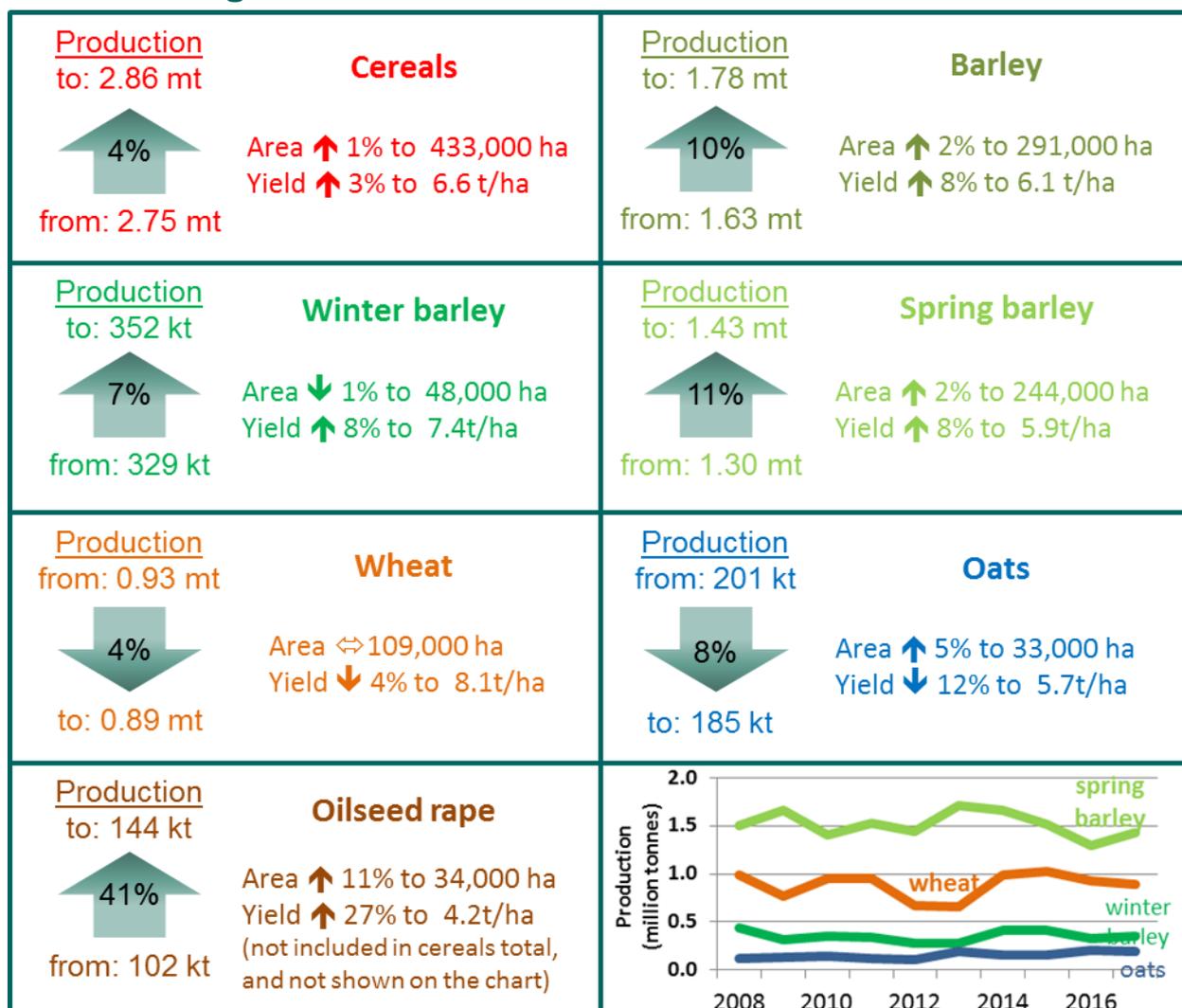


AGRICULTURE, ENVIRONMENT AND MARINE

Final Estimate of the Cereal and Oilseed Rape Harvest 2017

13th December 2017

1. Main findings



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Area, yield and production definitions

Cereal and oilseed rape crop areas represent the amount of area that has been used to grow a particular crop, which is intended for combine-harvesting and the production of grain or oilseeds. Area estimates are derived from the June Agricultural Census. “Whole crop” cereals are harvested without extracting the grain, and are used as a source of animal feed; in such cases grain production is counted as zero.

Average yields are expressed in tonnes per hectare and represent the amount of cereal grain or oilseed that is extracted from one hectare of combine-harvested area. 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) and average yields (in tonnes per hectare). They represent 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 and other plant material which is produced as a by-product and used for other purposes.

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

Cereal production is estimated to have increased by 107,000 tonnes between 2016 and 2017, to 2.86 million tonnes. The overall four per cent increase in production this year is due to a one per cent increase in areas, and a three per cent increase in yield.

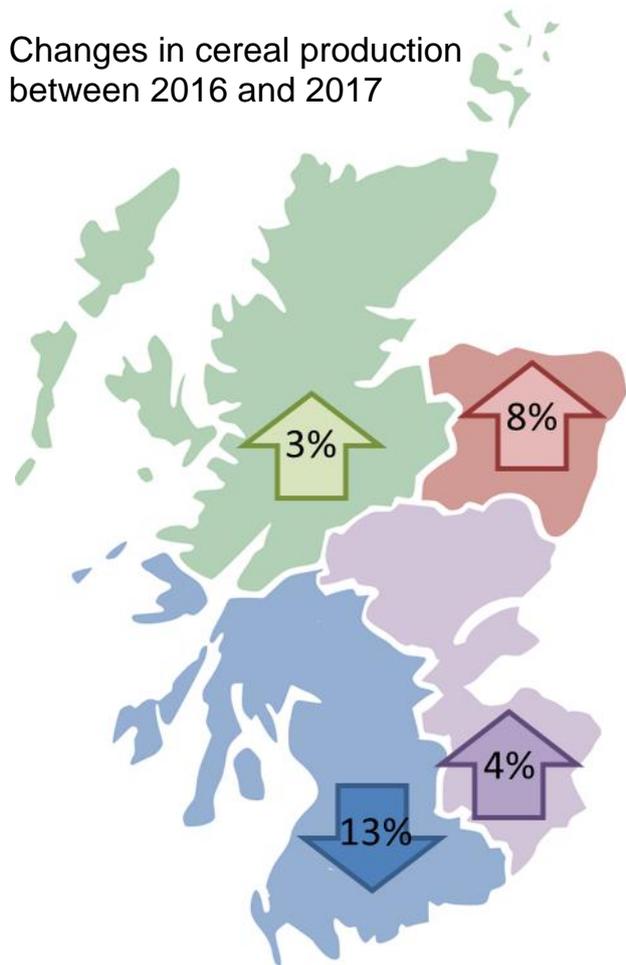
Overall production was up in all regions other than the South West, where it fell 13 per cent, from 220,000 tonnes to 192,000 tonnes.

The South East, which accounts for over half of cereal production in Scotland, saw a four per cent increase in production, with the North East, which accounts for 30 per cent, increasing eight per cent.

Production of winter and spring barley, and oilseed, is up on 2016, while that for wheat and oats declined.

Total cereal production in 2017 was one per cent lower than the average for the decade. The recent 10-year average yield is seven per cent above the previous decade's. Long term increases are likely to be due to improved efficiency in practices, development and use of high yielding varieties.

Changes in cereal production between 2016 and 2017

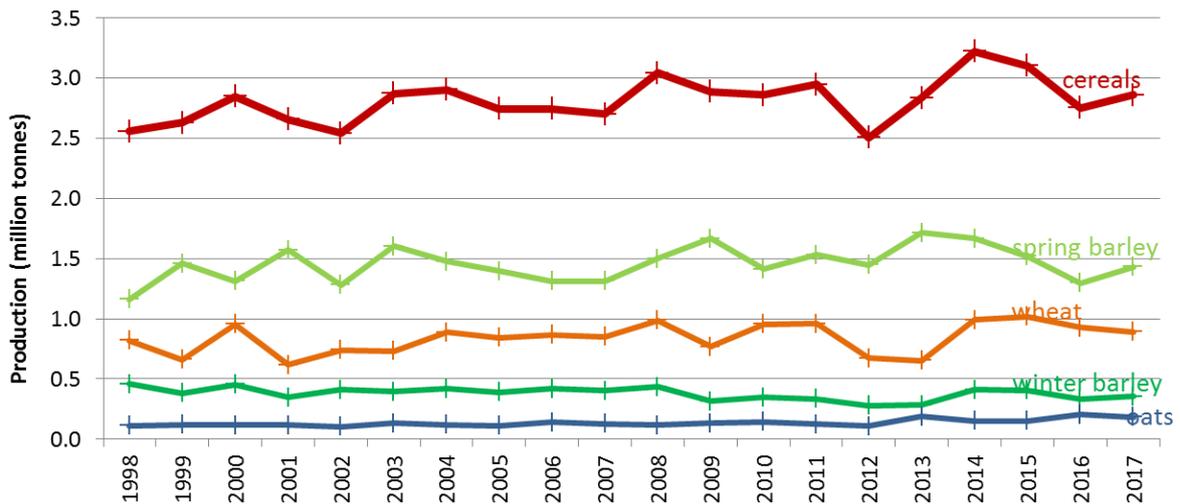


These estimates indicate that, compared with final estimates from the 2016 harvest:

- Spring barley production increased by 11 per cent to 1.4 million tonnes, due to an eight per cent increase in yield and a two per cent increase in the planted area.
- Winter barley production increased by seven per cent to 352,000 tonnes, due to an eight per cent increase in average yield and a one per cent reduction in area.
- Wheat production fell by four per cent to 889,000 tonnes, due to a four per cent fall in yield. Planted area remained unchanged.

- Oat production fell eight per cent on last year's record harvest, to 185,000 tonnes, due to a 12 per cent drop in yield on a five per cent increase in area.
- Oilseed rape production increased by 41 per cent to 144,000 tonnes, due to an 11 per cent increase in area and a 27 per cent increase in yield.

