13. All input costs rose in 2018 when compared to 2017.

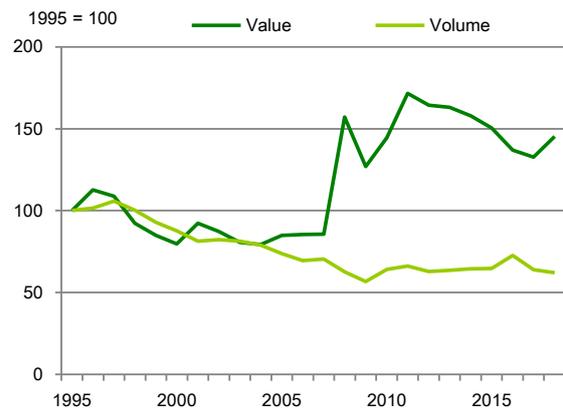
14. The value of pesticides increased by 2.4% to £1.0 billion.

15. Veterinary costs rose by 5.4% to just under £500 million, the first real increase for four years. This increase was driven by price as there were no major disease outbreaks in 2018 and reliance on veterinary input remains relatively constant year on year.

16. Other goods and service costs which is the second largest cost behind animal feed rose by £358 million to £3,603 million reflecting the increased demand for straw by the livestock industry. Other goods and services incorporate costs not included elsewhere such as: rates; telecoms; water rates; insurance; bank charges; etc.

17. There was a 1.7% increase in the value of agricultural services to £1,163 million.

Chart 9.3 Fertiliser



Chapter 10 Public Payments

Summary

In 2018 compared to 2017:

- **Direct Payments** (Basic Payment Scheme, Greening and Young Farmer Payment) are expected to increase by 0.7% to £2.75 billion.
- Payments linked to **agri-environment schemes** are expected to be 9.1% higher at £436 million.
- Payments under the **Less Favoured Area Support Scheme** (LFASS) are expected to be 9.8% lower at £74 million.

Introduction

1. Values shown for a particular year refer to schemes operating in that year.
2. Unless otherwise stated data is for 2018 and comparisons are based on 2018 compared to 2017.

Payments (tables 10.1 to 10.3, chart 10.1)

3. Payments made to UK farmers under the Basic Payment Scheme are set in euros and converted to sterling using the exchange rate set by the European Central Bank in September. In 2018 the rate was €1 = £0.8928, as shown in table 10.1
4. A stable Euro/Sterling exchange rate resulted in little change to the value of direct payments to UK farmers on the year, with the net value of support payments paid under the Basic Payment Scheme 0.7% higher. Direct payments include Core Basic Payment Scheme, Greening and Young Farmer Payment and financial modulation reductions and adjustments.

Table 10.1 Single payment scheme and exchange rate

Enquiries: Helen Mason on +44 (0)20 802 66256

email: farmaccounts@defra.gov.uk

	2014	2015	2016	2017	2018 provisional
Single Payment Scheme (SPS) (£ million) (a)	2 337	..	..	..	..
Basic Payment Scheme (BPS) (£ million) (a)	..	2 203	2 583	2 730	2 750
Exchange rate (€/£) (b)	0.777	0.731	0.852	0.895	0.893
Financial discipline (%)	1.30	1.39	1.35	1.39	1.41

(a) Includes financial modulation reductions and adjustments where applicable

(b) Exchange rate set by the European Central Bank (ECB). Up to and including 2014 rate on the last day of September, from 2015 for month of September.

5. Chart 10.1 details the value of overall direct payments to farmers and shows the breakdown between coupled and decoupled payments.

Chart 10.1 Direct Payments made to farmers

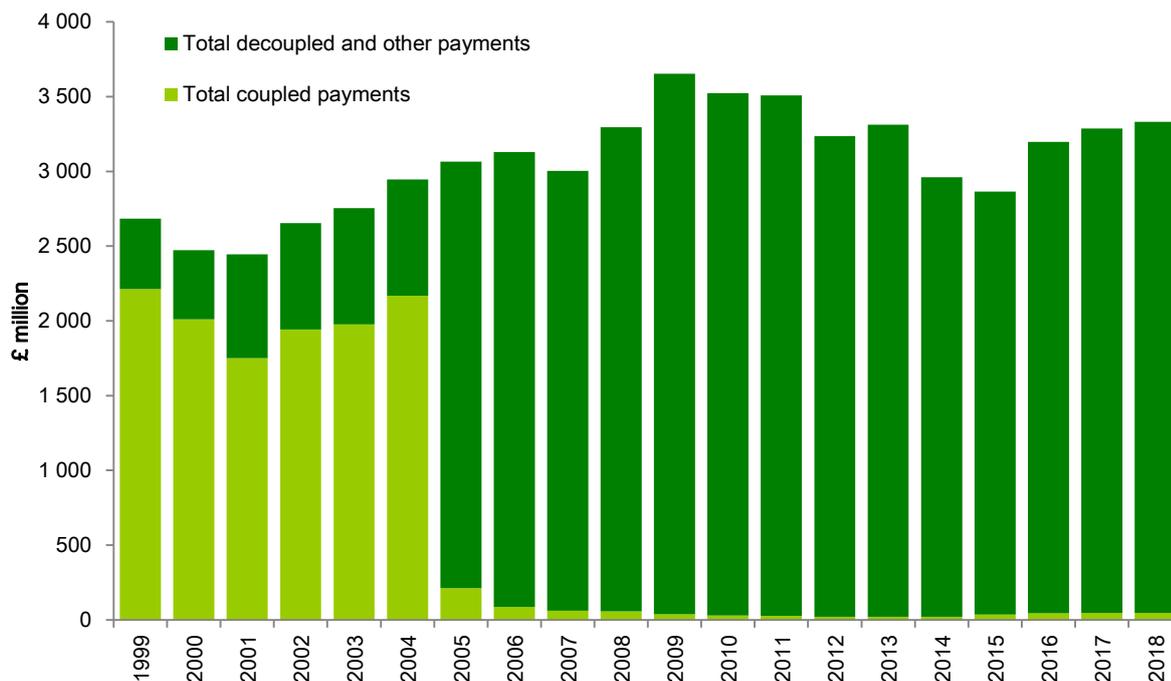


Table 10.2 Direct payments to farmers

Enquiries: Helen Mason on +44 (0)20 802 66256

 email: farmaccounts@defra.gov.uk

£ million

	2014	2015	2016	2017	2018
					(provisional)
Coupled payments (linked to production)					
Crop subsidies					
Other crop subsidies	..	..	..	..	..
Livestock subsidies					
Scottish Beef Calf scheme	21	..	..	..	..
Scottish Upland Sheep support scheme	..	5	7	7	7
Scottish Suckler Beef support scheme	..	30	38	39	40
Total coupled payments	21	36	44	46	47
Decoupled and other payments (not linked to production)					
Basic/Single Payments Scheme (a)	2 337	2 203	2 583	2 730	2 750
Agri-environment schemes (b)	489	487	435	399	436
Less Favoured Areas support schemes	89	91	81	82	74
Animal disease compensation (c)	20	21	21	24	23
Other (d)	5	26	33	4	-
Total decoupled and other payments	2 940	2 828	3 154	3 240	3 283
Total direct payments less levies	2 961	2 864	3 198	3 286	3 331
Capital transfers and other payments not included in the production and income account (c)	32	30	29	34	34

(a) Basic Payment Scheme introduced in 2015, prior to this Single Payment Scheme operated.

(b) For information on the various schemes please see table 10.3

(c) Compensation paid for livestock compulsorily slaughtered under disease control measures. Compensation paid for work-in-progress livestock are recorded here while compensation paid for capital livestock are recorded as capital transfers.

(d) Includes one off payments

6. Coupled support payments to farmers in Scotland, i.e. the Scottish Suckler Beef Support scheme and the Scottish Upland Sheep Support scheme were virtually unchanged at £47 million.
7. Payments under the agri-environment schemes rose by £37 million to £436 million whilst Less Favoured Area Support Scheme payments fell by £8 million to £74 million.
8. Overall total payments to farmers rose by £44 million to £3,331 million.

Table 10.3 Direct payment to farmers by country 2018

Enquiries: Helen Mason on +44 (0)20 802 66256

email: farmaccounts@defra.gov.uk

£ million

	England	Wales	Scotland	Northern Ireland	United Kingdom
Livestock subsidies					
Scottish Upland Sheep support scheme	..	..	7	..	7
Scottish Suckler Beef support scheme	..	..	40	..	40
Total coupled payments	..	..	47	..	47
Decoupled payments (not linked to production)					
Basic Payment Scheme	1 804	235	425	286	2 750
Less Favoured Areas support schemes (a)	..	..	66	9	74
Agri-environment schemes					
Environmental Stewardship Scheme/ New Countryside Stewardship Scheme (b)	361	..	..	..	361
Rural Priorities / Land Manager Options (c)	..	..	10	..	10
Glastir (d)	..	57	..	..	57
Countryside Management Scheme (e)	..	..	..	3	3
Environmental Farming Scheme (f)	..	..	..	3	3
Sites and Areas of Special Scientific Interest	..	2	-	-	2
Other (g)	..	-	-	-	-
Animal disease compensation (income)	12	4	1	6	23
Total decoupled payments	2 177	298	501	307	3 283
TOTAL PAYMENTS	2 177	298	549	307	3 331

(a) Areas of Natural Constraint (ANC) in Northern Ireland, Less Favoured Areas Support Scheme (LFASS) in Scotland.

(b) Environmental Stewardship (ES) - open to applications between 1991 and 2014, New Countryside Stewardship (CS) – first agreements started 1st Jan 2016.

(c) Land Managers Options closed to new applicants from 2014; Rural Priorities closed end of 2013

(d) Introduced in 2013

(e) agreements continue to be honoured

(f) Scheme began in July 2017

(g) Includes one off payments.

Direct Payments made through key measures of the Rural Development Programmes (table 10.4)

9. There are four rural development programmes in the United Kingdom, covering England, Wales, Scotland and Northern Ireland.
10. Table 10.4 shows details of payments made through two key measures of these programmes: Less Favoured Areas and Agri-Environment. Due to changes in the management and implementation of the Rural Development Programme in 2015, care should be taken when making comparisons to earlier years.
11. England's agri-environment schemes (AES) receive funding from the Rural Development Programme for England (RDPE). The New Countryside Stewardship is the current AES for England and consists of two tiers, a Mid-Tier and a Higher Tier. The Environmental Stewardship Scheme closed to new applicants in 2014 but existing agreements continue to be managed until they reach their agreed end date and it remains the main scheme on which payments are made. In 2018 AES payments in England totalled £361 million.

12. The Scottish Rural Development Programme (SRDP) is the main source of funding for land management in Scotland. The Rural Priority and Land Manager option scheme payments totalled £10 million.
13. The principal Welsh agri-environment scheme is Glastir funded by the Welsh Government Rural Communities Rural Development Programme and payments totalled £57 million.
14. Under the Rural Development Programme for Northern Ireland, agri-environment payments under the Countryside Management Scheme and Environmental Farming Scheme totalled £6 million.

Table 10.4 Direct Payments made through key measures of the Rural Development Programmes

Enquiries: Helen Mason on +44 (0)20 802 66256

email: farmaccounts@defra.gov.uk

£ Million		2014	2015	2016	2017	2018 (provisional)
Less Favoured Areas and Areas with Environmental Restrictions measure						
England:	Uplands Transitional Payment (a)	1	..	..	..	..
Wales:	Tir Mynydd (b)	-	..	..	..	..
Scotland:	Less Favoured Areas Support Scheme	65	66	63	64	66
Northern Ireland:	Less Favoured Areas Compensatory Allowance/Areas of Natural Constraint	24	25	19	19	9
Agri. Environment and Animal Welfare measure						
England:	Countryside Stewardship Scheme (c)	8	-	..	..	..
	Environmentally Sensitive Areas Scheme (c)	7	-	..	..	..
	New Countryside Stewardship (CS) Scheme/Environmental Stewardship Scheme (ES) (d)	360	394	369	324	361
Wales:	Organic Farming/Organic Farming Conversion Scheme (e)	4	1	..	..	..
	Tir Cymen/Tir Gofal (f)	18	-	..	..	..
	Environmentally Sensitive Areas Scheme	2	2	2	1	2
	Tir Cynnal (f)	-	-	..	..	..
	Glastir (f)	28	38	36	56	57
Scotland:	Land Managers Options (g)	7	5	2	2	1
	Rural Priorities (h)	36	28	14	13	9
Northern Ireland:	Countryside Management Scheme (i)	16	14	7	3	3
	Environmentally Sensitive Areas Scheme (j)	5	5	4	..	..
	Environmental Farming Scheme (k)	..	..	..	-	3

(a) Transitional payments made to those on historical/classic agreements ended in 2014

(b) Tir Mynydd closed in 2014 and replaced by Glastir

(c) Agreements expired in 2014 renewed into Environmental Stewardship Scheme

(d) Environmental Stewardship (ES) - open to applications between 1991 and 2014, New Countryside Stewardship (CS) – first agreements started 1st Jan 2016

(e) Organic Farming Scheme replaced by Organic Farming Conversion Scheme

(f) Tir Gofal, Tir Cymen and Tir Cynnal now closed; Tir Glastir introduced in 2012

(g) Closed to new applicants from 2014

(h) Scheme ended in December 2013, existing agreements continued to be honoured

(i) Includes agreements which commenced under NIRDP 2000-2006 & 2007-2013; agreements continue to be honoured

(j) All agreements expired in 2016

(k) Scheme began in July 2017

Take- up of Agri-Environment Schemes (tables 10.5 and 10.6)

15. Agri-environment schemes provide an incentive to farmers to adopt land management and farm practices that are beneficial to the environment. The take-up of agri-environment schemes is shown by area of land under each type of scheme currently in existence in the United Kingdom (Table 10.5) and by the number of agreements (Table 10.6). Due to the differing requirements of schemes, care should be taken when making comparisons. Fluctuations in areas and numbers occur as old schemes expire and new schemes begin.

Table 10.5 Agri-environment schemes – area under schemes

Enquiries: Elizabeth Finch on +44 (0)20 802 66226

email: elizabeth.finch@defra.gov.uk

thousand hectares	as at 31 December				
	2014	2015	2016	2017	2018
England					
Environmental Stewardship Scheme					
Entry Level Scheme (a)	6 389	5 132	3 661	2 809	2 167
Higher Level Scheme (b)	1 348	1 344	1 278	1 209	1 106
new Countryside Stewardship Scheme (c)			76	221	502
Wales					
Organic Farming/Organic Farming Conversion Scheme (d)	97	-	-	-	-
Tir Cymen/Tir Gofal (e)	12	-	-	-	-
Glastir (f)					
Glastir Entry (g)	508	546	546	458	451
Glastir Advanced (on Entry)	184	251	251	261	327
Glastir Commons (h)	111	117	119	120	120
Glastir Organic	..	64	65	68	61
Decoupled Advanced (i)	..	..	34	90	54
Scotland					
Land Managers Options (j)	338	136	63	32	-
Rural Priorities (k)	1 212	980	623	430	214
Agri-environment Climate Scheme (l)			67	565	847
Northern Ireland					
Countryside Management Scheme (m)	280	221	46	46	46
Environmentally Sensitive Areas Scheme (n)	84	84	-	-	-
Environmental Farming Scheme (o)				3	20

(a) Includes Entry Level Pilot Scheme, OELS, Uplands ELS (from 2010) and HLS linked to ELS. Scheme ended in December 2014.

(b) Includes Freestanding HLS and HLS linked to ELS. Scheme ended in December 2014.

(c) Scheme opened in 2015 with first agreements going live in 2016. Area is for Mid and Higher Tier strands only.

(d) Organic Farming Scheme replaced by Organic Farming Conversion Scheme.

(e) Majority of agreements ended on 31 December 2013.

(f) Introduced in 2012

(g) Includes Glastir Advanced (on Entry).

(h) Includes Glastir Advanced (on Commons).

(i) First agreements started in 2016.

(j) Closed to new applicants from 2014.

(k) Scheme ended in December 2013. As contracts may have multiple options, the area may be repeated.

(l) First agreements started in 2016. As contracts may have multiple options, the area may be repeated.

(m) Includes agreements which commenced under NIRD 2000-2006 and 2007-2013; agreements continue to be honoured.

(n) Commenced under 2000-2006 NIRD; all agreements expired in 2016.

(o) Scheme began in July 2017. Organic hectares are included in the total scheme area.

Table 10.6 Agri-environment schemes – number of agreements

Enquiries: Elizabeth Finch on +44 (0)20 802 66226

 email: elizabeth.finch@defra.gov.uk

Rounded to nearest hundred agreements		as at 31 December				
		2014	2015	2016	2017	2018
England						
Environmental Stewardship Scheme:						
	Entry Level Scheme (a)	47 400	36 100	23 900	17 000	11 200
	Higher Level Scheme (b)	14 100	14 200	13 200	12 500	11 600
	new Countryside Stewardship Scheme (c)			2 100	6 000	9 700
Wales						
	Organic Farming/Organic Farming Conversion Scheme (d)	1 000	-	-	-	-
	Tir Cymen/Tir Gofal (e)	100	-	-	-	-
	Glastir (f)					
	Glastir Entry (g)	4 200	4 600	4 600	3 500	2 900
	Glastir Advanced (on Entry)	1 000	1 400	1 400	1 500	1 800
	Glastir Commons (h)	200	200	200	200	200
	Glastir Organic	..	500	500	600	500
	Decoupled Advanced (i)	..	..	500	900	500
Scotland						
	Land Managers Options (j)	4 600	2 300	1 300	800	-
	Rural Priorities (k)	6 400	5 000	3 700	2 800	2 000
	Agri-environment Climate Scheme (l)			200	1 400	2 000
Northern Ireland						
	Countryside Management Scheme (m)	7 100	6 200	600	600	600
	Environmentally Sensitive Areas Scheme (n)	2 300	1 600	-	-	-
	Environmental Farming Scheme (o)	..	..	..	1 200	1 300

(a) Includes Entry Level Pilot Scheme, OELS, Uplands ELS (from 2010) and HLS linked to ELS. Scheme ended in December 2014.

(b) Includes Freestanding HLS and HLS linked to ELS. Scheme ended in December 2014.

(c) Scheme opened in 2015 with first agreements going live in 2016. Only Mid and Higher Tier strands are reported here.

(d) Organic Farming Scheme replaced by Organic Farming Conversion Scheme.

(e) Now closed; majority of agreements ended on 31 December 2013.

(f) Introduced in 2012; all existing scheme agreements will gradually move across to this scheme.

(g) Includes Glastir Advanced (on Entry).

(h) Includes Glastir Advanced (on Commons).

(i) First agreements started in 2016.

(j) Closed to new applicants from 2014.

(k) Scheme ended in December 2013.

(l) First agreements started in 2016.

