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Farming Statistics – provisional arable crop areas at 1 June 2013 England

This release contains the first results from the 2013 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 2013 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 19 September 2013. Results in this publication relate to commercial holdings in England. Commercial holdings are those farms with a significant level of activity. A full definition can be found in the methodology section on page 9.

The provisional June arable crop areas show large changes between 2012 and 2013. Terrible weather conditions left many farmers unable to plant winter sown crops. Failed crops due to pests and water-logged fields have been another contributing factor to the changes between crop categories. This resulted in some farmers planting spring sown crops instead of winter crops and others leaving more arable land out of production. The key results are given below.

Cereals (pages 3-5)

- The provisional area of wheat in England is 1.5 million hectares at 1 June 2013. This is a decrease of 19% from the same period in 2012. Wet weather at time of drilling left many farmers unable to plant winter crops, resulting in a change to spring sown crops or land being left out of production.
- The total area of barley increased by 32% to 821 thousand hectares in 2013, the largest area in over a decade. This was due to the large increase (92%) seen in the spring sown area which more than offset the decrease (22%) in winter sown barley.
- The area of oats increased by 53% to 141 thousand hectares in 2013.

Oilseed rape (page 5)

- Oilseed rape is another crop to be affected by the weather with many farmers opting to plant spring oilseed when unable to sow winter oilseed.
- The total area of oilseed rape is 674 thousand hectares in 2013. Although this is a 5% decrease from 2012, the area still remains the second highest on record.

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Uncropped arable land (page 6)

- Uncropped arable land increased from 136 to 232 thousand hectares between 1 June 2012 and 2013. This was as a result of bad weather leaving many farmers unable to plant winter sown crops such as wheat, winter barley and winter oilseed rape.

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 2013. 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

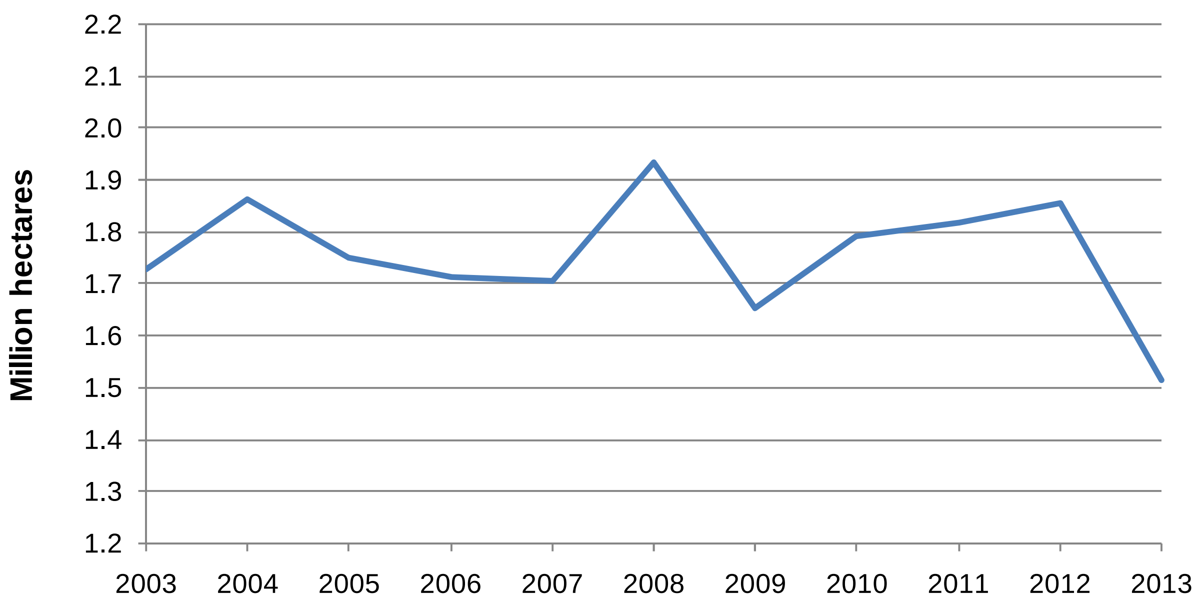
Cereals

Wheat

The 2013 provisional early wheat area estimate for England is 1.5 million hectares. This has decreased by 19% from just under 1.9 million hectares in June 2012 and is the lowest area seen in the past thirty years (see figure 1 for the last ten years of data).

