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Farming Statistics – provisional arable crop areas at 1 June 2019 England

This release contains the first results from the 2019 June Survey of Agriculture and Horticulture. Provisional estimates are included for the main cereal and oilseed areas on commercial holdings on 1 June 2019 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. These area estimates will be updated in the next release due to be published on the 26 September 2019. This will include estimates of crop areas and cattle, sheep and pig populations.

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 2019 is 1.69 million hectares. This is a 4.5% increase compared with 2018.
- The total area of barley increased by 3.8% between 2018 and 2019. Winter barley rose by 16% to 390 thousand hectares whilst spring barley decreased by 5.0% to 448 thousand hectares.
- The area of oats in England increased by 8% to 143 thousand hectares in 2019.

Oilseed rape ([page 5](#))

- Oilseed rape decreased by 8.9% in 2019 to 497 thousand hectares. This was due to an 8.4% decrease in the winter sown area to 492 thousand hectares, which accounts for 99% of the total oilseed rape area.
- Spring oilseed rape decreased in 2019 and now stands at just over 4 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.

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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 2019. 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.

Feedback ([page 11](#))

We would welcome any feedback on this release. Details on how to get in touch can be found on page 11.

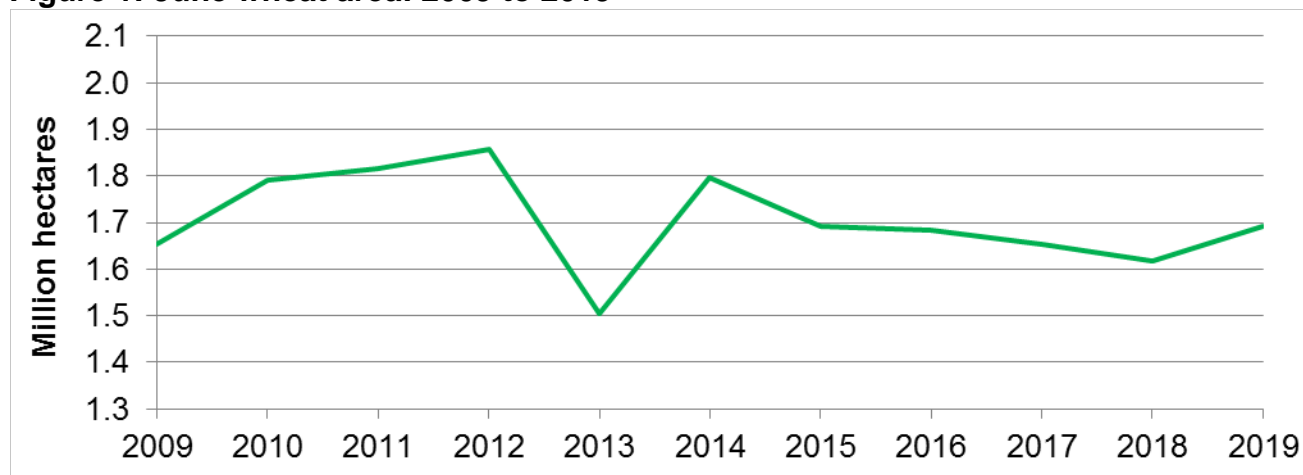
Defra is extremely grateful to the many farmers who complete the June Survey questionnaire each year. The support of farmers enables the Department to produce timely figures on the latest trends which are important for the Department's business and the industry's market operations.

Detailed results

Cereals – *Wheat*

The 2019 provisional wheat area estimate for England is 1.69 million hectares, an increase of 4.5% compared to 2018. This is the first increase seen in recent years, following a gradual reduction in area each year since 2014 (Figure 1).