(m) Includes agreements which commenced under NIRDP 2000-2006 and 2007-2013; agreements continue to be honoured.

(n) Commenced under 2000-2006 NIRDP; all agreements expired in 2016.

(o) Scheme began in July 2017.

Data Revision: A typographical error was noticed with the Glastir Entry figure for 2017. This has now been corrected.

All Common Agricultural Policy payments by funding stream (table 10.7)

16. Table 10.7 shows all agricultural market support under the Common Agricultural Policy. This is different to the other tables in this chapter, which show expenditure feeding into the agricultural account only, i.e. only those payments received by units as a consequence of engaging in agricultural activity. The market price support element of this table can be paid to non-agricultural units. In addition, readers should note the difference in timings as the data is for European Union agricultural financial years (see table footnote) and shown in euros.

Table 10.7 All Common Agricultural Policy (CAP) payments by funding stream

Enquiries: Michael Redfern

email: michael.redfern@ukcoordinatingbody.gov.uk

Euros million	EU financial years (a)				
	2014	2015	2016	2017	2018
UK CAP payments					
Pillar 1	3 234	3 150	3 121	3 171	3 174
of which: Direct Aids	3 195	3 112	3 035	3 080	3 126
Market price support (b)	39	38	86	91	48
Pillar 2 (c)	1 065	959	806	803	760
of which: EAFRD (d)	798	709	641	542	581
Co-financing	267	250	165	261	179
Total UK CAP payments	4 299	4 109	3 927	3 974	3 934
England CAP payments					
Pillar 1	2 048	2 026	2 018	2 069	2 084
of which: Direct Aids	2 009	1 988	1 932	1 988	2 036
Market price support (b)	39	38	86	81	48
Pillar 2 (c)	666	507	608	456	390
of which: EAFRD (d)	563	460	529	374	341
Co-financing	103	47	79	82	49
Total England CAP payments	2 714	2 533	2 626	2 525	2 474
Wales CAP payments					
Pillar 1	301	269	260	268	263
of which: Direct Aids	301	269	260	264	263
Market price support	-	-	-	4	-
Pillar 2 (c)	112	98	78	88	134
of which: EAFRD (d)	54	49	52	63	95
Co-financing	58	49	26	25	39
Total Wales CAP payments	413	367	338	356	397
Scotland CAP payments					
Pillar 1	566	534	522	507	503
of which: Direct Aids	566	534	522	504	503
Market price support	-	-	-	3	-
Pillar 2 (c)	191	265	62	225	195
of which: EAFRD (d)	119	150	26	89	127
Co-financing	72	115	36	136	68
Total Scotland CAP payments	757	799	584	732	698
Northern Ireland CAP payments					
Pillar 1	319	321	321	327	324
of which: Direct Aids	319	321	321	324	324
Market price support	-	-	-	3	-
Pillar 2 (c)	96	89	58	34	41
of which: EAFRD (d)	62	50	34	16	18
Co-financing	34	39	24	18	23
Total Northern Ireland CAP payments	415	410	379	361	365

(a) Information based on EU financial year 16th October – 15th October. Figures exclude financial corrections/penalties.

(b) Market price support covers interventions in agricultural markets, e.g. public intervention and private storage aid. Most of these schemes are administered by the Rural Payments Agency on behalf of the UK.

(c) Pillar 2 funds rural development, e.g. for agri-environment schemes, competitiveness of agriculture and economic diversification and quality of life in rural areas.

(d) EAFRD is the European Agricultural Fund for Rural Development. Member states are required to co-finance these receipts with a contribution from their exchequer. Figures are based on in-year quarterly returns, rather than the annual account (in order to provide the split between EAFRD and co-financing)

Chapter 11 Environment

Summary

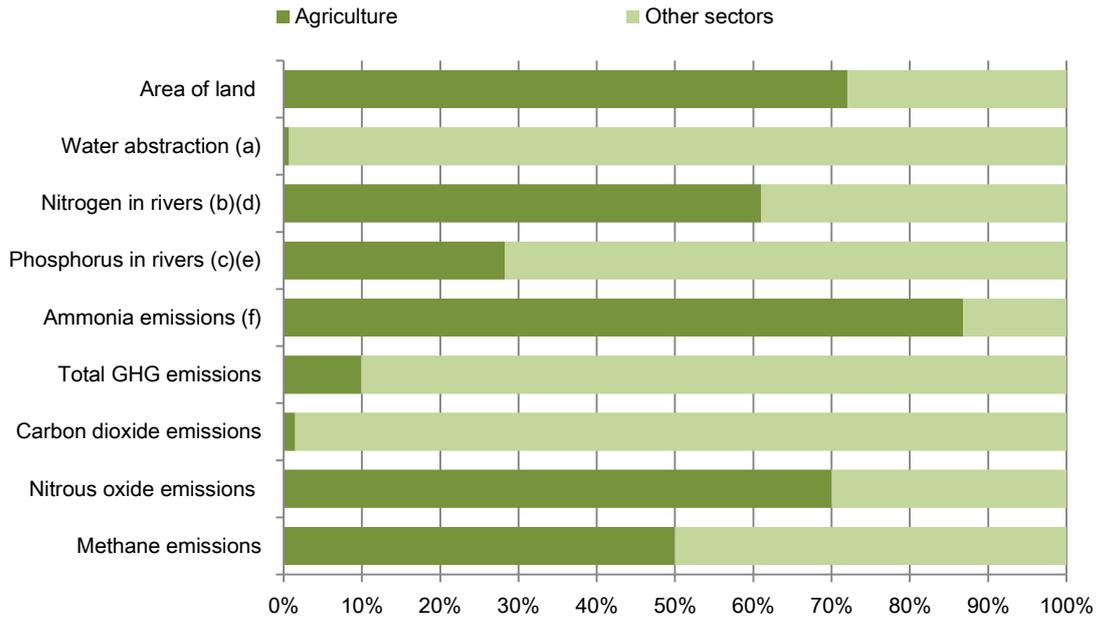
- In 2018 utilised agricultural **land use** stood at 72% of the total United Kingdom area
- Since the late 1990's **nitrogen and phosphate application rates** have fallen
- A comparison of **soil nutrient balances** (in kg per hectare) from the year 2000 to 2017 show a 19% decrease for **nitrogen** and a 38% decrease for **phosphate**.
- Estimated greenhouse gas and air pollution emissions from agriculture have fallen between the year 2000 and most recent data available:
 - In 2017 **nitrous oxide emissions** have fallen by 11%
 - **Methane** emissions in 2017 have decreased by 10%
 - 2016 data for **ammonia** show a decrease of 18%
- The **farmland bird index** has decreased significantly since 1970 with the index for all farmland species in 2017 less than half of 1970 levels

Introduction⁹ (chart 11.1, and tables 3.2 and 14.1)

1. Whilst agriculture contributes less than 1% to the United Kingdom's economy (Table 3.2), it provides around three-quarters of the indigenous food we eat (Table 14.1) and at around 70% is the predominant form of land use (Chart 11.1). As well as being vital for food production, agriculture helps to shape the landscape, providing important recreational, spiritual and other cultural benefits. This can be viewed in terms of delivering vital ecosystems services, with food production being a provisioning service whilst other environmental and societal benefits are delivered by, for example, cultural and regulating services.
2. Agricultural production and the associated land use and management are key drivers of the environmental impacts from the sector. A key challenge is to de-couple production from environmental impact so that production can be increased whilst reducing the overall environmental footprint. This is sometimes referred to as sustainable intensification.
3. Farm practices and the use of inputs (particularly fertilisers and pesticides) directly influence the environmental pressures from farming including the quality, composition and availability of habitats and impact on air, water and soils.
4. In recent years, the key drivers of change in terms of environmental pressures from agriculture are declines in the number of livestock, specifically ruminants, and reductions in fertiliser applications, particularly on grassland. Reforms to the Common Agricultural Policy, and in particular the decoupling of subsidy payments from production, have been instrumental to these drivers of change. As a result of these reforms agriculture has become more responsive to market conditions which may influence both positive and negative environmental impacts.
5. This chapter provides an overview of the change in inputs (fertiliser, pesticide and water usage) and environmental management over time as well as the monitoring of environmental impacts to which agriculture contributes.

⁹ This publication cites the most recent data available. In most cases this is 2018 but some data sources, particularly environmental monitoring, require a longer lead time until results can be published.

Chart 11.1 Agriculture's environmental footprint

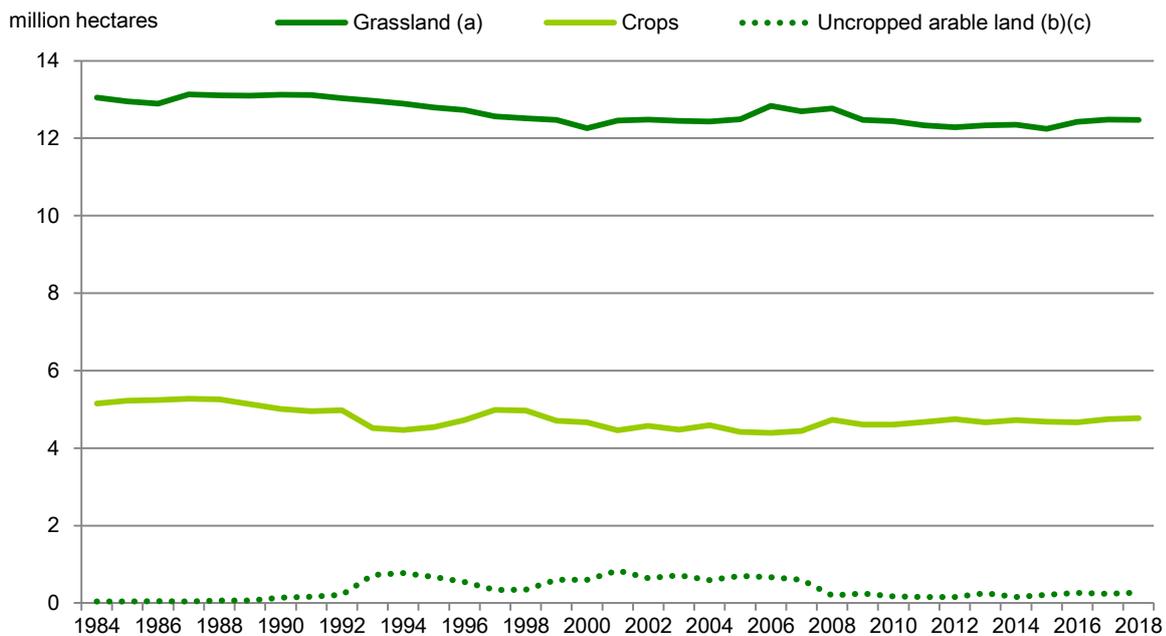


Source: Collated by Defra.
 All data are UK except (a) England, (b) England & Wales, (c) Great Britain
 All data are for 2017 except (d) 2004, (e) 2006, (f) 2016

Land use (chart 11.2)

6. In 2018 the proportion of utilised agricultural land used for grassland was 71% and 27% used for crops. Grassland and crop land use have remained relatively stable from 1990 to 2018. The ending of set aside in 2008 meant that the area of uncropped land fell sharply that year. From 2008 onwards the area of uncropped land has fluctuated around that level, mainly influenced by commodity prices and weather conditions.

Chart 11.2 Agricultural land use

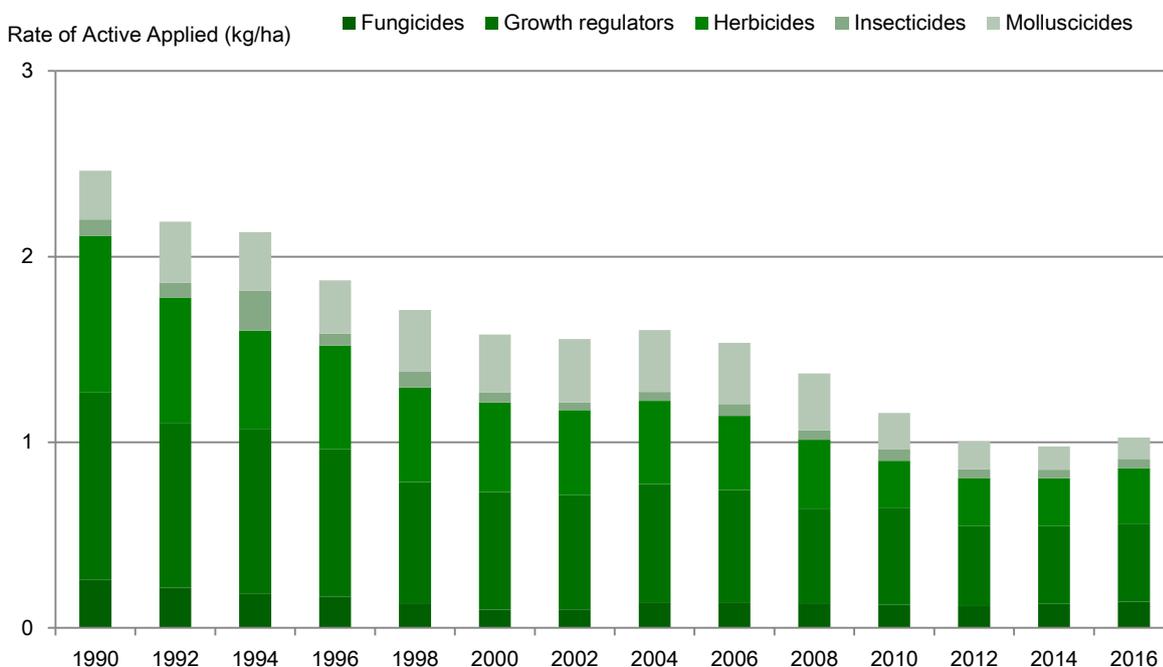


Source: June survey of Agriculture, Defra
 (a) Grassland includes temporary and permanent grasslands, sole rights rough grazing and common rough grazing areas
 (b) Includes uncropped set-aside land for 2007 and earlier years
 (c) Includes all arable land not in production

Pesticide usage (chart 11.3)

7. Plant protection products are used to regulate growth and to manage pests and diseases in crops. They play a major role in maintaining high crop yields and therefore greater production from agricultural land. However, they can have detrimental impacts on the environment, particularly on terrestrial and aquatic biodiversity.
8. The need for pesticide usage varies from year to year depending on growing conditions, particularly the weather which influences disease, weed and pest pressures. In addition, longer term variations are due to changes in the range and activity of active substances, the economics of pest control and resistance issues. In the United Kingdom the treated area of arable crops (number of hectares multiplied by number of applications) has remained relatively stable since 2008, whilst the total weight of pesticide applied has shown an overall decline highlighting the complexities. Further information on pesticide usage in the UK can be found at: <https://secure.fera.defra.gov.uk/pusstats>
9. In recent years cereals accounted for the majority of both treated area and the weight of pesticides applied to arable crops in the United Kingdom. The majority of cereals (more than 80%) are grown in England. Chart 11.3 shows the different types of pesticides used on cereal crops in Great Britain and how these have fluctuated over time.

Chart 11.3 Pesticide use on cereals, Great Britain (a)



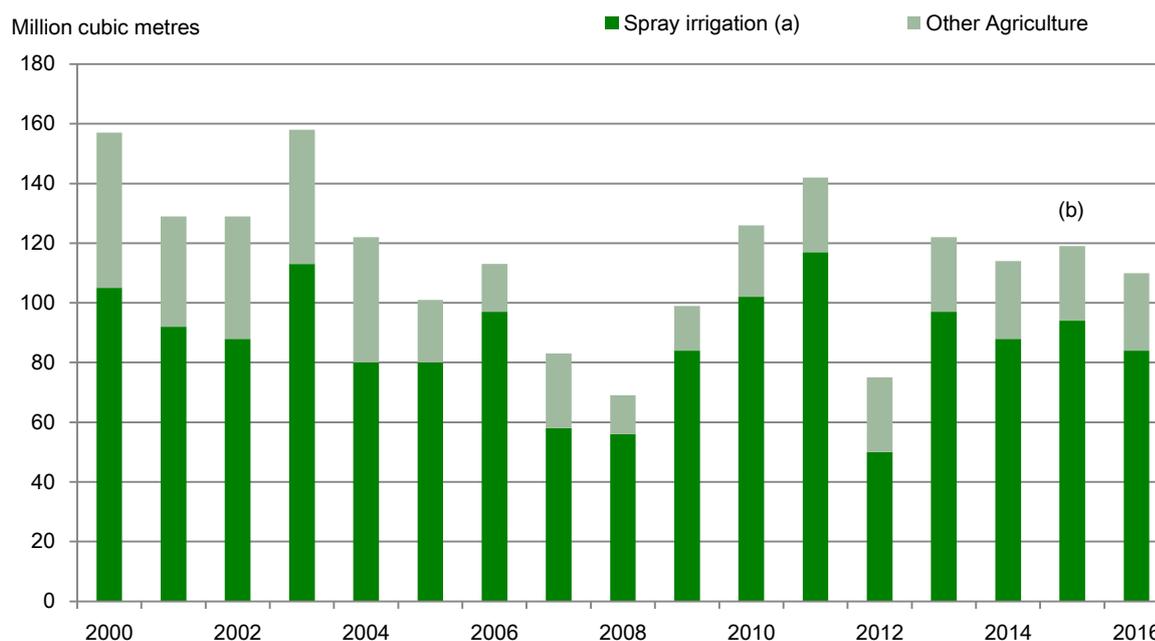
Source: Pesticides Usage Survey

(a) All pesticides include seed treatments

Water use (chart 11.4)

10. Water abstraction from groundwater and surface water sources may be needed for irrigation purposes to maintain high yields and good crop quality, particularly in areas with low rainfall and for certain crop types. Over abstraction can be detrimental to aquatic ecosystems and limit resource for other industries. In 2017 less than 1% of the total water abstracted in England was attributed to agriculture, most of which took place in the south and east of the country.
11. Volumes of water abstracted for agricultural purposes is highly variable from year to year and greatly influenced by rainfall amounts, especially during the growing season. In 2017 the recorded abstraction rate in England was 109 million cubic litres which was a slight decrease from 110 million cubic litres in 2016.

