



## **Farmer's Intentions: Results from the Farm Business Survey, England 2013/14 (cropping farms)**

In 2013/14, the Farm Business Survey (FBS) collected data from a subset of cropping (cereal, general cropping, horticulture and mixed farms) farms within the main survey. This data covered farmers' aspirations and plans for 2015 and 2016 for the whole business and for individual enterprises, the strength of these intentions and the reasons behind them. It also included any innovations or new practices adopted by the business in 2014. Key results are given below.

### **Major changes to the farm business**

- More than half of cropping farms (54%) planned to carry out a major change to the business in 2015 or 2016. Major changes were more likely for those in the North West than other regions and/or for those with a net worth of less than £500,000 or more than £2 million.
- For those planning a change, the most common reason given was to increase profitability (63%).
- The most common changes planned were to production levels on existing agricultural enterprises (34%) and to output on diversified enterprises (21%). The strength of intention for carrying out these changes was relatively strong; 47% and 42% (respectively) of those planning to make these changes indicated that plans were well developed and the changes were almost certain to be implemented.

### **Enterprise level changes**

- Major changes to agricultural enterprises were more likely to involve increasing or decreasing an existing enterprise (by at least 10%) than stopping or commencing something new. Changes were most likely to existing ornamental enterprises and least likely to existing combinable crop enterprises.
- Very few cropping farms (11%) had an existing enterprise that added value by selling direct to customers or by processing. Of those that did, 35% planned a major change in 2015 or 2016.
- Around a fifth (21%) of cropping businesses planned a major change to a diversification enterprise within the next two years. The planned change was largely to increase an existing enterprise (12% of cropping businesses) or to start a new enterprise (7%). The most common new enterprise type was generating electricity.

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### **An Official Statistics publication**

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## Major investment in the farm business

- Around 40% of cropping businesses planned a major investment in their business within the next two years. Larger farms were more likely to invest than smaller farms.
- The most common area for investment was in new machinery (16%).

## Innovation

- A third of cropping businesses had introduced a new or innovative practice in the previous 12 months. For around half of these farms (48%) this was primarily the result of the farmer's own ideas; 19% cited the primary source as the media and 17% cited other farmers, discussion groups or farm staff.
- Of those cropping business that introduced a new or innovative practice, over a third (36%) were related to crop and livestock husbandry. For 27% the new practice was linked to precision farming and for 25% linked to farm management. Eighteen percent had introduced specialist equipment and for 14% the new practice was related to renewable energy and water management.

## Detailed results

Information about farmers' aspirations and plans for the future is important in helping to assess where the industry is going, which, in turn, can help shape policy decisions. It is important, for example, in the context of structural change, CAP reform, food production issues and developments in the environmental footprint of farming.

It is not easy to obtain reliable data on farmers' intentions. The Farm Business Survey (FBS) was identified as a good research medium to collect this information and additional questions were included for the first time within the 2010/11 campaign. By using the FBS, relationships can be explored between farmers' intentions and farm type, size, profitability and location.

This information will also be of help to farmers, enabling them to have a clearer idea of where the industry is heading. With this information they can better decide whether their businesses and activities are in-line with the intentions of others in the industry, whether they wish to continue along their current path, or whether they wish to pursue a different approach to their business.

The data used in this analysis was collected by telephone in November 2014 from a subset of 363 cropping<sup>1</sup> farms taking part in the 2013/14 FBS. Completion was voluntary. The Farm Business Survey covers those farms with at least 25 thousand euros of standard output. Given the small sample size and the type of the questions that were asked, it is not possible to draw conclusions about the population based on this data. The survey data has therefore not been weighted.

This release provides the main results from the survey together with [confidence intervals](#). A full breakdown of results, by farm type, farm size, region, farm tenure, farmer's age, net worth and farm economic performance can be found at: <https://www.gov.uk/government/collections/farm-business-survey#documents>.

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<sup>1</sup> Cereal, general cropping, horticulture and mixed farms.

Regression models were fitted to the key “high level” survey question results to help determine the main factors driving responses. In each case seven factors were considered - farm type, farm size, region, net worth, economic performance, farmer’s age and farm tenure.

