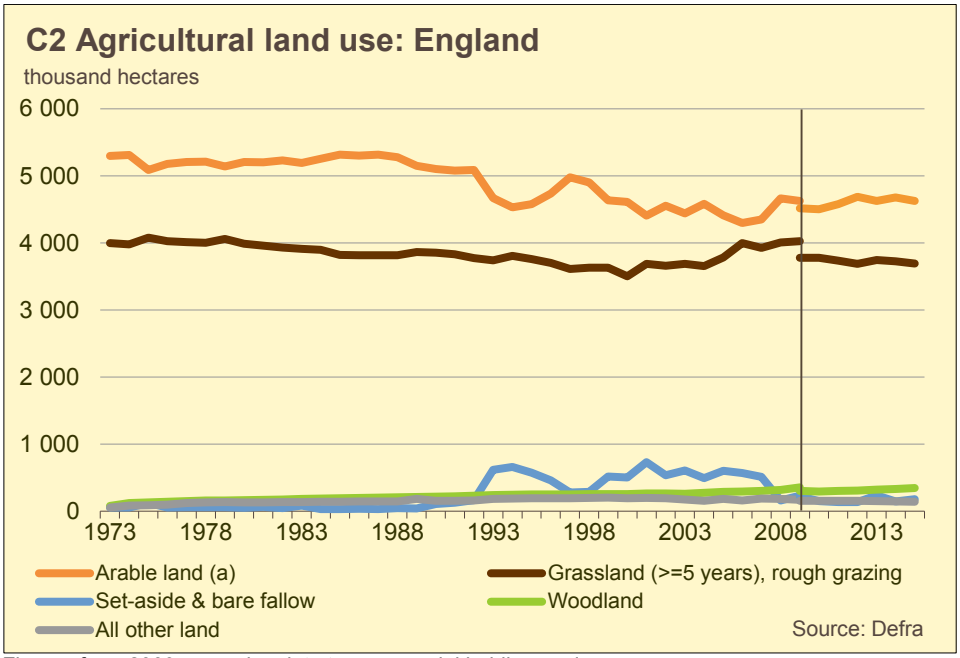
Observatory monitoring framework – indicator data sheet

Process: Farm management

Indicator C2: Agricultural land use

Agricultural land use is a key determinant of environmental impact with the type of vegetation covering the land determining habitat structure and landscape. This indicator shows the annual changes in the areas of agricultural land use in England as recorded by the June Agricultural survey. Note figures from 2009 onwards are not directly comparable with earlier years due to the introduction of thresholds and improvements to the June survey register. See the fact sheet for further details.



Figures from 2009 onwards relate to commercial holdings only.
(a) Excludes fallow and set-aside land. Includes grasses less than 5 years old.

Chart C2 shows changes in agricultural land use in England since 1973.

Until 2004, there was a long term decline in the area of "permanent" grassland and rough grazing followed by large increases in 2005 and 2006.