Chart 11.4 Water abstraction, England



Source: Environment Agency

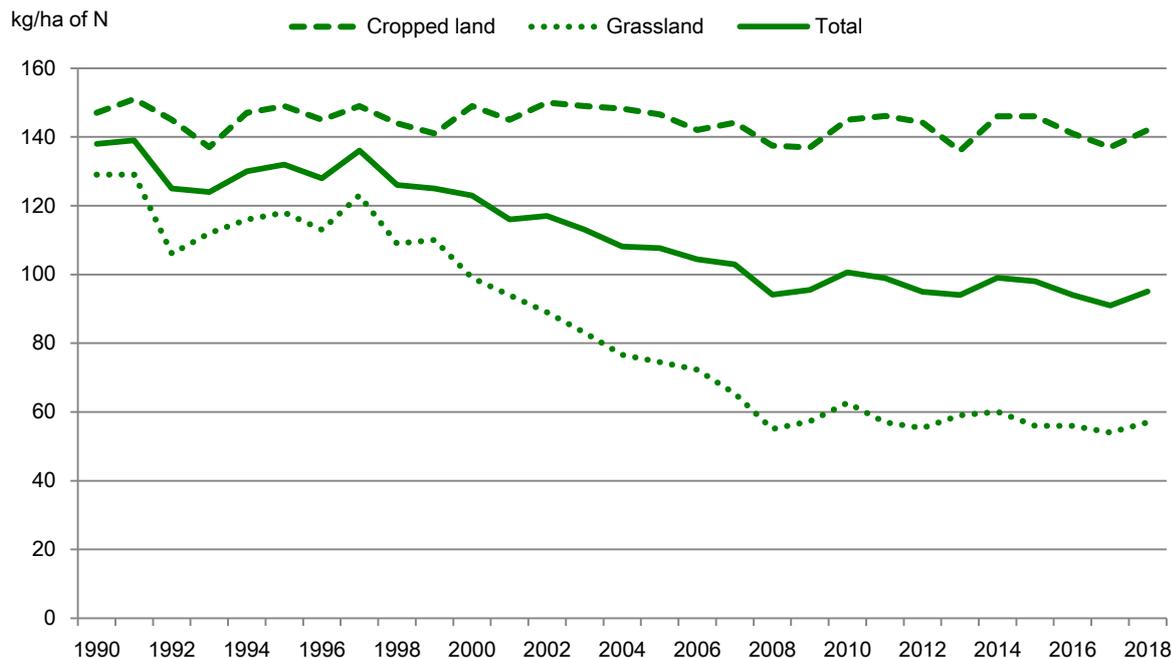
- (a) Includes small amounts of non-agricultural irrigation
- (b) Indicates a break in the series where information concerning abstractions in the country of England and the Dee/Wye regional charge areas (formally the Wales regional charge area) has been amalgamated into the North West and Midlands regional charge areas respectively.

12. Further information on water abstraction can be found at:
<https://www.gov.uk/government/statistics/water-abstraction-estimates>

Fertiliser use (charts 11.5 and 11.6)

13. Nitrogen and phosphorous are key nutrients needed for crop growth. A deficit in either or both of these nutrients can have a negative impact on crop yields and levels of production. The main source of these nutrients are mineral fertilisers and organic fertilisers such as manures and slurries from livestock. Various factors such as application method, over application and natural losses from soils and manures can have an adverse impact on the environment. These impacts include water quality (nitrogen and phosphorous levels in waterbodies), air quality (ammonia emissions) and climate change (nitrous oxide emissions.)
14. Most agricultural soils do not contain enough naturally occurring plant available nitrogen to meet the needs of a crop throughout the growing season so supplementary nitrogen applications are needed each year. Nitrogen usually has a large immediate effect on crop growth, yield and quality. Correct rate and timing of applications is important to ensure crop growth requirements are met.
15. Annual levels of use of nitrogen and phosphate application are influenced by fertiliser prices, crop prices, crop type and weather related issues during the growing season, for example the drop in nutrient application rates in 2009 was related to high fertiliser prices.
16. For Great Britain between 1990 and 2018 the overall mineral nitrogen application rate on tillage crops has largely been in the range of 140 -150 kg/ha. In 2018 nitrogen use on tillage crops increased by 5kg/ha to 142kg/ha. For grassland, nutrient application rates have always been lower than for cropped land. Between 1990 and 2018 there has been a downward trend in the overall mineral nitrogen application rate on grassland, in 2018 the rate was 57 kg/ha (Chart 11.5). A reduction in total cattle numbers is thought to have contributed to this, possibly in conjunction with some improvement in manure use efficiency.

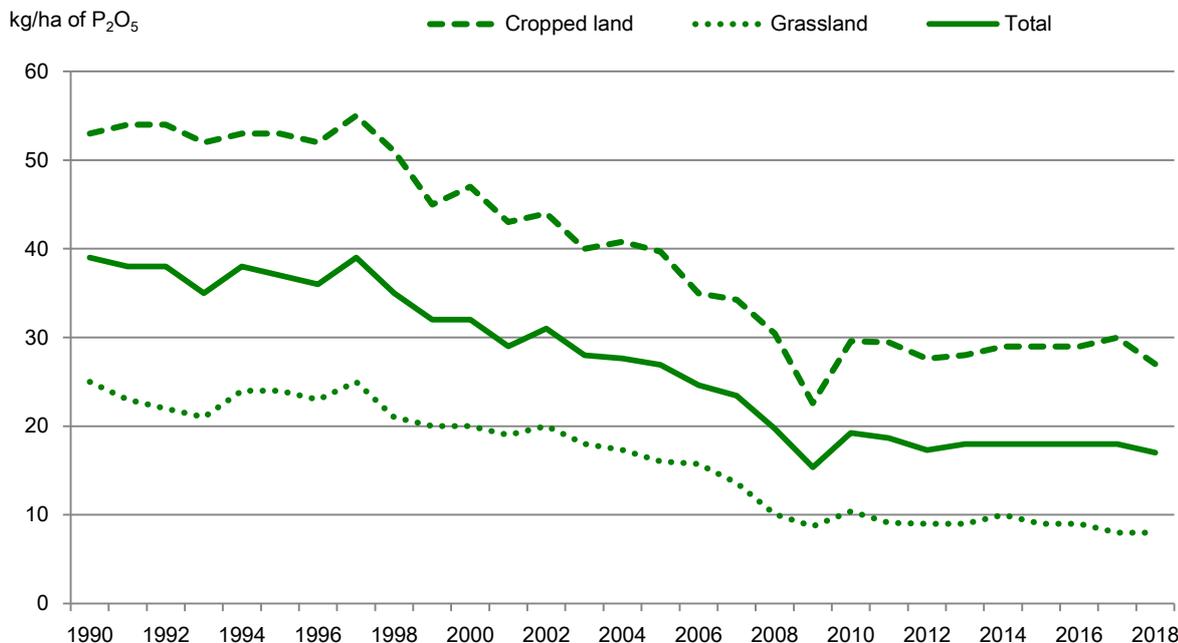
Chart 11.5 Nitrogen (N) use (kg/ha) on all crops and grass, Great Britain



Source: British Survey of Fertiliser Practice

17. Phosphate is applied in fertilisers and manures, particularly to replace the quantities removed in harvested crops. Most British soils are able to hold large quantities of phosphate in forms that are available for crop uptake over several years. Therefore managing the supply of phosphate is based on maintaining appropriate levels in the soil with the timing of applications less critical.
18. From 1990 to 2018 total mineral phosphate application rates have declined to a rate of 17 kg/ha in 2018 (Chart 11.6). More recently the decline has levelled off with a similar rate seen since 2012.

Chart 11.6 Phosphate (P₂O₅) use (kg/ha) on all crops and grass, Great Britain



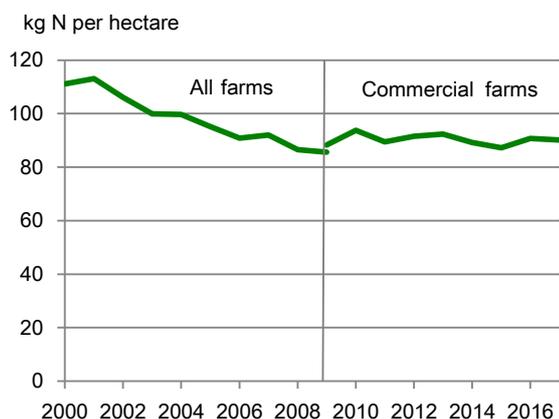
Source: British Survey of Fertiliser Practice

19. Further information is available in the annual report of the British Survey of Fertiliser Practice and the accompanying Statistical Notice can be found at: <https://www.gov.uk/government/collections/fertiliser-usage>

Soil nutrient balances (charts 11.7 and 11.8)

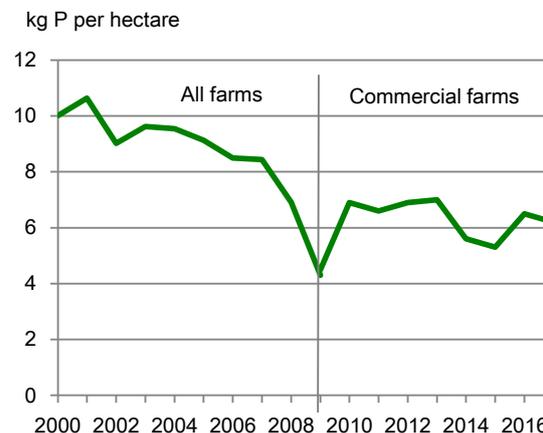
20. Soil nutrient balances provide an indication of the overall environmental pressure from nitrogen and phosphorus in agricultural soils. They measure the difference between nutrients applied to soils (largely as fertilisers and manures) and those removed from soils by the growth of crops, including grass for fodder and grazing. An increase in the balance per hectare indicates a greater environmental risk from nutrient losses and their associated emissions whereas a decrease in the balance per hectare broadly indicates a reduced environmental risk. There is a risk that nutrient deficits lead to poor soil fertility and subsequent loss of yields.

Chart 11.7 Nitrogen (N) soil nutrient balance



Source: Defra

Chart 11.8 Phosphorus (P) soil nutrient balance



Source: Defra

21. Provisional estimates for 2017 show that the nitrogen balance for the UK was a surplus of 90.2 kg/ha on managed agricultural land (Chart 11.7). This is a decrease of 0.5 kg/ha (-0.6%) compared to 2016. This decrease in 2017 is slight, however longer term trend represents a reduction of 20.9 kg/ha (-19%) compared to 2000. The decrease between 2016 and 2017 has been driven by an increase in overall offtake (mainly via harvested crops) while inputs have decreased. The increase in offtake reflects an increase in overall production compared to the levels seen in 2016. The main drivers for the overall reduction in the surplus since 2000 have been reductions in the application of inorganic (manufactured) fertilisers and manure production (due to lower livestock numbers), although this has been partially offset by a reduction in the nitrogen offtake (particularly forage) over the same period.
22. The UK phosphorus balance was estimated to be a surplus of 6.2 kg/ha of managed agricultural land in 2017 (Chart 11.8). This is a decrease of 0.3 kg/ha (-4.6%) compared to 2016. However since 2000 there has been an overall reduction of 3.8 kg/ha (-38%). The decrease between 2016 and 2017 reflects an increase in offtake with inputs staying at the same level as 2016. In the longer term the trend is downward, again with similar drivers as nitrogen.
23. Further information concerning soil nutrient balances can be found at: <https://www.gov.uk/government/statistics/uk-and-england-soil-nutrient-balances-2017>

Water quality

24. Agriculture contributes to the pollution of water bodies through fertilisers and manure (nutrients), pesticides, sediments and faecal bacteria. Rainfall may wash a proportion of fertiliser off fields into local water bodies or cause soluble nutrients to filter into groundwater. Pesticides can be washed into water bodies by rainwater or may enter them directly if sprayed close to water and can also enter groundwater via soil infiltration. Erosion can also wash topsoil into water bodies and these soils can carry large amounts of phosphates and agri-chemicals bonded to clay particles.
25. High nutrient concentrations, particularly phosphorus, can cause nutrient enrichment (eutrophication) resulting in excessive growth of macrophytes and algae which can deplete dissolved oxygen levels. Excessive levels of nutrients must be removed from water bodies used for drinking water to meet legal limits, with water companies incurring significant costs. It has been estimated that agriculture accounts for around 61% of the total nitrogen in river water in England and Wales¹⁰ and around 28%

¹⁰ Hunt, D.T.E., et al, 2004, Updating an estimate of the sources of nitrogen to waters in England and Wales. Defra project WT03016.

of the total phosphorus load in river water in Great Britain¹¹ although this estimate may also include phosphorus from septic tanks¹².

26. Due to the implementation of the Water Framework Directive (WFD) a revised approach to monitoring water quality across the UK was introduced in 2009. The WFD assesses water quality using three categories (ecological quality, chemical quality and hydrological quality). For each site each category is assigned a grade and these are combined to provide an overall classification. The combined score is based on 'one out, all out', e.g. if one category is ranked as 'poor' the water body will be classified as 'poor'.
27. There was a small decrease in the overall number of water bodies awarded high or good surface water status between 2012 and 2017. In 2017, 35% of surface water bodies assessed under WFD in the UK were in high or good status. This reflects a small decline from 36% of surface water bodies assessed in 2012. Diffuse water pollution from agriculture and rural land use has been directly attributed to 28% of failures to meet the WFD standards in England¹³.
28. Further information on the status of water bodies in the United Kingdom can be found at: <http://jncc.defra.gov.uk/page-4250>

Greenhouse gas emissions (charts 11.9 and 11.10)

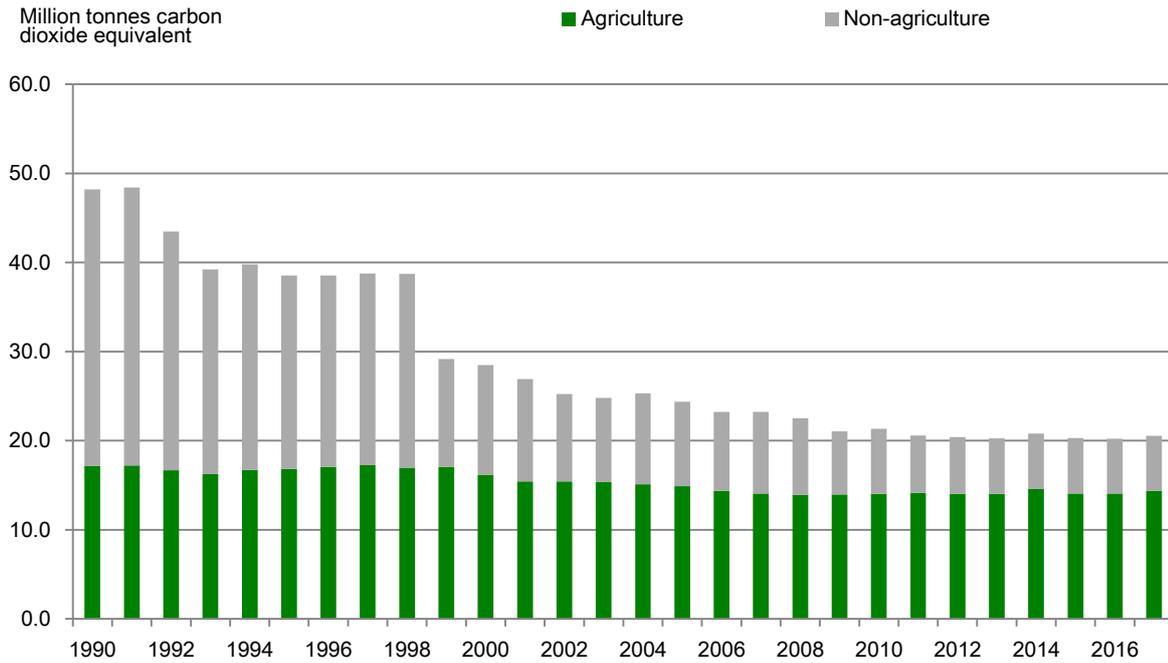
29. Agriculture accounts for approximately 10% of total greenhouse gas emissions in the UK. Three greenhouse gasses emitted by agriculture are nitrous oxide, methane and carbon dioxide.
30. Agriculture is the major source of both nitrous oxide and methane emissions in the UK, accounting for nearly 70% of total nitrous oxide emissions and 50% of all methane emissions in 2017. In contrast, agriculture only accounted for about 1% of total carbon dioxide emissions in the UK.
31. Nearly 90% of agricultural nitrous oxide emissions come from soils, particularly as a result of nitrogen fertiliser application, manure (both applied and excreted on pasture) and leaching/run-off. In 2017 nitrous oxide emissions from agriculture are estimated to have fallen by 17% since 1990 and 11% since 2000 (Chart 11.9). This is consistent with trends in fertiliser usage over the same period.
32. The majority (nearly 90%) of methane emissions from agriculture arise from enteric fermentation (digestive processes) in ruminating animals, with manure management practices accounting for the remainder. In 2017, methane emissions from agriculture are estimated to have fallen by 15% since 1990 and 10% since 2000, mainly as a result of decreasing livestock numbers, particularly cattle (Chart 11.10). However, since 2009 the long-term fall has stalled and in recent years there has been a slight reverse in this trend, driven mainly by increases in livestock numbers.

¹¹ White, P.J. and Hammond, J.P., 2006, Updating the estimate of the sources of phosphorus in UK waters. Defra project WT0701CSF.

¹² May, L., *et al*, 2011, The impact of phosphorus inputs from small discharges on designated freshwater sites. Report to Natural England and Broads Authority, SWR/CONTRACTS/08-09/112.