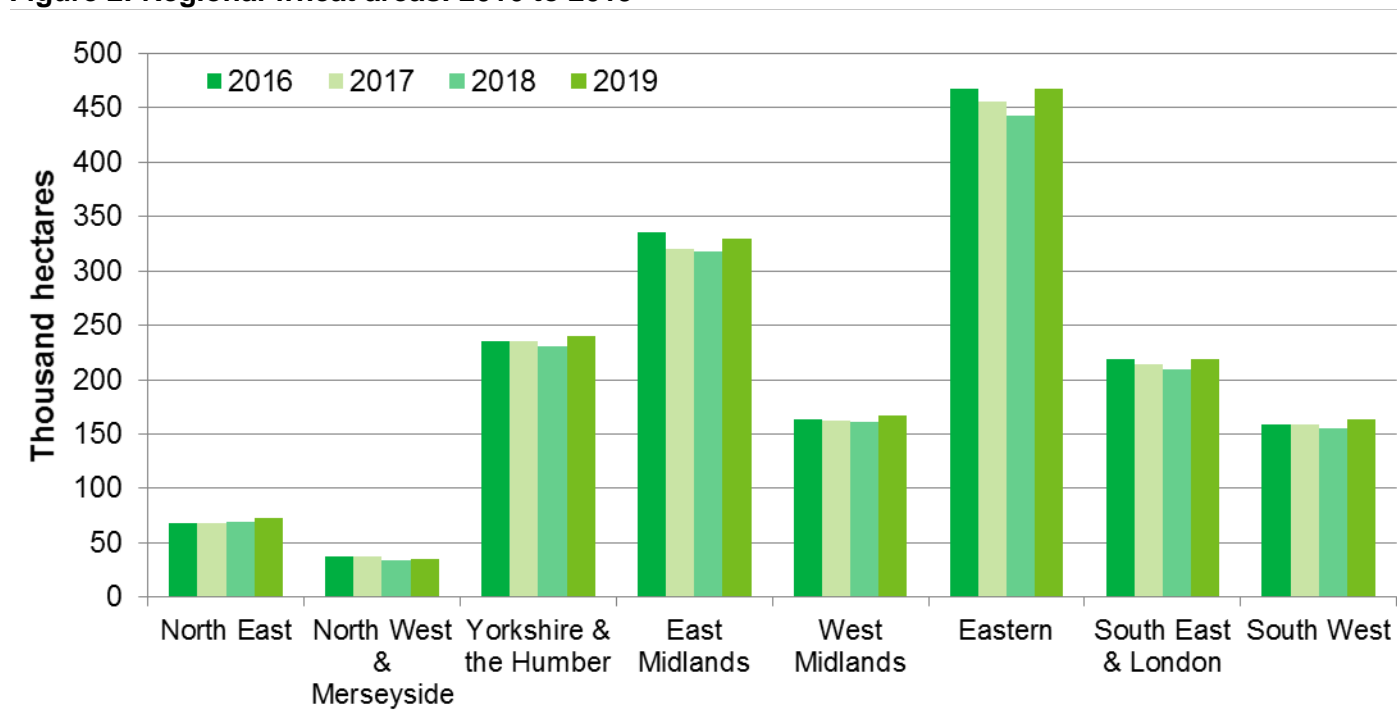
Figure 1: June wheat area: 2009 to 2019 (a)



(a) 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 an increase in wheat area, the largest increase was in the Eastern region which saw an increase of 5.4% (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.

