

Horticulture Statistics

Metadata

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Uses and user information

1 Introduction

Horticulture Statistics is an annual publication of key statistical information for key fruits and vegetables (excluding potatoes) covering area, home production marketed and farm-gate value of production from 1985 and import and export statistics from 1988 to 2015. Historic data for ornamentals covering the period 1986 to 2004 are included.

The statistics are for the United Kingdom and for calendar years, except for area, which are in crop years. To note, for crops marketed over more than one calendar year, the home production marketed figures reported are for a particular calendar year. This relates to marketing's from both the previous and current season's production, for example apples and carrots. For detailed information on crop areas, multi cropping and crop marketings please refer to the publication's methodology section.

2 Users

This information is used by the UK government and the EU for assessing market conditions and evaluating agricultural and horticultural policy and to meet certain EU legislative requirements on crop area and production statistics (Regulation 543/2009). The value of production estimates are used in the estimation of farm income, annual aggregate account calculations and calculations for UK self-sufficiency in food. The annual report and datasets are published on the Defra [website](#).

The figures are widely used by the UK government and the EU, the National Farmers Union, the Food and Drink Federation, the British Retail Consortium, the Agriculture & Horticultural Development Board, growers, horticultural trade associations, academics, media and researchers and by the wider horticultural community. Information on crop area, production and a range of other statistics on agriculture and horticulture for the EU is available from the Eurostat [website](#).

- The statistics are important evidence to assist Government policy makers and to improve profitability of the horticulture sector.
- The statistics are used to monitoring productivity and competitiveness, including supply and self-sufficiency of the UK horticulture industry.
- The statistics provide market information for growers and the trade.
- The statistics are used to assess the impact of disease outbreaks, e.g. E-coli.

3 Feedback

We welcome feedback on the data from all users including how and why the data are used. This helps us to understand the value of the statistics to external users, and identifies any unmet needs.

Enquiries and Feedback to: Lisa Brown, Defra, 201 Foss House, Kings Pool, 1-2 Peasholme Green, York, YO1 7PX Email: crops-statistics@defra.gsi.gov.uk or Lisa.Brown@defra.gsi.gov.uk

4 Revisions policy

Figures in the statistical notice and datasets for the latest year reported are provisional and subject to revision. We will provide information about any revisions we make to previously published information in the [statistical notice, and the associated datasets](#). Revisions could occur for various reasons, including when data from third parties is unavailable or provisional at the time of publishing.

Data Sources, Methodology and Quality Assurance

5 Geographic coverage and breakdowns

Data presented in Horticulture Statistics publication are at United Kingdom level only.

An external provider collects data on area, yield and production for England and Wales for Defra under contract. This data, combined with data for Scotland and Northern Ireland to produce UK figures. Summaries of the data collection for all of the various countries are below.

The approaches to data collection and principles of compilation of data on a calendar year basis are consistent across all countries. There are some differences in the data sourcing which reflect the size, scale and concentration of the sector and the individual crops. The use of farm-gate prices to estimate the annual value of production is the same for all countries. The reporting for some crops is combined where these are not available individually for all commodities for all countries.

Information on agricultural and horticulture for Scotland and Northern Ireland (limited detail published for horticulture) can be found at:

Scotland: [Scotland Publications](#)

Northern Ireland: [DAERA Statistical Review of Agriculture](#)

No further geographic breakdowns are available. Breakdowns to county or Government Office Region cannot be produced due to the method by which the statistics are collated. Other related publications may be able to produce geographic breakdowns for some crops, see Related Publications in [Section 13](#).

