Agriculture in the United Kingdom 2023

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

Agriculture in the United Kingdom 2023

Produced by:
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 Service

Cover image supplied by Getty Images

ISBN: 978-1-917312-00-4

Contents

Contents 3
Preface 7
Legal Basis 7
Changes 7
Accredited official statistics status 7
Content of document 7
Summary 9
Chapter 1: Key Events 15
Government and policy 15
Key contextual factors 17
Animal Health 19
Chapter 2: Structure of Industry 22
Summary 22
Introduction 23
Land use and crop areas 23
Livestock numbers 26
Numbers and sizes of holdings and enterprises 27
Agriculture Workforce 30
Chapter 3: Farming Income 32
Summary 32
Introduction 33
Farm Business Incomes by farm type 33
Distribution of farm incomes and performance 37
Definitions and explanatory note 39
Revisions 41
Chapter 4: Accounts 42
Summary 42
Introduction 43
TIFF in recent years 43
Outputs and subsidies 45

Contents

Inputs and costs 48
Long Term Trends in TIFF 51
Balance Sheet for the United Kingdom Agricultural Industry 54
About these statistics 55
Chapter 5: Productivity 58
Summary 58
Introduction 59
Long term trends 60
Annual changes, 2022 to 2023 60
Partial productivity 63
Revisions 64
Chapter 6: Prices 66
Summary 66
Data sources 67
Trends in annual price indices 67
Contributions to change in the annual agricultural outputs and inputs inflation rate 68
Trends in agricultural outputs price indices through the year 70
Trends in agricultural inputs price indices through the year 78
Summary table of price indices 83
Revisions 84
Chapter 7: Crops 85
Summary 85
Cereals 86
Wheat 87
Barley 89
Oats 91
Straw 92
Oilseed rape 93
Sugar beet 94
Protein crops (field peas and field beans) 95
Fresh vegetables 97
Plants and flowers 99
Potatoes 101
Fresh Fruit 103

Contents

Revisions and further information 105
Chapter 8: Livestock 106
Summary 106
Meat production 107
Cattle and calves: beef and veal 107
Pigs and pig meat 109
Sheep and lambs: mutton and lamb 111
Poultry and poultry meat 113
Milk 115
Hen eggs 118
Revisions 119
Chapter 9: Intermediate Consumption 120
Summary 120
Introduction 121
Inputs 121
Animal Feed 122
Oil Prices 123
Energy 125
Fertilisers 126
Other Input Costs 127
Revisions 127
Chapter 10: Public Payments 128
Summary 128
Introduction 129
Direct Payments 129
Take-up of agri-environment schemes 131
Common Agricultural Policy (CAP) payments 132
General Services Support 132
Revisions 133
Chapter 11: Environment 134
Summary 134
Introduction 135
Emissions 135
Pesticide use 138

Contents

Fertiliser use 139
Soil nutrient balances 142
Chapter 12: Organic Farming 146
Summary 146
Introduction 147
Organic land area 147
Organic land use 150
Organic livestock 155
Organic operators 160
Chapter 13: Overseas Trade 162
Summary 162
Introduction 163
Value of trade in food, feed and drink 164
Value of trade in food, feed and drink by types of commodity 166
Total value of trade in food, feed and drink by trading partner 171
Value of exports and imports by degree of processing 172
Value and volume of trade in key commodities 174
Chapter 14: The Food Chain 180
Summary 180
Contribution of the agri-food sector to the national economy 181
Agri-food sector employees and self-employed farmers 183
Total Factor Productivity 184
Trade in food, feed and drink 184
Food production to supply ratio 185
Distinction between competitiveness and food security 187
Origins of food consumed in the United Kingdom 187
Consumers' expenditure 189
Changes in consumers' price indices 190
Glossary 191

Preface

Legal Basis

Agriculture in the United Kingdom (AUK) 2023 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 policy development, including new policies on the provision of agricultural support.

Changes

Some of the figures now given for past years may differ from those published in preceding 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.

Accredited official statistics status

Accredited official statistics are called National Statistics in the Statistics and Registration Service Act 2007. An explanation can be found on the Office for Statistics Regulation website.

Our statistical practice is regulated by the Office for Statistics Regulation (OSR). OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to.

These accredited official statistics were independently reviewed by the Office for Statistics Regulation in January 2014. They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and should be labelled ‘accredited official statistics’.

You are welcome to contact us directly with any comments about how we meet these standards. Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

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

The latest available data are used throughout this document. Most of the data are on calendar year basis and for 2023. Some data for 2023 are provisional and may be

revised as more data becomes available. Where 2023 data are not yet available the most recent data is presented.

The following points apply throughout:

1. All figures relate to the United Kingdom unless otherwise stated.
2. Unless stated otherwise, Defra is the source for all data presented in tables and charts.
3. 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.
4. 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.
5. 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

Summary

All figures relate to 2023 and the change between 2022 and 2023 unless otherwise stated.

Structure of industry

- The **Utilised Agricultural Area** (UAA) decreased by 2.3% and was 17 million hectares, covering 70% of land in the UK.
- The **total croppable area** saw little change and was 6.1 million hectares.
- The **cereal crops area** decreased by 2.7% and was 3.1 million hectares.
- The **area of oilseed crops** planted increased by 4.7% and was 418 thousand hectares.
- The **total number of cattle and calves** decreased by 0.8% and was 9.6 million animals. The beef herd decreased by 3.8% and was 1.4 million animals. The dairy herd decreased by 0.3% and was 1.8 million animals.
- The **total number of pigs** decreased by 10% and was 4.7 million animals. The total number of female pigs in the breeding herd decreased by 1.5% and was 338 thousand animals.
- The **total number of sheep and lambs** decreased by 4.1% and was 32 million animals.
- The **total number of poultry** decreased by 2.9% and was 178 million birds.
- The **total labour force** on commercial holdings decreased by 1.7% and was 462 thousand people.

Farming income

- In 2022/23, the average **Farm Business Income (FBI)** across all farm types in Great Britain (Northern Ireland data for 2022/33 were not available at the time of publication) was £86,000 compared to the UK average of £72,000 in 2021/22.
- **FBI** varies greatly with 17% farms in Great Britain failing to make a positive FBI in 2022/23, while 41% of farms had an FBI of over £50,000.
- In 2023/24, lower prices for key outputs such as wheat and milk are expected to be one of the main factors influencing Farm Business Income. The impact of lower output prices will also be compounded by continued rises for some input costs.

Accounts

- **UK Total Income from Farming (TIFF)** in 2023 was £7.2 billion, a decrease of £0.8 billion (-9.8%) from 2022. Following historically high commodity prices in 2022, driven by global events, there were reductions in the commodity prices of key crops and livestock outputs. This, coupled with a poor harvest in many crop items, was not offset by a reduction in the value of inputs resulting in a substantial reduction in TIFF.
- **Total livestock output** in 2023 was £19.2 billion, a decrease of £0.1 billion (-0.7%) from 2022. This decrease was driven by a fall in the value of milk (-10%) and sheep for meat (-2.7%). Milk farmgate prices have fallen in 2023 after the historical highs of 2022, driven by an increase in supply in the first half of 2023 and weaker demand.
- In 2023, **total crop output** decreased by £1.3 billion (-9.7%) from 2022, to £12.0 billion. This decrease was driven by a substantial fall in the values of wheat and barley (-28% and -26% respectively) as well as oilseed rape (-45%). The unit prices of these three crops decreased in 2023 from the historically high prices seen in 2022.
- **Intermediate consumption** decreased by £0.6 billion (-2.8%) from 2022, to £21.1 billion in 2023. This decrease was primarily driven by a 28% decrease in the value of fertilisers.
- In 2023, agriculture's contribution to the UK economy (**Gross Value Added at basic prices**) was £13.7 billion (0.6% of GVA). This constitutes a decrease of £0.6 billion (-4.5%) in GVA compared to 2022.

Productivity

- **Total Factor Productivity** is estimated to have decreased by 5.1% between 2022 and 2023. This was driven by a decrease in the volume of outputs and a slight increase in the volume of inputs.
- The volume of **all outputs** decreased by 5.0%. There were decreases across all output groups apart from industrial crops which saw a 2.7% increase. This increase for industrial crops was more than offset by decreases across other crops to give an overall reduction in the volume of total crop output of 7.9%. There were also decreases across all livestock volumes, with a 5.4% decrease in livestock for meat and a 0.8% decrease in the volume of other livestock products.
- The volume of **all inputs** increased by 0.1%. There was a mixture of increases and decreases in the volume of inputs used, with fertiliser showing the largest increase driven by a reduction in prices.

Prices

- The annual average price index for all agricultural **outputs** increased by 1.4% from 2022 to 2023.
- The largest upward contribution to the annual inflation rate for agricultural **outputs** was from poultry (1.8 percentage points), followed by potatoes (1.4 percentage points) and pigs (1.2 percentage points). The main downward contribution came from cereals (-3.1 percentage points).
- The annual average price index for all agricultural **inputs** decreased by 5.0% from 2022 to 2023.
- The largest downward contribution to the annual inflation rate for agricultural **inputs** was from fertilisers and soil improvers (-5.3 percentage points), followed by straight feedingstuffs (-0.9 percentage points) and compound feedingstuffs (-0.5 percentage points). The main upward contribution came from other goods and services (0.8 percentage points).

Crops

- Harvested production of **wheat** decreased by 11% to just under 13.9 million tonnes, due to decreased area and yields. The value of production was 28% lower at £2.9 billion.
- Harvested production of **barley** decreased by 5.7% to just under 7 million tonnes. The value of production was 26% lower at £1.4 billion.
- **Oilseed rape** production decreased by 11% to around 1.2 million tonnes due to reduced yields offsetting an increase in area. The value of production decreased by 45% to £483 million due to a combination of the lower production and lower prices.
- **Sugar beet** production increased by 39% to 7.7 million tonnes. The value of production was 82% higher at £368 million.
- The value of **vegetable** production increased by 10% to £1.9 billion.
- The value of **fruit** production increased by 2.2% to just over £1.0 billion.

Livestock

- The value of **beef and veal** increased by 4.2% to £3.9 billion (bn). Home-fed production decreased by 2.5% to 904 thousand tonnes.
- The value of **pig meat** increased by 6.2% to £1.8bn. Home-fed production decreased by 11% to 887 thousand tonnes.
- The value of **mutton and lamb** decreased by 2.7% to £1.6bn. Home-fed production decreased by 1.8% to 296 thousand tonnes.

- The value of **poultry meat** increased by 12% to £3.5bn. Home-fed production decreased by 0.8% to 1,967 thousand tonnes.
- The value of **milk and milk products** decreased by 10% to £6.0bn, driven by a decrease in prices from an all-time high in 2022. The volume of milk produced in 2023 remains unchanged from production levels in 2022.
- The value of **eggs** for human consumption increased by 30% to £1.0bn. Production decreased by 8.0% to 0.9 billion dozen.

Intermediate consumption

- The total cost of **intermediate consumption** was £21,086 million, a decrease of £605 million (-2.8%) from 2022 to 2023.
- The value of **animal feed** decreased by £398 million (-4.8%) from 2022 to £7,820 million in 2023.
- The value of **energy** decreased by £16 million (-0.8%) from 2022 to £1,913 million in 2023.
- The total value of **fertilisers** was £1,362 million, a decrease of £541 million (-28%) from 2022 to 2023.

Public payments

- Total **direct payments** to farmers are expected to decrease by £16 million (-0.6%) to £2,953 million.
- **Basic Payment Scheme (BPS)** payments are expected to decrease by £292 million (-12%) to £2,050 million.
- Payments linked to **agri-environment schemes** are expected to increase by £298 million (81%) to £666 million.

Agri-environment

- Estimated **greenhouse gas and air pollution emissions** from agriculture have fallen between 1990 and 2022.
- After a continuous increase from 2010 to 2018, **pesticide usage** declined in 2020. This was followed by an increase in 2022, where usage was similar to levels in 2010.
- Since the late 1990s, **nitrogen and phosphate fertiliser application rates** have fallen and were at their lowest rate in 2022.
- **Soil nutrient balances for nitrogen and phosphorus** have fluctuated over time, but have shown an overall downward trend and were at the lowest level in 2022.

Organics

- 498 thousand hectares were **farmed organically** in the UK.
- 60% of UK **organic land** was in England, 23% in Scotland, 15% in Wales and 1.4% in Northern Ireland.
- **Permanent pasture (including rough grazing)** accounted for 62% of organic land in the UK, covering 307 thousand hectares.
- 10% of organic land in the UK was used to grow **cereals** (50 thousand hectares).
- 3.0% of **cattle** in the UK were reared organically.
- There were a total of 5,230 **organic operators** in the UK.

Overseas trade

- The value of **food, feed and drink exports** decreased by £3.1 billion (11%) to £24.4 billion.
- The value of **food, feed and drink imports** decreased by £5.9 billion (8.8%) to £61.1 billion.
- The trade gap in **food, feed and drink** decreased by £2.8 billion (7.1%) to £36.7 billion.
- Principal destinations for **exports** were Ireland (£4.1 billion), France (£2.7 billion), the United States (£2.4 billion) and the Netherlands (£2.0 billion).
- The main countries of dispatch for **imports** into the UK were the Netherlands (£7.6 billion), France (£6.3 billion), Belgium (£4.9 billion) and Ireland (£4.8 billion).
- Whisky continued to have the **highest export value**, totalling £5.8 billion. This was a decrease of 18% compared to the previous year.
- Fresh fruit and vegetables together remained the **highest value category for imports**, totalling £7.1 billion, a decrease of 2.2%.
- **Exports of fresh vegetables** fell by 8.9% to £82 million, but **exports of fresh fruit** rose by 4% to £70 million.

The food chain

- In 2022, the agri-food sector (excluding fishing) in the United Kingdom accounted for a total estimated **Gross Value Added (GVA)** of £146.7bn or 6.5% of national GVA, an increase of 15% since 2021. (For the overall GVA figure for the agri-food sector, refer to the Food Statistics Pocketbook which includes fishing, adding roughly an extra billion pounds to GVA each year.) The food and drink

wholesaling sector increased by 31% between 2021 and 2022. All other sectors also saw an increase.

- **Employment** in the agri-food sector in Great Britain grew by 5.0% over the 12-month period to the fourth quarter of 2023 to just under 4.4 million. The largest percent change was seen in wholesaling which rose by 12% (25,000 employees).
- **Total factor productivity** of the food chain increased by 3.7% while there was a decrease of 0.2% in productivity in the wider economy. In the 10 years prior to 2021, the average annual growth rate of the food chain was 0.6% while the wider economy's average annual growth rate was 0.2%.
- **Consumer expenditure** on food and alcoholic drinks (at constant prices) decreased by 1.2% from £248.5bn in 2022 to £245.5bn in 2023 and was 14% higher than in 2013. Expenditure on food and drink eaten out increased by 0.6% from £116.9bn in 2022 to £117.6bn in 2023, whilst expenditure on household food decreased by 2.8% from £109.6bn to £106.5bn and expenditure on alcoholic drinks (off-licence only) decreased by 2.8% from £22.0bn to £21.3bn.

Chapter 1: Key Events

Government and policy

On the 5 January 2023 at the Oxford Farming Conference, Defra announced increased payments for the Sustainable Farming Incentive and Countryside Stewardship, as well as a new Sustainable Farming Incentive Management Payment of up to £1000 a year.

On the 26 January, Defra published further information on the growth and rollout of our environmental land management schemes. This included the full range of actions, payment rates and when they'll be available.

On the 31 January, the third round of the Research Starter competition opened. Farmers, growers, and foresters in England were able to apply for a share of £850,000 to improve productivity, sustainability, and resilience.

Defra began to rollout the Annual Health and Welfare Review on the 7 February, offering a funded annual visit from a vet or team of vets to livestock farmers.

Applications opened for the Large Research and Development (R&D) Partnerships fund on the 20 February, with applicants able to apply for a share of £8 million to improve productivity, sustainability, and resilience.

On the 21 February at the National Farmers Union conference, Defra announced that more than £168 million in grants would be available to farmers to drive innovation, support food production, improve animal health and welfare, and protect the environment.

On 27 March, Defra published the Green Finance Strategy and Nature Markets Framework which set out a range of private sector opportunities for farmers and land managers to access new income streams to invest in their holdings.

The Net Zero Growth Plan was published a few days later, which set out how government plans to meet net zero while supporting economic growth and prosperity in the UK.

On 19 April, applications opened for a Water Management Grant which was designed to help improve farm productivity through more efficient use of water for irrigation. The minimum grant is £35,000, with a maximum grant available of £500,000 per applicant per funding round.

On the 14 May at the Farm to Fork Summit, a range of measures were announced including:

- A further £12.5 million for research projects that will support environmental sustainability and resilience on farms.

- Additional investment of up to around £30 million to unlock the potential of precision breeding.
- A working group to bring plant breeders, food manufacturers and retailers together to agree an approach that enables these products to reach our shelves.

On 18 May applications opened for the second round of Landscape Recovery projects which funds long-term, large-scale, bespoke projects designed to enhance the natural environment and deliver significant environmental benefits.

Then on the 24 May, Defra published its response to the Rock Review which outlined how Defra have been incorporating its recommendations into its work and reforms as they continue to be rolled out.

Following this, Defra announced an improved offer for upland farmers, including making payment rates in Countryside Stewardship equal for both upland and lowland farms when carrying out the same actions.

On 31 May, the Farming Futures competition opened offering a share of £12.5 million to fund ambitious research and development projects that support productivity and sustainability in the sector.

On 24 July, the Farming Innovation Investor Partnership competition opened, where businesses in the UK were able to apply for a share of £5 million to develop new technology to make farming more efficient and sustainable in the UK.

On 14 August, the Small R&D Partnership Projects competition opened. This competition offered up to £9.8 million in grant funding to support projects to develop solutions which improved productivity, sustainability, and resilience in farming.

The Calf Housing for Health and Welfare grant opened on 7 September. Grants of between £15,000 and £500,000 were available for farmers to receive co-funding on infrastructure projects to continually improve the health and welfare of animals.

Defra began accepting the Sustainable Farming Incentive (SFI) applications on the 18 September. The scheme paid farmers for actions that support food production and help improve farm productivity and resilience, while also protecting and improving the environment. A total of 23 actions were on offer.

Also on this date, the Feasibility Studies competition opened. Through this competition, a share of up to £4.5 million of grant funding was available to support projects investigating new solutions that address major on-farm or immediate post farmgate challenges or opportunities.

On 21 November, Round 2 of the Slurry Infrastructure Grant opened. In this round, £74 million of funding was made available. This grant supported farmers to replace, build additional, or expand existing slurry stores to help improve the use of organic nutrients on farms and reduce pollution.

On 30 November, Defra provided more details of how the £168 million budget allocated to grants was being distributed through sixteen different funds.

On 11 December it was announced that individual grants of between £10,000 and £100,000 would be available to farmers and farm groups through the Natural Environment Investment Readiness Fund (NEIRF). The grant aims to support innovative projects that align with the Environmental Improvement Plan.

On the 13 December, Defra announced the Smaller Abattoirs fund, where smaller abattoirs in England were able to apply for capital grants through a £4 million fund designed to boost the sector.

Lastly, a review to improve fairness in the fresh produce supply chain was launched by the government on the 14 December.

Key contextual factors

Global events

Ukraine war

Russia's invasion of Ukraine had a significant impact on input prices including energy and fertilisers, which producers carried over into 2023. Output prices for cereals and dairy stabilized from the highs of 2022 to pre-conflict levels, whereas livestock prices increased through 2023 as cereal feed costs reduced.

Labour shortages

In June 2023, Defra published the findings from the Independent Labour Review. The review provided recommendations to help the government and industry continue to tackle the issues related to labour shortages in the food supply chain.

High inflation

Inflation remained high in 2023, leading to several increases in the Bank of England base rates. High levels of inflation reduce profits and erodes the real terms value of direct support (BPS + agri-environmental payments). This also creates upward pressure on wages to help mitigate the impacts of inflation on workers. The consumer price inflation for food, which began rising in mid-2021, continued to increase, peaking in March 2023 at 19.1%, the highest rate seen in over 45 years. Following this peak, it declined steadily, ending the year at 8.0%. This was still much higher than the general inflation rate, which was 4.0%.

Exchange rates

The relationship between the pound and euro has a key bearing on the fortunes of UK farming, as most UK exports of agricultural commodities are made to the Eurozone. A weaker pound increases the competitiveness of UK exports but increases the price of imports, including inputs such as fertilisers and pesticides. The pound substantially weakened against the euro in 2016 and has remained relatively stable since. In 2023,

the pound strengthened against the euro in late spring and early summer, then weakened in October and November before recovering in December.

Weather

Overall, 2023 was a very warm and wet year. For the UK, it was the second warmest year since records began in 1884, and the warmest year for both Wales and Northern Ireland. There was more rainfall than average this year, with some parts of the UK recording a third more rainfall than normal.

Winter

The winter was marginally milder and drier than average, but alternated between cold, settled spells and milder, wetter weather. January was sunnier than usual, with most of the rainfall coming in the first half of the month. Most of February was mild, dry and settled, placing it in within the top ten mildest Februarys since 1884.

Spring

Spring saw slightly above average temperatures mainly due to warm conditions during May. March and April alternated between colder and milder weather, with a notable cold spell in early March. In March, many areas in the southern half of the UK had more than double their average rainfall. April had near-average temperatures and rainfall. May was very dry in some areas and very wet in others, but overall saw only 55% of average overall rainfall.

Summer

Summer was warm and wet, with most of the fine weather occurring in June, the UK's warmest June on record. July was very cool, dull and wet, with more than twice the normal rainfall in some areas. August was mixed with some wet and windy weather. Overall summer temperatures were well above average, reaching a maximum of 32.2°C. Of the UK's top-ten warmest summers, summer 2023 was the wettest with some areas receiving more than 150% of average rainfall.

Autumn

Autumn 2023 was warmer and wetter than average. Four named storms resulted in significant and widespread weather impacts, particularly from flooding. A heatwave in early September gave us the UK's highest temperature of the year (33.5°C at Faversham, Kent), making it the UK's equal-warmest September on record (with 2006). Despite some warm weather, October was an unsettled and very wet month, with many areas receiving over twice the monthly average rainfall. After a very wet first half, November overall was unremarkable with some cold wintry weather.

December had some very hard frosts (-12.5°C at Altnaharra, Sutherland), but was overall mild through most of the month, ending with heavy rains.

Animal Health

In 2023 Defra introduced the Annual Health and Welfare Review. The Review offers farmers funding for an annual visit from a vet of their choice. Vets will carry out diagnostic testing and provide bespoke advice on management to improve the health, welfare, and biosecurity of animals, including the responsible use of medicines such as antibiotics. The Review is for farmers who keep cattle, sheep and pigs, and is the farmer's first step on the Animal Health and Welfare Pathway. As of 31 December 2023, 4,103 farmers have applied to participate, allowing them to access bespoke advice on the health and welfare of their animals alongside testing for priority diseases and conditions. Of those, 1,614 farmers have completed the process and received their funding.

Avian influenza

In the 2023 calendar year, there were 1021 incidents of highly pathogenic avian influenza (HPAI) H5N1 in the UK. The majority of cases were in wild birds (963), with 38 cases in farmed birds, 17 in smallholder establishments, and 3 in captive birds in zoos or wildlife centres. In England there were 536 cases of HPAI H5N1 in wild birds, 20 in commercial poultry, 5 in smallholder establishments and 1 in other captive birds. Scotland reported 280 cases of H5N1 in wild birds, 15 in commercial poultry, 10 in smallholder establishments and 2 in captive birds. In Wales there were 90 cases of H5NI in wild birds, 3 in commercial poultry and 2 in smallholder establishments. In Northern Ireland there were 24 cases of H5N1 in wild birds. In addition, there were 33 wild birds with no country attributed to them.

Bovine Tuberculosis (bTB)

England

The percentage of herds Officially TB Free in England was 95.75% at the end of 2023, a slight increase on 2022. There has been an upward trend since Q1 2018 when 93.6% of herds were TB free. Government strategy is driving for TB eradication by 2038. See the full set of the 2023 Accredited Official Statistics for TB in cattle in GB.

The Bovine TB Partnership in England met six times in 2023 to continue the shared ownership, co-ordination and decision-making surrounding England's 25-year bTB eradication strategy.

The second phase of field trials for a new cattle TB vaccine and companion skin test (DIVA - Detect Infected among Vaccinated Animals) was completed in 2023. A third phase is planned to commence in 2024. If trials are successful, we will move closer to being able to vaccinate cattle against bTB.

In England, a total of 3,064 badgers were vaccinated against TB in 2023, an increase of 26% from the 2,434 badgers vaccinated in 2022. Further refinements were made to the badger vaccination smartphone reporting app that was first launched in 2022, reducing the administrative burden.

A Defra-funded project in East Sussex that supports the farming community to deploy badger vaccination, completed its third year in 2023, with 634 badgers vaccinated over 256 km2.

In 2023, Natural England (NE) authorised culling operations to resume to 29 intensive control areas (no new areas were licensed). A total of 11,350 badgers were culled under these licences. NE also licensed 11 new supplementary badger control areas, bringing the total number of authorised areas of this type to 29. In 2023, a total of 8,220 badgers were culled under these licences.

In August 2023, post-movement TB testing became compulsory for cattle moved to annual surveillance testing parts of the Edge Area from higher TB incidence areas of England, and from Wales.

Wales

In the 12 months to December 2023, the number of new TB incidents across Wales increased to 618, up from 601 in the previous year, representing a 2.8% rise. This is largely attributed to the High TB Area West, where new incidents have jumped from 186 to 294, a 58.1% increase. In the Low TB Area, new incidents also rose, from 31 in 2022 to 34 in 2023. The increase in the High TB Area West is particularly concerning given the already high levels of the disease in the region and is a reversal of the decreasing trend observed in recent years.

There have been reductions in new incidents in the Intermediate TB Area North, Mid, and High TB Area East. Notably, new incidents in the Intermediate TB Area North dropped from 133 to 70, representing a 47.4% decrease. A short-term measure, additional blood testing (gamma interferon and IDEXX antibody tests) of “higher risk” purchased animals in Officially TB Free herds, ran from June 2021 to 27 January 2023 (with some animals sampled and tested after this date). This measure targeted specified Spatial Units in North Wales only, as part of a number of interventions introduced from June 2021 aimed at combatting a worsening TB situation. This short-term measure disclosed relatively high numbers of new incidents during that period, above that which would normally have been expected.

In the Low TB Area, epidemiological investigations in Anglesey indicated that infection from the Denbigh/Conwy area had spread into the Low TB Area and contributed to the rising disease levels, with incidents increasing from 4 in 2020, 12 in 2021 and rising to 19 for 2023. In September 2023, cattle keepers in this area were notified via letter about the situation and were given advice on protecting their livestock. In the fourth quarter of 2023, no new incidents were recorded on Anglesey.

The All Wales Badger Found Dead Survey which started in September 2014, has indicated that the badger population in Anglesey is generally limited to Holy Island with only one dead badger found so far on the main island of Anglesey in 2018. In March 2023, a survey on Holy Island evaluated badger activity, finding enough activity to warrant a four-year badger vaccination program that began in 2023. To date no badger samples from Anglesey have yielded a TB culture positive result.

A new five-year Delivery Plan was introduced in March 2023 under the guidance of the Chief Veterinary Officer. This plan incorporates the 2021 to 2022 consultation on a refreshed TB Eradication Programme, recommendations from the Task and Finish Group on Farmer Engagement, and the Economy, Trade, and Rural Affairs Committee's report on bovine TB.

Scotland

Scotland continues to have a low and stable incidence of bovine tuberculosis, in line with the requirements for Officially TB Free status. In 2023, bovine tuberculosis legislation in Scotland was amended and consolidated, and The Tuberculosis (Scotland) Order 2023 came into force on 18 May 2023. This Order brought in place a number of policy changes, which included stricter pre-movement testing requirements for animals entering Scotland (including changing the period the pre-movement test is valid for from 60 days to 30 days), a reduction in compensation for cattle which are presented as unclean at slaughter, and a reduction in compensation for animals affected or suspected of being affected with TB which have not been properly isolated. The general licence for the importation of cattle from Northern Ireland was also amended and a new version was published on gov.scot in June 2023.

Northern Ireland

In Northern Ireland, herd incidence for 2023 was 10.05% with animal incidence standing at 0.988%. Herd incidence fell a little over the past year (from 10.20% in 2022), however animal incidence rose (from 0.934%). Disease rates remain at their highest in Northern Ireland since the aftermath of the Foot and Mouth Disease which disrupted the bTB programme in the early 2000s.

This poor disease picture, along with an increase in cattle prices, has seen an increase in the cost of delivering the Northern Ireland bTB programme. Compensation costs for cattle slaughtered for bTB control have risen to around £37 million in the past two years. In September 2023, the Secretary of State for Northern Ireland instructed the department to consult on a proposal to reduce compensation paid from 100% of the cattle's market value at present, to 90% of market value in year one, and to 75% of market value in year 2.

During 2023, work has progressed on the implementation of the new bTB Eradication Strategy for Northern Ireland which was launched in March 2022. The Strategy is the product of several years' work, including the 2016 recommendations of the TB Strategic Partnership Group and two subsequent public consultations.

However, the Strategy's proposed wildlife intervention was overturned by a judicial review decision in October 2023 following a legal challenge from two environmental groups.

Note: More information on Bovine Tuberculosis can be found at the TB hub

Chapter 2: Structure of Industry

Summary

Key results for 2023 compared to 2022:

- The **Utilised Agricultural Area** (UAA) decreased by 2.3% and was 17 million hectares, covering 70% of land in the UK.
- The **total croppable area** saw little change and was 6.1 million hectares.
- The **cereal crops area** decreased by 2.7% and was 3.1 million hectares.
- The **area of oilseed crops** planted increased by 4.7% and was 418 thousand hectares.
- The **total number of cattle and calves** decreased by 0.8% and was 9.6 million animals. The beef herd decreased by 3.8% and was 1.4 million animals. The dairy herd decreased by 0.3% and was 1.8 million animals.
- The **total number of pigs** decreased by 10% and was 4.7 million animals. The total number of female pigs in the breeding herd decreased by 1.5% and was 338 thousand animals.
- The **total number of sheep and lambs** decreased by 4.1% and was 32 million animals.
- The **total number of poultry** decreased by 2.9% and was 178 million birds.
- The **total labour force** on commercial holdings decreased by 1.7% and was 462 thousand people.

Introduction

The tables and charts in this chapter show the size and structure of the agricultural industry in the United Kingdom at 1 June each year. They provide information on land use and livestock numbers, on the distribution of these between holdings and on the labour force.

Data in this chapter are sourced primarily from the June Surveys of Agriculture carried out in the four UK countries each year. There are some exceptions. In Scotland, most of the land use data are sourced from Single Application Form (SAF) subsidy data. In Northern Ireland, data for pig and poultry are extracted from the NI Annual Inventory of Pigs and Update of NI Bird Register respectively. Also, cattle data are sourced from the Cattle Tracing System (CTS) in England, Wales and Scotland and from the equivalent Animal and Public Health Administration System (APHIS) in Northern Ireland.

England data relate to commercial holdings only. Commercial holdings are defined as those with significant levels of farming activity, i.e. holdings with more than five hectares of agricultural land, one hectare of orchards, 0.5 hectares of vegetables or 0.1 hectares of protected crops, or more than 10 cows, 50 pigs, 20 sheep, 20 goats or 1,000 poultry.

For more information on the June Survey and for more detailed results, please see the pages for England, Scotland, Wales and Northern Ireland.

Land use and crop areas

At June 2023 the Utilised Agricultural Area (UAA) was 17 million hectares, covering 70% 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.

The total croppable area remained broadly unchanged between 2022 and 2023, however some categories within this total had greater changes than others (see Table 2.1).

Cereal crops accounted for the majority (68%) of the cropped area. Wheat and barley are the predominant cereal crops. In 2023, the area of wheat decreased by 5.1% and was 1.7 million hectares. The area of barley increased by 1.9% and was 1.1 million hectares. Plantings continued to follow a more typical pattern following disruption due to weather in recent years. However in 2023, wheat plantings have possibly reduced in favour of farmers planting barley and oilseed.

The area of oilseed rape increased by 7.2% in 2023 and was 391 thousand hectares.

Potatoes decreased by 9.9% to 115 thousand hectares in 2023, continuing the downward trend seen in recent years. In 2023, the area recorded was the lowest in the last 40 years.

The remaining arable crops covered 750 thousand hectares. Peas for harvesting dry, field beans and maize together account for 69% of this area. The area of peas and field beans increased by 2.3% whilst the area of maize increased by 8.5%.

Figures 2.1a to 2.1c provide further detailed breakdowns of crop areas.

Table 2.1 Agricultural land use at June of each year (thousand hectares)

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Category	2021	2022	2023
UAA (Utilised Agricultural Area)	**17,227**	**17,426**	**17,022**
UAA as a proportion of total UK area	71%	71%	70%
Total agricultural land	**18,631**	**18,757**	**18,334**
Common rough grazing	**1,194**	**1,194**	**1,194**
Total area on agricultural holdings	**17,436**	**17,562**	**17,140**
Total croppable area	**6,056**	**6,084**	**6,086**
Total crops	**4,574**	**4,571**	**4,515**
Arable crops	4,413	4,418	4,370
Cereals	3,211	3,173	3,088
Oilseeds	352	399	418
Potatoes	137	127	115
Other arable crops	713	718	750
Horticultural crops	161	153	145
Uncropped arable land	**265**	**274**	**311**
Temporary grass under 5 years old	**1,217**	**1,240**	**1,260**
Total permanent grassland	**9,965**	**10,136**	**9,730**
Grass over 5 years old	6,071	6,158	6,074
Sole right rough grazing	3,894	3,978	3,655
Other land on agricultural holdings	**1,416**	**1,342**	**1,324**
Woodland	1,076	996	948
Land used for outdoor pigs	12	12	12
All other non-agricultural land	328	334	364

Notes for table 2.1:

1. 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).

2. Uncropped arable land includes all arable land not in production, including land managed in Good Agricultural and Environmental Condition (GAEC12), wild bird cover and game cover.
3. Sole right rough grazing includes mountains, hills, heathland or moorland.

Source: UK Agriculture departments June Survey/Census of Agriculture

Download the full Structure of industry dataset

Figures 2.1a to 2.1c - Crop areas at June of each year

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Figure 2.1a Cereal crop areas (thousand hectares)

Year	Wheat	Barley	Oats	Rye, mixed corn and triticale	Total
2021	1,790	1,150	200	71	3,211
2022	1,813	1,116	176	69	3,173
2023	1,720	1,137	167	65	3,088

Figure 2.1b Other arable crop areas (thousand hectares)

Year	Oilseeds	Potatoes	Sugar beet (not for stockfeeding)	Peas for harvesting dry and field beans	Maize	Remaining arable crops	Total
2021	352	137	95	249	227	142	1,202
2022	399	127	91	269	222	137	1,245
2023	418	115	99	275	240	135	1,282

Figure 2.1c Horticultural crop areas (thousand hectares)

Year	Vegetables grown outdoors	Orchard fruit	Soft fruit & wine grapes	Hardy nursery stock, bulbs and flowers	Glasshouse crops	Total
2021	112	23	10	13	3	161
2022	107	22	10	11	3	153
2023	100	21	11	10	3	145

Notes for figures 2.1a to 2.1c:

1. Vegetables grown outdoors excludes potatoes, peas for harvesting dry and mushrooms.
2. Orchard fruit includes non-commercial orchards.

Source: June Surveys/Census of Agriculture/SAF land data

Download the full Structure of industry dataset

Livestock numbers

In 2023, the total number of cattle and calves was 9.6 million, which decreased by 0.8% from 2022. The beef herd decreased by 3.8% and was 1.4 million animals and the dairy herd decreased by 0.3% and was 1.8 million animals.

The number of lambs under one year old was 15 million in 2023, which decreased by 6.1% from 2022. The female breeding flock decreased by 2.4% at 15 million animals. As a result, the total UK sheep and lamb population was 32 million which decreased by 4.1% compared to 2022.

The total number of pigs was 4.7 million which decreased by 10% from 2022. The number of pigs in the female breeding herd decreased by 1.5% and was 338 thousand in 2023. This is the lowest it has been in the past 21 years, with decreases seen across sows in pig and other sows, however gilts in pig saw a rise.

The total number of poultry in the UK decreased by 2.9% and was 178 million birds in 2023. Table chickens accounted for around two thirds of the total and decreased by 4.3% at 116 million birds in 2023. The breeding flock increased by 5.8% between 2022 and 2023 and sits at 13 million birds.

Figures 2.2a to 2.2d provide breakdowns of livestock populations.

Figures 2.2a to 2.2d - Livestock numbers at June of each year

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Figure 2.2a Female cattle breeding herd (thousand head)

Year	Cows in the beef herd	Cows in the dairy herd	Total breeding herd
2021	1,485	1,850	3,335
2022	1,463	1,842	3,305
2023	1,407	1,836	3,243

Figure 2.2b Sheep numbers (thousand head)

Year	Female breeding flock	Other sheep and lambs	Total
2021	15,624	17,333	32,957
2022	15,826	17,348	33,174
2023	15,438	16,365	31,803

Figure 2.2c Female pig breeding herd (thousand head)

Year	Sows in pig	Gilts in pig	Other sows for breeding	Total breeding herd
2021	282	54	63	398
2022	247	42	54	343
2023	238	48	52	338

Figure 2.2d Poultry numbers (thousand birds)

Year	Laying flock (including pullets)	Breeding flock	Table chickens (broilers)	Turkeys, ducks, geese, all other poultry	Total
2021	40,568	12,271	126,693	10,487	190,019
2022	40,442	12,021	121,730	9,295	183,488
2023	41,073	12,720	116,440	7,909	178,142

Notes for figures 2.2a to 2.2d:

1. Dairy cows are defined as female dairy cows over 2 years old with offspring.
2. Beef cows are defined as female beef cows over 2 years old with offspring.

Source: June Surveys/Census of Agriculture; Cattle Tracing System/APHIS

Download the full Structure of industry dataset

Numbers and sizes of holdings and enterprises

Tables 2.2a through to 2.2d compare the number of holdings and area by farm size in 2018 and 2023. In 2023, the total number of holdings was 209 thousand which decreased by 4.0% compared to 2018. Within the five-year period the total area on holdings has decreased by 2.1%.

Between 2018 and 2023 the average area of all holdings increased by 2.0% and the average croppable area of holdings increased by 2.1%.

Figure 2.3a shows the proportion of holdings and total area by size bands. This shows that 19% of holdings have 100 hectares or more, but these holdings account for 75% of the total area. Most holdings in 2018 and 2023 had fewer than 20 hectares and accounted for just 4% of the total area. A similar picture can be drawn for the croppable area which is shown in figure 2.3c

Tables 2.2a to 2.2d and 2.3a to 2.3b show number of holdings and total areas for the UK and by country, respectively.

Numbers and sizes of holdings and enterprises at June of each year

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Table 2.2a Numbers of holdings by total area size group (thousand)

Year	Under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total
2018	104	42	32	41	218
2023	98	41	30	40	209

Table 2.2b Total area on holdings by size group (thousand hectares)

Year	Under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total area
2018	691	1,373	2,271	13,174	17,509
2023	712	1,343	2,162	12,922	17,140

Figure 2.3a Proportion of holdings and total area by size group

Category	Under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total
2018 - Proportion of holdings	48%	19%	14%	19%	100%
2023 - Proportion of holdings	47%	20%	14%	19%	100%
2018 - Proportion of total area	4%	8%	13%	75%	100%
2023 - Proportion of total area	4%	8%	13%	75%	100%

Figure 2.3b Average total and croppable areas on holdings (hectares)

Year	Average total area	Average total area on holdings with >=20 hectares	Average croppable area
2018	80	147	63
2023	82	148	65

Table 2.2c Numbers of holdings with croppable areas by size group (thousand)

Year	Croppable area 0.1 to under 20 hectares	Croppable area 20 to under 50 hectares	Croppable area 50 to under 100 hectares	Croppable area 100 hectares and over	Total
2018	46	19	14	17	96
2023	46	17	13	17	94

Table 2.2d Croppable area on holdings by size group (thousand hectares)

Year	Croppable area 0.1 to under 20 hectares	Croppable area 20 to under 50 hectares	Croppable area 50 to under 100 hectares	Croppable area 100 hectares and over	Total croppable area
2018	296	609	979	4,201	6,084
2023	281	565	937	4,303	6,086

Figure 2.3c Proportion of holdings and croppable area by size group

Category	0.1 to under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total
2018 - Proportion of holdings with croppable area	48%	19%	15%	18%	100%
2023 - Proportion of holdings with croppable area	50%	18%	14%	18%	100%
2018 - Proportion of croppable area	5%	10%	16%	69%	100%
2023 - Proportion of croppable area	5%	9%	15%	71%	100%

Notes for tables 2.2a to 2.2d and figures 2.3a to 2.3c:

1. Croppable area is defined as land under crops, temporary grass under five years old and uncropped arable land.

Source: June Surveys/Census of Agriculture/SAF land data Scotland.

Download the full Structure of industry dataset

Tables 2.3a to 2.3b - Numbers of holdings and areas by size group and country at June of each year

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Table 2.3a Numbers of holdings by total area size group and country (thousand)

Country	Under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total
England	40	21	17	25	102
Wales	21	7	5	5	38
Scotland	26	5	4	8	43
Northern Ireland	11	8	4	2	26

Table 2.3b Total area on holdings by size group and country (thousand hectares)

Country	Under 20 hectares	20 to under 50 hectares	50 to under 100 hectares	100 hectares and over	Total area
England	327	689	1,220	6,763	8,999
Wales	123	219	361	1,065	1,768
Scotland	150	167	301	4,714	5,331
Northern Ireland	113	268	281	380	1,042

Figure 2.4 Average total area on holdings by country (hectares)

Country	Average total area	Average total area on holdings with >=20 hectares
England	88	139
Wales	47	99
Scotland	123	297
Northern Ireland	40	64
United Kingdom	82	148

Source: June Surveys/Census of Agriculture/SAF land data Scotland.

Download the full Structure of industry dataset

Agriculture Workforce

The agricultural workforce in 2023 decreased by 1.7% and was 462 thousand people. Farmers, business partners, directors and spouses accounted for almost two thirds of the total labour force.

Figure 2.5 Agricultural labour force on commercial holdings at June of each year (thousand)

Enquiries: Will Drabble on +44 (0) 3000 600 170
Email: farming-statistics@defra.gov.uk

Year	Farmers, business partners, directors and spouses (full time)	Farmers, business partners, directors and spouses (part time)	Regular employees, salaried managers and casual workers	Total labour force
2021	147	153	167	467
2022	147	155	168	470
2023	148	151	163	462

Notes:

1. Part-time is defined as working less than 39 hours per week (England & Wales), 38 hours per week (Scotland) and 30 hours per week (N. Ireland).
2. Regular employees include salaried managers as not all UK countries collect separate estimates.
3. For labour force numbers in earlier years see Structure of the agricultural industry.

Source: June Surveys/Census of Agriculture

Download the full Structure of industry dataset

Historical data on the proportion of holders by age group, up to and including 2016, are available in table 2.6 of the dataset for this chapter. Data has not been collected by all United Kingdom countries since 2016.