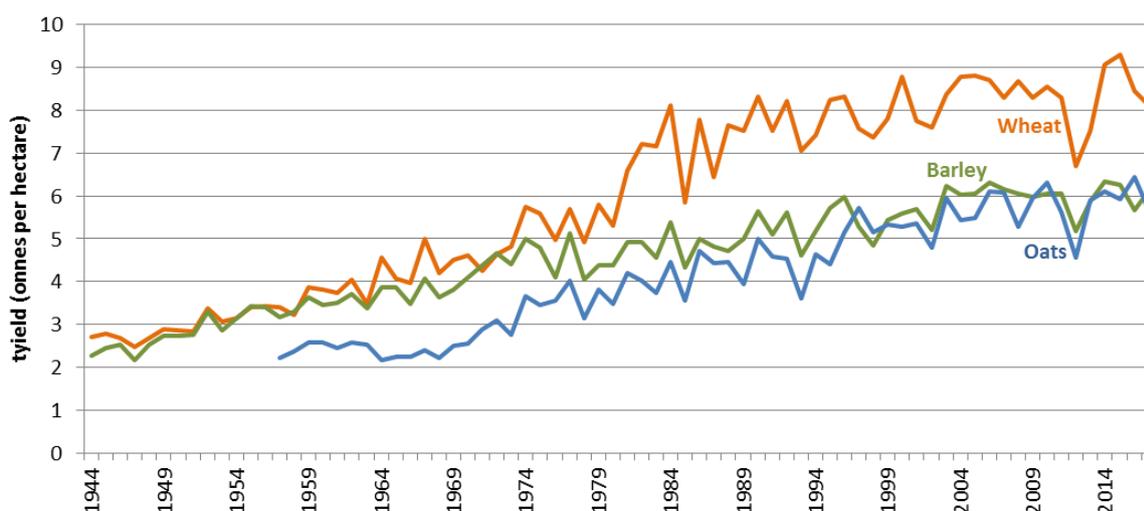
Chart 1: Cereal Production Trends, 1998 to 2017



Harvest Conditions

There was a mixed experience in this year's harvest. The wet weather experienced throughout the summer meant that growing conditions were reasonably favourable, as long as it was possible to find a window of a few good days for the crop to dry out and then to get the combine into the field. Those that managed this, particularly in the earlier part of the harvest, managed some excellent yields. However, as the harvest drew on, these opportunities became increasingly difficult to find, which meant others lost substantial amounts of their crop.

Chart 2: Long term trend in yields, 1944-2017



2. Comparison against provisional estimates

Yields have generally been revised downwards since the release of initial estimates in early October. Yields for oilseed have been revised slightly upwards.

- Overall cereal production is estimated at 2.86 million tonnes; 226,000 tonnes or seven per cent below provisional estimates.
- The estimated increase in production of spring barley (up 11 per cent) is less than suggested by provisional estimates (16 per cent).
- Winter barley production rose by 23,000 instead of 42,000 tonnes.
- Wheat production was down four per cent rather than the increase of seven per cent initially estimated.
- Oats have seen a fall of eight per cent, rather than the similarly sized increase initially estimated.
- Oilseed production increased 41 per cent, rather than 38 per cent.

Overall, in the past the difference between provisional and final estimates has been typically around five per cent or lower. Chart 3 shows the differences in yields between the two estimates over the last ten years. Yield estimates of individual cereal crops do sometimes vary by more than five per cent.

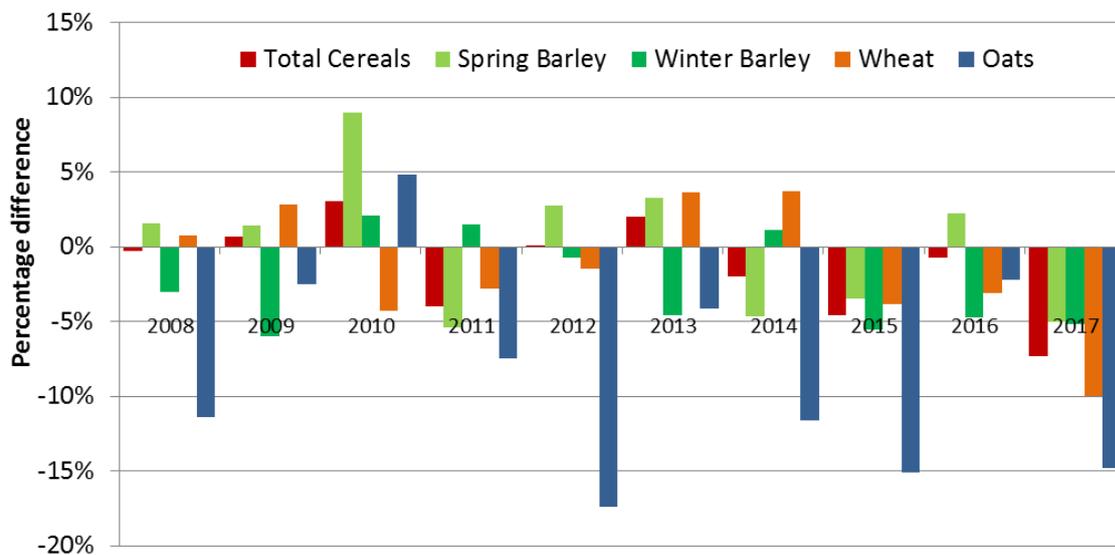
This year the revision to overall cereal yield was higher than normal, at seven per cent. Discussions which produced the initial estimates occurred at the end of September, and were based on data from about 250 farms. While these farmers had been affected by the wet weather, they had nevertheless been able to find windows of a dry few days to get the harvest in. For many of them, yields had been exceptionally high, which led to the very positive initial estimates.

However, it seems that as the harvest continued it became increasingly difficult to find those windows of opportunity, and so much of the later crop was spoiled.

Barley estimates were five per cent out, but wheat production was considerably poorer than initially estimated, with a ten per cent difference. As frequently occurs due to the smaller numbers involved, the estimate for oats differed markedly, this year by 15 per cent.

Chart 3: Cereal Production, Comparison of Provisional v Final Estimates, 2008 to 2017

(below the line means final estimates lower than initial estimates)



Global supply of cereals is set to surpass 2.6 billion tonnes, according to the Food and Agriculture Organization of the UN¹, with total supplies exceeding projected demand and stocks on the rise.

¹ www.fao.org/worldfoodsituation/csdb/en/

3. Cereals

Production

Total cereal production in Scotland is estimated to have increased in 2017 by 107,000 tonnes to 2.86 million tonnes. This is slightly below average for the last ten years. While the volume of the harvest was poorer than expected, and moisture content was particularly high, industry experts collecting data have reported no particular concerns over quality.

In 2016 cereals were estimated to have accounted for about 11 per cent of farm output.

Area

The total cereal area increased 1.2 per cent compared to 2016. About 433,000 hectares of cereals were grown in 2016/17. Areas have ranged between 398,000 hectares in 2006 and 468,000 hectares in 1998.

Yield

The overall yield estimate for Scottish cereals is slightly above average for the last decade, at 6.6 tonnes per hectare. The yields for barley and oilseed are estimated to have increased, with the yield for wheat and oats falling.

The long term trend of increasing yields remains, with the recent ten-year average of 6.5 tonnes per hectare three per cent above the previous ten-year

Chart 4: Production (tonnes)

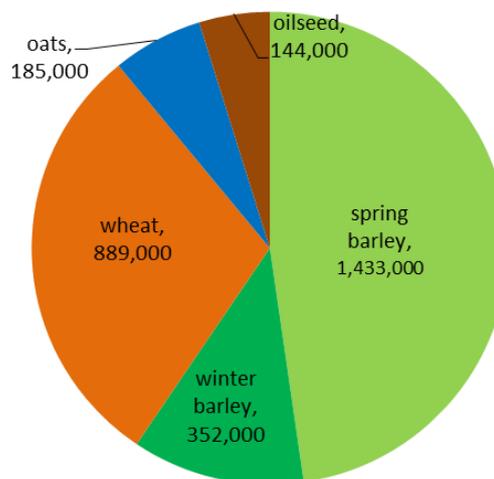


Chart 5: Area (hectares)

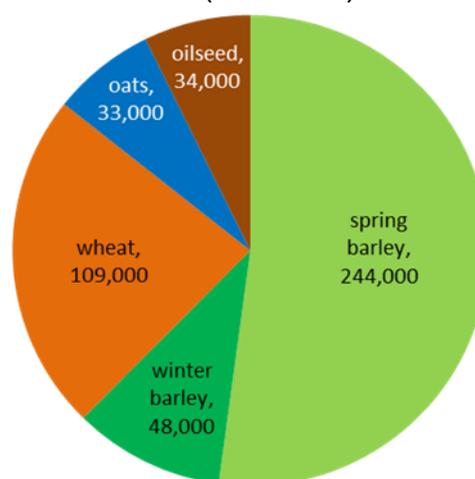
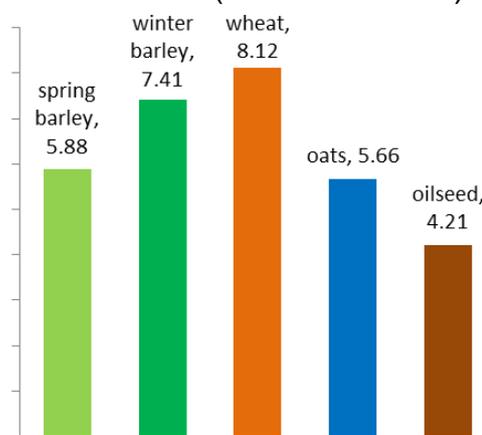


Chart 6: Yield (tonnes/hectare)



average. This long term increase is likely to be due to an improved efficiency in farming practices as well as development and use of higher yielding crop varieties. The shorter term variations in cereal yields are more likely to be influenced by weather and other conditions during the growing season.

