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## Farming Statistics – provisional arable crop areas at 1 June 2016 England

This release contains the first results from the 2016 June Survey of Agriculture and Horticulture. Provisional estimates are included for the main cereal, oilseed and uncropped arable land areas on commercial holdings on 1 June 2016 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. Final results will be published on 15 September 2016. 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 9.

The key results are given below.

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

- The area of wheat in England in 2016 is almost unchanged compared to 2015 and remains at 1.7 million hectares.
- The total area of barley increased by 6.6% between 2015 and 2016. Winter barley fell by 0.1% to 376 thousand hectares and spring barley increased by 13% to 422 thousand hectares.
- The area of oats in England is 101 thousand hectares in 2016.

### Oilseed rape ([page 5](#))

- Oilseed rape decreased by 11% in 2016 to 546 thousand hectares. This was largely due to an 11% decrease in the winter sown area to 537 thousand hectares, which accounts for 98% of the total oilseed rape area.
- Spring oilseed rape increased by 56%, from 6 thousand hectares in 2015 to 10 thousand hectares in 2016. However, this is still the second smallest area of spring oilseed planted for the last 20 years.

### Uncropped arable land ([page 6](#))

- Uncropped arable land increased by 21%, from 179 thousand hectares in 2015 to 216 thousand hectares in 2016.

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**Regional areas ([page 8](#))**

- All the areas mentioned above are broken down by English region and are available in table 3.

**Survey methodology ([pages 9 - 10](#))**

For information on how the survey is run and details of data analysis and accuracy of results please see the methodology section on pages 9 and 10 towards the end of this release.

**Other survey results and publications ([page 11](#))**

This release contains first estimates from the Survey of Agriculture and Horticulture carried out in June 2016. 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 11.

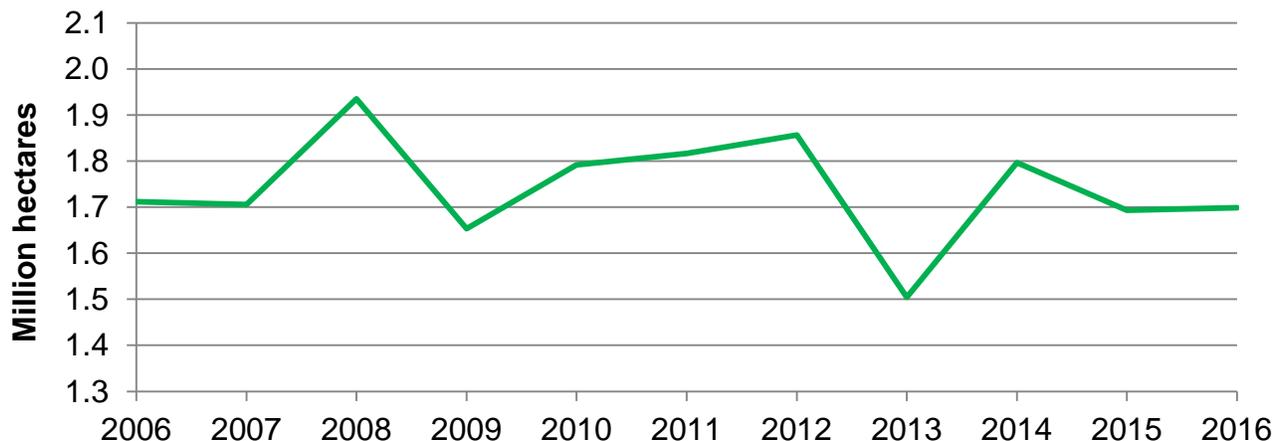
Defra is extremely grateful to the many farmers who complete the June Survey questionnaire each year. The support of farmers enables the Department to produce timely figures on the latest trends which are important for the Department's business and the industry's market operations.

## Detailed results

### Cereals – *Wheat*

The 2016 provisional wheat area estimate for England is almost unchanged at 1.7 million hectares, a slight increase (0.3%) compared to 2015 (Figure 1).