6 Data sources Scotland

The crop area data for fruit, vegetables and ornamentals come from the annual June Census. The June area data are from data reported under the Single Farm payment plus data from a sample survey of those holdings, which do not claim the Single farm payment. Full methodological details including quality assurance is contained within the reports for each year, which are available from the following link: [Scotland Final Results June Census](#)

The latest edition of the Economic Report on Scottish Agriculture (ERSA), compiled by the Rural and Environmental Science and Analytical Services division (RESAS) in the Scottish Government (SG), includes information on the output and value of horticulture. The report presents an overall picture of Scottish agriculture using data from the various agricultural surveys that RESAS manage. It brings together the information on related subjects from three sets of data

- [June Census and December survey of farms](#),
- [Farm Business Income \(FBI\)](#) - which collects statistics from the business accounts of around 500 farms in Scotland,

- [Total Income from Farming \(TIFF\)](#) - estimates of the output values and associated input costs of Scottish agriculture which underpins the Scottish Agricultural Account which is submitted to the EC every year.

Selected detail is published in Tables A2 & A4 of this Report and there is a separate report on the methodology used to calculate output and value of production. The June area multiplied by the crop yield provide the estimated output. Yield data for key vegetable crops such as carrots, turnips & swedes, sprouts, peas and beans come from Surveys carried out by the Scottish Rural College (SRuC).

Estimated prices use the previous year's survey data adjusted by latest price data taken from the Glasgow Market price data. Yields and price data for strawberries and blackcurrants are derived from a postal survey of horticultural units. Yield data for other vegetables and orchard fruit uses data collected by Defra for crops grown in England and Wales. The reports and methodology document, which give further details, are available at:

[Economic Report on Scottish Agriculture](#)

[Methodology for the Annual Aggregate Agricultural Account in Scotland](#)

7 Data sources Northern Ireland

The Agricultural Census, which is an annual sample survey of farmers conducted in June, collects crop area data. Information on methodology is included in the Report, which is available from the link:

[DAERA Agricultural Census](#)

The Statistical Review of Northern Ireland Agriculture has detailed information on output, prices and value of production for fruit (primarily apples), vegetables, mushrooms and ornamental and hardy nursery stock.

Horticulture is a relatively small contributor to the value of agricultural output, typically contributing 3-4 per cent of the total value of output in Northern Ireland. Key industry contacts provide representative yield and farm-gate price data. These are compared across sources and against general trends and taking into account wider agronomic and market knowledge of each of the different sectors to ensure the data are credible and representative.

Price data take into account the end use of the produce and any price differentials in order to derive a representative weighted annual average price. The volume of output takes into account marketings in each particular year so for crops such as apples where the crop is marketed over two years, it will take into account marketings from two seasons for each particular calendar year.

Emphasis is placed on data for the main high value items with mushrooms being the main contributor and driver for horticulture. In this case data are obtained directly from industry and represent 75 per cent of total mushroom production. Data are available from the link:

[DAERA Statistical Review](#)

8 Data sources England and Wales

The members of the Fruit Crop Intelligence Committees were contacted individually for their information. Data from a range of sources was pooled and has provided good quality, statistically robust information for crop area, yields and the end of year marketing of soft and top fruit crops. Data from areas not covered by the committees was reported by a range of fruit consultants. Robustness of the data was confirmed as estimates were closely aligned with returns from individual growers, Producer Organisations and English Apples and Pears (EAP). The ADAS Fruit Key Convenor made direct contact with individual growers, Producer Organisations, ADAS colleagues, independent consultants, propagators and cider makers to gather confidential information on top fruit planting, grubbing and yields. This combination of the confidential information and the output of the Crop Intelligence Committee members has given a high level of assurance for the data collection methodology and summary data.

Fruit in store data continues to be taken from the database of top fruit storing organisations that have been providing their data for many years and represent over 80% of all stored fruit.

For the field vegetables sector, the contractor continued to maintain our increased network of industry contacts and gained further additional key contacts, particularly in the South-West. These contacts cover key individual producers, packers and consultants, in all key vegetable sectors. This allowed the contractor to maintain confidence in the forecasts and aided the process of data comparison with that from other sources. The British Growers Association supply estimates of area and harvestable yield for brassicas, salads, legumes, asparagus, alliums and courgettes. Their data, sourced from multiple segments of the industry, although for many crops, area estimates have relied principally on confidential information from UK seed house sales. The British Growers Association work with the contractor to ensure that seed company sales data is supplied in a consistent and specification-compliant form. This has led to increased confidence and agreement in figures across all crops that they collect data for.