Other cereals

Triticale is a marginal crop in Scotland, grown on around 600 hectares. Because there are relatively few farms growing triticale it is difficult to provide reliable yield estimates, and due to its small size we have now discontinued collection.

Rye is increasingly being grown, though mainly for anaerobic digestion.

Oilseed, though not a cereal, is also shown for comparison in the above charts, though is not included in calculations and commentary about cereal totals.

Charts

Chart 7 shows the areas estimated from the June Agricultural Census as bars and the estimated production and estimated average yield as lines. Area is presented in hundreds of hectares, production in thousands of tonnes and yield in tonnes per hectare.

Chart 8 shows the year-on-year change of areas, total production and average yield. This allows the drivers of fluctuations in production to be more easily distinguished and gives a sense of the typical fluctuations from year to year. In chart 8 all measures are presented as the percentage change compared to the previous year.

In the following sections similar charts are used to display the results for each crop group, though the scales of the chart axes are not the same in every case.

Chart 7 - Total Cereals: Area, Yield and Production

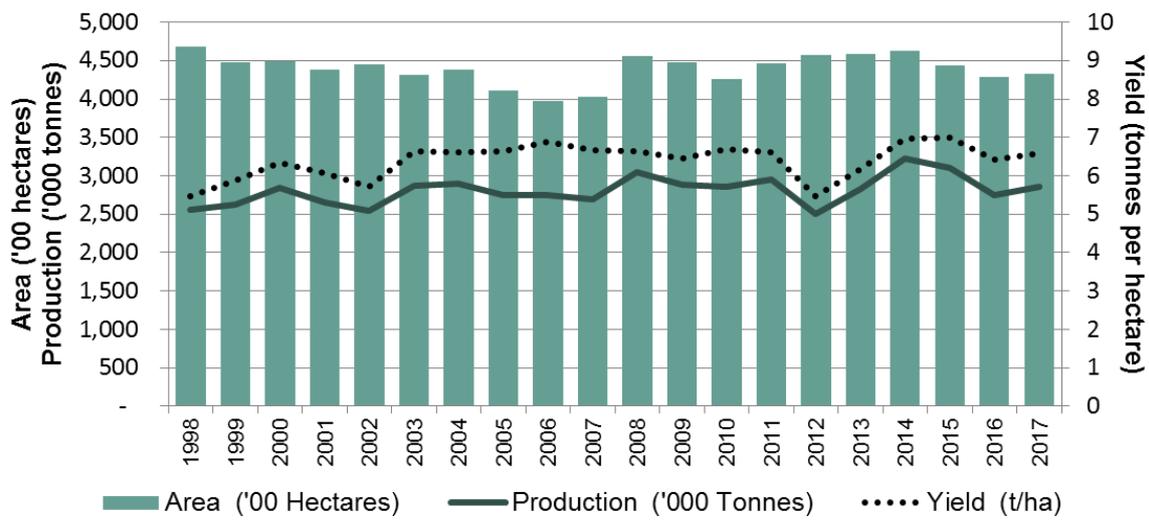
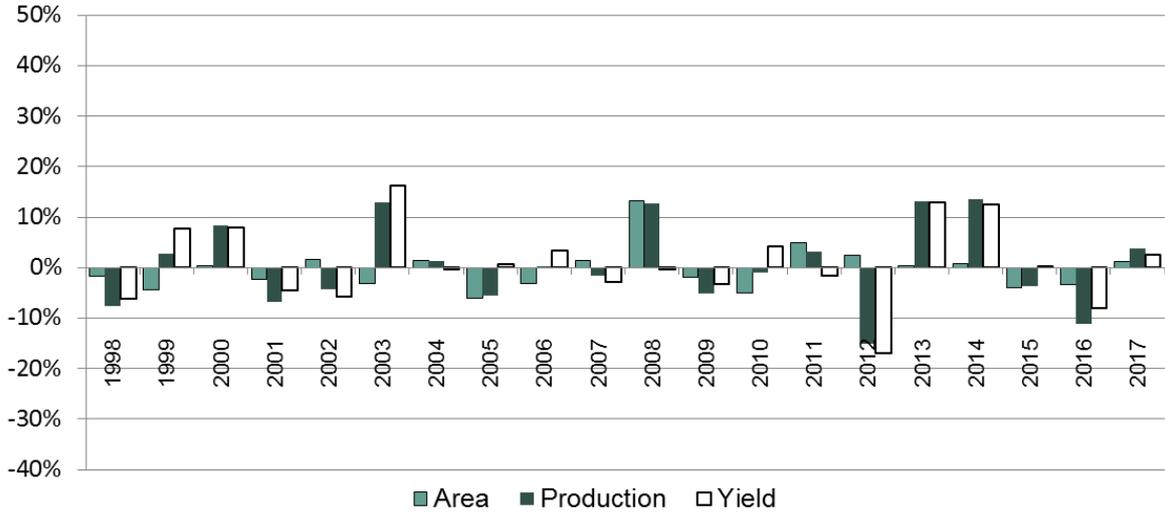


Chart 8 - Total Cereals Year-on-Year Change: Area, Yield and Production



4. Barley

Barley is the predominant cereal crop grown in Scotland, contributing about a quarter of the UK barley production, particularly spring barley which accounted for about a third of the UK total. Despite a strong association with the Scottish whisky industry, as a key ingredient, Scottish barley is also used as animal feed.

Spring Barley Estimates (charts 9 and 10)

Spring barley production is estimated to have increased by ten per cent in 2017. Over the last 20 years, spring barley production has been following a generally increasing trend.

Production reached the highest level over the period in 2013, at 1.71 million tonnes. However, in the last three years spring barley production had been falling each year, by 49,000 tonnes in 2014, a further 144,000 tonnes in 2015, and another 224,000 tonnes in 2016, to 1.30 million tonnes. This year's estimate of 1,433,000 tonnes is 11 per cent higher than 2016, but is still below average for the last decade.

The area of spring barley varies considerably depending on the planting of winter crops, but in 2017 the figure of 244,000 hectares was below average. The average yield for spring barley in 2017 has been estimated at 5.9 tonnes per hectare, the fifth highest on record.

The longer term trend in yield is an increasing one, with the average over the most recent decade five per cent higher than over the previous 10 years.