## 1 Major changes to the farm business

### Key findings:

- More than half of cropping farms (54%) planned to carry out a major change to the business in 2015 or 2016. Major changes were more likely for those in the North West than other regions and/or for those with a net worth of less than £500,000 or more than £2 million.
- For those planning a change, the most common reason given was to increase profitability (62%).
- The most common changes planned were to production levels on existing agricultural enterprises (34%) and to output on diversified enterprises (21%). The strength of intention for carrying out these changes was relatively strong; 47% and 42% (respectively) of those planning to make these changes indicated that plans were well developed and the changes were almost certain to be implemented.

Farmers were asked about any major changes that they intended to make to their business in 2015 or 2016. A major change was defined as being an intention, aspiration or plan that would lead to a change in the land use of that business, the output generated from the business, the economic efficiency of the business, or the strategic direction/continuation of the business. Changes planned to individual agricultural (e.g. cereals, ornamentals, livestock) and diversified enterprises are explored further in [section 2](#).

Farmers were also asked to provide an indication of their strength of intention to carry out this change and the reason for the change.

Strength of intention	Definition
Low	Planning underway, most details still to be sorted out
Medium	Most elements in place, some details still to be sorted out
High	Very well developed plans, almost certain to go ahead

More than half of cropping businesses planned to undertake a major change in 2015 or 2016 (Table 1). The most common planned changes were to production levels on existing agricultural enterprises (34%) and to output on diversified enterprises (21%). See [section 2](#) for further detail. The strength of intention was strong with 47% and 42% (respectively) of those planning these two types of change stating that plans were well developed and would almost certainly be implemented.

**Table 1: Type of change planned<sup>(a)</sup> in 2015 or 2016 and strength of intention**

Types of change <sup>(b)</sup>	Percentage of cropping businesses <sup>(c)</sup> (%)	Strength of intention		
		Low	Med	High
No major change identified	46 (±5)	Not collected		
Start, end or change production by at least 10% on any individual agricultural enterprise <sup>(d)</sup>	34 (±5)	14	39	47
Start, end or change output by at least 10% on any diversification enterprise <sup>(d)</sup>	21 (±4)	19	38	42
Increase farmed area/business by 10%	10 (±3)	42	21	37
Change management control of at least 10% of farmed area/business	7 (±3)	35	31	35
Decrease farmed area/business by 10%	7 (±3)	16	20	64
Fully or semi-retire by reducing time spent on farm work by at least 50%	7 (±3)	38	23	38
Start, end or change output by at least 10% on any specific value added enterprise <sup>(d)</sup>	4 (±2)	44	31	25
Switch to significantly more intensive methods of production	2 (±1)	Insufficient data		
Switch to significantly less intensive methods of production	2 (±2)	Insufficient data		

Source: Farm Business Survey.

Based on responses from 363 cropping businesses.

(a) Farm businesses could select more than one option.

(b) 'Other major changes' have not been presented due to data inconsistencies.

These data inconsistencies do not affect any other categories.

(c) 95% confidence intervals shown in brackets below estimate.

(d) Further details are given in [section 2](#) about the enterprise level changes.

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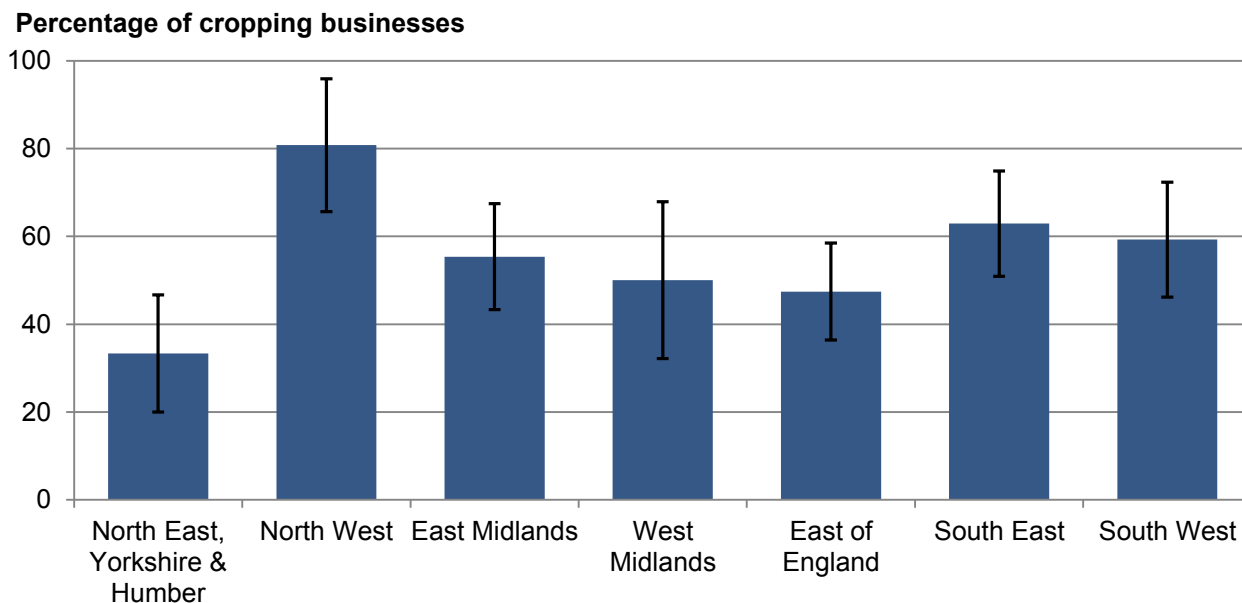
Percentage of cropping businesses