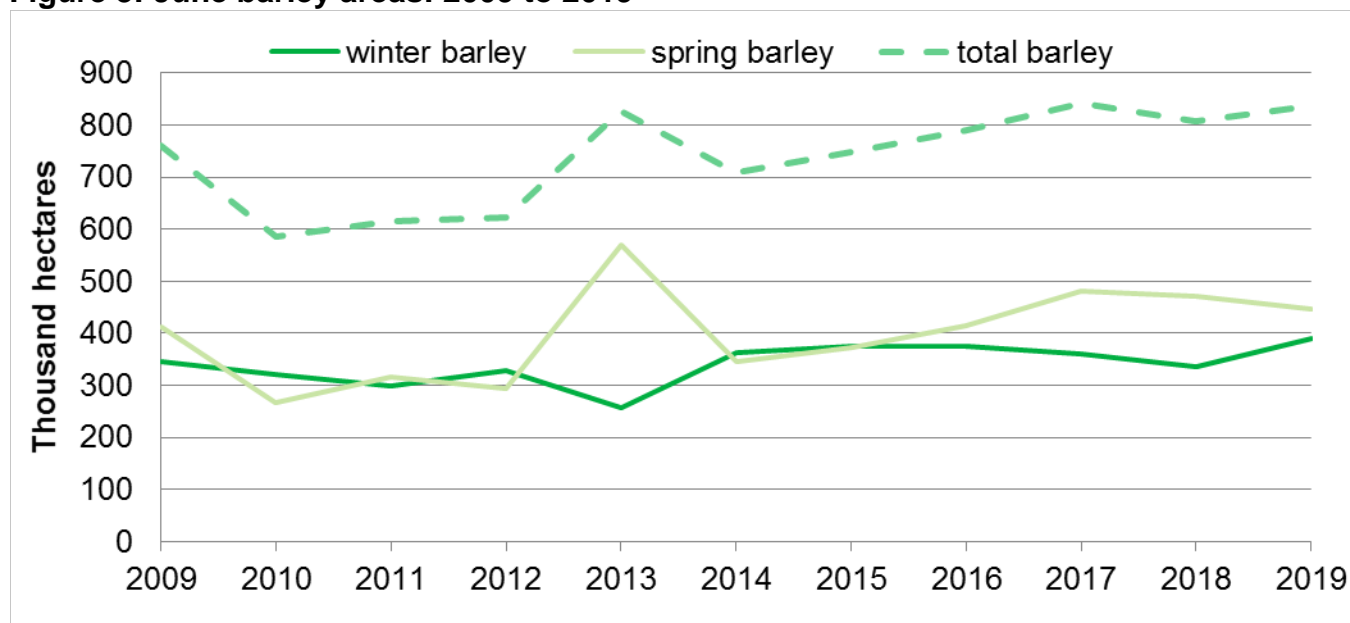
Figure 2: Regional wheat areas: 2016 to 2019



Barley

The total area of barley increased by 3.8%, from 807 thousand hectares in 2018 to 838 thousand hectares in 2019. Winter barley rose by 16% to 390 thousand hectares, whilst spring barley decreased by 5.0% to 448 thousand hectares. This resulted in spring sown barley accounting for 53% of the total barley area compared with 58% in 2018. (Figure 3).

Figure 3: June barley areas: 2009 to 2019 (a)



(a) 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 132 thousand hectares in 2018 to 143 thousand hectares in 2019. This is an increase of 8%, the fourth consecutive rise in the area of oats.

Cereal production

An estimated 49% of GB winter barley and 31% of winter oilseed rape had been harvested by the 30 July 2019. Early indications show yields of winter barley above the 5 year average, whilst Winter oilseed rape yields are currently below the 5 year average with weather fluctuations and pest damage affecting the crop.