For the ornamentals sector the contractor contacted a broad grower base that covers all sectors and targets larger companies, whilst ensuring that growers delivering across all market sectors (landscape, garden centres, DIY stores and retailers) were represented within the data.

9 Quality assurance

The data are collected and collated along sector lines by specialist horticultural consultants, who are knowledgeable of the crops and various production methods for each sector. Standard operating procedures are in place for collecting and recording the data. In addition to the broad method which sources and compares information from different origins, estimates are compared against other official survey data figures where possible e.g. Defra June Survey. The figures are also checked for consistency and trend analysis against historic data. Quality assurance of the data is carried out by the project manager and a dedicated quality control manager. The list of growers and other contacts is regularly reviewed and maintained to ensure that it is kept up to date. Panel membership relevant to fruit data collection is kept under review to assist maintenance of up to date knowledge of the crops being reported.

In addition, an annual narrative highlighting the main factors that have affected crop areas and harvested production is provided to explain and justify the estimates, including any significant variation in yields, production and shifts in cropping area.

Due to the way in which the data are sourced, it is not possible to calculate standard errors or confidence intervals. The general target coverage in terms of area grown is to obtain cropping information based on at least 80% of the latest Defra published figure for horticulture. For crops where production is more dispersed i.e. grown by a relatively large number of smaller growers, this can be challenging, in such cases, greater reliance is placed on information on sources other than just the key growers.

10 Valuation estimates

For the major fruit crops, monthly output marketed tonnage estimates are supplied by the contractor for the full marketing season each year which is obtained from the same sources described earlier. For some crops, such as apples and pears, the crop is marketed over two calendar years. The valuation estimates for a particular calendar year will relate to marketing's in that year from both the previous and the current season's production.

Price data is widely available for a range of fruit and vegetables from wholesale markets. This is the national average of the most usual prices charged by wholesalers for selected home-grown fruit and vegetables at four leading wholesale markets in England i.e. Birmingham, Bristol, Liverpool and New Spitalfields which is collected each week and reported at:

[Defra Fruit and vegetable wholesale prices](#)

The wholesale price for each fruit and vegetable is adjusted by a factor which takes into account the relative proportions and values of produce going through the various supply chains to the market (e.g. the supermarkets, processing, direct sales on-farm etc as well as through wholesale markets). These factors were estimated based on a commissioned survey/research in 2003/4 and then updated in 2005/6. This price is further adjusted to take into account commission and handling and carriage costs in order to derive an estimate of the farm-gate price. These factors and the need for more up to date information is kept under review but analysis has shown that the final valuation estimates are not highly sensitive to these factors, especially given wider limitations for the valuation estimates in using wholesale market price data (see below).

The annual value for each crop is calculated by summation of monthly valuations over the calendar year, which in turn is calculated by multiplying the monthly output marketed tonnage by the derived monthly farm-gate price. For some crops which are marketed over more than one calendar year e.g. apples, the estimates are based on crop production from two seasons.

11 Data limitations

The area, yield and production estimates provide sound, representative and robust estimates based on structured and independent intelligence gathered from a wide variety of sources, which are subject to quality assurance checks as outlined above. Data coverage in terms of the crop areas is typically around 80% for the major items of fruit and vegetables respectively.

The valuation estimates should be treated with more caution because they are derived from wholesale market prices with several factors applied to derive an approximate farm-gate price. It will not capture the full range or complexity of pricing and marketing arrangements but should still provide a reasonable estimate of the broad trend. Despite its limitations, wholesale market price data provides the best available route for deriving farm-gate price/valuation estimates as it is widely available and cost effective to collect, especially given commercial sensitivities concerning the sourcing of reliable and up to date price data.