Chapter 3: Farming Income

Summary

- In 2022/23, the average **Farm Business Income (FBI)** across all farm types in Great Britain (Northern Ireland data for 2022/33 were not available at the time of publication) was £86,000 compared to the UK average of £72,000 in 2021/22.
- **FBI** varies greatly with 17% farms in Great Britain failing to make a positive FBI in 2022/23, while 41% of farms had an FBI of over £50,000.
- In 2023/24, lower prices for key outputs such as wheat and milk are expected to be one of the main factors influencing Farm Business Income. The impact of lower output prices will also be compounded by continued rises for some input costs.

Introduction

This chapter presents **Farm Business Income**. **Total Income from Farming (TIFF)** data can be found in Chapter 4.

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.

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

Table 3.3, found at the end of this chapter, provides more detailed information on definition, method used and similarities and differences for the two income measures.

Farm Business Incomes by farm type

The estimates of Farm Business Income are averages. It should be noted that across different regions and farm types, some farmers receive considerably more or less than these averages. Northern Ireland data for 2022/23 were not available at time of publication.

Forecasts of Farm Business Income for England, 2023/24 (i.e. the year ending February 2024 and harvest 2023) at current prices are shown in Table 3.1a. These forecasts include Basic Payment Scheme receipts which are recorded as due for the appropriate accounting year, for example receipts of the 2023 Basic Payment Scheme are recorded in the 2023/24 accounting year.

Note that forecasts of Farm Business Income in Wales and Scotland have not been produced. Forecasts for Northern Ireland were not available at time of publication. In England, no income forecasts for 2023/24 have been produced for specialist poultry or horticulture farms. These forecasts are subject to a considerable degree of uncertainty, reflecting both the structure of these sectors and the relatively small sample of these farms in the Farm Business Survey. These factors, combined with the market uncertainties and extreme price volatility of the last year, have meant it has not been possible to produce robust forecast estimates.

Lower prices for key outputs such as wheat and milk are expected to be one of the main factors influencing Farm Business Income in 2023/24. For some farm types, the impact of lower output prices will also be compounded by continued rises for certain input costs. In England, the average Basic Payment is expected to be around 40% lower across all farm types, reflecting the third year of progressive reductions to the payment. Although variation between farm types is forecast, at the all farm level payments from agri-environment activities are expected to increase to £15,000 (a rise of around £4,000).

On cereal farms in England, after two years of outstandingly high levels, average Farm Business Income is forecast to fall by around three quarters to £34,000. The fall is expected to be primarily driven by a substantial drop in output from crop enterprises, particularly wheat where lower prices (returning to around levels seen in 2020/21) will be influenced by plentiful global supplies of maize and adaptation to the situation in Ukraine. The area of wheat and the yield are also expected to be lower. At the same time, input costs are predicted to increase slightly compared to 2022/23, compounding an overall fall in output of around a quarter.

At £53,000, average income for general cropping farms in England is forecast to be 58% lower than 2022/23. As with cereal farms, a sizeable drop in output from cereals and oilseed rape is expected to be a key driver. The picture for other crop enterprises is forecast to be mixed, with falls in output for potatoes, peas and beans but a rise in output from sugar beet reflecting higher prices, crop area and yield. Overall, output is forecast to be 12% lower than 2022/23 while input costs are expected to increase by 2% with the largest rises to general farming costs, seeds and property costs.

On dairy farms in England, average income is forecast to fall by 78% to £50,000 from the exceptionally high level of 2022/23. A decrease in output from milk of around 19% is expected to be a key factor, driven by lower farmgate prices (which began to fall at the start of 2023). At the same time, input costs are forecast to be unchanged with lower feed costs and wages (reflecting a reduction in the number of workers rather than lower wages) offset by increases to general farming costs and, to a lesser extent, property costs and other livestock costs.

In England, income on lowland grazing livestock farms is forecast to increase by 5% to £23,000 while on less favoured area (LFA) grazing livestock farms average income will be marginally higher (1%) at £26,000. For both types of farm, increased output from sheep enterprises will be one of the main drivers reflecting firm prices for finished and store lambs across the period. Output from cattle is forecast to be little changed for lowland farms and slightly lower for LFA farms, as closing values are expected to be lower than 12 months ago. Input costs are forecast to be little changed on lowland farms and to decrease slightly for LFA farms.

Forecasts for specialist pig farms are subject to a considerable degree of uncertainty, reflecting both the structure of the sector and the relatively small sample of these farms in the Farm Business Survey in England. The average Farm Business Income for specialist pig farms is expected to increase by just over a third compared to 2022/23 to £91,000. Lower costs, particularly for feed (reflecting price decreases to feed ingredients such as wheat) are forecast to more than offset a reduction in output from both pig and cropping enterprises.

Incomes on mixed farms in England are expected to fall by nearly half to £37,000. The changes reported previously for specialist farm types will all have influenced the incomes for this farm type.

Tables 3.1a and 3.1b Farm Business Income by country and type of farm (average Farm Business Income per farm, £/farm)

Enquires: Alison Wray +44 (0)20 802 66119
Email:fbs.queries@defra.gov.uk

Table 3.1a Farm Business Income by country and type of farm (average Farm Business Income per farm at current prices, £/farm)

Standard Output Typology	2020/21	2021/22	2022/23	2023/24 (Provisional)
England				
Cereals	71,500	120,000	150,500	34,000
General cropping	67,000	145,500	125,000	53,000
Dairy	92,500	140,000	229,000	50,000
Grazing livestock (lowland)	18,500	34,000	21,500	23,000
Grazing livestock (LFA)	33,500	43,000	25,500	26,000
Specialist pigs	48,000	12,000	68,000	[x]
Specialist poultry	77,500	138,000	106,000	[x]
Mixed	40,000	74,000	68,000	37,000
Wales				
Dairy	60,000	88,000	165,000	[x]
Grazing livestock (lowland)	23,000	26,500	18,500	[x]
Grazing livestock (LFA)	30,000	38,500	24,500	[x]
Scotland				
Cereals	65,000	88,000	99,500	[x]
General cropping	72,000	85,500	167,000	[x]
Dairy	101,500	164,000	248,500	[x]
Grazing livestock (lowland)	30,500	32,000	19,500	[x]
Grazing livestock (LFA)	19,500	24,000	24,500	[x]
Mixed	46,000	61,500	85,500	[x]
Northern Ireland				
Dairy	63,000	83,000	[x]	[x]
Grazing livestock (LFA)	20,500	23,000	[x]	[x]

Table 3.1b Farm Business Income by type of farm in the UK (average Farm Business Income per farm, £/farm)

Standard Output Typology	2020/21	2021/22	2022/23	2023/24 (Provisional)
At current prices				
Cereals	70,500	115,500	144,000	[x]
General cropping	67,500	132,500	133,000	[x]
Dairy	81,500	119,500	218,000	[x]
Grazing livestock (lowland)	19,500	32,500	21,000	[x]
Grazing livestock (LFA)	26,500	33,000	25,000	[x]
Specialist pigs	50,500	14,000	68,000	[x]
Specialist poultry	77,500	138,000	106,000	[x]
Mixed	41,500	71,500	70,000	[x]
All types (including Horticulture)	46,500	72,000	86,000	[x]
In real terms (at 2022/23 prices)				
Cereals	74,500	123,500	144,000	[x]
General cropping	71,500	141,500	133,000	[x]
Dairy	86,000	127,500	218,000	[x]
Grazing livestock (lowland)	20,500	34,500	21,000	[x]
Grazing livestock (LFA)	28,000	35,500	25,000	[x]
Specialist pigs	53,500	15,000	68,000	[x]
Specialist poultry	82,000	147,500	106,000	[x]
Mixed	44,000	76,000	70,000	[x]
All types (including Horticulture)	49,500	77,000	86,000	[x]

Notes for table 3.1a and 3.1b:

1. [x] data unavailable.
2. Years are accounting years ending on average in February.
3. Figures for 2020/21 to 2022/23 rounded to the nearest £500.
4. Forecast figures for 2023/24 rounded to the nearest £1,000.
5. Figures for 2023/24 are provisional and subject to revision.
6. Table 3.1a figures are at current prices.
7. Table 3.1b figures are shown at current prices and in real terms. Real term figures are adjusted for inflation using GDP deflator.
8. Table 3.1b UK farm type averages include data for some member countries that are not presented separately in the country level breakdown at Table 3.1a. Data for 2022/23 are for Great Britain only.

Download the full Farming income dataset

Distribution of farm incomes and performance

Tables 3.2a to 3.2c show the variation in the level of Farm Business Income, Net Farm Income and Cash Income across farms in England, Wales and Scotland for 2022/23. Northern Ireland data for 2022/23 were not available at the time of publication.

Around 17% of farms in Great Britain (GB) failed to make a positive Farm Business Income compared to 10% in 2021/22, although there was some slight variation between countries with the proportion higher in Wales at 19%. Just over a third of farms in Great Britain fell into the lower income brackets (less than £20,000). At the top end of the scale, 41% of farms had a Farm Business Income of more than £50,000, no change on the 2021/22 UK proportion. However, there was again some variation between countries in this highest income category. For England and Scotland, the proportion of farms was 43% and 45% respectively, while for Wales the proportion of farms was 25%.

A greater proportion of farms fall into 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 a quarter of farms in Great Britain failed to make a profit.

For comparison, the full distribution of farm incomes for 2021/22 can be found in Chapter 3 of the 2022 Agriculture in the UK.

Tables 3.2a to 3.2c All farm types: distribution of farm incomes by country 2022/23 (percentage of farms)

Enquires: Alison Wray +44 (0)20 802 66119
Email:fbs.queries@defra.gov.uk

Table 3.2a Farm Business Income (percentage of farms)

Farm Business Income	England	Wales	Scotland	Great Britain
Less than zero	17%	19%	17%	17%
0 to less than £5,000	4%	6%	4%	4%
£5,000 to less than £10,000	5%	11%	4%	6%
£10,000 to less than £20,000	9%	14%	11%	10%
£20,000 to less than £30,000	9%	11%	8%	9%
£30,000 to less than £50,000	14%	13%	11%	13%
£50,000 and over	43%	25%	45%	41%
Average (£ thousand per farm)	96	47	69	86

Table 3.2b Net Farm Income (percentage of farms)

Net Farm Income	England	Wales	Scotland	Great Britain
Less than zero	25%	32%	23%	25%
0 to less than £5,000	6%	9%	4%	6%
£5,000 to less than £10,000	5%	8%	3%	5%
£10,000 to less than £20,000	9%	11%	11%	10%
£20,000 to less than £30,000	8%	10%	7%	8%
£30,000 to less than £50,000	10%	12%	15%	11%
£50,000 and over	37%	19%	36%	35%
Average (£ thousand per farm)	83	34	57	73

Table 3.2c Cash Income (percentage of farms)

Cash Income	England	Wales	Scotland	Great Britain
Less than zero	11%	11%	10%	11%
0 to less than £5,000	4%	5%	2%	4%
£5,000 to less than £10,000	4%	5%	2%	4%
£10,000 to less than £20,000	11%	15%	10%	11%
£20,000 to less than £30,000	9%	14%	11%	10%
£30,000 to less than £50,000	12%	15%	15%	13%
£50,000 and over	50%	35%	50%	48%
Average (£ thousand per farm)	112	64	85	102

Download the full Farming income dataset

Figure 3.1 shows the differences in performance of farms in England for 2022/23. 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 45% of farms failing to recover their costs in that year.

Figure 3.1 Distribution of performance across farms 2022/23: England only (£ output per £100 input)

Enquires: Alison Wray +44 (0)20 802 66119
Email:fbs.queries@defra.gov.uk

£ output per £100 input	%
0 < 60	7.6%
60 < 70	4.9%
70 < 80	9.0%
80 < 90	10.8%
90 < 100	13.1%
100 < 110	11.9%
110 < 120	10.7%
120 < 130	10.3%
130 < 140	6.0%
140 < 150	4.5%
150 < 160	4.3%
160 < 170	2.5%
170 and over	4.4%

Notes:

1. Performance is based on the ratio of farm business output to farm business costs which includes an adjustment for unpaid labour

Source: Farm Business Survey

Download the full Farming income dataset

Definitions and explanatory note

There are two main measures of agricultural income which are closely related and complement each other. Total Income from Farming provides an estimate of total income for agriculture as a whole whereas Farm Business Income provides a breakdown of average incomes by farm type. Table 3.3 compares the two measures in terms of definition, methodology and main similarities and differences.

Table 3.3 Comparison table showing main similarities and differences between Total Income from Farming (TIFF) and Farm Business Income (FBI) statistics

	Total Income from Farming	Farm Business Income
Geographic scope	United Kingdom	England
Reference period	Calendar year	12-month period March to February
Definition	Represents business profits and remuneration for work done by owners and other unpaid workers.	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.
Data source	A wide range of data sources including industry data and Defra survey data (i.e. the Farm Business Survey).	Farm Business Survey: annual sample surveys run by each of the four UK countries.
Method	Gross output at basic prices	Total output from agriculture (includes crop and livestock valuation change)
	plus Other subsidies less taxes	plus Total output from agri-environment schemes
	less Total intermediate consumption, rent, paid labour	plus Total output from diversification
	less Total consumption of fixed capital (depreciation)	plus Single/Basic payment scheme
	less Interest	less Expenditure (costs, overheads, fuel, repairs, rent, depreciation, paid labour)
		plus Profit / (loss) on sale of fixed assets.
Differences	The main aggregate measure of farm income used to assess agriculture as a whole.	The preferred measure for comparisons of farm type.
	Treatment of stocks: the physical changes in stocks valued at average calendar year prices.	Treatment of stocks: the change in the book value of stocks between the start and end of the accounting year.
Similarities	Complete range of on-farm activities including income from diversified activities	Complete range of on-farm activities including income from diversified

	Total Income from Farming	Farm Business Income
	where they are included in the farm accounts.	activities where they are included in the farm accounts.
	Does not subtract imputed rent for owner occupiers.	Does not subtract imputed rent for owner occupiers.

Revisions

Compared with the provisional 2022/23 results published in the 2022 edition of AUK, the outturns (based on actual survey results from the Farm Business Survey) for LFA grazing livestock farms were higher than forecast due to input cost increases being lower than anticipated. For all other farm types, the forecasts were within the confidence intervals of the survey outturns.

No England forecasts were produced for specialist pig or specialist poultry farms in 2022/23 as these are subject to a considerable degree of uncertainty, reflecting both the structure of these sectors and the relatively small sample of these farms in the Farm Business Survey. These factors, combined with the market uncertainties and extreme price volatility of the last year, meant it was not possible to produce robust forecast estimates.

Chapter 4: Accounts

There may be small discrepancies between numbers presented in this chapter and those in Chapter 7: Crops and Chapter 8: Livestock due to slight differences in the application of these statistics and therefore in calculation methodology.

Summary

In this section, all values are provided in current prices which is considered the most intuitive approach for comparisons over a short time period. It should be noted that these values have not been adjusted for inflation, which was unusually high in 2023 at 7.1%.

Key results for 2023:

- **UK Total Income from Farming (TIFF)** in 2023 was £7.2 billion, a decrease of £0.8 billion (-9.8%) from 2022. Following historically high commodity prices in 2022, driven by global events, there were reductions in the commodity prices of key crops and livestock outputs. This, coupled with a poor harvest in many crop items, was not offset by a reduction in the value of inputs resulting in a substantial reduction in TIFF.
- **Total livestock output** in 2023 was £19.2 billion, a decrease of £0.1 billion (-0.7%) from 2022. This decrease was driven by a fall in the value of milk (-10%) and sheep for meat (-2.7%). Milk farmgate prices have fallen in 2023 after the historical highs of 2022, driven by an increase in supply in the first half of 2023 and weaker demand.
- In 2023, **total crop output** decreased by £1.3 billion (-9.7%) from 2022, to £12.0 billion. This decrease was driven by a substantial fall in the values of wheat and barley (-28% and -26% respectively) as well as oilseed rape (-45%). The unit prices of these three crops decreased in 2023 from the historically high prices seen in 2022.
- **Intermediate consumption** decreased by £0.6 billion (-2.8%) from 2022, to £21.1 billion in 2023. This decrease was primarily driven by a 28% decrease in the value of fertilisers.
- In 2023, agriculture's contribution to the UK economy (**Gross Value Added at basic prices**) was £13.7 billion (0.6% of GVA). This constitutes a decrease of £0.6 billion (-4.5%) in GVA compared to 2022.

Introduction

This chapter shows production and income accounts for agriculture in the United Kingdom.

These accounts conform to internationally agreed accounting principles required by the United Kingdom's Office for National Statistics.

Total Income from Farming (TIFF) is the total profit from all UK farming businesses on a calendar year basis. It measures the return to all agricultural entrepreneurs for their management, inputs, labour and capital invested. For differences between TIFF and Farm Business Income statistics presented in Chapter 3, see Table 3.3.

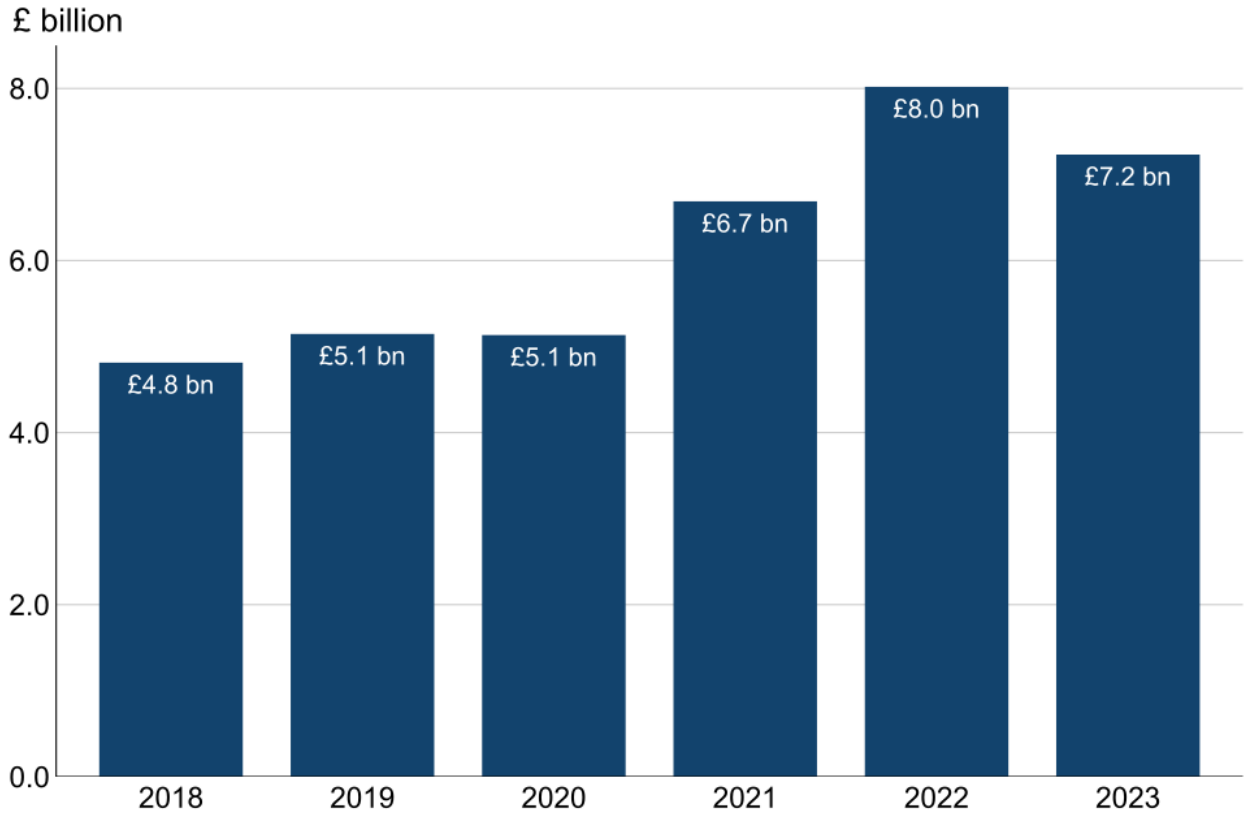
When comparing more recent years, values are presented at current prices (not adjusted for inflation). For long term trends in TIFF, values are presented in real terms. This means the figures have been adjusted to account for inflation, which allows more meaningful comparisons between years over the longer term.

TIFF in recent years

In this section, all values are provided in current prices which is considered the most intuitive approach for comparisons over a short time period. It should be noted that these values have not been adjusted for inflation, which was unusually high in 2023 at 7.1%.

Figure 4.1: Total Income from Farming for the United Kingdom: 2018 to 2023 at current prices (£ billion)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description of Figure 4.1: Figure 4.1 shows the value of TIFF from 2018 to 2023 at current prices. TIFF is presented in billions.

Download the full Accounts dataset

Figure 4.1 shows the value of TIFF from 2018 to 2023 at current prices. Since 2018, the average value of TIFF has been £6.2 billion, with the lowest value of £4.8 billion occurring in 2018, and the highest value of £8.0 billion occurring in 2022. TIFF in 2023 was the second highest in this period, in current prices, at £7.2 billion, though this was a fall of 9.8% from 2022.

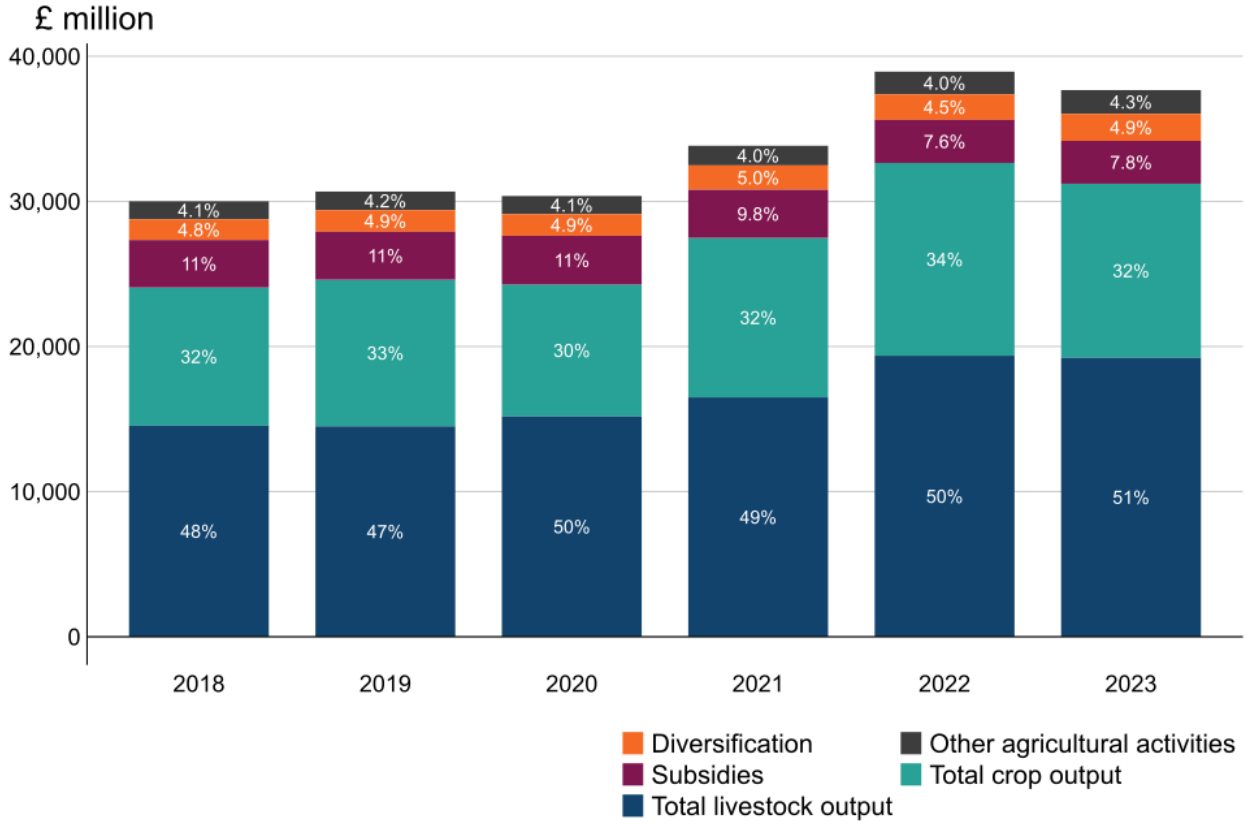
Outputs and subsidies

In this section, all values are provided in current prices which is considered the most intuitive approach for comparisons over a short time period. It should be noted that these values have not been adjusted for inflation, which was unusually high in 2023 at 7.1%.

Overview

Figure 4.2: Summary of outputs and subsidies, 2018 to 2023 (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Notes:

1. To improve clarity, the item ‘Inseparable non-agricultural activities’ has been renamed ‘Diversification’ from this release onwards.

Text description of Figure 4.2: Figure 4.2 shows the value of all outputs and subsidies from 2018 to 2023. Values are presented in millions. Outputs and subsidies represent all financial incomes to farmers. Total livestock output is consistently the largest contributor to the value of all outputs and subsidies.

Download the full Accounts dataset

Figure 4.2 shows the value of all outputs and subsidies from 2018 to 2023. Outputs and subsidies represent all financial incomes to farmers. Total livestock output is consistently the largest contributor to the value of all outputs and subsidies. In 2023, total livestock output was £19,229 million, a decrease of £136 million (-0.7%) on 2022. The second largest contribution to the value of outputs and subsidies in 2023 was total crop output at £11,990 million, a decrease of £1,295 million (-9.7%) on 2022. The remaining incomes to farmers in 2023 were subsidies (£2,953 million), diversification (£1,863 million) and other agricultural activities (£1,637 million).

Total livestock output

Figure 4.3: Main contributions to total livestock output (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
Milk	6,659	5,983
Beef	3,750	3,908
Poultry	3,168	3,542
Pigmeat	1,730	1,838
Mutton and lamb	1,627	1,582
Livestock gross fixed capital formation	1,490	1,219
Eggs	774	1,003

Download the full Accounts dataset

Despite also having the largest decrease of any livestock item, the largest contribution to total livestock output in 2023 was milk with a value of £5,983 million. The average UK farmgate milk price reached a historic high of 51.6 pence per litre in December 2022. From January 2023, prices started to fall before stabilising from May 2023 onwards. Prices fell at the start of the year due to an increase in supply in the spring flush, a fall in the price of key inputs and weaker demand. Production started to decrease from the early summer, with overall production in 2023 comparable to 2022.

In 2023, the largest value increase in total livestock output was poultry with an increase of £374 million (12%) on 2022. The overall value of poultry meat production in 2023 was £3.5 billion, driven by an increase of 16% in the value of table chickens. This was a result of price increases for poultry, with prices for table chickens rising by 15%. Overall, home-fed poultry meat production decreased by 0.8%, despite a 0.5% increase in table chicken meat production.

The value of egg production in 2023 was £1,003 million, an increase of £229 million (30%) from 2022. This is largely as a result of the continued industry trend towards producing more free range eggs, which are priced higher than enriched eggs. Overall, egg prices increased by 41% from 2022 to 117 pence per dozen.

Total crop output

Figure 4.4: Main contributions to total crop output (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
Wheat	4,062	2,912
Fresh vegetables	1,692	1,860
Plants and flowers	1,538	1,686
Barley	1,818	1,351
Fruit	1,018	1,039
Potatoes	768	1,005
Other crop products	602	589
Other industrial crops	435	578
Oilseed rape	878	483
Forage plants	200	263

Download the full Accounts dataset

Despite also having the largest value decrease (£1,150 million) and the second largest percentage decrease (-28%) of any output account item, the largest contribution to total crop output in 2023 was wheat with a value of £2,912 million. Harvested wheat production decreased by 11% from 2022, as a result of a decline in both the area planted (5.1%) and the yield. Easing of prices throughout 2023 from the historically high prices of 2022 also contributed to the decline in the value, with breadmaking wheat and feed wheat prices down by 13% and 22% respectively. The weather throughout the year also led to variable wheat quality, reducing the percentage of homegrown wheat that could be sold at the highest price category.

The largest value increase in a crop item was in potatoes, which increased from £768 million in 2022 to £1,005 million in 2023, an increase of £237 million (31%). This increase was driven by price, which was 41% higher than in 2022, and more than offset a substantial decrease in the volume of production.

2023 was an unfavourable year for cereal crops and oilseed rape. Poor weather reduced yields and impacted quality, and there were large reductions in commodity prices from 2022 following global market trends. This meant that values decreased substantially, with barley and oilseed rape values falling by 26% and 45% respectively.

Other Outputs and Subsidies

Table 4.1: Breakdown of other incomes and subsidies (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
Subsidies not linked to production	2,920	2,905
Diversification	1,764	1,863
Other agricultural activities	1,560	1,637
Subsidies linked to production	48	48

Notes:

1. 'Subsidies not linked to production' includes subsidies not directly linked to production, including the Basic Payment Scheme and Agri-environment schemes, including the Countryside Stewardship Scheme and Sustainable Farming Incentive.
2. For a full breakdown of subsidies see Chapter 10: Public Payments. Please note there may be small differences between the 'Subsidies not linked to production' in Table 4.1 and 'Decoupled and other payments' in Table 10.1 and Table 10.2 due to the inclusion of one-off payments in the latter.
3. To improve clarity, the item 'Inseparable non-agricultural activities' has been renamed 'Diversification' from this release onwards

Download the full Accounts dataset

The value of subsidies not linked to production decreased by 15.5 million (-0.5%) from 2022. This decrease was driven by a 12% decline in the value of Basic Payment Scheme payments but partially offset by an 81% increase in the value of Agri-environment scheme payments.

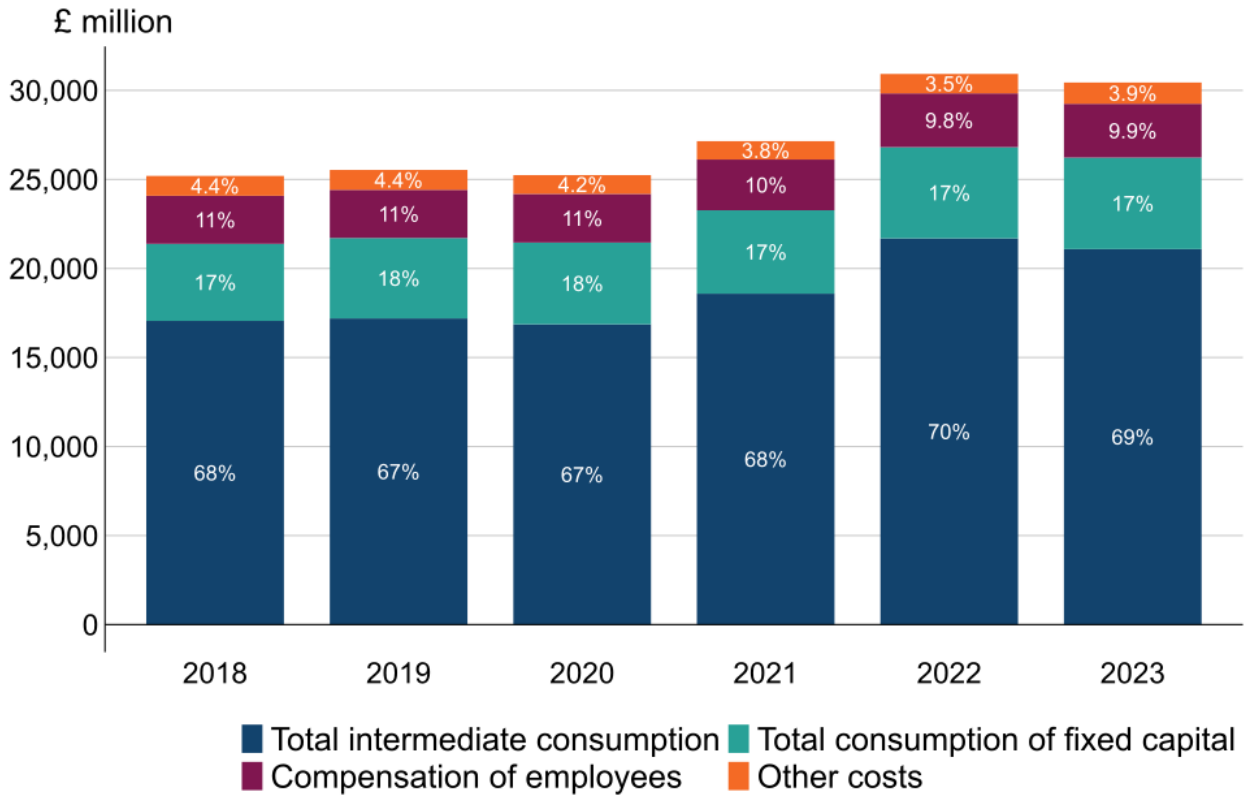
Inputs and costs

In this section, all values are provided in current prices which is considered the most intuitive approach for comparisons over a short time period. It should be noted that these values have not been adjusted for inflation, which was unusually high in 2023 at 7.1%.

Overview

Figure 4.5: Summary of inputs and costs, 2018 to 2023 (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description of Figure 4.5: Figure 4.5 shows the make-up of all inputs and costs from 2018 to 2023. Inputs and costs represent all money paid out by farmers during a calendar year. Values are presented in millions.

Download the full Accounts dataset

Figure 4.5 shows the make-up of all inputs and costs from 2018 to 2023. Inputs and costs represent all money paid out by farmers during a calendar year. The make-up of all inputs and costs has been remarkably constant for the last 6 years. The largest cost facing farmers is intermediate consumption. In 2023 the value of intermediate consumption was £21,086 million, a decrease of £605 million (-2.8%) on 2022. The remaining costs in 2023 were total consumption of fixed capital (£5,140 million), compensation of employees (£3,020 million) and other costs (£1,194 million).

Inputs: Intermediate consumption

Intermediate consumption represents items that are used up during the production of farm outputs. The accounts are set up in a way to provide a picture of the agriculture

industry in an annual year in terms of money spent and money received by farming businesses. For intermediate consumption, we rely on data from the Farm Business Survey on expenditure. However, this data is only available two years in arrears and so our initial estimate each year is based on information from industry experts, which is then replaced with Farm Business Survey data the following year, resulting in revisions to the intermediate consumption estimates.

Figure 4.6: Main contributions to intermediate consumption (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
Animal feed: compounds	5,014	4,772
Other goods and services	3,475	3,603
Total maintenance	2,058	2,197
Animal feed: straights	2,035	1,853
Agricultural services	1,560	1,637
Fertilisers	1,903	1,362
Animal feed: other	1,170	1,195
Motor and machinery fuels	1,249	1,123
Plant protection products	966	1,048
Seeds	916	881
Electricity and fuels for heating	680	790
Veterinary expenses	498	510

Notes:

1. ‘Animal feed: other’ represents feed produced and used on farm or purchased from other farms.

Download the full Accounts dataset

The largest contribution to intermediate consumption was compound animal feed with a value of £4,772 million, a decrease of £242 million (-4.8%) from 2022. Total compound feed production decreased by 3.6% from 2022 with decreases across cattle, pigs, sheep and poultry. Compound feed production for calves showed a small increase of 1.3%. The pig and poultry sectors have encountered problems over the last few years due to a combination of high feed and energy costs, butchery capacity and disease risks.

The value of fertiliser in 2023 was £1,362 million, a decrease of £541 million (-28%) from 2022. The prices of nitrogenous, phosphatic and potassic straight fertilisers all decreased in line with oil prices, by 41%, 36% and 26% respectively. These price decreases encouraged farmers to apply more fertiliser, resulting in a volume increase that slightly off-set the price reductions.

Overall there was a mixture of increases and decreases across intermediate consumption, with the increases in value largely driven by inflation. The items that decreased in value did so because of their reliance on oil, the price of which fell after the markets stabilised following the initial market shock of the conflict in Ukraine.

Other Inputs and Costs

Table 4.2: Breakdown of other inputs and costs (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
Total consumption of fixed capital	**5,120**	**5,140**
Equipment consumption of fixed capital	2,417	2,531
Livestock consumption of fixed capital	1,487	1,347
Buildings consumption of fixed capital	1,216	1,262
Other taxes on production	**96**	**96**
Compensation of employees	**3,022**	**3,020**
Rent	**539**	**587**
Interest	**455**	**510**

Notes:

1. There has been a revision in the value of Compensation of employees for 2021 and 2022. See ‘Revisions’ in this chapter for details.

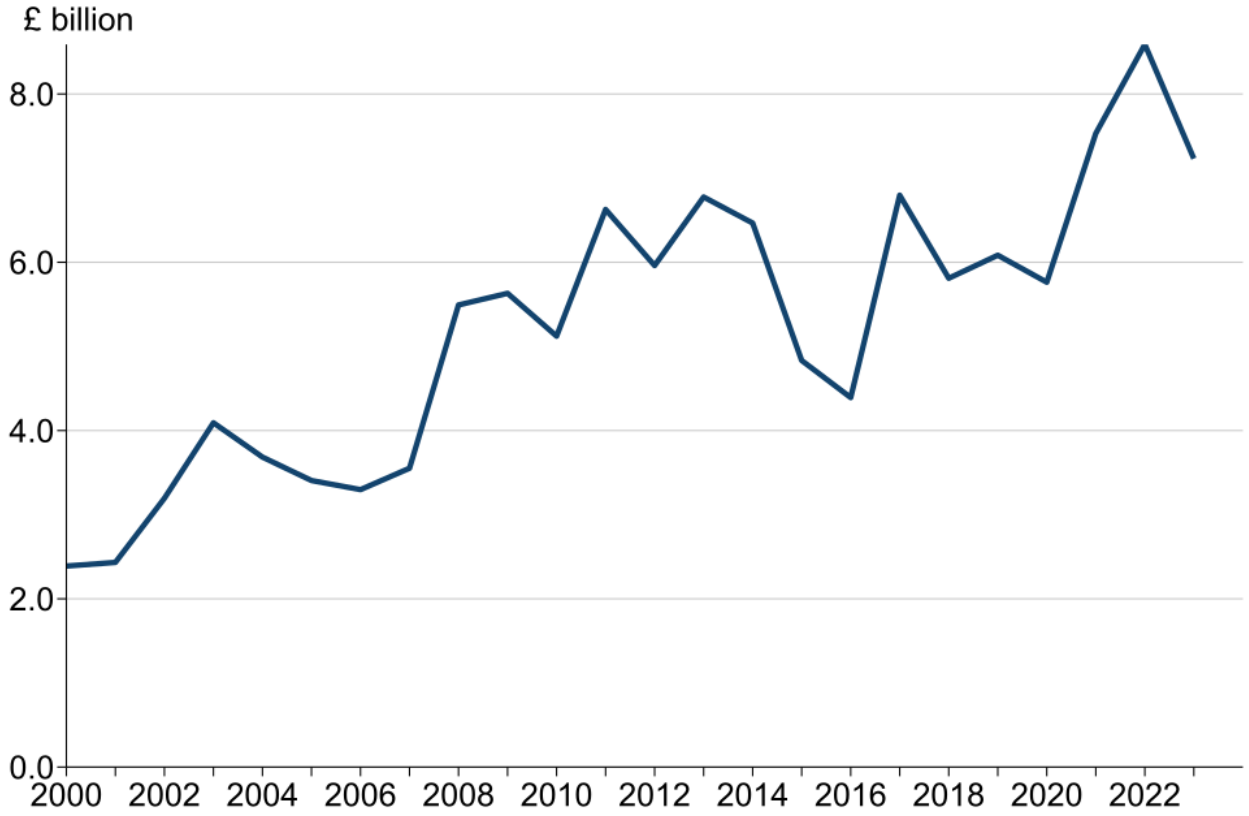
Download the full Accounts dataset

Long Term Trends in TIFF

Values in this section are expressed in real terms at 2023 prices. The figures have been adjusted to account for inflation, which allows more meaningful comparisons between years over the longer term. However it should be noted that inflation was unusually high in 2023 at 7.1%.

Figure 4.7: Long term trends in TIFF, 2000 to 2023 (£ billion)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description of Figure 4.7: Figure 4.7 shows the long term trend in TIFF from 2000 to 2023. TIFF is presented in millions.

Download the full Accounts dataset

Table 4.3: Headline figures in real terms 2018 to 2023 (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2018	2019	2020	2021	2022	2023
Total crop output	11,495	11,947	10,207	12,383	14,230	11,990
Total livestock output	17,562	17,140	17,049	18,577	20,743	19,229
Total intermediate consumption	20,591	20,323	18,935	20,932	23,234	21,086
Total income from farming	**5,810**	**6,084**	**5,763**	**7,531**	**8,589**	**7,232**

Download the full Accounts dataset

In real terms, UK TIFF rose strongly between 2000 and 2008, then remained around the £5 billion to £7 billion range, with some large year-on-year fluctuations, up to 2014.

TIFF fell sharply in 2015 driven by lower commodity prices and a stronger pound. In 2016, the exchange rate improved but a poor harvest and continued low commodity prices kept income low. In 2017, TIFF reached the highest point for 20 years as a result of a favourable combination of a weaker pound, strong commodity prices and high levels of production. In 2018, extreme weather conditions led to poor yields and pushed up the price of key inputs. These factors were not fully offset by strong commodity prices resulting in a 15% fall in TIFF that year. Favourable weather in 2019 produced modest increases to both crop output and TIFF. In 2020, poor weather during winter sowing resulted in the lowest wheat value, in real terms, since 2006. This was offset by a strong year for livestock and relatively low year for costs, resulting in a modest 5.1% fall in TIFF from 2019.

2021 saw more typical weather than 2020 resulting in a large increase in output values, particularly crops, which outweighed increases in inputs and costs. This, combined with inflation of less than 0.1%, led to the sharp increase (30%) in TIFF seen between 2020 and 2021. 2022 saw the largest value for TIFF, in real terms, since 1995 and the second highest in the last 40 years. This was driven by good yields across most crops and substantial price increases in wheat, barley, oilseed rape and milk, which more than offset the price increases as a result of high oil prices following the Russian invasion of Ukraine.

In 2023, TIFF was £7,232 million, a decrease of £1,358 million (-16%) in real terms from 2022. With supplies which had previously been disrupted able to be exported from Ukraine, it was expected that commodity prices would decrease as the global markets eased. While this was seen and has been one of the factors, the addition of a poor year of weather for cereals meant that the value of production in the UK fell by more than expected leading to the overall decrease seen in TIFF.

Balance Sheet for the United Kingdom Agricultural Industry

Table 4.4: Balance sheet (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2020	2021	2022	2023
Total fixed assets	286,163	331,267	332,943	373,337
Total current assets	16,328	18,370	19,090	17,965
Total assets	**302,491**	**349,638**	**352,033**	**391,301**
Total long and medium term liabilities	15,523	16,393	16,628	16,064
Total short term liabilities	5,466	5,924	6,027	5,773
Total liabilities	**20,989**	**22,317**	**22,655**	**21,837**
Net worth	**281,502**	**327,321**	**329,378**	**369,465**

Notes:

1. Balance sheet as at December each year.

Download the full Accounts dataset

Table 4.4 presents the agricultural balance sheet which values the assets and liabilities for agriculture at the end of each calendar year and estimates the net worth of the industry. Overall net worth is estimated to have been £369,465 million in 2023, an increase of £40,087 million (12%) on 2022. This was the result of an increase in total assets of 11% and a decrease in total liabilities of 3.6%. Land is the largest fixed asset in the agricultural industry with a value of £322,249 million in 2023, an increase of 15% on 2022.