The likelihood of making a major change to the farm business was significantly<sup>2</sup> related to region and net worth. Cropping farms in the North West (81%) were most likely to have planned a major change within the next two years (Figure 1), cropping farms in the North East and Yorkshire and Humber were least likely (33%). Cropping businesses with a net

<sup>2</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, farm tenure, farmer age, net worth and farm performance) were significant. Region and net worth were significant at the 5% level.

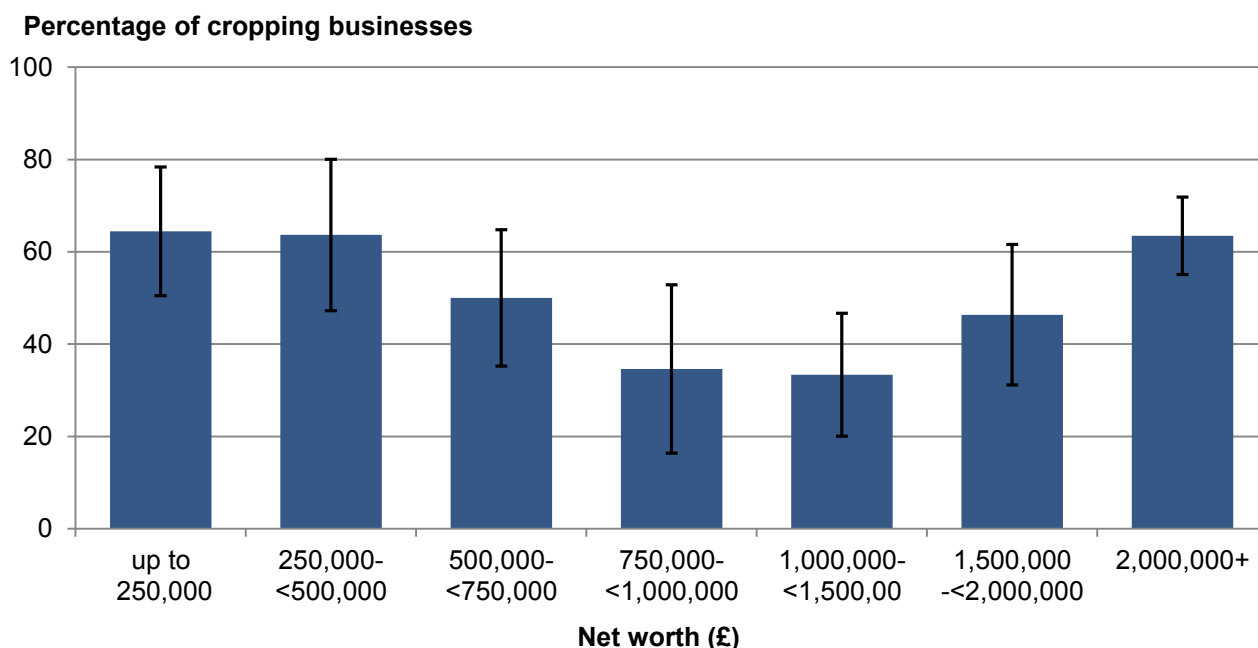
worth<sup>3</sup> of less than £500,000 and those with a net worth of at least £2 million were more likely to have planned a major change (Figure 2) than those with other levels of net worth.