The decrease in area is partly due to the wet conditions preventing farmers from planting winter sown crops. From conversations with farmers there have also been many cases where winter sown crops have been planted but failed due to subsequent bad weather. As a result of both, affected land has either been left out of production or planted with spring sown crops when possible.

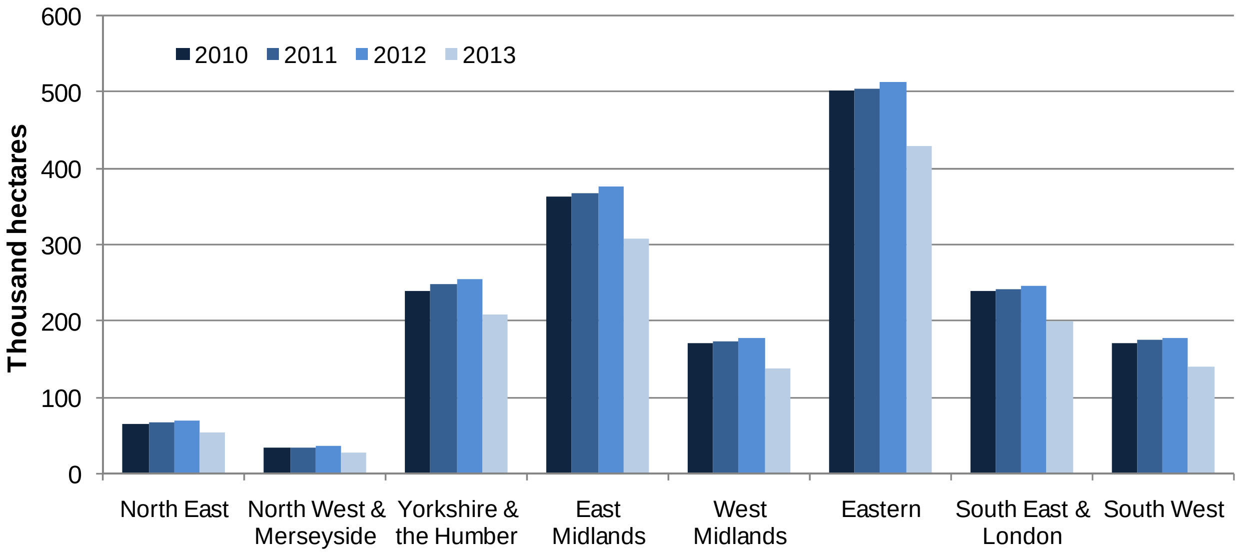
Figure 1: June wheat area: 2003 to 2013 [(a)]



(a) The figures from 2003 to 2008 are for all holdings. Figures for 2009 to 2013 are for commercial holdings only. For further information please see the methodology section on page 9.

The decrease in wheat area has been seen across all of the English regions with the largest proportional change (23%) in the North West & Merseyside. This is closely followed by the North East, the West Midlands and the South West all decreasing by 21% (figure 2).