Changes in spring barley production between 2016 and 2017

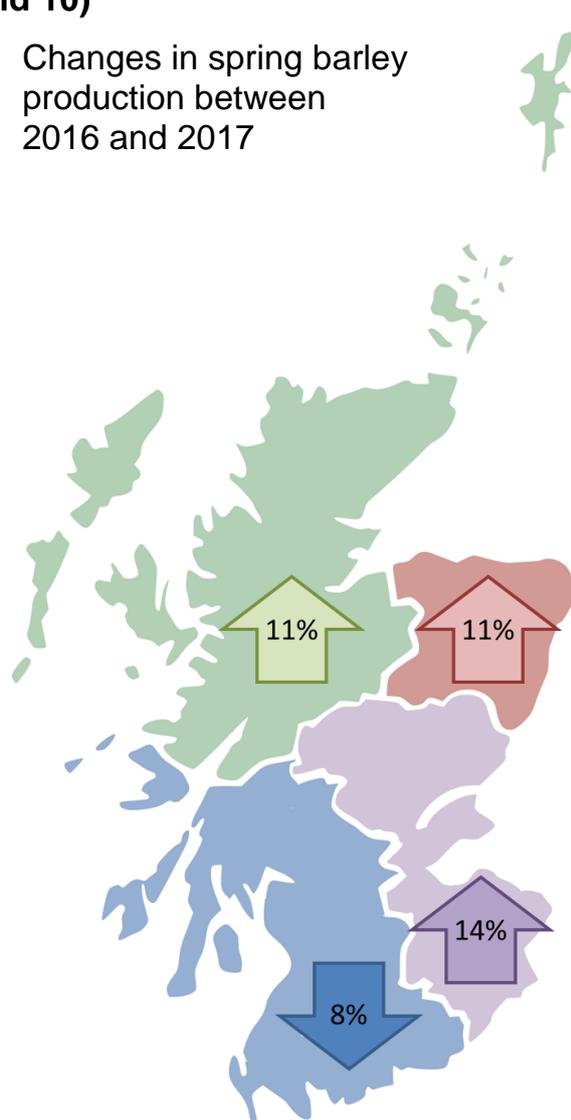


Chart 9 - Spring Barley: Area, Yield and Production

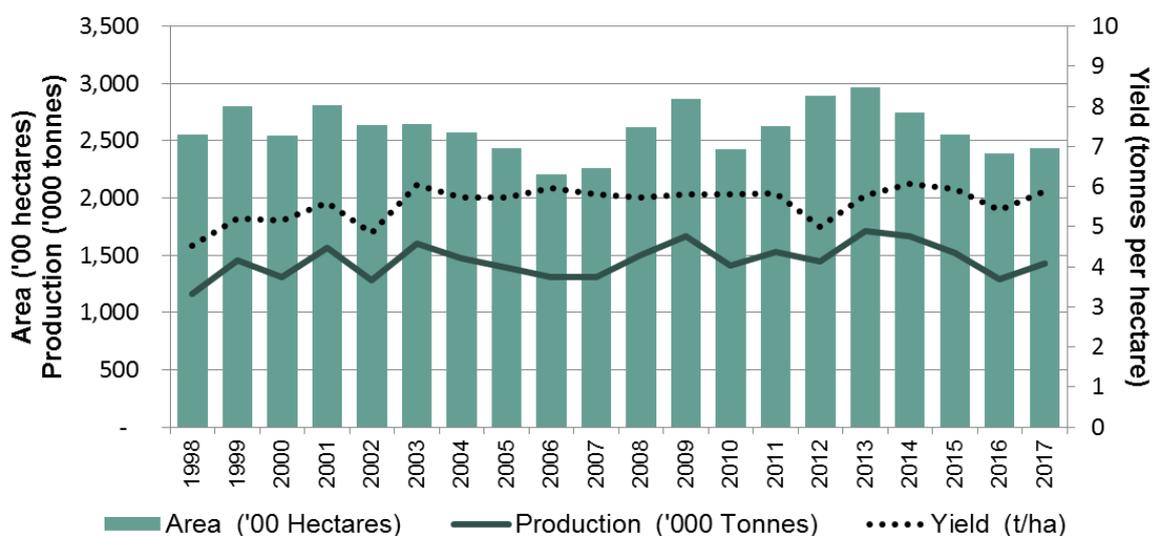
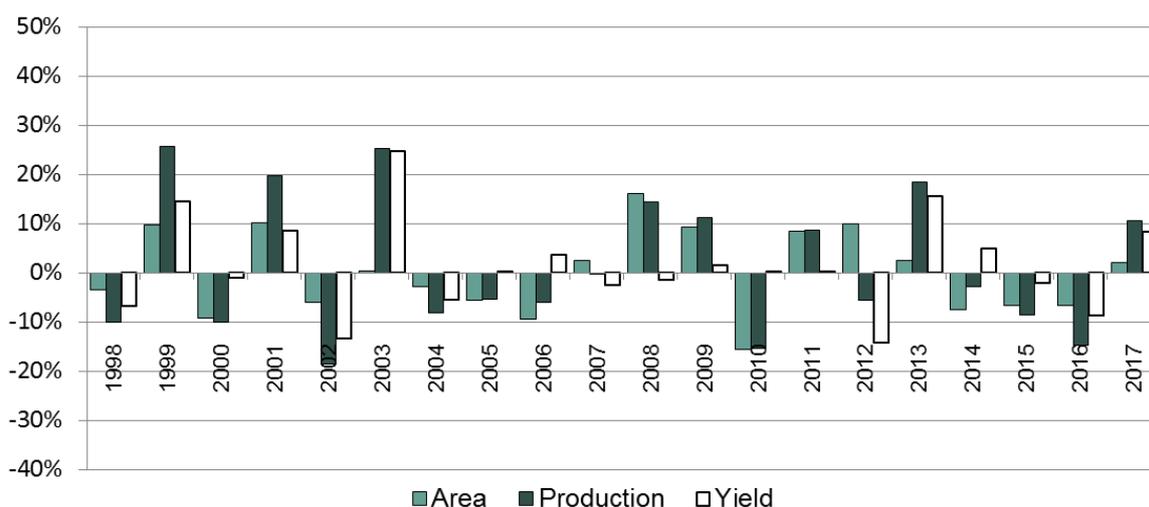


Chart 10 - Spring Barley Year-on-Year Change: Area, Yield and Production



Winter Barley Estimates (charts 11 and 12)

2017 production is estimated to have increased by seven per cent to 352,000 tonnes. This year’s estimated increase has been driven by an eight per cent increase in yield, with a one per cent reduction in area.

Winter barley yields have fluctuated considerably in recent years, often affected by the weather. However, the recent ten-year average is three per cent higher than that of the previous decade. The average yield for winter barley in 2017 is estimated at 7.4 tonnes per hectare, above average for the last ten years.

Chart 11 - Winter Barley: Area, Yield and Production

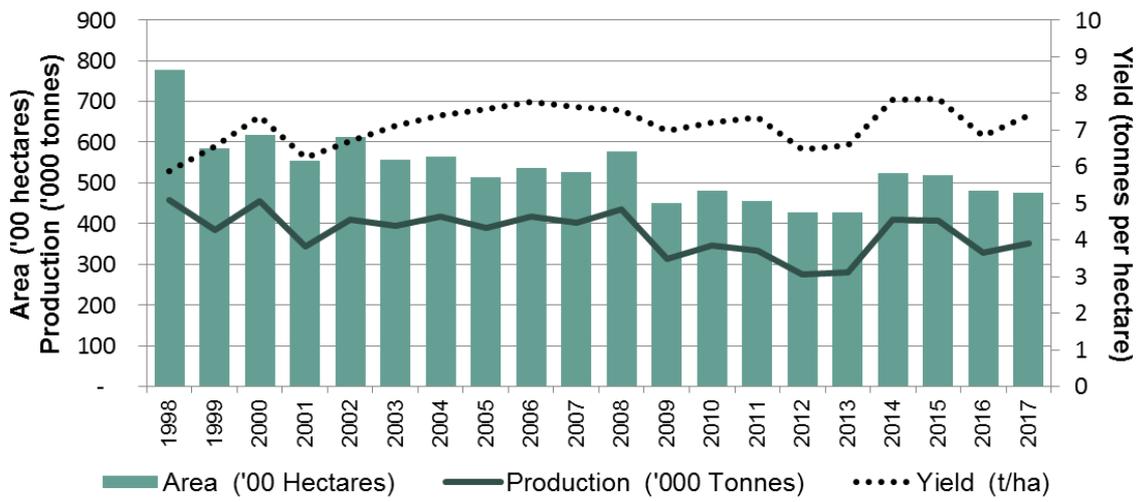
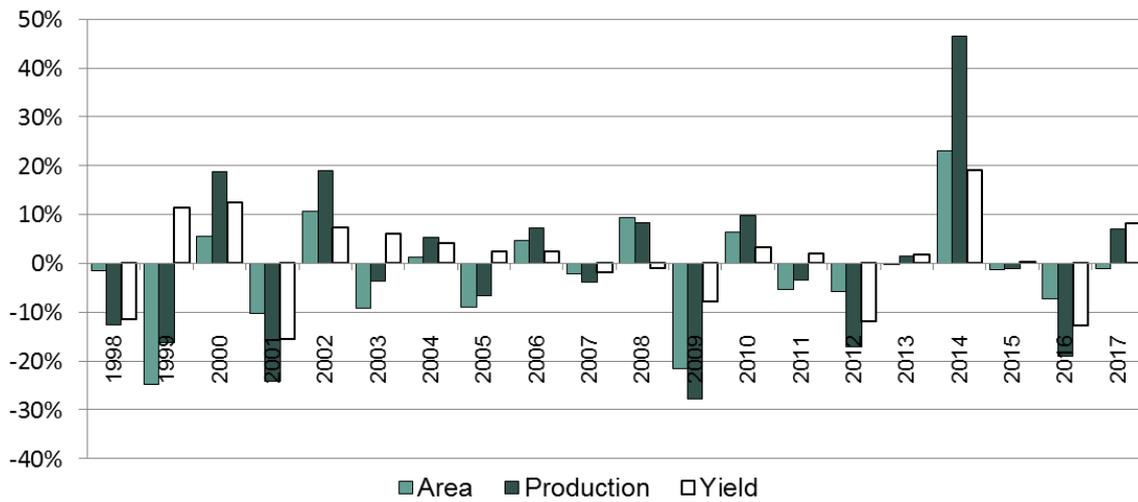


Chart 12 - Winter Barley Year-on-Year Change: Area, Yield and Production



5. Wheat

Scottish wheat is mostly soft wheats; used predominantly for distilling, but is also used for animal feed. Scotland imports hard wheats for milling (for bread making) as our climate does not suit hard wheat varieties.

Wheat Estimates (charts 13 and 14)

While the area of wheat production has remained constant in the last few years, production this year is estimated to have fallen four per cent to 889,000 tonnes. Wheat yields were estimated to have fallen by four per cent.

Wheat yields have not seen the general increases in trend that we see with barley, with the latest ten-year period only being one per cent higher than the previous ten years. At 8.12 tonnes per hectare, this year's estimated yield is below the ten-year average of 8.30.

Chart 13 - Wheat: Area, Yield and Production

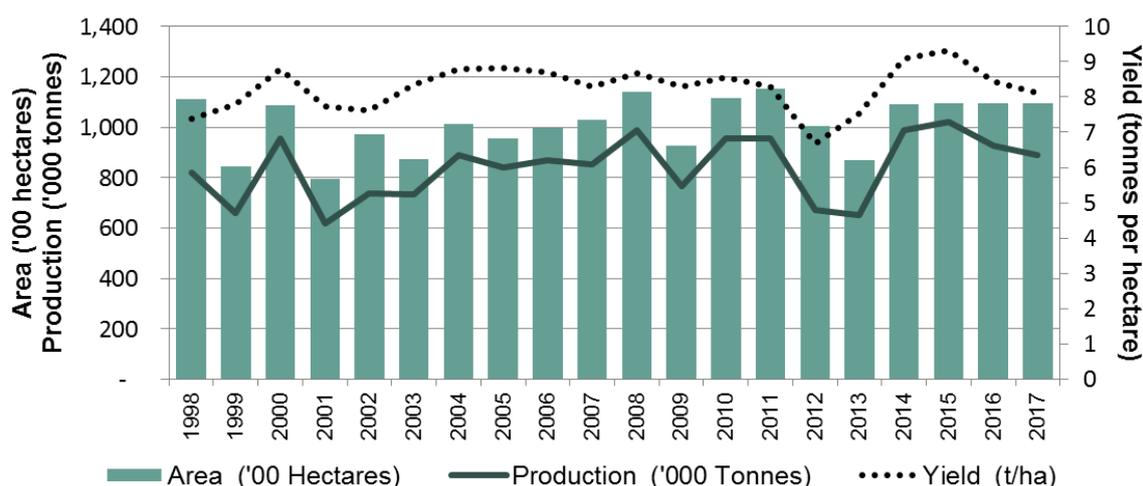
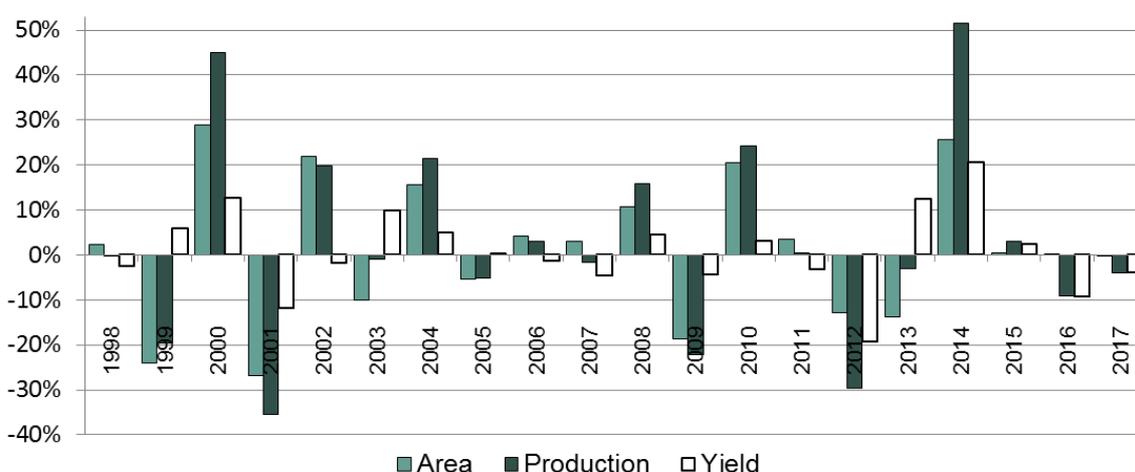


Chart 14 - Wheat Year-on-Year Change: Area, Yield and Production



6. Oats

The majority of oats grown in Scotland are used for milling and further processing for breakfast cereals, oatcakes, porridge oats and oatmeal for secondary processing outwith Scotland. The majority of the remainder is used as specialist feed for horses.