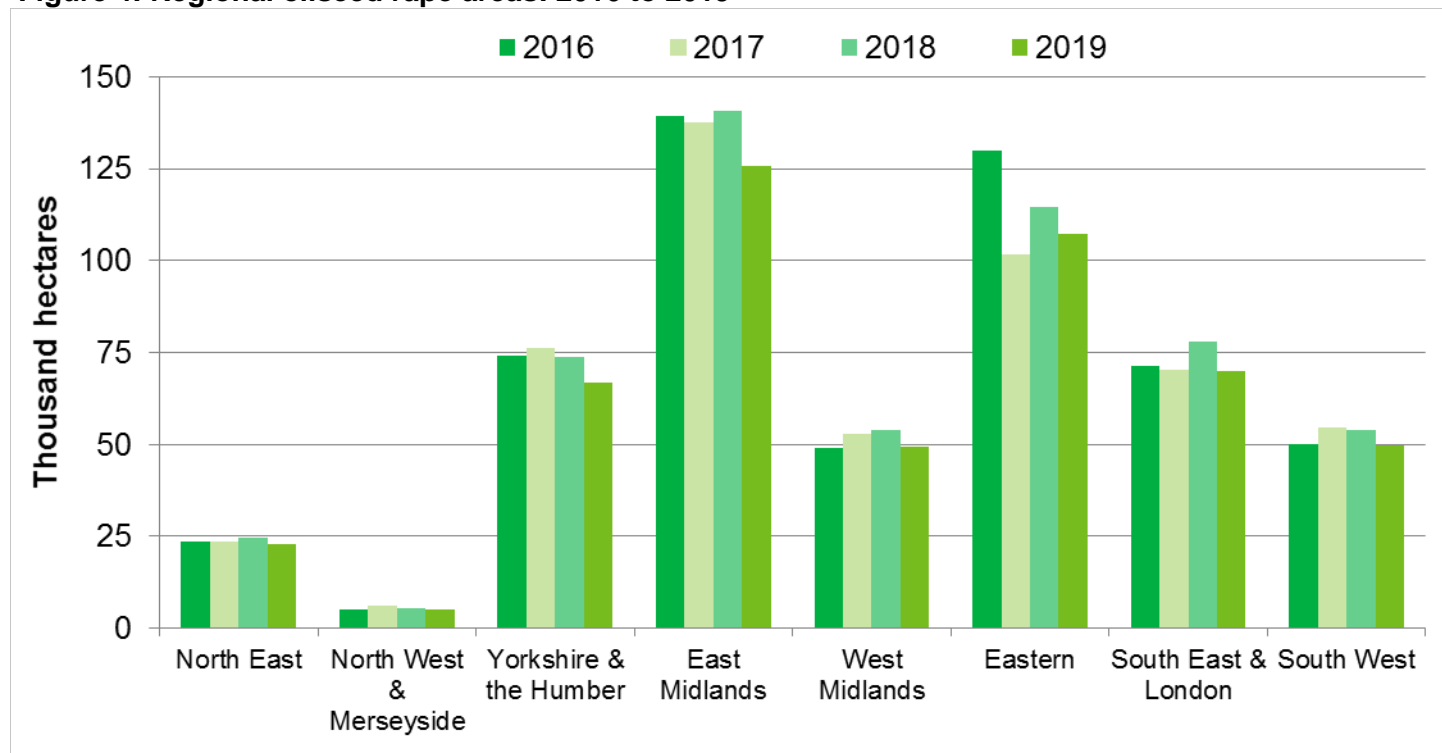
The first official Defra harvest estimates for wheat and barley will be published on 8 October 2019, with results for the remaining cereal and oilseed rape crops included in the full UK provisional results which are published on 10 October 2019. Both publications will be available at: <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

Oilseed rape

The total area of oilseed rape fell by 8.9% from 545 thousand hectares in 2018 to 497 thousand hectares in 2019. This was due to an 8.4% decrease in the winter sown area which stands at 492 thousand hectares in 2019 and accounts for 99% of the total oilseed area.

The spring sown area of oilseed decreased between 2018 and 2019, falling by 43%. However, at just over 4 thousand hectares this accounts for only 1% of the total oilseed rape area and represents the smallest area of spring oilseed planted for the last 20 years.

Figure 4: Regional oilseed rape areas: 2016 to 2019



The changes in total oilseed area vary across regions (Figure 4) with all regions seeing a decrease in area. The largest proportional decreases were in the East Midlands region (10.7%), the North West & Merseyside (10.2%) and the South East including London (10.1%).

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 (47%) of the total oilseed area in England.

Results tables

Table 1: Area of arable crops^(a)

Item	Thousand hectares			% change 2019/2018	2019 95% confidence interval (‘000 ha)	2019 Indicator
	June 2017	June 2018	June 2019			
Wheat	1 652	1 619	1 692	4.5	+/-23	✓✓✓
Barley	842	807	838	3.8	+/-16	✓✓✓
Winter barley	361	336	390	16.2	+/-11	✓✓✓
Spring barley	482	471	448	-5.0	+/-12	✓✓✓
Oats	121	132	143	8.0	+/-8	✓✓
Oilseed rape	523	545	497	-8.9	+/-15	✓✓✓
Winter oilseed rape	515	537	492	-8.4	+/-14	✓✓✓
Spring oilseed rape	8	8	4	-42.9	+/-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 2017 planting survey ^(b)	Defra June 2018	AHDB 2018 planting survey ^(c)	Defra June 2019	AHDB 2019 planting survey ^(d)
Wheat	1 634	1 619	1 617	1 692	1 678
Barley	844	807	836	838	828
Winter barley	370	336	340	390	371
Spring barley	474	471	496	448	457
Oats	116	132	124	143	142
Oilseed rape	520	545	573	497	483
Winter oilseed rape	-	537	-	492	-
Spring oilseed rape	-	8	-	4	-

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

(b) 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>.