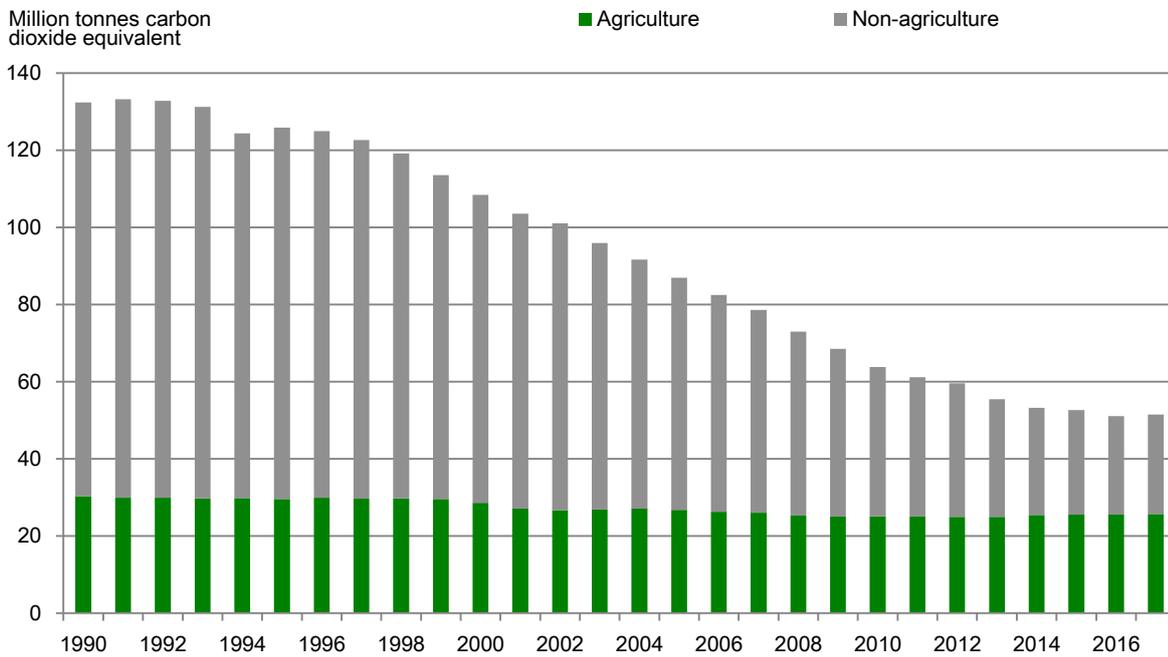
¹³ POSTnote 478 October 2014 Diffuse Pollution of Water by Agriculture,

Chart 11.9 Nitrous oxide emissions



Source: Department for Business, Energy and Industrial Strategy (BEIS, formerly DECC)

Chart 11.10 Methane emissions



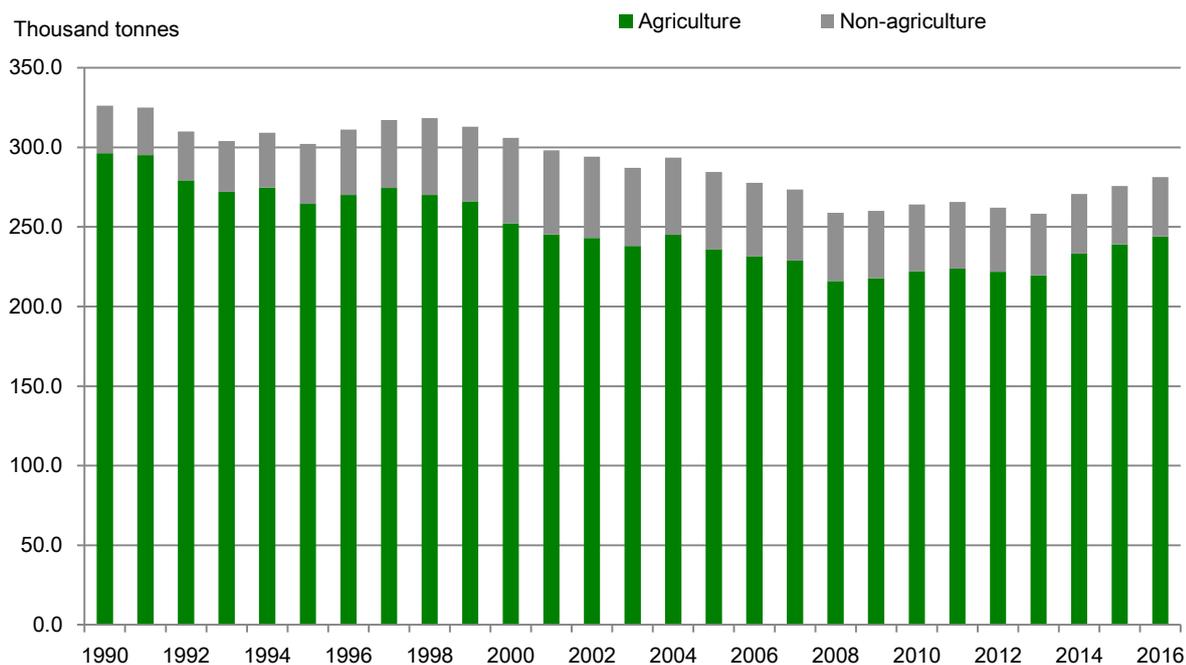
Source: Department for Business, Energy and Industrial Strategy (BEIS, formerly DECC)

33. Further information on greenhouse gas emissions from agriculture can be found on the National Atmospheric Emissions Inventory website:
<http://naei.beis.gov.uk/>

Air quality (chart 11.11)

- 34. Ammonia emissions impact on air quality and subsequently human and animal health. In addition, deposition of ammonia can damage sensitive habitats due to eutrophication and the acidification of soils. In 2016 agriculture accounted for 87% of the UK's ammonia emissions.
- 35. The main sources of ammonia emissions in the UK are agricultural soils and livestock, in particular cattle. In 2016 ammonia emissions from agriculture are estimated to have fallen by 18% since 1990 and 3.2% since 2000 due to long-term reductions in cattle numbers and more efficient fertiliser use (Chart 11.11). However, this represents a slight increase since emissions from agriculture reached their lowest point in 2008. This recent increase is largely due to an increase in the use of urea fertilisers and the manure management associated with increased housing of dairy cattle.

Chart 11.11 Ammonia Emissions



Source: National Atmospheric Emissions Inventory (<http://naei.beis.gov.uk/>)

- 36. Further information on total ammonia emissions can be found at: <https://www.gov.uk/government/statistics/emissions-of-air-pollutants>

Soils

- 37. The success of UK agriculture depends upon healthy soils; they are arguably a farmer's most valuable asset. Soil degradation costs England and Wales an estimated £0.9bn - £1.4bn per year¹⁴. In the face of a changing climate and increase in food demand, it is important to mitigate the risks to long-term productive capacity and encourage farmers to manage their soils in a sustainable way. While rates of soil erosion in England are not excessively high, it is estimated to affect around 17% of land in England and Wales with impacts in the form of loss of productive capacity and nutrients, but also off site costs to the environment. Around 3.9 million hectares of our soils are at risk of soil compaction which could lead to a total yield penalty of around £163 million per year¹⁰.
- 38. Actions to improve soil organic matter can be mutually beneficial for soil and production. For example, early establishment of crops in the autumn reduces soil erosion risk during the late autumn and winter months¹⁵ and can also increase winter cereal yields¹⁶.

¹⁴ [SP1606](#) Total costs of soil degradation project 2011 Defra.

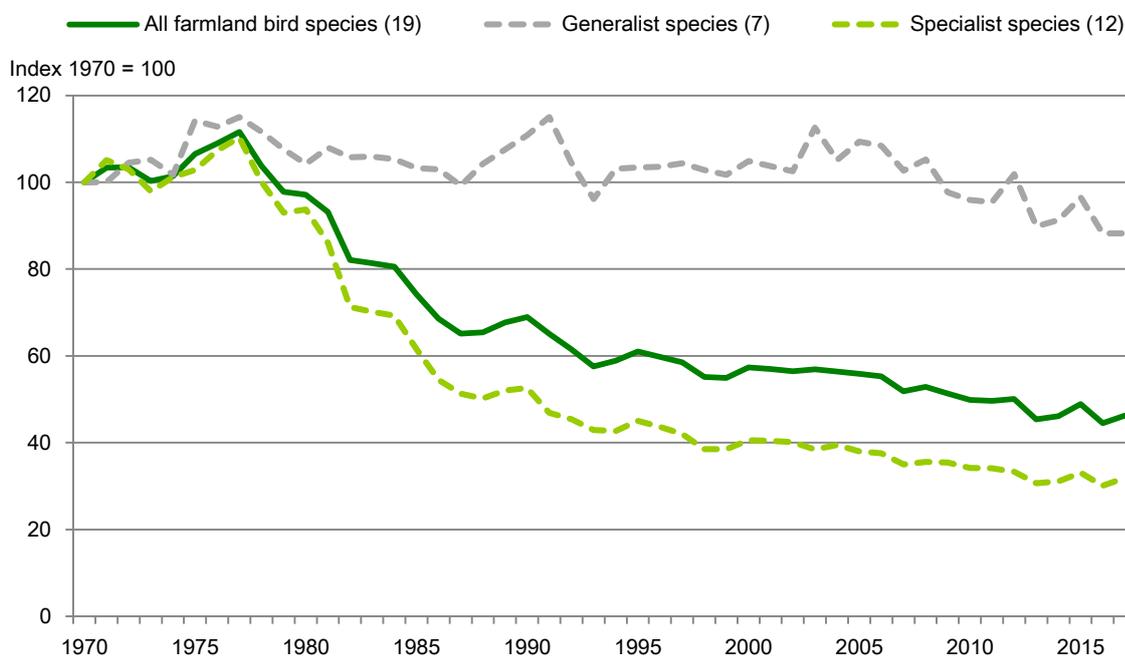
¹⁵ (Chambers et al. 2000; Evans 1990)

¹⁶ Green *et al.* (1985) found a 0.35% reduction in wheat yield and a 0.43% reduction in barley yield for every day of sowing later than mid-September.

Biodiversity (chart 11.12)

39. Bird populations are considered to be a good indicator of the general state of wildlife as they have a wide habitat distribution, they are near the top of the food chain and there are long-term datasets available. Agriculture provides valuable resources in terms of winter food, spring forage and nesting habitats for farmland bird populations. The largest declines in farmland bird populations occurred between the late 1970s and early 1990s due to the impact of rapid changes in farmland management. Whilst agri-environment schemes offer specific measures designed to help stabilise and recover farmland bird populations, the situation is complex with other pressures such as weather effects and disease pressures adversely impacting on some species.
40. The farmland bird index comprises 19 species of bird. The long-term decline of farmland birds in the UK has been mainly driven by the decline of the 12 species known as the 'specialists' that are restricted to, or highly dependent on, farmland habitats (Chart 11.12). Between 1970 and 2017, populations of farmland specialists declined by about 70% whereas farmland generalists have declined by about 12%. The 2017 index for all farmland bird species at 46.3 was an increase compared to 2016, however this is less than half of its level in 1970.

Chart 11.12 Farmland Bird Index



Source: BTO/RSPB

41. Further information on the farmland bird index can be found at:
<https://www.gov.uk/government/statistics/wild-bird-populations-in-the-uk>.

Chapter 12 Organic Farming

Summary

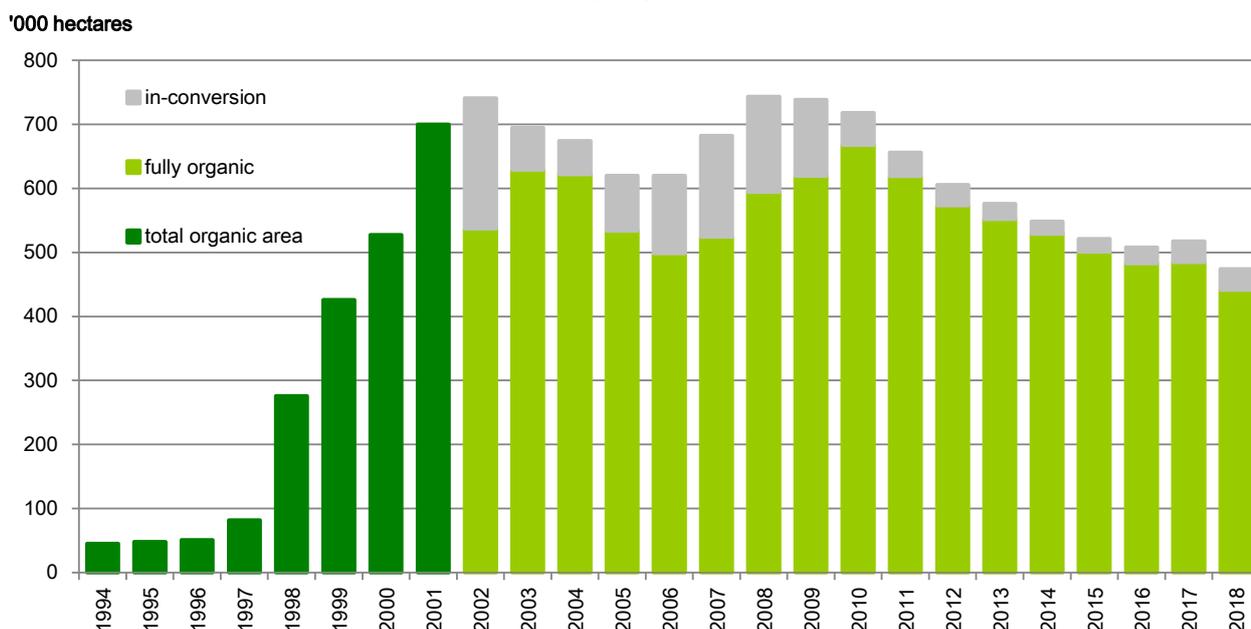
In 2018 compared to 2017:

- The **area of land farmed organically** fell by 8.4% to 474,000 hectares.
- The **area in-conversion** as a percentage of the total organic area rose for the fourth consecutive year.
- **England has 61%** of the organically managed land, **Scotland 19%**, **Wales 18%** and **Northern Ireland the remainder**.
- Within England nearly **half of all organic land** falls within the South West region.
- **The number of organic operators** fell by 6%.

Introduction

1. Organic farming is a method of farming that requires farmers to operate to a system based on ecological principles and which imposes strict limitations on the inputs that can be used in order to minimise damage to the environment and wildlife. Emphasis is placed on natural methods of production and pest control.
2. All foods sold as organic must originate from growers, processors and importers who are registered with an approved certification body and subject to regular inspection. During these inspections, the crop areas and numbers of livestock present on the organic holding are recorded. Due to the nature of the inspections, the data is collected at varying times through the year. The data presented in this chapter therefore do not give an exact snapshot of organic farming at any specific time of year and this should be considered when interpreting the results.

Chart 12.1 Area of land in-conversion and fully organic



Area of land farmed organically (chart 12.1, table 12.1)

- In 2018 the United Kingdom had a total area of 474 thousand hectares farmed organically (i.e. the fully converted area and area under conversion), down from 517 thousand hectares in 2017.
- The organically farmed area represents 2.7% of the total farmed area on agricultural holdings in the United Kingdom. Organic production comes from fully converted land. Before an area can be considered as fully organic, it must undergo a conversion process. The area in-conversion showed a small increase in 2018, the fourth consecutive increase since 2014.

Table 12.1 Organic and in-conversion land by region

Enquiries: Sarah Thompson on +44 (0)20 802 66462

email: sarah.thompson@defra.gov.uk

Thousand hectares

	2014	2015	2016	2017	2018
Land, in-conversion					
North East	0.8	0.3	0.4	0.8	1.6
North West	0.6	0.3	1.1	1.0	0.6
Yorkshire & Humberside	0.6	0.5	0.6	0.8	0.6
East Midlands	0.9	0.7	0.9	0.8	1.1
West Midlands	1.2	1.0	2.0	5.1	4.4
Eastern	0.5	1.0	1.3	1.2	1.2
South East (inc. London)	1.9	0.7	1.4	1.7	2.0
South West	6.1	5.5	7.2	8.4	8.7
England	12.5	10.0	14.7	19.8	20.3
Wales	4.1	9.4	7.8	7.3	3.6
Scotland	3.0	1.0	2.3	5.1	8.5
Northern Ireland	0.2	0.3	0.3	0.4	0.5
United Kingdom	19.7	20.6	25.2	32.6	32.9
Land, fully organic					
North East	26.3	27.6	24.9	22.6	21.6
North West	13.6	13.8	11.4	13.9	11.6
Yorkshire & Humberside	10.1	10.2	10.0	10.2	9.7
East Midlands	13.7	13.5	13.6	12.6	12.6
West Midlands	29.3	28.3	28.0	27.6	28.7
Eastern	13.8	13.7	13.5	13.9	12.1
South East (inc. London)	45.6	45.0	42.4	42.5	39.4
South West	143.1	141.6	138.0	137.2	133.3
England	295.7	293.7	281.8	280.5	269.0
Wales	91.6	73.5	73.7	78.8	81.4
Scotland	132.9	125.3	119.3	117.6	83.1
Northern Ireland	8.8	8.2	8.0	7.9	7.6
United Kingdom	529.0	500.8	482.7	484.8	441.1
Total UK organic land (in-conversion & fully organic)	548.6	521.4	507.9	517.4	474.0

Source: Organic certification bodies collated by Defra statistics

Land use and livestock numbers (tables 12.2 and 12.3)

- Permanent pasture accounted for the biggest share of the organic area (70%) followed by temporary pasture (13%) and cereals (8%). The three main crop types grown organically are cereals, vegetables including potatoes and other arable crops. All three have shown a decline since the late 2000s, mirroring the fall in the land area farmed organically since 2008.
- The number of poultry farmed organically in the United Kingdom increased by 10% between 2017 and 2018, rising to almost 3.4 million birds. However, this equates to only 1.8% of the total UK poultry population. In the red meat sector sheep reared organically decreased by 6.8% to 827 thousand animals in 2018. Pigs reared organically also saw a decrease in 2018 of 4.2%, falling from 39

thousand animals to 37 thousand animals. Organically reared cattle rose from 294 thousand animals in 2017 to 324 thousand in 2018, an increase of 10%.

Table 12.2 Organic and in-conversion land use; United Kingdom

Enquiries: Sarah Thompson on +44 (0)20 802 66462

 email: sarah.thompson@defra.gov.uk

Thousand hectares					
	2014	2015	2016	2017	2018
Land, in-conversion					
Cereals	1.0	1.0	1.6	1.9	2.2
Other crops	0.3	0.4	0.6	0.8	0.9
Fruit & nuts	0.1	-	0.1	0.1	0.1
Vegetables (including potatoes)	0.1	0.1	0.5	0.4	0.8
Herbs & ornamentals	0.6	0.1	0.1	-	0.1
Temporary pasture	3.2	3.1	6.2	7.4	7.3
Permanent pasture (a)	13.5	15.1	15.3	17.4	20.3
Woodland	0.6	0.4	0.2	0.3	0.5
Unutilised land	0.2	0.2	0.3	0.2	0.4
Unknown (b)	0.1	0.2	0.4	4.1	0.3
Total	19.7	20.6	25.2	32.6	32.9
Land, fully organic					
Cereals	41.2	38.6	36.8	35.4	34.8
Other crops	7.0	6.6	6.7	6.6	6.5
Fruit & nuts	2.0	1.9	1.9	1.7	1.6
Vegetables (including potatoes)	9.3	10.2	9.8	9.2	8.5
Herbs & ornamentals	7.9	6.2	5.7	5.9	6.6
Temporary pasture	90.5	89.1	85.9	84.9	54.5
Permanent pasture (a)	356.1	332.0	319.7	316.0	309.9
Woodland	6.4	6.6	7.1	8.6	7.1
Unutilised land	4.1	5.5	5.2	5.4	3.5
Unknown (b)	4.3	4.2	4.1	11.1	8.1
Total	529.0	500.8	482.7	484.8	441.1

Source: Organic certification bodies collated by Defra statistics

(a) Includes rough grazing.

(b) Some land areas are provided without a crop category or land use description. These areas are classified as unknown.

Table 12.3 Estimates of organic livestock numbers (a) (b); United Kingdom

Enquiries: Sarah Thompson on +44 (0)20 802 66462

 email: sarah.thompson@defra.gov.uk

Thousand head					
	2014	2015	2016	2017	2018
Cattle	304	292	296	294	324
Sheep	955	845	841	887	827
Pigs	28	30	31	39	37
Poultry	2 399	2 560	2 821	3 060	3 381
Other livestock (c)	6	4	3	3	6

Source: Organic certification bodies collated by Defra statistics

(a) Certification bodies record production data at various times of the year, so figures should be treated with care as they will not represent an exact snapshot of organic livestock farming.