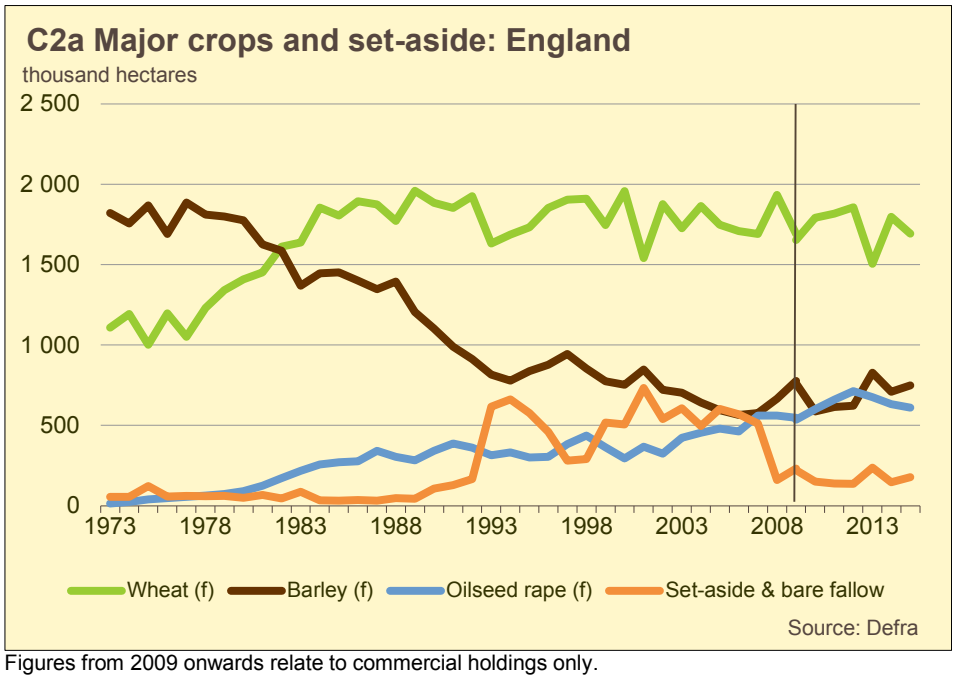
Some of this increase may have been due to field margins being reclassified as grassland on June survey forms and a possible reclassification of grassland by livestock holdings due to the stricter grassland classifications for the Single Payment Scheme (SPS).

The area used for arable crops declined from the introduction of set-aside in the early 1990s until the set-aside rate was set to 0% in 2007 (for the 2008 harvest) by the European Commission. Set-aside was abolished in 2008.

In 2015, grassland and arable land accounted for over 90% of agricultural land use covering around 3,700 thousand hectares and 4,600 thousand hectares, respectively.

In terms of area, wheat is the major arable crop in England accounting for 37% of the arable area in 2015. Annual fluctuations have tended to be a result of statutory changes to set-aside rates and weather conditions, e.g. adverse weather in autumn 2012 prevented winter cereals from being drilled.

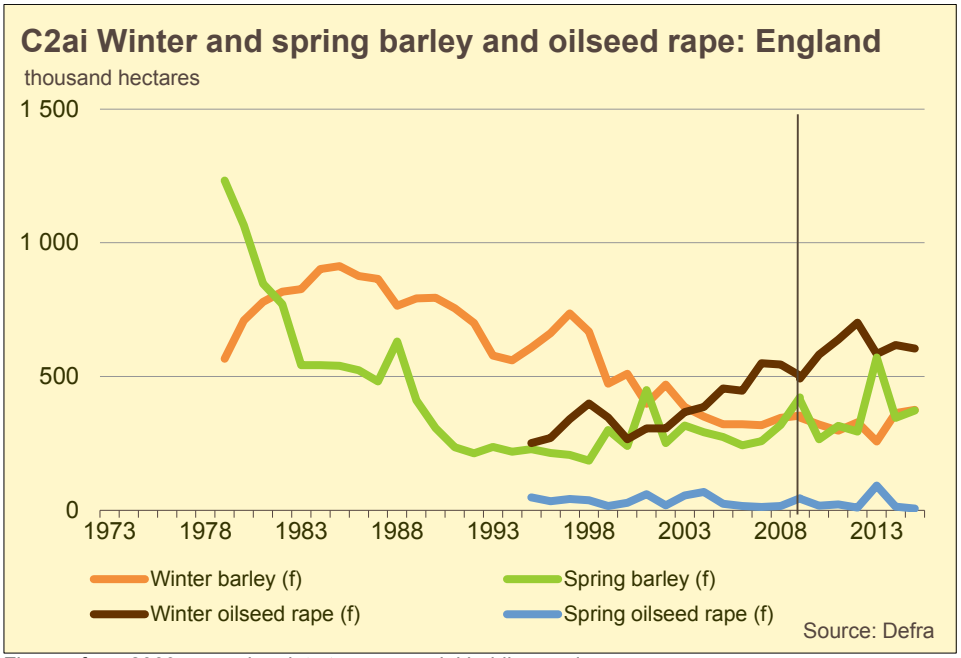
The area of barley has declined over time in favour of winter sown cereals, particularly winter wheat. In 2013 the area of barley increased by 33% to 828 thousand hectares as more spring sown cereals were planted in response to poor drilling conditions for winter sown cereals in the preceding autumn.