(c) 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>

(d) These estimates are from the 2019 AHDB planting survey and can be found here:

<https://cereals.ahdb.org.uk/media/1498534/Planting-and-Variety-Survey-2019-FINAL.pdf>

Table 3: June 2019 provisional crop areas estimates by English region ^(a)

Thousand hectares

Region	Wheat			Winter barley		
	2018	2019	% change	2018	2019	% change
North East	69	72	5.1	28	32	14.9
North West & Merseyside	34	35	4.2	13	14	15.7
Yorkshire & the Humber	230	239	4.0	64	73	14.3
East Midlands	318	330	3.7	42	49	17.2
West Midlands	161	167	3.5	30	35	14.9
Eastern	443	467	5.4	84	99	17.5
South East (incl. London)	209	219	4.6	32	39	19.1
South West	155	163	5.1	43	49	15.0
England	1 619	1 692	4.5	336	390	16.2

Region	Spring barley			Oats		
	2018	2019	% change	2018	2019	% change
North East	12	11	-1.9	11	12	6.7
North West & Merseyside	28	24	-13.8	6	6	2.4
Yorkshire & the Humber	59	53	-9.5	10	12	11.7
East Midlands	76	73	-3.1	15	17	10.9
West Midlands	29	26	-10.8	21	22	5.6
Eastern	101	98	-2.8	22	23	5.5
South East (incl. London)	78	78	-0.4	23	26	11.5
South West	89	84	-5.8	24	26	7.7
England	471	448	-5.0	132	143	8.0

Region	Oilseed rape		
	2018	2019	% change
North East	25	23	-6.6
North West & Merseyside	6	5	-10.2
Yorkshire & the Humber	74	67	-9.4
East Midlands	141	126	-10.7
West Midlands	54	49	-8.7
Eastern	115	107	-6.4
South East (incl. London)	78	70	-10.1
South West	54	50	-7.9
England	545	497	-8.9

(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 35 thousand 'commercial' holdings were asked to complete the survey in 2019. 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 2019 sample design

Stratum	Description	Sampling rate (%)	Population size
1	SLR < 0.5	16%	46 771
2	SLR >= 0.5 and < 1	22%	16 161
3	SLR >= 1 and < 2	36%	13 942
4	SLR >= 2 and < 3	52%	7 541
5	SLR >= 3 and < 5	72%	7 593
6	SLR >= 5	86%	7 847
10	SLR unknown	33%	7 737
All		32%	107 592

The results in this statistical release are based on responses from 20 thousand commercial holdings, representing a response rate of 58%.

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

- 26 September 2019: Farming Statistics final crop areas and cattle, sheep and pig populations at 1 June 2019 – England.
- 24 October 2019: Farming Statistics final land use, livestock populations and agricultural workforce at 1 June 2019 – England.

UK Publications

- 8 October 2019: Farming Statistics first estimates of 2019 wheat and barley production – United Kingdom.
- 10 October 2019: Farming Statistics provisional crop areas, yields and livestock populations at 1 June 2019 – United Kingdom.
- 19 December 2019: Farming Statistics final crop areas, yields, livestock populations and agricultural workforce at 1 June 2019 – 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.

National Statistics Status

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

The continued designation of these statistics as National Statistics was confirmed in 2014 following a [full assessment](#) by the UK Statistics Authority against the [Code of Practice for Statistics](#).

Since the last review of these statistics in 2014, we have continued to comply with the Code of Practice for Statistics, and have made improvements including:

- Reviewed and amended the validation checks carried out on response data including validation against new administrative data sources to better assure ourselves of the quality of the statistics.
- Enhanced trustworthiness by removing pre-release access

Feedback

We welcome feedback and any thoughts to improve the publication further. Please send any feedback to: farming-statistics@defra.gov.uk. Suggested questions to help you structure your feedback are below but all feedback is welcome:

- How relevant is the current content of the publication to your needs as a user?
- What purpose do you require the data for?
- Which data do you find most useful?
- Is there any content that you did not find useful?
- Do you have any suggestions for further development of this release; including additional content, presentation and any other thoughts?

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