(b) Data relates to fully organic only.

(c) "Other Livestock" includes goats, farmed deer, horses, camelids and any livestock not recorded elsewhere.

Organic operators (tables 12.4 and 12.5)

7. There were 6,188 certified organic operators in the United Kingdom in 2018, a decrease from 6,586 in 2017 but this is partly due to reclassification of operators (see table 12.4). The majority were either producers only (3,544) or processors only (2,569), with just 75 producer/processors. The number of crop producers and livestock producers both saw an increase in 2018.

Table 12.4 Number of organic operators (a) (b) – by region

Enquiries: Sarah Thompson on +44 (0)20 802 66462

email: sarah.thompson@defra.gov.uk

Number of operators

	2014	2015	2016	2017	2018
North East	130	137	130	132	113
North West	246	277	301	308	263
Yorkshire & Humberside	238	257	273	275	240
East Midlands	346	329	371	388	350
West Midlands	424	438	446	514	475
Eastern	445	457	508	543	477
South East (inc. London)	1 020	1 083	1 192	1 254	1 196
South West	1 605	1 601	1 627	1 623	1 522
England	4 454	4 579	4 848	5 037	4 636
Wales	779	741	751	751	759
Scotland	576	539	560	578	577
Northern Ireland	193	197	204	220	216
United Kingdom	6 002	6 056	6 363	6 586	6 188

Source: Organic certification bodies collated by Defra statistics

(a) Includes producers, processors and producer/processors. Processors can include abattoirs, bakers, storers and wholesalers. The recorded location depends on the address registered with the certifier bodies and so larger businesses may be recorded at their headquarters.

(b) In 2018, work has been carried out to clarify how operators are recorded. This has resulted in a number of operators that were previously recorded as processors now being recorded in the correct categories of wholesalers/traders/retailers etc. We are unable to backdate these changes so earlier data is not directly comparable.

Table 12.5 Numbers of organic crop and livestock producers and processors 2018 (a) – by region

Enquiries: Sarah Thompson on +44 (0)20 802 66462

email: sarah.thompson@defra.gov.uk

Number of operators

	No. crop producers	No. crop producers and processors	No. livestock producers	No. livestock producers and processors
North East	72	2	57	2
North West	105	6	78	4
Yorkshire & Humberside	90	2	65	2
East Midlands	147	4	109	2
West Midlands	291	9	175	6
Eastern	140	7	70	5
South East (inc. London)	307	9	183	8
South West	1029	23	771	19
England	2 181	62	1 508	48
Wales	609	4	517	2
Scotland	327	1	255	1
Northern Ireland	127	2	117	-
United Kingdom	3 244	69	2 397	51

Source: Organic certification bodies collated by Defra statistics

(a) Mixed organic holdings will be recorded under both the crop and livestock headings above, so the above numbers cannot be added together to get total producers / processors by region as this will lead to double counting. For totals please see table 12.4.

Chapter 13 Overseas Trade

Summary

In 2018 compared to 2017:

- The value of food, feed and drink (FFD) exports was £22.5 billion, an increase of £0.2bn (0.9%) in real terms.
- The value of food, feed and drink imports fell by £0.1bn (0.3%) in real terms to £46.8bn.
- As a result, the trade gap in food, feed and drink narrowed by £0.3bn (1.3%) to £24.3bn.
- Principal destinations for exports were the Irish Republic (18%), France (9.8%), USA (9.8%) and the Netherlands (7.2%).
- The main countries of despatch for imports into the UK were the Netherlands (12%), Irish Republic (9.7%), France (9.5%) and Germany (9.1%).
- Whisky had the highest export value, totalling £4.8bn. This was a 6.0% increase on the 2017 value in real terms. UK Whisky imports fell by 5.1% from the 2017 total at £218m.
- Fresh fruit and vegetables together remain the highest value categories for imports, totalling £6.3bn in 2018 which was a 1.4% decrease on 2017 at current prices. Exports of fresh vegetables increased by 15% in real terms to £130m in 2018, while exports of fresh fruit increased by 1.9% in real terms to £156m in 2018.
- Exports of unmilled wheat totalled £63m, a fall in real terms of 40% on the 2017 total as a result of limited domestic supply and competition from other markets. Imports of unmilled wheat increased in real terms by 31% to £454m to compensate for the limited domestic supply.

Introduction

1. The Overseas Trade Statistics presented in this chapter are based on data collected by HM Revenue and Customs and are compiled from returns made by importers and exporters. Before the completion of the Single Market in the European Union at the end of 1992, all overseas trade data for the United Kingdom was compiled from Customs declarations made by traders. Since the beginning of 1993, the collection of trade statistics has been divided into two categories: that transacted between the United Kingdom and countries outside the European Union (extra-EU trade) and that between the United Kingdom and its European Union partners (intra-EU trade). Extra-EU trade statistics are compiled, as before, from Customs declarations by importers, exporters and their agents, while intra-EU trade statistics are compiled using a system linked to traders' VAT returns, known as Intrastat.
2. The trade statistics shown here may not match those shown in the commodities tables in Chapter 7 where, for example, trade in meat includes the carcase weight equivalent of trade in live animals and trade in milk is of raw milk before processing, and not of processed and packaged milk and cream as shown here.

Value of trade in food, feed and drink (chart 13.1, table 13.1).

3. The value of exports of food, feed and drink was £22.5bn in 2018. To compare 2018 exports with previous years, it is necessary to adjust for the effects of economic inflation. The real terms value of exports was £0.2bn or 0.9% higher in 2018 than 2017. The longer trend is of rising real terms export values. Since 2005 the real terms value of exports has risen by £9.8bn or 77%. This is a consequence of the combination of the relative strength of sterling, proactive responses to disease related issues, and an upward trend in world commodity prices.
4. The value of imports of food, feed and drink was £46.8bn in 2018. To compare 2018 imports with previous years it is necessary to adjust for the effects of economic inflation. The real terms value of imports was £0.1bn or 0.3% lower in 2018 than 2017. The longer trend is of rising real terms import values. Since 2005 the real terms value of imports has risen by £17bn or 56%.
5. The trade gap narrowed by 1.3% between 2017 and 2018, but has widened by 41% from £17.2bn in 2005 to £24.3bn in 2018 in real terms.
6. Looking at exports of specific food types, the largest percentage increase in real terms occurred in the sugar category which showed a rise of 12% to £452m, followed by exports of dairy and eggs which increased by 6.3% to £1.9bn. Exports of meat increased by 2.1% to £1.9bn and exports of fruit and vegetables increased by 1.6% to £1.3bn.
7. In real terms, imports of dairy & eggs increased by 3.5% to £3.4bn, and imports of cereals increased by 4.3% to £4.1bn between 2017 and 2018. Imports of meat fell by 0.6% to £6.8bn, and imports of fruit & vegetables also fell by 1.3% to £11.1bn. Imports of animal feed increased by 7.4% in real terms to £2.4bn.

Chart 13.1 Value of trade in food, feed and drink at 2018 prices

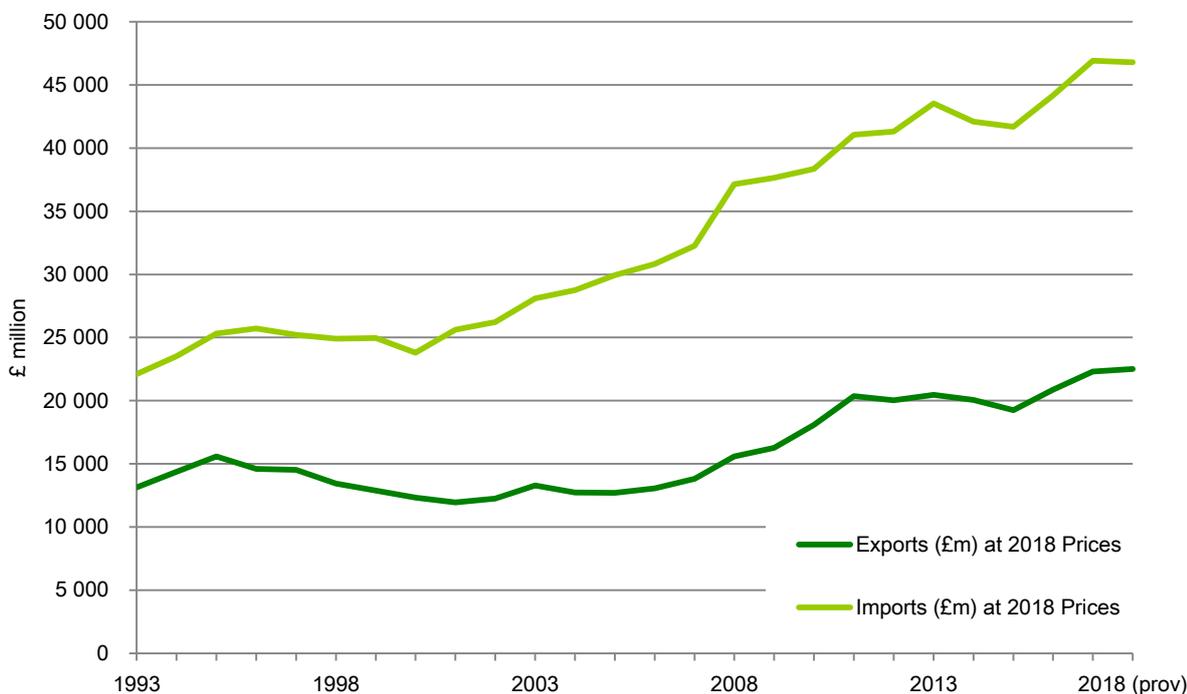


Table 13.1 Value of trade in food, feed and drink at 2018 prices

Enquiries: Leigh Riley on +44 (0)2080 266332

email: leigh.riley@defra.gov.uk

£ million		Calendar year									
SITC Division Code	Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (provisional)
Exports											
01	Meat & Meat Preps	1 433	1 601	1 878	1 747	1 806	1 775	1 541	1 635	1 840	1 878
02	Dairy & Eggs	971	1 184	1 398	1 289	1 491	1 597	1 362	1 433	1 780	1 891
03	Fish & Fish Preps	1 354	1 538	1 642	1 484	1 585	1 669	1 419	1 704	1 938	1 795
04	Cereals & Cereal Preps	2 059	2 209	2 276	2 141	2 021	2 067	2 233	2 384	2 157	2 143
05	Fruit and Veg & Preps	880	925	989	938	1 035	970	1 026	1 161	1 241	1 260
06	Sugar & Sugar Preps	525	503	427	420	405	434	399	402	404	452
07	Coffee, tea, etc.	1 027	1 153	1 223	1 267	1 335	1 308	1 311	1 420	1 512	1 542
08	Animal feed	679	739	790	901	1 011	958	963	1 165	1 384	1 186
09	Misc. edible preps	1 156	1 249	1 321	1 340	1 516	1 707	1 731	1 895	2 036	2 107
11	Beverages	5 719	6 399	7 616	7 510	7 525	6 921	6 698	7 099	7 414	7 642
22 + S4	Oils/fats & Oilseeds	460	590	793	988	740	652	560	568	611	620
Total		16 262	18 089	20 354	20 026	20 470	20 058	19 243	20 866	22 316	22 517
Imports											
01	Meat & Meat Preps	5 774	5 805	6 430	6 244	6 374	6 383	6 237	6 461	6 838	6 797
02	Dairy & Eggs	2 726	2 824	2 897	2 955	3 193	3 067	2 790	2 869	3 272	3 386
03	Fish & Fish Preps	2 527	2 577	2 871	2 838	2 990	2 917	2 835	3 191	3 254	3 183
04	Cereals & Cereal Preps	2 864	2 693	2 856	3 289	3 870	3 471	3 360	3 419	3 924	4 095
05	Fruit and Veg & Preps	8 369	8 713	9 072	9 066	9 755	9 337	9 688	10 729	11 264	11 112
06	Sugar & Sugar Preps	1 396	1 336	1 430	1 413	1 539	1 413	1 250	1 204	1 341	1 177
07	Coffee, tea, etc.	2 688	2 859	3 141	2 998	2 945	3 081	3 315	3 555	3 826	3 739
08	Animal feed	1 798	1 951	1 900	1 968	2 263	2 169	2 028	2 072	2 201	2 364
09	Misc. edible preps	2 540	2 449	2 727	2 791	2 945	2 965	3 169	3 338	3 213	3 270
11	Beverages	5 163	5 378	5 573	5 694	5 691	5 558	5 447	5 694	5 752	5 829
22+S4	Oils/fats & Oilseeds	1 798	1 774	2 161	2 073	1 986	1 733	1 575	1 633	2 048	1 862
Total		37 642	38 359	41 057	41 327	43 552	42 095	41 694	44 165	46 933	46 812

source: HMRC

Defra's aggregate 'Food, Feed and Drink' is composed of the following divisions from the Standard International Trade Classification:

1. Meat: meat from cattle, sheep, pigs, goats, poultry, horses etc.; preparations including blood, juices, sausages, livers, offal.
2. Dairy: includes milk (skimmed or otherwise), butter, buttermilk, cream, yoghurt, ice cream, whey, cheese and curd, all types of eggs both in and out of shell.
3. Fish: All types of edible marine life excluding mammals, fresh, frozen, processed, prepared or preserved.
4. Cereals: includes rice, wheat, barley, oats, maize, grain sorghum and preparations including sweet biscuits, waffles, gingerbread, and uncooked/unstuffed pasta.
5. Fruit and vegetables: includes fresh, frozen or prepared fruit (except crystallised) and vegetables, nuts (except groundnuts), vegetable and fruit juices of all kinds except wine (see division 11), jams, marmalades, fruit or nut puree/paste etc.
6. Sugar: includes both natural sugar and sugar confectionery (but not chocolate or cocoa), both natural and artificial honey, and liquorice.
7. Coffee, tea, etc.: includes all types of tea, coffee (e.g. green, decaffeinated), extracts and substitutes thereof; cocoa and chocolate (of all kinds): all kinds of spices.
8. Animal feed: includes hay, fodder, bran, sharps and other residues derived from cereals or leguminous plants, oil-cake and other solid residues, other residues, brewing dregs, all types of pet or animal food.
9. Miscellaneous: includes margarine, shortening, homogenised products or preparations not elsewhere specified, sauces, vinegar, soups, yeasts, cooked/stuffed pasta, food preparations for infant use.
11. Drink: includes alcoholic drinks of all kinds; also natural or artificial mineral and aerated waters sweetened or otherwise.
22. 22+S4 Oils: includes groundnuts (peanuts), soya beans, sunflower seeds, rape seeds, palm nuts, linseed, poppy seeds etc., lard, pig fat, olive oil, rape oil, corn oil, linseed oil, beeswax etc.

Division 00, which covers all live animals, is excluded from the aggregate 'Food, Feed and Drink' because it includes non-food animals, particularly race horses. S4 stands for Section 4 in the SITC and covers animal and vegetable oils, fats and waxes.

Trading partners (tables 13.1a and 13.1b, and charts 13.2 and 13.3)

Table 13.1a Value of trade in food, feed and drink with EU countries at 2018 prices

Enquiries: Leigh Riley on +44 (0)2080 266332

email: leigh.riley@defra.gov.uk

£ million		Calendar year									
SITC Division		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Code	Type	(provisional)									
Exports											
01	Meat & Meat Preps	1 332	1 457	1 665	1 527	1 558	1 483	1 297	1 317	1 484	1 520
02	Dairy & Eggs	826	964	1 164	1 030	1 174	1 215	1 007	1 028	1 333	1 478
03	Fish & Fish Preps	1 044	1 155	1 183	1 035	1 055	1 080	975	1 210	1 357	1 278
04	Cereals & Cereal Preps	1 627	1 696	1 764	1 545	1 427	1 421	1 501	1 640	1 487	1 524
05	Fruit and Veg & Preps	677	701	724	663	756	693	746	859	960	987
06	Sugar & Sugar Preps	416	317	282	311	294	329	296	307	307	331
07	Coffee, tea, etc.	714	805	860	882	941	931	937	1 031	1 096	1 120
08	Animal feed	543	584	595	706	777	718	651	690	754	829
09	Misc. edible preps	792	799	841	864	1 001	1 122	1 161	1 279	1 367	1 384
11	Beverages	2 685	2 907	3 173	2 898	2 910	2 654	2 514	2 677	2 835	2 873
22 + S4	Oils/fats & Oilseeds	402	518	690	910	640	574	477	460	519	538
Total		11 057	11 904	12 940	12 370	12 533	12 219	11 562	12 496	13 499	13 861
Imports											
01	Meat & Meat Preps	4 465	4 461	4 999	4 962	5 047	4 997	4 907	5 217	5 642	5 592
02	Dairy & Eggs	2 643	2 761	2 845	2 908	3 147	3 007	2 749	2 827	3 244	3 341
03	Fish & Fish Preps	748	799	901	883	921	905	892	1 081	1 106	1 081
04	Cereals & Cereal Preps	2 299	2 165	2 262	2 698	3 171	2 749	2 742	2 813	3 105	3 299
05	Fruit and Veg & Preps	5 316	5 489	5 690	5 744	6 266	5 980	6 087	6 719	7 026	7 021
06	Sugar & Sugar Preps	692	759	802	872	940	906	823	773	908	812
07	Coffee, tea, etc.	1 653	1 748	1 851	1 818	1 917	2 128	2 200	2 316	2 601	2 556
08	Animal feed	992	1 061	1 050	1 103	1 331	1 330	1 237	1 203	1 288	1 325
09	Misc. edible preps	2 168	2 062	2 313	2 391	2 522	2 523	2 696	2 793	2 633	2 661
11	Beverages	3 691	3 847	4 145	4 296	4 299	4 186	4 032	4 278	4 192	4 213
22+S4	Oils/fats & Oilseeds	1 001	953	1 198	1 104	1 150	952	871	901	1 133	1 044
Total		25 667	26 106	28 056	28 778	30 709	29 662	29 237	30 920	32 878	32 946

source: HMRC

Defra's aggregate 'Food, Feed and Drink' is composed of the following divisions from the Standard International Trade Classification:

1. Meat: meat from cattle, sheep, pigs, goats, poultry, horses etc.; preparations including blood, juices, sausages, livers, offal.
2. Dairy: includes milk (skimmed or otherwise), butter, buttermilk, cream, yoghurt, ice cream, whey, cheese and curd, all types of eggs both in and out of shell.
3. Fish: All types of edible marine life excluding mammals, fresh, frozen, processed, prepared or preserved.
4. Cereals: includes rice, wheat, barley, oats, maize, grain sorghum and preparations including sweet biscuits, waffles, gingerbread, and uncooked/unstuffed pasta.
5. Fruit and vegetables: includes fresh, frozen or prepared fruit (except crystallised) and vegetables, nuts (except groundnuts), vegetable and fruit juices of all kinds except wine (see division 11), jams, marmalades, fruit or nut puree/paste etc.
6. Sugar: includes both natural sugar and sugar confectionery (but not chocolate or cocoa), both natural and artificial honey, and liquorice.
7. Coffee, tea, etc.: includes all types of tea, coffee (e.g. green, decaffeinated), extracts and substitutes thereof; cocoa and chocolate (of all kinds): all kinds of spices.
8. Animal feed: includes hay, fodder, bran, sharps and other residues derived from cereals or leguminous plants, oil-cake and other solid residues, other residues, brewing dregs, all types of pet or animal food.
9. Miscellaneous: includes margarine, shortening, homogenised products or preparations not elsewhere specified, sauces, vinegar, soups, yeasts, cooked/stuffed pasta, food preparations for infant use.
11. Drink: includes alcoholic drinks of all kinds; also natural or artificial mineral and aerated waters sweetened or otherwise.
22. 22+S4 Oils: includes groundnuts (peanuts), soya beans, sunflower seeds, rape seeds, palm nuts, linseed, poppy seeds etc., lard, pig fat, olive oil, rape oil, corn oil, linseed oil, beeswax etc.