Figures from 2009 onwards relate to commercial holdings only.

Oilseed rape is the dominant non-cereal crop in England accounting for 13% of the arable area. The area has generally increased over time with a record area recorded in 2012 due to excellent planting conditions for the winter variety.

The area of set-aside and bare fallow increased during the 1990s mainly at the expense of barley. The decline in the 2007/8 cropping year was due to the removal of set-aside requirements. Between 2012 and 2013 the uncropped arable land area increased to 232 thousand hectares as bad weather prevented farmers from planting winter crops.



Figures from 2009 onwards relate to commercial holdings only.

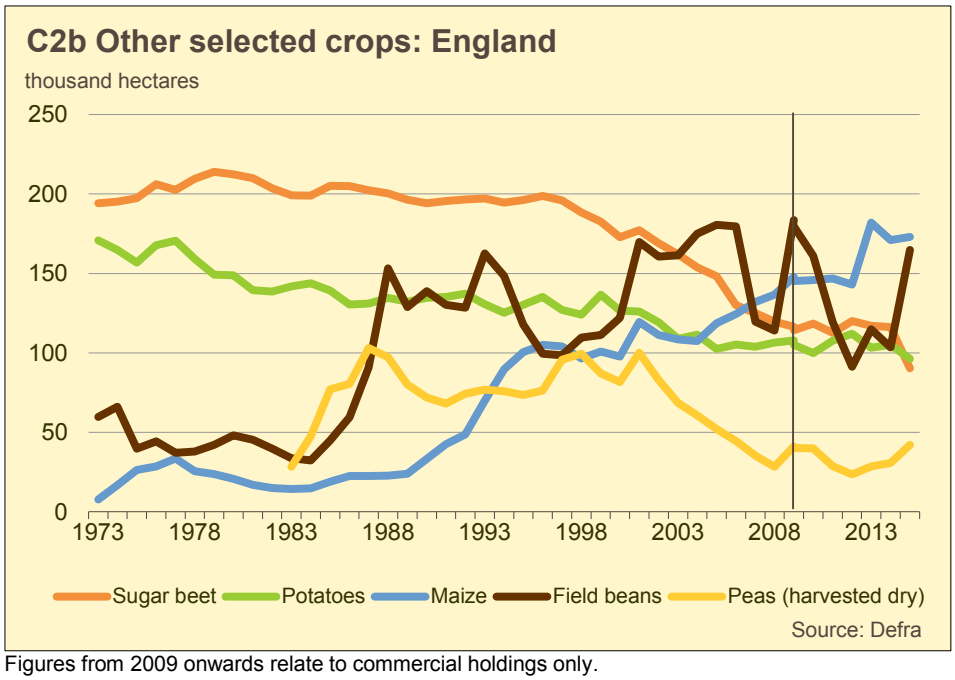
Very little spring oilseed rape has been sown in the last 15 years.

Fluctuations between winter and spring sown crops generally reflect planting conditions in the autumn, e.g. the spike in the area of spring barley in 2013 was due to poor drilling conditions for winter sown crops in the preceding autumn.

The area of sugar beet has declined over time to stand at 90 thousand hectares in 2015.

In contrast, the area of maize has increased over time. Between 2012 and 2013 the area increased to 182 thousand hectares in response to the weather conditions.

Since 2001, the area of peas has generally declined. The area of field beans, used in the production of processed feed, increased until 2006 and since then has subsequently fluctuated. Between 2014 and 2015 the area increased by 59% to 165 thousand hectares.



