



Published 16 August 2018

Farming Statistics – provisional arable crop areas at 1 June 2018 England

This release contains the first results from the 2018 June Survey of Agriculture and Horticulture. Provisional estimates are included for the main cereal and oilseed areas on commercial holdings on 1 June 2018 broken down by English region.

Whilst the figures give a good indication of trends, they may be subject to amendment as further survey responses come in and more data are validated. The estimate of the uncropped arable land area is not included in the provisional release this year as validation checks are still being carried out on the data. This will be included with the final results, which will be published on 13 September 2018. Results in this publication relate to commercial holdings in England. Commercial holdings are those farms with a significant level of farming activity. A full definition can be found in the methodology section on page 8. The key results are given below.

Cereals ([pages 3 - 4](#))

- The area of wheat in England in 2018 is 1.64 million hectares. This is a 0.6% decrease compared with 2017.
- The total area of barley decreased by 3.1% between 2017 and 2018. Winter barley fell by 6.2% to 338 thousand hectares and spring barley also decreased by 0.8% to 478 thousand hectares.
- The area of oats in England increased by 13% to 137 thousand hectares in 2018.

Oilseed rape ([page 5](#))

- Oilseed rape increased by 7.9% in 2018 to 564 thousand hectares. This was due to an 8.1% increase in the winter sown area to 556 thousand hectares, which accounts for 99% of the total oilseed rape area.
- Spring oilseed rape decreased in 2018 and now stands at just under 8 thousand hectares.

Regional areas ([page 7](#))

- All of the crop areas published in this release are also broken down by English region in table 3.

Enquiries on this publication to: Sarah Thompson, Farming Statistics, Department for Environment, Food and Rural Affairs, Room 202, Zone 1, Foss House, Kings Pool, 1-2 Peasholme Green, York YO1 7PX
Tel: 03000 600170. Email: farming-statistics@defra.gsi.gov.uk.

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Survey methodology ([pages 8 - 9](#))

For information on how the survey is run and details of data analysis and accuracy of results please see the methodology section on pages 8 and 9 towards the end of this release.

Other survey results and publications ([page 10](#))

This release contains first estimates from the Survey of Agriculture and Horticulture carried out in June 2018. These provisional estimates are published early in response to users' needs for improved information on key crop areas. Full results for England and the UK will be published in the coming months and more details relating to publication dates and contents can be found on page 10.

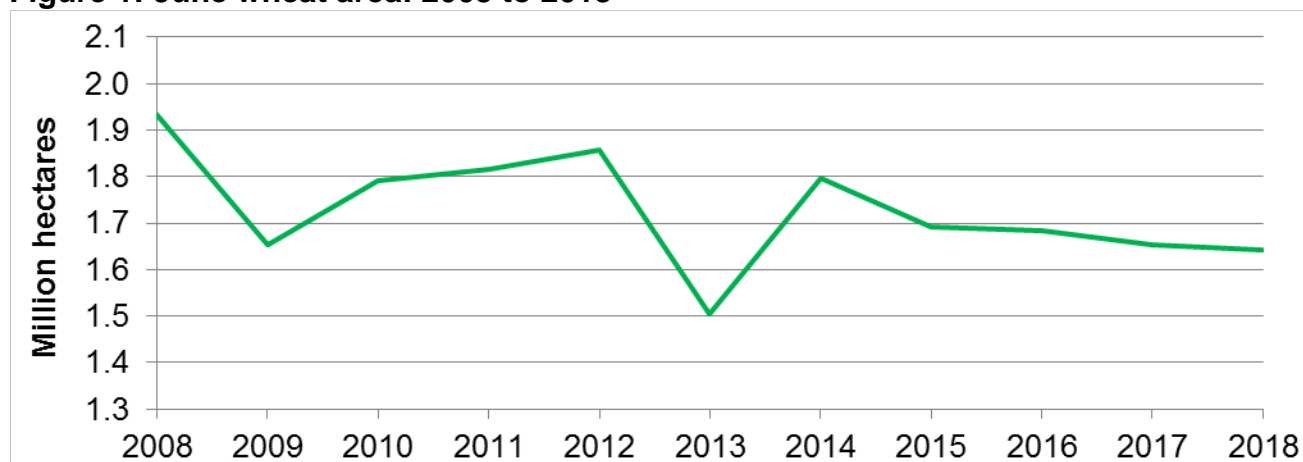
Defra is extremely grateful to the many farmers who complete the June Survey questionnaire each year. The support of farmers enables the Department to produce timely figures on the latest trends which are important for the Department's business and the industry's market operations.