Division 00, which covers all live animals, is excluded from the aggregate 'Food, Feed and Drink' because it includes non-food animals, particularly race horses. S4 stands for Section 4 in the SITC and covers animal and vegetable oils, fats and waxes.

Table 13.1b Value of trade in food, feed and drink with non-EU countries at 2018 prices

Enquiries: Leigh Riley on +44 (0)2080 266332

email: leigh.riley@defra.gov.uk

£ million		Calendar year									
SITC Division Code	Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (provisional)
Exports											
01	Meat & Meat Preps	102	143	214	220	248	293	244	319	356	358
02	Dairy & Eggs	145	220	234	259	317	382	354	405	447	414
03	Fish & Fish Preps	310	383	459	450	530	588	444	495	580	516
04	Cereals & Cereal Preps	432	512	512	595	593	646	732	744	670	620
05	Fruit and Veg & Preps	203	224	265	275	279	277	280	303	281	274
06	Sugar & Sugar Preps	109	185	145	110	112	106	102	94	97	121
07	Coffee, tea, etc.	313	348	363	385	394	377	374	389	417	422
08	Animal feed	135	155	195	196	234	240	312	475	631	357
09	Misc. edible preps	364	450	479	475	516	586	570	616	668	723
11	Beverages	3 034	3 491	4 443	4 612	4 615	4 267	4 184	4 422	4 580	4 769
22 + S4	Oils/fats & Oilseeds	58	73	103	79	100	79	83	108	92	82
Total		5 205	6 185	7 414	7 656	7 937	7 840	7 681	8 370	8 818	8 655
Imports											
01	Meat & Meat Preps	1 309	1 344	1 431	1 282	1 328	1 386	1 329	1 244	1 197	1 205
02	Dairy & Eggs	83	63	52	47	46	60	42	42	28	45
03	Fish & Fish Preps	1 779	1 778	1 970	1 955	2 070	2 013	1 943	2 110	2 148	2 102
04	Cereals & Cereal Preps	565	528	593	591	699	722	618	606	820	795
05	Fruit and Veg & Preps	3 053	3 224	3 381	3 321	3 489	3 357	3 600	4 010	4 238	4 091
06	Sugar & Sugar Preps	703	576	629	541	599	506	427	431	434	365
07	Coffee, tea, etc.	1 035	1 111	1 290	1 180	1 028	954	1 115	1 240	1 225	1 183
08	Animal feed	806	890	850	865	931	840	792	869	913	1 039
09	Misc. edible preps	372	387	414	400	423	442	473	545	580	608
11	Beverages	1 472	1 531	1 428	1 398	1 392	1 372	1 415	1 416	1 560	1 616
22+S4	Oils/fats & Oilseeds	797	821	963	969	836	782	704	732	914	817
Total		11 974	12 253	13 001	12 549	12 842	12 433	12 457	13 245	14 056	13 866

source: HMRC

Defra's aggregate 'Food, Feed and Drink' is composed of the following divisions from the Standard International Trade Classification:

1. Meat: meat from cattle, sheep, pigs, goats, poultry, horses etc.; preparations including blood, juices, sausages, livers, offal.
2. Dairy: includes milk (skimmed or otherwise), butter, buttermilk, cream, yoghurt, ice cream, whey, cheese and curd, all types of eggs both in and out of shell.
3. Fish: All types of edible marine life excluding mammals, fresh, frozen, processed, prepared or preserved.
4. Cereals: includes rice, wheat, barley, oats, maize, grain sorghum and preparations including sweet biscuits, waffles, gingerbread, and uncooked/unstuffed pasta.
5. Fruit and vegetables: includes fresh, frozen or prepared fruit (except crystallised) and vegetables, nuts (except groundnuts), vegetable and fruit juices of all kinds except wine (see division 11), jams, marmalades, fruit or nut puree/paste etc.
6. Sugar: includes both natural sugar and sugar confectionery (but not chocolate or cocoa), both natural and artificial honey, and liquorice.
7. Coffee, tea, etc.: includes all types of tea, coffee (e.g. green, decaffeinated), extracts and substitutes thereof; cocoa and chocolate (of all kinds): all kinds of spices.
8. Animal feed: includes hay, fodder, bran, sharps and other residues derived from cereals or leguminous plants, oil-cake and other solid residues, other residues, brewing dregs, all types of pet or animal food.
9. Miscellaneous: includes margarine, shortening, homogenised products or preparations not elsewhere specified, sauces, vinegar, soups, yeasts, cooked/stuffed pasta, food preparations for infant use.
11. Drink: includes alcoholic drinks of all kinds; also natural or artificial mineral and aerated waters sweetened or otherwise.
22. 22+S4 Oils: includes groundnuts (peanuts), soya beans, sunflower seeds, rape seeds, palm nuts, linseed, poppy seeds etc., lard, pig fat, olive oil, rape oil, corn oil, linseed oil, beeswax etc.

Division 00, which covers all live animals, is excluded from the aggregate 'Food, Feed and Drink' because it includes non-food animals, particularly race horses. S4 stands for Section 4 in the SITC and covers animal and vegetable oils, fats and waxes.

8. In 2018, 62% of UK food, feed and drink (FFD) exports were to countries in the European Union (EU). In comparison, 38% of UK FFD exports were to non-EU countries. 70% of UK FFD imports during the same period were from the EU, while only 30% of FFD imports into the UK were from non-EU countries.
9. Principal UK export destinations of food, feed and drink to the European Union in 2018 were the Irish Republic (£4.1bn, +10%), France (£2.2bn, -3.0%), Netherlands (£1.6bn, +7.6%) and Germany (£1.4bn, +1.9%). The principal European Union countries which exported food, feed and drink to the United Kingdom in 2018 were the Netherlands (£5.5bn, +0.3%), Irish Republic (£4.5bn, +4.9%), France (£4.4bn, -0.8%) and Germany (£4.3bn, -1.3%).
10. Principal non-EU destinations of UK food, feed and drink exports in 2018 were the USA (£2.2bn, -2.2%) and China (£622m, +10%), while the main non-EU country which imported food, feed and drink items into the United Kingdom in 2018 was the USA (£1.5bn, +5.2%).

Chart 13.2 Exports of food, feed and drink by country of destination 2018

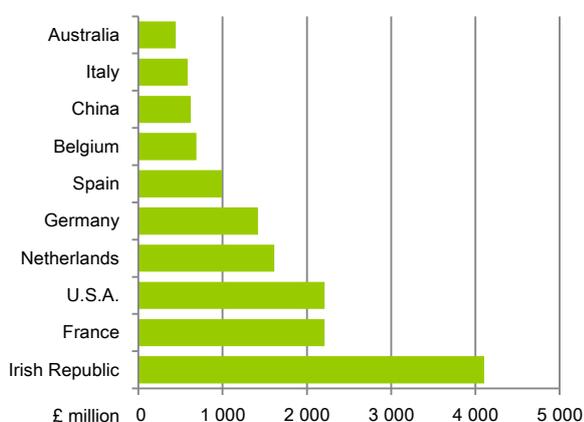
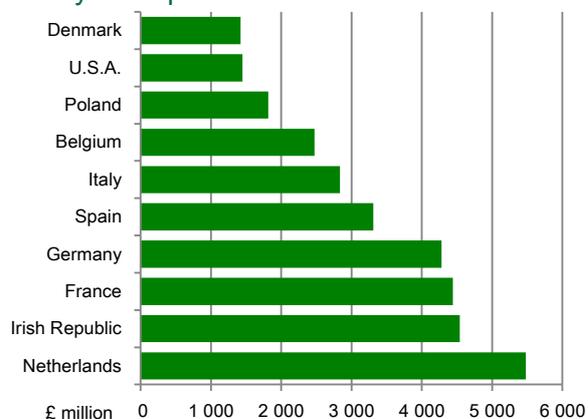


Chart 13.3 Imports of food, feed and drink by country of dispatch 2018



Exports and imports by degree of processing (charts 13.4 and 13.5)

11. Trade in food, feed and drink covers a wide range of products from raw agricultural commodities through lightly processed foods such as meat, cheese and butter, powdered milk, flour and sugar to highly processed products such as confectionery, canned meats, jams, alcoholic drinks and ice cream. By grouping foods into unprocessed, lightly processed and highly processed, additional insights in trading patterns can be found.
12. Exports of highly processed foods such as confectionery, canned meats, jams, alcoholic drinks and ice cream, increased by 45% in real term value between 2009 and 2018.
13. Exports of lightly processed food and drink, i.e. goods that retain their raw recognisable form, such as meat, cheese, butter and oils & fats rose by 31% in real term value between 2009 and 2018.
14. Exports of unprocessed commodities, such as fresh fruit & vegetables, nuts, unmilled cereal and eggs increased by 25% in real term value between 2009 and 2018.
15. Imports of highly processed foods increased by 30% in real term value between 2009 and 2018.
16. Imports of lightly processed food and drink increased by 18% in real term value between 2009 and 2018.
17. Imports of unprocessed commodities increased by 29% in real term value between 2009 and 2018.

Chart 13.4 Exports in food, feed and drink by degree of processing at 2018 prices

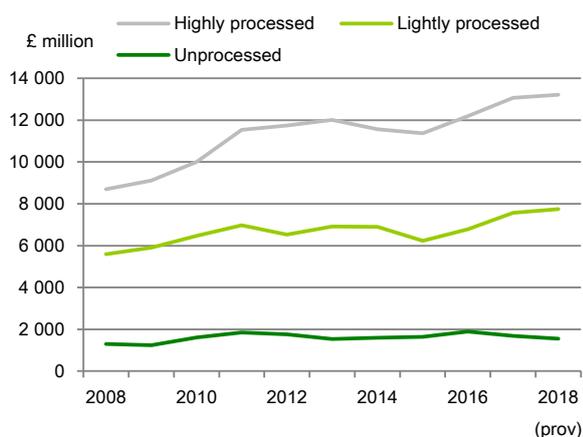
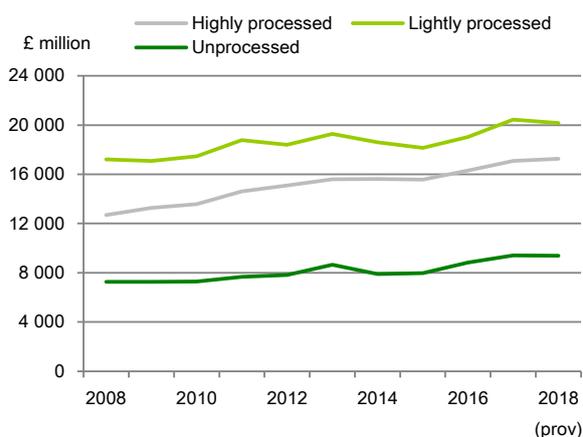


Chart 13.5 Imports in food, feed and drink by degree of processing at 2018 prices



Value and volume of trade in key commodities (tables 13.2 and 13.3)

18. The value of exports across a range of different commodities has broadly increased year on year in recent times. However, in 2014 and 2015, commodity prices for many sectors fell, due to a slowdown of global economic markets and the effect of exchange rates. Subsequent years have seen a return to export growth in most of the main product groups.
19. The value of exports of whisky, which represents the highest valued individual food, feed and drink item, increased by 6.0% in real terms to £4.8bn in 2018. It is 20% higher than in 2010 in real terms. Exports of salmon fell by 13% to £636m as a result of a smaller domestic harvest and strong competition on the global market from Chile. The value of exports of unmilled wheat fell by 40% in real terms to £63 million in 2018, as a result of limited domestic supply and competition from other markets. Exports of cheese grew by 8.0% in real terms to £676 million as a result of strong global demand for UK dairy products.
20. Imports of fresh fruit and fresh vegetables fell by 1.4% in real terms to £6.3bn. Despite the slight fall, the range, quality and consumer awareness of healthy eating options remains high. The value of

imports across a range of different commodities was broadly similar to 2017. Imports of unmilled wheat increased by 30% in real terms to £454m in reaction to tight domestic supplies.

21. The value of wine imports in 2018, a high value commodity, increased by 0.4% in real terms on 2017, to £3.3bn, whereas the value of wine exported from the UK increased by 8.3% in real terms to £618m.
22. The overall volume of exports of food, feed and drink in 2018 increased by 1.8% to 13.7 billion tonnes, which is in line with usual export volumes. There is a gradual long term trend for the volume of exports to increase, and in 2018 it was 7.0% higher than in 2009. Import volumes have also been increasing over recent years, and the volume of imports of 42.1 billion tonnes in 2018 was 26% higher than 2009.
23. The food, feed and drink Index provides a comparison of trade which accounts for the value density of different food groups. For example, high value per tonne exports (e.g. whisky) are given more weight in this indicator than low value per tonne exports (e.g. wheat and barley). According to the index, food, feed and drink exports in 2018 increased by 3.6% on the previous year, while imports increased by 1.3%.

Table 13.2 Trade in key commodities in real terms at 2018 prices

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£ million		Calendar year									
Commodity	Flow	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (provisional)
Whisky	Imports	140	144	146	145	178	210	237	177	229	218
	Exports	3 725	4 024	4 840	4 817	4 737	4 317	4 183	4 259	4 549	4 820
Wine	Imports	3 197	3 366	3 409	3 551	3 468	3 299	3 193	3 182	3 273	3 287
	Exports	377	489	610	490	485	489	474	506	571	618
Cheese	Imports	1 377	1 398	1 423	1 451	1 572	1 551	1 381	1 409	1 592	1 685
	Exports	329	389	454	450	480	499	476	519	626	676
Poultry meat	Imports	992	1 088	1 211	1 072	1 079	1 129	1 135	1 203	1 196	1 280
	Exports	268	298	344	316	371	325	259	260	285	300
Poultry meat products	Imports	729	785	895	886	920	947	970	1 006	1 075	1 081
	Exports	141	144	161	151	137	144	123	113	126	139
Beef and veal	Imports	834	880	963	957	1 034	1 046	1 094	1 057	1 091	1 168
	Exports	299	379	491	429	404	399	363	384	412	435
Wheat, unmilled	Imports	298	229	254	443	717	369	279	253	348	454
	Exports	354	519	462	299	93	175	281	398	105	63
Lamb and mutton	Imports	443	437	462	407	415	434	416	359	375	373
	Exports	367	366	419	389	416	405	320	340	392	367
Pork	Imports	738	750	812	761	802	745	650	808	959	852
	Exports	134	170	192	209	236	223	209	262	299	292
Breakfast cereals	Imports	210	196	207	207	200	207	242	265	279	299
	Exports	480	419	428	398	407	386	391	401	436	482
Milk and cream	Imports	88	117	134	129	154	144	123	109	150	167
	Exports	227	282	333	279	280	280	205	206	329	345
Bacon and ham	Imports	889	821	759	716	699	641	569	574	570	544
	Exports	60	51	67	41	42	41	40	43	54	62
Butter	Imports	278	327	359	332	345	287	278	290	370	361
	Exports	66	92	144	112	158	158	122	163	227	275
Eggs and egg products	Imports	178	159	146	209	195	186	202	180	178	172
	Exports	53	53	54	66	97	103	103	66	84	98
Fresh vegetables	Imports	1 992	2 163	2 100	2 060	2 261	2 150	2 220	2 406	2 446	2 482
	Exports	76	85	81	79	77	85	102	113	112	130
Fresh fruit	Imports	2 830	2 871	2 974	2 985	3 178	3 074	3 261	3 762	3 908	3 784
	Exports	110	116	112	89	118	83	102	117	153	156
Salmon (inc. smoked)	Imports	229	256	283	279	374	392	348	496	503	507
	Exports	337	447	543	488	622	658	519	600	733	636

Source: HMRC

Whisky	includes bourbon, scotch (malted and blended) and other whiskies.
Wine	includes grape must, vermouth and wine of fresh grapes (sparkling and still).
Cheese	includes grated or powdered, processed, blue-veined and fresh (e.g. curd).
Poultrymeat (inc. poultry offal)	includes carcase meat, cuts and offal (inc. liver).
Poultry meat products	includes prepared, preserved, salted or cooked poultrymeat and offal (inc. liver).
Beef and veal	includes carcase meat and cuts, both bone-in and boneless.
Wheat, unmilled	includes durum, other wheat (inc. spelt) and meslin.
Lamb and mutton	includes carcase meat and cuts, both bone-in and boneless.
Pork	includes carcase meat and cuts, both bone-in and boneless.
Breakfast cereals	includes cereal grains worked or prepared for breakfast cereals
Milk and cream	includes milk (inc. skimmed milk) and cream, not concentrated or sweetened.
Fresh vegetables	excludes potatoes, dried legumes and processed vegetables.
Fresh fruit	excludes jams, juices, dried and processed fruit.
Salmon (inc. smoked)	includes fresh, chilled, frozen or smoked, but not canned

Note: Definitions of 'fresh vegetables' and 'fresh fruit' used have been revised in 2009 to be consistent with those used for AUK Chapter 5.