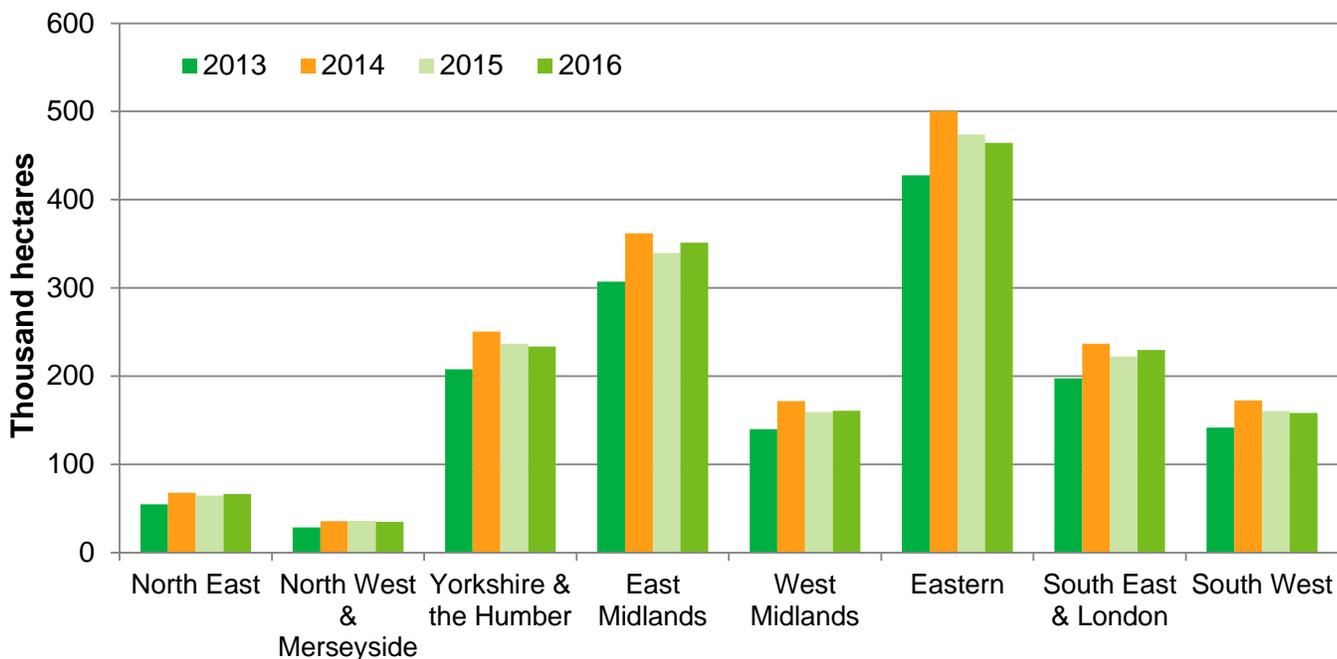
**Figure 1: June wheat area: 2006 to 2016 <sup>(a)</sup>**



(a) The figures from 2006 to 2008 are for all holdings. Figures for 2009 to 2016 are for commercial holdings only. For further information please see the methodology section on page 9.

The changes in wheat area have been varied across all of the English regions (Figure 2) ranging from a 3.4% increase in the East Midlands to a 3.6% decrease in the North West & Merseyside. However the Eastern region and the East Midlands still grow almost half of the wheat in the country, accounting for 27% and 21% of the total area respectively.

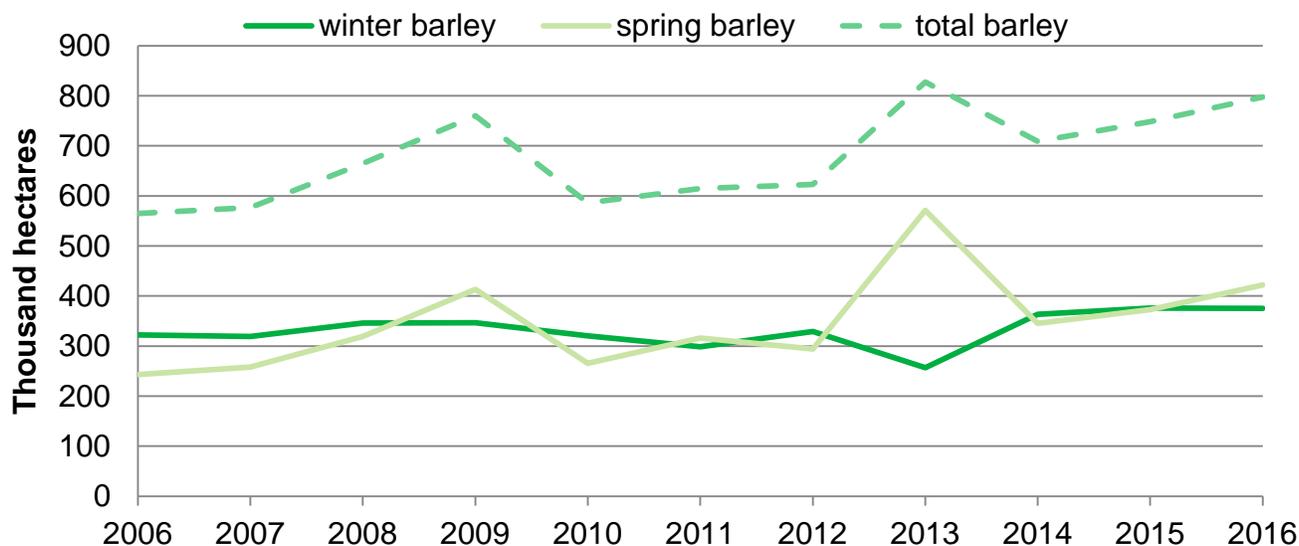
**Figure 2: Regional wheat areas: 2013 to 2016**