**Figure 1: Percentage of cropping farms intending to make a major change in 2015 or 2016 by region**



Source: Farm Business Survey.

**Figure 2: Percentage of cropping farms intending to make a major change in 2015 or 2016 by net worth**



Source: Farm Business Survey.

<sup>3</sup> Net worth subtracts the value of total liabilities from total assets, including tenant type capital and land. This represents the wealth of a farm if all of their liabilities were called in. Businesses with a high net worth are likely to be resilient, at least in the short term, to fluctuations in their income. This is because they can draw on these reserves to support the business if the financial position of the farm deteriorates.

For those intending to make a major change to the business, the most common reasons given were to increase profitability (63%, Table 2), and due to the age of farmer/grower (18%).

**Table 2: Reasons for planned business level change<sup>(a)</sup>, England 2013/14**

<b>Reason given for change</b>	<b>Percentage of cropping businesses (%)</b>	<b>95% confidence interval (%)</b>
To increase profitability	63	±7
Age of farmer/grower	18	±5
Business is not economically viable unless it changes	14	±5
A desire to hand over to children/successor	12	±4
For personal reasons	9	±4
Focussing on other business interests	4	±3
Other reason	22	±6

Source: Farm Business Survey.

Based on responses from 196 cropping businesses that indicated they planned a major change in 2015 or 2016.

(a) Farm businesses could select more than one option.

## 2 Enterprise level changes

### Key findings:

- Major changes to agricultural enterprises were more likely to involve increasing or decreasing an existing enterprise (by at least 10%) than stopping or commencing something new. Ornamental enterprises were most likely to have major changes planned; combinable crop enterprises were least likely.
- Very few cropping farms (11%) had an existing enterprise that added value by selling direct to customers or by processing (e.g. packaging, butchering, on-farm cheese production). Of those that did, 35% planned a major change in 2015 or 2016.
- Around a fifth (21%) of cropping businesses planned a major change to a diversification enterprise within the next two years. The planned change was largely to increase an existing enterprise (12% of cropping businesses) or to start a new enterprise (7%). The most common new enterprise type was generating electricity.

Farmers were asked about their intentions to make major changes to individual agricultural (e.g. combinable crops, ornamentals etc) and on-farm diversified enterprises in 2015 or 2016. For each type of enterprise the farmer could specify whether they were planning to commence, end, increase or reduce production. It has not been possible to produce statistics for all enterprise types due to small sample sizes.

### 2.1 Agricultural enterprises

Around a third of cropping businesses had planned a major change to at least one of their existing agricultural enterprises within the next two years ([section 1](#)). This change was more likely to involve increasing (18% of cropping businesses, Table 3) or reducing (13%) an existing enterprise than ending (6%) or starting a new one (4%). Changes were most likely to existing ornamental or hardy nursery stock enterprises (35% of those with this

enterprise type had planned a major change to it) and least likely for combinable crops (16%, Figure 3).

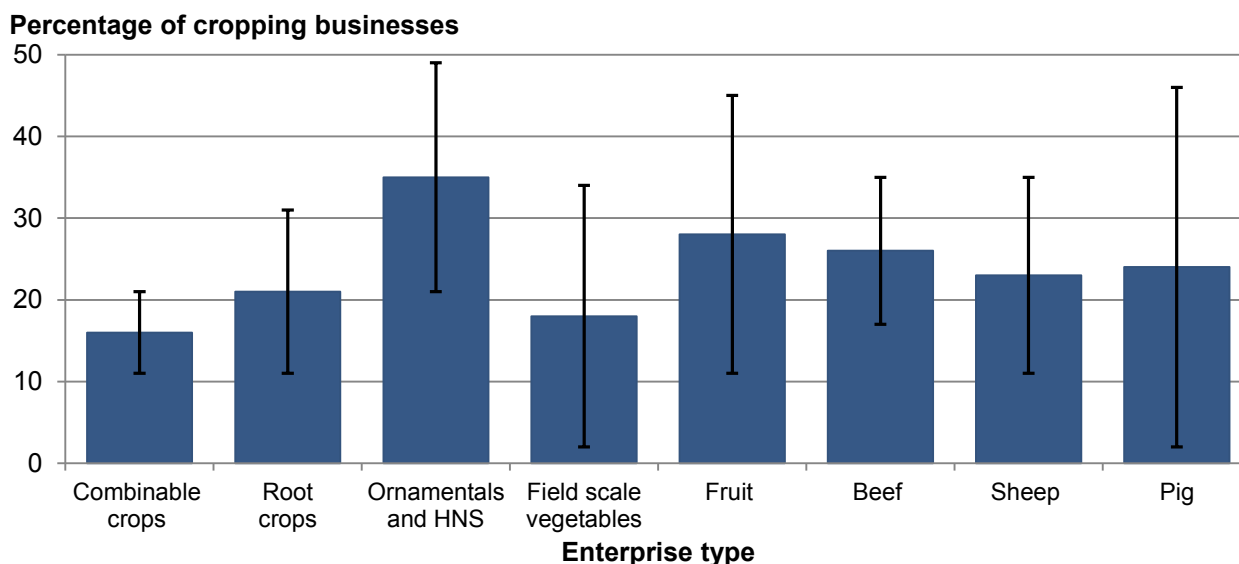
**Table 3: Type of major change planned in 2015 or 2016 to agricultural enterprises<sup>(a)</sup>, cropping businesses England 2013/14**

