

RESAS

Rural & Environmental Science
and Analytical Services



Scottish Government
Riaghaltas na h-Alba
gov.scot



Cereal and Oilseed Rape Harvest 2020 Final Estimates

Methodology



This document provides a summary of quality-related information on the Cereal and Oilseed Rape Harvest 2020 - Final Estimates.

The information is based on the European Statistical System (ESS) quality framework: Relevance; Accuracy and Reliability; Timeliness and Punctuality; Comparability; and Accessibility and Clarity.

The Scottish Government adheres to the Code of Practice for Official Statistics and the National Statistician's guidance on quality. In addition, the Scottish Government provides its own guidance on quality, which is available to view at the Scottish Government's Statistics internet pages.

Further information on quality:

- [Code of Practice for Official Statistics](#)
- [Government Statistical Service Quality Strategy](#)
- [Scottish Government's Corporate Policy Statement](#)
- [Scottish Government Guide to basic quality assurance](#)
- [European Statistics Code of Practice \(including quality framework\)](#)

Definitions

Area - the amount of area (in hectares) that was used to grow a particular crop, where the crop was intended for combine harvesting or the production of grain or oilseeds. This area may include some crops that were eventually not harvested, or whole-cropped.

Yield - Average yields (tonnes per hectare) represent the amount of cereal grain or oilseed that is extracted from one hectare of crop grown.

Production - the total tonnage of cereal grain and oilseed that is combine harvested from the planted area. This tonnage does not include the weight of straw, whole-cropped or other plant material, which is produced as a by-product or used for other purposes.

When discussing production and area we are referring to estimated totals. When discussing yield we are referring to estimated averages.

Whole cropped - Whole crop cereals are harvested whole (i.e. without extracting the grain) and are used as a source of animal feed or for industrial use.

Data Providers

Final 2020 Estimates of the Cereal and Oilseed Rape Harvest

In April 2020, it was announced in the [RESAS Revised schedule of agricultural surveys and outputs](#) that the Cereal Production Survey would be temporarily stopped. The 2020 final estimates of production are usually based mainly on final yield results from the 2020 Cereal Production Survey (CPS) and final crop areas from the 2020 June Census.

The final 2020 estimate is based on a similar method to the first estimate, published in October 2020. Industry intelligence at the end of the Scottish harvest has been combined with information about historic trends.

The final 2020 estimate relies on the data collected by industry bodies to produce these statistics and therefore the quality of the data available from these sources impacts significantly on Scottish Government analysis.

Final estimates of the Scottish cereal and oilseed rape harvest were derived at an end of harvest Crop Report Meeting (CRM). The end of harvest CRM took place on Wednesday 25 November 2020. A panel of experts from the following organisations attended this meeting:

- Scottish Government, Rural and Environmental Science and Analytical Services
- Scottish Government, Rural Payments and Inspections Division
- Bairds Malts
- Agricultural Industries Confederation
- National Farmers Union Scotland
- The Agriculture and Horticulture Development Board
- East of Scotland Farmers Limited
- Scotland's Rural College
- Science and Advice for Scottish Agriculture

Final estimates from growers were collected by several means: area offices of the Scottish Government Rural Payments and Inspections Division (RPID); area offices of Scotland's Rural College (SRUC); agronomists working for commercial bodies; farming co-operatives; and the National Farmers Union Scotland (NFUS) use electronic, paper based or telephone surveys.

Once all the yields were collated, the industry bodies at the CRM carried out additional quality assurance by comparing yield results between different crops and regions within Scotland and with information produced by the Scottish Government about known historical trends in cereal estimates. This led to an agreed set of yield estimates which have been combined with final 2020 June Agricultural Census area results to derive the final harvest production estimates.

As the moisture content of cereals and oilseeds can vary from year-to-year and farm-to-farm, depending on the level of rainfall, average yields are adjusted to a standard moisture content of 14.5 per cent for cereals and nine per cent for oilseeds. This adjustment ensures there is consistency in estimates of the amount of dry matter which can be extracted from cereal grain and oilseeds.

Production estimates are derived by multiplying crop areas (in hectares) from the 2020 June Agricultural Census and the estimated average yields (in tonnes per hectare).