## Barley

The total area of barley increased by 6.6%, from 748 thousand hectares in 2015 to 798 thousand hectares in 2016. Winter barley fell slightly by 0.1% to 376 thousand hectares, whilst spring sown barley increased by 13% to 422 thousand hectares. This resulted in the ratio of spring sown barley increasing to 53% of the total and winter sown falling to 47% (Figure 3).

**Figure 3: June barley areas: 2006 to 2016** <sup>(a)</sup>



(a) The figures from 2006 to 2008 are for all holdings. Figures for 2009 to 2016 are for commercial holdings only. For further information please see the methodology section on page 9.

## Oats

The area of oats in England increased from 98 thousand hectares in 2015 to 101 thousand hectares in 2016. This is an increase of 3.0%.

## Cereal production

An estimated 60% of the winter barley and 40% of the winter oilseed rape crop had been harvested by 2 August 2016. The winter oilseed rape harvest is ahead of the latest recent harvest, but behind that of the five year average. Yield reports are highly variable, and often below the farm average.

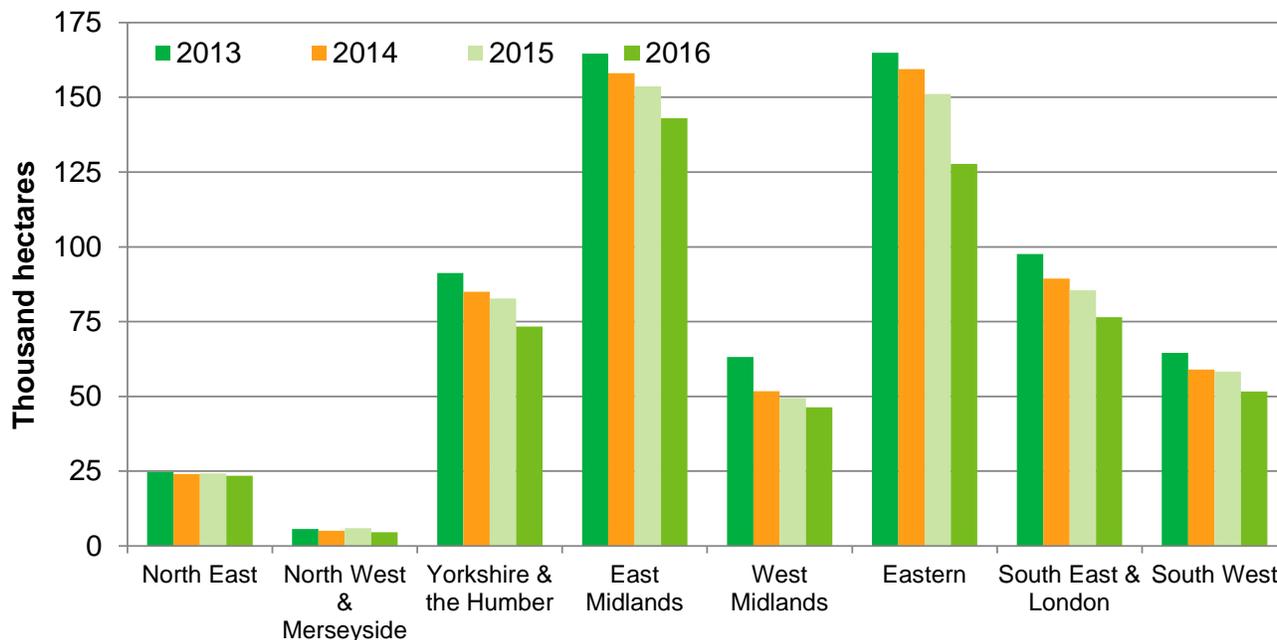
At time of publication the winter wheat harvest has not started in earnest, which is behind recent years. There is insufficient information to give an overview of wheat yields and quality at this stage. The first official Defra harvest estimates will be published on 13 October 2016 and will be available 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 for the fourth year running, decreasing by 11% from 611 thousand hectares in 2015 to 546 thousand hectares in 2016. The spring sown area of oilseed increased by 56% to 10 thousand hectares, still the second smallest area of spring oilseed planted for the last 20 years.