Detailed results

Cereals – *Wheat*

The 2018 provisional wheat area estimate for England is 1.64 million hectares, a decrease of 0.6% compared to 2017 (Figure 1).

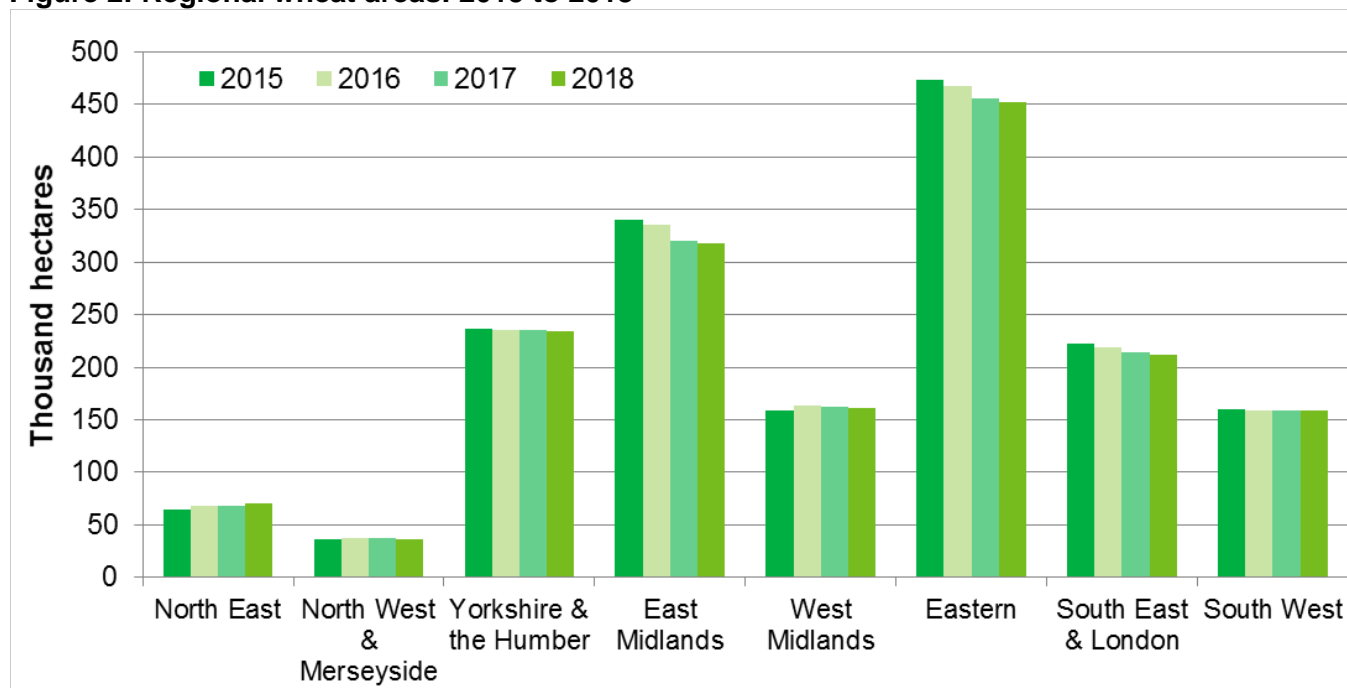
Figure 1: June wheat area: 2008 to 2018 (a)



(a) Figures for 2008 are for all holdings. Figures from 2009 onwards relate to commercial holdings only. For further information please see the methodology section on page 8.

All of the English regions saw a decrease in wheat area with the exception of the North East where the wheat area increased by 3.7% (Figure 2). The Eastern region and the East Midlands together grow almost half of the wheat in the country, accounting for 28% and 19% of the total area respectively.