Final 2019 Estimates of Cereal Disposals

Data on disposal estimates of barley, wheat and oats have been published in Table 6 of the publication. This table shows tonnage estimates of barley, wheat and oats and where the crops have been used for the 2019 harvest.

Disposals data is published from the 2019 harvest as this data collection was completed in 2020. Any crops from the 2019 harvest that have not been used are not carried over in to the 2020 harvest disposals figures. Disposals data for 2020 will be published alongside estimates of the 2021 Cereal Harvest.

The disposals data was collected by postal survey in November 2019 and January 2020 as part of the 2019 Cereal Production Survey. The data collection was carried out by RESAS. The temporary stop for the 2020 Cereal Production Survey included a temporary stop to final 2019 disposals data collection, which was due to be collected in June 2020.

The 2019 end of season disposal estimates are based on mid-season estimates from the 2019 Cereal Production Survey, end of season trends as at June 2020 elsewhere in the UK and past end of season trends in Scotland.

For the mid-season estimates, farmers who took part in the 2019 CPS were asked how much of their crops have been used and where their crops have been used. Further details about the 2019 CPS is available in the supporting Methodology document for the [Cereal and oilseed rape harvest: 2019 final estimates](#).

Relevance

The degree to which the statistical product meets user needs for both coverage and content.

The cereal estimates are produced for a wide range of purposes. The statistics help the government to form, monitor and evaluate policy, and to assess the economic well-being of the cereal sector.

They are also required, by law, by the [Statistical Office of the European Communities](#) as the information is essential for management of the EU markets. These estimates are timed to enable provision of data for an EU regulatory deadline. The data is also used to provide information to the World Trade Organisation and the Food and Agriculture Organisation.

The production estimates feed into the [UK cereals balance sheet](#), which provides an independent, unbiased, timely and comprehensive picture of the supply and demand position of the UK cereal market. The balance sheet is also the prime tool for tracking new developments in the UK cereals industry and determining their impact on the market. The balance sheet is widely used by policy makers, the EU Commission and the wider cereals industry.

User Feedback

Though we are not aware of any unmet user needs in relation to these statistics, the Scottish Government is always interested to hear from users about what is most relevant to them and welcomes feedback from users of these statistics. Contact details are available from the [Agriculture Statistics contacts](#) webpage.

Details of both current and past user consultations are available on the [Agriculture Statistics consultations](#) webpage.

Accuracy and Reliability

The closeness between an estimated result and the (unknown) true value.

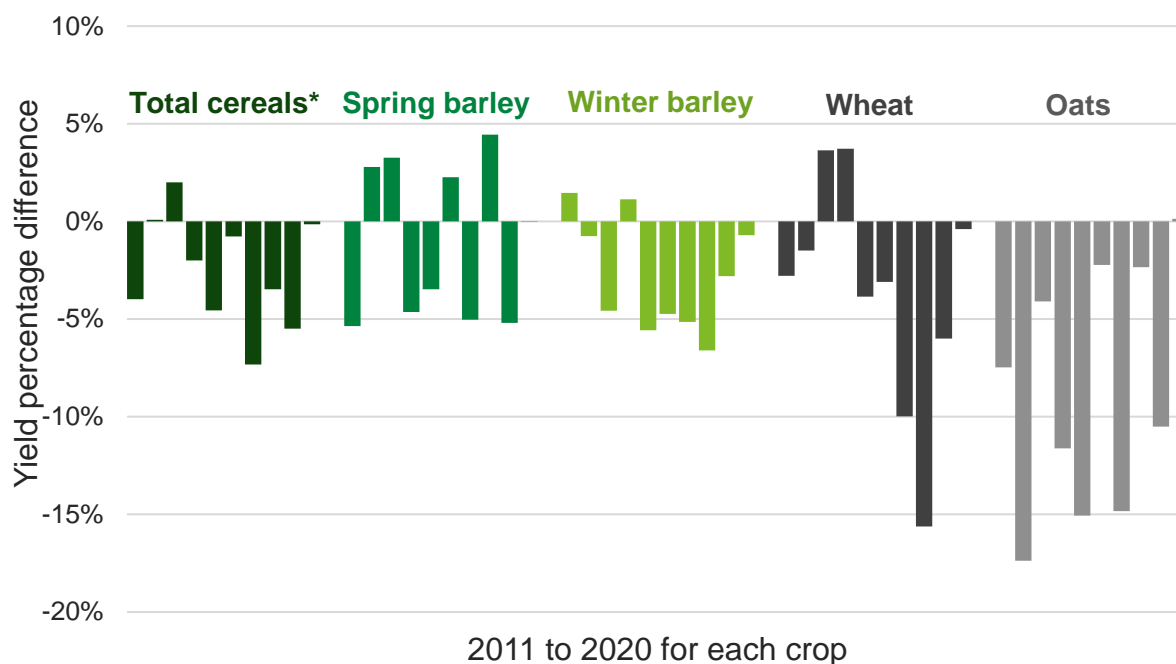
These estimates are based on industry reports at the end of the 2020 harvest and information produced by the Scottish Government about known historical trends in cereal estimates. These estimates will be less accurate than those normally based on the Cereal Production Survey.