Oats Estimates (charts 13 and 14)

Oat production is estimated to have fallen by eight per cent this year due to a 12 per cent fall in average yield and a five per cent increase in area grown. 2016 had been an exceptional year, and the 2017 figure is still the third highest since the 1970s. Spring oats make up around two thirds of oat production.

This year's average yield is estimated at 5.7 tonnes per hectare, slightly below average for the last ten years, but applied to the highest area since 1989. The average yield for the last ten years is five per cent higher than the previous decade.

Chart 15 - Oats: Area, Yield and Production

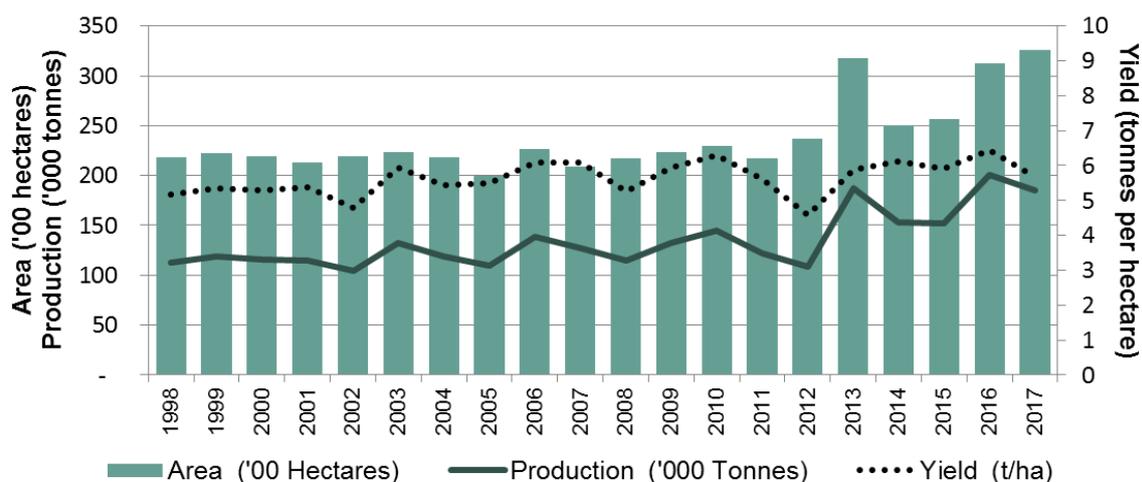
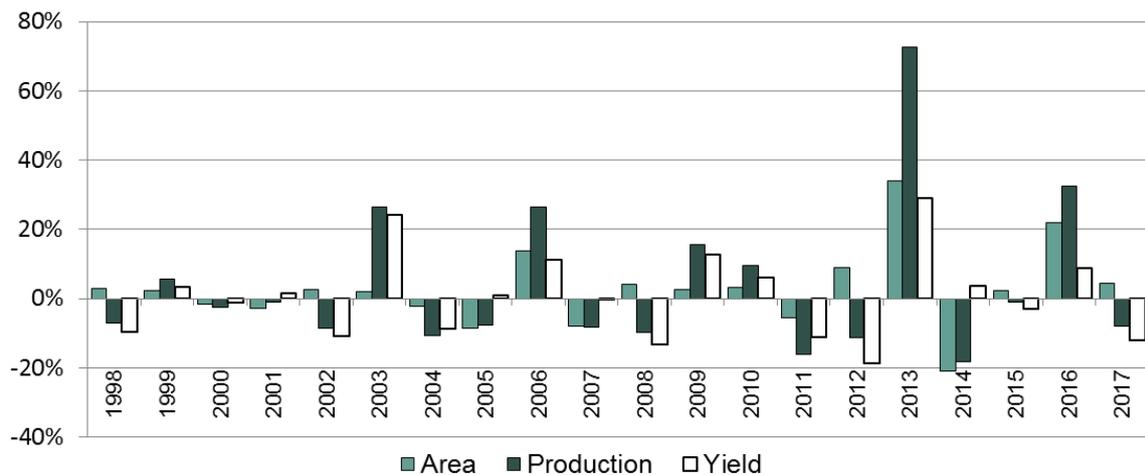


Chart 16 - Oats Year-on-Year Change: Area, Yield and Production



7. Oilseed Rape

The majority of Scottish oilseed rape is winter oilseed rape and is mainly exported for biofuels, with a very small amount processed in Scotland for edible oil.

Oilseed Rape Estimates (charts 17 and 18)

Estimated oilseed rape production in 2017 increased by 41 per cent to 144,000 tonnes, above average for the last ten years. This was due to an 11 per cent increase in area, and a 27 per cent increase in yield to 4.2 tonnes per hectare. Production in 2016 had been a record low.

Over the last 20 years, oilseed rape production has fallen. This is in due to the fall in areas grown outweighing general increases in yields achieved. Fluctuations in yield have been more marked in recent years. The average production over the last ten years is three per cent lower than the previous ten years.

Chart 17 – Oilseed Rape: Area, Yield and Production

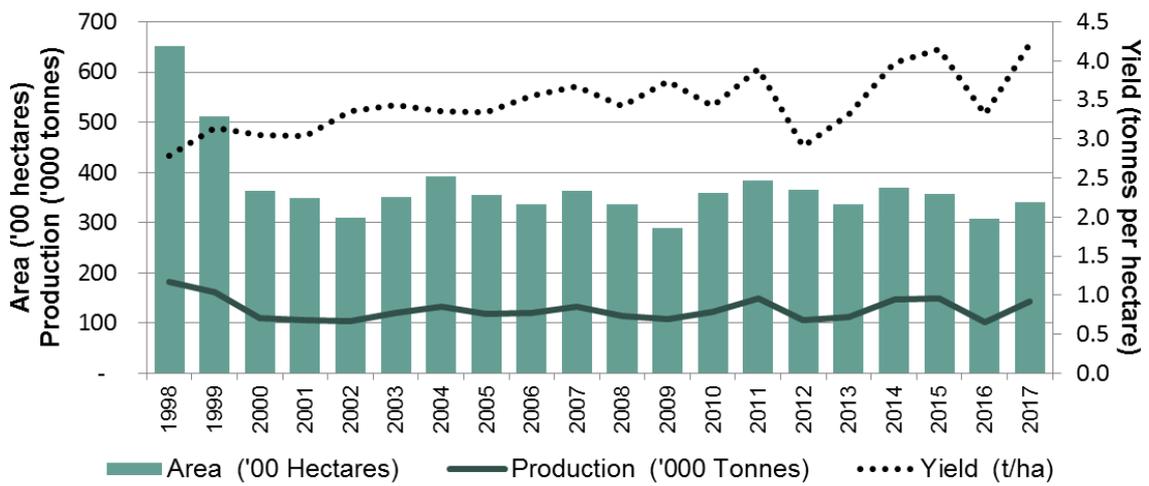
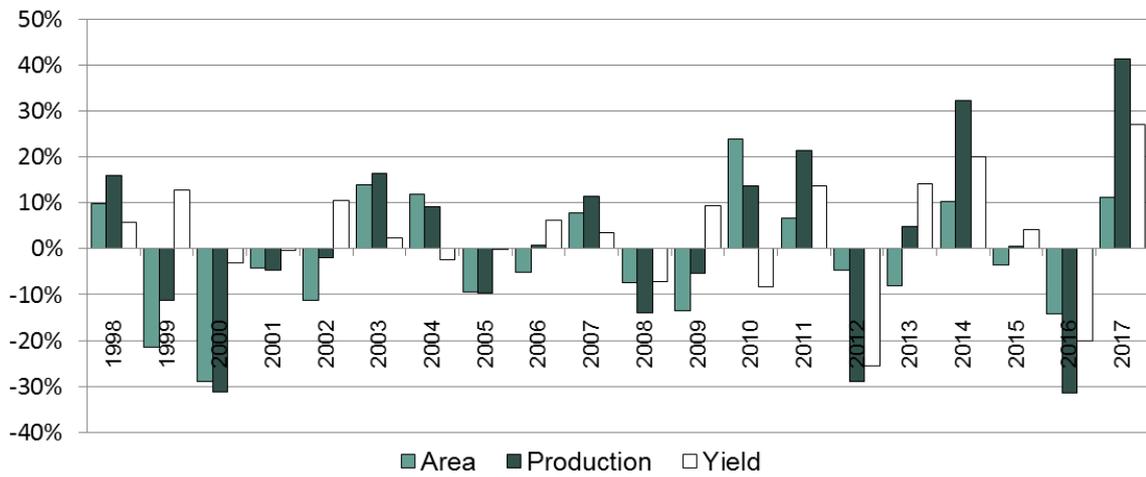


Chart 18 – Oilseed Rape Year-on-Year Change: Area, Yield and Production



8. Methodology and Quality Note

This section provides a summary of information on these statistics against five dimensions of quality, based on the European Statistical System (ESS) quality framework: Relevance; Accuracy; Timeliness and Punctuality; Accessibility and Clarity; and Comparability. 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](#)
- [National Statistician's Guidance on Quality](#)
- [Scottish Government's Corporate Policy Statement](#)
- [Scottish Government Guide to basic quality assurance](#)
- [European Statistics Code of Practice \(including quality framework\)](#)

Methodology

The 2017 final estimates of production are based mainly on final yield results from the 2017 Cereal Production Survey (CPS) and final crop areas from the 2017 June Census. The CPS is a disproportionate stratified random sample of around 669 farms in Scotland, stratified by region. The construction of the sample is based on the Neyman Allocation which apportions larger sample sizes to the strata with the most variation in yields.