The area of winter sown oilseed saw a decrease of 11% between 2015 and 2016. However, at 537 thousand hectares, winter oilseed accounts for 98% of the total oilseed rape area.

**Figure 4: Regional oilseed rape areas: 2013 to 2016**



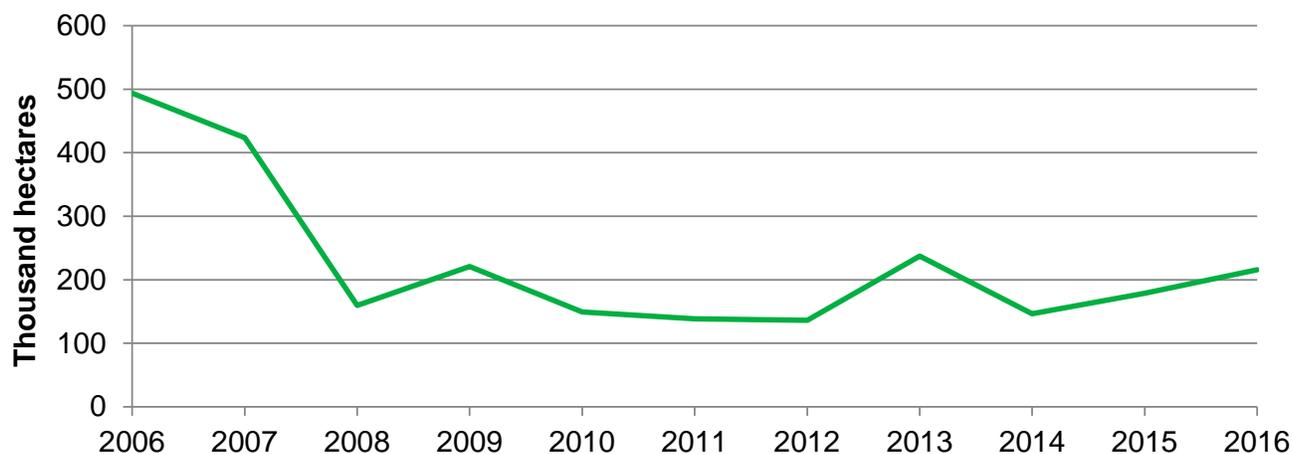
The changes in total oilseed area vary across regions (Figure 4). All regions saw a decrease in area, the largest percentage fall was North West & Merseyside which fell by 23% but the largest fall in actual area was in the Eastern region, which fell by 23 thousand hectares.

The largest proportion of oilseed rape is produced in the East Midlands and the Eastern region. Between them these regions account for almost half of the total oilseed area in England.

## Uncropped arable land

The total area used for the main cereal and oilseed crops mentioned in this release has only decreased slightly by 0.2% between 2015 and 2016. However, the area of land left out of production has increased in 2016. The provisional estimate of uncropped arable land in England is 216 thousand hectares at 1 June 2016, an increase of 21% since 2015 (Figure 5).

**Figure 5: Uncropped arable land area: 2006 to 2016** <sup>(a)</sup>  
(Includes bare fallow, uncropped set-aside (2006 to 2007) and arable land not in production)



(a) The figures from 2006 to 2008 are for all holdings. Figures for 2009 to 2016 are for commercial holdings only. For further information please see the methodology section on page 9.

## Results tables

**Table 1: Area of arable crops and uncropped arable land <sup>(a)</sup>**

Thousand hectares

Item	June 2014	June 2015	June 2016	% change 2016/2015	2016 95% confidence interval ('000 ha)	2016 Indicator
Wheat	1 797	1 693	1 699	0.3	+/-30	✓✓✓
Barley	709	748	798	6.6	+/-16	✓✓✓
Winter barley	363	376	376	-0.1	+/-11	✓✓✓
Spring barley	345	373	422	13.3	+/-12	✓✓✓
Oats	105	98	101	3.0	+/-6	✓✓
Oilseed rape	632	611	546	-10.6	+/-17	✓✓✓
Winter oilseed rape	618	605	537	-11.2	+/-17	✓✓✓
Spring oilseed rape	13	6	10	55.6	+/-2	☒
Uncropped arable land	146	179	216	20.6	+/-9	✓✓✓

(a) Results relate to commercial holdings only. For further information please see the methodology section on page 9.