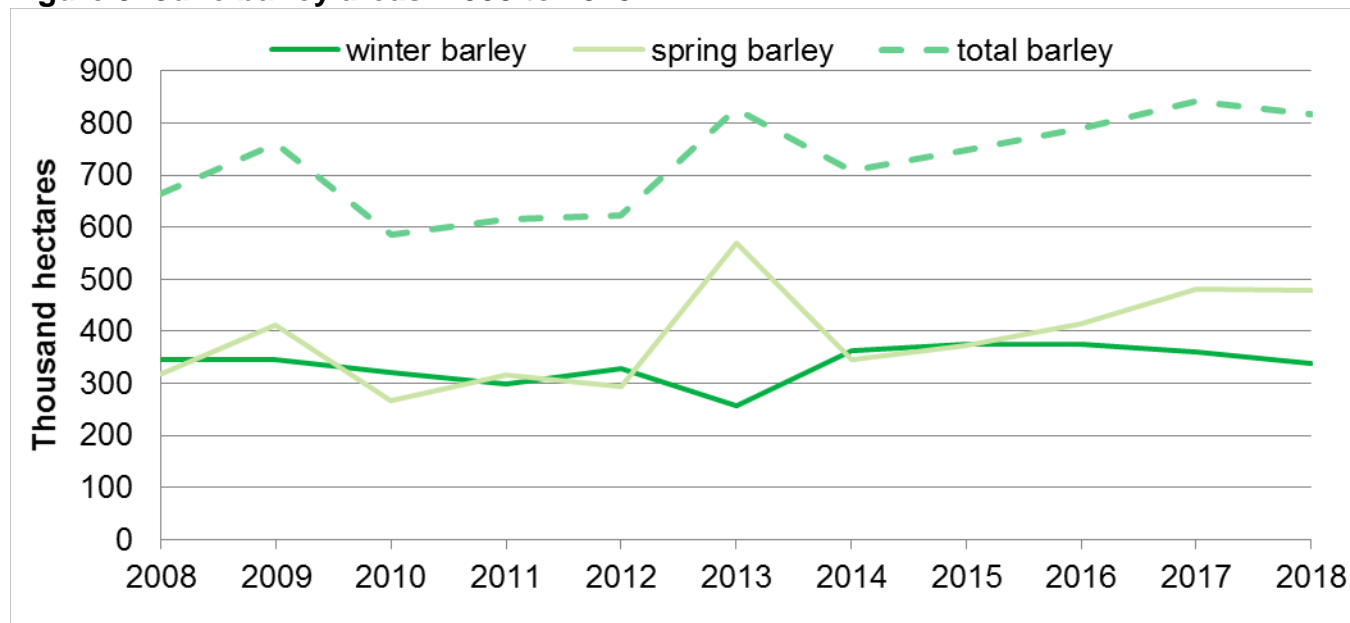
Figure 2: Regional wheat areas: 2015 to 2018



Barley

The total area of barley decreased by 3.1%, from 842 thousand hectares in 2017 to 816 thousand hectares in 2018. Winter barley fell by 6.2% to 338 thousand hectares, whilst spring barley saw a smaller decrease of only 0.8% to 478 thousand hectares. This resulted in spring sown barley now accounting for 59% of the total barley area (Figure 3).

Figure 3: June barley areas: 2008 to 2018 (a)



(a) Figures for 2008 are for all holdings. Figures from 2009 onwards relate to commercial holdings only. For further information please see the methodology section on page 8.

Oats

The area of oats in England increased from 121 thousand hectares in 2017 to 137 thousand hectares in 2018. This is an increase of 13% and the second highest area of oats planted over the past 30 years.

Cereal production

An estimated 96% of the winter barley and 80% of the winter oilseed rape crop had been harvested by 31 July 2018. Both harvests are ahead of the five year average. Yield reports for both are variable, particularly across regions, but early indications suggest winter barley yields are above the five year average. At time of publication the winter wheat harvest has not started in earnest. There is insufficient information to give an overview of wheat yields and quality at this stage.