Table 4.5: Balance sheet in real terms (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2020	2021	2022	2023
Total assets	333,054	384,602	368,796	391,301
Total liabilities	23,109	24,549	23,734	21,837
Net worth	**309,945**	**360,053**	**345,062**	**369,465**

Download the full Accounts dataset

In real terms at 2023 prices, net worth increased by 7.1% from 2022. Total assets increased by 6.1% and total liabilities decreased by 8.0%.

About these statistics

Revisions

Table 4.6: Revisions in total outputs, inputs and TIFF (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	Previous estimate for 2022 (Published May 2023)	Current estimate for 2022 (Published May 2024)	% change (from May 23 to May 24 estimate)
All outputs and subsidies	38,912	38,846	-0.2%
All inputs and costs	30,971	30,827	-0.5%
Total income from farming	7,940	8,019	1.0%

Download the full Accounts dataset

Table 4.7: Revisions larger than £100 million in outputs 2022 (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	Previous estimate for 2022 (Published May 2023)	Current estimate for 2022 (Published May 2024)	% change (from May 23 to May 24 estimate)
Eggs	640	774	20.9%
Other agricultural activities	1,448	1,560	7.8%
Subsidies not linked to production	3,073	2,920	-5.0%

Download the full Accounts dataset

There is a revision to the 2022 value of eggs due to additional data becoming available for the 2022 price and production time series after the publication of Total Income from Farming 2022.

‘Other agricultural activities’ is an account item that represents the money received by farmers when they fulfil contracts for other farms particularly around harvest time where not every farmer will have a combine. This item is matched on the inputs and costs side of the account by “agricultural services” as that is the amount paid by farmers to other farmers for the services. This means that although there were revisions to both these

items, having received Survey data, they have not had an impact on TIFF as the value has changed on both sides of the account.

Subsidies not linked to production has been revised for 2022 due to calendar year data becoming available for 2022 onwards. Prior to 2022 the data are based on Q4 to Q3 years.

Table 4.8: Revisions larger than £100 million in inputs and costs (£ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	Previous estimate for 2022 (Published May 2023)	Current estimate for 2022 (Published May 2024)	% change (from May 23 to May 24 estimate)
Seeds	748	916	22.5%
Motor and machinery fuels	1,371	1,249	-8.9%
Fertilisers	2,490	1,903	-23.6%
Animal feed: straights	1,926	2,035	5.7%
Agricultural services value	1,448	1,560	7.8%
Compensation of employees	2,828	3,022	6.8%

Download the full Accounts dataset

The revisions in seeds, motor and machinery fuels and fertilisers are a result of the replacement of industry estimates with survey data, as explained in the intermediate consumption section. Because of the difference between usage and purchase practices when prices are volatile it is particularly difficult to estimate what is being spent by farm businesses in a year.

The value of straight animal feed was also revised due to more data becoming available after the publication of Total Income from Farming in 2022.

Following a review of the methodology in calculating the wage data for compensation of employees, the values for compensation of employees have been revised for 2021 and 2022.

As a result of more data becoming available over time there have also been minor revisions to earlier years in this release. These revisions are intended to enhance the precision of these estimates. Sometimes additional revisions are necessary to refine the methodology or correct historical errors.

Glossary of other Key Terms

- **Gross Value Added (GVA)** is computed as Gross output minus intermediate consumption and represents that contribution of a business, sector or industry to Gross Domestic Product (GDP).
- **Basic price** is the market price plus directly paid subsidies that are linked to the production of specific products.
- **Current price** is the value based on prices observed during the reference year (i.e. values not adjusted for inflation). The alternative to current price is ‘real terms’.
- **Real terms** is where values from previous years have been adjusted for inflation. The alternative to real terms is ‘current price’.
- **Intermediate consumption** is the goods and services used as inputs in the productive process, e.g. feed, energy and fertilisers.
- **Other costs** includes other taxes on production, rent and interest paid.

Chapter 5: Productivity

Summary

Key results for 2023 compared to 2022:

- **Total Factor Productivity** is estimated to have decreased by 5.1% between 2022 and 2023. This was driven by a decrease in the volume of outputs and a slight increase in the volume of inputs.
- The volume of **all outputs** decreased by 5.0%. There were decreases across all output groups apart from industrial crops which saw a 2.7% increase. This increase for industrial crops was more than offset by decreases across other crops to give an overall reduction in the volume of total crop output of 7.9%. There were also decreases across all livestock volumes, with a 5.4% decrease in livestock for meat and a 0.8% decrease in the volume of other livestock products.
- The volume of **all inputs** increased by 0.1%. There was a mixture of increases and decreases in the volume of inputs used, with fertiliser showing the largest increase driven by a reduction in prices.

Figure 5.1: Summary of key indices 2022 to 2023 (1973 = 100)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023
All outputs	138.7	131.8
All inputs	82.4	82.6
Total factor productivity	**168.2**	**159.6**

Download the full Productivity dataset

Introduction

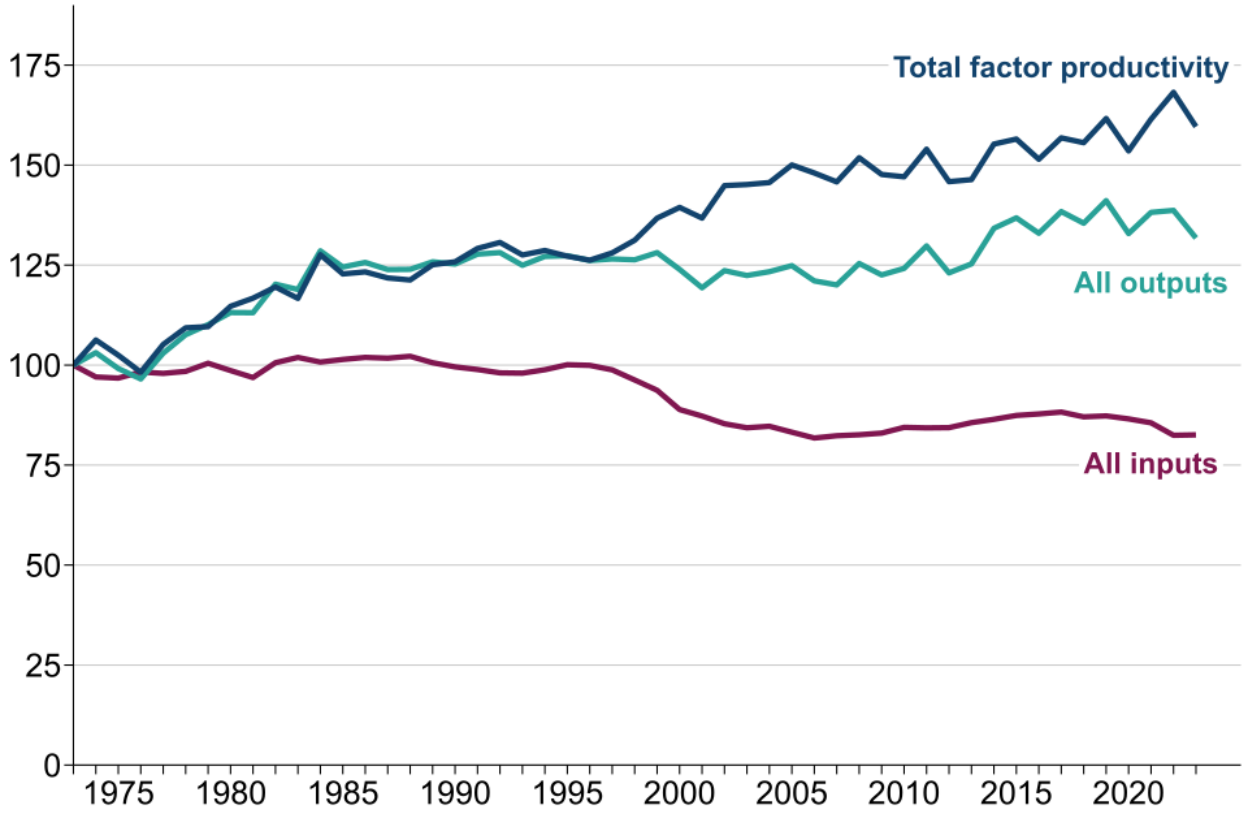
Total Factor Productivity (TFP) is a measure of how well inputs are converted into outputs, giving an indication of the efficiency and competitiveness of the agricultural industry. Although external factors such as weather conditions or disease outbreaks may have a short-term impact on productivity, it is developments that improve productivity over a longer period that constitute one of the main drivers of agricultural income.

TFP estimates are derived from the aggregate farm accounts data used to calculate UK Total Income from Farming (TIFF) presented in Chapter 4: Accounts.

Long term trends

Figure 5.2: Long term trends in TFP of the UK agricultural industry (1973 = 100)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description of Figure 5.2: Figure 5.2 is a line chart showing the trend in Total Factor Productivity from 1973 to 2023. The chart is presented as an index (1973 = 100). Data is shown for All inputs, All outputs and Total factor productivity.

Download the full Productivity dataset

TFP of the agricultural industry in the United Kingdom decreased by 5.1% between 2022 and 2023. Since the series began in 1973, TFP has increased by 60%, driven by an increase in the volume of all outputs of 32% and a decrease in the volume of all inputs of 17%.

Annual changes, 2022 to 2023

All outputs

‘All outputs’ represents the change in volume (expressed as an index based to 1973) of all outputs sold off the farm, excluding transactions within the agricultural industry.

Table 5.1: Volume indices for outputs (1973 = 100)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023	Annual Change
Output of cereals	190.3	160.7	-16%
Output of industrial crops	235.0	241.3	2.7%
Output of forage plants	99.3	99.3	0.0%
Output of vegetables and horticultural products	77.3	77.0	-0.4%
Output of potatoes	90.2	84.0	-6.9%
Output of fruit	134.0	118.5	-12%
Output of other crop products	120.1	118.5	-1.3%
Total crop output	**146.6**	**135.0**	**-7.9%**
Output of livestock (meat)	132.4	125.2	-5.4%
Output of livestock products	108.5	107.6	-0.8%
Total livestock output	**122.6**	**118.2**	**-3.6%**
Diversification	581.9	575.9	-1.0%
All outputs	**138.7**	**131.8**	**-5.0%**

Notes

1. Diversification has replaced the name of the item ‘Inseparable non-agricultural activities’ for clarity following feedback on our statistical release.

Download the full Productivity dataset

The volume of all outputs decreased by 5.0% between 2022 and 2023. This was the result of decreases in both the volume of total crop output (-7.9%) and the volume of total livestock output (-3.6%).

The largest percentage decrease within total crop output between 2022 and 2023 was in cereals, which decreased by 16%. This was driven by decreases in the production of both wheat and barley in 2023. Harvested wheat production decreased by 11% from 2022, as a result of a decline in both the area planted (5.1%) and the yield. Harvested barley production in 2023 decreased by 5.7%, despite a slight increase in the area grown, with yields down by 7.5%.

The biggest change in total livestock output was in the output of livestock for meat, which decreased by 5.4%. This was driven by decreases in the volume of production of all livestock animals for meat with pigmeat seeing the largest decreases.

All inputs

'All inputs and entrepreneurial labour' represents the change in volume (expressed as an index based to 1973) of all goods and services purchased and consumed, excluding transactions within the agricultural industry.

Table 5.2: Volume indices for inputs (1973 = 100)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023	Annual Change
Seeds	124.8	122.7	-1.7%
Energy	43.4	44.7	3.0%
Fertilisers	40.1	46.2	15%
Plant protection products	298.0	286.3	-3.9%
Veterinary expenses	123.3	122.2	-0.9%
Animal feed	130.5	127.7	-2.1%
Total maintenance	55.7	57.2	2.7%
Bank charges	100.0	100.0	0.0%
Other goods and services	130.5	130.4	-0.1%
Intermediate consumption	**95.2**	**95.9**	**0.8%**
Consumption of fixed capital	124.5	124.2	-0.3%
All labour	51.6	51.4	-0.4%
Land	98.4	96.1	-2.3%
All inputs and entrepreneurial labour	**82.4**	**82.6**	**0.1%**

Notes

1. Bank charges has replaced the name of the item FISIM (Financial Intermediary Services Indirectly Measured) for clarity following feedback on our statistical release.

Download the full Productivity dataset

The volume of all inputs and entrepreneurial labour increased by 0.1% between 2022 and 2023. This increase was driven mainly by fertiliser which increased by 15% and, together with other smaller increases, more than offset small decreases in items such as animal feed and land.

The prices of straight fertiliser in 2023 were between 26% and 41% lower than in 2022, which encouraged farmers to apply more fertiliser. Having seen good results from more targeted applications of fertiliser in the previous year, and given that fertiliser prices were still higher than 2021, we did not see returns to pre-2022 levels of fertiliser use.

Animal feed is made up of compound animal feed, straight animal feed and animal feed fed on farm. In 2023, the total volume of animal feed decreased by 2.1% from 2022. This decrease was driven by a 3.6% reduction in compound feed, the largest subcategory. The reduction in the volume of compound feed resulted from decreased usage, which was driven by a reduction in livestock populations, particularly in the pig and poultry sectors, where herd and flock sizes have declined.

Partial productivity

Partial productivity shows the impact key inputs have on productivity. It measures total outputs against a part of the inputs.

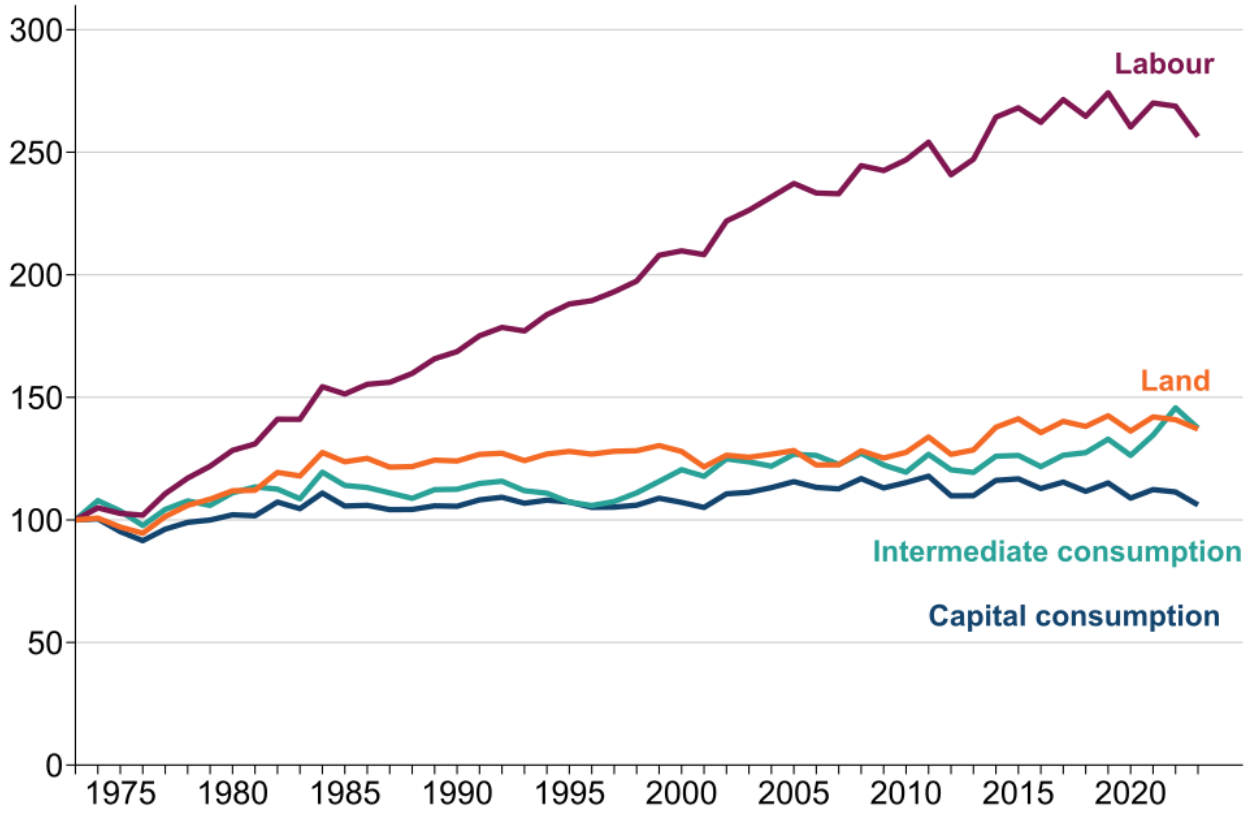
Table 5.3: Partial factor productivity (1973 = 100)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Item	2022	2023	Annual Change
Productivity by intermediate consumption	145.7	137.4	-5.7%
Productivity by capital consumption	111.4	106.1	-4.7%
Productivity by labour	268.8	256.4	-4.6%
Productivity by land	140.9	137.1	-2.7%

Figure 5.3: Long term trends in partial productivity indicators (1973 = 100)

Enquiries: Alexandra Hall
Email: farmaccounts@defra.gov.uk



Text description of Figure 5.3: Figure 5.3 is a line chart showing the long term trend in partial productivity indicators from 1973 to 2023. The chart is presented as an index (1973 = 100). Data is shown for labour, land, intermediate consumption and capital consumption.

Download the full Productivity dataset

Table 5.3 and Figure 5.3 show that labour is the key input driving productivity gains. Productivity by labour shows a steady increase over the whole period since 1973. Labour volumes are now approximately half of what they were in 1973. However, more recent growth in labour productivity is due to increased output rather than a reduction in labour volume.

Revisions

Figures for 2023 are provisional and subject to revision.

As a result of more data becoming available over time there have been minor revisions to earlier years in this release. These revisions are intended to enhance the precision of these estimates. Sometimes additional revisions are necessary to refine the methodology or correct historical errors.

There have been small changes to data from 2010 - 2022 as published in AUK 2022. This is as result of minor methodological changes which have been made to streamline our data processing. TFP, as outlined elsewhere in this release, is primarily focused on trends and these methodological changes have not impacted the trend in TFP from 2010, which has been one of increased productivity.

Chapter 6: Prices

Summary

- The annual average price index for all agricultural **outputs** increased by 1.4% from 2022 to 2023.
- The largest upward contribution to the annual inflation rate for agricultural **outputs** was from poultry (1.8 percentage points), followed by potatoes (1.4 percentage points) and pigs (1.2 percentage points). The main downward contribution came from cereals (-3.1 percentage points).
- The annual average price index for all agricultural **inputs** decreased by 5.0% from 2022 to 2023.
- The largest downward contribution to the annual inflation rate for agricultural **inputs** was from fertilisers and soil improvers (-5.3 percentage points), followed by straight feedingstuffs (-0.9 percentage points) and compound feedingstuffs (-0.5 percentage points). The main upward contribution came from other goods and services (0.8 percentage points).

Data sources

The Agricultural Price Index (API) measures the monthly price changes in agricultural outputs and inputs for the UK.

Outputs:

- The output series reflects farm-gate prices, which are the prices farmers receive for their products.
- Information is collected for all major crop categories (e.g., cereals, fruits, vegetables) and livestock/animal products (e.g., sheep, milk, eggs).

Note: The price index for poultry is based on deadweight prices reported by processors. These prices are not directly comparable with poultry prices referenced in Chapter 8 which estimate the cost to producers.

Inputs:

- The input series reflects the prices farmers pay for various goods and services.

It is further divided into two categories:

- Goods and services currently consumed: These are items used up during production, such as fertiliser or seeds.
- Goods and services contributing to investment: These are items necessary for production but not consumed directly, such as tractors or farm buildings.

Trends in annual price indices

Figure 6.1: Annual average price indices for agricultural outputs and inputs from 2014 to 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk

Year	All agricultural outputs	All agricultural inputs
2014	95.3	94.3
2015	86.5	89.6
2016	85.5	87.5
2017	93.8	92.8
2018	97.4	100.1
2019	96.5	101.8
2020	100.0	100.0
2021	109.9	111.4
2022	130.6	143.2
2023	132.4	136.1

Download the full Prices dataset

Figure 6.1 shows the annual average price indices for agricultural outputs and inputs since 2014. Compared with 2022, the annual average price index for 2023 is 1.4% higher for agricultural outputs and 5.0% lower for agricultural inputs.

Over the last decade, the year in which the index for agricultural outputs exceeded that for inputs by the largest amount (+1.0 percentage points) was 2014. 2022 saw the index for agricultural inputs outstrip outputs by the largest amount (+12.6 percentage points).

Contributions to change in the annual agricultural outputs and inputs inflation rate

Figure 6.2: Contributions to change in the agricultural outputs annual inflation rate between 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk

Category	Contribution (percentage points)
Poultry	1.75
Potatoes	1.38
Pigs	1.21
Fresh vegetables	1.19
Cattle and calves	1.12
Eggs	1.06
Fresh fruit	0.47
Sheep and lambs	0.06
Oats	-0.04
Barley	-1.08
Oilseed rape	-1.22
Wheat	-2.02
Milk	-2.45
Cereals	-3.14

Notes:

1. Not all agricultural output categories are shown in Figure 6.2. Therefore, the sum of the contributions in Figure 6.2 may be slightly less than the annual inflation rate.
2. The price index for poultry is based on deadweight prices reported by processors. These prices are not directly comparable with poultry prices referenced in Chapter 8 which estimate the cost to producers.

Download the full Prices dataset

Figure 6.2 shows the contributions to the 1.4% change in the agricultural outputs inflation rate between 2022 and 2023.

Eight of the fourteen output categories saw price increases. Poultry experienced the strongest rise, driven by a combination of rising feed, energy, and labour costs, and avian influenza outbreaks that impacted farm profitability.

After historically high milk farm-gate prices at the end of 2022 and start of 2023, prices decreased in 2023 as a result of weaker demand and increased production at the start of the year. Cereal prices also decreased after record highs in 2022 due to lower quality UK harvests and reduced demand for animal feed.

Figure 6.3: Contributions to change in the agricultural inputs annual inflation rate between 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk

Category	Contribution (percentage points)
Other goods and services	0.77
Plant protection products	0.57
Maintenance of materials	0.36
Materials	0.27
Buildings	0.18
Veterinary services	0.06
Maintenance of buildings	0.04
Seeds	-0.09
Energy and fuel	-0.46
Compound feedingstuffs	-0.49
Straight feedingstuffs	-0.86
Fertilisers and soil improvers	-5.29

Download the full Prices dataset

Figure 6.3 shows the positive and negative contributions to the 5.0% change in the agricultural inputs inflation rate between 2022 and 2023.

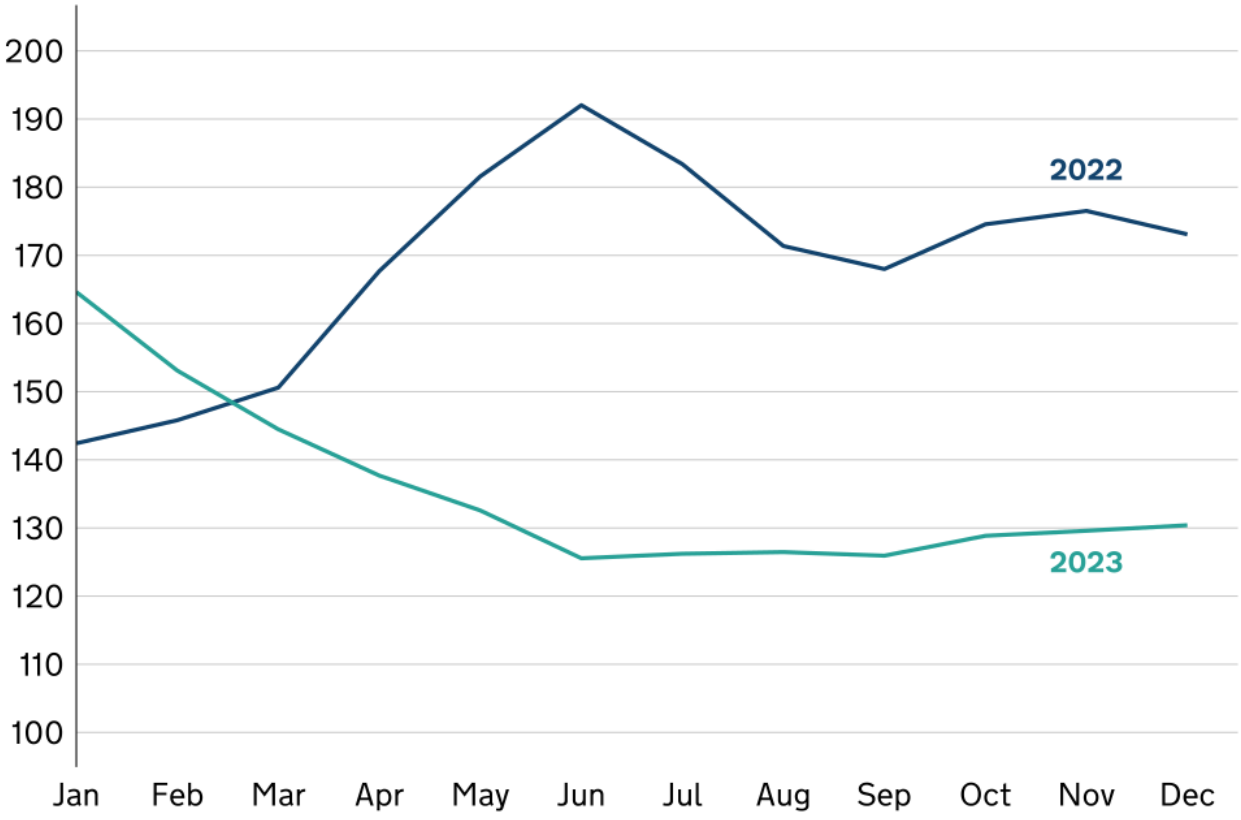
Prices for Other goods and services (miscellaneous crop/livestock costs, professional services, utilities etc.) increased in 2023 as a result of high inflation rates, supply chain issues and labour shortages.

Fertilisers and soil improvers saw the largest decrease, with prices dropping substantially compared to 2022. This decline can be attributed to a decrease in natural gas prices, which is a key input cost in fertiliser production.

Trends in agricultural outputs price indices through the year

Figure 6.4: Monthly cereals price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.4: Figure 6.4 is line chart showing the monthly price index for cereals in 2022 and 2023. The cereals price index increased substantially in the first half of 2022, peaking in June. General declines with some relatively minor fluctuations were observed in the second half of 2022. The price index in 2023 declined in the first six months, before increasing slowly from September.

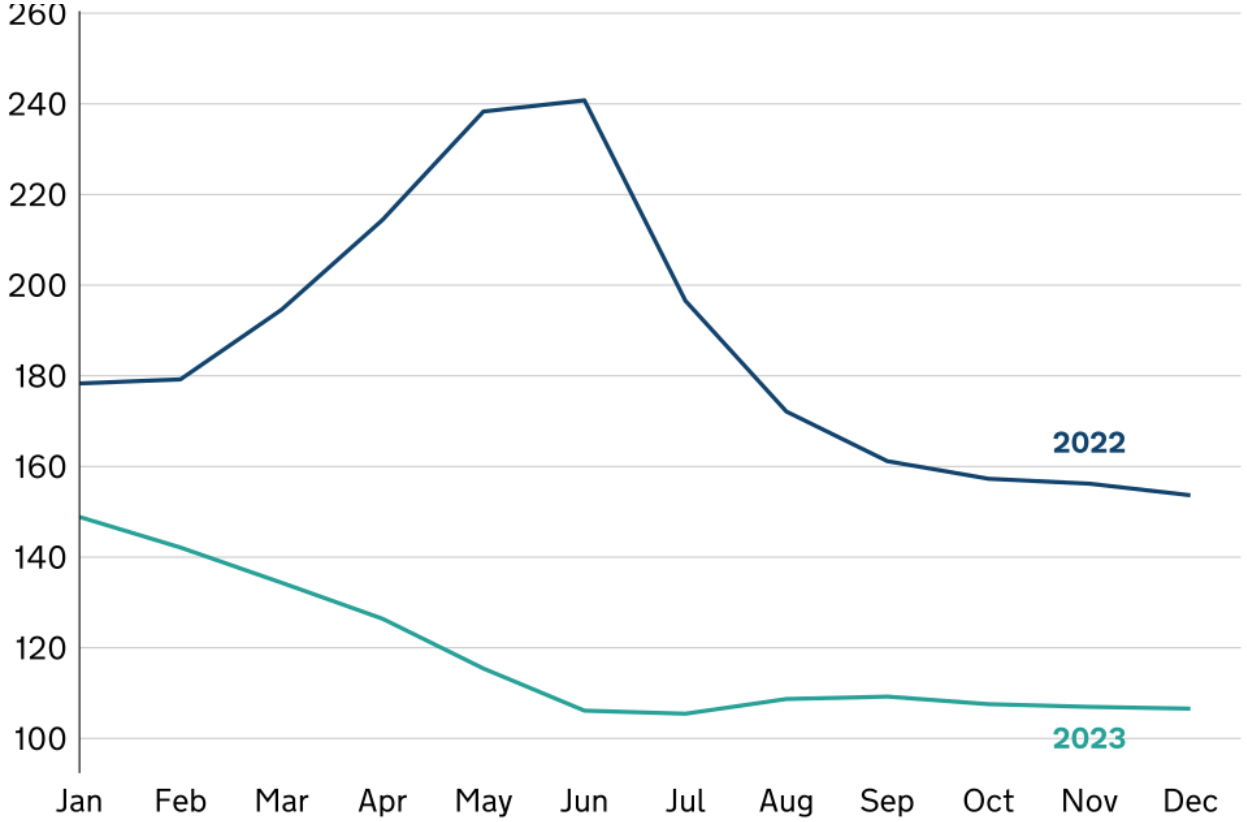
Download the full Prices dataset

The annual price index for cereals decreased by 19% in 2023 compared with 2022.

In 2023, UK cereal prices were influenced by global uncertainties such as the Black Sea grain deal and weather conditions in key producing regions. The UK domestic market also had an impact, with grain quality and reduced demand from the animal feed also putting downward pressure on prices throughout the year. Globally, recessionary fears and expectations of large harvests in major producers like the US and Brazil also contributed to a general downward trend in cereal prices in the later months of 2023.

Figure 6.5: Monthly oilseed rape price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.5: Figure 6.5 is a line chart showing the monthly price index for oilseed rape in 2022 and 2023. In 2022 the oilseed rape price increased steadily until June, then decreased sharply for the remainder of the year. In 2023 the price index decreased until July, then remained stable for the rest of the year.

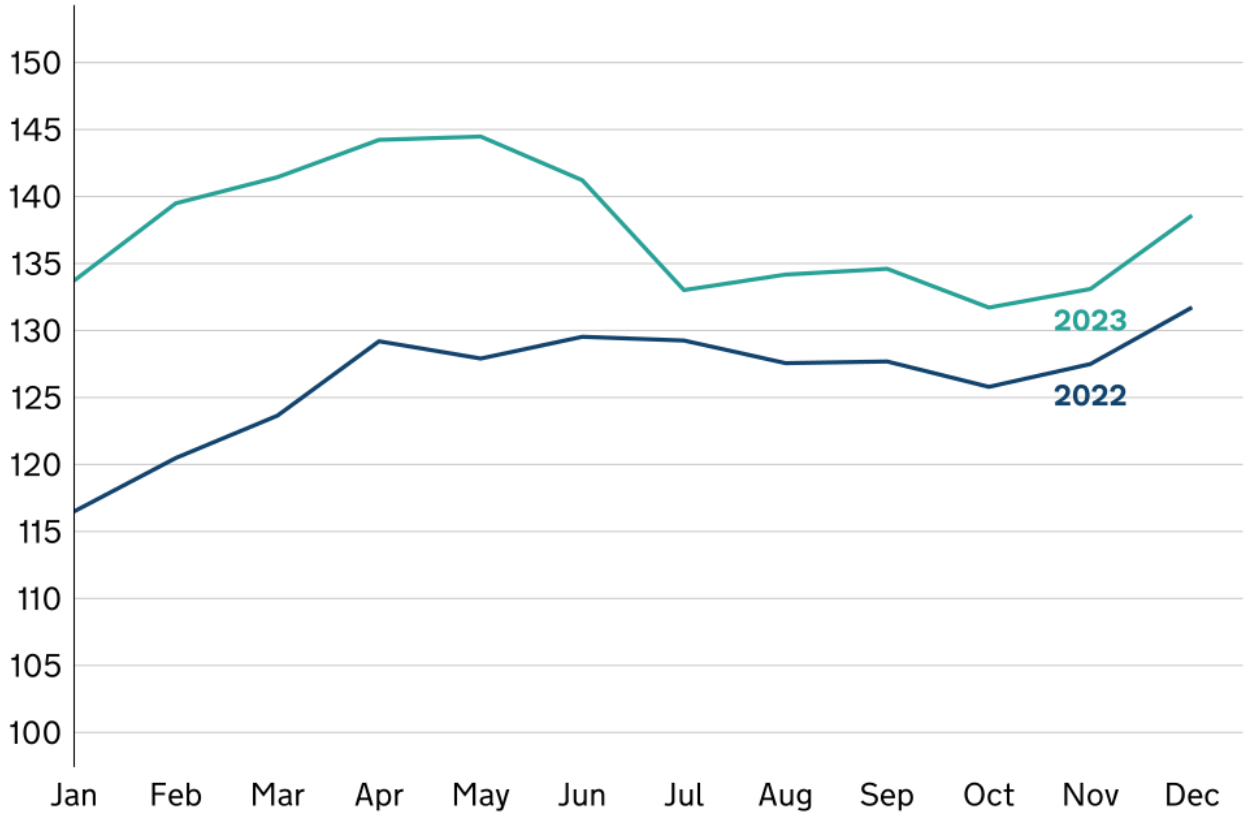
Download the full Prices dataset

The annual price index for oilseed rape decreased by 37% in 2023 compared with 2022.

In 2023, UK oilseed rape prices were primarily shaped by expectations of abundant global supplies, particularly from bumper soyabean harvests in South America. Despite a poor domestic oilseed rape harvest, the large global supplies of soyabeans exerted downward pressure on oilseed rape prices throughout the year.

Figure 6.6: Monthly cattle price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.6: Figure 6.6 is a line chart showing the monthly price index for cattle and calves in 2022 and 2023. The price index for cattle and calves steadily increased throughout 2022, with slight drops in May and October. The price index then continued to steadily increase into the first quarter of 2023, before declining between May and October. The price index began to rise in the last two months of 2023, following seasonal patterns.

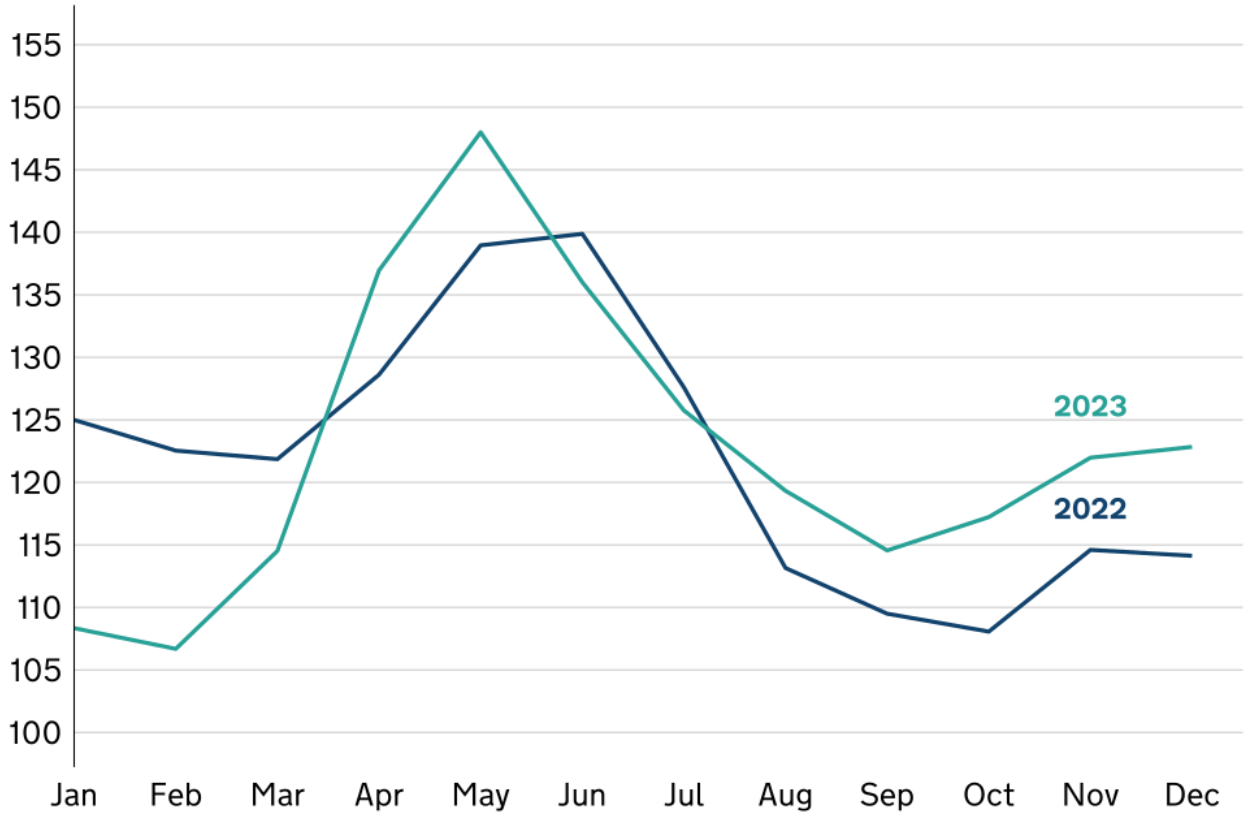
Download the full Prices dataset

The annual price index for cattle increased by 8.7% in 2023 compared with 2022.

Deadweight cattle prices reached historical highs in 2023, due to a 2.5% decrease in home-killed beef production and stable consumer demand. This decrease in production was primarily driven by the lingering impacts of high input costs in 2022. Tighter supplies in the EU market further supported domestic prices.

Figure 6.7: Monthly sheep price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.7: Figure 6.7 is a line chart showing the price index for sheep and lambs for 2022 and 2023. The price index fluctuated in both years, with the highest values observed in the spring and early summer months, following seasonal patterns. The price index then steadily decreased in both years until the late autumn before increasing again in the winter months.

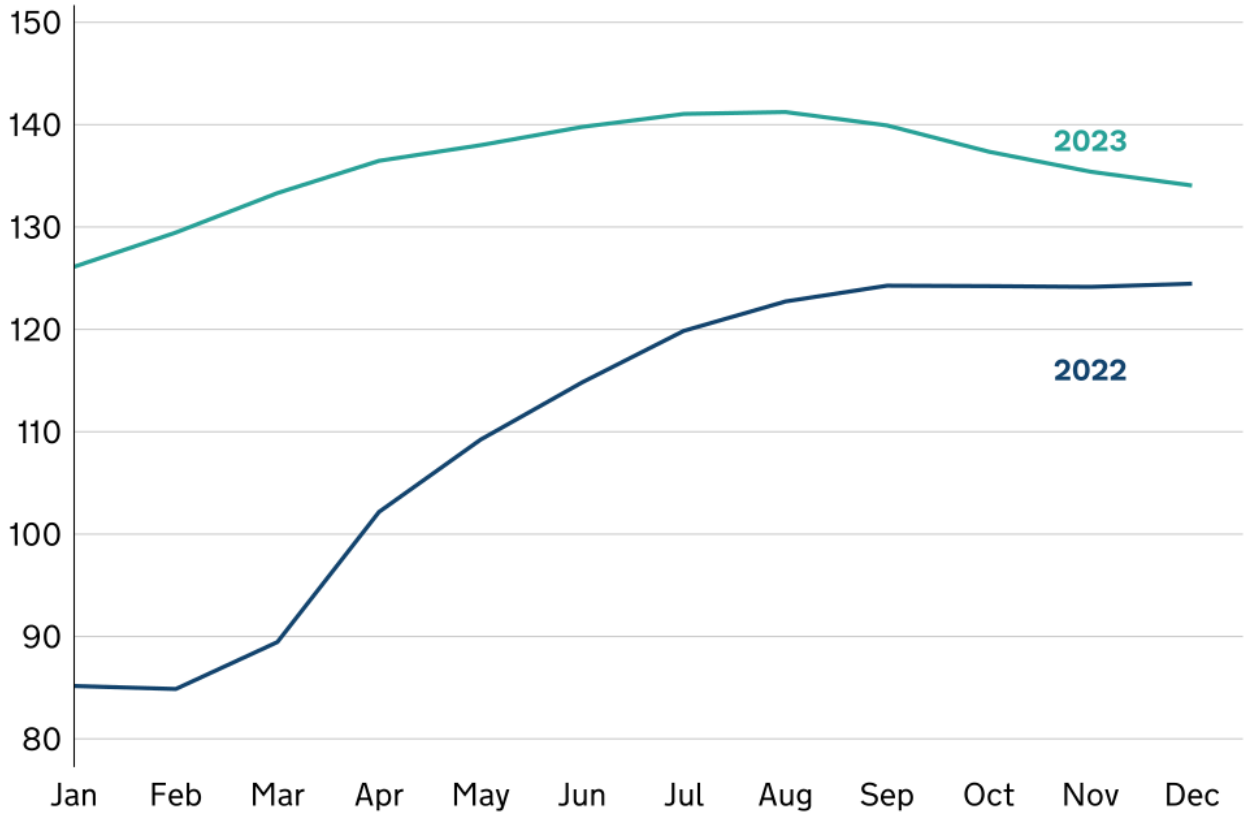
Download the full Prices dataset

The annual price index for sheep increased by 1.0% in 2023 compared with 2022.

Deadweight lamb prices increased in 2023 due to a tightening in supplies. Prices started the year below the five-year average due to low consumer demand. However, prices began to rise in the spring and remained above the five-year average for the remainder of the year. This increase can be attributed to decreases in imports and a 1.8% decrease in domestic production.

Figure 6.8: Monthly pigs price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.8: Figure 6.8 is a line chart showing the monthly price index for pigs for 2022 and 2023. The price index for pigs increased throughout the spring and summer of 2022 before stabilising for the last three months of the year. There was a much steadier increase in the price index for the first half of 2023 before a small steady decline in the last six months of the year.