Figure 2: Regional wheat areas: 2010 to 2013

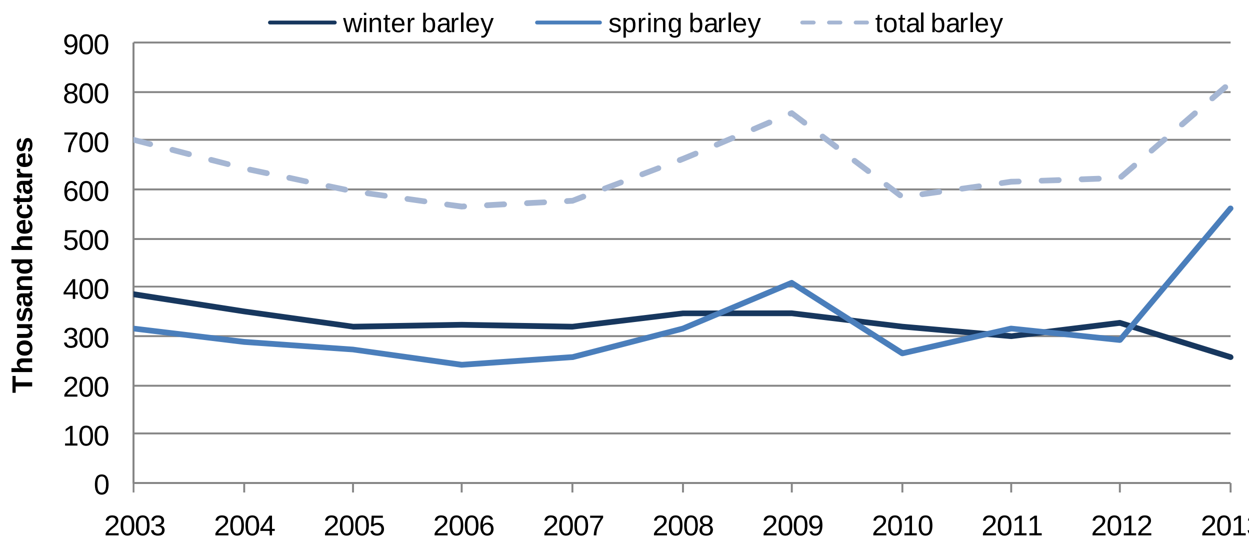


Barley

Barley is another crop where weather conditions have led to large changes in area in 2013. Given the difficult conditions at time of planting, the winter sown barley area has decreased by 22% since 2012 to 257 thousand hectares. As a result many farmers have planted spring sown barley which has led to a 92% increase from 294 thousand hectares in 2012 to 564 thousand hectares in 2013.

The spring sown area has also been boosted further by some of those farmers who were unable to plant wheat planting spring barley instead. The large increase in spring sown barley has more than offset the decrease in winter barley, resulting in a total barley area of 821 thousand hectares. This is the largest area of barley grown for more than a decade (see figure 3).

Figure 3: June barley areas: 2003 to 2013 [(a)]



(a) The figures from 2003 to 2008 are for all holdings. Figures for 2009 to 2013 are for commercial holdings only. For further information please see the methodology section on page 9.

Oats

The area of oats increased by 53% between 2012 and 2013, rising from 92 to 141 thousand hectares. This is the largest area of oats grown for thirty years and may be due to cereal farmers choosing to plant oats when they were unable to plant wheat and winter barley.

Cereal production

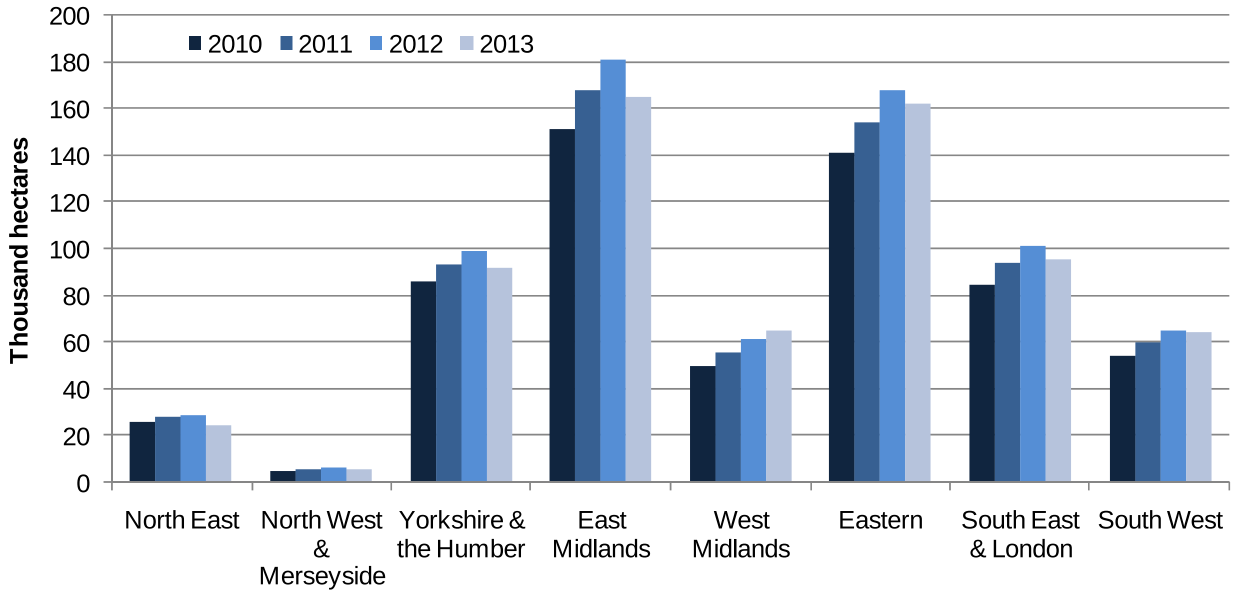
The 2013 harvest has had a slow start with many crops developing later due to difficult weather conditions earlier in the year. Around 30% of the winter oilseed harvest has been completed but it is too early to see how the weather has affected yields as the areas harvested so far are those from better established crops. The first official Defra harvest estimates will be published on 17 October 2013 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

Since the early eighties the area of oilseed rape has been increasing steadily, reaching a record high in 2012. Despite falling by 5% in 2013, the total area still remains the second highest on record at 674 thousand hectares.