Table 13.3 Trade in key commodities by volume

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Thousand tonnes (unless otherwise specified)		Calendar year									
Commodity	Flow	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (provisional)
Whisky (million litres pure alcohol)	Imports	16	16	16	15	23	29	23	16	21	20
	Exports	311	305	361	345	353	344	333	352	363	374
Wine (million litres)	Imports	1 295	1 365	1 371	1 326	1 318	1 425	1 444	1 427	1 388	1 414
	Exports	58	90	88	80	95	104	97	81	99	121
Cheese	Imports	419	436	414	444	468	469	494	490	494	517
	Exports	105	113	124	126	125	134	152	164	171	190
Poultry meat	Imports	340	381	412	394	398	423	453	492	474	489
	Exports	258	270	295	297	350	356	305	304	352	373
Poultry meat products	Imports	241	255	279	292	291	306	337	363	372	376
	Exports	38	38	46	46	42	49	45	39	49	54
Beef and veal	Imports	231	238	235	236	241	255	269	264	274	290
	Exports	83	110	144	120	105	112	100	110	106	110
Wheat, unmilled	Imports	1 390	1 111	902	1 785	2 965	1 824	1 582	1 482	1 893	2 490
	Exports	2 533	3 335	2 287	1 503	448	1 143	2 002	2 935	646	358
Lamb and mutton	Imports	116	101	88	86	98	93	93	90	80	78
	Exports	96	89	96	95	104	102	79	78	90	83
Pork	Imports	360	363	373	349	352	358	371	439	466	457
	Exports	104	131	144	154	181	182	187	206	216	218
Breakfast cereals	Imports	110	105	108	102	98	108	135	139	136	148
	Exports	171	158	161	150	146	147	156	152	164	186
Milk and cream	Imports	158	193	215	194	245	221	206	150	267	266
	Exports	539	561	648	617	574	654	665	646	850	881
Bacon and ham	Imports	323	313	280	258	250	256	251	243	220	215
	Exports	21	24	34	15	13	14	16	16	19	21
Butter	Imports	96	102	100	104	106	95	106	99	91	84
	Exports	27	27	36	38	45	51	50	65	55	62
Eggs and egg products	Imports	90	75	68	100	95	99	107	100	97	89
	Exports	23	24	17	18	28	21	18	17	23	54
Fresh vegetables	Imports	1 823	1 871	1 975	2 049	2 225	2 179	2 256	2 369	2 184	2 295
	Exports	78	95	89	85	80	119	153	155	129	145
Fresh fruit	Imports	3 175	3 229	3 347	3 408	3 544	3 590	3 685	3 847	3 984	3 741
	Exports	153	142	149	109	143	102	128	140	174	157
Salmon (inc. smoked)	Imports	53	50	57	63	69	74	68	81	74	75
	Exports	71	83	96	100	111	123	112	105	116	100
Food, feed and drink Index, 2009=100	Imports	100	101	103	106	111	111	114	118	120	122
	Exports	100	107	112	112	117	116	116	120	123	127

Source: HMRC

Whisky	includes bourbon, scotch (malted and blended) and other whiskies.
Wine	includes grape must, vermouth and wine of fresh grapes (sparkling and still).
Cheese	includes grated or powdered, processed, blue-veined and fresh (e.g. curd).
Poultrymeat (inc. poultry offal)	includes carcase meat, cuts and offal (inc. liver).
Poultry meat products	includes prepared, preserved, salted or cooked poultrymeat and offal (inc. liver).
Beef and veal	includes carcase meat and cuts, both bone-in and boneless.
Wheat, unmilled	includes durum, other wheat (inc. spelt) and meslin.
Lamb and mutton	includes carcase meat and cuts, both bone-in and boneless.
Pork	includes carcase meat and cuts, both bone-in and boneless.
Breakfast cereals	includes cereal grains worked or prepared for breakfast cereals
Milk and cream	includes milk (inc. skimmed milk) and cream, not concentrated or sweetened.
Fresh vegetables	excludes potatoes, dried legumes and processed vegetables.
Fresh fruit	excludes jams, juices, dried and processed fruit.
Salmon (inc. smoked)	includes fresh, chilled, frozen or smoked, but not canned

Note: Definitions of 'fresh vegetables' and 'fresh fruit' used have been revised in 2009 to be consistent with those used for AUK Chapter 5.

Chapter 14 The Food Chain

Summary

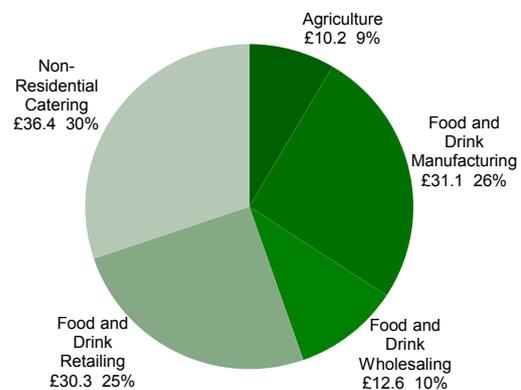
- In 2017 the agri-food sector in the United Kingdom accounted for a total estimated Gross Value Added (GVA) of £121 billion or 6.6% of national GVA, up from 6.4% in 2016. The catering sector increased 12%, followed by manufacturing at 5.7%.
- Employment in the agri-food sector rose 1.8% over the 12 month period to the fourth quarter of 2018 to around 4 million. The largest increase was in manufacturing, rising by 9,500 employees (2.3%).
- Total factor productivity of the UK food chain beyond the farmgate has risen by 1.5% between 2016 and 2017. Productivity in the wider economy has fallen in 2017 by 0.2%. Benchmarking against a wider economy measure shows that the average annual growth in the food chain between 2007 and 2017 was 0.4% compared to 0.2% in the wider economy.
- Excluding the effect of price rises, consumers' expenditure increased 0.7% in 2018 and was 7.2% higher than in 2008. Expenditure on food eaten out decreased 0.7% in 2018, whilst expenditure on household food increased 1.5%.

Contribution of the agri-food sector to the national economy (chart 14.1, table 14.1)

1. In 2017, the agri-food sector contributed £121 billion to the economy, around 6.6% of the national GVA. Within this, manufacturing, retailing and non-residential catering accounted for over one quarter each. Food wholesaling covers 10% of the sector and agriculture made the smallest contribution at 8.5%.
2. In 2017 while all sectors increased their productivity, catering saw the highest increase of 12 per cent while wholesaling saw the lowest increase, of 2.1 per cent.

Between 2007 and 2017, the average annual growth rate of the food chain was 0.4% whereas the wider economy's average annual growth rate was 0.2%.

Chart 14.1 Gross Value Added of the agri-food sector, 2017 (£ billion)



Source: Annual Business Survey (ONS) and Aggregate Agricultural Accounts (Defra).

Table 14.1 Agri-food sector contribution to the national economy

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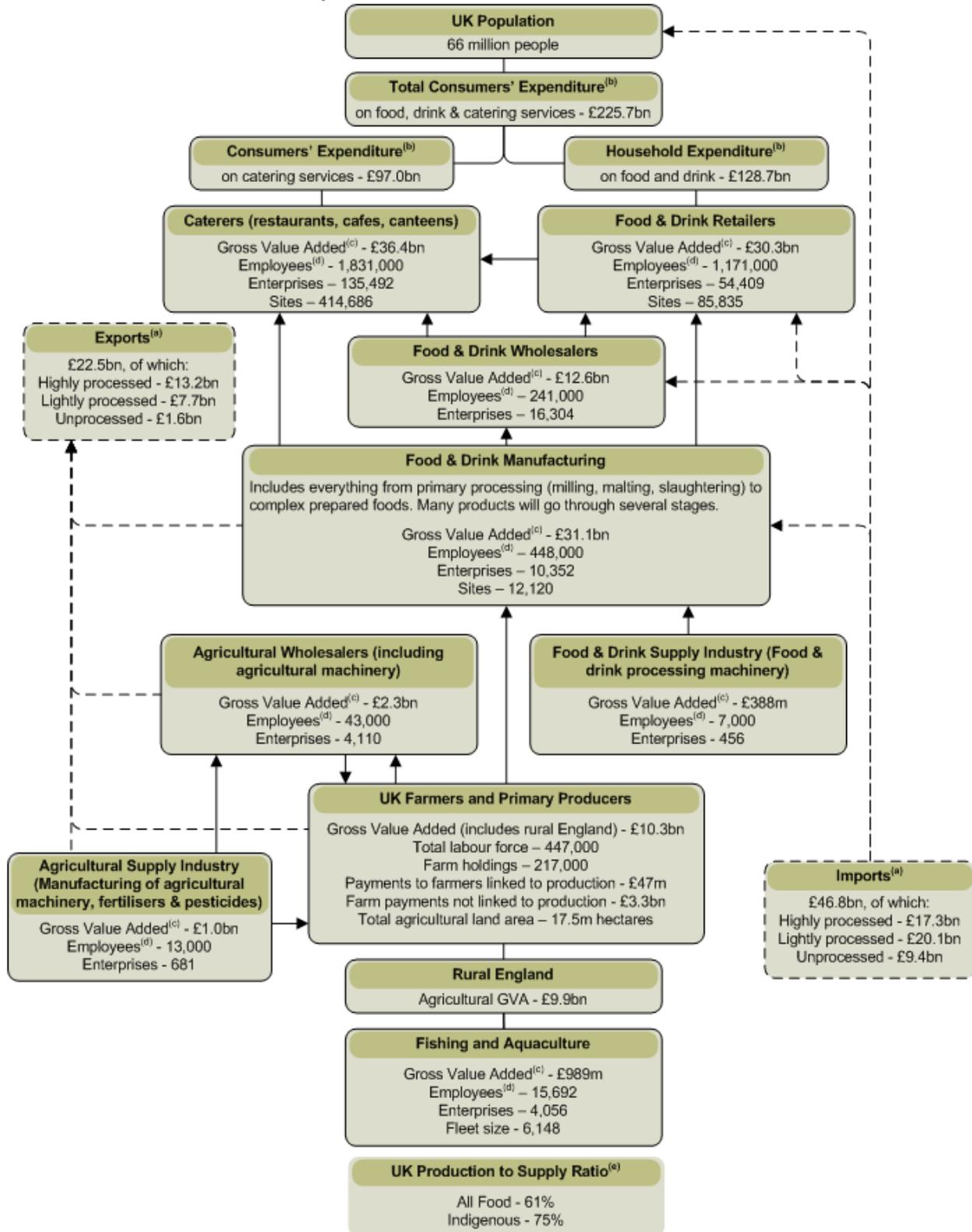
£ million (unless otherwise specified)		2013	2014	2015	2016	2017	2018 (provisional)
Agri-food sector's contribution to total economy gross value added							
at current prices	Agriculture	9 400	9 836	8 792	8 306	10 212	9 586
	Food Manufacturing	27 314	27 336	28 509	29 415	31 081	..
	Food Wholesaling	9 957	11 885	11 523	12 322	12 586	..
	Food Retailing	31 857	30 257	30 798	29 440	30 340	..
	Food Non-Residential Catering	27 003	28 878	31 270	32 661	36 431	..
% of national gross value added (current prices)		6.7	6.6	6.6	6.4	6.6	..
Workforce in the food sector (thousand persons)							
	Agriculture	420	425	428	421	424	426
	Food Manufacturing	372	382	393	400	409	418
	Food Wholesaling	221	227	217	236	240	249
	Food Retailing	1 159	1 178	1 169	1 121	1 128	1 136
	Food Non-Residential Catering	1 498	1 581	1 622	1 681	1 736	1 779
% of total workforce in employment		13.5	13.6	13.4	13.3	13.4	13.5
Trade in food, feed and drink (in real terms at 2017 prices)							
Imports of food, feed and drink		43 552	42 095	41 694	44 165	46 933	46 812
% of total UK imports		9.5%	9.4%	9.5%	9.0%	9.3%	9.3%
Exports of food, feed and drink		20 470	20 058	19 243	20 866	22 316	22 517
% of total UK exports		5.4%	6.1%	5.9%	6.6%	6.4%	6.2%
UK Food Production to Supply Ratio ('Self-Sufficiency')							
% of all food		60	62	61	60	60	61
% of indigenous type food		73	76	76	76	75	75
Household final consumption expenditure on food and alcoholic drinks							
at current prices		194 431	198 505	201 140	206 709	219 305	225 197
of which:	household food	96 461	97 568	97 457	98 813	103 842	107 500
	food eaten out	51 298	52 919	54 290	56 596	60 542	61 233
	alcoholic drinks	46 672	48 018	49 393	51 300	54 921	56 464
at constant 2010 prices (£ million)		195 541	197 283	200 715	206 709	213 743	215 176
of which:	household food	91 490	92 768	95 127	98 813	101 434	102 963
	food eaten out	54 881	55 041	55 426	56 596	58 930	58 513
	alcoholic drinks	49 170	49 474	50 162	51 300	53 379	53 700
% of total household final consumption expenditure		17.7	17.4	17.1	16.7	17.1	16.8
of which:	household food	8.8	8.5	8.3	8.0	8.1	8.0
	food eaten out	4.7	4.6	4.6	4.6	4.7	4.6
	alcoholic drinks	4.3	4.2	4.2	4.2	4.3	4.2
Producer prices for agricultural products (2015 = 100)		119.9	109.3	100.0	99.8	110.8	114.8
Consumer price index (2015 = 100):							
	food	103.0	102.6	100.0	97.7	100.1	101.9
	alcoholic drinks	102.3	102.4	100.0	97.0	99.3	100.0
	all items	98.7	100.0	100.0	100.7	103.6	106.1

Sources: Annual Business Survey (ONS), Aggregate Agricultural Accounts (Defra), Labour Force Survey GB (ONS), Overseas Trade Statistics (HMRC), Consumer Price Indices (ONS).

- means 'nil' or 'negligible' (less than half the last digit shown).

.. means 'not available' or 'not applicable'.

Chart 14.2: Economic summary of the Food Chain



(a) Overseas trade data is provisional for full year 2018 from HM Revenue and Customs. (Data may not equal total due to rounding). Dashed lines indicate main trade flows.

(b) Consumers' expenditure, properly known as household final consumption expenditure, is provisional from the Office for National Statistics for full year 2018 and is calculated at current prices. (Data may not equal total due to rounding).

(c) Gross value added (GVA) is the difference between the value of goods and services produced and the cost of raw materials and other inputs used up in production. GVA figures are from the Annual Business Survey and are provisional data for full year 2017, which is calculated at basic prices (market prices less taxes plus subsidies).

(d) Data is the annual average taken from quarterly 2017 figures provided by the Office for National Statistics. Agricultural wholesaling includes an estimate of employment of wholesalers of agricultural machinery from the Annual Business Survey. (Employee data is rounded.)

(e) UK Production to Supply Ratio (formerly known as the "Self-Sufficiency" Ratio). The UK sources food from diverse stable countries and imports can make up for domestic supply shortages.

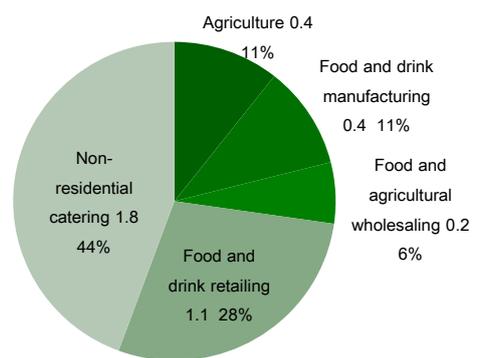
The food chain (chart 14.2)

- In 2018, the food supply chain in the United Kingdom as a whole received £226 billion, which came from spending by consumers in the United Kingdom, plus exports, less imports of agricultural commodities and processed food and drink products (assuming that imports and exports directly to and from consumers are negligible). Chart 14.2 shows the largest elements of the food chain from agriculture as a primary producer through food manufacturing and retail trade to consumers' expenditure.

Agri-food sector employees and self-employed farmers (chart 14.3)

- In the fourth quarter of 2018, the agri-food sector employed 4.01 million people, or 14% of all employees in Great Britain. This proportion has been broadly the same since 2001. Agriculture accounts for less than half a million employees or 11% of the agri-food sector (chart 14.3).

Chart 14.3 Agri-food sector employees and self-employed farmers (millions)



- In the twelve months to December 2018, employment in the agri-food sector increased by 1.8%. Employment in all sectors rose in 2018. Agriculture rose by just 0.6% and retailing by 0.8%, while manufacturing rose by 2.3%, catering by 2.5% and wholesaling by 3.6%.

Employment across the whole economy increased 0.7% over the same period.

Source: Labour Market Trends (ONS) and June Survey of Agricultural and Horticultural Holdings (Defra).

- Employment in the agri-food sector has risen 11% since 2000. Changes in the proportions of each of the sectors since that time show that employment in agriculture and manufacturing reduced by 24% and 13% respectively, while non-residential catering, wholesaling and retailing increased by 41%, 13% and 4.3% respectively.

Food manufacturing

- GVA in the food manufacturing sector increased 5.7% in 2017. Food manufacturing productivity increased by 0.3% and in the last 10 years has shown an average annual increase of 0.4%.

Food wholesaling

- GVA in the food wholesaling sector rose by 2.1% in 2017. At £12.6 billion in 2017, it is 126% higher than in 2000. Food and drink wholesale productivity increased by 1.8% in 2017 and in the last 10 years has shown an average annual increase of 0.6%.

Food retailing

- Food retailing GVA was £30.3 billion in 2017, 3.1% up on 2016. Food retail productivity in 2017 increased by 1.4% and in the last 10 years has shown an average annual increase of 0.2%.

Non-residential catering

- In 2017 GVA increased 12% to £36.4 billion. Non-residential catering (NRC) showed a fall in productivity of 2.3% in 2017. Productivity of NRC was at its strongest prior to the recession, then dipped to its lowest level in 2009, but since the recession has seen an increase. This sector would have been affected strongly by the recession that started in 2008 and lasted through most of 2009. Challenging economic conditions make it difficult for companies to make proportionate savings across

all inputs, especially with labour being a relatively high component. Consumers find it easier to cut on this form of spending on food. During periods of economic downturn it is likely that consumers will make savings through eating out less and switching to home cooking.

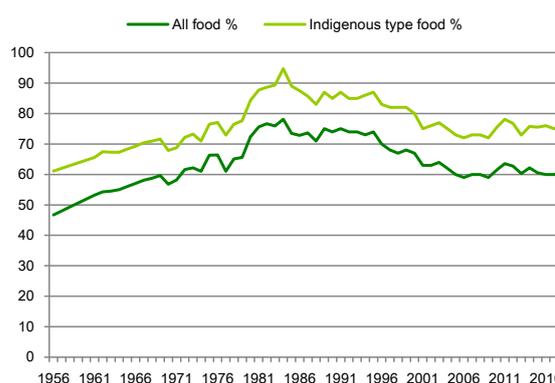
Trade in food, feed and drink (table 14.1)

11. In 2018, the value of food, feed and drink exports was £22.5 billion, an increase of 0.9% on 2017. In 2018 the value of food, feed and drink imports decreased by 0.3% to £46.8 billion in real terms, resulting in the trade gap in food, feed and drink of £24.3 billion in real terms, a reduction of 1.3% since 2017. See Chapter 13 for more detail on overseas trade.