**Table 2: Defra Survey estimates compared with industry estimates of arable crops areas and uncropped arable land <sup>(a)</sup>**

Thousand hectares

Item	AHDB December 2014 <sup>(b)</sup>	Defra June 2015	AHDB December 2015 <sup>(b)</sup>	Defra June 2016	AHDB 2016 planting estimate <sup>(c)</sup>
Wheat	1 664	1 693	1 642	1 699	1 659
Barley	-	748	-	798	793
Winter barley	336	376	370	376	371
Spring barley	-	373	-	422	422
Oats	81	98	76	101	101
Oilseed rape	627	611	548	546	560
Winter oilseed rape	-	605	-	537	-
Spring oilseed rape	-	6	-	10	-
Uncropped arable land	-	179	-	216	-

(a) Results relate to commercial holdings only. For further information please see the methodology section on page 9.

(b) The December figures are sourced from the AHDB planting survey. Further information can be found at: <http://cereals.ahdb.org.uk/media/880695/ahdb-winter-planting-survey-2015-7th-march.pdf>.

(c) These estimates are from the 2015 AHDB planting survey and can be found here: <http://cereals.ahdb.org.uk/media/1097688/pvs-final-results-all-2016.pdf>.

**Table 3: June 2016 provisional crop areas and uncropped arable land estimates by English region <sup>(a)</sup>**

Thousand hectares

Region	Wheat			Winter barley		
	2015	2016	% change	2015	2016	% change
North East	64	66	3.0	30	30	1.3
North West & Merseyside	36	35	-3.6	17	17	-2.3
Yorkshire & the Humber	237	233	-1.4	79	76	-3.5
East Midlands	340	351	3.4	48	48	-0.2
West Midlands	159	161	1.0	35	36	1.3
Eastern	474	464	-2.0	87	87	0.3
South East (incl. London)	222	230	3.3	32	33	3.8
South West	160	158	-1.3	48	49	1.2
<b>England</b>	<b>1 693</b>	<b>1 699</b>	<b>0.3</b>	<b>376</b>	<b>376</b>	<b>-0.1</b>

Region	Spring barley			Oats		
	2015	2016	% change	2015	2016	% change
North East	15	16	7.2	8	8	5.7
North West & Merseyside	28	30	7.6	5	5	1.1
Yorkshire & the Humber	46	52	13.3	8	8	1.0
East Midlands	45	55	22.0	11	13	19.6
West Midlands	27	32	17.4	17	17	-1.7
Eastern	73	83	13.9	11	10	-3.4
South East (incl. London)	57	65	14.9	19	20	3.2
South West	81	88	8.6	20	20	1.5
<b>England</b>	<b>373</b>	<b>422</b>	<b>13.3</b>	<b>98</b>	<b>101</b>	<b>3.0</b>

Region	Oilseed rape			Uncropped arable land		
	2015	2016	% change	2015	2016	% change
North East	24	23	-3.6	8	10	22.1
North West & Merseyside	6	5	-22.5	5	5	2.0
Yorkshire & the Humber	83	73	-11.3	22	26	19.6
East Midlands	154	143	-6.9	33	39	18.8
West Midlands	49	46	-6.3	15	19	23.6
Eastern	151	128	-15.5	45	53	18.7
South East (incl. London)	86	76	-10.6	29	37	27.8
South West	58	52	-11.4	21	26	20.0
<b>England</b>	<b>611</b>	<b>546</b>	<b>-10.6</b>	<b>179</b>	<b>216</b>	<b>20.6</b>

(a) Results relate to commercial holdings only. For further information please see the methodology section on page 9.

## 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 54 thousand 'commercial' holdings were asked to complete the survey in 2016. 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 2016 sample design**

Stratum	Description	Sampling rate (%)	Population size
1	SLR < 0.5	26%	45 483
2	SLR >= 0.5 and < 1	58%	16 666
3	SLR >= 1 and < 2	69%	15 083
4	SLR >= 2 and < 3	75%	8 345
5	SLR >= 3 and < 5	90%	7 314
6	SLR >= 5	91%	7 324
10	SLR unknown	47%	6 267
<b>All</b>		<b>51%</b>	<b>106 482</b>

The results in this statistical release are based on responses from just over 24 thousand commercial holdings, representing a response rate of 45%.

## 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 2016 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 9.
- 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](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

- 15 September 2016: Farming Statistics final crop areas and cattle, sheep and pig populations at 1 June 2016 – England.
- 27 October 2016: Farming Statistics final land use, livestock populations and agricultural workforce at 1 June 2016 – England.

### UK Publications

- 13 October 2016: Farming Statistics provisional crop areas, yields and livestock populations at 1 June 2016 – United Kingdom.
- 15 December 2016: Farming Statistics final crop areas, yields, livestock populations and agricultural workforce at 1 June 2016 – 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.