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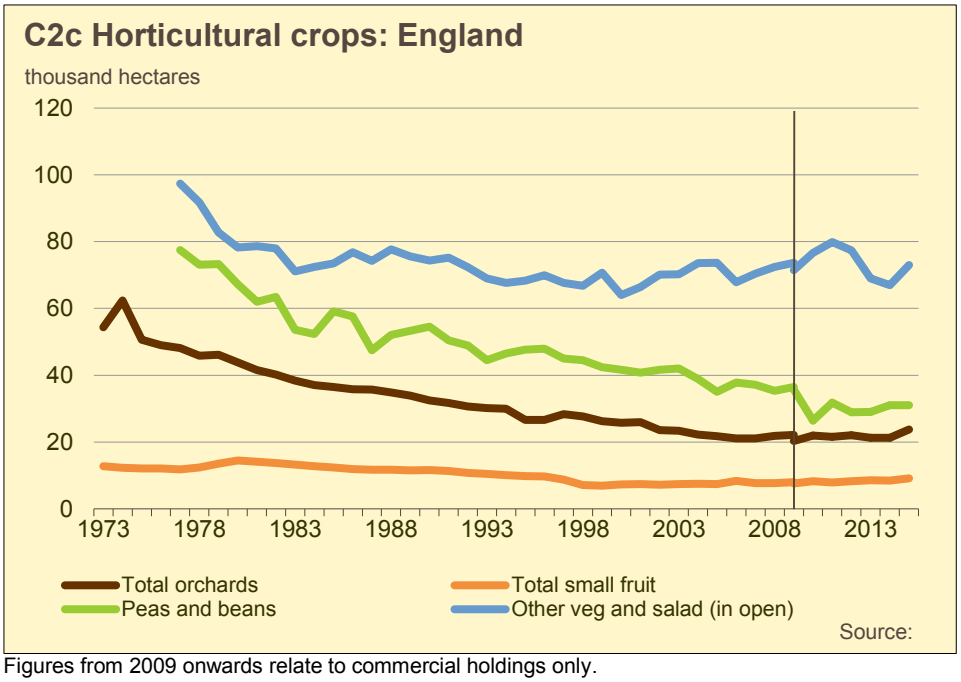


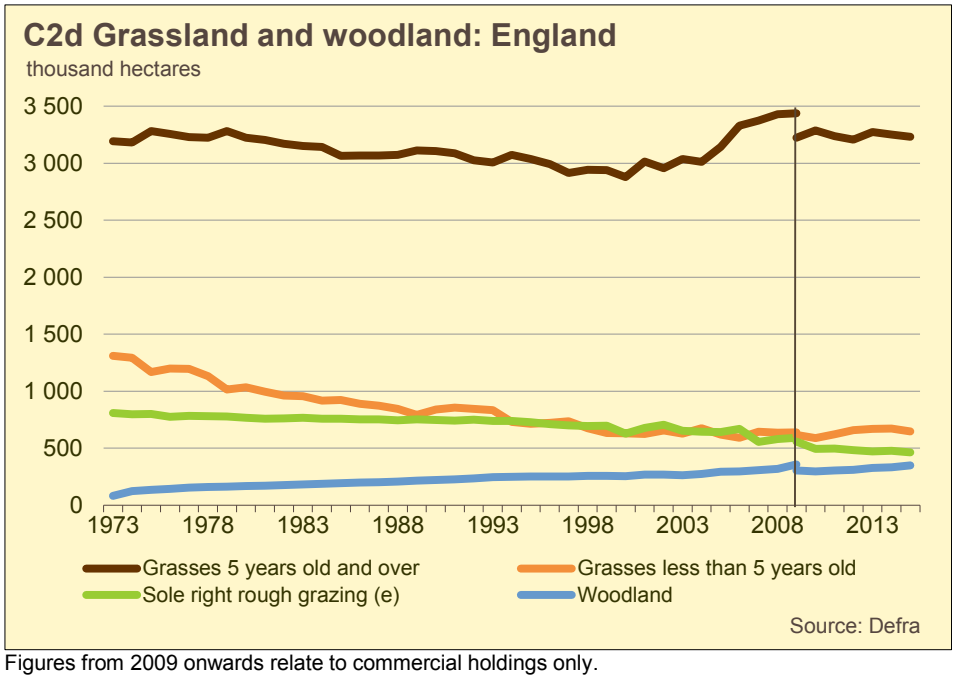
Figures from 2009 onwards relate to commercial holdings only.