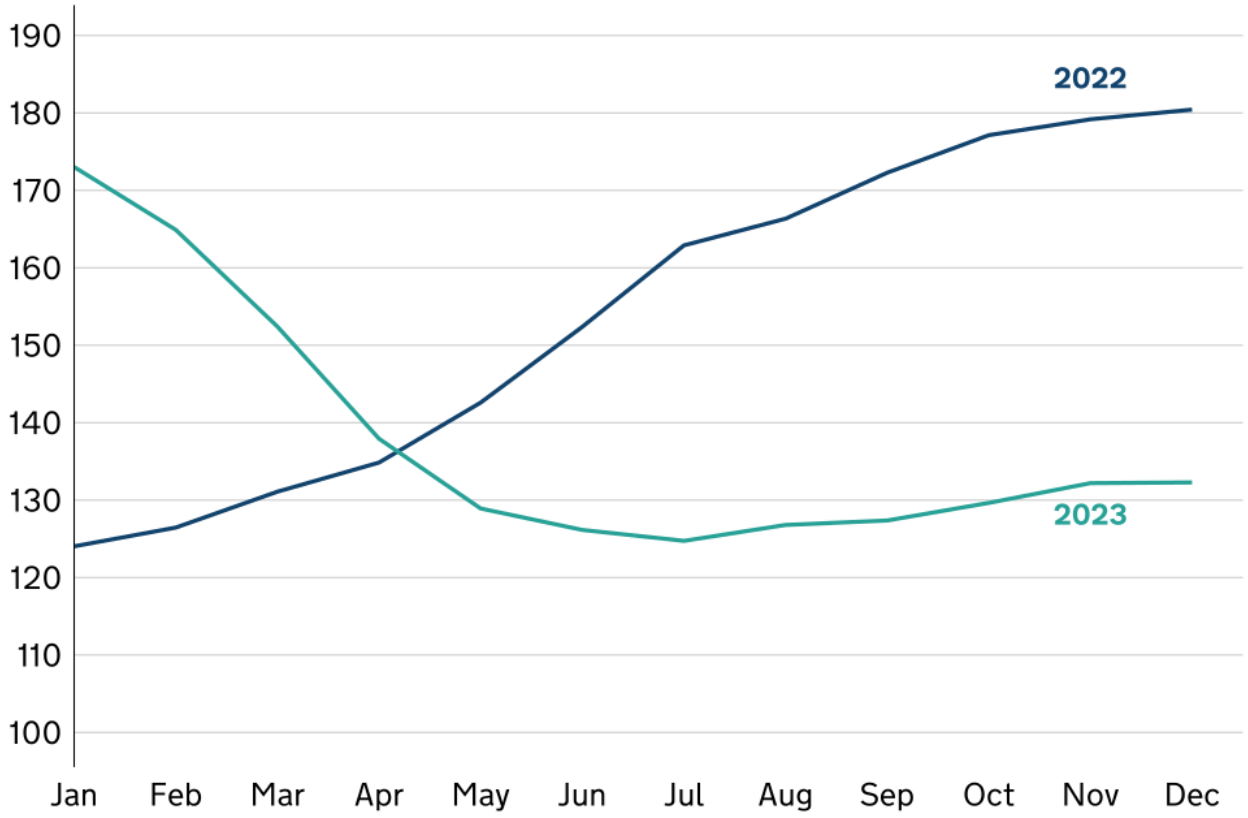
Download the full Prices dataset

The annual price index for pigs increased by 23% in 2023 compared with 2022.

The increase in deadweight pig prices in 2023 was primarily driven by a 11% decrease in domestic home-killed production. A reduction in the 2022 breeding herd was a key driver for this large drop in production, on the back of historically high input costs. Negative margins in 2022 saw a number of producers leaving the industry. However, prices did begin to steadily fall after September following similar movements in the EU market.

Figure 6.9: Monthly milk price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.9: Figure 6.9 is a line chart showing the monthly price index for milk in 2022 and 2023. The price index increased rapidly for the majority of 2022 before beginning to stabilise in November and December 2022. From January 2023 the price rapidly declined until May 2023 after which it stabilised for the remainder of the year.

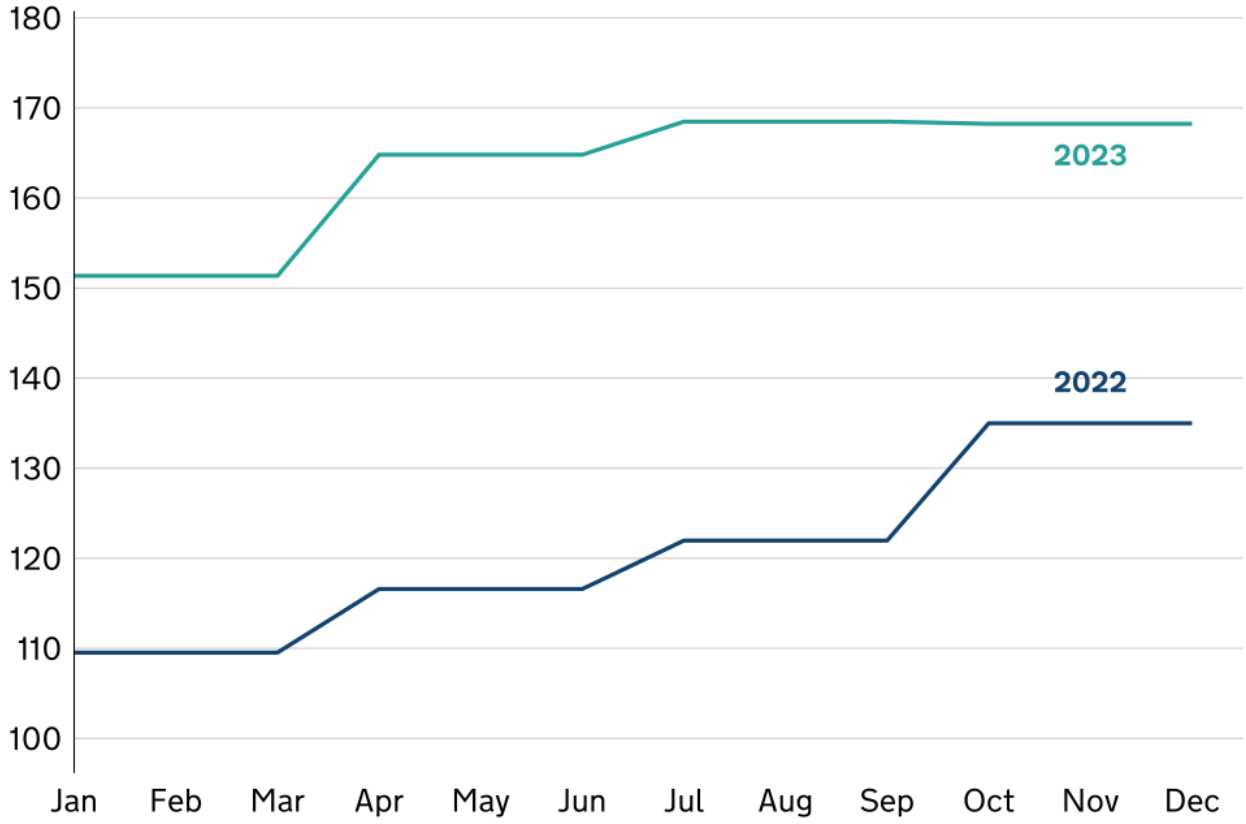
Download the full Prices dataset

The annual price index for milk decreased by 11% in 2023 compared with 2022.

Historically high farm-gate milk prices in late 2022 continued into the first few months of 2023, driving production at the start of the year and into the spring flush. This increase in supply, coupled with weak demand, put downward pressure on farm-gate milk prices for the remainder of the year.

Figure 6.10: Monthly egg price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.10: Figure 6.10 is a line graph showing the quarterly price index for eggs in 2022 and 2023. The price index for eggs increased rapidly throughout 2022, particularly in the last quarter. These increases continued in the first half of 2023 before stabilising for the remainder of the year.

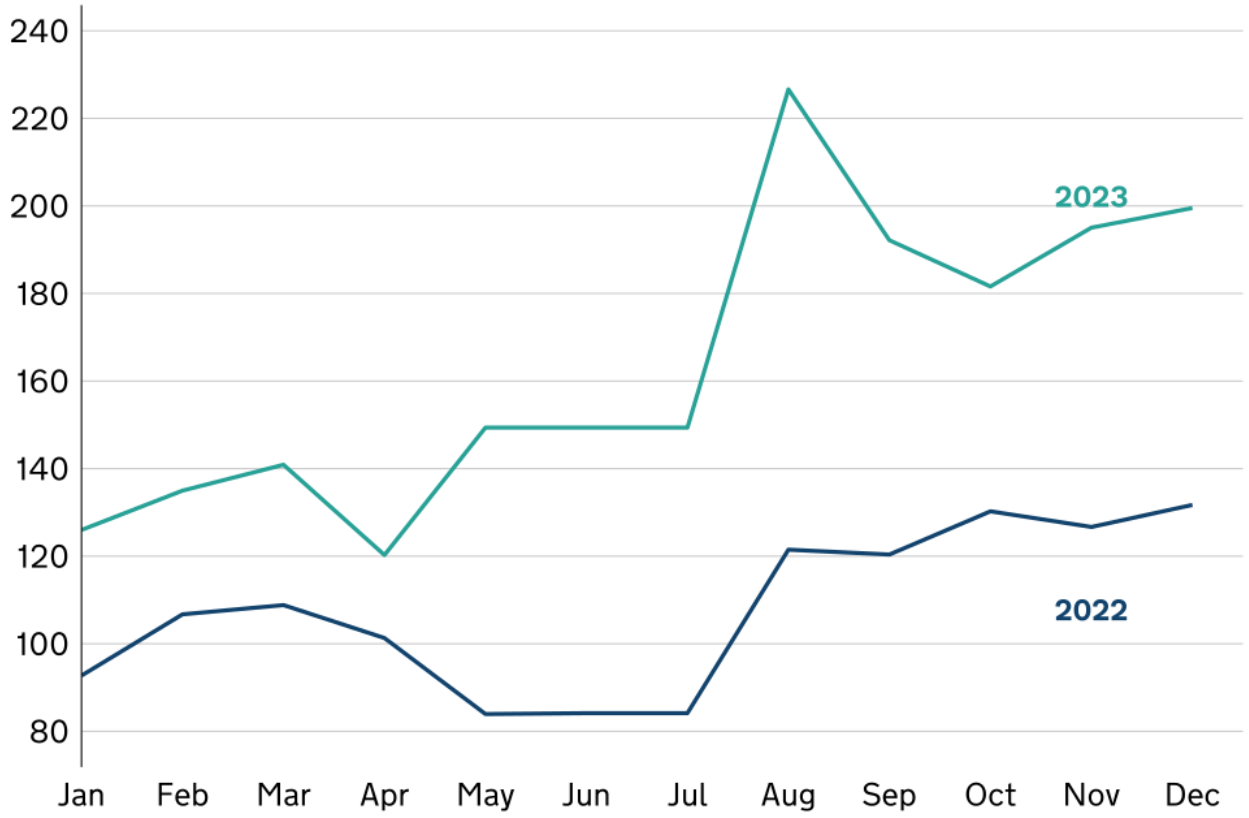
Download the full Prices dataset

The annual price index for eggs increased by 35% in 2023 compared with 2022.

Farm-gate egg prices increased due to an 8.0% decrease in the production of eggs for human consumption. This decrease in production was due to the continuing impacts of high costs, in particular energy and feed, as well as avian influenza outbreaks at the start of the year.

Figure 6.11: Monthly potatoes price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.11: Figure 6.11 is a line chart showing the monthly price index for potatoes in 2022 and 2023. In 2022 the potato price generally decreased over the first half of the year, then increased in the second. In 2023 the price index increased until August, then declined until October before rising again.

Download the full Prices dataset

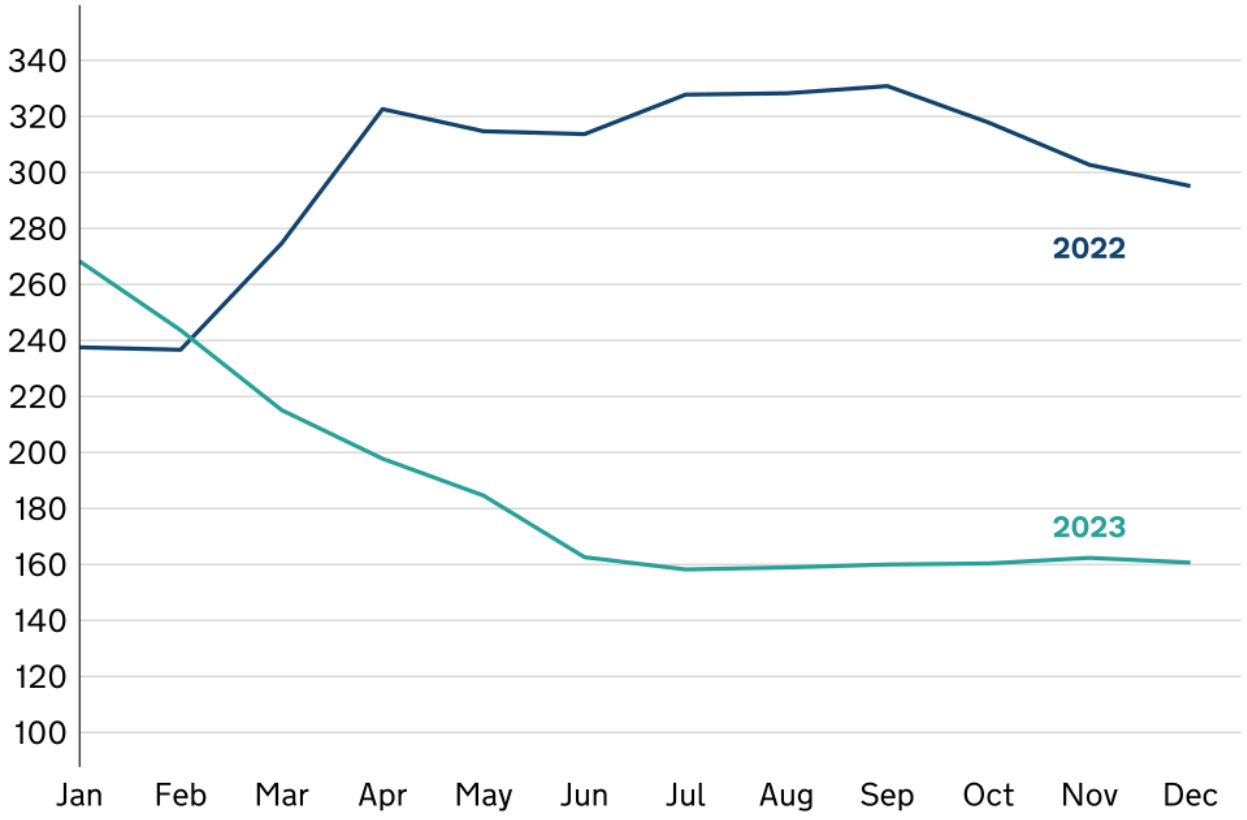
The annual price index for potatoes increased by 52% in 2023 compared with 2022.

Unfavourable weather conditions impacted potato availability and pricing throughout 2023. Heavy rainfall in April delayed planting, leading to lower yields. The primary harvesting period in August and September also experienced unusually high rainfall, resulting in flooding and potato rot. This reduced domestic supply and drove price increases.

Trends in agricultural inputs price indices through the year

Figure 6.12: Monthly fertilisers and soil improvers price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.12: Figure 6.12 is a line chart showing the monthly price index for fertilisers and soil improvers in 2022 and 2023. In 2022 the fertilisers and soil improvers price increased until September, then declined for the remainder of the year. In 2023 the price decreased steadily until July, then remained stable for the remainder of the year.

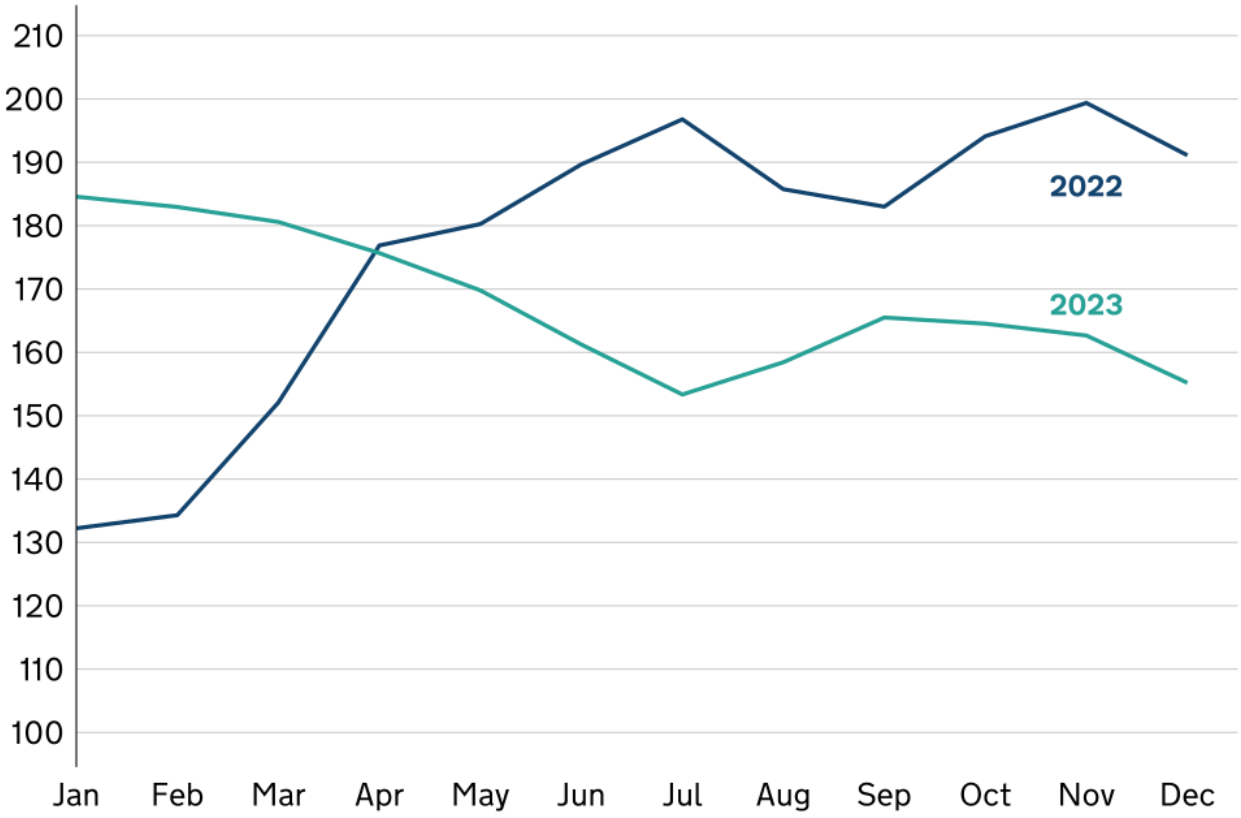
Download the full Prices dataset

The annual price index for fertilisers and soil improvers decreased by 36% in 2023 compared with 2022.

While farmers faced rising costs for various goods and services in 2023, fertiliser prices, particularly ammonium nitrate (AN), saw a substantial decrease in the first half of the year. This reduction was driven by falls in the price of natural gas, a key input in fertiliser production.

Figure 6.13: Monthly energy and fuel price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.13: Figure 6.13 is a line chart showing the monthly price index for energy and lubricants for 2022 and 2023. The price index for energy and lubricants increased rapidly for the first half of 2022 before stabilising with minor fluctuations for the rest of the year. The price index steadily decreased for the first half of 2023, before slightly increasing between June and September 2023. The last three months of 2023 saw a steady decline.

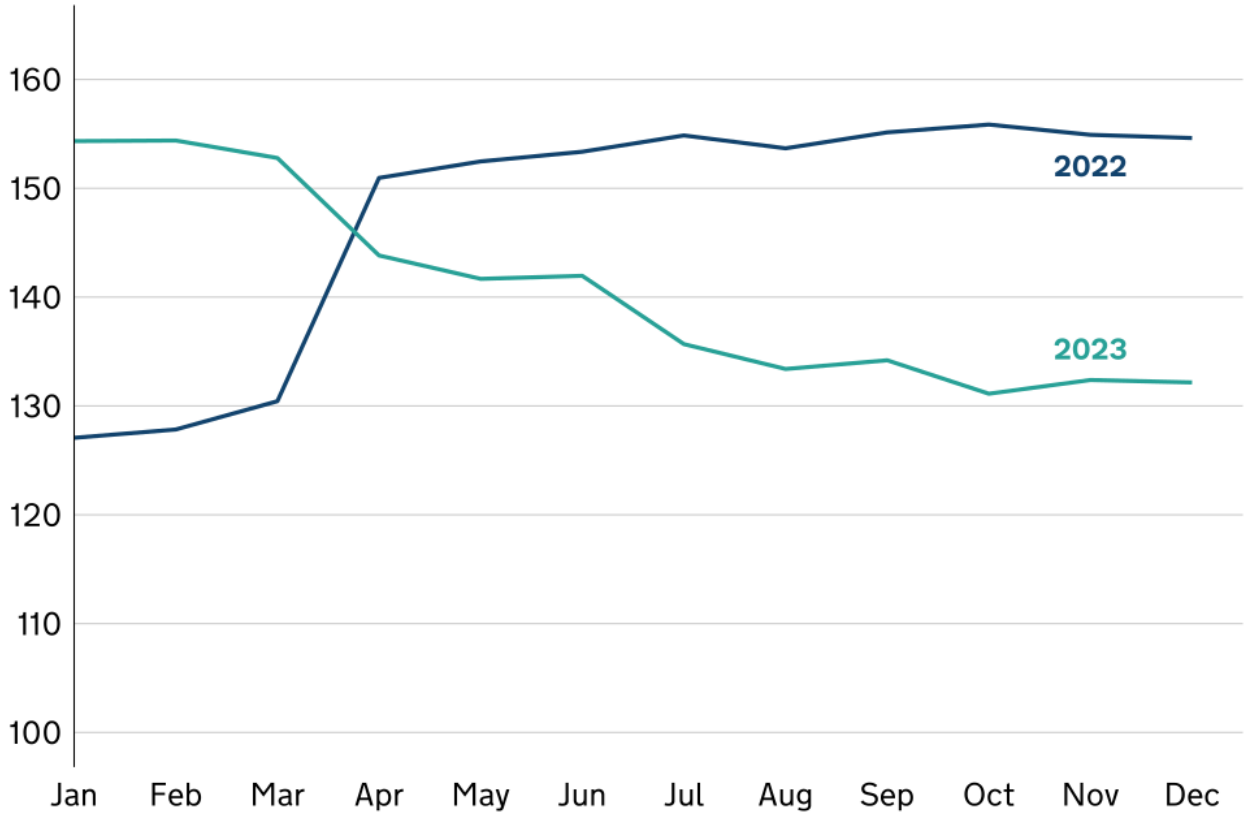
Download the full Prices dataset

The annual price index for energy and fuel decreased by 4.8% in 2023 compared with 2022.

UK businesses battled a volatile energy market in 2023. While a welcome decline in wholesale electricity prices occurred compared to 2022, these prices remained high throughout the year when measured against historical averages, indicating an ongoing impact of broader global energy cost increases. This, combined with persistently high natural gas prices, led to a substantial rise in energy bills in 2023.

Figure 6.14: Monthly animal feedingstuffs price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.14: Figure 6.14 is a line chart showing the monthly price index for animal feedingstuffs in 2022 and 2023. In 2022, the animal feedingstuffs price increased sharply until April, with much slower growth and some fluctuations over the remainder of the year. In 2023 the price decreased steadily during the year.

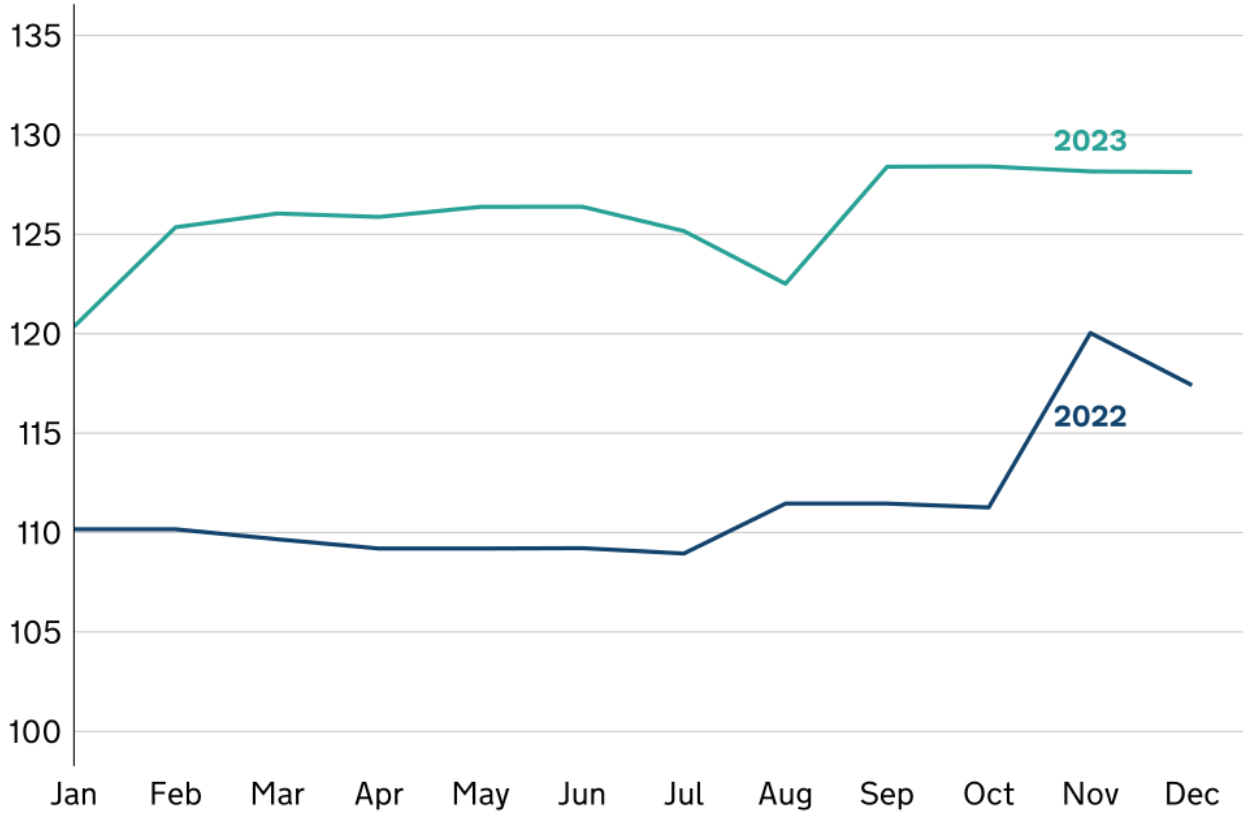
Download the full Prices dataset

The annual price index for animal feedingstuffs decreased by 4.3% in 2023 compared with 2022.

Falling grain prices coupled with low demand drove a decrease in domestic animal feed prices in 2023. Decreased livestock populations in 2023, particularly in the poultry and pig sectors, meant lower demand for animal feed. Mild weather conditions in the latter half of the year meant that animals were kept out for longer and reduced the demand for supplementary feed.

Figure 6.15: Monthly plant protection products price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.15: Figure 6.15 is a line chart showing the monthly price index for plant protection products for 2022 and 2023. The price index for maintenance of buildings was steady for the majority of 2022 before a large fluctuation in November 2022. The price index increased in January 2023, and except for a minor fluctuation in August 2023, remained stable for the rest of the year.

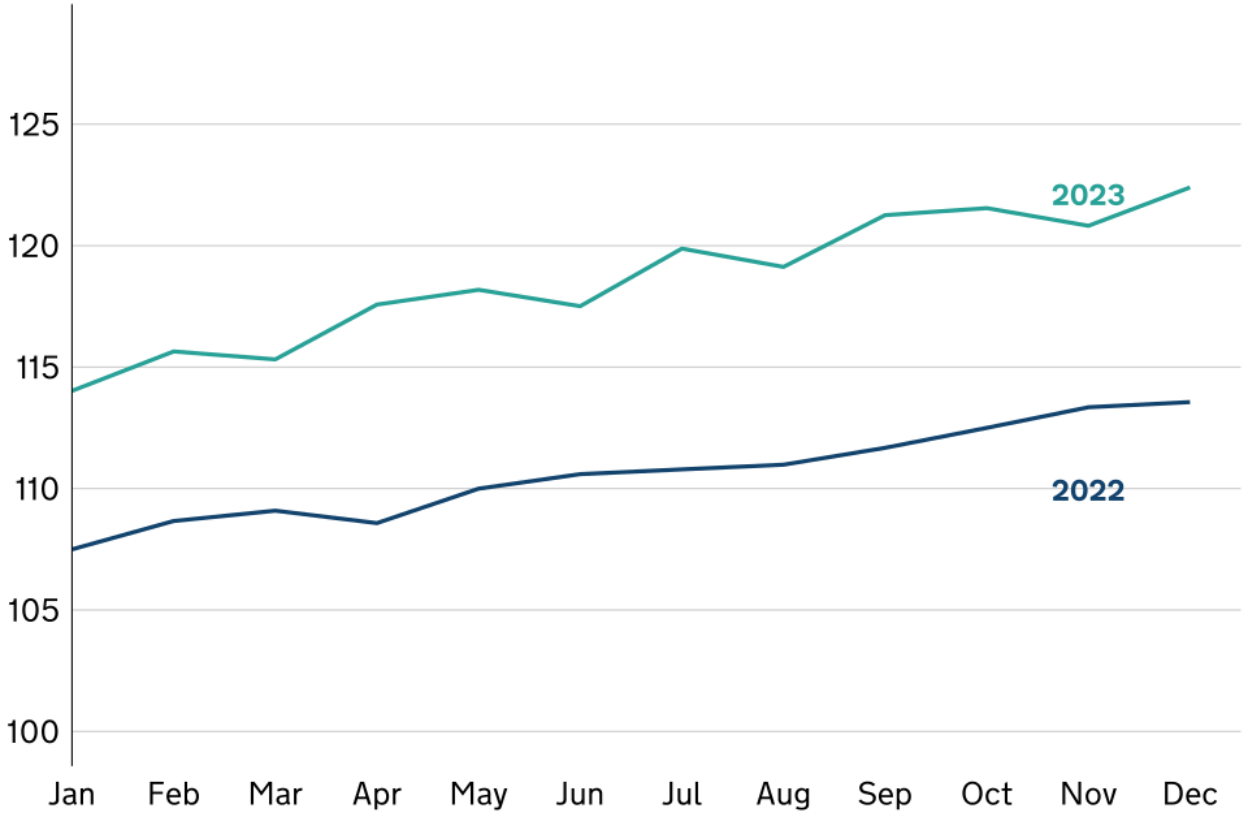
Download the full Prices dataset

The annual price index for plant protection products increased by 13% in 2023 compared with 2022.

This increase was driven by ongoing challenges as a result of the COVID-19 pandemic, which continued to disrupt production and supply chains. Labour shortages, shipping delays, and a general rise in demand for plant protection products were all contributing factors.

Figure 6.16: Monthly maintenance of materials price index 2022 and 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk



Text description for Figure 6.16: Figure 6.16 is a line chart showing the monthly price index for maintenance of materials for 2022 and 2023. The price index for maintenance of materials increased steadily throughout both 2022 and 2023, although 2023 saw more minor price fluctuations month to month.

Download the full Prices dataset

The annual price index for maintenance of materials increased by 7.2% in 2023 compared with 2022.

Repair costs for farm equipment, buildings and commercial vehicles rose by 20-25% on average, driven by fluctuations in the price and availability of materials. A general appreciation in equipment values further contributed to the rise in maintenance costs, with farm machinery such as tractors increasing in value by 30-40% in 2023.

Summary table of price indices

Table 6.1: Annual average price indices for agricultural outputs 2022 to 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk

Category	2022	2023	Annual inflation rate (%)
Cereals	168.3	135.7	-19.4
Wheat	161.6	131.1	-18.8
Barley	185.7	144.8	-22.1
Oats	164.0	153.8	-6.2
Oilseed rape	186.9	118.1	-36.8
Sugar beet	131.4	131.4	0.0
Forage plants	78.4	78.4	0.1
Fresh vegetables	118.1	143.1	21.1
Plants and flowers	110.5	110.5	0.0
Potatoes	107.7	163.8	52.1
Fresh fruit	94.0	108.9	15.8
Cattle and calves	126.3	137.3	8.7
Pigs	110.5	136.0	23.0
Sheep and lambs	120.9	122.1	1.0
Poultry	103.5	121.7	17.6
Milk	154.1	138.0	-10.5
Eggs	120.8	163.3	35.1
All agricultural outputs	130.6	132.4	1.4

Notes:

1. The price index for poultry is based on deadweight prices reported by processors. These prices are not directly comparable with poultry prices referenced in Chapter 8 which estimate the cost to producers.

Download the full Prices dataset

Table 6.2: Annual average price indices for agricultural inputs 2022 to 2023 (2020 = 100)

Enquiries: Mark Kirby on +44 (0)20 7714 1374
Email: prices@defra.gov.uk

Category	2022	2023	Annual inflation rate (%)
Seeds	109.3	106.5	-2.5
Energy and fuel	176.3	167.9	-4.8
Fertilisers and soil improvers	297.9	190.2	-36.1
Plant protection products	111.5	125.9	12.9
Veterinary services	102.3	105.7	3.3
Straight feedingstuffs	144.0	129.6	-10.0
Compound feedingstuffs	148.5	145.3	-2.2
Maintenance of materials	110.6	118.6	7.2
Maintenance of buildings	137.2	138.6	1.0
Other goods and services	110.6	118.6	7.3
Materials	118.3	121.5	2.7
Buildings	133.7	138.3	3.4
All agricultural inputs	143.2	136.1	-5.0

Download the full Prices dataset

Revisions

Figures in these tables for 2023 are provisional and may be subject to revision.

Minor revisions have been made across both the outputs and inputs timeseries following methodological improvements to capture previously unrecorded revisions to the historic data.

Chapter 7: Crops

Summary

Key results for 2023 compared to 2022

- Harvested production of **wheat** decreased by 11% to just under 13.9 million tonnes, due to decreased area and yields. The value of production was 28% lower at £2.9 billion.
- Harvested production of **barley** decreased by 5.7% to just under 7 million tonnes. The value of production was 26% lower at £1.4 billion.
- **Oilseed rape** production decreased by 11% to around 1.2 million tonnes due to reduced yields offsetting an increase in area. The value of production decreased by 45% to £483 million due to a combination of the lower production and lower prices.
- **Sugar beet** production increased by 39% to 7.7 million tonnes. The value of production was 82% higher at £368 million.
- The value of **vegetable** production increased by 10% to £1.9 billion.
- The value of **fruit** production increased by 2.2% to just over £1.0 billion.

Cereals

Table 7.1a to 7.1b Total cereals; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

Table 7.1a

Production	2021	2022	2023
Area (thousand hectares)	3,211	3,173	3,088
Volume of harvested production	22,369	24,262	21,957
Value of production (£ million)	**4,045**	**6,102**	**4,436**

Table 7.1b

Supply and use	2021	2022	2023
Production	22,369	24,262	21,957
EU Imports	2,798	2,495	2,546
Non-EU imports	2,041	1,732	1,482
EU exports	1,113	2,044	2,326
Non-EU exports	117	57	90
Total new supply	25,978	26,388	23,569
Change in farm and other stocks	1,379	1,897	-696
Total domestic uses	24,599	24,492	24,265
Production as % of total new supply for use in the UK	**86%**	**92%**	**93%**

Notes for table 7.1a and 7.1b:

1. All cereal production estimates have been standardised to 14.5% moisture content, with the exception of 2022 when the hot dry conditions led to lower average moisture contents in the harvested crops. 2022 production data will only be adjusted for farms which have reported moisture content above 14.5% for cereals and 9.0% for oilseed rape. Any production data which has been reported with lower moisture contents has not been adjusted.
2. Value of production excludes farm-saved seed.

Download the full Crops dataset

In 2023, total cereal production of wheat, barley, oats and minor cereals (rye, triticale and mixed grain) in the UK was just under 22 million tonnes, a 9.5% decrease compared to 2022. This was due to a 2.7% decrease in area and lower yields than 2022. The value of production decreased by 27% to around £4.4 billion due to lower prices and production.

Average yields for wheat, barley and oats were lower in 2023 compared to 2022, and generally close to or just below the 5-year average. Winter planting was undertaken under good conditions and on schedule allowing the crops to establish well. Most planned winter sowing was complete by the end of November. Those crops sown on heavier soils were able to retain moisture during dry periods. Spring crop sowing also progressed well with earlier sown crops faring better as they were able to get established before drier conditions caused water stress. Similarly to 2021 and 2002, without the need to sow spring crops to compensate for poor or failed winter crops, growers maintained typical winter plantings. This effect can be seen in the increased winter barley area, which was up 4.5% to 455 thousand hectares, whereas the area of spring barley remained stable at 682 thousand hectares. A full breakdown of cereal and oilseed rape production including at the regional level can be found in Defra cereal production.

Harvest 2023 experienced a slow start due to above average rainfall in late July and early August. Drier, warmer conditions in September enabled progress but some regions were affected by localised storms which caused further disruption. Unlike 2022 the 2023 harvest required more drying due to higher moisture content.

Cereal prices for 2023 were below 2022 values, with global markets re-adjusting to the Russia / Ukraine conflict which started in spring 2022. Generally, prices drifted downwards until autumn 2023 when they stabilised or showed a slight increase. Prices remained higher than the equivalent 2021 levels.

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 here.

Wheat

Table 7.2a to 7.2c Wheat; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

Table 7.2a

Production	2021	2022	2023
Area (thousand hectares)	1,790	1,813	1,720
Yield (tonnes per hectare)	7.8	8.6	8.1
Volume of harvested production	13,988	15,540	13,890
Value of production (£ million)	**2,708**	**4,062**	**2,912**
Sales	1,971	3,321	2,717
On farm use	246	508	558
Change in stocks	490	233	-363

Table 7.2b

Prices (£ per tonne)	2021	2022	2023
Milling wheat	210	280	244
Feed wheat	191	261	205

Table 7.2c

Supply and use	2021	2022	2023
Production	13,988	15,540	13,890
EU imports	1,446	1,066	1,080
Non-EU imports	614	568	628
EU exports	294	821	1,083
Non-EU exports	1	44	72
Total new supply	15,753	16,309	14,443
Change in farm and other stocks	1901	1,583	-545
Total domestic uses	**13,852**	**14,726**	**14,988**
Flour milling	5,793	5,985	6,288
Animal feed	6,677	7,156	7,135
Seed	278	280	267
Other uses and waste	1,104	1,305	1,298
Production as % of total new supply for use in UK	**89%**	**95%**	**96%**
% of home grown wheat in milling grist	77%	84%	83%

Notes for tables 7.2a to 7.2c:

1. All cereal production estimates have been standardised to 14.5% moisture content with the exception of 2022 when the hot dry conditions led to lower average moisture contents in the harvested crops. 2022 production data will only be adjusted for farms which have reported moisture content above 14.5% for cereals and 9.0% for oilseed rape. Any production data which has been reported with lower moisture contents has not been adjusted.
2. Value of production excludes farm-saved seed.

Download the full Crops dataset

Harvested production of wheat was 11% lower in 2023 than 2022 at just under 13.9 million tonnes, which represents an average UK production. This was primarily due to a decrease in both the yield and planted area which fell by 5.8% and 5.1%, respectively. The value of production of wheat was 28% lower in 2023 at £2.9 billion.

Domestic Human and Industrial wheat demand for flour milling (including starch and bio-ethanol) was 5.1% higher in 2023 compared to 2022 at just under 6.3 million tonnes, with imports increasing by 11% to 1 million tonnes. Demand from flour millers was similar to last year but with a smaller domestic crop and some quality issues, meaning that more imports were required. From May 2022 both UK biofuels plants have been

operational which increased demand for feed wheat. Usage of wheat for animal feed was 0.3% lower at just over 7.1 million tonnes. The percentage of wheat in the cereal ration has now recovered to more typical levels after the drop caused by the poor 2020 harvest reducing availability. The AHDB publish cereal usage statistics which can be found at AHDB Human and Industrial cereal usage.

Total wheat imports in 2023 were 4.5% higher at 1.7 million tonnes, mainly due to greater requirements from the flour milling sector. Exports in 2023 were over 1.1 million tonnes compared to 865 thousand tonnes in 2022. The bulk of exports took place in the first half of the year and then tailed off as the smaller 2023 crop, together with less European demand and UK wheat being uncompetitively priced, took effect. The UK has been a net importer of wheat from 2017 to 2023.

Barley

Table 7.3a to 7.3c Barley; production, value, supply and use (thousand tonnes unless otherwise specified)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

Table 7.3a

Production	2021	2022	2023
Area (thousand hectares)	1,150	1,116	1,137
Yield (tonnes per hectare)	6.1	6.6	6.1
Volume of harvested production	6,961	7,385	6,963
Value of production (£ million)	**1,168**	**1,818**	**1,351**
Sales	933	1,322	1,012
On farm use	340	440	345
Change in stocks	-105	57	-5

Table 7.3b

Prices (£ per tonne)	2021	2022	2023
Malting barley	190	275	181
Feed barley	163	239	175

Table 7.3c

Supply and use	2021	2022	2023
Production	6,961	7,385	6,963
EU imports	118	78	134
Non-EU imports	5	4	0
EU exports	664	892	925
Non-EU exports	108	6	12
Total new supply	6,312	6,569	6,160
Change in farm and other stocks	-658	431	-16
Total domestic uses	**6,970**	**6,138**	**6,176**
Brewing/distilling	1,807	1,918	1,973
Animal feed	4,951	3,992	3,973
Seed	164	178	183
Other uses and waste	48	50	48
Production as % of total new supply for use in UK	**110%**	**112%**	**113%**

Notes for tables 7.3a to 7.3c:

1. All cereal production estimates have been standardised to 14.5% moisture content with the exception of 2022 when the hot dry conditions led to lower average moisture contents in the harvested crops. 2022 production data will only be adjusted for farms which have reported moisture content above 14.5% for cereals and 9.0% for oilseed rape. Any production data which has been reported with lower moisture contents has not been adjusted.
2. Value of production excludes farm-saved seed.

Download the full Crops dataset

The value of barley decreased by 26% between 2022 and 2023 to just under £1.4 billion. The production of barley decreased by 5.7% to almost 7.0 million tonnes due to decreased yields offsetting a 1.9% increase in area. The area change was driven by an increase for winter barley of 4.5% to 455 thousand hectares, whereas the spring barley area remained largely unchanged at 682 thousand hectares. Good sowing conditions in autumn 2022 negated the need for growers to plant replacement spring crops. Full details of barley production can be found here; Defra cereal production.

Barley exports increased to 937 thousand tonnes in 2023 from 898 tonnes in 2022. Most UK exports are to the EU. Barley imports rose from 82 thousand tonnes to 134 thousand tonnes due to less availability of high-quality domestic malting barley.

Demand for barley from the brewing, malting and distilling sector continued to recover from the COVID-19 related slump of 2020. Usage from the brewing, malting and distilling sector increased to over 1.9 million tonnes, an increase of 2.8% on 2022. Demand for barley from the animal feed sector fell by 0.5% to just under 4 million tonnes in 2023.