The changes in total oilseed area vary across regions. All regions saw a decrease in area with the exception of the West Midlands which increased by 6%. The largest proportional decrease (15%) was seen in the North East with the East Midlands and the North West & Merseyside seeing the next largest decrease (9%).

Figure 4: Regional oilseed rape areas: 2010 to 2013



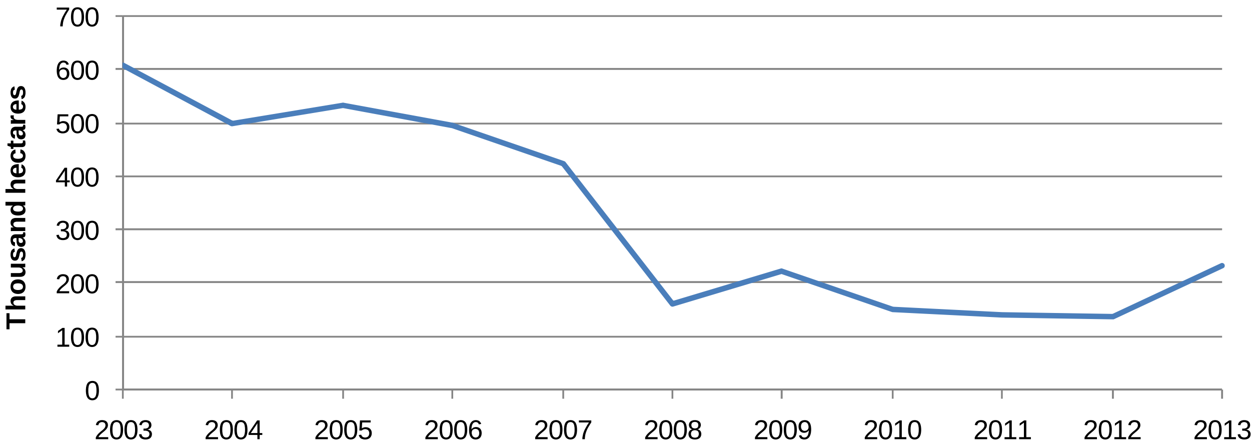
The area of winter oilseed rape has historically accounted for the majority of the total oilseed area. This is still the case in 2013, however the shift seen from winter to spring sown crops due to the weather has resulted in the spring area now accounting for a larger proportion of the total (13% in 2013 compared with 2% in 2012).

Uncropped arable land

The provisional estimate of uncropped arable land in England is 232 thousand hectares at 1 June 2013. This is the largest area since 2007 when set-aside was abolished (figure 5).

The increase in area can be explained by the terrible weather conditions forcing many farmers to leave large areas of land intended for winter cereals and oilseeds uncropped. Many other farmers have had to abandon failed crops due to pest damage and water logged fields, which has led to additional areas of land being out of production at 1 June 2013.

Figure 5: Uncropped arable land area: 2003 to 2013 [(a)]
(includes bare fallow, uncropped set-aside (2003 to 2007) and arable land not in production)



(a) The figures from 2003 to 2008 are for all holdings. Figures for 2009 to 2013 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 [a]

Thousand hectares

Item	Jun-11	Jun-12	Jun-13	% change 2013/2012	95% confidence interval ('000 ha)	Indicator
Wheat	1 817	1 856	1 512	-19	+/- 24	✓✓✓
Barley	615	623	821	32	+/- 20	✓✓✓
Winter barley	298	329	257	-22	+/- 7	✓✓✓
Spring barley	316	294	564	92	+/- 19	✓✓✓
Oats	80	92	141	53	+/- 8	✓✓
Oilseed rape	660	713	674	-5	+/- 21	✓✓✓
Winter oilseed rape	638	702	585	-17	+/- 16	✓✓✓
Spring oilseed rape	23	11	89	724	+/- 14	✓
Uncropped arable land	139	136	232	71	+/- 12	✓✓

(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 [a]