Chart C2c shows a long-term decline in the area of orchards although it appears to have stabilised from 2004. Between 2014 and 2015 the area increased by 11%.

There was a marked reduction (26%) in the area of peas and beans for human consumption in 2010. Although there has since been some recovery the overall trend remains downward.

The area of grass classified as having been sown within the previous 5 years and sole right rough grazing have shown a downward trend since 1973.

There has been a steady increase in the area of woodland on agricultural holdings since 1973, encouraged by the Woodland Grant Scheme and other incentives for woodland planting.



Figures from 2009 onwards relate to commercial holdings only.

This indicator was updated in July 2016 with final arable crop areas for June 2015. It will next be updated later in 2016 with final results for June 2016.

Further information and contact

Background information can be found in the accompanying fact sheet.

For queries or information on this indicator contact Defra's Observatory team on +44 (0)20 802 66202 or email observatory@defra.gsi.gov.uk

Observatory monitoring framework – indicator fact sheet

Process: Farm management

Indicator C2: Agricultural land use

Indicator	Agricultural land use
Data	Areas of agricultural land
Geographic coverage	England
Years	2009 – 2015
Source	Defra
Origin of data	June survey
Updates	This indicator will next be updated later in 2016 to include final results for June 2016.
Background	Agricultural land use is a key determinant of environmental impact. The type of vegetation covering land used for agriculture, whether crop, grass or grazing determines the habitat structure over the majority of the land surface in England, and is a major influence on the landscape. Management related to land use can influence the quality of the habitat for biodiversity, in terms of composition, structure and resource availability, both within the cropped or grazed areas and in areas such as field margins. Land use also determines the inputs of nutrients and other agro-chemicals, and hence the potential for air and water pollution, impacts on soil properties and erosion risk, and can also affect the historic environment. Changes in land use resulting from CAP reform could be the main driving force behind changes in the farmland environment. **Set-aside and bare fallow** The major change during the 1990s was the expansion of set-aside and bare fallow, mainly at the expense of barley. The introduction of set-aside introduced a degree of decoupling which may have softened the immediate impact of the 2003 reforms. The removal of set-aside requirements from the 2007/08 cropping year led to a decline in the uncropped area. The area used for arable crops declined from the introduction of set-aside in the early 1990s until the set-aside rate was set to 0% in 2007 (for the 2008 harvest) by the European Commission. Note figures from 2009 onwards are not directly comparable with earlier years due to the introduction of thresholds and improvements to the register. **Wheat** After a steady increase during the late 1970s and early 1980s the area of wheat has remained fairly constant for the last 20 years. Annual fluctuations have tended to be a result of statutory changes to set-aside rates and weather conditions, for example adverse weather in autumn 2000 meant that large areas of winter cereals could not be drilled.

Barley
The area of barley has been in decline since the early 1970s when the majority was spring sown; since then technological improvements have made spring barley less attractive than winter sown cereals, particularly winter wheat. There was a rapid decline in the area of spring barley during the 1980s. The increases in 2001, 2009 and 2013 followed poor winter weather that prevented the planting of some winter cereals. The area of winter barley has generally been in decline since the mid1980s. However, increased commodity prices and the zero set-aside rate led to some increase in the barley area in 2008 and the poor autumn weather in 2008 led to increased spring plantings in 2009. The area of barley returned to more normal levels in 2010.

Oilseed rape
Oilseed rape is now the dominant non-cereal crop in England showing a dramatic rise during the 1980s. Following a period of stabilisation during the 1990s the area has generally increased since 2002. The areas shown exclude crops grown on set-aside land. Oilseed rape has become extremely profitable for farmers in recent years and this, combined with excellent planting conditions for the winter variety, led to a record area being grown in 2012.

Sugar beet
The area of sugar beet has declined in recent years and with agreement on reform of the EU sugar regime in 2006 this trend has continued. High transport costs mean that sugar beet production is concentrated around processing factories. The main economic and environmental impact of the decline in area is likely to have been in North Yorkshire and Shropshire where factories closed at the end of the 2006/07 campaign.