Type of major change	Percentage of cropping businesses (%)	95% confidence interval (%)
Start a new agricultural enterprise	4	±2
Increase an existing agricultural enterprise by at least 10%	18	±4
Reduce an existing agricultural enterprise by at least 10%	13	±4
Stop an existing agricultural enterprise	6	±3

Source: Farm Business Survey.

(a) Farm businesses might have more than one agricultural enterprise (e.g. combinable crops and beef) and have different plans for each one. For example a farm business may be increasing their sheep enterprise but could be stopping their beef enterprise.

**Figure 3: Percentage of cropping businesses with planned major changes to existing agricultural enterprises<sup>(a)(b)</sup> in 2015 or 2016, England 2013/14**



Source: Farm Business Survey.

HNS = Hardy nursery stock.

(a) Restricted to just those farm businesses which have the corresponding agricultural enterprise. Excludes starting up of new enterprises. For example 16% of those with a combinable crop enterprise planned a major change to that enterprise type.

(b) Due to insufficient data it has not been possible to produce statistics for milk, eggs, broiler and other enterprises.

## 2.2 Added value enterprises

Very few cropping farms (11%) had an existing enterprise that added value by selling direct to customers or by processing (e.g. packaging, butchering, on-farm cheese production). Of those that did, 35% planned a major change in 2015 or 2016, this was largely to expand rather than reduce or cease production. For those with an existing added value enterprise selling directly to the customer, 40% planned a change in the next two years. For those with an added value enterprise processing products, 28% planned a change in the next two years.

### 2.3 Other diversified enterprises

Nearly two thirds (63%) of cropping businesses had an existing diversified enterprise on farm. Around a fifth (21%) of all cropping businesses planned a major change to a diversification enterprise within the next two years ([section 1](#)). The planned change was largely to increase an existing enterprise (12% of cropping businesses) or to start a new enterprise (7%, Table 4). The most common new enterprise type was generating electricity. The most common specified existing diversified activity for which a major change was planned was tourism activities (40%, Figure 4); the intended change was largely to increase this activity.