Oats

Table 7.4a to 7.4c Oats; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

Table 7.4a

Production	2021	2022	2023
Area (thousand hectares)	200	176	167
Yield (tonnes per hectare)	5.6	5.7	5.0
Volume of harvested production	1,123	1,007	830
Value of production (£ million)	**162**	**213**	**163**
Sales	115	183	155
On farm use	36	52	58
Change in stocks	12	-22	-50

Table 7.4b

Prices (£ per tonne)	2021	2022	2023
Milling oats	152	222	207
Feed oats	135	201	186

Table 7.4c

Supply and use	2021	2022	2023
Production	1,123	1,007	830
EU imports	28	22	18
Non-EU imports	0	0	0
EU exports	29	187	151
Non-EU exports	8	7	6
Total new supply	1,114	835	691
Change in farm and other stocks	136	-117	-135
Total domestic uses	**978**	**952**	**826**
Milling	505	510	488
Animal feed	439	413	310
Seed	28	24	23
Other uses and waste	6	5	4
Production as % of total new supply for use in UK	**101%**	**121%**	**120%**

Notes for tables 7.4a to 7.4c:

1. All production estimates have been standardised to 14.5% moisture content with the exception of 2022 when the hot dry conditions led to lower average moisture contents in the harvested crops. 2022 production data will only be adjusted for farms which have reported moisture content above 14.5% for cereals and 9.0% for oilseed rape. Any production data which has been reported with lower moisture contents has not been adjusted.
2. Value of production excludes farm saved seed.

Download the full Crops dataset

In 2023, the harvested production of oats decreased by 18% to 0.83 million tonnes, driven by a 5.1% decrease in area and a decrease in yield (down 13%). 2023 was the first time production fell below 1 million tonnes since 2018. The value of production fell by 23% due to lower production and lower prices to £163 million, back to the 2021 level.

UK oats usage is dominated by the oat milling sector which decreased by 4.2% to 488 thousand tonnes in 2023 from 510 thousand tonnes in 2022. Use of oats in animal feed decreased by 25% to 310 thousand tonnes due to reduced demand for animal feed and preference for wheat, barley, and maize in feed rations. Oats have a high fibre content which is useful for ruminant diets and horses but not suitable for poultry. Oat exports decreased from 194 thousand tonnes in 2022 to 157 thousand tonnes in 2023, but this is still at a high level. Most UK exports continue to be to EU countries. Exports have been strong to Belgium, Spain, and the Netherlands. Imports were 4 thousand tonnes lower in 2023 at 18 thousand tonnes.

Straw

Industry intelligence suggests cereal straw production in 2023 was estimated at 9.7 million tonnes, a decrease of 2.1% on the 2022 crop (10 million tonnes). Area bailed reduced by 2.8% at 2.4 million hectares with bedding sales reducing by 2.1% at 8.2 million tonnes. Most of the winter barley was harvested in good conditions during mid-July, resulting in relatively high levels of baling, with 92% of the crop area baled. Despite poor weather later in the year, wheat was estimated at 76% of total area baled, spring barley at 82% and oats at 70%. Straw yields were similar to last year, with wheat averaging at 3.9 tonnes per hectare and winter barley at 3.5 tonnes per hectare. Yields for spring barley at 2.5 tonnes per hectare and oats at 2.1 tonnes per hectare were both lower than last year. Straw quality was variable depending on the time of harvest, and whether it was able to be immediately baled. Winter barley straw was typically good quality, but wet weather delayed the wheat harvest and straw quality started to decline, becoming discoloured with mould starting to form.

Oilseed rape

Table 7.5a to 7.5b Oilseed rape; production value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.5a

Production	2021	2022	2023
Area (thousand hectares)	307	365	391
Yield (tonnes per hectare)	3.2	3.7	3.1
Volume of harvested production	981	1,361	1,216
Value of production (£ million)	**488**	**876**	**483**
Sales	499	778	507
Change in stocks	-11	98	-24
Prices (£ per tonne)	**497**	**644**	**398**

Table 7.5b

Supply and use	2021	2022	2023
Production	981	1,361	1,216
EU imports	449	424	505
Non-EU imports	477	387	251
EU exports	25	49	38
Non-EU exports	0	0	3
Total new supply	1,881	2,124	1,931
Production as % of total new supply for use in UK	**52%**	**64%**	**63%**

Download the full Crops dataset

The 2023 area of UK oilseed rape was 7.2% higher than 2022 at 391 thousand hectares, but still the third lowest area since 1990. Production was 1.2 million tonnes, an 11% decrease from 2022. Lower production can be attributed to the decreased yields which fell from 3.7 tonnes per hectare to 3.1 tonnes per hectare. The value of the 2023 crop was £483 million, 45% lower than 2022, though only 0.9% lower than the 2021 value (£488 million).

Oilseed rape (OSR) in 2023 suffered from numerous problems; pests such as pigeons and cabbage stem flea beetle (CSFB) together with hot and dry conditions in June, led to crops having fewer pods and smaller seed sizes. Wet and windy weather prior to harvest also reportedly caused a slight increase in seed shedding. Cabbage stem flea beetle damage was worst in the East Midlands and Eastern regions. The OSR price fell back in line with most other commodity prices as global markets steadied after the shock of the Ukraine / Russia conflict affecting availability of the crop. There were also

plentiful supplies of soyabeans, especially from South America, which put pressure on OSR prices. Prices fell from an average of £644 per tonne in 2022 to £398 per tonne in 2023.

Sugar beet

Table 7.6a to 7.6b Sugar beet production and value; Refined sugar production and supply (thousand tonnes unless specified otherwise)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.6a

Sugar beet	2021	2022	2023
Area (thousand hectares)	91	87	99
Yield (tonnes per hectare)	81	64	78
Volume of harvested production	7,364	5,574	7,746
Value of production (£ million)	**210**	**202**	**368**
Sugar content %	17	16	16
Price (average market price (£ per adjusted tonne))	**29**	**36**	**48**

Table 7.6b

All Sugar (refined basis)	2021	2022	2023
Production	1,038	749	1,078
EU imports	194	261	341
Non-EU imports	469	410	632
EU exports	15	33	39
Non-EU exports	25	21	21
Total new supply	1,660	1,366	1,991
Production as % of total new supply for use in UK	**63%**	**55%**	**54%**

Notes for tables 7.6a to 7.6b:

1. Average price for all sugar, including transport allowance and bonus.
2. Sugar coming out of the factory in the early part of the year is regarded as being part of production in the previous calendar year.
3. The area for sugar beet is provided by British Sugar and may differ to the area in Table 2.2a.

Download the full Crops dataset

Sugar beet production increased by 39% to 7.7 million tonnes. The value of production rose by 82% to £368 million with prices increasing by 31% at £47.5 tonnes per hectare. The planted area showed an increase of 13% at 99 thousand hectares.

This has been one of the longest campaigns on record due to the persistent rain across the year. This meant slow lifting conditions for growers and British Sugar made the decision to slow down factories to ensure as much beet as possible was utilised.

Late planting and increased rain resulted in the lowest recorded sugar content at 15.8%, however this has been offset by record high root weights for growers.

Overall yields increased by 22% at 78 tonnes per hectare.

Protein crops (field peas and field beans)

Table 7.7a and 7.7b Protein crops; Field peas and field beans (thousand tonnes unless specified otherwise)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

Table 7.7a

Peas for harvesting dry	2021	2022	2023
Area (thousand hectares)	61	57	61
Yield (tonnes per hectare)	3.2	2.8	3.0
For animal feed			
Volume of harvested production	176	144	167
Value of production (£ million)	**39**	**39**	**38**
For human consumption			
Volume of harvested production	20	16	16
Value of production (£ million)	**4**	**3**	**4**

Table 7.7b

Field beans	2021	2022	2023
Area (thousand hectares)	188	212	214
Yield (tonnes per hectare)	3.7	3.0	3.2
Volume of harvested production	694	635	685
Value of production (£ million)	**160**	**178**	**155**

Notes for tables 7.7a and 7.7b:

1. Peas exclude vining peas.
2. Animal feed figures cover only that part of the crop which is assumed to be used for stock-feed 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%.

Download the full Crops dataset

The overall area of pulses in 2023 was 275 thousand hectares, an increase of 2.3% from 2022 with an increase in both field bean area and field pea area. Pulses remained a popular crop option due to greening requirements of the Common Agricultural Policy, although restrictions on the use of plant protection products on crops grown on Ecological Focus Areas (EFA) and UK exit from the EU may affect the area planted going forward. 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. Pulses are also able to fixate nitrogen from the atmosphere into the soil.

The total area of field peas increased by 6.5% in 2023 to 61 thousand hectares. The proportion of this area utilised for animal feed was estimated at between 91% and 92%, higher than the estimated 90% in 2022. Total production for animal feed increased by 16% to an estimated 167 thousand tonnes. The production utilised for human consumption decreased by 3.0% to an estimated 16 thousand tonnes. The yield for field peas averaged 3.0 tonnes per hectare compared to 2.8 tonnes per hectare in 2022. There was a variation in yields dependant on how crops faired in the wet spring which affected planting and the hot June causing moisture deficit for crops grown on lighter soils. Harvest of both peas and beans was hampered by the return of wet weather at the end of July into August. Some crops had problems with staining and disease which affected overall quality.

Decreased prices were sufficient to offset the rise in production and the overall value of field peas in 2023 was £38.3 million compared to £38.7 million in 2022 (1.1% decrease).

The area of field beans was 1.1% higher than last year at 214 thousand hectares. The increased area and higher average yields meant production increased by 7.9% to an estimated 685 thousand tonnes. Average yields increased to 3.2 tonnes per hectare from 3.0 tonnes per hectare in 2022. Generally winter beans were sown in good conditions throughout autumn 2022 which resulted in good establishment and plant numbers. However, winter beans did suffer from wet weather and disease pressure in the spring followed by hot dry weather in June. Spring beans were affected by wet weather during the spring which caused delayed sowing, with those crops planted tending to go into cooler, wetter seed beds than ideal, resulting in slow and patchy emergence. The hot and dry period in June negatively affected crops, particularly those which were planted on lighter land. Bruchid beetle activity was reduced this year across most areas, particularly in the north, with the notable exception of the West Midlands and Eastern regions where activity increased. The quality of field beans was variable, with winter beans tending to have better quality, whilst spring beans tended to be of variable yield and quality.

Average prices decreased, offsetting a rise in production, and the overall value of field beans in 2023 was £155 million compared to £178 million in 2022 (13% decrease).

Fresh vegetables

Table 7.8a to 7.8c Fresh vegetables; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.8a

Production	2021	2022	2023
Area (thousand hectares)	**113**	**108**	**101**
Grown in the open	112	107	100
Protected	0.8	0.7	0.7
Value of production (£ million)	**1,683**	**1,692**	**1,860**
Grown in the open	1,295	1,331	1,486
Protected	388	361	374
Selected crops			
Cabbages	73	75	82
Carrots	185	174	211
Cauliflowers	64	56	75
Calabrese	83	107	107
Lettuces	207	228	220
Mushrooms	132	136	135
Onions	154	132	196
Tomatoes	123	96	108

Table 7.8b

Prices (farm gate price (£ per tonne))	2021	2022	2023
Selected crops			
Cauliflowers	691	713	1,058
Tomatoes	1,803	1,410	1,708

Table 7.8c

Supply and use	2021	2022	2023
Total production	**2,548**	**2,330**	**2,216**
EU imports	1,577	1,679	1,644
Non-EU imports	401	365	417
EU exports	67	83	74
Non-EU exports	2	14	2
Total new supply	4,457	4,278	4,202
Production as % of total new supply for use in UK	**57%**	**54%**	**53%**

Notes for tables 7.8a to 7.8c:

1. Data for vegetables and salad crops grown in the open is from the June Survey.
2. Protected area excludes area of mushrooms.

Download the full Crops dataset

The value of vegetable production increased by 10% to £1.9 billion, with total production decreasing by 4.9% at 2.2 million tonnes. Area planted for vegetables reduced by 6.5% at 101 thousand hectares. Domestic production as a percentage of total new supply to the UK for all fresh vegetables was 53% in 2023, down 1 percentage point from 2022.

The start of the year was dryer than expected, enabling widescale drilling of carrots, onions and parsnips in the east of England. Crops drilled in this period produced better than average yield. A wet spring meant little was planted or drilled on land with lighter soil and also made harvesting difficult, especially on the heavier soils. This significantly delayed the start of the season for most crops. In early summer the weather turned hot and dry, so that any crops established in this period favoured farmers with access to irrigation and those without struggled to get crops to germinate or grow. In July, the weather turned wet, and this persisted until the end of the year, causing harvesting and disease issues.

Plants and flowers

Table 7.9a to 7.9b Plants and flowers; area, value of production and trade (thousand tonnes unless otherwise specified)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.9a

Production	2021	2022	2023
Area (thousand hectares)	12	13	11
Value of production (£ million)	**1,562**	**1,538**	**1,686**
Flowers and bulbs	129	165	179
Pot plants	325	285	330
Hardy ornamental nursery stock	1,108	1,088	1,177

Table 7.9b

Trade (£ million)	2021	2022	2023
Total imports (exc. Channel Islands)	**1,258**	**1,534**	**1,457**
Bulbs	71	95	88
Cut flowers	693	705	616
Foliage	68	69	58
Indoor plants	148	171	174
Outdoor plants	107	148	154
Trees	110	242	263
Other	61	104	103
Total exports	**56**	**49**	**54**
Bulbs	7	8	8
Cut flowers	22	23	21
Foliage	1	1	2
Indoor plants	7	1	6
Outdoor plants	3	2	4
Trees	6	4	2
Other	9	9	11

Notes for table 7.9a and 7.9b:

1. Areas relate to field areas multiplied by the number of crops in the year and hence differ from those shown in table 2.2.
2. Trade totals may differ to the sum of the components due to rounding.

Download the full Crops dataset

Dry weather in January and February were welcomed by producers as good soil conditions helped to facilitate lifting and planting of stock. The prolonged wet weather and low summer temperatures temporarily impacted the growth of some field grown ornamentals, though most caught up by the end of the growing season. The summer weather eased fears of another drought and associated hose pipe ban, making for a much easier growing season from an irrigation perspective.

The value of production in the ornamental sector increased by 9.6% to £1.7 billion between 2022 and 2023.

In 2023, hardy nursery stock showed an 8.1% increase in value at an estimated £1.2 billion.

Flowers and bulbs showed an 8.5% increase in value at an estimated £179 million.

The pot plant sector saw a 16% increase in value at £330 million.

Potatoes

Table 7.10a to 7.10c Potatoes; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.10a

Production	2021	2022	2023
Area sown (thousand hectares)	137	127	115
Area harvested (thousand hectares)	112	120	98
Yield (tonnes per hectare harvested)	46	42	48
Volume of harvested production	**5,127**	**5,062**	**4,704**
For human consumption	3,697	2,803	2,796
Seed	365	562	515
Stockfeed and waste	1,066	1,698	1,392
Sales	**5,255**	**5,587**	**4,639**
For human consumption	3,883	3,412	2,801
Seed	365	562	515
Sold for stockfeed	1,007	1,613	1,323
End year stocks	2,477	1,869	1,864
Change in stocks	-186	-609	-5
Value of production (£ million)	**748**	**768**	**1,005**
Sold for human consumption	649	654	755
Sold for seed (including farm saved seed)	120	215	238
Sold for stockfeed	10	16	13
Change in stocks	-31	-117	-1

Table 7.10b

Prices (paid to registered producers (£ per tonne))	2021	2022	2023
Early/maincrop (for human consumption)	167	192	270
Seed	329	382	461
Stockfeed	10	10	10

Table 7.10c

Supply and use	2021	2022	2023
Total production	4,062	3,365	3,311
Imports	1,828	2,482	2,439
Exports	431	466	426
Net trade (negative means net export)	**1,397**	**2,015**	**2,013**
Early/maincrop	-58	-116	-79
Seed	-75	-92	-80
Processed (raw equivalent)	1,530	2,223	2,173
Total new supply (raw equivalent)	5,459	5,380	5,325
Production as % of total new supply for use in UK	**74%**	**63%**	**62%**

Download the full Crops dataset

The value of potatoes was £1.0 billion in 2023, an increase of 31% from 2022 (£768 million). A substantial 41% increase of the average year on year price to £270 per tonne outweighed the reductions in planted area (-9.7% to 115 thousand hectares) and volume produced (-7.1% to 4.7 million tonnes).

Prices and yield information were previously obtained from the AHDB who stopped producing data midway through 2021. For 2022, estimated yields were based on input from sector representatives, devolved administrations, and coverage of the sector in the farming press. For prices, we made use of the Northern Ireland published potato price figures. For 2023, we commissioned an outside contractor to provide industry data and insight for England and Wales in addition to receiving information from devolved administrations. The devolved administrations also provided an update to their 2022 data, including price information.

The wet weather in March and April made de-stoning, ploughing, bed forming and planting operations difficult, delaying planting on many sites. The harvest of early potatoes from April to May progressed relatively normally, starting in coastal areas in the south and then moving to inland sites. The second earlies were worst hit by the late plantings, meaning harvesting was delayed. Growing conditions were better in 2023 compared to the heatwave and reduced rainfall in 2022. However, harvest was difficult because of the wet weather, and this led to around 20% of the crop being unharvested by the end of September.

Fresh Fruit

Table 7.11a to 7.11c Fresh fruit; production, value, supply and use (thousand tonnes unless specified otherwise)

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Table 7.11a

Production	2021	2022	2023
Outdoor fruit area (thousand hectares)	**33**	**33**	**32**
Orchard fruit	23	22	21
Soft fruit	10	10	11
End year stocks	106	128	58
Value of production (£ million)	**922**	**1,017**	**1,039**
Orchard fruit	287	384	285
Soft fruit	635	633	755
Sales	880	990	1,121
Change in stocks	42	27	-82
Selected crops:			
Dessert apples	154	190	152
Culinary apples	43	94	37
Pears	22	15	14
Raspberries	154	136	180
Strawberries	399	426	471

Table 7.11b

Prices (farm gate price (£ per tonne))	2021	2022	2023
Selected crops			
Dessert apples	817	879	904
Culinary apples	228	435	218
Pears	360	180	240
Raspberries	7,977	7,601	11,631
Strawberries	2,541	2,608	2,952

Table 7.11c

Supply and use	2021	2022	2023
Total production	577	663	585
EU imports	997	1,109	998
Non-EU imports	2,330	2,168	2,150
EU exports	35	35	34
Non-EU exports	2	2	2
Total new supply	3,867	3,902	3,697
Change in stocks	42	27	-82
Total domestic uses	3,825	3,875	3,778
Production as % of total new supply for use in UK	**15%**	**17%**	**16%**

Notes for table 7.11a to 7.11c:

Notes:

1. Orchard fruit includes field area of commercial and non-commercial orchards only.
2. Stock data relates to apples and pears.
3. Value of production excludes change in stocks for apples and pears.
4. Value of production includes glasshouse fruit.
5. Excludes change in stocks for apples and pears.
6. EU trade data no longer includes dried fruit.

Download the full Crops dataset

Dry weather at the start of the year gave growers the ability to raise polytunnels for soft fruit again this year. Soil conditions were good for planting strawberries, raspberries, and new orchards. Cold winds in early spring slowed crop development and delayed flowering of top and soft fruit. Cold, dull weather in May reduced crop potential and affected yields of all the top fruits. Harvesting of all fruit crops started slightly later than usual and regular periods of wet weather made harvesting difficult.

The value of fruit production increased by 2.2% to just over £1 billion, with orchard fruit decreasing by 26% to £285 million and soft fruit increasing by 19% to £755 million. Production volumes decreased by 12% to 585 thousand tonnes.

Domestic production of fresh fruit as a percentage of total new supply decreased from 17% to 16% in 2023.

Table 7.12a and 7.12b Linseed; production value, supply and use

Enquiries: Lisa Brown on +44 (0)20 802 66340
Email: Crops-statistics@defra.gov.uk

Download the full Crops dataset

Linseed figures are no longer presented here as the area grown in the UK is so small. Updates to the dataset stopped in 2019, apart from the area data. Historical data can be found in Table 7.12a and 7.12b in the Crops dataset.

Revisions and further information

Further detailed information on vegetables, plant and flowers and fruit statistics can be found in the annual publication Horticultural Statistics. Some of the more detailed commentary in this chapter is based on data in that report that is not presented here.

Figures for 2023 are provisional and may be subject to revision.

There have been revisions to the data for wheat, barley and oats back to 2020, and fruit stocks data to 2016.

Chapter 8: Livestock

Summary

- The value of **beef and veal** increased by 4.2% to £3.9 billion (bn). Home-fed production decreased by 2.5% to 904 thousand tonnes.
- The value of **pig meat** increased by 6.2% to £1.8bn. Home-fed production decreased by 11% to 887 thousand tonnes.
- The value of **mutton and lamb** decreased by 2.7% to £1.6bn. Home-fed production decreased by 1.8% to 296 thousand tonnes.
- The value of **poultry meat** increased by 12% to £3.5bn. Home-fed production decreased by 0.8% to 1,967 thousand tonnes.
- The value of **milk and milk products** decreased by 10% to £6.0bn, driven by a decrease in prices from an all-time high in 2022. The volume of milk produced in 2023 remains unchanged from production levels in 2022.
- The value of **eggs** for human consumption increased by 30% to £1.0bn. Production decreased by 8.0% to 0.9 billion dozen.

Meat production

Total meat production in 2023 decreased by 3.7% to 4.1 million tonnes. This is the first decrease in total production in over a decade and levels still remain 13% higher than a decade ago. Over 70% of the decrease between 2022 and 2023 has been driven by the large reduction of 11% in the home fed production of pigs.

Despite the decrease in overall production quantity, in 2023 the total value of UK meat production rose by 5.8% to £10.9bn, this has largely been driven by substantial price increases for cattle, pigs and poultry.

Tables 8.1a to 8.1b - Meat production

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.1a Home fed production (thousand tonnes)

Production	2021	2022	2023
Cattle	910	926	904
Pigs	995	1,001	887
Sheep	293	302	296
Poultry	1,989	1,983	1,967
Total production	4,187	4,212	4,054

Table 8.1b Value of production (£ million)

Production	2021	2022	2023
Cattle	3,349	3,750	3,908
Pigs	1,459	1,730	1,838
Sheep	1,575	1,627	1,582
Poultry	3,035	3,168	3,542
Total value	**9,463**	**10,321**	**10,920**

Notes:

1. Total value for meat production includes other animals that are not shown in the table.

Download the full Livestock dataset

Cattle and calves: beef and veal

The value of beef and veal production increased by 4.2% to £3.9bn in 2023, following an increase of 12% the year before. The 2023 increase in value was driven by increasing prices, including a 10% increase in the price of finished prime cattle.

Home-fed cattle production decreased by 2.5% and now stands at 904 thousand tonnes in 2023. Retail demand was firm throughout 2023 despite higher prices per kg. Total beef and veal exports to the EU decreased by 10% but still remain similar to their pre-Brexit levels; exports to the rest of the world have decreased by 35% between 2022 and 2023, following another 35% decrease between 2021 and 2022. The decreases to exports do, however, come after extremely high-volume years in 2020 and 2021. Domestic home-fed production made up 85% of the UK's supply in 2023, which is a 2% decrease year-on-year.

Tables 8.2a to 8.2d - Cattle and calves; beef and veal

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.2a Population (thousand head at June)

Population	2021	2022	2023
Total cattle and calves	**9,603**	**9,632**	**9,555**
Dairy cows	1,850	1,842	1,836
Beef cows	1,485	1,463	1,407

Table 8.2b Production

Production	2021	2022	2023
Total home-fed marketings (thousand head)	**2,776**	**2,840**	**2,793**
Steers, heifers and young bulls	2,017	2,060	2,033
Calves	128	126	121
Cows and adult bulls	631	655	639
Average dressed carcase weight (kg)			
Steers, heifers and young bulls	347	346	342
Calves	88	79	81
Cows and adult bulls	315	313	310
Production			
Home fed production (dressed carcase weight, thousand tonnes)	910	926	904
Value of production (£ million)	3,349	3,750	3,908
Value of home-fed production	3,312	3,736	3,946
Change in work-in-progress	39	33	-21
Less imported livestock	2	21	16
Plus breeding animals exported	0	0	0
Subsidies	40	40	40
Value of production at basic price	3,389	3,790	3,949

Table 8.2c Prices (pence per kg deadweight)

Prices	2021	2022	2023
Finished cattle: All prime cattle	398	432	476

Table 8.2d Supply and use (dressed carcase weight equivalent, thousand tonnes)

Supply and use	2021	2022	2023
Home-fed production	910	926	904
Imports from EU	310	284	274
Imports from the rest of the world	11	13	14
Exports to EU	98	131	118
Exports to the rest of the world	34	22	14
Total new supply	**1,099**	**1,070**	**1,060**
Home-fed production as % of new supply for use in the UK	**83%**	**87%**	**85%**

Notes:

1. 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.
2. A valuation of the change in work-in-progress of animals to be slaughtered.
3. Subsidies comprising Scottish Beef Calf Scheme until 2014. From 2015 Scottish Suckler Beef Support Scheme.
4. Value of production includes subsidies and taxes.
5. Includes meat from imports of live finished animals.

Download the full Livestock dataset

Pigs and pig meat

Home-fed pig meat production has decreased by 11% to 887 thousand tonnes since 2022, where it was at the highest level since 1999 (1,002 thousand tonnes). The breeding herd has remained stable over the last 12 months but dropped by 19% over the last 24 months; the breeding herd now stands at 308 thousand head. Average carcase weight remains high at 89.17kg, having decreased 0.1% from the record high seen in 2022. The value of home-fed pig meat production increased by 6.5% due to price increases more than offsetting the decrease in production. The average clean pig deadweight price increased by 22% to £2.18 per kg. This is the second year of extremely large increases in a row, with the price per kg of clean pigs having increased by 46% since 2021. Reduced supply and firm demand were both contributory factors regarding this increase.

Tables 8.3a to 8.3d - Pigs and pig meat

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.3a Population (thousand head at June)

Population	2021	2022	2023
Total pigs	**5,323**	**5,220**	**4,683**
Sows in pig and other sows for breeding	345	301	290
Gilts in pig	54	42	48

Table 8.3b Production

Production	2021	2022	2023
Total home-fed marketings (thousand head)	**11,058**	**10,961**	**9,811**
Clean pigs	10,787	10,698	9,584
Sows and boars	271	264	227
Average dressed carcase weight (kg)			
Clean pigs	89	90	89
Sows and boars	146	144	143
Production (dressed carcase weight, thousand tonnes)			
Home-fed production	995	1,001	887
Value of production (£ million)	**1,459**	**1,730**	**1,838**
Value of home-fed production	1,437	1,745	1,858
Change in work in progress	20	-16	-21
Less imported livestock	[x]	[x]	[x]
Plus breeding animals exported	2	0	0

Table 8.3c Prices (pence per kg deadweight)

Prices	2021	2022	2023
Clean pigs	148	178	217

Table 8.3d Supply and use (dressed carcase weight equivalent, thousand tonnes)

Supply and use	2021	2022	2023
Home-fed production	995	1,001	887
Imports from EU	623	658	652
Imports from rest of the world	1	1	1
Exports to EU	85	117	91
Exports to rest of the world	126	100	66
Total new supply	**1,408**	**1,443**	**1,383**
Home-fed production as % of new supply for use in the UK	**71%**	**69%**	**64%**

Notes:

1. 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.
2. A valuation of the change in work-in-progress of animals to be slaughtered.
3. Includes meat from imports of live finished animals.
4. Trade figures relate to trade in fresh chilled and frozen meat. Trade figures also include salted and brine meat (e.g. ham and bacon). There is significant trade in processed meats, (recorded in Chapter 16 of HMRC trade data) which are not recorded in the trade figures.

Download the full Livestock dataset

Sheep and lambs: mutton and lamb

The value of home-fed sheep meat production decreased by 2.7% to £1.6bn. This decrease is partially due to a decrease in home-fed production, which decreased by 1.8% since 2022, and in 2023 now stands at 296 thousand tonnes. The price of finished sheep in Great Britain increased by 2.1% compared to 2022, and now stands at £5.78 per kg; prices are now at an all-time high per kg.

Imports of lamb and mutton from EU countries has declined by 31% between 2022 and 2023. It is worth noting, however, that this decrease comes after a large increase in the previous year. Lamb exports have increased by 6.4% between 2022 and 2023 and now stand at 92 thousand tonnes.

The UK remains a net-exporter of lamb, with home-fed production representing 114% of supply in 2023, and 107% in 2022. Total UK imports of lamb have decreased by 18% and now stands at 56 thousand tonnes, the majority of which comes from non-EU countries.

Tables 8.4a to 8.4d - Sheep and lambs: mutton and lamb

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.4a Population (thousand head at June)

Population	2021	2022	2023
Total sheep and lambs	**32,957**	**33,174**	**31,803**
Female breeding flock	15,624	15,826	15,438
Other sheep and lambs	17,333	17,348	16,365

Table 8.4b Production

Production	2021	2022	2023
Total home-fed marketings (thousand head)	**14,010**	**14,436**	**14,415**
Clean sheep and lambs	12,261	12,677	12,698
Ewes and rams	1,749	1,759	1,717
Average dressed carcase weight (kg)			
Clean sheep and lambs	20	20	20
Ewes and rams	27	26	26
Production (dressed carcase weight, thousand tonnes)			
Home-fed production	293	302	296
Value of production (£ million)	**1,575**	**1,627**	**1,582**
Value of home-fed production	1,572	1,626	1,603
Change in work in progress	3	1	-21
Less imported livestock	0	0	0
Plus breeding animals exported	0	0	0
Subsidies	7	7	7
Value of production at basic prices	1,582	1,634	1,589

Table 8.4c Prices (pence per kg dressed carcase weight)

Prices	2021	2022	2023
Finished sheep, Great Britain	576	566	578

Table 8.4d Supply and use (dressed carcase weight equivalent, thousand tonnes)

Supply and use	2021	2022	2023
Home-fed production	293	302	296
Imports from the EU	7	16	11
Imports from the rest of the world	52	52	45
Exports to the EU	75	82	86
Exports to the rest of the world	6	5	7
Total new supply	**271**	**283**	**260**
Home-fed production as % of new supply for use in the UK	**108%**	**107%**	**114%**

Notes:

1. 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.
2. A valuation of the change in work-in-progress of animals to be slaughtered.
3. Value of production includes subsidies and taxes.
4. Includes meat from imports of live finished animals.
5. Subsidies comprising Scottish Upland Sheep Support Scheme.
6. Unweighted average of weekly prices at representative markets.

Download the full Livestock dataset

Poultry and poultry meat

The overall value of home-fed poultry meat production increased by 12% to £3.5bn in 2023. This has been driven by an increase of 16% in the value of table chickens, which make up the majority of the sector. The price of poultry was largely responsible for this increase in value, with prices for table chickens rising by 15% to £1.71 per kg.

Overall, home-fed poultry meat production decreased by 0.8% to 1.97bn tonnes, with a 0.5% increase in table chicken meat production to 1.79bn tonnes. This overall decrease, despite a small increase in table chicken meat, is primarily driven by the continued decline in the production of turkey meat, which has decreased by 18% to 0.01bn tonnes. Turkey chick placements fell substantially in 2023 to 10.7 million chicks, a further decrease of 22%, which follows a 8.7% decrease between 2021 and 2022 (see Poultry slaughter and hatchery statistics).

Overall poultry populations have declined by 2.9% to 178 million head, with a 4.3% decrease to table chickens and 15% decrease to other poultry. This decrease in the populations has been partially offset by the increase of 2.5% to laying and breeding fowl. Placements of commercial broilers remain largely unchanged, having increased by 0.2% to 1.19bn chicks; turkey placements in the UK have also decreased by 22% to 10.7m chicks (see Poultry slaughter and hatchery statistics).

The UK production of poultry makes up 82% of total supply, with imports from the EU and the rest of the world making up 584 and 42 thousand tonnes respectively. Whilst imports from the EU remain relatively consistent with 2022 levels, imports from the rest of the world have increased by 51% between 2022 and 2023, they are now at the highest levels seen since 2005.

Tables 8.5a to 8.5d - Poultry and poultry meat

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.5a Population (thousand head at June)

Population	2021	2022	2023
Total poultry	**190,019**	**183,488**	**178,142**
Table chickens	126,693	121,730	116,440
Laying and breeding fowl	52,839	52,463	53,792
Turkeys, ducks, geese and all other poultry	10,487	9,295	7,909

Table 8.5b Production

Production	2021	2022	2023
Slaughterings (millions)	**1,194**	**1,162**	**1,171**
Table chickens	1,172	1,143	1,153
Boiling fowls (culled hens)	49	43	39
Turkeys	12	10	9
Ducks & geese	10	9	9
Production (carcase weight thousand tonnes)	**1,989**	**1,983**	**1,967**
Chickens and other table fowls	1,770	1,783	1,792
Boiling fowls (culled hens)	70	64	59
Turkeys	125	117	96
Ducks & geese	23	20	20
Value of production (£ million)	**3,035**	**3,168**	**3,542**
Table chickens	2,480	2,642	3,063
Boiling fowls (culled hens)	7	6	6
Turkeys, ducks, geese	329	311	313
Change in work in progress in fowls	20	-11	-51
Exports of live poultry	167	179	186
Hatching eggs for export	75	84	80
Less live poultry imported	12	7	6
Less hatching eggs imported	22	30	43

Table 8.5c Prices (average producer prices, pence per kg dressed carcase weight)

Prices	2021	2022	2023
Chickens and other table fowls	140	148	171
Boiling fowls (culled hens)	10	10	10
Turkeys	186	192	228
Ducks	386	409	392
Geese	678	730	872

Table 8.5d Supply and use (dressed carcase weight equivalent, thousand tonnes)

Supply and use	2021	2022	2023
Production	1,989	1,983	1,967
Imports from the EU	462	588	584
Imports to the rest of the world	23	28	42
Exports to the EU	237	172	135
Exports to the rest of the world	97	74	63
Total new supply	**2,140**	**2,352**	**2,396**
Production as % of new supply for use in the UK	**93%**	**84%**	**82%**

Notes:

1. Laying and breeding fowl includes hens and pullets kept mainly for producing eggs for eating.
2. Boiling fowls included with table chickens until 1994.
3. Production excludes offal.
4. A valuation of the change in work-in-progress of fowls to be slaughtered.
5. Poultry prices not available for 2021 & 2022. Estimated prices used to calculate a value.
6. Trade figures relate to trade in fresh chilled and frozen meat. There is significant trade in processed meats, (recorded in Chapter 16 of HMRC trade data) which are not recorded in the trade figures.

Download the full Livestock dataset

Milk

Milk production for human consumption remained unchanged from 2022 to 2023, staying at 14.9 billion litres after two consecutive year-on-year decreases. The dairy herd fell by less than 0.5% to 1,837 thousand head, and the average yield per cow increased by 0.5% to 8,215 litres per annum.

The average milk price across the 2023 calendar year (excluding bonus payments) decreased by 10% to 39.4 pence per litre (ppl) from a historic high of 44.0 ppl in 2022, which was an increase of 42% from the 2021 price. The price decreases have meant the total value of milk production has decreased by 10% (£675 million), but this value is still the 2nd highest on record. Input costs began easing in late 2023.

Tables 8.6a to 8.6d - Milk

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.6a Population and yield

Type	2021	2022	2023
Dairy herd (annual average, thousand head)	1,854	1,847	1,837
Average yield per dairy cow (litres per annum)	8,208	8,169	8,215

Table 8.6b Production

Production	2021	2022	2023
Milk from the dairy herd (million litres)	**15,214**	**15,088**	**15,090**
Milk from the beef herd (million litres)	**[x]**	**[x]**	**[x]**
Raw milk leaving farm	14,983	14,857	14,859
Milk processed on farm	90	91	92
On farm use	140	139	139
Volume for human consumption	15,073	14,949	14,951
Value of production (£ million)	**4,769**	**6,659**	**5,983**
Raw milk leaving farm	4,674	6,532	5,867
Processed milk products from farm	51	66	61
On farm use	44	61	55
Subsidies	[x]	[x]	[x]
Less levies	[x]	[x]	[x]
Value of production at market prices (£ million)	4,769	6,659	5,983

Table 8.6c Prices (average milk producer prices, net of delivery charges (pence per litre))

Prices	2021	2022	2023
Farmgate price excluding bonus payments	31	44	39
Farmgate price including bonus payments	31	44	39

Table 8.6d Supply and use (million litres)

Supply and use	2021	2022	2023
Production (excludes on farm use from 2015)	15,073	14,949	14,951
Imports	177	177	177
Exports	885	885	885
Total new supply	**14,366**	**14,242**	**14,244**
For liquid consumption	6,129	6,016	6,032
For manufacture	**7,972**	**7,944**	**7,892**
Butter	438	426	411
Cheese	4,703	4,844	4,837
Cream	326	326	380
Yoghurt	463	423	382
Condensed milk	343	337	350
Milk powders	1,003	948	943
Other products	696	639	590
Dairy wastage and stock change	266	282	319
Other uses	133	132	132
Production as a % of new supply	**105%**	**105%**	**105%**

Notes:

1. This is the average size of the dairy herd across the whole year, rather than the size at a particular time of year. From 2005 the dairy herd is defined as dairy cows over two years of age with offspring. Until 2004 the dairy herd was defined as cows and heifers in milk plus cows in calf but not in milk, kept mainly for producing milk or rearing calves for the dairy herd.
2. Excludes suckled milk. Milk from beef cows is no longer recorded after 2016 as it is no longer considered significant.
3. Farmhouse consumption and milk fed to livestock.
4. Value of raw milk sold to other businesses (dairies) for processing.
5. Value of milk and milk products processed on farm and sold direct to the consumer.
6. Includes condensed milk used in the production of chocolate crumb and in the production of machine skimmed milk.
7. Includes farmhouse consumption, milk fed to stock and on farm waste. Excludes suckled milk.
8. [x] means data is unavailable.

Download the full Livestock dataset

Hen eggs

The value of egg production for human consumption increased by 30% to £1,003 million; this is the 6th consecutive year-on-year increase. This large increase in value has been primarily driven by an increase in the price of eggs; a dozen eggs cost an average of 117.3p in 2023, which is an increase of 41% from a year before. Enriched cage eggs rose by 28% and free range increased by 40%.

The volume of eggs produced for human consumption fell by 8.0%. Production of enriched cage eggs fell by 10% while free range eggs increased by 5%.

Egg imports continue to rise, and have increased by 30% to 166 million dozen from 2022; import levels are now similar to pre-2020 levels. Exports have decreased by 4.3% to 27 million dozen. The UK remains a net importer of eggs, with UK production making up 87% of supply.

Tables 8.7a to 8.7d – Hen eggs

Enquiries: Sam Beale on +44(0) 7386 658427
Email: defra.fisu@defra.gov.uk

Table 8.7a Population (thousands at June)

Population	2021	2022	2023
Number of laying fowl	40,568	40,442	41,073

Table 8.7b Production

Production	2021	2022	2023
Volume of production (million dozen)	**1,150**	**1,075**	**996**
Eggs for human consumption	1,001	929	855
Eggs for hatching	131	128	128
Other	18	18	13
Value of production of eggs for human consumption (£ million)	754	774	1,003

Table 8.7c Prices (pence per dozen)

Prices	2021	2022	2023
Weighted average of eggs graded in the UK	75.3	83.3	117.3

Table 8.7d Supply and use (million dozen)

Supply and use	2021	2022	2023
UK production of eggs for human consumption	**1,001**	**929**	**855**
Eggs sold in shell	882	818	752
Eggs processed	119	111	103
Imports from the EU	118	127	153
Imports from the rest of the world	1	1	1
Exports to the EU	34	27	26
Exports to the rest of the world	1	1	1
Total new supply	**1,085**	**1,030**	**982**
Production as % of new supply for use in the UK	**92%**	**90%**	**87%**

Notes:

1. Egg production figures have been revised following the publication of Total Income from Farming 2022. As such, the 2022 egg production and value of production figures quoted in table 8.7 in this dataset and in tables 8.7a-c in Chapter 8 will differ from those in Chapter 4 - Accounts.
2. Other eggs include hatching eggs for export and waste.
3. Eggs for hatching and hatching egg exports are not valued as they are included in the final value for poultry in table 8.4.
4. Represents the price paid by packers to producers in the United Kingdom and takes account of all egg systems - intensive, free range, barn and organic. Methodology changes: data up to and including 2011 excludes bonus payments, thereafter bonus payments are included.
5. Import and export figures include shell egg equivalent of whole (dried, frozen and liquid) egg, egg yolk and albumen.

Download the full Livestock dataset

Revisions

Figures in these tables for 2023 are provisional and may be subject to revision.

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 this summary, all values are provided in current prices which is considered the most intuitive approach for comparisons over a short time period. It should be noted that these values have not been adjusted for inflation, which was unusually high in 2023 at 7.1%. For the current prices dataset please see Chapter 4: Accounts.

In 2023:

- The total cost of **intermediate consumption** was £21,086 million, a decrease of £605 million (-2.8%) from 2022 to 2023.
- The value of **animal feed** decreased by £398 million (-4.8%) from 2022 to £7,820 million in 2023.
- The value of **energy** decreased by £16 million (-0.8%) from 2022 to £1,913 million in 2023.
- The total value of **fertilisers** was £1,362 million, a decrease of £541 million (-28%) from 2022 to 2023.

Introduction

Chapter 4: Accounts provides more detailed information on input costs and gives a full breakdown of intermediate consumption.

Figures 9.3 and 9.4 present the value of energy and fertilisers respectively. These are presented in real terms, adjusted for inflation, which provides more meaningful comparisons over longer time periods. Comparisons over more recent years, as presented in Chapter 4, are presented at current prices, not adjusted for inflation, which is considered the most intuitive for comparisons over shorter time periods.

Inputs

Figure 9.1 Intermediate consumption (at current prices, £ billion)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

Year	Intermediate Consumption (£ billion)
2018	17.1
2019	17.2
2020	16.9
2021	18.6
2022	21.7
2023	21.1

Download the full Intermediate consumption dataset

Figure 9.1 shows the value of intermediate consumption from 2018 to 2023. Since 2018, the average value of intermediate consumption is £18.7 billion, with the lowest value for £16.9 billion occurring in 2020 and the highest value of £21.7 billion occurring in 2022. The value for intermediate consumption in 2023 fell by £0.6 billion (-2.8%) from 2022.

Animal Feed

Table 9.1 Animal feed (thousand tonnes unless stated otherwise)

Enquiries: Allan Howsam on +44 (0)20 802 66123
Email: Crops-statistics@defra.gov.uk

	2021	2022	2023
Compounds:			
Cattle	5,078	4,991	4,977
Calves	277	260	263
Pigs	2,343	2,263	2,061
Poultry	5,209	4,826	4,667
Sheep	898	861	780
Total compounds plus imports less exports	**13,878**	**13,262**	**12,779**
Straight concentrates	6,941	6,383	6,365
Non-concentrates	525	525	525
Inter/intra farm transfer	8,905	9,227	11,460
Total animal feed	**30,248**	**29,397**	**31,128**
Total value of animal feed (£ million)	**£6,630**	**£8,219**	**£7,820**

Notes:

1. Compounds poultry: includes poultry feed produced by ‘retail’ compounders but excludes production from integrated poultry units which are included within the straight concentrates data.
2. Straight concentrates are cereals, cereal offals, proteins and other high energy feeds.
3. Non-concentrates are 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.
4. ‘Maize for stockfeed’ is included within the ‘inter/intra farm transfer’ category.
5. See Chapter 4: Accounts Table 4.1 for a full breakdown of the value of purchased animal feed.

Download the full Intermediate consumption dataset

The cost of animal feed is the largest item of expenditure recorded in the agricultural accounts. The total volume of animal feed increased by 5.9% from 2022 to 31.1 million tonnes in 2023 due to a 24% increase in inter/intra farm sales. However, despite this volume increase, the overall value of animal feed in 2023 decreased by 4.8% to £7.8 billion, following trends in commodity prices. 2023 saw the price of commodities fall after the summer 2022 peak as a result of markets adjusting to the ongoing Russia / Ukraine conflict and reduced demand.