Maize
The area of maize expanded considerably in the early 1990s and continued to increase albeit at a lesser rate between 1995 and 2004, before a period of further expansion between 2005 and 2009, stabilising in 2010 and 2011.

Field beans and peas
The areas of field beans and peas increased in the 1980s stimulated by favourable subsidy rates. Since 2001, the area of peas has generally declined whilst the area of field beans, used in the production of processed feed increased until 2006. In recent years, the area has fluctuated.

Orchards
There has been a long term decline in the area of orchards, although this appears to have stabilised since 2004.

Peas and beans for human consumption
There was a marked reduction (26%) in the area of peas and beans for human consumption in 2010. Although there has since been some recovery the overall trend remains downward.

Grass
The area of grass classified as having been sown within the previous 5 years has been in decline since 1973.

Until 2004, there was a long term decline in the area of “permanent” grassland and rough grazing followed by large increases in 2005 and 2006.

Some of this increase may have been due to field margins being reclassified as grassland on June survey forms and a possible reclassification of grassland by

livestock holdings due to the stricter grassland classifications for the Single Payment Scheme (SPS).

Within the SPS rules any grassland not included in the crop rotation for the last 5 years counts as permanent pasture. In contrast the June survey question (G1) refers to grass sown in the last 5 years. Livestock farmers may have been using G1 for grassland that has been reseeded even though it has always been grassland.

Statistical & methodological information

Until 1994, there was an annual census of all main holdings in England. In 1995 sampling was introduced in order to reduce the burden on farmers and growers. However to meet EU requirements a full census was held in 2000 and 2010.

The sample is stratified by farm size with the sampling rate increasing with farm size (measured by standard labour requirement (SLR)). In 2006, holdings of less than 0.25 SLR were sampled at a rate of just 10% whilst all holdings over 5 SLR received a form. The overall sampling rate has decreased over time (see table below).

1994	1995	1996	1997	1998	1999	2000
100%	82%	82%	73%	74%	75%	100%

(a) 2001	2002	2003	2004	2005	2006	2007
21%	41%	39%	25%	38%	31%	28%

(a) reduced sample due to Foot and Mouth Disease

2008	2009	2010	2011	2012	2013	2014
19%	19%	100%	29%	28%	48%	28%

2015
24%

Response rates in recent years have tended to be approximately 70%. In 2015 the response rate was 62%.

Results for each question are produced using ratio raising techniques. Estimates for each question are derived for non-sampled and non-responding holdings based on information from the last return received and trends on responding holdings in intervening years.

Land areas for individual crops exclude that grown on set-aside land.

Survey threshold

A survey threshold was introduced in June 2010 in order to exclude holdings with small levels of farming activity and meet the requirements of the EU Farm Structure Survey Legislation. From 2010 onwards, holdings will only be included in the June Survey if they are considered to be ‘commercial’, i.e. exceed any of the following criteria (as defined by EU Farm Structure Survey Regulation EC 1166/2008):

>5 hectares of agricultural land
>1 hectare of orchards
>0.5 hectares of vegetables
>0.1 hectares of protected crops
>10 cows
>50 pigs
>20 sheep
>20 goats
or >1,000 poultry.

Whilst this removes more than 40% of farms from the survey register, it has little impact on estimates of land use and livestock numbers, reducing national estimates of total land area by 2%.

Register Cleaning
In advance of the full census in 2010, a number of holdings were identified with whom no contact had been made for many years and that did not appear recently on any other Defra administrative system. There were a further substantial number of responses to the 2010 census for holdings that had not recently been surveyed indicating that they now had little or no agricultural activity. It is very likely that these holdings have been inactive for a number of years. In order to derive comparable results for June 2010, the 2009 June Survey results have been revised to reflect both the survey threshold and the register cleaning exercise.

Further information	Defra June Agricultural Survey information and data can be found at: https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry Further information on the change in the area and distribution of set-aside in England can be found at: https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/agri-environment-analysis