Thousand hectares

Item	Dec-11 [b]	Jun-12	Dec-12 [b]	Jun-13	HGCA 2013 planting estimate [c]
Wheat	1 844	1 856	1 382	1 512	1 505
Barley	-	623	-	821	862
Winter barley	337	329	273	257	264
Spring barley	-	294	-	564	598
Oats	77	92	54	141	120
Oilseed rape	-	713	-	674	641
Winter oilseed rape	695	702	685	585	-
Spring oilseed rape	-	11	-	89	-
Uncropped arable land	-	136	-	232	-

(a) Results relate to commercial holdings only. For further information please see the methodology section on page 9.
(b) From 2011 the December figures are sourced from the AHDB planting survey instead of Defra's December Survey of Agriculture. Further information can be found at http://www.hgca.com/content.output/100/100/Markets/Markets/Survey%20Results.mspx.
(c) These estimates are from the 2013 AHDB/HGCA planting survey and can be found here: http://www.hgca.com/document.aspx?fn=load&media_id=8926&publicationId=100

Table 3: June 2013 provisional crop areas and uncropped arable land estimates by English region [(a)]

Thousand hectares

Region	Wheat 2012	Wheat 2013	Wheat % change	Winter barley 2012	Winter barley 2013	Winter barley % change
North East	70	56	-21	27	21	-23
North West & Merseyside	37	28	-23	15	11	-25
Yorkshire & the Humber	255	209	-18	72	56	-23
East Midlands	377	309	-18	41	32	-21
West Midlands	178	140	-21	29	23	-23
Eastern	513	430	-16	77	62	-20
South East (incl. London)	247	200	-19	26	20	-24
South West	179	141	-21	41	32	-21
England	**1 856**	**1 512**	**-19**	**329**	**257**	**-22**

Region	Spring barley 2012	Spring barley 2013	Spring barley % change	Oats 2012	Oats 2013	Oats % change
North East	12	27	114	7	11	68
North West & Merseyside	24	45	82	4	7	54
Yorkshire & the Humber	35	75	115	8	12	54
East Midlands	30	61	105	10	15	52
West Midlands	19	42	116	16	25	55
Eastern	58	105	80	9	14	49
South East (incl. London)	45	83	86	19	29	48
South West	70	127	82	19	28	52
England	**294**	**564**	**92**	**92**	**141**	**53**

Region	Oilseed rape 2012	Oilseed rape 2013	Oilseed rape % change	Uncropped arable land 2012	Uncropped arable land 2013	Uncropped arable land % change
North East	29	25	-15	7	13	90
North West & Merseyside	6	6	-9	3	6	79
Yorkshire & the Humber	100	92	-8	16	31	90
East Midlands	181	165	-9	23	46	97
West Midlands	62	65	6	12	20	71
Eastern	168	162	-4	34	53	58
South East (incl. London)	101	95	-6	24	38	58
South West	65	64	-1	17	26	51
England	**713**	**674**	**-5**	136	232	**71**

(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 is historically a postal survey run annually. However in 2011, the survey was run predominantly online with an option for farmers to complete a paper form if they preferred. This method was repeated in 2012 and 2013 and is likely to continue for future years.

Approximately 50 thousand 'commercial' holdings were asked to complete the survey in 2013. 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 2013 sample design

Stratum	Description	Sampling rate (%)	Population size
1	SLR < 0.5	23	43 292
2	SLR >= 0.5 and < 1	56	14 681
3	SLR >= 1 and < 2	65	16 324
4	SLR >= 2 and < 3	71	9 052
5	SLR >= 3 and < 5	80	8 289
6	SLR >= 5	83	7 819
10	SLR unknown	32	5 176
All		**48**	**104 633**

The results in this statistical release are based on responses from just over 26 thousand commercial holdings, representing a response rate of 53%.

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 2012 figures, ranging from 3 ticks (good) to 1 cross (poor). The ranges relate to the relative standard errors (RSE) as follows:

✓✓✓	RSE <=2.5%
✓✓	RSE >2.5 and <=5%
✓	RSE >5 and <=10%
⌂	RSE >10 and <=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.

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

- 19 September 2013: Farming Statistics final crop areas and cattle, sheep and pig populations at 1 June 2013 – England.
- 31 October 2013: Farming Statistics final land use, livestock populations and agricultural workforce at 1 June 2013 – England.

UK Publications

- 17 October 2013: Farming Statistics provisional crop areas, yields and livestock populations at 1 June 2013 – United Kingdom.
- 19 December 2013: Farming Statistics final crop areas, yields, livestock populations and agricultural workforce at 1 June 2013 – 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.