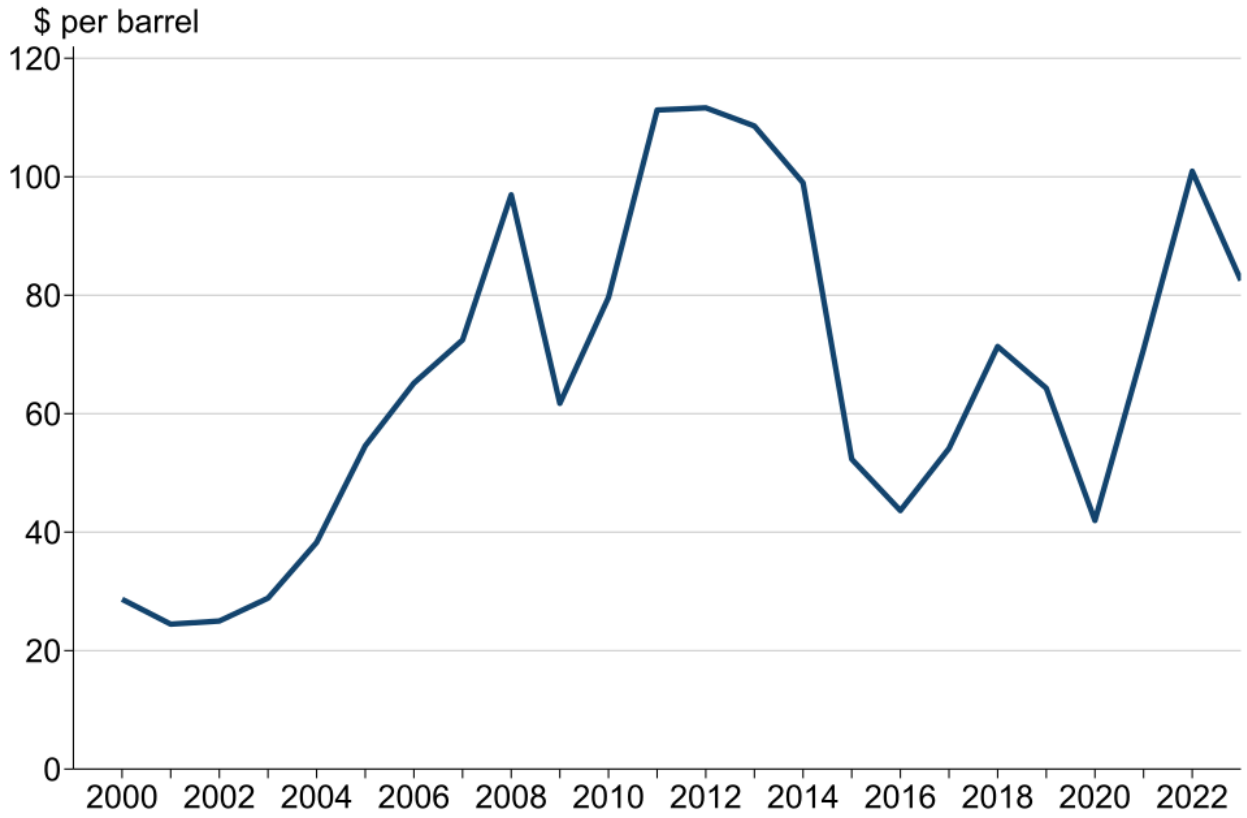
Total compound feed volume decreased by 3.6%, with decreases in pigs (-8.9%), sheep (-9.4%), poultry (-3.3%) and cattle (-0.3%). Compound feed for calves showed a small increase of 1.3%. The pig and poultry sectors have faced a number of challenges in recent years due to a combination of high feed and energy costs, butchery capacity and disease risks. Sufficient grass growth in the latter half of 2023 reduced the need for extra supplementary compound feed for cattle and sheep. The volume of straight concentrates decreased by 0.3% in 2023.

Defra June 2023 Survey results showed a 2.9% decrease in poultry numbers to 178 million birds. Broiler numbers saw a decrease of 4.3% to 116 million, whereas the breeding and laying flock increased by 2.5% to almost 54 million. The total number of pigs in the UK decreased by 10% to 4.7 million animals, with breeding pigs decreasing by 0.2% and fattening pigs decreasing by 11%. Sheep and lambs showed a decrease of 4.1%, to just under 32.0 million. The female breeding flock decreased by 2.4% to 15.4 million whilst the number of lambs decreased by 6.1% to 15.5 million. By contrast the population of cattle and calves showed little change at 9.6 million.

Oil Prices

Figure 9.2 Annual Europe Brent Spot Price ($ per barrel)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description for Figure 9.2: Figure 9.2 is a line chart showing the Europe Brent Spot Price from 2000 to 2023. Values are presented as $per barrel at current prices.

Source: U.S. EIA(Energy Information Administration)

Download the full Intermediate consumption dataset

Some inputs, such as fuel, electricity and fertilisers, are closely linked to oil price. Consequently, oil price plays a role in the increase or decrease of the costs for running machinery and for heating, lighting, drying crops and the cost of fertiliser purchases.

Figure 9.2 shows the trend in annual Europe Brent crude oil prices since 2000. Oil prices rose strongly between 2002 and 2008 but fell sharply in 2009 as a global financial crisis hit. Between 2011 and 2014, oil prices were high but relatively stable due to a weak global economy and tension in the Middle East.

Into 2015, strong global production exceeded demand, causing prices to fall rapidly, dropping below $45 per barrel by 2016. Prices rose steadily through 2017 and 2018, reaching just over $70 a barrel, amid fears of US sanctions and global shortages. However, the price was still much lower compared to the high prices seen at the start of the decade.

In 2020, coronavirus related restrictions resulted in a rapid contraction in global demand for oil, particularly for travel. This caused the price to fall below $42 per barrel for the first time since 2004. The price rebounded strongly in 2021, as the easing of COVID-19 restrictions globally saw the demand for oil outpace supply. The average price in 2021 was $71 per barrel, slightly lower than the peak in 2018 and still considerably lower than the highest price of $112 per barrel in 2012.

This increase of 69% from 2020 to 2021 was followed by an increase of 42% to $101 per barrel in 2022. Russia’s invasion of Ukraine in February 2022 had a significant impact on the import of crude oil to Europe, with the volume of Russian oil decreasing throughout the year from approximately 28% of total imports in January to 4% in December. This decrease in volume coupled with uncertainty of supply saw oil prices peak in July 2022 at $122 per barrel before stabilising throughout the year as dependency on Russian imports decreased.

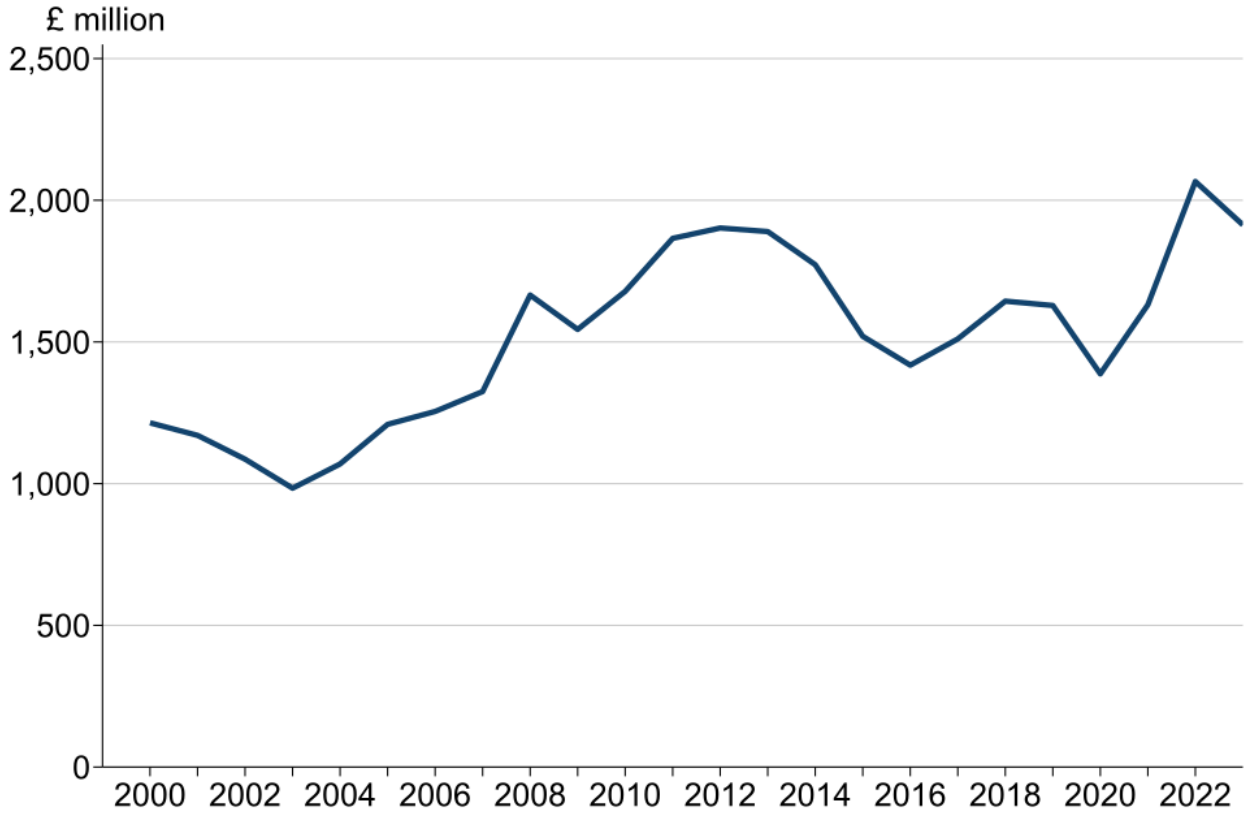
In 2023 the annual price of crude oil decreased by 18%, from 2022, to $83 per barrel. This fall was driven by global markets reacting to new trade dynamics as well as global demand falling short of expectations, which together offset impacts from OPEC+(Organization of the Petroleum Exporting Countries) crude oil supply curbs.

For more information on European oil prices see this article: EIA

Energy

Figure 9.3 Energy (in real terms, £ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description for Figure 9.3: Figure 9.3 is a line chart showing the value of energy in real terms from 2000 to 2023. Values are presented in millions.

Download the full Intermediate consumption dataset

Figure 9.3 shows the value of energy usage for agriculture in real terms. Over the long term the value of energy costs has followed a similar pattern to that of the crude oil price (see Figure 9.2). Energy costs generally increased during the 2000s, reaching a peak in 2012 before falling again. From 2015-2021 energy costs have averaged £1,534 million (in real terms), but with some relatively large year on year fluctuations. In 2022, energy costs rose sharply following Russia's invasion of Ukraine, reaching a peak of £2,038 million.

In 2023 the total cost of energy was £1,913 million, a decrease of £16 million (-0.8%) from 2022, at current prices. This was driven by a decrease in motor and machinery fuels of £126 million (-10%) to £1,123 million, which was partially balanced by an increase in electricity and fuels for heating of £111 million (16%) to £790 million. The decrease in motor and machinery fuels in 2023 follows the reduction in oil price from

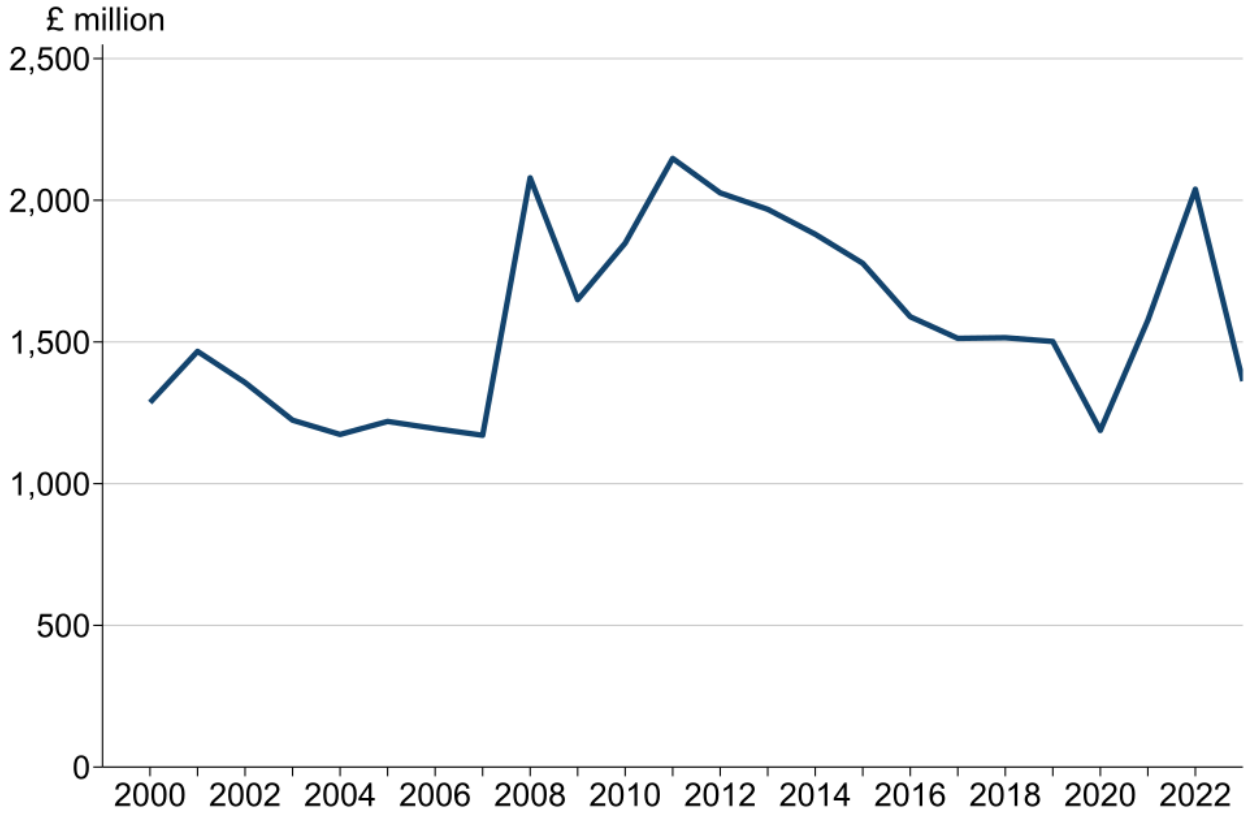
2022. The increase in energy and fuels for heating was a result of a 15% increase in prices in 2023, combined with the need for more crop drying following wet weather at harvest.

For the full current prices and real terms dataset see Chapter 4: Accounts

Fertilisers

Figure 9.4 Fertilisers (in real terms, £ million)

Enquiries: Alexandra Hall +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk



Text description for Figure 9.4: Figure 9.4 is a line chart showing the value of fertilisers in real terms from 2000 to 2022. Values are presented in millions.

Download the full Intermediate consumption dataset

Natural gas is used in the process of manufacturing nitrogen fertilisers and its price is closely linked to the price of oil. Consequently, if the price of oil rises so does the cost of producing fertiliser.

Figure 9.4 shows fertiliser costs since 2000 in real terms. Between 2000 and 2007 fertiliser costs were largely stable. However, from 2007 to 2008 they increased by 78% (in real terms) and remained high until peaking in 2011. Between 2012 and 2019 fertiliser costs steadily declined, with a sharp drop in 2020, resulting from reductions in

both prices and the volume of fertilisers used. Fertiliser costs rose sharply in 2021 and 2022, peaking at £2,038 million.

2023 saw a decrease in the price of all straight fertilisers, with a decrease of £541 million (-28%) from 2022, to £1,362 million (at current prices). The main driver of this decrease was lower prices, with an average decrease in price of 34% across all straight fertilisers. These price decreases encouraged farmers to apply more fertiliser, resulting in a volume increase that slightly offset the price reductions. Overall the value of fertiliser in 2023 returned to 11% below the 6 year real terms average of £1,530 million.

Other Input Costs

The cost of seeds in 2023 was £881 million, a decrease of £35 million (-3.8%) from 2022. Seed usage is driven by a combination of crop area, time of drilling, and drilling conditions. There was a 2% increase in area of spring cereals planted and 7% reduction in area of winter cereals planted in 2023. In spring 2023, seed rates were variable as a result of mixed drilling conditions. Despite some drilling delays, the area of spring crops had increased compared to spring 2022, with a 7% increase seen in the area of spring barley. The increases in spring area led to a 7% reduction in area of winter cereals.

The cost of plant protection products in 2023 was £1,048 million, an increase of £82 million (8.5%) from 2022. This decrease was largely driven by the reduction in the volume applied on cereal and horticulture farms in 2023.

Revisions

Explanation for any revisions to these data can be found in Chapter 4: Accounts

Chapter 10: Public Payments

Summary

Key results for 2023 compared to 2022:

- Total **direct payments** to farmers are expected to decrease by £16 million (-0.6%) to £2,953 million.
- **Basic Payment Scheme (BPS)** payments are expected to decrease by £292 million (-12%) to £2,050 million.
- Payments linked to **agri-environment schemes** are expected to increase by £298 million (81%) to £666 million.

Introduction

This chapter shows the value of agricultural support payments in the United Kingdom. Agricultural support will vary as older schemes close and new schemes are introduced, therefore care should be taken when comparing between UK countries and years.

In 2021, agricultural support payments began to change following the UK's departure from the EU Common Agricultural Policy (CAP).

Payments made to UK farmers under the Basic Payment Scheme (BPS) before 2021 were set in Euros and converted to Sterling using the exchange rate set by the European Central Bank for the month of September as a whole. From 2021 onward all BPS payments are funded by the UK exchequer and includes young farmer and redistributive payments.

Existing schemes under rural development programmes will continue to be co-funded from the European Agricultural Fund for Rural Development (EAFRD) until 2024 or until remaining funds are depleted, whichever is sooner.

Payments previously made under the CAP will gradually be replaced by payments from the devolved governments. Agricultural domestic support will be administered through new schemes introduced in each country, and will generally be targeted at improving agri-environmental performance.

Direct Payments

Tables 10.1 and 10.2 below show the direct payments made to agricultural producers that are captured in the agricultural accounts (see Chapter 4) and exclude capital grants.

Values shown for a particular year refer to schemes operating in that year and are shown in current price, i.e. not adjusted for inflation, and are expressed as amounts expected to be paid.

Table 10.1: Direct payments to farmers 2021 to 2023 (£ million)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

	2021	2022	2023
Decoupled and other payments			
Basic payment scheme	2,825	2,342	2,050
Agri-environment schemes	362	368	666
Less favoured areas support schemes	31	117	62
Animal disease compensation	28	68	45
Other	13	25	83
Total decoupled and other payments	**3,259**	**2,921**	**2,905**
Coupled payments (linked to production)			
Total coupled payments less levies	48	48	48
Total direct payments less levies	**3,307**	**2,969**	**2,953**

Download the full Public payments dataset

Table 10.2: Direct payments to farmers by country 2023 (£ million)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

	England	Wales	Scotland	Northern Ireland
Decoupled and other payments				
Basic payment scheme	1,084	240	425	300
Agri environment schemes	553	75	33	5
Less favoured areas support schemes	[x]	[x]	[x]	[x]
Animal disease compensation	19	6	1	19
Other	64	1	18	[x]
Coupled payments	[x]	[x]	47	0
Total direct payments less levies	**1,720**	**322**	**586**	**324**

Notes for Table 10.1 and Table 10.2

1. Decoupled payments are not linked to production and include the Basic Payment Scheme and agri-environment schemes. Coupled payments are linked to production.
2. Other payments in 2023 include the New Entrants scheme operated in Scotland, and COVID-19 support schemes in Northern Ireland.

3. Coupled payment schemes in 2023 include the Scottish Suckler Beef Support Scheme, the Scottish Upland Sheep Scheme and the Northern Ireland Protein Crops Scheme. Total payments under the Protein Crops Scheme were less than £0.5 million and so are not shown for Northern Ireland in Table 10.2.
4. Agri-environment schemes in 2023 include the Countryside Stewardship Scheme (England), the Sustainable Farming Incentive (England), Glastir (Wales), the Agri-Environment Climate Scheme (Scotland), and the Environmental Farming Scheme.
5. [x] means data is not available.
6. Please note there may be small differences between the 'Subsidies not linked to production' in Table 4.1 and 'Decoupled and other payments' in Table 10.1 and Table 10.2 due to the inclusion of one-off payments in the latter.

Download the full Public payments dataset

Take-up of agri-environment schemes

Agri-environment schemes provide an incentive to farmers to adopt land management and farm practices that are beneficial to the environment. The uptake of agri-environment schemes is shown by the total number of agri-environment agreements in place and the total area of land under these agreements. 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.

Figure 10.1 Area under agri-environment schemes by country for 2021 to 2023 (thousand hectares)

Enquiries: Katie Killick
Email: FCPstatsandreporting@defra.gov.uk

Year	England	Wales	Scotland	Northern Ireland	UK
2021	3,035	647	1,179	61	4,922
2022	3,565	554	870	63	5,052
2023	4,487	481	842	62	6,515

Notes:

1. These numbers are based on the total area per land parcel for each option. Options may not cover the total area of the land parcel.
2. Total area covered by agri-environment schemes is lower than the sum of the areas for each scheme as different schemes can cover the same land areas.

Download the full Public payments dataset

Figure 10.2 Number of agri-environment agreements by country for 2021 to 2023

Enquiries: Katie Killick
Email: FCPstatsandreporting@defra.gov.uk

Year	England	Wales	Scotland	Northern Ireland	UK
2021	28,800	3,000	4,200	5,500	41,500
2022	34,500	2,800	3,400	5,000	45,700
2023	50,900	2,800	3,400	4,800	61,900

Download the full Public payments dataset

Common Agricultural Policy (CAP) payments

Figure 10.3 shows all Pillar 2 Common Agricultural Policy payments for 2018 to 2023. Pillar 2 funds rural development programmes and schemes are co-funded by the European Agricultural Fund for Rural Development (EAFRD) until 2024, or until funds are depleted. Data is presented by European Union agricultural financial years and shown in Euros.

CAP-funded Pillar 1 payments ended in 2021 and legacy schemes have switched to UK funding. Pillar 1 payments include direct payments and market measures. CAP Pillar 1 payments prior to 2021 can be viewed in the full dataset.

Figure 10.3: UK Pillar 2 Common Agricultural Policy payments for 2018 to 2023 (EUR million)

Enquiries: Michael Redfern on +44 (0)207 764 2327
Email: michael.redfern@ukcoordinatingbody.gov.uk

Year	EAFRD	Co-financing	Total
2018	581	179	760
2019	776	225	1,001
2020	766	227	993
2021	638	189	827
2022	476	170	646
2023	251	90	341

Download the full Public payments dataset

General Services Support

Table 10.3 shows the annual cost of general services funded by UK Government and Devolved Administrations to support the agricultural industry. These are services that benefit the sector as a whole, and do not include payments to individual producers.

Table 10.3: General services support for 2021 to 2023 (£ million)

Enquiries: Alexandra Hall on +44 (0)20 7714 1374
Email: farmaccounts@defra.gov.uk

	2021	2022	2023
Agricultural research	262	259	306
Pest and disease control	3	21	21
Training services	3	2	1
Extension and advisory services	75	30	29
Inspection services	199	288	293
Marketing and promotions services	42	43	66
Infrastructural services	43	36	40

Download the full Public payments dataset

Revisions

Figures for 2023 are provisional and subject to revision.

As a result of more data becoming available over time there have been minor revisions to earlier years in this release. These revisions are intended to enhance the precision of these estimates. Sometimes additional revisions are necessary to refine the methodology or correct historical errors, such revisions will always be noted.

Below are a list of key revisions that have been carried out since the last publication:

- Table 10.1 and 10.2 - Figures for direct payments to farmers have been updated for 2022 as calendar year data is available for 2022 onwards. Prior to 2022 the data are based on Q4 to Q3 years.
- Figure 10.2 - In the accompanying dataset, the 2018 Glastir Organic figure has been revised due to a previous rounding error.

Chapter 11: Environment

Summary

- Estimated **greenhouse gas and air pollution emissions** from agriculture have fallen between 1990 and 2022.
- After a continuous increase from 2010 to 2018, **pesticide usage** declined in 2020. This was followed by an increase in 2022, where usage was similar to levels in 2010.
- Since the late 1990s, **nitrogen and phosphate fertiliser application rates** have fallen and were at their lowest rate in 2022.
- **Soil nutrient balances for nitrogen and phosphorus** have fluctuated over time, but have shown an overall downward trend and were at the lowest level in 2022.

Introduction

Whilst agriculture contributes less than 1% to the United Kingdom's economy, it provides around three-quarters of the indigenous food we eat and is responsible for around 70% of land use.

Agricultural production and the associated land use and management are key drivers of the environmental impacts from the sector. A key challenge is to decouple production from its environmental impact so that production can be increased whilst reducing the overall environmental footprint.

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.

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.

All the data presented in this chapter is the most recent at the time of publication. Links to further information on source data has been provided for each section of this chapter.

Emissions

Agriculture accounts for around 12% of greenhouse gases in the UK. Three greenhouse gases emitted by agriculture are nitrous oxide, methane and carbon dioxide. Agriculture is also responsible for a large proportion of the UK's ammonia emissions, which impact on air quality and subsequently human and animal health.

Figure 11.1 Emissions from agriculture in 2022 (percentage)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

Emission	Agriculture	Other sectors or sources	Total
Nitrous oxide	70%	30%	100%
Methane	49%	51%	100%
Carbon dioxide	2%	98%	100%
Ammonia	87%	13%	100%

Notes:

1. The whole timeseries for greenhouse gas emissions is revised each year to take account of methodological improvements in the UK emissions inventory.

Source: UK territorial greenhouse gas emissions national statistics, BEIS, Emissions of air pollutants, Defra

Download the full Agri-environment dataset

Agriculture is a major source of nitrous oxide, methane and ammonia in the UK, accounting for 70% of nitrous oxide emissions, 49% of methane emissions and 87% of ammonia emissions in 2022. In contrast, agriculture only accounted for 2% of carbon dioxide emissions in 2022.

As shown in Figures 11.2 to 11.4, total amounts of nitrous oxide, methane and carbon dioxide have reduced since 1990, however this is mainly due to reductions in non-agricultural sources. Therefore, whilst agriculture has seen reductions in emissions of nitrous oxide and methane, they now account for a larger proportion of total emissions.

Figure 11.2 Nitrous oxide emissions (million tonnes carbon dioxide equivalent)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

Year	Agriculture	Non-agriculture	Total
1990	16.3	27.6	43.9
2022	12.6	5.5	18.1

Notes:

1. The whole timeseries for greenhouse gas emissions is revised each year to take account of methodological improvements in the UK emissions inventory.

Source: UK territorial greenhouse gas emissions national statistics, BEIS

Download the full Agri-environment dataset

The majority of agricultural nitrous oxide emissions are sourced from soils, particularly as a result of nitrogen fertiliser application, manure (both applied and excreted on pasture) and leaching/run-off. In 2022, nitrous oxide emissions from agriculture are estimated to have fallen by approximately 23% since 1990. This is consistent with trends in fertiliser usage.

Figure 11.3 Methane emissions (million tonnes carbon dioxide equivalent)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

Year	Agriculture	Non-agriculture	Total
1990	32.5	117.6	150.1
2022	27.8	28.6	56.4

Notes:

1. The whole timeseries for greenhouse gas emissions is revised each year to take account of methodological improvements in the UK emissions inventory.

Source: UK territorial greenhouse gas emissions national statistics, BEIS

Download the full Agri-environment dataset

The majority of methane emissions from agriculture are from enteric fermentation (digestive processes) in ruminating animals, with manure management practices accounting for the remainder. In 2022, methane emissions from agriculture are estimated to have fallen by 15% since 1990, mainly as a result of decreasing livestock numbers, particularly in cattle.

Figure 11.4 Carbon dioxide (million tonnes carbon dioxide equivalent)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

Year	Agriculture	Non-agriculture	Total
1990	5.3	598.3	603.6
2022	7.3	316.8	324.1

Notes:

1. The whole timeseries for greenhouse gas emissions is revised each year to take account of methodological improvements in the UK emissions inventory.

Source: UK territorial greenhouse gas emissions national statistics, BEIS

Download the full Agri-environment dataset

Agriculture's emissions of carbon dioxide have remained low since 1990 and accounted for only 2% of total emissions in 2022. Whilst the proportion of carbon dioxide emissions related to agriculture are low, levels increased in 2004, where they have since fluctuated but remained at similar levels.

Figure 11.5 Ammonia emissions (thousand tonnes)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

Year	Agriculture	Non-agriculture	Total
1990	279.3	29.3	308.6
2022	226.6	32.7	259.3

Source: Emissions of air pollutants, Defra

Download the full Agri-environment dataset

In 2022, agriculture accounted for 87% of the UK's ammonia emissions. The main sources of ammonia emissions in the UK are agricultural soils and livestock, in particular cattle.

In 2022, ammonia emissions from agriculture are estimated to have fallen by 19% since 1990 due to long-term reductions in cattle numbers and more efficient fertiliser use. Emissions have generally fluctuated since 2010, in part driven by annual variations in weather conditions affecting crop planting and fertiliser use, as well as energy prices affecting the use of fertilisers.

Pesticide use

Figure 11.6 Weight of pesticides applied to arable crops (tonnes)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk

year	Fungicides	Growth regulators	Herbicides	Insecticides	Molluscicides	Other	Total
2010	4,811	2,631	6,253	336	174	0	14,205
2012	5,292	2,803	6,619	344	126	0	15,183
2014	5,592	2,730	7,051	245	132	92	15,843
2016	5,883	2,639	7,770	187	158	88	16,724
2018	5,745	2,547	8,414	164	174	90	17,134
2020	4,449	1,799	6,074	133	96	2	12,552
2022	4,045	2,672	7,848	135	85	15	14,799

Notes:

1. All pesticides include seed treatment.

Source: Pesticide usage surveys, fera

Download the full Agri-environment dataset

Plant protection products (pesticides) are used to regulate growth and to manage pests, weeds, 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.

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, pesticides applied to arable crops (which include cereals, oilseeds, potatoes, pulses, and sugar beet) make up around 85-90% of all pesticides

applied to agricultural land. Whilst the estimated total area used for growing arable crops has remained relatively stable since 2010 (~4 million hectares), the weight of pesticides applied to these crops have varied over the same time period.

In absolute terms, there has been little change in total pesticide usage since 2010 (14,205 tonnes in 2010 vs 14,799 tonnes in 2022). Within that time period, however, between 2010 to 2018 there was a gradual increase in the weight of pesticides applied, followed by a substantial drop in usage in 2020, which was partly due to a switch from winter cropping to spring cropping arising from challenging weather conditions in the autumn of 2019.

In 2022, pesticide use climbed upwards but still fell below the levels seen in 2018. Figure 11.6 shows the weight of pesticides applied to arable crops in the UK since 2010, split by the different chemical groups used (‘others’ refer to chemicals grouped together because they were applied to less than 0.1% of the total area treated with pesticides).

Fertiliser use

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.

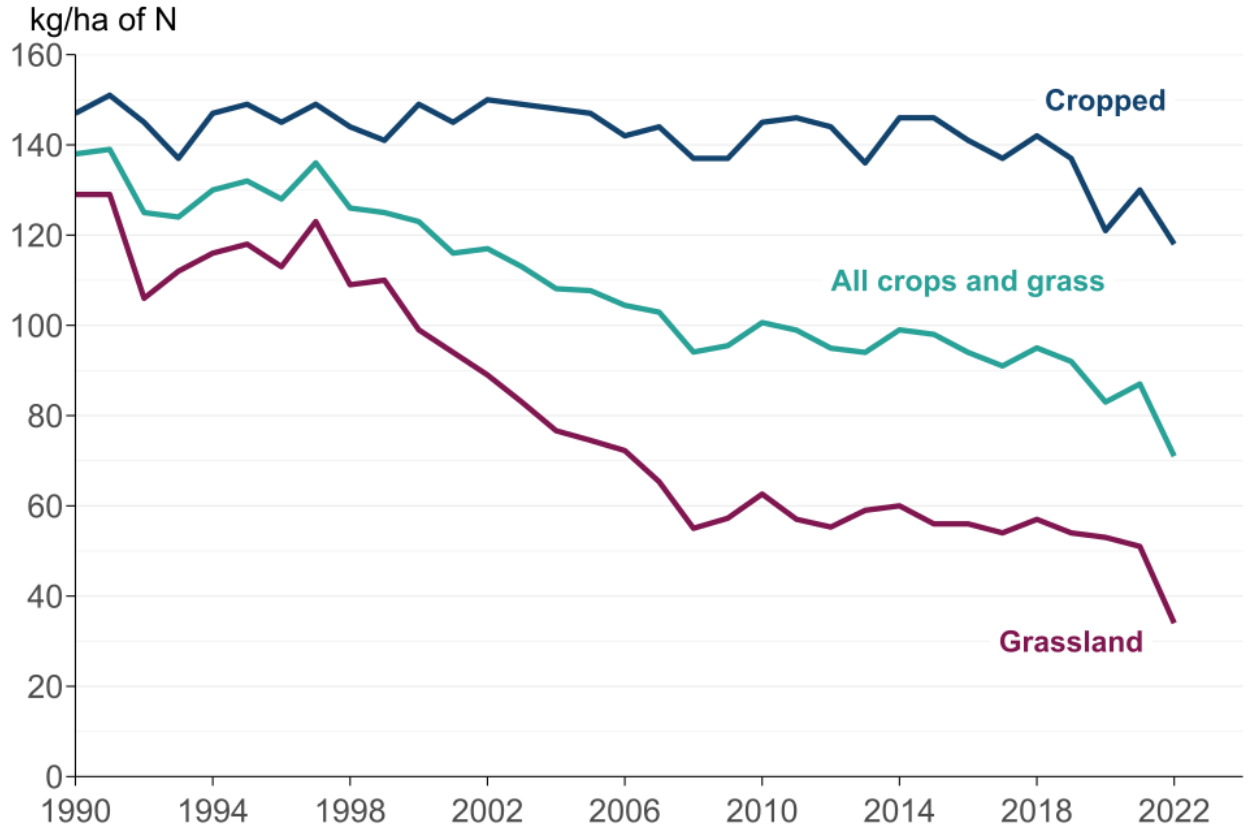
Fertilisers can have an adverse impact on the environment depending on the application method, through over-application and natural losses from soils and manures. These impacts include water quality (nitrogen and phosphorous levels in waterbodies), air quality (ammonia emissions) and climate change (nitrous oxide emissions).

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.

Annual levels of nitrogen and phosphate application are influenced by fertiliser prices, crop prices, crop type and weather-related issues during the growing season.

Figure 11.7 Overall application rate of nitrogen (N) on all crops and grass (kg/ha), Great Britain

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk



Notes:

1. Cropped land is tillage crops.

Source: British survey of fertiliser practice, Defra

Text description of Figure 11.7: Figure 11.7 is a line chart showing the overall application rate of nitrogen on all crops and grass, cropped land and grassland from 1990 to 2022. Overall application rates of nitrogen have shown an overall decline on grassland, steadily decreasing from around 1998. Rates have been similar since 2008, although between 2021 and 2022 there was the largest decline for some years. Application rates on cropped land have fluctuated over time but saw a large decline in 2020 before increasing again in 2021. Rates declined again in 2022 to their lowest rate since the series began.

Download the full Agri-environment dataset

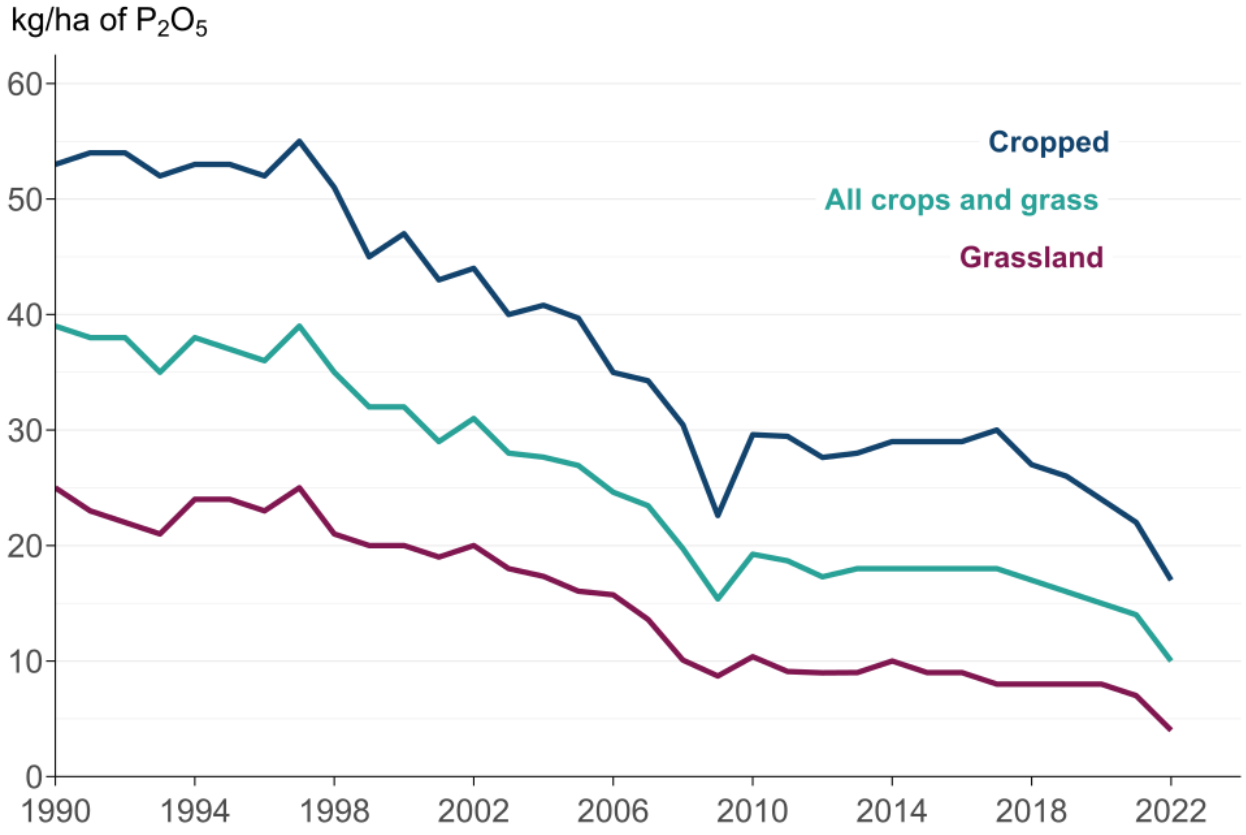
In Great Britain between 1990 and 2018 the overall application rate of mineral nitrogen on cropped land was largely in the range of 140 -150 kg/ha, but it has declined in recent

years. In 2022, the rate of nitrogen application on cropped land was 118 kg/ha. This was a decrease of 12 kg/ha compared to 2021.

For grassland, nutrient application rates have always been lower than for cropped land. Between 1990 and 2022, there has been a downward trend in the overall mineral nitrogen application rate on grassland. The fall in application rates until 2008 is likely to be related in part to decreases in ruminant livestock numbers. Since then, the rate of nitrogen application to grassland had remained relatively constant, however the rate was 34 kg/ha in 2022, which was the lowest recorded since 1984. This was a decrease of 33% compared to 2021, which is the largest year-on-year change since the series began.

Figure 11.8 Overall application rate of phosphate (P2O5) on all crops and grass (kg/ha), Great Britain

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk



Notes:

1. Cropped land is tillage crops.

Source: British survey of fertiliser practice, Defra

Text description of Figure 11.8: Figure 11.8 is a line chart showing the overall application rate of phosphate on all crops and grass, cropped land and grassland from

1990 to 2022. Whilst overall rates have been higher on cropped land, the trends of phosphate application rates on cropped land and grassland have been similar, showing a steady overall decline. In the past few years up to 2020, the decline in application rates on cropped land has continued, but have remained similar for grassland. The past couple of years has shown a larger decline in application rates on both grassland and cropped land.

Download the full Agri-environment dataset

Phosphate is applied in fertilisers and manures, particularly to replace the quantities removed in harvested crops. Most British soils can 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.

In 2022, the overall application rates of mineral phosphate on all crops and grass were around a quarter of the level seen in 1990, and decreased by 4kg/ha to 10kg/ha compared to 2021. Application rates in 2022 were the lowest since the series began.

As with nitrogen, application rates on grassland have always been less than on cropped land and both have shown an overall downward trend between 1990 and 2022. In recent years, the decline had leveled off with similar rates seen since 2012. However, the year-on-year change between 2022 and 2021 for grassland, cropped land, and all crops and grass saw the largest decrease for some years.

Soil nutrient balances

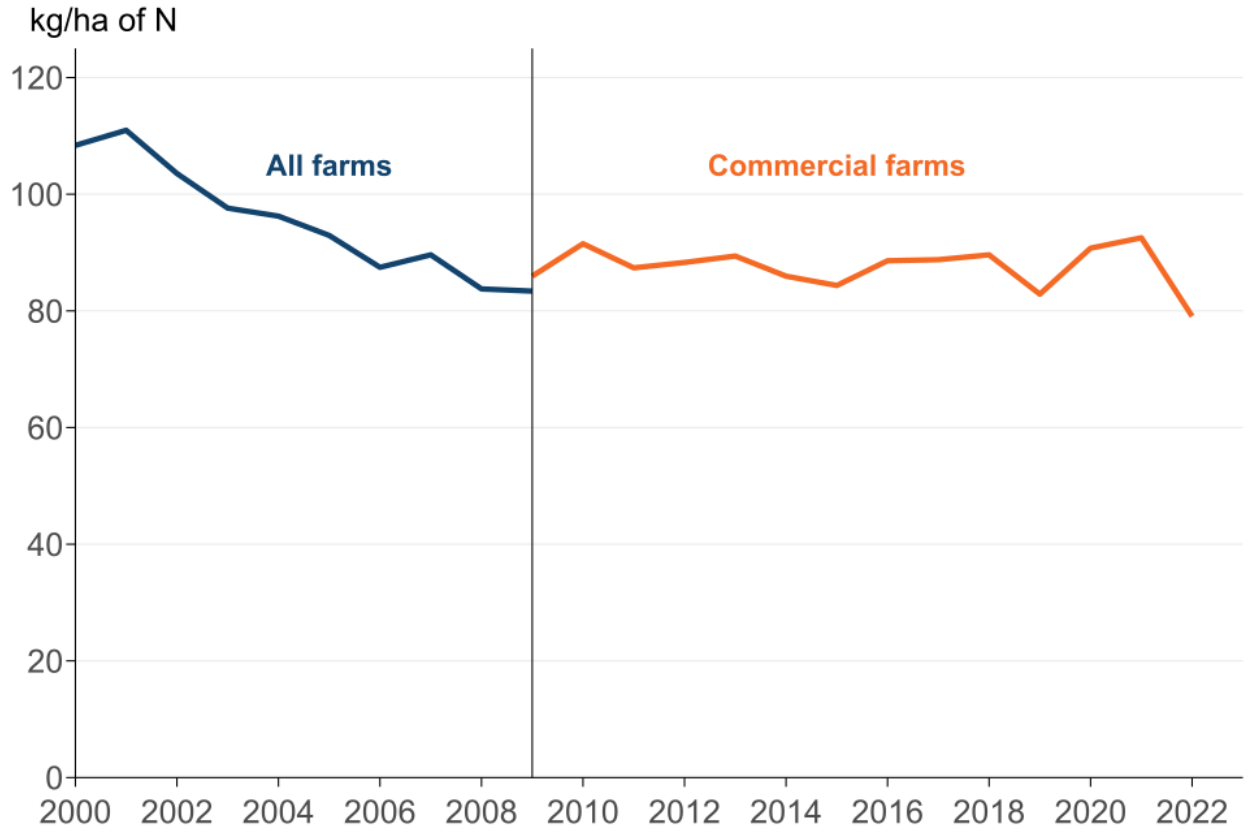
Soil nutrient balances provide an indication of the overall environmental pressure from nitrogen and phosphorus in agricultural soils. They measure the difference between nutrients applied to soils (largely as fertilisers and manures) and those removed from soils by the growth of crops, including grass for fodder and grazing. They give an indication of the potential risk associated with losses of nutrients to the environment, which can impact on air and water quality and on climate change.