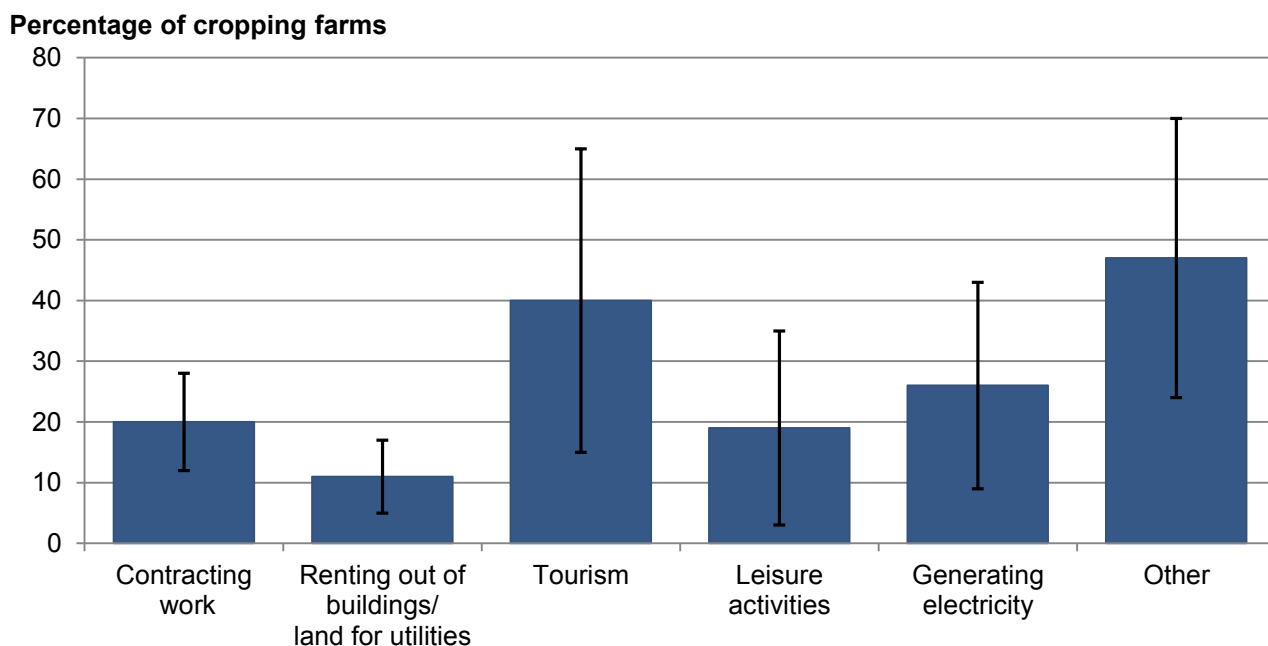
**Table 4: Type of change planned in 2015 or 2016 to other diversified enterprises<sup>(a)</sup>, cropping businesses England 2013/14**

Type of major change	Percentage of cropping businesses (%)	95% confidence interval (%)
Start a new diversified enterprise	7	±3
Increase an existing diversified enterprise by at least 10%	12	±3
Reduce an existing diversified enterprise by at least 10%	4	±2
Stop an existing diversified enterprise	1	±1
No major change planned to any existing diversified enterprise	47	±5

Source: Farm Business Survey.

(a) Farm businesses might have more than one diversified enterprise and have different plans for each one. For example a farm business may be increasing their tourism enterprise but could be stopping their contracting enterprise.

**Figure 4: Percentage of cropping businesses with planned changes to existing diversification enterprises<sup>(a)</sup>, England 2013/14.**



Source: Farm Business Survey.

(a) Restricted to just those cropping businesses with the particular diversified enterprise. Excludes starting up of new enterprises. For example 20% of those undertaking contracting work planned a major change to that enterprise.



### 3 Major Investment in the farm business

#### Key findings:

- Around 40% of cropping farms planned a major investment in their business in 2015 or 2016. Larger farms were more likely to have planned a major investment than smaller farms.
- The most common area for the investment was in new machinery/plant (16%).

Around 40% of cropping businesses planned to make a major investment in their business within the next two years (Table 5). A 'major investment' was defined as one that would be a central part of securing the medium term (3-5 years) strategic direction of the business<sup>4</sup>.

The most common areas for investment were new machinery/plant (16%) and buildings (15%). The strength of intention to undertake major investments was mixed. For those planning to purchase land, 41% indicated that they had a strong intention to go ahead (high intention - very well developed plans). For those planning to invest in green energy, more than half (56%) indicated that they only had the ideas in place (low intention).

**Table 5: Percentage of cropping businesses considering a major investment in the farm business<sup>(a)</sup> in 2015 or 2016 and the strength of intention, England 2013/14**

Type of major investment <sup>(b)</sup>	Percentage of cropping businesses <sup>(c)</sup> (%)	Strength of intention		
		Low	Med	High
No major investment	63 ±5	Not Collected		
Machinery and plant	16 ±4	38	29	33
Buildings (including waste storage)	15 ±4	42	34	25
Green energy (solar, wind turbines, biomass)	11 ±3	56	18	26
Land purchase	6 ±2	41	18	41

Source: Farm Business Survey.