In 2017, the number of holdings submitting a return for Spring Barley was 386, Winter Barley was 129, Wheat was 191, Oats was 121 and Oilseed Rape was 156. For some regions relatively few returns were received for some crops.

Totals of sample production and sample crop area for each stratum (i.e. crop and region combination) are used to derive a sample estimate of yield. These yield values are applied to national crop areas from the June Agricultural Census to provide national estimates of production. Where sample sizes for strata are insufficient to calculate production results national average yield estimates for the crop are used to calculate estimates of production.

Regional results for winter oats and spring oilseed rape were generally based on national averages.

The Cereal Production Survey is carried out by Rural and Environment Science & Analytical Services (RESAS) within the Scottish Government (SG).

The survey is carried out by mail and by telephone. Completed returns are analysed by RESAS.

The data undergo several validation processes as follows; (i) checking for any obvious errors on the paper survey forms upon receipt, (ii) cross checking against Census area data and internal validation within survey forms to ensure totals match, (iii) results are standardised to 14.5 per cent moisture content for cereals and nine per cent moisture content for oilseed rape, (iv) assessing data for any extreme yield values and removing if necessary, (v) if required, area offices are contacted to ensure that data is correct.

Data quality and assurance measures used for June Census area data are contained in [Final Results from the 2017 June Agricultural Census](#).

Provisional Estimates – published on 4th October 2017

The provisional estimates were derived from yield values of individual growers collated by several industry bodies. More information on the methodology and results of the 2017 first estimates of the cereal and oilseed rape harvest can be found in the [first estimates of the cereal and oilseed rape harvest](#) release.

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 early provisional estimates are timed to enable provision of data for an EU regulatory deadline. Specific regulations are listed on pages 3 to 5 of our [2014/16 annual statistics plan](#).

The production estimates also 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. The balance sheets are published by the Home Grown Cereals Authority (HGCA).

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

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

The number of agricultural holdings surveyed in the CPS was 669 in 2017. Usable returns were received for 457 of these; a response rate of 68 per cent. Although 457 holdings participated, many holdings grow more than one crop. The total number of returns received for all crops combined was 883, this equates to seven per cent of cereal crop numbers, and six per cent of the relevant planted areas in Scotland.

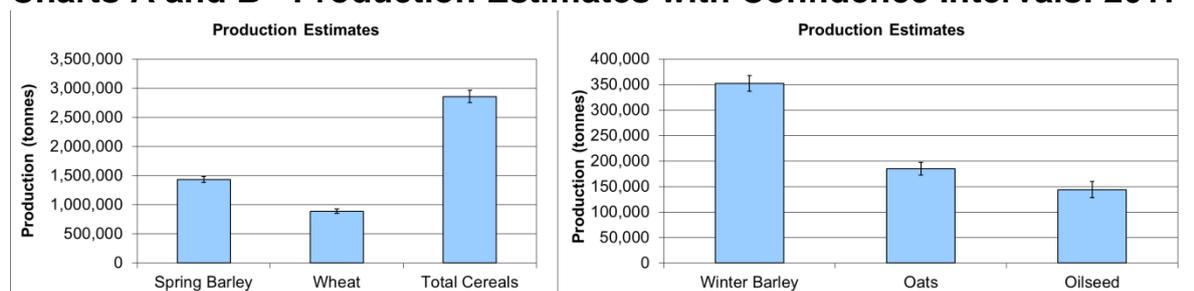
The results from the CPS have a margin of error associated with them, reflecting the error resulting from sampling. Sampling error is the difference between the estimate derived from a sample survey and the true value that would result if a census of the whole population were taken under the same conditions.

The sampling error can be estimated and used to produce confidence intervals around the survey results. These intervals tell us the range of values within which the true value lies, with a given degree of confidence. The intervals below are 95 per cent confidence intervals; this means that if the sample survey was repeated a large number of times, 95 per cent of the resulting estimates would lie within the intervals around our sample estimates. For example, there is a 95% chance that the true production value for all cereals in Scotland will lie within the range of 2.859 million tonnes $\pm 123,000$ tonnes. Charts A and B, below, show the main production estimates marked with the upper and lower bounds of the associated confidence intervals. This is shown on two charts with different scales to allow results to be viewed clearly.

Table A – 95% Confidence Intervals for 2017 CPS Estimates

Crop	Number of Holdings (June Census)	Sample Size	Sampling %	Production ('000 tonnes)	Confidence Limits ('000 tonnes)	Confidence Limits (%)
Total Cereals ¹	8,546	810	9.48	2,859	± 123	± 4.31
Spring Barley	7,158	368	5.14	1,433	± 48	± 3.34
Winter Barley	1,896	129	6.80	352	± 20	± 5.7
Wheat	2,879	191	6.63	889	± 39	± 4.42
Oats	1,821	121	6.64	185	± 16	± 8.69
Oilseed Rape	1,154	74	6.41	144	± 9	± 6.29

Charts A and B - Production Estimates with Confidence Intervals: 2017



Area data are sourced from the June Agricultural Census and are assumed to be accurate as farmers face financial penalties for supplying incorrect information.

Comparison of provisional and final results

This section compares past provisional estimates of the harvest to the final estimates of the harvest. Provisional estimates are derived from averaged yield estimates of growers, collated through the cooperation of several organisations within the agricultural sector, applied to crop area estimates from the June Agricultural Census. Final estimates are derived from average yields from the Cereal Production Survey (CPS). The purpose of this section is to quantify the size and direction of the differences between the two estimates in order to give an indication of the robustness of these provisional estimates.

The results from the CPS have a margin of error associated with them, reflecting the error resulting from sampling. Sampling error is the difference between the estimate derived from a sample survey and the true value that would result if a census of the whole population were taken under the same conditions. The intervals were calculated as 95 per cent confidence intervals, meaning that there was a 95 per cent chance that the true population value was within the resulting interval.

The 2017 initial estimate of overall production was outwith the 95 per cent confidence interval. Only winter barley and oilseed estimates were with their confidence intervals. This suggests that initial 2017 figures from the Crop Report Meeting did not provide as reasonable an estimate as normal of Scottish cereal production. See section 2 for an explanation of why this may have occurred.

It can be seen from Chart 3 (earlier in the publication) that in the last ten years the provisional estimate of the total cereal harvest has generally been within five per cent of the final estimate. In 2017 the difference between total cereal estimates from the two sources was seven per cent. In most years, the largest differences between provisional and final production estimates are for oats (due to the smaller number of producers), with the largest difference being 17 per cent in 2012. This year the largest difference was again oats, with a 15 per cent difference.

Timeliness and Punctuality

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

To provide reliable estimates of the year-on-year changes in production, the CPS is carried out at the same time each year. The reference date for the CPS, the date at which respondents are asked for production information, is the 31st October each year. However, respondents are asked to make estimates for any crop still to be harvested. Typically, at the end of October the vast majority of the Scottish cereal and oilseed rape harvest is complete, allowing for reliable estimates to be made.

The release of results is completed within six weeks of this date, to allow sufficient time for data collection, processing, quality assurance and compilation, preparation and dissemination of final results.

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

The results of the 2017 CPS were released on the scheduled date of 13th December 2017.

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)

www.gov.scot/agricstats

All data tables are made available in excel format to allow users to carry out further analysis. 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 other UK Agriculture Statistics outputs are available at

www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics

Comparability

The degree to which data can be compared over time and domain.

Results for England, Wales and Northern Ireland are compiled on a comparable basis with Scottish estimates.

The EC regularly produces estimates of cereal and oilseed production both EU-27 countries and individual countries. Further information on EC cereal statistics is available at the [Eurostat website](#).

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.

Respondent Burden (the estimated overall cost to respondents)

The estimated respondent burden is calculated as the total number of survey responses (A), multiplied by the median time taken to respond to the survey (B), multiplied by the median average hourly wage of typical respondents (C).

(A x B x C)

(A) The 2017 Cereal Production Survey (CPS) surveyed 457 holdings.

The time taken to respond to the survey varies with each respondent. Scottish Government (SG) Rural Payments and Inspections Directorate (RPID) staff conducting the 2014 survey were asked to provide estimates of the average time taken to administer the telephone survey. The median time to respond in hours was calculated from these responses.

(B) The median time taken to respond to the survey is 0.083 hours.

Respondents to the CPS are usually farm owners themselves or farm managers. Both are usually full-time workers.

(C) The estimated median hourly pay rate for full-time employees in Scotland in 2017 was £9.50 (source: Scottish Agriculture Hours and Earnings Survey)

The respondent burden for CPS data collection in 2017 was

$457 \times 0.083 \times £9.50 = £360$

Related publications

[First estimates of the Cereal and Oilseed Rape Harvest](#)

[Economic Report on Scottish Agriculture](#) (ERSA) contains Cereal usage figures derived from the CPS survey. These were last published in June 2016, with spreadsheet tables published in June 2017.