Final estimates from growers were collected by several means and from the same growers that contributed to the first estimates. As such, the final 2020 estimates are similar to the first estimates of the 2020 harvest and reflect where more information is known at the end of the harvest when the reports are more reliable.

Final estimates of the cereal harvest are usually within five per cent of the first estimates of production, as shown in Figure 1. Historical trends between the first and final estimates as well as other contextual information such as weather and crop reports have been used to quality assure the final 2020 estimates.

The nature of the industry bodies involved in the production of provisional estimates means that the results are likely to be more representative of commercial cropping farms, and less representative of farms growing crops for on-farm uses. This is most likely why first estimates tend to overestimate production and yields compared to final Cereal Production Survey (CPS) estimates.

Figure 1: Percentage difference between first and final estimates, 2011 to 2020
 (Positive numbers mean the final estimate was higher than the provisional)



*contains triticale up to and including 2016

Timeliness and Punctuality

Timeliness refers to the lapse of time between publication and the period to which the data refer.

Punctuality refers to the time lag between the actual and planned dates of publication.

To provide reliable estimates of the year-on-year changes in production, the final estimate has been made once the vast majority of cereal and oilseed has been harvested. To allow for reliability of the final 2020 estimate, the CRM was scheduled as late as possible during final harvesting, providing for sufficient time for data collection, processing, quality assurance and compilation, preparation and dissemination of final results.

The results of the 2020 CPS were released on the scheduled date of 15 December 2020.

Coherence and comparability

Comparability is the degree to which data can be compared over time and domain.

Results for England, Wales and Northern Ireland, also released in December, are based on results from surveys similar to that of the Scottish Cereal Production

Survey. The latest results of the UK cereal and oilseed rape harvest, including Scottish estimates, are available from the Gov.uk website:
www.gov.uk.

The EC regularly produces estimates of cereal and oilseed production as both totals of EU-27 countries and individual countries. Further information on EC cereal statistics is available at the following website:
<https://ec.europa.eu/eurostat/web/agriculture/overview>

Typically EC results are published later than Scottish or UK results due to the additional time required to collate, validate and analyse data from several countries. Users interested in comparing results between countries should evaluate the relevant methodologies of sources used.

Accessibility and Clarity

Accessibility is the ease with which users are able to access the data. It also relates to the format(s) in which the data are available and the availability of supporting information.

Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

These statistics are made available online at the Scottish Government's statistics website in accessible formats (html and pdf versions are available). Data tables are made available in excel format to allow users to carry out further analysis. Farm-level datasets may be made available to recognised research organisations.

Methodological notes and additional notes to tables, identifying specific quality issues, are included in this document, which is available online and linked to from all National Statistics outputs containing cereal production estimates. Links to the UK Agriculture Statistics series of outputs are available from the Gov.uk website:
www.gov.uk.

Related publications

The first estimates of the 2020 Scottish cereal and oilseed rape harvest were published in October 2020 and can be accessed here:
<https://www.gov.scot/publications/cereal-oilseed-rape-harvest-2020-first-estimates/>

Results from all Scottish Government agricultural surveys can be accessed here:
[Agriculture, Fisheries and Rural - Publications](#)