The nutrient balances are used as a high-level indicator of farming’s pressure on the environment and how that pressure is changing over time. The balances do not estimate the actual losses of nutrients to the environment, but significant nutrient surpluses are directly linked with losses to the environment.

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. However, there is a risk that nutrient deficits lead to poor soil fertility and subsequent loss of yields.

Figure 11.9 Nitrogen (N) soil nutrient balance (kg/ha)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk



Notes:

1. From 2010 in England, June survey data for land and animals is collected only for commercial farms.
2. From 2000 to 2008 data is for all farms and hence based on a larger population.
3. For comparability, data for 2009 have been presented on both the definition used for 2000 to 2008 and that used from 2010 onwards.
4. The series break in 2009 is due to changes in farm survey data collection.

Source: Soil nutrient balances, Defra

Text description of Figure 11.9: Figure 11.9 is a line chart showing the nitrogen soil nutrient balance on farms from 2000 to 2022. Balances have fluctuated over time and remained between 80 kg/ha and 100 kg/ha from 2002 up to 2021. In 2022, the balance dropped below 80 kg/ha for the first time since the series began.

Download the full Agri-environment dataset

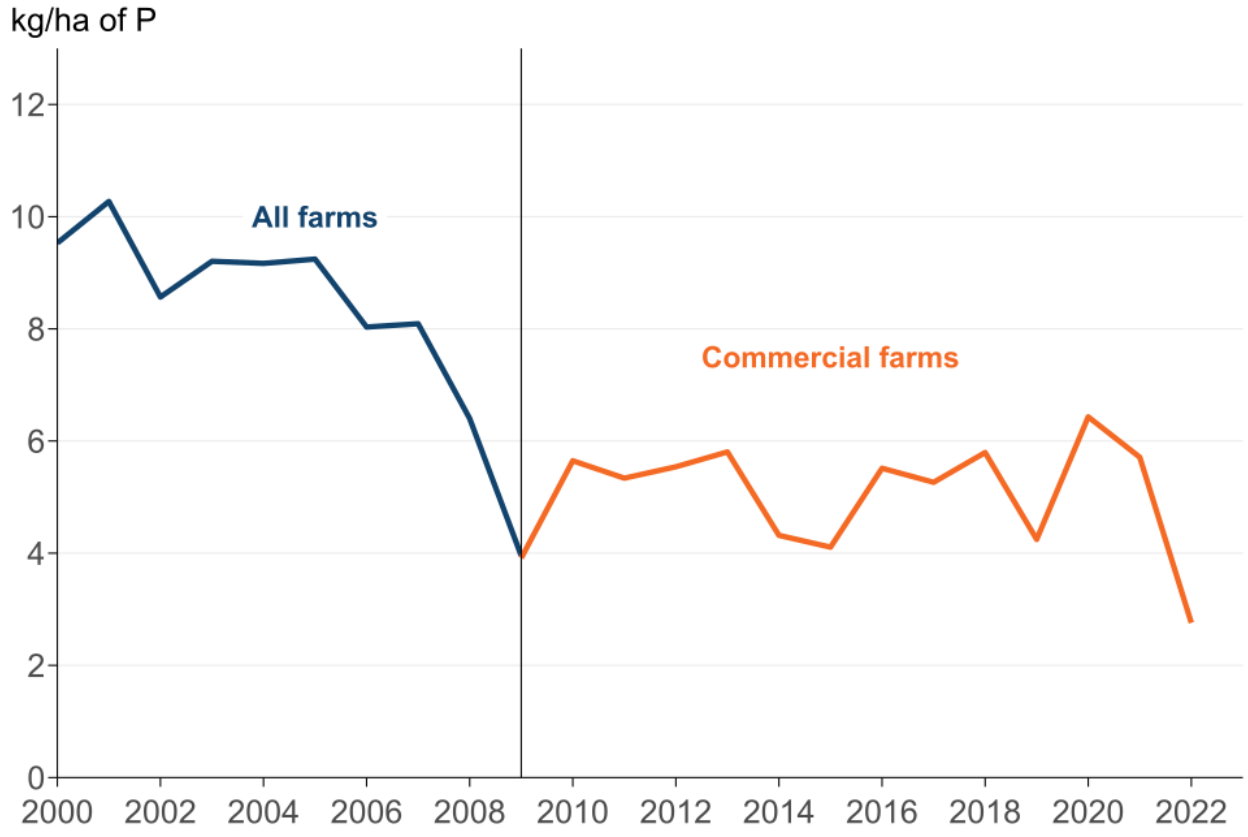
Estimates for 2022 show that the nitrogen balance for the UK was a surplus of 79.1kg/ha on managed agricultural land. This was a decrease of 13.5kg/ha (15%) compared to 2021. This was driven by a decrease in total inputs of 10.8 kg/ha (5.6%)

(mainly from reduced use of inorganic manufactured fertiliser) coupled with an increase in total offtake of 2.6 kg/ha (2.6%) (mainly from increased cereal and oil crop production) over the same period. Farmers cut back on the application of inorganic manufactured fertiliser, likely as a result of extremely high prices.

The 2022 estimate for the UK nitrogen balance was the lowest since the annual time series began in 2000, with a reduction of 29.3 kg/ha (27%) to the nitrogen balance surplus over this time. Since 2000, total inputs of nitrogen decreased by 54.9 kg/ha (23%), which more than offset a decrease in total offtake of 25.6 kg/ha (20%). The main drivers behind the decrease in total inputs of nitrogen were reductions in the application of both inorganic manufactured fertiliser and cattle manure. The main driver behind the decrease in total offtake of nitrogen was a decrease in pasture consumption due to a reduction in the number of grazing livestock.

Figure 11.10 Phosphorus (P) soil nutrient balance (kg/ha)

Enquiries: Robin Karfoot +44 (0)2080 266449
Email: agri.environmentstatistics@defra.gov.uk



Notes:

1. From 2010 in England, June survey data for land and animals is collected only for commercial farms.
2. From 2000 to 2008 data is for all farms and hence based on a larger population.

3. For comparability, data for 2009 have been presented on both the definition used for 2000 to 2008 and that used from 2010 onwards.
4. The series break in 2009 is due to changes in farm survey data collection.

Source: Soil nutrient balances, Defra

Text description for Figure 11.10: Figure 11.10 is a line chart showing the phosphorus soil nutrient balance on farms from 2000 to 2022. The soil nutrient balance fluctuated but showed an overall decline from approximately 10 kg/ha in 2000 to approximately 4 kg/ha in 2009. Since then, the balance has continued to fluctuate but remained between 4 and 8 kg/ha up to 2021. In 2022, the balance fell below 4 kg/ha, which was the lowest level since the time series began.

Download the full Agri-environment dataset

Estimates for 2022 show that the phosphorus balance for the UK was a surplus of 2.8 kg/ha on managed agricultural land. This is a decrease of 3.0kg/ha (52%) compared to 2021. This was driven by a decrease in total inputs of phosphorus of 2.1 kg/ha (9.3%) (mainly from reduced use of inorganic manufactured fertiliser) coupled with an increase in total offtake of 0.8 kg/ha (4.8%) (mainly from increased cereal and oil crop production) over the same period.

As with nitrogen, farmers cut back on the application of inorganic manufactured fertiliser, likely as a result of extremely high prices. Production of wheat, winter barley and oilseed rape were all up in 2022 and there was also a small increase in the estimated offtake of phosphorus due to pasture consumption by grazing livestock.

The longer-term trend (compared to 2000) shows an overall reduction of 6.8 kg/ha (71%) and the 2022 estimate for the UK phosphorus balance was the lowest since the annual time series began in 2000. Over this time, total inputs of phosphorus decreased by 10.1 kg/ha (33%), which more than offset a decrease in total offtake of 3.4 kg/ha (16%).

As with nitrogen, the main drivers behind the decrease in total inputs of phosphorus were reductions in the application of both inorganic manufactured fertiliser and cattle manure. The main driver behind the decrease in total offtake of phosphorus was a decrease in pasture consumption due to a reduction in the number of grazing livestock.

Chapter 12: Organic Farming

Summary

In 2023:

- 498 thousand hectares were **farmed organically** in the UK.
- 60% of UK **organic land** was in England, 23% in Scotland, 15% in Wales and 1.4% in Northern Ireland.
- **Permanent pasture (including rough grazing)** accounted for 62% of organic land in the UK, covering 307 thousand hectares.
- 10% of organic land in the UK was used to grow **cereals** (50 thousand hectares).
- 3.0% of **cattle** in the UK were reared organically.
- There were a total of 5,230 **organic operators** in the UK.

Introduction

Organic farming is a method of farming that requires farmers to operate to a system based on ecological principles which impose strict limitations on the inputs that can be used, with the aim of minimising damage to the environment and wildlife. Emphasis is placed on natural methods of production and pest control.

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 are 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.

Organic land area

Land area farmed organically

In 2023, the UK had a total area of 498 thousand hectares of land farmed organically, a decrease of 2.1% compared to 2022. The total area includes both the fully converted area and area under conversion.

Organic production comes from fully converted land, which is land that has undergone conversion to meet organic standards. In 2023, the UK had 462 thousand hectares of fully organic land. This represents a decrease of 1.3% from 2022.

Land in-conversion is discussed in detail in the land in-conversion section below.

Figure 12.1: Land area farmed organically (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Year	In-conversion	Fully organic	Total
2014	19.7	529.0	548.6
2015	20.6	500.8	521.4
2016	25.2	482.7	507.9
2017	32.6	484.8	517.4
2018	32.9	441.1	474.0
2019	28.1	457.1	485.2
2020	31.3	457.6	489.0
2021	42.0	464.7	506.6
2022	40.3	468.3	508.6
2023	35.7	462.2	497.9

Notes:

1. The colours for the fully organic (turquoise) and in-conversion (dark blue) bars have reversed compared to Agriculture in the UK 2022 - Chapter 12.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics

Download the full Organics dataset

Table 12.1: Area farmed organically by country (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Country	Area in-conversion	Fully organic area	Total organic area	Total area on agricultural holdings at June	Total organic area as % of June area
United Kingdom	**35.7**	**462.2**	**497.9**	**17,140**	**2.9%**
England	18.3	279.1	297.5	8,999	3.3%
Wales	4.2	72.6	76.9	1,768	4.3%
Scotland	13.1	103.5	116.6	5,331	2.2%
Northern Ireland	0.1	6.9	7.0	1,042	0.7%

Notes:

1. Total land area on agricultural holdings at June. Excludes common land.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics and June Survey of Agriculture as at 1 June 2023.

Download the full Organics dataset

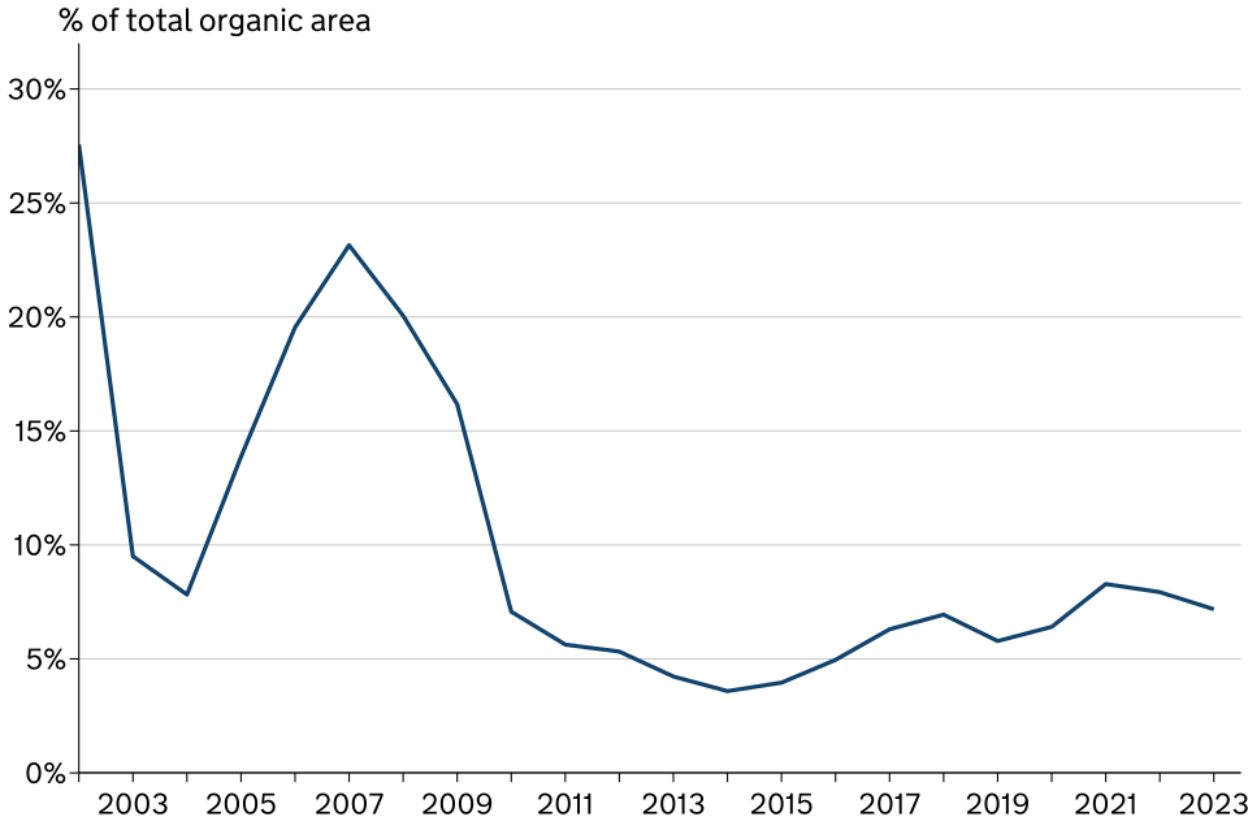
Land in-conversion

Before an area can be considered as fully organic, it must undergo a conversion process. In 2023, the UK had 36 thousand hectares of land in-conversion. This constitutes a decrease of 11% from 2022.

The area in-conversion expressed as a percentage of the total organic area can give an indication of the potential growth in the organic sector. In 2023, land in-conversion made up 7.2% of the total organic land in the UK. This was a decrease of 0.8 percentage points from 2022.

Figure 12.2: Land in-conversion as a proportion of the total area farmed organically

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk



Source: Defra organic farming statistics.

Text description of Figure 12.2: Figure 12.2 shows the area of land in-conversion as a proportion of total land area farmed organically in the UK from 2002 to 2023. The percentage of land in-conversion in the UK peaked in 2002, with the lowest percentage occurring in 2014. Since 2021, the area of in-conversion land has fallen steadily year on year.

Download the full Organics dataset

Organic land use

Organic land use

Permanent pasture (including rough grazing) accounts for the biggest share of the organic area in the UK (62%), followed by temporary pasture (18%) and cereals (10%). The full breakdown of organic land use in the UK is shown in figure 12.3 and tables 12.2 and 12.3.

Figure 12.3: Organic land use (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Use	Area
Permanent pasture (incl. rough grazing)	07.1
Temporary pasture	91.5
Cereals	50.3
Woodland	17.8
Other arable crops	11.0
Vegetables (incl. potatoes)	10.3
Unutilised & unknown	7.3
Fruit & nuts	2.2
Herbaceous & ornamentals	0.5

Notes:

1. Some land areas are provided without a crop category or land use description, therefore these are classified as unknown.

Source: Defra organic farming statistics

Download the full Organics dataset

Table 12.2: Organic land use, 2020 to 2023 (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Use	2020	2021	2022	2023	Percentage change 2023/2022
Cereals	42.7	46.6	49.5	50.3	1.6%
Other arable crops	9.2	10.8	10.7	11.0	3.1%
Fruit & nuts	2.0	2.4	2.3	2.2	-2.2%
Vegetables (incl. potatoes)	9.5	9.8	10.3	10.3	-0.7%
Herbaceous & ornamentals	0.4	0.6	0.7	0.5	-27%
Temporary pasture	97.1	99.7	96.1	91.5	-4.8%
Permanent pasture (incl. rough grazing)	304.5	310.8	314.1	307.1	-2.2%
Woodland	16.0	17.4	17.3	17.8	2.8%
Unutilised land	2.8	3.3	3.2	3.2	-2.6%
Unknown	4.9	5.2	4.4	4.2	-5.1%
Total	**489.0**	**506.6**	**508.6**	**497.9**	**-2.1%**

Notes:

1. Includes fully organic land and land in-conversion.
2. Some land areas are provided without a crop category or land use description, therefore these are classified as unknown.
3. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics

Download the full Organics dataset

Table 12.3: Detailed fully organic and in-conversion land use (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Use	Area in-conversion	Fully organic area	Total organic area	Total area on agricultural holdings at June	Total organic area as % of June area
Cereals	**3.4**	**46.9**	**50.3**	**3,088**	**1.6%**
Wheat	1.7	17.8	19.5	1,720	1.1%
Barley	1.0	6.2	7.2	1,137	0.6%
Oats	0.4	16.6	16.9	167	10%
Other cereals	0.3	6.4	6.7	65	10%
Other arable crops	**1.1**	**9.9**	**11.0**	**1,168**	**0.9%**
Sugar beet	0.0	0.3	0.3	99	0.3%
Fodder, forage and silage	0.9	8.8	9.8	94	10%
Maize, oilseeds & protein crops	0.2	0.8	0.9	974	0.1%
Fruit & nuts	**0.3**	**2.0**	**2.2**	**32**	**7.0%**
Vegetables	**0.7**	**7.9**	**8.6**	**100**	**8.6%**
Potatoes	**[low]**	**1.6**	**1.6**	**115**	**1.4%**
Herbaceous & ornamentals	**[low]**	**0.5**	**0.5**	**10**	**4.6%**
Temporary pasture	**5.3**	**86.1**	**91.5**	**1,260**	**7.3%**
Permanent pasture (excl. rough grazing)	**16.6**	**226.3**	**242.9**	**6,074**	**4.0%**
Rough grazing	**6.7**	**57.5**	**64.2**	**3,655**	**1.8%**
Woodland	**1.2**	**16.5**	**17.8**	**948**	**1.9%**
Unutilised land	**0.2**	**3.0**	**3.2**	**[x]**	**[x]**
Unknown	**0.1**	**4.1**	**4.2**	**[x]**	**[x]**
Total	**35.7**	**462.2**	**497.9**	**[x]**	**[x]**

Notes:

1. Total land area on agricultural holdings at June. Excludes common land.

2. Some land areas are provided without a crop category or land use description, therefore these are classified as unknown.
3. “[x]” indicates no comparable June survey data is available.
4. “[low]” indicates a value that is greater than zero, but shows as zero due to rounding. See the accompanying dataset for the unrounded value.
5. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics and June Survey of Agriculture as at 1 June 2023.

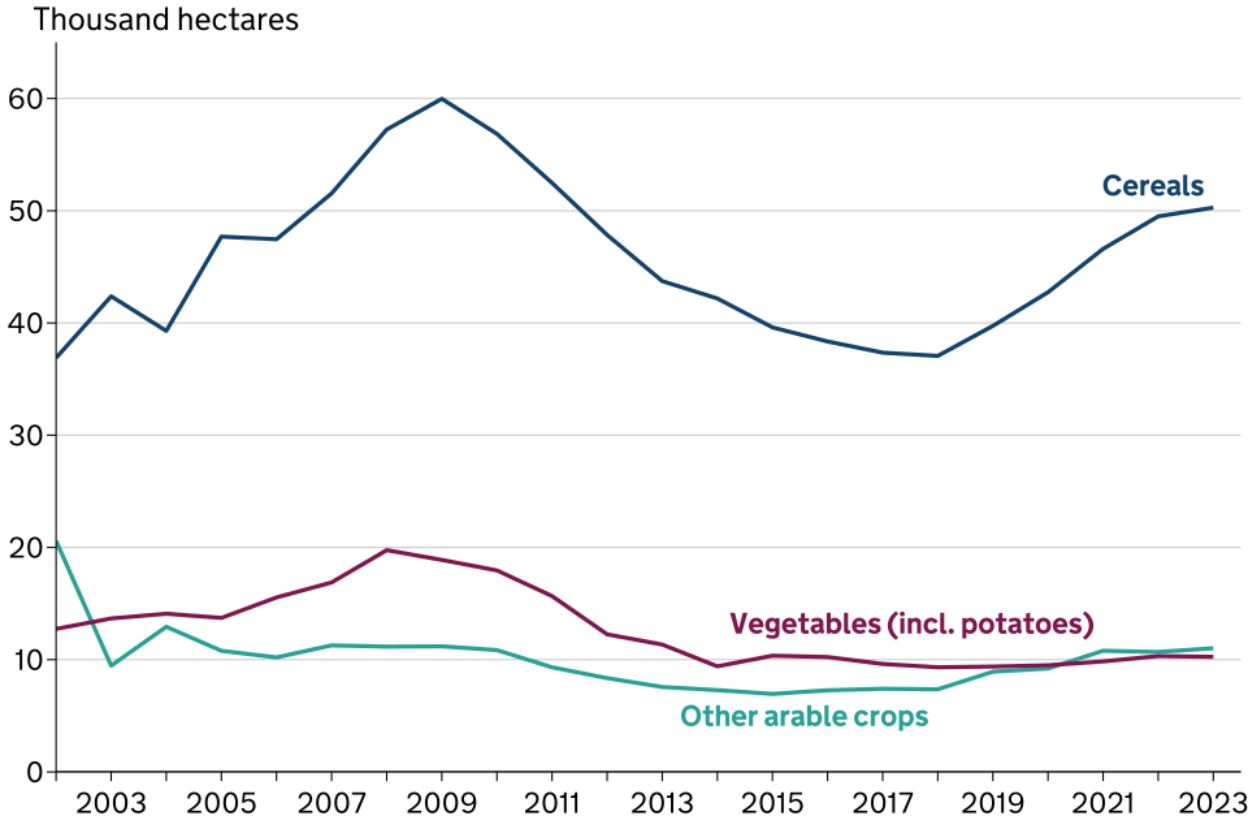
Download the full Organics dataset

Organic crops

The three main crop types grown organically are cereals, other arable crops and vegetables (including potatoes). In the UK the area of organically grown cereal crops increased by 1.6% to 50 thousand hectares in 2023. Other arable crops increased by 3.1% to 11 thousand hectares. The area of organically grown vegetables (including potatoes) decreased by 0.7% to 10 thousand hectares in 2023.

Figure 12.4: Organic crops (thousand hectares)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk



Notes:

1. Includes fully organic land and land in-conversion.

Source: Defra organic farming statistics.

Text description of Figure 12.4: Figure 12.4 shows the area of land, in thousand hectares, used to organically farm cereals, other arable crops and vegetables (including potatoes) from 2002 to 2023. Cereals have the highest area of organic farming, which peaked in 2009. From this peak, the organic area used to farm cereals declined until 2018, since when it has increased steadily year on year. Other arable crops and vegetables (including potatoes) have had similar areas of organic farming throughout the time series. Other arable crops peaked in 2002 and vegetables peaked in 2008.

Download the full Organics dataset

Organic livestock

Table 12.4: Detailed organic livestock numbers (thousand head)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Livestock	Total organic livestock	Total livestock at June	Organic livestock as % of June livestock
Cattle	**290**	**9,555**	**3.0%**
For slaughter	129	3,754	3.4%
Dairy cows	51	3,228	1.6%
Other cattle	110	2,574	4.3%
Sheep	**692**	**31,803**	**2.2%**
Breeding females	370	15,438	2.4%
Other sheep	322	16,365	2.0%
Pigs	**23**	**4,683**	**0.5%**
Fattening pigs	15	4,255	0.4%
Breeding sows	2	338	0.6%
Other pigs	6	90	6.4%
Poultry	**4,365**	**178,142**	**2.5%**
Broilers	2,200	116,440	1.9%
Laying hens	2,021	41,073	4.9%
Other poultry	144	20,629	0.7%
Other livestock	**8**	**[x]**	**[x]**
Farmed deer	6	39	14%
Goats	1	112	0.9%
Horses	1	215	0.6%
Others	[low]	[x]	[x]

Notes:

1. Data relates to fully organic only.
2. “Others” include camelids and any livestock not recorded elsewhere.
3. “[x]” indicates no comparable June survey data is available.
4. “[low]” indicates a value that is greater than zero, but shows as zero due to rounding. See the accompanying dataset for the unrounded value.
5. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics, June Survey of Agriculture as at 1 June 2023 and the Cattle Tracing System for cattle populations.

Download the full Organics dataset

Organic cattle

In 2023, organically reared cattle numbers decreased by 2.8% to 290 thousand head. This represents 3.0% of the total herd in the UK.

Figure 12.5: Number of organic cattle (thousand head)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Years	For slaughter	Dairy cows	Other cattle	Total
2016	98.7	81.4	116.4	296.4
2017	110.5	76.3	107.1	294.0
2018	116.1	88.3	119.7	324.1
2019	88.2	89.8	122.7	300.8
2020	122.0	60.0	121.8	303.9
2021	119.6	59.3	116.7	295.6
2022	122.3	57.4	119.0	298.6
2023	129.3	51.4	109.7	290.4

Notes:

1. Data relates to fully organic only.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics

Download the full Organics dataset

Organic sheep

The number of sheep reared organically decreased by 5.8% to 692 thousand head and accounted for 2.2% of the total flock in the UK.

Figure 12.6: Number of organic sheep (thousand head)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Years	Breeding females	Other sheep	Total
2016	431.2	409.6	840.8
2017	462.1	424.9	887.0
2018	446.6	380.0	826.6
2019	389.7	392.5	782.2
2020	399.6	331.7	731.2
2021	393.3	330.3	723.6
2022	385.1	349.4	734.4
2023	370.0	322.0	692.0

Notes:

1. Data relates to fully organic only.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics.

Download the full Organics dataset

Organic pigs

The number of pigs reared organically decreased by 34% to 23 thousand head and accounted for 0.5% of the total pig herd in the UK.

Figure 12.7: Number of organic pigs (thousand head)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Years	Fattening pigs	Breeding sows	Other pigs	Total
2016	21.5	4.3	5.7	31.5
2017	25.2	5.2	8.7	39.1
2018	21.3	3.8	12.3	37.4
2019	20.6	3.4	9.9	34.0
2020	16.3	1.6	9.3	27.2
2021	21.3	2.9	7.8	32.1
2022	22.5	3.4	9.1	35.0
2023	15.3	2.0	5.7	22.9

Notes:

1. Data relates to fully organic only.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics

Download the full Organics dataset

Organic poultry

Organically reared poultry numbers increased by 19% to 4,365 thousand birds and accounted for 2.5% of the total UK population.

Figure 12.8: Number of organic poultry (thousand birds)

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Years	Broilers	Laying hens	Other poultry	Total
2016	1,574	1,135	112	2,821
2017	1,725	1,239	95	3,060
2018	1,879	1,413	89	3,381
2019	1,768	1,584	112	3,464
2020	1,708	1,981	97	3,786
2021	1,910	2,015	96	4,021
2022	1,577	2,005	83	3,665
2023	2,200	2,021	144	4,365

Notes:

1. Data relates to fully organic only.
2. Totals may differ to the sum of the components due to rounding.

Source: Defra organic farming statistics

Download the full Organics dataset

Organic operators

In 2023, there were 5,230 producers and processors registered with the organic certification bodies in the UK, a decrease of 4.8% from 2022.

Figure 12.9: Organic operators by type

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Years	Producers	Producers & Processors	Processors	Total
2014	3,521	174	2,307	6,002
2015	3,429	173	2,454	6,056
2016	3,398	161	2,804	6,363
2017	3,465	144	2,977	6,586
2018	3,483	136	2,569	6,188
2019	3,494	123	2,512	6,129
2020	3,407	197	2,150	5,754
2021	3,401	205	2,126	5,732
2022	3,285	223	1,988	5,496
2023	3,193	223	1,814	5,230

Notes:

1. 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.
2. In 2018 work was carried out to clarify how operators were recorded. This resulted in a number of operators that were previously recorded as processors being recorded in the correct categories of wholesalers/traders/retailers etc. We were unable to backdate these changes so earlier data are not directly comparable.
3. In 2020 work was carried out by some control bodies to group existing operators together, so they effectively became ‘one operator’ whilst previously they may have been separate operators with separate licences.
4. The colours for Producers & Processors (turquoise) and Processors (purple) bars have reversed compared to Agriculture in the UK 2022 - Chapter 12.

Source: Defra organic farming statistics

Download the full Organics dataset

Table 12.5: Number of organic operators by type and country

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Country	Number of producers only	Number of producers and processors	Number of processors only	Total organic producers and processors
United Kingdom	**3,193**	**223**	**1,814**	**5,230**
England	2,133	174	1,575	3,882
Wales	535	27	77	639
Scotland	379	15	127	521
Northern Ireland	146	7	35	188

Notes:

1. 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.

Source: Defra organic farming statistics

Download the full Organics dataset

Table 12.6: Number of organic operators by country, 2020 to 2023

Enquiries: Josh Moatt on +44 (0)20 771 41913
Email: organic-stats@defra.gov.uk

Country	2020	2021	2022	2023	Percentage change 2023/2022
United Kingdom	**5,754**	**5,732**	**5,496**	**5,230**	**-4.8%**
England	4,307	4,296	4,103	3,882	-5.4%
Wales	701	693	663	639	-3.6%
Scotland	541	529	528	521	-1.3%
Northern Ireland	205	214	202	188	-6.9%

Notes:

1. In 2020 work was carried out by some control bodies to group existing operators together, so they effectively became ‘one operator’ whilst previously they may have been separate operators with separate licences.

Source: Defra organic farming statistics.

Download the full Organics dataset

Chapter 13: Overseas Trade

Summary

Key results for 2023 and compared to 2022 in real terms (adjusted for inflation).

- The value of **food, feed and drink exports** decreased by £3.1 billion (11%) to £24.4 billion.
- The value of **food, feed and drink imports** decreased by £5.9 billion (8.8%) to £61.1 billion.
- The trade gap in **food, feed and drink** decreased by £2.8 billion (7.1%) to £36.7 billion.
- Principal destinations for **exports** were Ireland (£4.1 billion), France (£2.7 billion), the United States (£2.4 billion) and the Netherlands (£2.0 billion).
- The main countries of dispatch for **imports** into the UK were the Netherlands (£7.6 billion), France (£6.3 billion), Belgium (£4.9 billion) and Ireland (£4.8 billion).
- Whisky continued to have the **highest export value**, totalling £5.8 billion. This was a decrease of 18% compared to the previous year.
- Fresh fruit and vegetables together remained the **highest value category for imports**, totalling £7.1 billion, a decrease of 2.2%.
- **Exports of fresh vegetables** fell by 8.9% to £82 million, but **exports of fresh fruit** rose by 4% to £70 million.

Introduction

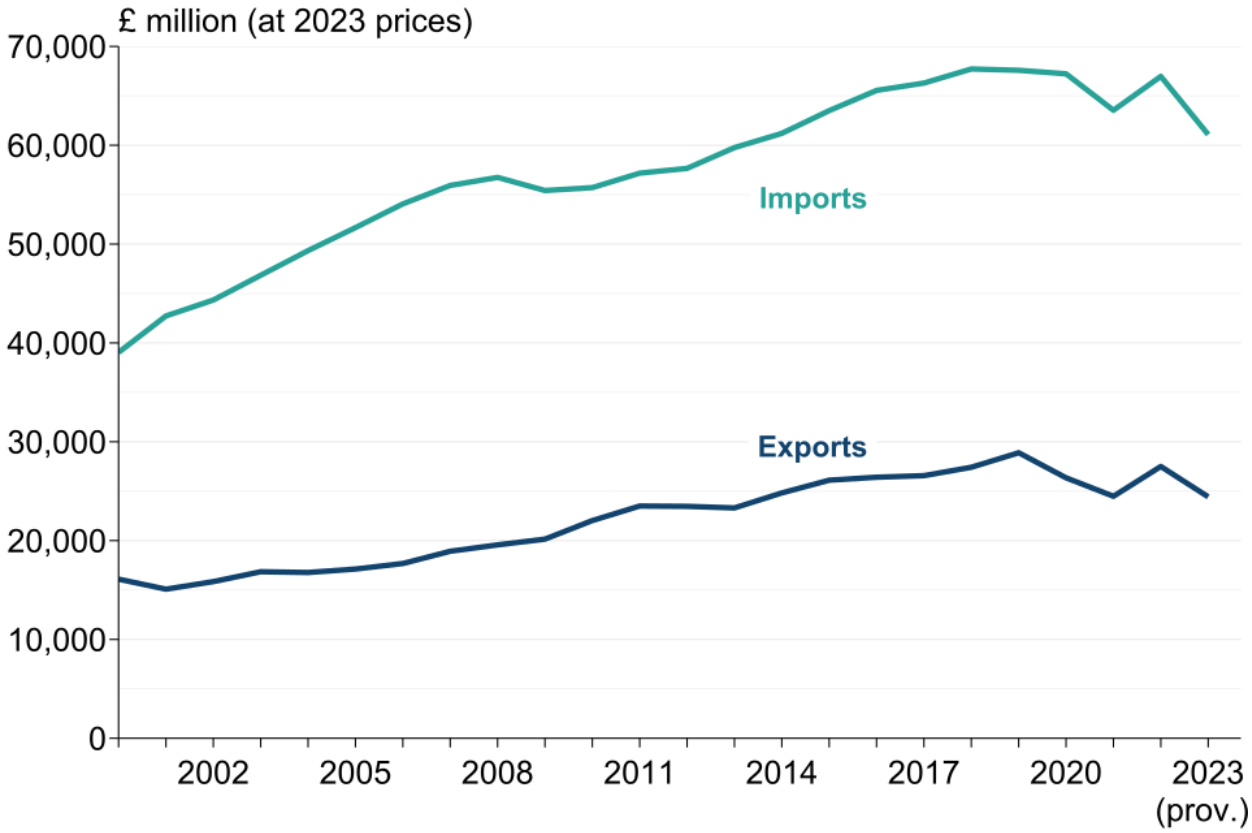
The Overseas Trade Statistics presented in this chapter are based on data collected by HM Revenue and Customs and are compiled from returns made by importers and exporters. Before the completion of the Single Market in the European Union at the end of 1992, all overseas trade data for the United Kingdom was compiled from customs declarations made by traders. From the beginning of 1993 until the end of 2020, the collection of trade statistics was 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). In this period, extra-EU trade statistics were compiled, as before, from customs declarations by importers, exporters and their agents, while intra-EU trade statistics were compiled using a system linked to traders' VAT returns, known as Intrastat. In 2021, following the United Kingdom's withdrawal from the European Union, there was a transitional approach to data collection due to the introduction of staged customs controls for imports from the European Union. All exports from the United Kingdom (except those from Northern Ireland to the EU) were compiled from customs declarations whilst imports to the United Kingdom from the European Union continued to be collected using the Intrastat system. From 2022 onwards, all trade statistics (except imports and exports between Northern Ireland and the European Union, for which Intrastat remains in place) are compiled from customs declarations. These changes to data collection methods are known to have some impact on the trade statistics and some care should be taken when interpreting changes for recent years.

The trade statistics shown here may not match those shown in the commodities tables in Chapter 8 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

Figure 13.1 Value of trade in food, feed and drink at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk



Text description of Figure 13.1: Figure 13.1 is a line chart showing the value of trade in millions of pounds at 2023 prices, split by imports and exports. Since 2000, both imports and exports have steadily increased. Imports and exports fell between 2019 and 2021, recovered in 2022, and have fallen again in 2023. Data for 2023 remain provisional until September 2024 and will be updated in next year's Agriculture in the UK publication.

Download the full Overseas trade dataset

The value of exports of food, feed and drink was £24.4 billion in 2023. To compare 2023 exports with previous years, it is necessary to adjust for the effects of economic inflation. The real terms value of exports was £3.1 billion or 11% lower in 2023 than 2022 but remains £3.0 billion or 11% below 2018 (pre-pandemic and pre-EU Exit). Since 2005 the real terms value of exports has risen by £7.3 billion or 43%. This long-term trend 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.

The value of imports of food, feed and drink was £61.1 billion in 2023. To compare 2023 imports with previous years it is necessary to adjust for the effects of economic inflation. The real terms value of imports was £5.9 billion or 8.8% lower in 2023 than 2022 and £6.6 billion or 9.8% lower than 2018 (pre-pandemic and pre-EU Exit). The longer trend is for rising real terms import values. Since 2005, the real terms value of imports has risen by £9.4 billion or 18%.

The trade gap for food, feed and drink decreased by 7.1% between 2022 and 2023. Over the longer term it has widened by 6.1% from £34.5 billion (in 2005) to £36.7 billion (in 2023) in real terms.

Looking at exports of specific food, feed and drink types, the only increase in real terms between 2022 and 2023 occurred in sugars, sugar preparations and honey for which there was a rise of 13% to £422 million. The largest percentage reductions in real terms from 2022 to 2023 were for exports of oils/fats and oilseeds which decreased by 28% to £670 million, followed by beverages which fell by 17% to £8.5 billion.

In real terms, imports of sugars, sugar preparations and honey increased by 3.6% to £2.0 billion between 2022 and 2023. The largest percentage reduction in imports was seen in oils/fats and oilseeds which fell by 22% from 2022 to £3.2 billion in 2023. This was followed by imports of fish and fish preparations which decreased by 14% to £3.5 billion and miscellaneous edible products which also fell by 14% to £4.3 billion.

Value of trade in food, feed and drink by types of commodity

Tables 13.1a and 13.1b - Value of trade in food, feed and drink at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Table 13.1a Exports

SITC Division Code	Type	2021	2022	2023
Exports				
01	Meat & Meat Preps	2,034	2,316	2,047
02	Dairy & Eggs	2,173	2,348	2,083
03	Fish & Fish Preps	1,926	1,779	1,731
04	Cereals & Cereal Preps	2,471	2,910	2,765
05	Fruit and Veg & Preps	981	1,058	981
06	Sugar & Sugar Preps	368	375	422
07	Coffee, tea, etc.	1,730	1,747	1,597
08	Animal feed	1,304	1,326	1,228
09	Misc. edible preps	2,380	2,510	2,424
11	Beverages	8,237	10,200	8,477
22 + S4	Oils/fats & Oilseeds	879	931	670
	Total	24,483	27,499	24,425

Table 13.1b Imports

SITC Division Code	Type	2021	2022	2023
Imports				
01	Meat & Meat Preps	9,115	9,511	8,194
02	Dairy & Eggs	4,976	4,117	3,960
03	Fish & Fish Preps	4,216	4,025	3,453
04	Cereals & Cereal Preps	6,191	7,377	6,551
05	Fruit and Veg & Preps	12,852	13,646	13,206
06	Sugar & Sugar Preps	2,026	1,918	1,987
07	Coffee, tea, etc.	5,200	5,574	5,085
08	Animal feed	3,379	3,534	3,472
09	Misc. edible preps	5,284	4,971	4,270
11	Beverages	7,189	8,117	7,656
22 + S4	Oils/fats & Oilseeds	3,110	4,176	3,247
	Total	63,537	66,966	61,081

Source: HMRC

Download the full Overseas trade dataset

Tables 13.1c and 13.1d - Value of trade in food, feed and drink with EU countries at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Table 13.1c Exports

SITC Division Code	Type	2021	2022	2023
Exports				
01	Meat & Meat Preps	1,447	1,762	1,593
02	Dairy & Eggs	1,542	1,769	1,484
03	Fish & Fish Preps	1,394	1,236	1,207
04	Cereals & Cereal Preps	1,650	2,064	2,001
05	Fruit and Veg & Preps	672	713	700
06	Sugar & Sugar Preps	229	248	257
07	Coffee, tea, etc.	1,137	1,100	1,101
08	Animal feed	762	757	710
09	Misc. edible preps	1,385	1,404	1,377
11	Beverages	3,019	3,522	3,026
22 + S4	Oils/fats & Oilseeds	670	821	541
	Total	13,908	15,397	13,997

Table 13.1d Imports

SITC Division Code	Type	2021	2022	2023
Imports				
01	Meat & Meat Preps	7,708	8,110	6,789
02	Dairy & Eggs	4,883	4,064	3,911
03	Fish & Fish Preps	983	873	814
04	Cereals & Cereal Preps	5,025	6,099	5,344
05	Fruit and Veg & Preps	8,183	9,006	8,526
06	Sugar & Sugar Preps	1,081	1,125	1,256
07	Coffee, tea, etc.	3,430	3,633	3,510
08	Animal feed	2,110	2,293	2,100
09	Misc. edible preps	3,787	3,756	3,481
11	Beverages	5,497	6,453	6,124
22 + S4	Oils/fats & Oilseeds	1,793	2,640	1,959
	Total	44,480	48,052	43,815

Source: HMRC

Download the full Overseas trade dataset

Tables 13.1e and 13.1f - Value of trade in food, feed and drink with non-EU countries at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Table 13.1e Exports

SITC Division Code	Type	2021	2022	2023
Exports				
01	Meat & Meat Preps	587	553	454
02	Dairy & Eggs	630	579	599
03	Fish & Fish Preps	532	543	524
04	Cereals & Cereal Preps	821	846	764
05	Fruit and Veg & Preps	309	345	281
06	Sugar & Sugar Preps	139	126	164
07	Coffee, tea, etc.	593	647	496
08	Animal feed	541	569	518
09	Misc. edible preps	996	1,106	1,047
11	Beverages	5,218	6,678	5,451
22 + S4	Oils/fats & Oilseeds	209	110	129
	Total	10,575	12,102	10,428

Table 13.1f Imports

SITC Division Code	Type	2021	2022	2023
Exports				
01	Meat & Meat Preps	1,407	1,400	1,404
02	Dairy & Eggs	93	53	49
03	Fish & Fish Preps	3,233	3,152	2,639
04	Cereals & Cereal Preps	1,167	1,279	1,207
05	Fruit and Veg & Preps	4,668	4,640	4,680
06	Sugar & Sugar Preps	945	793	731
07	Coffee, tea, etc.	1,769	1,942	1,574
08	Animal feed	1,269	1,240	1,373
09	Misc. edible preps	1,497	1,215	789
11	Beverages	1,692	1,664	1,532
22 + S4	Oils/fats & Oilseeds	1,317	1,536	1,288
	Total	19,057	18,914	17,265

Notes: (tables 13.1a to 13.1f)

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

1. Figures for 2023 are provisional and subject to revision.
2. Meat [01]: meat from cattle, sheep, pigs, goats, poultry, horses etc.; preparations including blood, juices, sausages, livers, offal.
3. Dairy [02]: 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.
4. Fish [03]: All types of edible marine life excluding mammals, fresh, frozen, processed, prepared or preserved.
5. Cereals [04]: includes rice, wheat, barley, oats, maize, grain sorghum and preparations including sweet biscuits, waffles, gingerbread, and uncooked/unstuffed pasta.
6. Fruit and vegetables [05]: 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.
7. Sugar [06]: includes both natural sugar and sugar confectionery (but not chocolate or cocoa), both natural and artificial honey, and liquorice.
8. Coffee, tea, etc. [07]: includes all types of tea, coffee (e.g. green, decaffeinated), extracts and substitutes thereof; cocoa and chocolate (of all kinds): all kinds of spices.
9. Animal feed [08]: 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.
10. Miscellaneous [09]: includes margarine, shortening, homogenised products or preparations not elsewhere specified, sauces, vinegar, soups, yeasts, cooked/stuffed pasta, food preparations for infant use.
11. Beverages [11]: includes alcoholic drinks of all kinds; also natural or artificial mineral and aerated waters sweetened or otherwise.
12. Oils [22+S4]: 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.
13. 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.