[Agriculture statistics publications](#) contains all published results from Scottish Government agricultural surveys.

9. Reference Tables

Table 1: Cereal Area, Yield and Production 2016 and 2017

	2016			2017			% change 2016/2017		
	Area (000 ha)	Yield (t/ha)	Prod. (000 t)	Area (000 ha)	Yield (t/ha)	Prod. (000 t)	Area	Yield	Prod.
Wheat	110	8.4	926	109	8.1	889	-0.1%	-3.9%	-4.0%
Winter Barley	48	6.8	329	48	7.4	352	-1.1%	8.3%	7.1%
Spring Barley	239	5.4	1,296	244	5.9	1,433	2.1%	8.3%	10.5%
Total Barley	287	5.7	1,625	291	6.1	1,785	1.5%	8.2%	9.8%
Oats	31	6.4	201	33	5.7	185	4.5%	-12.0%	-8.0%
Total Cereals¹	428	6.4	2,752	433	6.6	2,859	1.2%	2.6%	3.9%
Oilseed Rape	31	3.3	102	34	4.2	144	11.2%	27.1%	41.4%

(1) Includes Triticale in 2016

Table 2: Cereal Area, Yield and Production 1998 to 2017

Year	Total cereals ⁽¹⁾			Spring barley			Winter barley			Wheat			Oats		
	Area (Hectare)	Yield (t/ha)	Production (Tonnes)	Area (Hectare)	Yield (t/ha)	Production (Tonnes)	Area (Hectare)	Yield (t/ha)	Production (Tonnes)	Area (Hectare)	Yield (t/ha)	Production (Tonnes)	Area (Hectare)	Yield (t/ha)	Production (Tonnes)
1998	468,154	5.46	2,556,349	255,822	4.54	1,160,886	77,705	5.89	457,320	111,172	7.37	819,316	21,784	5.16	112,470
1999	447,236	5.88	2,629,266	280,546	5.20	1,459,163	58,442	6.56	383,414	84,476	7.80	659,177	22,278	5.34	118,971
2000	448,720	6.34	2,846,939	254,718	5.15	1,311,105	61,678	7.38	455,349	108,853	8.79	956,432	21,927	5.28	115,874
2001	438,623	6.06	2,656,550	280,786	5.59	1,570,617	55,319	6.24	345,045	79,680	7.74	616,970	21,333	5.37	114,630
2002	445,512	5.70	2,540,349	263,914	4.85	1,279,984	61,234	6.70	410,268	97,192	7.60	738,662	21,907	4.79	104,897
2003	431,720	6.63	2,870,410	264,920	6.05	1,603,596	55,649	7.11	395,428	87,498	8.36	731,351	22,340	5.95	132,822
2004	438,039	6.61	2,904,878	257,462	5.72	1,473,709	56,348	7.40	416,719	101,126	8.78	888,156	21,831	5.44	118,688
2005	411,329	6.65	2,742,230	243,298	5.74	1,396,231	51,341	7.58	388,938	95,595	8.81	841,744	19,955	5.49	109,505
2006	398,050	6.87	2,744,088	220,639	5.95	1,313,527	53,762	7.76	417,444	99,681	8.70	867,053	22,682	6.10	138,391
2007	403,493	6.67	2,699,921	226,019	5.80	1,312,003	52,625	7.63	401,377	102,744	8.30	852,603	20,868	6.08	126,887
2008	456,547	6.65	3,043,330	262,322	5.72	1,500,118	57,612	7.55	435,085	113,797	8.68	987,256	21,720	5.27	114,515
2009	447,554	6.44	2,887,132	287,011	5.81	1,668,240	45,149	6.97	314,527	92,482	8.30	767,651	22,299	5.95	132,570
2010	425,496	6.71	2,857,814	242,364	5.82	1,410,270	48,010	7.20	345,615	111,436	8.55	953,239	23,000	6.31	145,117
2011	446,181	6.60	2,948,871	262,948	5.83	1,532,979	45,477	7.34	333,623	115,412	8.29	956,985	21,715	5.61	121,826
2012	456,902	5.48	2,507,016	289,222	5.00	1,446,950	42,816	6.46	276,511	100,637	6.69	673,288	23,672	4.57	108,249
2013	458,219	6.19	2,836,836	296,444	5.78	1,713,548	42,694	6.57	280,511	86,840	7.52	652,933	31,728	5.89	187,021
2014	462,123	6.97	3,221,284	274,377	6.07	1,664,905	52,507	7.82	410,765	109,023	9.07	989,347	25,050	6.10	152,924
2015	443,564	6.99	3,100,624	255,878	5.94	1,520,756	51,808	7.84	406,169	109,562	9.30	1,019,182	25,615	5.92	151,569
2016	428,348	6.43	2,752,412	238,899	5.43	1,296,481	48,031	6.84	328,766	109,594	8.45	925,992	31,210	6.44	200,936
2017	433,460	6.60	2,859,045	243,838	5.88	1,432,815	47,509	7.41	352,108	109,489	8.12	889,308	32,625	5.66	184,813

(1) Includes Triticale except for 2017

Lowest value in series

Highest value in series

Table 3: Oilseed rape Area, Yield and Production 1998 to 2017

	Area (Hectare)	Yield (t/ha)	Production (Tonnes)
1998	65,117	2.8	181,587
1999	51,173	3.1	161,070
2000	36,406	3.0	110,993
2001	34,850	3.0	105,893
2002	30,901	3.4	103,823
2003	35,163	3.4	120,847
2004	39,316	3.4	131,906
2005	35,591	3.3	119,117
2006	33,743	3.6	120,030
2007	36,334	3.7	133,657
2008	33,623	3.4	114,902
2009	29,043	3.7	108,605
2010	36,002	3.4	123,334
2011	38,388	3.9	149,627
2012	36,611	2.9	106,420
2013	33,653	3.3	111,652
2014	37,073	4.0	147,570
2015	35,797	4.1	148,491
2016	30,731	3.3	101,862
2017	34,187	4.2	144,038

Lowest value in series

Highest value in series

Table 4: Regional Production Estimates by Crop 2008 to 2017

Crop	Region	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Change since 2016	Change since 2016 (%)
		Total Cereals	North East	941,831	932,639	874,701	957,593	839,960	948,585	1,060,532	950,180	835,527	900,457
	North West	237,657	218,342	212,988	227,186	192,847	210,234	215,332	203,092	196,239	201,904	5,665	2.9
	South East	1,591,155	1,464,531	1,475,422	1,518,020	1,209,637	1,414,053	1,667,435	1,709,136	1,500,630	1,564,287	63,657	4.2
	South West	272,688	271,620	294,702	246,073	264,572	263,963	277,985	238,216	220,016	192,398	-27,619	-12.6
	All	3,043,330	2,887,132	2,857,814	2,948,871	2,507,016	2,836,836	3,221,284	3,100,624	2,752,412	2,859,045	106,633	3.9
Spring Barley	North East	588,277	629,606	551,615	644,595	584,727	691,714	709,866	622,998	542,973	602,077	59,104	10.9
	North West	172,649	167,527	153,393	169,638	149,283	157,325	159,443	150,010	138,020	153,172	15,152	11.0
	South East	585,758	690,933	533,713	576,634	529,601	689,542	642,499	625,805	504,709	575,426	70,717	14.0
	South West	153,434	180,174	171,549	142,112	183,338	174,968	153,096	121,944	110,779	102,140	-8,640	-7.8
	All	1,500,118	1,668,240	1,410,270	1,532,979	1,446,950	1,713,548	1,664,905	1,520,756	1,296,481	1,432,815	136,334	10.5
Winter Barley	North East	182,472	136,192	152,141	133,527	119,635	127,372	174,251	159,008	127,635	133,528	5,893	4.6
	North West	12,063	8,654	7,832	8,556	7,024	9,012	12,115	10,971	8,639	7,426	-1,213	-14.0
	South East	198,485	143,623	151,035	160,807	133,745	123,321	192,206	197,115	156,192	177,924	21,732	13.9
	South West	42,065	26,057	34,607	30,733	16,107	20,806	32,192	39,074	36,301	33,230	-3,070	-8.5
	All	435,085	314,527	345,615	333,623	276,511	280,511	410,765	406,169	328,766	352,108	23,342	7.1
Total Barley	North East	770,749	765,798	703,756	778,122	704,363	819,086	884,118	782,006	670,608	735,606	64,998	9.7
	North West	184,712	176,181	161,225	178,194	156,307	166,337	171,558	160,981	146,659	160,598	13,939	9.5
	South East	784,243	834,556	684,748	737,441	663,346	812,863	834,706	822,920	660,901	753,350	92,449	14.0
	South West	195,499	206,231	206,156	172,845	199,445	195,773	185,289	161,018	147,080	135,370	-11,710	-8.0
	All	1,935,204	1,982,767	1,755,885	1,866,602	1,723,461	1,994,059	2,075,670	1,926,925	1,625,247	1,784,923	159,676	9.8
Wheat	North East	146,841	141,131	144,675	154,766	122,012	100,154	152,263	140,273	123,476	125,646	2,170	1.8
	North West	36,877	26,692	36,759	34,806	26,334	30,246	32,184	27,527	30,398	24,492	-5,906	-19.4
	South East	742,307	552,817	703,342	711,691	479,249	478,853	733,227	790,884	718,955	696,407	-22,548	-3.1
	South West	61,231	47,012	68,463	55,722	45,693	43,680	71,673	60,498	53,163	42,764	-10,399	-19.6
	All	987,256	767,651	953,239	956,985	673,288	652,933	989,347	1,019,182	925,992	889,308	-36,683	-4.0
Spring Oats	North East	19,780	21,328	23,147	21,653	11,547	28,029	21,536	24,817	38,206	35,510	-2,697	-7.1
	North West	13,277	13,344	13,257	13,250	9,320	13,051	10,442	13,330	18,121	15,943	-2,178	-12.0
	South East	30,797	45,837	44,185	27,932	39,392	88,581	47,416	49,541	65,770	56,378	-9,392	-14.3
	South West	10,187	15,227	13,999	11,923	16,352	20,940	15,641	11,658	15,403	12,407	-2,996	-19.4
	All	74,041	95,735	94,588	74,759	76,611	150,601	95,034	99,346	137,501	120,238	-17,263	-12.6
Winter Oats	North East	3,422	2,184	2,342	2,241	1,525	1,126	2,565	3,000	3,218	3,696	478	14.9
	North West	2,669	1,241	1,655	916	872	582	1,126	1,229	1,011	872	-140	-13.8
	South East	30,359	31,228	41,893	39,765	27,036	32,563	50,332	44,514	54,836	58,151	3,316	6.0
	South West	4,023	2,183	4,639	4,144	2,205	2,150	3,867	3,480	4,370	1,856	-2,514	-57.5
	All	40,474	36,835	50,529	47,067	31,638	36,420	57,890	52,223	63,435	64,575	1,140	1.8
Total Oats	North East	23,202	23,512	25,489	23,894	13,072	29,154	24,100	27,817	41,424	39,205	-2,219	-5.4
	North West	15,946	14,584	14,912	14,167	10,192	13,632	11,567	14,559	19,132	16,814	-2,318	-12.1
	South East	61,157	77,065	86,078	67,698	66,428	121,144	97,748	94,055	120,606	114,530	-6,076	-5.0
	South West	14,210	17,409	18,638	16,067	18,557	23,090	19,508	15,138	19,773	14,264	-5,510	-27.9
	All	114,515	132,570	145,117	121,826	108,249	187,021	152,924	151,569	200,936	184,813	-16,123	-8.0
Spring Oilseed Rape	North East	1,642	448	1,222	561	256	443	131	358	346	62	-284	-82.1
	North West	119	343	416	275	34	373	56	173	125	38	-87	-69.6
	South East	1,579	2,941	2,441	1,694	839	3,320	906	1,022	717	309	-407	-56.9
	South West	183	262	363	351	293	350	226	110	35	75	40	113.5
	All	3,523	3,994	4,441	2,881	1,421	4,487	1,319	1,664	1,223	485	-738	-60.4
Winter Oilseed Rape	North East	37,627	47,613	41,395	49,345	40,443	44,819	46,904	43,382	27,030	51,605	24,576	90.9
	North West	4,082	5,866	6,192	7,483	5,000	6,272	7,867	7,540	6,583	8,237	1,653	25.1
	South East	67,763	49,371	70,001	86,982	58,157	55,319	89,375	93,809	64,927	81,321	16,395	25.3
	South West	1,907	1,761	1,304	2,937	1,398	755	2,106	2,096	2,099	2,390	291	13.9
	All	111,380	104,611	118,893	146,746	104,998	107,166	146,251	146,827	100,639	143,553	42,915	42.6
Total Oilseed Rape	North East	39,268	48,061	42,617	49,906	40,698	45,263	47,035	43,740	27,376	51,667	24,292	88.7
	North West	4,202	6,210	6,608	7,758	5,034	6,645	7,923	7,714	6,709	8,275	1,566	23.3
	South East	69,342	52,312	72,442	88,676	58,996	58,639	90,281	94,831	65,643	81,631	15,987	24.4
	South West	2,090	2,023	1,667	3,288	1,691	1,105	2,332	2,206	2,134	2,465	331	15.5
	All	114,902	108,605	123,334	149,627	106,420	111,652	147,570	148,491	101,862	144,038	42,176	41.4