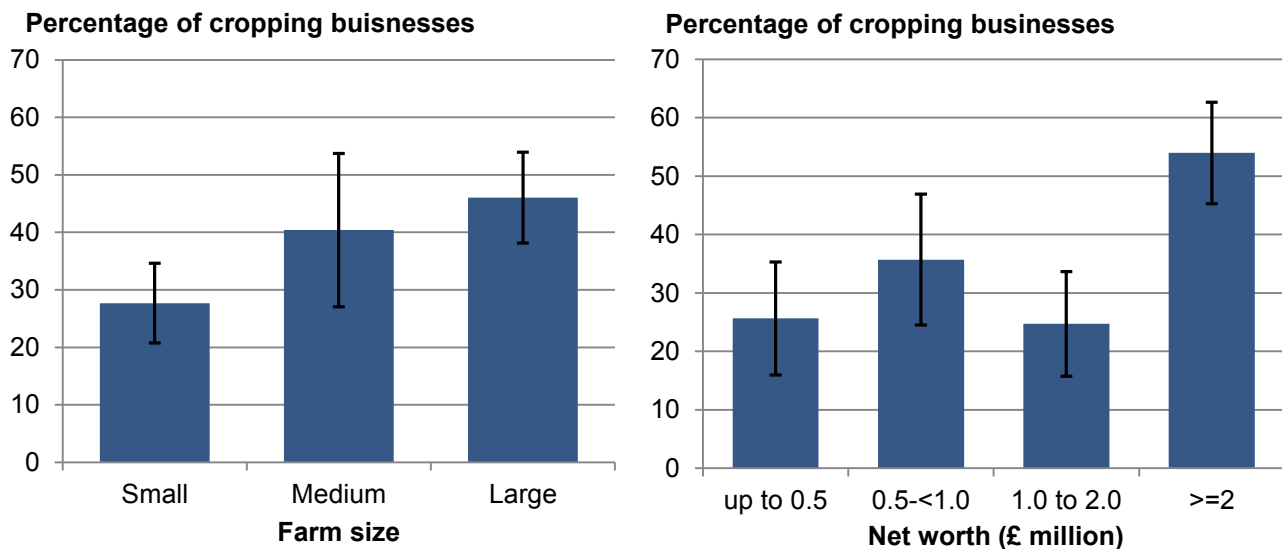
(a) Farm businesses could select more than one option.  
 (b) Due to insufficient data it has not been possible to show the 'other' category.  
 (c) 95% confidence intervals shown in brackets below estimate.

The likelihood of planning a major investment was significantly<sup>5</sup> related to farm size and net worth. Larger farms (46%, Figure 5) were more likely to have such a plan than smaller

<sup>4</sup> Examples include land and machinery purchases, new grain stores, glasshouses or accommodation for migrant farm labour. Investment in the private farmhouse (unless for B&B) was not included. More detailed guidance was given to data collectors.

farms (28%). This could be because larger farms are likely to be more complex businesses with several different enterprises and therefore need to invest more, or where more specialised equipment might need replacing more frequently due to heavier use than on smaller farms with smaller enterprises. Farms with a net worth in excess of £2 million (54%, Figure 5) were most likely to be planning a major investment. This is not surprising given that farms with a larger net worth will have more assets available on which to draw upon.

**Figure 5: Percentage of cropping farms planning a major investment in the farm business in 2015 or 2016 by farm size (left) and net worth (right), England 2013/14.**



Source: Farm Business Survey.

## 4 Innovation

### Key findings:

- A third of cropping businesses had introduced some form of new or innovative practice in the previous 12 months.
- For over a third (36%) of cropping businesses this was related to crop and livestock husbandry, for 27% the new practice was linked to precision farming.
- Of those that had introduced a new/innovative practice, nearly half (48%) stated that this was as a result of the farmer's own ideas, for 19% the idea arose from media articles.
- Of those that had introduced a new/innovative practice, 39% had used their own technical expertise to introduce the innovation(s).

Following scoping work<sup>6</sup> undertaken in 2014, a question was introduced on innovative (or new) practices introduced on farms during the previous year. For this survey an innovation was not necessarily 'cutting edge', but was defined as being something new to the farm or the marketplace. This could be a single significant change or a series of smaller incremental changes that together constituted a significant change.

<sup>5</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, farm tenure, farmer age, net worth and farm performance) were significant. Farm size and net worth were significant at the 5% level.

<sup>6</sup> "Farm Business Innovation, Cooperation and Performance", Rural Business Research, July 2014

A third of cropping businesses had introduced some form of innovative practice in the 12 months to November 2014 (Table 6). Around a quarter (24%) had introduced one innovation, a further 7% had introduced two innovations and 2% had introduced at least three innovations. The uptake of an innovative practice was not significantly<sup>7</sup> related to any of the factors examined.