12 Trade data

Trade data are sourced by Defra through HM Revenue and Customs import and export records. Detailed commodity codes are used to identify specific categories. Note that the horticultural statistics publication includes dried vegetables in the import and export figures, this differs to the Agriculture in the United Kingdom publication which does not include dried vegetables in the trade figures.

13 Historic datasets

Information on ornamentals is included in the publication up to 2004 for area and production. Ornamental value, import and export data continue to be reported. These can be seen in tables 21-24 of the dataset. More recent ornamental statistics can be seen in table 7.10 of Agriculture in the United Kingdom at: [Agriculture in the United Kingdom](#)

Information on hops is included up to 2005. This can be seen in table 25 of the dataset.

14 Related publications

The following related publications may be of use in gaining a wider picture of horticultural statistics:

❖ Agriculture in the United Kingdom

AUK is an annual publication that collates statistics from a wide variety of sources to give a comprehensive overview of the UK's agriculture. This includes **potatoes** (table 7.11), fresh vegetables (table 7.9) and fresh fruit (table 7.12). The latest datasets can be found at: [Agriculture in the United Kingdom](#)

❖ Mushrooms

UK Mushroom statistics are not part of BHS. They are available separately as a Mushroom Area statistical release with data for 2004 - 2010 at: <http://webarchive.nationalarchives.gov.uk/mushrooms/>

❖ June Survey

The June Survey of Agriculture and Horticulture gives the UK areas of cereals, other crops, horticulture and grassland. Lower level geographical breakdowns of the data are also available from the associated datasets. The latest results and datasets are available at:

<https://www.gov.uk/government/JuneSurvey/>

❖ Orchard Fruit Survey

This survey is run every few years to provide information on the tree area of commercial orchards with detailed information for the main varieties of orchard fruit. It also gathers data on the end use of apples ie dessert, culinary, cider.

<https://www.gov.uk/orchard-fruit>

Dataset details of the items covered in Horticulture statistics

For 2016 there was a major review of the items covered in the publications

All of the statistics are available on the [Horticulture Statistics webpage](#). The crops for which statistics are available are shown in the tables below and are correct for the latest data.

Table 1: List of fruit crops covered by the statistics

Statistics	Fresh Fruit	Trade Data
Fruit Items	<p>Dessert Apples - Cox's Orange Pippin Braeburn Gala Other dessert apples Worcester Pearmain* Discovery* Early Season* Mid-Season Desserts* - (Egremont Russet, Red Pippin) Late Season Desserts* - (Gala Jonagold, Braeburn, Jazz, Kanzi, Rubens, Zari)</p> <p>Culinary Apples - Culinary apples Bramley's Seedling* Total Other Culinary*</p> <p>Pears - All pears Conference* Others* - (Williams Bon Chretien* and Doyenne Du Comice* and other) *Cider Apples & Perry Pears</p> <p>Plums - Plums and damsons Victoria* Other Plums* (Marjorie's Seedling*, Pershore Yellow Egg* and damsons* and other)</p> <p>Others & Mixed – Cherries Others & mixed top fruit</p> <p>Soft Fruit - Strawberries Raspberries Blackcurrants Other Soft Fruit</p>	<p>Apples Pears Cider Apples and Perry Pears Plums Cherries Peaches And Nectarines Other fruit with stones (Apricots, Sloes) Strawberries Raspberries Other Soft Fruit (Blackberries, Blueberries, Cranberries, Blackcurrants, Redcurrants, White currants, Gooseberries) Oranges Lemons and Limes Small Citrus Fruit (Clementines, Mandarins, Satsumas) Other Citrus Fruit (Grapefruit etc.) Dates and Figs Avocados Bananas Pineapples Melons (inc. Watermelons) Other Exotic fruit (Mango, Pawpaw/Papaya, Kiwifruit, Guava, Persimmon, Durian) Other Fruit (Quinces and all fresh fruit not covered above)</p>

*Are no longer recorded individually but historic data are available.