Regional estimates for some of the smaller crops are subject to very wide uncertainty

Table 5: Cereals - Comparison of Provisional and Final Estimates 2008 to 2017

(Percentage differences are of Final minus Provisional)

Area															
	Total cereals			Spring barley			Winter barley			Wheat			Oats		
Year	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference
2008	455,830	456,547	0.2%	261,890	262,322	0.2%	57,520	57,612	0.2%	113,649	113,797	0.1%	21,670	21,720	0.2%
2009	447,554	447,554	0.0%	287,011	287,011	0.0%	45,149	45,149	0.0%	92,482	92,482	0.0%	22,299	22,299	0.0%
2010	424,492	425,496	0.2%	241,758	242,364	0.3%	47,939	48,010	0.1%	111,269	111,436	0.1%	22,299	23,000	3.1%
2011	446,181	446,181	0.0%	262,948	262,948	0.0%	45,477	45,477	0.0%	115,412	115,412	0.0%	21,715	21,715	0.0%
2012	456,901	456,902	0.0%	289,222	289,222	0.0%	42,816	42,816	0.0%	100,637	100,637	0.0%	23,672	23,672	0.0%
2013	458,219	458,219	0.0%	296,444	296,444	0.0%	42,694	42,694	0.0%	86,840	86,840	0.0%	31,728	31,728	0.0%
2014	461,477	462,123	0.1%	274,377	274,377	0.0%	52,507	52,507	0.0%	109,023	109,023	0.0%	25,050	25,050	0.0%
2015	443,127	443,564	0.1%	255,642	255,878	0.1%	51,770	51,808	0.1%	109,476	109,562	0.1%	25,613	25,615	0.0%
2016	428,348	428,348	0.0%	238,899	238,899	0.0%	48,031	48,031	0.0%	109,594	109,594	0.0%	31,210	31,210	0.0%
2017	433,455	433,460	0.0%	243,838	243,838	0.0%	47,502	47,509	0.0%	109,492	109,489	0.0%	32,624	32,625	0.0%

Yield															
	Total cereals			Spring barley			Winter barley			Wheat			Oats		
Year	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference
2008	6.67	6.65	-0.3%	5.63	5.72	1.6%	7.79	7.55	-3.1%	8.61	8.68	0.8%	5.95	5.27	-11.4%
2009	6.40	6.44	0.7%	5.73	5.81	1.4%	7.41	6.97	-6.0%	8.07	8.30	2.9%	6.10	5.95	-2.5%
2010	6.51	6.71	3.0%	5.34	5.82	9.0%	7.05	7.20	2.1%	8.94	8.55	-4.3%	6.02	6.31	4.8%
2011	6.88	6.60	-4.0%	6.16	5.83	-5.4%	7.23	7.34	1.5%	8.53	8.29	-2.8%	6.06	5.61	-7.5%
2012	5.48	5.48	0.1%	4.87	5.00	2.8%	6.51	6.46	-0.8%	6.79	6.69	-1.5%	5.53	4.57	-17.4%
2013	6.07	6.19	2.0%	5.60	5.78	3.3%	6.88	6.57	-4.6%	7.25	7.52	3.6%	6.15	5.89	-4.1%
2014	7.11	6.97	-2.0%	6.36	6.07	-4.6%	7.74	7.82	1.1%	8.75	9.07	3.7%	6.91	6.10	-11.6%
2015	7.32	6.99	-4.6%	6.16	5.94	-3.8%	8.30	7.84	-5.6%	9.67	9.30	-3.8%	6.97	5.92	-15.1%
2016	6.47	6.43	-0.8%	5.31	5.43	2.3%	7.19	6.84	-4.7%	8.72	8.45	-3.1%	6.58	6.44	-2.2%
2017	7.12	6.60	-7.3%	6.19	5.88	-5.0%	7.81	7.41	-5.2%	9.02	8.12	-10.0%	6.65	5.66	-14.8%

Production															
	Total cereals			Spring barley			Winter barley			Wheat			Oats		
Year	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference	Provisional	Final	Percentage Difference
2008	3,042,256	3,043,330	0.0%	1,474,441	1,500,118	1.7%	448,081	435,085	-2.9%	978,518	987,256	0.9%	128,937	114,515	-11.2%
2009	2,872,228	2,887,132	0.5%	1,645,541	1,668,240	1.4%	334,338	314,527	-5.9%	745,969	767,651	2.9%	135,970	132,570	-2.5%
2010	2,872,228	2,857,814	-0.5%	1,289,851	1,410,270	9.3%	337,987	345,615	2.3%	994,322	953,239	-4.1%	137,657	145,117	5.4%
2011	3,067,714	2,948,871	-3.9%	1,619,867	1,532,979	-5.4%	328,803	333,623	1.5%	984,421	956,985	-2.8%	131,668	121,826	-7.5%
2012	2,502,839	2,507,016	0.2%	1,407,715	1,446,950	2.8%	278,613	276,511	-0.8%	683,445	673,288	-1.5%	131,009	108,249	-17.4%
2013	2,781,049	2,836,836	2.0%	1,659,309	1,713,548	3.3%	293,944	280,511	-4.6%	629,963	652,933	3.6%	195,010	187,021	-4.1%
2014	3,282,301	3,221,284	-1.9%	1,745,867	1,664,905	-4.6%	406,166	410,765	1.1%	953,905	989,347	3.7%	173,022	152,924	-11.6%
2015	3,245,525	3,100,624	-4.5%	1,574,132	1,520,756	-3.4%	429,837	406,169	-5.5%	1,059,096	1,019,182	-3.8%	178,430	151,569	-15.1%
2016	2,773,547	2,752,412	-0.8%	1,265,692	1,296,481	2.4%	344,822	328,766	-4.7%	953,196	925,992	-2.9%	205,514	200,936	-2.2%
2017	3,084,971	2,859,045	-7.3%	1,508,821	1,432,815	-5.0%	371,173	352,108	-5.1%	988,000	889,308	-10.0%	216,978	184,813	-14.8%

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The data collected for this statistical bulletin:

- are available in more detail through Scottish Neighbourhood Statistics
- are available via an alternative route
- may be made available on request, subject to consideration of legal and ethical factors. Please contact agric.stats@gov.scot for further information.
- cannot be made available by Scottish Government for further analysis as Scottish Government is not the data controller.

Complaints and suggestions

If you are not satisfied with our service or have any comments or suggestions, please write to the Chief Statistician, 3WR, St Andrew's House, Edinburgh, EH1 3DG, Telephone: (0131) 244 0302, email statistics.enquiries@gov.scot

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