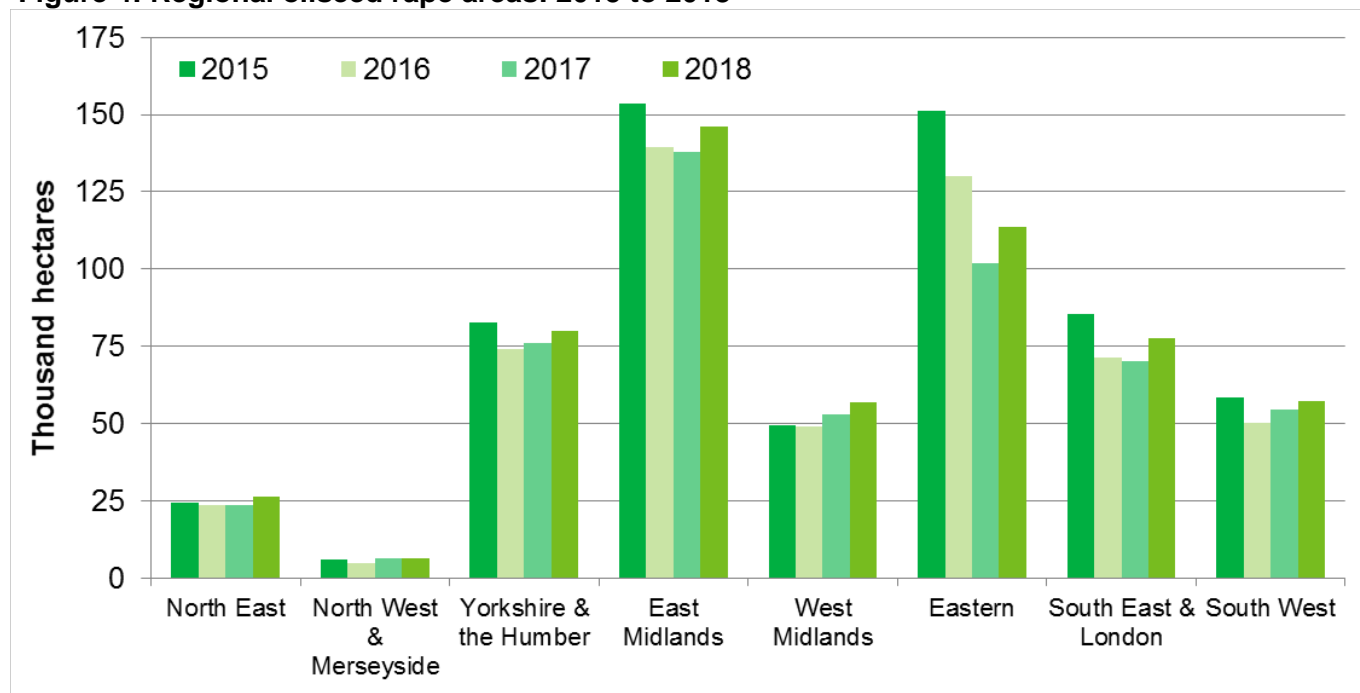
The first official Defra harvest estimates for wheat and barley will be published on 8 October 2018, with results for the remaining cereal and oilseed rape crops included in the full UK provisional results which are published on 11 October 2018. Both publications will be available at: <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

Oilseed rape

The total area of oilseed rape rose for the first time since 2012, increasing by 7.9% from 523 thousand hectares in 2017 to 564 thousand hectares in 2018. This was due to an 8.1% increase in the winter sown area which stands at 556 thousand hectares and accounts for 99% of the total oilseed area.

The spring sown area of oilseed decreased between 2017 and 2018, falling by 5.5%. However, at just under 8 thousand hectares this accounts for only 1% of the total oilseed rape area and represents the second smallest area of spring oilseed planted for the last 20 years.

Figure 4: Regional oilseed rape areas: 2015 to 2018



The changes in total oilseed area vary across regions (Figure 4). All regions saw an increase in area with the exception of the the North West & Merseyside which remained almost unchanged. The largest proportional increases were in the Eastern region (11.8%), the North East (11.5%) and the South East including London (10.7%).

The largest proportion of the oilseed rape area is grown in the East Midlands and the Eastern region. Between them, these regions account for almost half (46%) of the total oilseed area in England.