Food production to supply ratio (chart 14.4)

12. Food Production to Supply Ratio (commonly referred to as the “Self Sufficiency Ratio”), is calculated as the farmgate value of raw food production divided by the value of raw food for human consumption, and is estimated to be 61% for all food in 2018 and 75% for indigenous type food. This compares with 60% and 75% respectively in 2017. The overall farm gate value of United Kingdom food production was unchanged when compared to 2017.

Chart 14.4 Food production to supply ratio



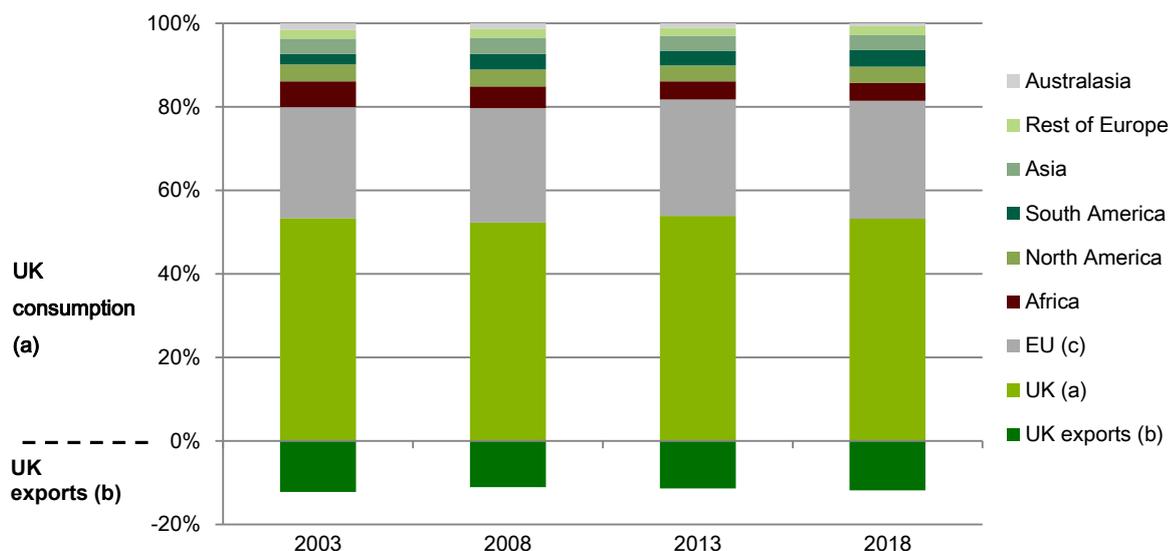
Distinction between competitiveness and food security

13. The food production to supply ratio provides a very broad indicator of the ability of United Kingdom agriculture to meet consumer demand - also described as competitiveness. The ratio is not an appropriate measure of “food security” since it fails to account for many dimensions of this complex issue.
14. A detailed analysis is given in the Defra publication [‘UK Food Security Assessment’](#).
15. The key points on food production to supply ratio and food security from this paper are:
 - Diversity enhances security. The United Kingdom sources foods from diverse stable countries, mainly European countries, and imports can make up for domestic supply shortages (see Chart 14.5).
 - A high food production to supply ratio fails to insulate a country against many possible disruptions to its supply chain.
 - Production potential is more relevant at European Union level than United Kingdom level, and the European Union as a whole has a food production to supply ratio of around 90%.
 - Further trade liberalisation is unlikely to affect food security within the European Union.

Origins of food consumed in the United Kingdom (chart 14.5)

- Chart 14.5 includes the proportion of United Kingdom food consumption that is produced in the United Kingdom. This should not be confused with the Food Production to Supply Ratio given in Chart 14.4. Chart 14.5 looks purely at the breakdown of food that the United Kingdom actually consumes.
- The Food Production to Supply Ratio (Chart 14.4) considers all United Kingdom food production, including food that the United Kingdom exports instead of consuming. A further, much smaller difference is that the United Kingdom food production used in the food production to supply ratio calculations has been adjusted to take account of the balance of trade in important inputs into agriculture.

Chart 14.5 Origins of food consumed in the United Kingdom: 2003, 2008, 2013, 2018

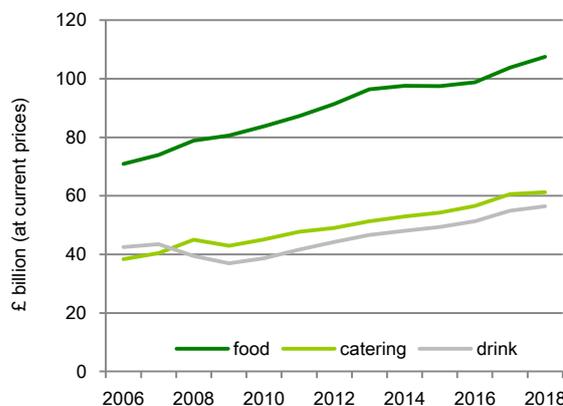


Based on the farm-gate value of raw food.
 (a) Consumption of UK origin consists of UK domestic production minus UK exports.
 (b) UK exports are given as a percentage of total UK consumption.
 (c) Membership of the EU increased between 2002 and 2013, from 15 to 28 countries.

Consumers' expenditure (chart 14.6)

- Consumer expenditure on food, drink and catering increased by 2.7% in 2018 to £225 billion. Household food expenditure rose 3.5%, food eaten out rose 1.1% and expenditure on alcoholic drinks rose 2.8% in 2018. At current prices, which incorporate inflation (see chart 14.6), consumers spent 38% more overall in 2018 than in 2008 (the year the recession started); alcoholic drinks saw the biggest increase at 43%. Excluding the effects of inflation, consumers spent 7.2% more overall in 2018 than in 2008, 12% more on household food and 4.4% more on alcoholic drinks, but only 2% more on catering.

Chart 14.6 Consumers' expenditure on food, drink and catering

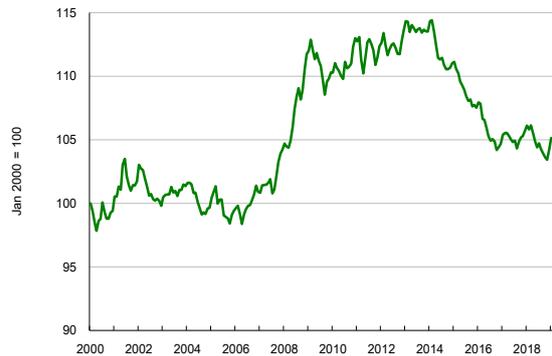


Source: Consumer Trends, (ONS).
 Food includes non-alcoholic drinks; Drink is alcoholic drinks.

Changes in consumers' price indices (chart 14.7)

19. Historically (1975 to 2000) food prices tended to rise more slowly than general inflation, as measured by the Retail Price Index (RPI). Food prices in real terms were fairly stable between 2000 and 2007, as measured by the Consumer Price Index (CPI), before rising by 12% and then returning to real terms stability from 2009 onwards.
20. From a peak in February 2014, food prices fell steadily to October 2016 to a level not seen since March 2008. Food prices fluctuated throughout 2017 and 2018 falling to a new low in November 2018 not reached since before the recession in 2008.

Chart 14.7 Changes in the food price index (in constant prices)



Source: Consumer Price Index (ONS).

Chapter 15 Key Statistics for EU Member States

Summary

For the EU-28 Member States in 2018:

- The United Kingdom was the largest producer of **sheep and goat meat**, accounting for around 38% of EU production.
- UK was the third largest producer of **wheat, milk and beef and veal** behind France and Germany.
- Over a fifth of all pig meat was produced in Germany.

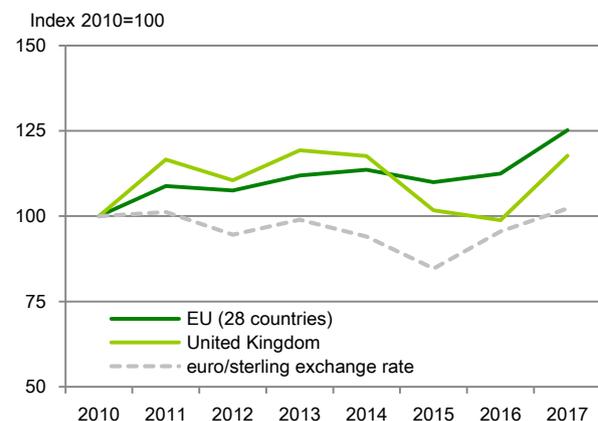
Introduction

1. This chapter presents simple analyses of agriculture in the European Union to enable comparison of the United Kingdom with other Member States and with the European Union. The source of the data is the Eurostat website at <http://ec.europa.eu/eurostat/en> where a range of data is available. Eurostat is the statistical office of the European Union. Its task is to provide the European Union with statistics at a European level that enables comparisons between countries and regions.

Agricultural Income (chart 15.1)

2. Eurostat's favoured measure of agricultural income is Indicator A: Index of the real income of factors in agriculture, per annual work unit.
3. This indicator corresponds to the real (i.e. deflated) net value added at factor cost of agriculture, per total annual work unit. Net value added at factor cost is calculated by subtracting from the value of agricultural output at basic prices the value of intermediate consumption, the consumption of fixed capital, and adding the value of the (other) subsidies less taxes on production. The detailed data can be found at the [Eurostat website](#)

Chart 15.1 Indicator A of the income from agricultural activity (a)



Source: Eurostat

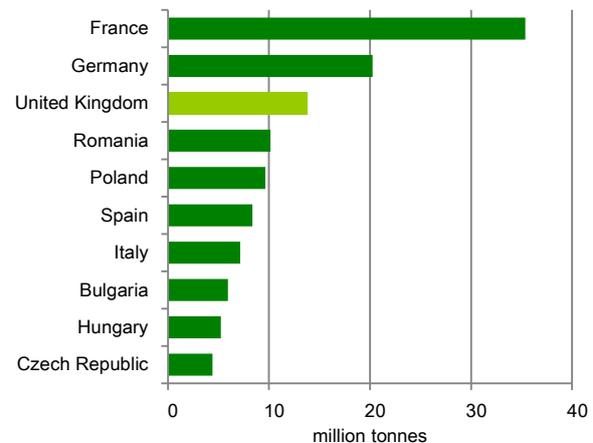
4. Chart 15.1 shows indices for Indicator A for the United Kingdom and the European Union (28 countries), including the euro/sterling exchange rate which influences agricultural income in the United Kingdom. Indicator A for the United Kingdom fell by 7.2% between 2010 and 2018 compared to a rise of 21% for the European Union as a whole.

Agricultural production (charts 15.2 to 15.6)

Wheat

- Chart 15.2 shows the quantity of common wheat & spelt and durum wheat produced by the top 10 producing Member States in 2018.
- France was the largest producer of wheat in the European Union, producing over 35 million tonnes in 2018, followed by Germany (20 million tonnes) and the United Kingdom (14 million tonnes). These three countries produced half of wheat output in the European Union in 2018.

Chart 15.2 Production of wheat

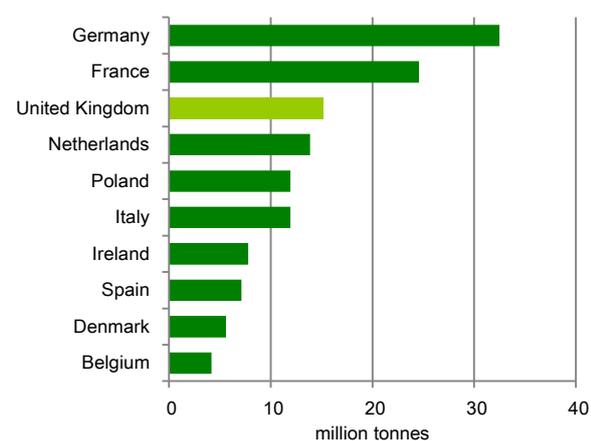


Source: Eurostat

Cows' milk

- Chart 15.3 shows the quantity of cows' milk produced by the top 10 producing Member States in 2018.
- Germany was the largest producer of cows' milk in the European Union, producing 33 million tonnes in 2018, followed by France (25 million tonnes) and the United Kingdom (15 million tonnes). Just under half of the EU's milk production came from these three countries.

Chart 15.3 Production of cows' milk

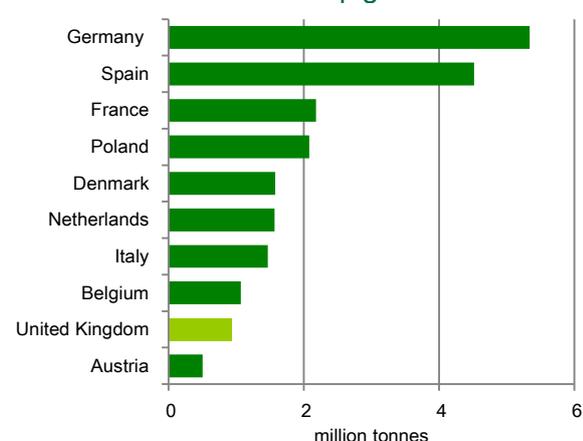


Source: Eurostat

Pig meat

- Chart 15.4 shows the quantity of pig meat produced by the top 10 producing Member States in 2018.
- Germany was also the largest producer of pig meat in the European Union in 2018, producing 5.3 million tonnes followed by Spain (4.5 million tonnes). Together these two countries produced around two-fifths of pig meat in the European Union. The United Kingdom produced 0.9 million tonnes.

Chart 15.4 Production of pig meat

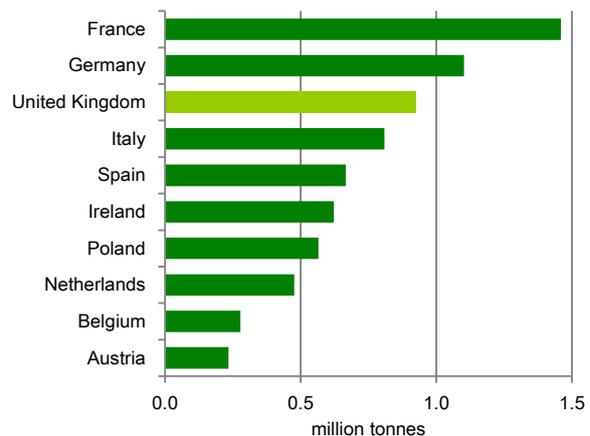


Source: Eurostat

Beef and veal

11. Chart 15.5 shows the quantity of beef and veal produced by the top 10 producing Member States in 2018.
12. Almost one half of all the EU's beef and veal production came from three Member States in 2018. France was the largest producer (1.5 million tonnes) followed by Germany (1.1 million tonnes) and the United Kingdom (0.9 million tonnes).

Chart 15.5 Production of beef and veal

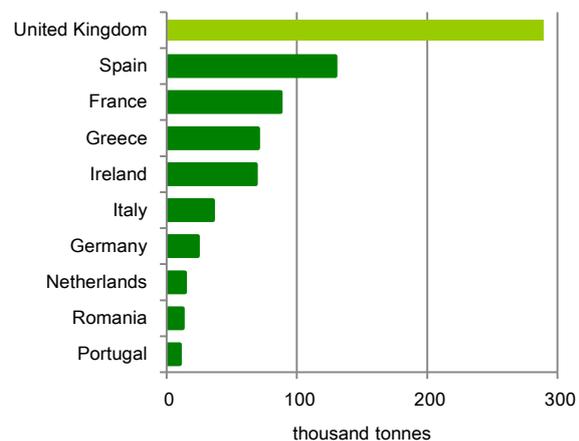


Source: Eurostat

Sheep and goat meat

13. Chart 15.6 shows the production of sheep meat and goat meat by the top 10 producing Member States in 2018.
14. The United Kingdom was the largest producer of sheep meat and goat meat in the European Union in 2018, producing 289 thousand tonnes or 38% of all the sheep and goat meat in the European Union in 2018. Spain (130 thousand tonnes), France (88 thousand tonnes) and Greece (70 thousand tonnes) produced a further 37% of the sheep and goat meat in the European Union in 2018.

Chart 15.6 Production of sheep and goat meat

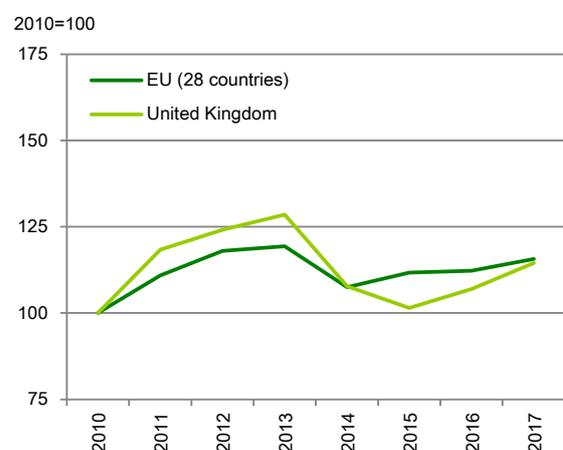


Source: Eurostat

Price Indices (charts 15.7 and 15.8)

15. Chart 15.7 shows producer price indices for total agricultural production for the United Kingdom and the European Union (28 countries). These indices give information on the trends in the producer price of agricultural production as a whole. The sub-indices were weighted by the values of sales in 2010.
16. The index for the United Kingdom has risen by 15% between 2010 and 2017, the latest year for which data is available, compared to 16% for the European Union as a whole.

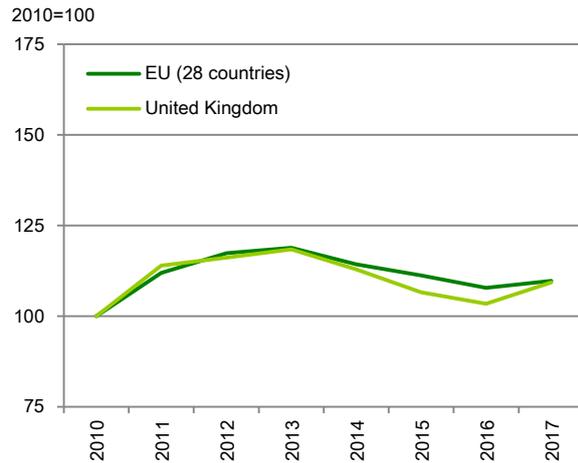
Chart 15.7 Producer price indices, total agricultural production



Source: Eurostat

17. Chart 15.8 shows purchase price indices for the total means of agricultural production for the United Kingdom and the European Union (28 countries). The indices in this table give information on the trends in the purchase price of the means of agricultural production as a whole. The sub-indices were weighted by the values of purchases in 2010.
18. The index for the United Kingdom has risen by 9.3% between 2010 and 2017, the latest year for which data is available, compared to 9.7% for the European Union as a whole.

Chart 15.8 Purchase price indices, total means of agricultural production



Source: Eurostat

Data Revisions

There are minor amendments to the Agricultural Income index following updates to data obtained from Eurostat.