Source: HMRC

Download the full Overseas trade dataset

Total value of trade in food, feed and drink by trading partner

Figure 13.2 Exports of food, feed and drink by country of destination 2023 (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Country	£ million
Ireland	4093
France	2724
United States	2391
Netherlands	1965
Germany	1037
Spain	883
Belgium	774
China	761
Singapore	599
Poland	489

Download the full Overseas trade dataset

Figure 13.3 Imports of food, feed and drink by country of dispatch 2023 (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Country	£ million
Netherlands	7649
France	6275
Belgium	4894
Ireland	4800
Germany	4287
Spain	4226
Italy	3949
Poland	3387
Denmark	1363
Brazil	1326

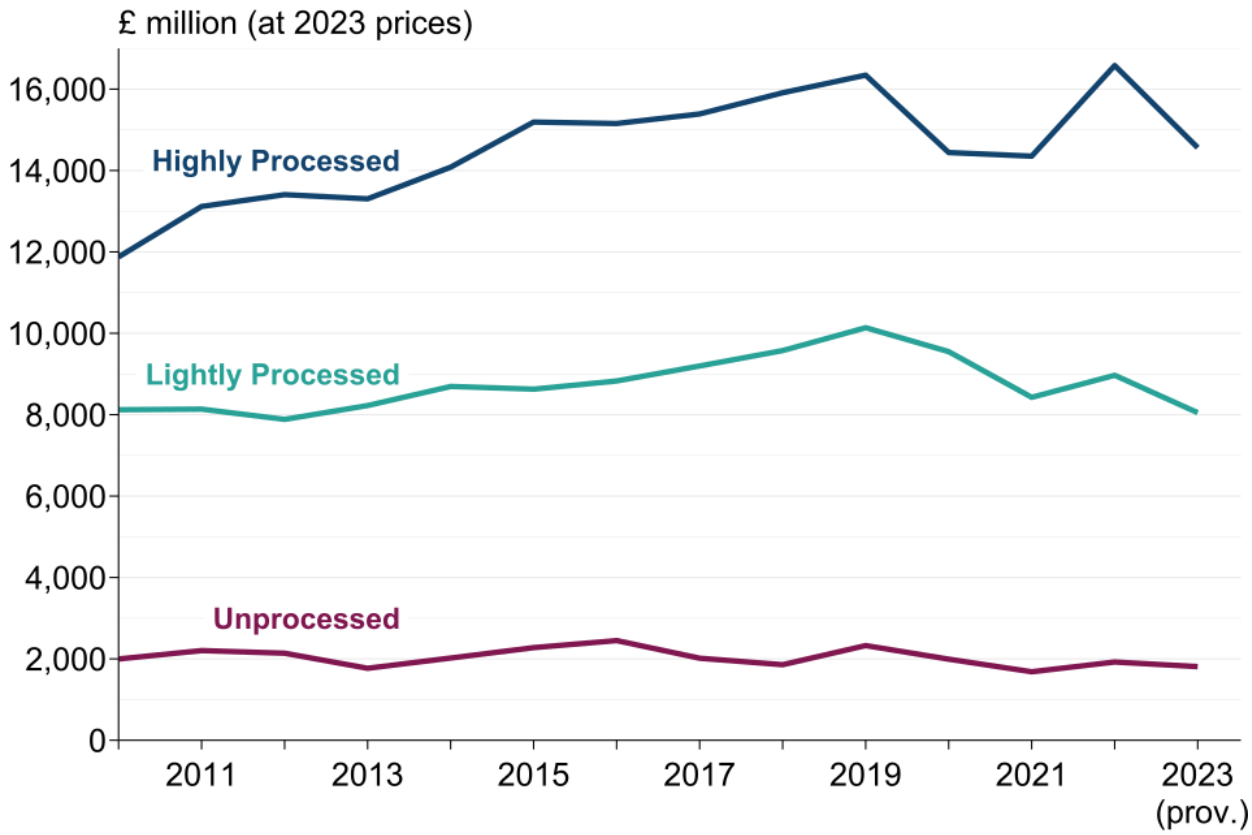
Download the full Overseas trade dataset

Value of exports and imports by degree of processing

Trade in food, feed and drink covers a wide range of products from raw agricultural commodities through to 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.

Figure 13.4 Exports in food, feed and drink by degree of processing at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk



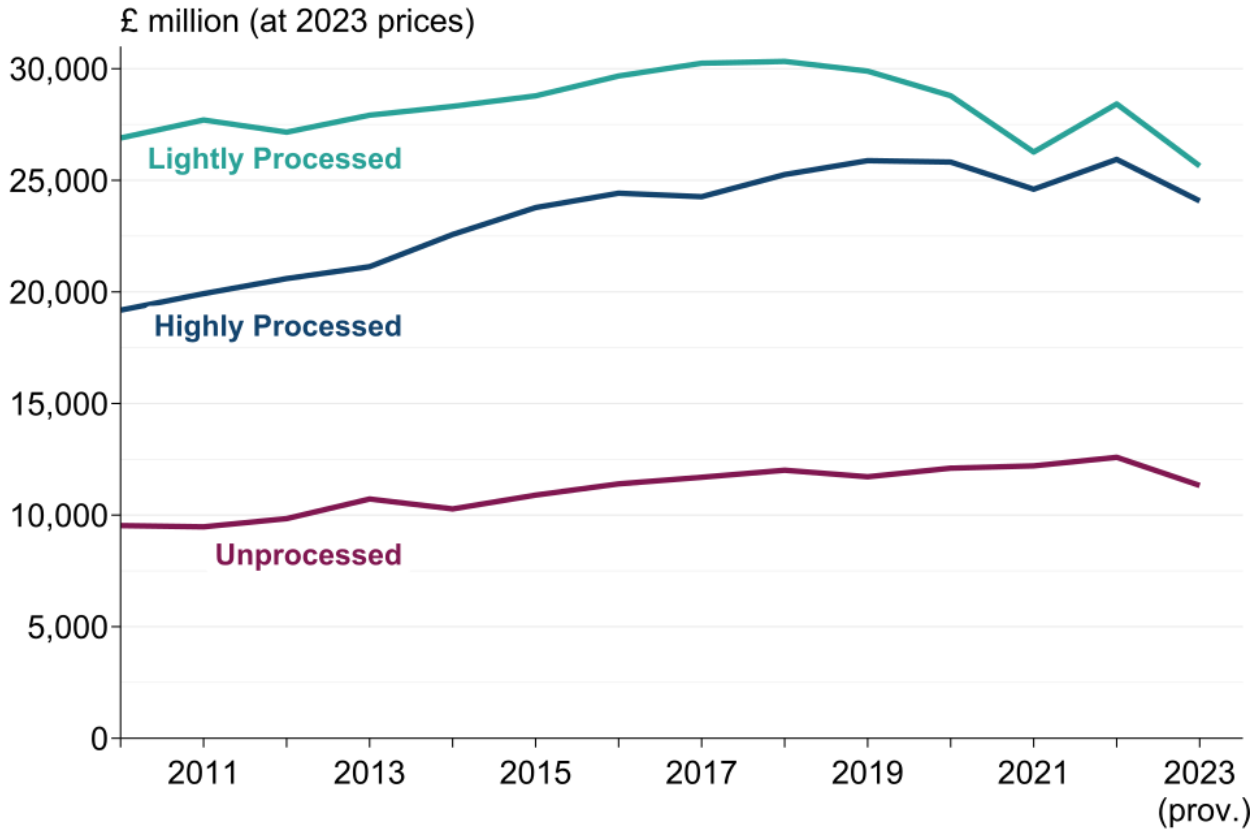
Text description of Figure 13.4: Figure 13.4 is a line chart showing the value of food, feed, and drink exports in millions of pounds at 2023 prices, broken down by degree of processing. Between 2010 and 2019, exports of highly and lightly processed goods increased steadily, with a greater fluctuation from 2019 onwards. Between 2010 and 2023, exports of unprocessed goods remained relatively stable. Data for 2023 remain provisional until September 2024 and will be updated in next year's Agriculture in the UK publication.

Download the full Overseas trade dataset

Exports of highly processed foods such as confectionery, canned meats, jams, alcoholic drinks and ice cream, increased by 9.4% in real term value between 2013 and 2023. Exports of lightly processed food and drink, i.e. goods that retain their raw recognisable form, such as meat, cheese, butter and oils & fats decreased by 2.2% in real term value between 2013 and 2023. Exports of unprocessed commodities, such as fresh fruit & vegetables, nuts, un-milled cereal and eggs, were 2.3% higher in real term value in 2023 than in 2013.

Figure 13.5 Imports in food, feed and drink by degree of processing at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk



Text description of Figure 13.5: Figure 13.5 is a line chart showing the value of food, feed, and drink imports in millions of pounds at 2023 prices, broken down by degree of processing. Between 2010 and 2019, imports of highly and lightly processed goods increased steadily. Imports fell in 2021, recovered in 2022, and have fallen again in 2023. Between 2010 and 2022, imports of unprocessed goods increased steadily, but have fallen in 2023. Data for 2023 remain provisional until September 2024 and will be updated in next year's Agriculture in the UK publication.

Download the full Overseas trade dataset

Imports of highly processed food and drink increased by 14% in real terms value between 2013 and 2023. Imports of lightly processed food and drink decreased by 8.2% in real terms value between 2013 and 2023. Imports of unprocessed commodities increased by 5.6% in real terms value between 2013 and 2023.

Value and volume of trade in key commodities

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 saw a return to export growth in most of the main product groups. However, the effect of the COVID-19 pandemic and EU Exit (including changes to data collection methods) have affected trade statistics since 2020.

The value of exports of whisky, the highest valued individual food, feed and drink export item, decreased by 18% in real terms from 2022 to £5.8 billion in 2023. This is 21% higher than 2013 in real terms. Compared to 2022's increase on previous years, exports of beef and veal were reduced to £490 million in 2023. This was 1.1% higher than in 2013 in real terms. The value of exports of unmilled wheat remained high for the second consecutive year, increasing slightly between 2022 and 2023 (0.9% in real terms), driven by the favourable harvest in 2022. Note that trade for this commodity can fluctuate considerably between years, influenced by various conditions such as the quality and size of the UK harvest and global commodity prices. Exports of cheese decreased from 2022 by 5.3% in real terms to £819 million in 2023. Exports of poultry meat decreased by 19% to £196 million between 2022 and 2023 in real terms, remaining below pre-pandemic and EU Exit levels.

In 2023, imports of fresh fruit decreased by 3.9% in real terms from 2022 to £4.0 billion, while imports of fresh vegetables increased by 0.2% to £3.1 billion. Imports of both of these commodity groups remain below pre-pandemic and pre-EU Exit levels. Despite the slight decrease in fresh fruit imports, the range and quality of healthy eating options remains high. Imports of unmilled wheat decreased by 26% in real terms to £493 million.

The value of wine imports in 2023, a high value commodity, decreased by 7.5% in real terms from 2022, to £4.1 billion. The value of wine exported from the UK decreased by 18% from 2022 in real terms to £503 million in 2023.

The overall volume of exports of food, feed and drink in 2023 decreased from 2022 by 4.5% to 11.9 million tonnes. The trend over the last decade for the volume of exports has been slightly downwards year-on-year, linked to the economic slowdown followed by the effects of the COVID-19 pandemic and EU Exit. Import volumes have stabilised in recent years, the volume of imports was 39.5 million tonnes in 2023, 0.3% higher than 2013. Source: UK trade info.

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 2023 decreased by 9.7% from 2022, while imports decreased by 2.2%.

Table 13.2a and 13.2b - Trade in key commodities in real terms at 2023 prices (£ million); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Table 13.2a Exports

Commodity	2021	2022	2023
Whisky	5,423	7,018	5,762
Wine	547	613	503
Cheese	775	864	819
Poultry meat	258	240	196
Poultry meat products	87	110	114
Beef and veal	430	603	490
Wheat, unmilled	81	279	281
Lamb and mutton	531	554	547
Pork	361	353	281
Breakfast cereals	598	584	569
Milk and cream	387	445	367
Bacon and ham	39	54	47
Butter	249	290	221
Eggs and egg products	139	119	112
Fresh vegetables	84	90	82
Fresh fruit	72	67	70
Salmon (inc. smoked)	860	721	666

Table 13.2b Imports

Commodity	2021	2022	2023
Whisky	205	205	218
Wine	4,111	4,425	4,092
Cheese	2,470	2,054	1,985
Poultry meat	1,540	2,040	1,576
Poultry meat products	1,412	1,733	1,647
Beef and veal	1,767	1,560	1,246
Wheat, unmilled	660	666	493
Lamb and mutton	378	358	244
Pork	1,107	902	967
Breakfast cereals	338	407	383
Milk and cream	300	252	159
Bacon and ham	781	763	671
Butter	356	319	251
Eggs and egg products	221	251	354
Fresh vegetables	2,992	3,095	3,100
Fresh fruit	4,363	4,204	4,040
Salmon (inc. smoked)	831	765	688

Notes: See notes for table 13.3

Source: HMRC

Download the full Overseas trade dataset

Table 13.3a and 13.3b - Trade in key commodities by volume (thousand tonnes unless otherwise specified); United Kingdom

Enquiries: Christopher Fell on +44 (0)208 720 3011
Email: trade-stats@defra.gov.uk

Table 13.3a Exports

Commodity	2021	2022	2023
Whisky (million litres pure alcohol)	396	478	387
Wine (million litres)	36	33	26
Cheese	154	176	180
Poultry meat	352	254	205
Poultry meat products	21	26	28
Beef and veal	103	124	104
Wheat, unmilled	294	865	1,155
Lamb and mutton	70	75	85
Pork	193	190	130
Breakfast cereals	172	179	160
Milk and cream	757	787	769
Bacon and ham	10	17	14
Butter	52	49	54
Eggs and egg products	34	32	30
Fresh vegetables	69	96	75
Fresh fruit	37	38	36
Salmon (inc. smoked)	115	91	77
Food, feed and drink index, 2009=100	109	117	105

Table 13.3b Imports

Commodity	2021	2022	2023
Whisky (million litres pure alcohol)	21	19	20
Wine (million litres)	1,376	1,314	1,249
Cheese	409	412	434
Poultry meat	408	503	515
Poultry meat products	324	420	439
Beef and veal	254	234	224
Wheat, unmilled	2,060	1,634	1,708
Lamb and mutton	47	54	48
Pork	336	322	332
Breakfast cereals	103	129	131
Milk and cream	343	306	237
Bacon and ham	174	202	181
Butter	57	54	58
Eggs and egg products	68	77	106
Fresh vegetables	1,978	2,044	2,061
Fresh fruit	3,327	3,277	3,148
Salmon (inc. smoked)	110	93	84
Food, feed and drink index, 2009=100	112	118	115

Notes: (Tables 13.2 and 13.3)

1. Figures for 2023 are provisional and subject to revision
2. Whisky includes bourbon, scotch (malted and blended) and other whiskies.
3. Wine includes grape must, vermouth and wine of fresh grapes (sparkling and still).
4. Cheese includes grated or powdered, processed, blue-veined and fresh (e.g. curd).
5. Poultry meat (inc. poultry offal) includes carcase meat, cuts and offal (inc. liver).
6. Poultry meat products includes prepared, preserved, salted or cooked poultry meat and offal (inc. liver).
7. Beef and veal includes carcase meat and cuts, both bone-in and boneless.
8. Wheat, unmilled includes durum, other wheat (inc. spelt) and meslin.
9. Lamb and mutton includes carcase meat and cuts, both bone-in and boneless.
10. Pork includes carcase meat and cuts, both bone-in and boneless.
11. Breakfast cereals includes cereal grains worked or prepared for breakfast cereals
12. Milk and cream includes milk (inc. skimmed milk) and cream, not concentrated or sweetened.
13. Fresh vegetables excludes potatoes, dried legumes and processed vegetables.
14. Fresh fruit excludes jams, juices, dried and processed fruit.
15. Salmon (inc. smoked) includes fresh, chilled, frozen or smoked, but not canned.

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

Source: HMRC

Download the full Overseas trade dataset

Chapter 14: The Food Chain

Summary

- In 2022, the agri-food sector (excluding fishing) in the United Kingdom accounted for a total estimated **Gross Value Added (GVA)** of £146.7bn or 6.5% of national GVA, an increase of 15% since 2021. (For the overall GVA figure for the agri-food sector, refer to the Food Statistics Pocketbook which includes fishing, adding roughly an extra billion pounds to GVA each year.) The food and drink wholesaling sector increased by 31% between 2021 and 2022. All other sectors also saw an increase.
- **Employment** in the agri-food sector in Great Britain grew by 5.0% over the 12-month period to the fourth quarter of 2023 to just under 4.4 million. The largest percent change was seen in wholesaling which rose by 12% (25,000 employees).
- **Total factor productivity** of the food chain increased by 3.7% while there was a decrease of 0.2% in productivity in the wider economy. In the 10 years prior to 2021, the average annual growth rate of the food chain was 0.6% while the wider economy's average annual growth rate was 0.2%.
- **Consumer expenditure** on food and alcoholic drinks (at constant prices) decreased by 1.2% from £248.5bn in 2022 to £245.5bn in 2023 and was 14% higher than in 2013. Expenditure on food and drink eaten out increased by 0.6% from £116.9bn in 2022 to £117.6bn in 2023, whilst expenditure on household food decreased by 2.8% from £109.6bn to £106.5bn and expenditure on alcoholic drinks (off-licence only) decreased by 2.8% from £22.0bn to £21.3bn.

Contribution of the agri-food sector to the national economy

Figure 14.1 Gross Value Added of the agri-food sector, 2022 (£ billion)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk

Sector	Gross Value Added	Share of total
Agriculture (excluding fishing)	£13.9bn	9%
Food and drink manufacturing	£35.1bn	24%
Food and drink wholesaling	£16.6bn	11%
Food and drink retailing	£37.7bn	26%
Food and drink non-residential catering	£43.4bn	30%

Notes:

1. 2023 figures not yet available from the Annual Business Survey (ABS).

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

Download the full Food chain dataset

In 2022 the agri-food sector (excluding fishing) contributed £146.7bn to the economy, 6.5% of the national GVA. Within this, catering accounted for the largest proportion at 30% followed by retailing at 26% and manufacturing at 24%. The agriculture sector made the smallest contribution at 9%.

Table 14.1a to 14.1f - Agri-food sector's contribution to the national economy (£ million unless otherwise specified)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk

Table 14.1a

Sector	2021	2022	2023
Agri-food sector's contribution to total economy gross value added	127,236	146,714	[x]
Agriculture (not including fishing)	12,064	13,859	[x]
Food and drink manufacturing	30,428	35,067	[x]
Food and drink wholesaling	12,672	16,642	[x]
Food and drink retailing	36,870	37,710	[x]
Food and drink non-residential catering	35,202	43,436	[x]
% of national gross value added	6.2%	6.5%	[x]

Table 14.1b

Sector	2021	2022	2023
Workforce in the food sector (thousand persons)	4,035	4,168	4,378
Agriculture (including fishing)	425	428	419
Food and drink manufacturing	414	419	439
Food and drink wholesaling	199	207	232
Food and drink retailing	1,162	1,134	1,152
Food and drink non-residential catering	1,835	1,979	2,135
% of total workforce in employment	13%	13%	14%

Table 14.1c

Trade in food, feed and drink in real terms at 2023 prices	2021	2022	2023
Imports of food, feed and drink	63,537	66,966	61,081
% of total UK imports	11%	10%	10%
Exports of food, feed and drink	24,483	27,499	24,425
% of total UK exports	6.1%	6.3%	5.8%

Table 14.1d

UK food production to supply ratio ('self-sufficiency')	2021	2022	2023
% of all food	61%	60%	62%
% of indigenous type food	74%	73%	75%

Table 14.1e

Household final consumption expenditure on food and alcoholic drinks	2021	2022	2023
At current prices	242,181	276,755	298,285
Household food and non-alcoholic beverages	117,950	123,476	137,297
Food and drink eaten out	98,388	129,771	137,051
Alcoholic drinks (off-licence only)	25,843	23,508	23,937
At constant 2022 prices	233,971	248,464	245,511
Household food and non-alcoholic beverages	116,158	109,581	106,540
Food and drink eaten out	93,107	116,917	117,627
Alcoholic drinks (off-licence only)	24,706	21,966	21,344
% of total household final consumption expenditure (current prices)	18%	18%	19%
Household food and non-alcoholic beverages	8.9%	8.2%	8.5%
Food and drink eaten out	7.4%	8.6%	8.5%
Alcoholic drinks (off-licence only)	2.0%	1.6%	1.5%

Table 14.1f

Consumer Price Index (2015 = 100)	2021	2022	2023
All Items	111.6	121.7	130.5
Food and non-alcoholic beverages	104.2	115.5	132.3
Alcoholic beverages	103.3	105.8	114.0

Notes for tables 14.1a to 14.1f:

1. 2023 trade figures are provisional and subject to revision
2. [x] means 'not available'

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

Download the full Food chain dataset

Agri-food sector employees and self-employed farmers

Figure 14.2 Agri-food sector employees and self-employed farmers, Great Britain, 2023 (millions)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk

Sector	Number of employees	Share of total
Agriculture (including fishing)	0.419	10%
Food and drink manufacturing	0.439	10%
Food and drink wholesaling	0.232	5%
Food and drink retailing	1.152	26%
Food and drink non-residential catering	2.135	49%

Source: Labour Force Survey GB (ONS), June Survey of Agriculture (Defra)

Download the full Food chain dataset

In 2023, the agri-food sector employed just under 4.4 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 10% of the agri-food sector.

In the twelve months to December 2023, employment in the agri-food sector increased by 5.0%. Employment fell in 2023 in agriculture (-2.0%), but increased in manufacturing (4.8%), wholesaling (12%), retailing (1.6%) and non-residential catering (7.9%).

Employment across the whole GB economy rose by 2.3% over the same period.

Employment in the agri-food sector has risen 21% since 2000. Changes in each of the sectors since 2000 show that employment in agriculture and manufacturing fell by 25% and 8.7% respectively, while wholesaling, retailing and non-residential catering increased by 5.0%, 5.7% and 70%, respectively.

Total Factor Productivity

In 2021, the productivity of the food chain increased by 3.7% while there was a decrease of 0.2% in productivity in the wider economy. In the 10 years prior to 2021, the average annual growth rate of the food chain was 0.6% while the wider economy's average annual growth rate was 0.2%.

In 2021, all four of the food sectors had a higher productivity than in 2020.

In 2021, total factor productivity in **food and drink manufacturing** increased by 3.2% and increased by 0.2% over the last 10 years.

Total factor productivity of **food wholesaling** increased by 1.5% in 2021, while in the last 10 years has shown an average annual increase of 0.8%.

Productivity of the **food retail** sector increased by 2.3% in 2021. In the last 10 years, productivity has shown an average annual increase of 1.2%.

In 2021, **non-residential catering (NRC)** showed a increase in productivity of 11%.

For more information on productivity please see the Total Factor Productivity of the United Kingdom Food Chain publication.

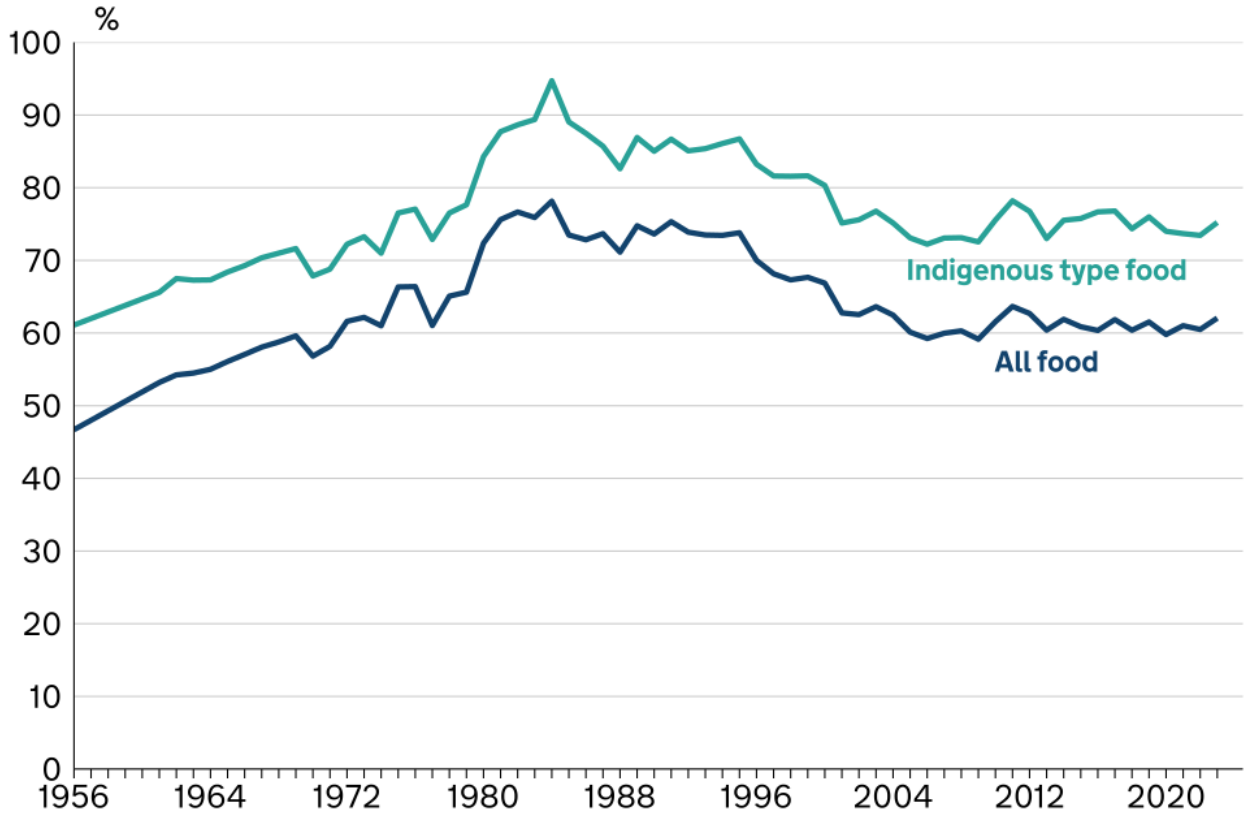
Trade in food, feed and drink

In 2023, the value of food, feed and drink exports was £24.4bn, a decrease of 11% on 2022. In 2023 the value of food, feed and drink imports decreased by 8.8% to £61.1bn in real terms, resulting in the trade gap in food, feed and drink of £36.7bn in real terms, a decrease of 7.1% since 2022. See Chapter 13 for more detail on overseas trade.

Food production to supply ratio

Figure 14.3 Food production to supply ratio, 1956-2023

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk



Source: Defra analysis of HMRC Overseas Trade Statistics

Text description of Figure 14.3: Figure 14.3 is a line chart showing how the food production to supply ratio for the UK has changed from 1956 to 2023. The ratio stabilised in the most recent decade at around 60% after falling from over 80% in the 1980s but is higher than it has been historically. The ratio for indigenous only food types follows the same trend but is consistently several percentage points higher than the ratio for all food types.

Download the full Food chain dataset

The 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 62% for all food in 2023 and 75% of indigenous type food. In 2022, this was 60% and 73% respectively. Table 14.2 contains production to supply ratios for selected crops and other primary agricultural products. For these individual products, the production to supply ratio is calculated using volumes rather than value.

Table 14.2 Food production to supply ratio

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk

	2021	2022	2023
Cereals	**86%**	**92%**	**93%**
Wheat	89%	95%	96%
Barley	110%	112%	113%
Oats	101%	121%	120%
Other crops			
Oilseed rape	52%	64%	63%
Sugar beet	63%	55%	54%
Fresh vegetables	**57%**	**54%**	**53%**
Potatoes	74%	63%	62%
Cabbages	90%	85%	81%
Cauliflowers and broccoli	64%	54%	49%
Carrots, turnips and swede	95%	98%	96%
Mushrooms	47%	49%	48%
Lettuce	34%	43%	44%
Tomatoes	17%	15%	15%
Fresh fruit	**15%**	**17%**	**16%**
Apples	37%	41%	38%
Pears	16%	14%	13%
Plums	9%	14%	13%
Strawberries	64%	67%	66%
Raspberries	30%	38%	38%
Meat and dairy			
Beef and veal	83%	87%	85%
Pig meat	71%	69%	64%
Mutton and lamb	108%	107%	114%
Poultry meat	93%	84%	82%
Milk	105%	105%	105%
Eggs	92%	90%	87%

Notes:

1. 2023 figures are provisional.
2. Average ratios for categories cereals, other crops, fresh vegetables and fresh fruit may include more items than the selected items listed in the table.

3. [X] means ‘not available’.

Source: Chapters 7 - Crops and 8 - Livestock of this publication are used for category averages (e.g. fresh vegetables) and potatoes and all meat and dairy products. Defra’s Horticulture Statistics for all other individual products.

Download the full Food chain dataset

Distinction between competitiveness and food security

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.

A high food production to supply ratio fails to insulate a country against many possible disruptions to its supply chain.

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 Figure 14.4).

A detailed analysis is given in the Defra publication ‘UK Food Security Report’.

The UK Food Security Report (UKFSR) 2021 was the first comprehensive review of the UK’s food security to be published since the UK Food Security Assessment (UKFSA), which was first published in 2009 and updated in 2010. The next edition of the UKFSR will be published in 2024.

In the decade since the UKFSA, the food security landscape changed significantly. The UK’s departure from the European Union brought changes in the areas of trade, farming, and access to fisheries, resulting in both challenges and opportunities in food security. Climate change and its impacts on farming and the food supply chain are now also better understood.

The COVID-19 pandemic and other concurrent events happening towards the end of 2020, such as the UK leaving the EU and increased food demand in the run up to Christmas, have stress-tested the supply chain, highlighting both the vulnerabilities in this complex system and the resilience and flexibility of the UK’s food supply.

In addition, the pandemic has increased public awareness in a range of food security areas. This includes the complexities and dependencies of the UK’s food supply chain, notably the advantages and risks of just-in-time food supplies, as well as the issues surrounding household food insecurity.

Origins of food consumed in the United Kingdom

Figure 14.4 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 Figure 14.3. Figure 14.4 looks purely at the breakdown of food that the United Kingdom actually consumes.

The food production to supply ratio (see Figure 14.3) 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.

Figure 14.4 Origins of food consumed in the United Kingdom, 2023 (percentage)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk

Origin of destination	2023
UK exports	-9%
UK	58%
EU	24%
Rest of Europe	3%
Africa	4%
Asia	3%
Australasia	1%
North America	3%
South America	4%

Notes:

1. Based on the farm-gate value of raw food.
2. Consumption of UK origin consists of UK domestic production minus UK exports.
3. UK exports are given as a percentage of total UK consumption.

Source: Defra analysis of HMRC Overseas Trade Statistics

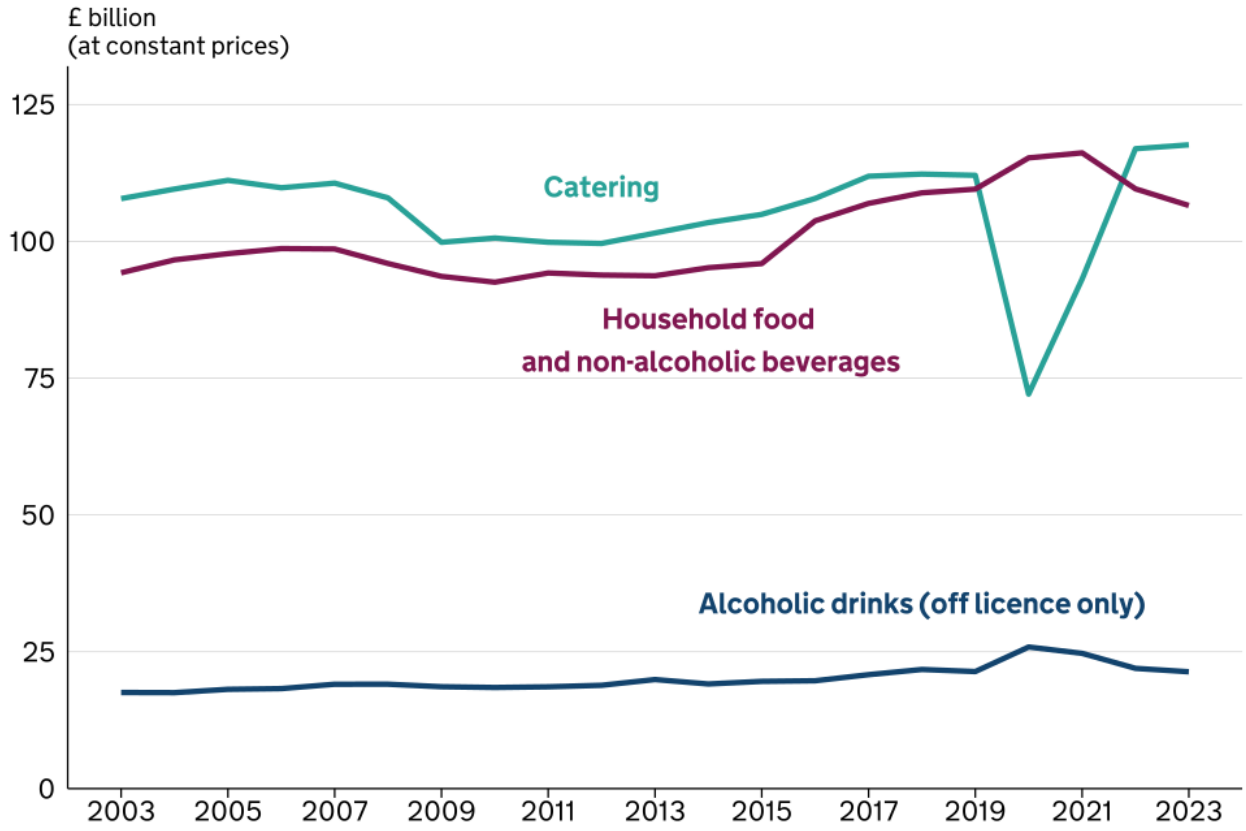
Download the full Food chain dataset

Supply includes domestic production plus imports and excludes exports of home production. In 2023, 58% of domestic consumption came from UK production (based on unprocessed value at farmgate), 24% from the EU and the remaining 18% from the rest of the world. 33 countries accounted for 90% of imported supply, and 22 for 80%. Some countries or regions are uniquely important to the supply of particular products such as bananas from the Caribbean and Central America, reducing the security of this supply.

Consumers' expenditure

Figure 14.5 Consumers' expenditure on food, drink and eating out 2003-2023 (£ billion at constant prices)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk



Source: Consumer trends, ONS

Text description of Figure 14.5: Figure 14.5 is a line chart that shows the amount of consumer spending in the UK on food and non-alcoholic drink, alcoholic drink (off-licence only) and for catering from 2002 to 2023.

Download the full Food chain dataset

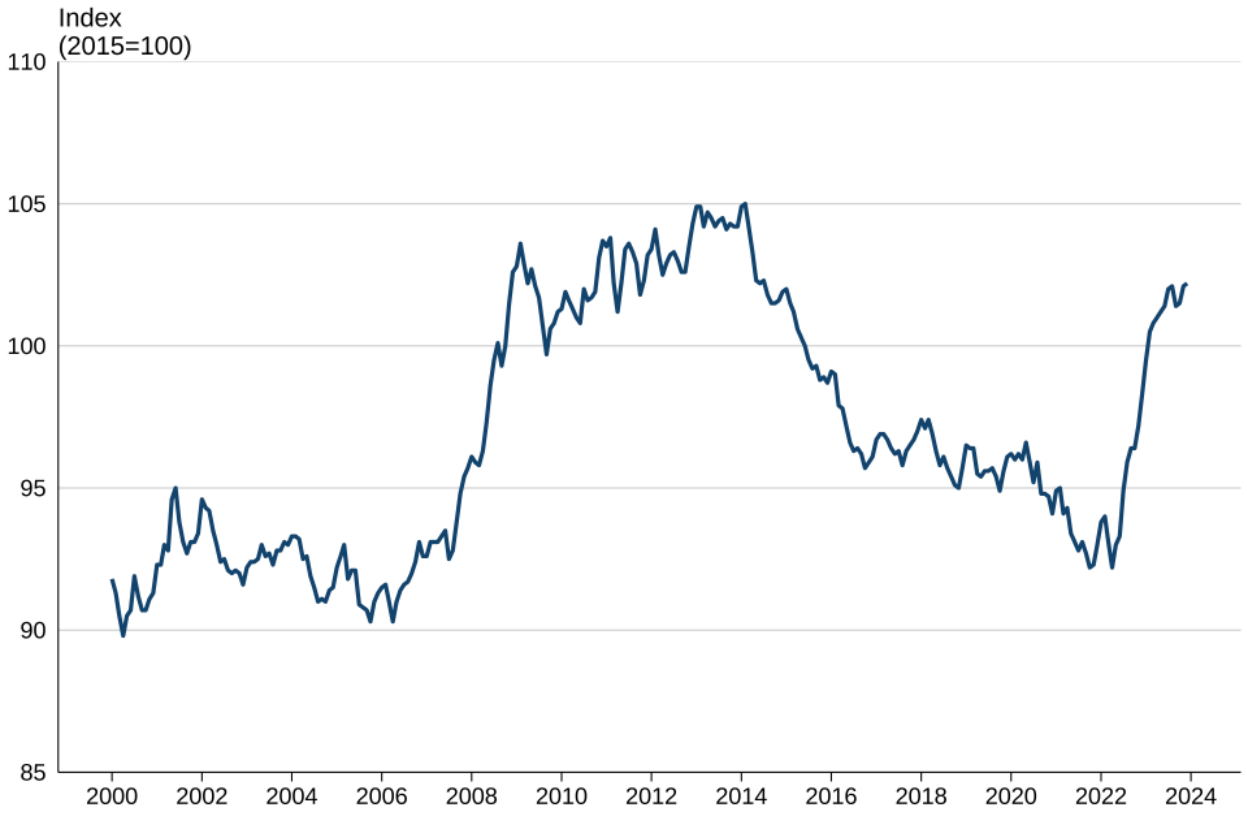
After taking into account the effects of price rises (constant prices) consumers' expenditure on food and alcoholic drinks decreased by 1.2% from £248.5bn in 2022 to £245.5bn in 2023 and was 14.1% higher than in 2013.

Expenditure on food and drink eaten out increased by 0.6% from £116.9bn in 2022 to £117.6bn in 2023, whilst expenditure on household food decreased by 2.8% from £109.6bn to £106.5bn and expenditure on alcoholic drinks (off-licence only) decreased by 2.8% from £22.0bn to £21.3bn.

Changes in consumers' price indices

Figure 14.6 Changes in the food price index (in constant prices, food and non-alcoholic beverages) 2000-2023 (2015 = 100)

Enquiries: David Lee on +44 (0)20 802 63006
Email: david.lee@defra.gov.uk



Source: Consumer Price Index (ONS)

Text description of Figure 14.6: Figure 14.6 shows the changes in the consumer price index for food and non-alcoholic beverages from 2000 to the end of 2023.

Download the full Food chain dataset

Food and non-alcoholic beverage prices in real terms were fairly stable between 2000 and 2007, as measured by the Consumer Price Index (CPI), before rising by 12% between July 2007 and February 2009. Prices then followed a more gradual increase until February 2014. From a peak in February 2014, food prices fell steadily to October 2016 and, after improving in 2017, fell again to November 2018. Food and non-alcoholic beverage prices fluctuated in 2019 before falling sharply in the second half of 2020. Prices remained low in 2021.

This has been followed by a recent spike from the early part of 2022, due to food prices generally rising faster than other items. This was in part a consequence of the onset of

the war in Ukraine leading to global food supply issues and rising energy costs. However, the rise appeared to have tailed off towards the end of 2023.

Glossary

Standard Industry Classification codes (SIC codes)

These are numerical codes that categorise the industries that companies belong to based on their business activities.

Economic definition of food and agri-food sector

The UK food sector is defined as food manufacturing, food wholesaling, food retailing and non-residential catering. In terms of the standard industrial classification (SIC 2007) it is defined as:

Category	SIC codes
Food manufacturing:	10 + 11
Food wholesaling:	46.3 (excluding 46.35) + 46.17
Food retailing:	47.2 (excluding 47.26) + 47.11 + 47.81
Non-residential catering:	56

- In SIC2007 the **food manufacturing** sector comprises of nine main categories including processing and preserving meat, dairy, fruit and vegetables, oils, bread, biscuits and cakes, and confectionery. Animal feed manufacturing is included, covering both farm animal feed and pet food. The drink manufacturing sector includes alcoholic beverages and soft drinks and mineral waters.
- **Food and drink wholesaling** consists of the buying, storage and reselling of food either manufactured or freshly produced. Wholesale of tobacco products (46.35) is not included, but SIC code 46.17 "Agents involved in the sale of food, beverages and tobacco" is included. This group includes wholesalers that trade on behalf of others on a fee or contract basis and also 46.3 which is "Wholesale of food, beverages and tobacco".
- **Food and drink retailing** is defined as the sale of food within both non-specialised stores (e.g. supermarkets), 47.11, and specialised stores such as butchers and bakers, 47.11 and 47.81. The sale of tobacco products is subtracted from the specialised stores using 47.26 and then subtracted from the non-specialised stores later on using a ratio for food and drink.
- **Non-residential catering** (NRC) consists of restaurants and bars involved in preparation and serving of food, alongside canteens and catering services. Hotels are not included.

The deductions are to remove non-food items as far as possible.
The agri-food sector is the food sector plus agriculture and fishing.

Gross Value Added (GVA)

GVA is the difference between output and intermediate consumption for any given sector / industry. This is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

Total Factor Productivity (TFP)

Productivity measures the efficiency at which inputs are converted into outputs. Total Factor Productivity provides a comprehensive