Results tables

Table 1: Area of arable crops^(a)

Item	Thousand hectares			% change 2018/2017	2018 95% confidence interval (‘000 ha)	2018 Indicator
	June 2016	June 2017	June 2018			
Wheat	1 684	1 652	1 642	-0.6	+/-29	✓✓✓
Barley	791	842	816	-3.1	+/-22	✓✓✓
Winter barley	376	361	338	-6.2	+/-11	✓✓✓
Spring barley	416	482	478	-0.8	+/-19	✓✓✓
Oats	102	121	137	13.2	+/-10	✓✓
Oilseed rape	543	523	564	7.9	+/-18	✓✓✓
Winter oilseed rape	534	515	556	8.1	+/-17	✓✓✓
Spring oilseed rape	9	8	8	-5.5	+/-3	☒

(a) Results relate to commercial holdings only. For further information please see the methodology section on page 8.

Table 2: Defra Survey estimates compared with industry estimates of arable crop areas^(a)

Item	Thousand hectares				
	AHDB December 2016 ^(b)	Defra June 2017	AHDB 2017 planting survey ^(c)	Defra June 2018	AHDB 2018 planting survey ^(d)
Wheat	1 589	1 652	1 634	1 642	1 617
Barley	-	842	844	816	836
Winter barley	369	361	370	338	340
Spring barley	-	482	474	478	496
Oats	95	121	116	137	124
Oilseed rape	538	523	520	564	573
Winter oilseed rape	-	515	-	556	-
Spring oilseed rape	-	8	-	8	-

(a) Results relate to commercial holdings only. Further details are given in the methodology section on page 8.

(b) The December figures are sourced from the AHDB planting survey. Further information can be found at:

<https://cereals.ahdb.org.uk/media/1197581/winter-planting-survey-2016-results.pdf>.

(c) These estimates are from the 2017 AHDB planting survey and can be found here:

<https://cereals.ahdb.org.uk/media/1268402/planting-variety-survey-2017-gb-final.pdf>.

(d) These estimates are from the 2018 AHDB planting survey and can be found here:

<https://cereals.ahdb.org.uk/media/1407437/ahdb-planting-and-variety-survey-results-2018-final.pdf>

Table 3: June 2018 provisional crop areas estimates by English region ^(a)

Thousand hectares

Region	Wheat			Winter barley		
	2017	2018	% change	2017	2018	% change
North East	68	71	3.7	29	27	-5.6
North West & Merseyside	37	36	-2.0	15	14	-7.1
Yorkshire & the Humber	236	234	-0.7	69	65	-5.9
East Midlands	320	318	-0.5	45	43	-4.1
West Midlands	162	161	-0.4	32	31	-4.5
Eastern	456	452	-0.9	91	84	-7.8
South East (incl. London)	214	212	-1.2	35	32	-8.0
South West	159	158	-0.7	45	43	-5.7
England	1 652	1 642	-0.6	361	338	-6.2

Region	Spring barley			Oats		
	2017	2018	% change	2017	2018	% change
North East	13	13	2.7	10	11	13.3
North West & Merseyside	24	25	5.0	5	6	16.6
Yorkshire & the Humber	56	57	0.4	9	11	13.1
East Midlands	79	79	-0.3	14	15	9.5
West Midlands	30	29	-3.7	19	22	12.7
Eastern	107	106	-1.1	19	22	16.5
South East (incl. London)	81	79	-2.6	22	25	13.3
South West	91	90	-1.2	22	25	12.0
England	482	478	-0.8	121	137	13.2

Region	Oilseed rape		
	2017	2018	% change
North East	24	26	11.5
North West & Merseyside	6	6	-0.2
Yorkshire & the Humber	76	80	5.0
East Midlands	138	146	6.1
West Midlands	53	57	7.5
Eastern	102	114	11.8
South East (incl. London)	70	78	10.7
South West	55	57	5.1
England	523	564	7.9

(a) Results relate to commercial holdings only. Further details are given in the methodology section on page 8.

Survey methodology

Full details of the survey methodology are available on the website at:
<https://www.gov.uk/structure-of-the-agricultural-industry-survey-notes-and-guidance>.

A summary is given below.

The June Survey of Agriculture and Horticulture was historically a postal survey run annually. However, from 2011 onwards the survey has been run predominantly online with an option for farmers to complete a paper form if they preferred.

Approximately 25 thousand 'commercial' holdings were asked to complete the survey in 2018. 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.

Checks were carried out to ensure the sample was representative across farm size. The size of a farm is determined by its Standard Labour Requirement (SLR). In the SLR system, each livestock type and land-use has a theoretical amount of labour required each year. This value is multiplied by the land area or livestock numbers and then summed to give the SLR for the holding. The SLR represents the typical number of full time workers required on the holding.