Table 2: List of vegetable crops covered by the statistics

Statistics	Field & Protected Vegetables	Trade Data
Vegetable Items	<p>Roots and Onions - Beetroot* Carrots Parsnips Turnips and Swedes Onions, Dry Bulb Onions, Spring</p> <p>Brassicas - Brussels Sprouts Cabbage, Spring - (spring greens) Cabbage, Summer and Autumn Cabbage, Winter - (winter white, other winter and Savoy) Cauliflower – (summer, autumn and winter) Broccoli</p> <p>Legumes - Beans, Broad Beans, Runner and Dwarf *Peas, Green for Market Peas, Green for Processing Peas, Harvested Dry</p> <p>Others - Asparagus Celery Leeks Lettuce - (Iceberg, Cos and Butterhead) Baby leaf Rhubarb - (Forced and Natural) Watercress Others field - (parsley, celery, soup leeks, aubergines, peppers and chillies)</p> <p>Protected Vegetables - Tomatoes (round, vine, plum and cherry) Cucumbers Lettuce (indoor) Self-Blanching Celery Sweet Peppers Others protected (courgettes, aubergines, chillies) Mushrooms</p>	<p>Fresh or chilled –</p> <p>Garlic Other Alliaceous Vegetables (Leeks, Spring Onions, Chives) Asparagus Aubergines Beans (fresh or chilled) Carrots and Turnips Cauliflowers and Broccoli Cabbages (White and Red) Other Brassicas (Brussels Sprouts, Green Cabbage, Kale, Collard, Kohlrabi, Bok Choy) Celery Courgettes Cucumbers Lettuce Mushrooms Onions and Shallots Peas (fresh or chilled) Sweet Peppers Sweetcorn Tomatoes All Other Fresh Vegetables (Celeriac, Chicory, Gherkins, Artichokes, Olives, Spinach, Pumpkins, Squash, Gourds, Horseradish, Chard, Fennel, Capers, Chillies, Arrowroot and all fresh vegetables not covered above)</p> <p>Dried -</p> <p>Dried Peas Dried Chickpeas (Garbanzos) Dried Beans Other Dried Vegetables (Lentils, Onions, Carrots, Sweetcorn, Tomatoes, Mushrooms, Mixtures)</p>

*Are no longer recorded individually but historic data are available.

15 Glossary of terms

- **Planted Area (hectares)** - This relates to the 'planted' area on which the crops are actually grown - excluding hedgerows etc. In the case of orchards it relates to the 'tree' area rather than the field area (this is in line with the Orchard Fruit Survey).
- **Marketable Yield (tonnes per hectare)** - This relates to the average tonnage actually harvested per planted hectare taking into account any waste losses (post harvest). Wastage relates to any post-harvest item for which no income is obtained, such as storage losses, including both weight loss and rots.
- **Marketable Production (tonnes)** - The total figure for the harvested crop is derived from the planted area multiplied by harvested yield taking into account wastage figures (post harvest).
- **Crop Year** - The crop year will vary according to the production pattern of each crop and when the majority of the crop is harvested and marketed. Some crops may mature early, others late; in either case production will be assigned to the crop year in which the majority of the crop was marketed.
- **Multi Cropping** - The cultivation of more than one crop on the same piece of land in one year. Multi-cropping of sequentially planted crops is taken into account when calculating areas (e.g. of lettuce), but in the case of cucumbers, although the long-season crop is planted either once or twice during the season, it is counted as a single crop for area purposes, with each crop yield being totalled through the season to provide a single production figure. This accords with industry practice.
- **Farm-gate prices (in £/tonne) or value based on farm-gate price** - The price the farmer is paid for his produce with no extra delivery or packaging costs.