The small farms (those with low SLRs) were sampled at a lower rate and the sampling rate increased with farm size as in table 4 below. This method minimises the burden on farmers whilst maximising the coverage. To improve the coverage of the pig and poultry sectors, a special data collection exercise was run to collect data from a central point for some of the largest companies.

Table 4: June 2018 sample design

Stratum	Description	Sampling rate (%)	Population size
1	SLR < 0.5	10%	48 926
2	SLR >= 0.5 and < 1	15%	16 686
3	SLR >= 1 and < 2	25%	14 682
4	SLR >= 2 and < 3	37%	7 810
5	SLR >= 3 and < 5	54%	7 648
6	SLR >= 5	66%	7 900
10	SLR unknown	46%	3 501
All		23%	107 153

The results in this statistical release are based on responses from 13 thousand commercial holdings, representing a response rate of 52%.

Data analysis

The data are subject to rigorous validation checks which identify inconsistencies within the data or large year-on-year changes. Any records that have not been cleaned by the results production stage are excluded from the analysis.

Population totals are estimated for each question on the survey to account for the non-sampled and non-responding holdings. This survey uses the technique known as ratio raising, in which the trend between the sample data and base data (previous year's data) is calculated for each stratum. The calculated ratio is then applied to the previous year's population data to give England level estimates. For holdings where we do not have base data (new holdings or long-term non-responders) the sample estimates are raised according to the inverse sampling fraction.

Confidence indicators

We calculate the standard error for all our estimated figures. The standard error is a measure of the variation in the data. Typically, large estimates also have large standard errors. The standard error divided by the estimated total gives the relative standard error (RSE). This is expressed as a percentage and is easier to interpret than the standard error. Low RSEs indicate greater reliability in the figures, whereas estimates with high RSEs should be treated with caution.

Tick based confidence indicators have been shown against the June 2018 figures, ranging from 3 ticks (good) to 1 cross (poor). The ranges relate to the relative standard errors (RSE) as follows:

✓✓✓	RSE \leq 2.5%
✓✓	RSE $>$ 2.5 and \leq 5%
✓	RSE $>$ 5 and \leq 10%
☒	RSE $>$ 10 and \leq 20%
☒	RSE $>$ 20%

We have also shown confidence intervals against the figures. They are based on the standard error multiplied by 1.96 which gives a 95% confidence interval. We are 95% confident that this interval contains the true value. The standard errors only give an indication of the sampling error. They do not take into account any other sources of survey errors, such as non-response bias or administrative data errors.

Data notes

- All figures in tables 1 to 3 relate to commercial holdings only. Further details can be seen in the methodology section on page 8.
- All percentage changes are based on unrounded figures.
- Totals may not necessarily agree with the sum of their components due to rounding.

Data uses and users

Results from the June Survey of Agriculture and Horticulture have a wide range of uses and users with requests for data being made on a daily basis. A document providing information of specific uses and users can be found via the following link:

<https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june>.

Other survey results and publications

Results from all the Defra farming surveys can be viewed on the Defra website via the following link: https://www.gov.uk/government/publications?publication_filter_option=statistics. This also contains details of future publication dates.

The next Farming Statistics publications due from the June Survey of Agriculture and the Cereal and Oilseed Rape Production Survey are shown below. Please note that the publication dates are provisional and subject to change.

England Publications

- 13 September 2018: Farming Statistics final crop areas and cattle, sheep and pig populations at 1 June 2018 – England.
- 25 October 2018: Farming Statistics final land use, livestock populations and agricultural workforce at 1 June 2018 – England.

UK Publications

- 8 October 2018: Farming Statistics first estimates of 2018 wheat and barley production – United Kingdom.
- 11 October 2018: Farming Statistics provisional crop areas, yields and livestock populations at 1 June 2018 – United Kingdom.
- 20 December 2018: Farming Statistics final crop areas, yields, livestock populations and agricultural workforce at 1 June 2018 – United Kingdom.

More detailed results from the June Survey can be found at:

<https://www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june>. This includes various time series of crop areas and livestock numbers dating back as early as 1866 and detailed geographical breakdowns of the results.