**Table 6: Percentage of cropping businesses that had introduced a new practice/innovation in the year to November 2014, England**

	Percentage of cropping businesses (%)	95% confidence interval (%)
Did not introduce an innovative practice	67	±5
Introduced 1 innovative practice	24	±4
Introduced 2 innovative practice	7	±3
Introduced at least 3 innovative practices	2	±1

Source: Farm Business Survey.

Based on responses from 363 cropping businesses.

Up to three innovative practices were recorded for each farm. These have been grouped for analysis (Annex A). Of those cropping business that had introduced a new or innovative practice, for over a third (36%) this was related to crop and livestock husbandry, for 27% the new practice was linked to precision farming (Table 7).

**Table 7: Type of new practice/innovation introduced<sup>(a)</sup>, England 2013/14**

Innovations <sup>(b)</sup>	Percentage of cropping businesses (%)	95% Confidence Interval (%)
Crop and livestock husbandry	36	±9
Precision farming	27	±8
Farm management practices	25	±8
Specialist equipment	18	±7
Renewable energy and water management	14	±6

Source: Farm Business Survey.

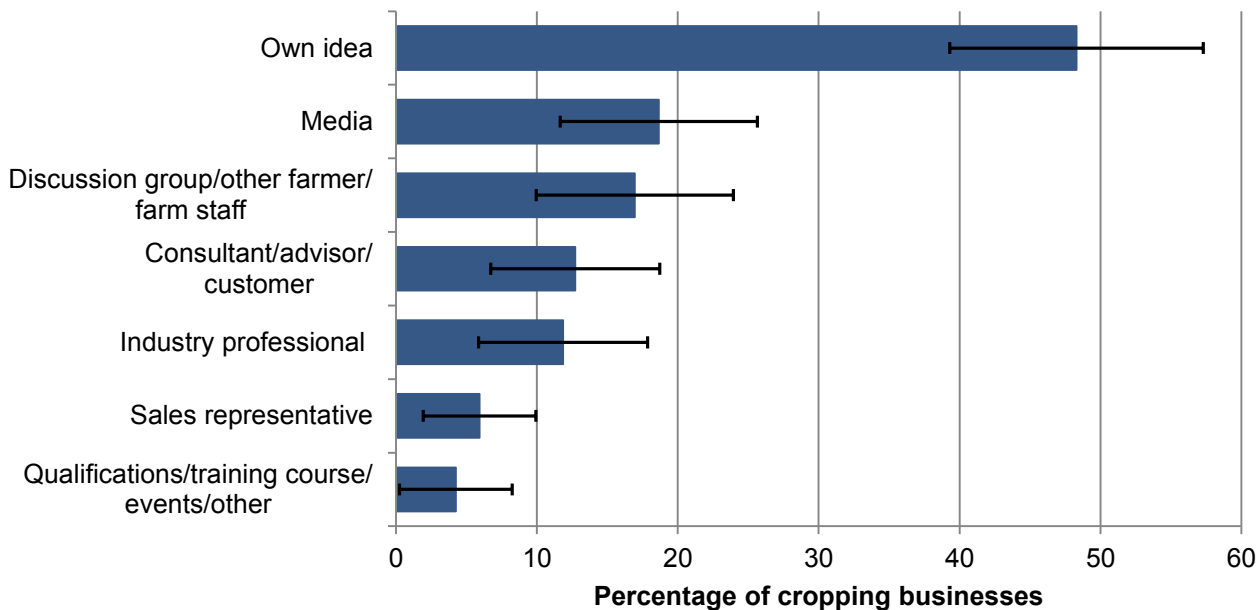
(a) Based on responses from 118 cropping businesses that had introduced an innovative practice in the 12 months to November 2014. Up to 3 practices were recorded for each farm.

(b) See Annex A for a list of the new practices/innovations included within each category.

Information was also collected about the source of the idea and the technical expertise used to introduce the innovation. Of those that had introduced a new/innovative practice, nearly half (48%, Figure 6) stated that this was as a result of the farmer's own ideas; for 4% the idea arose from gaining further qualifications, attending training courses or events etc.

<sup>7</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, farm tenure, farmer age, net worth and farm performance) were significant. No factors were significant at the 5% level.

**Figure 6: Source of new practice/innovation<sup>(a)</sup>, England 2013/14**

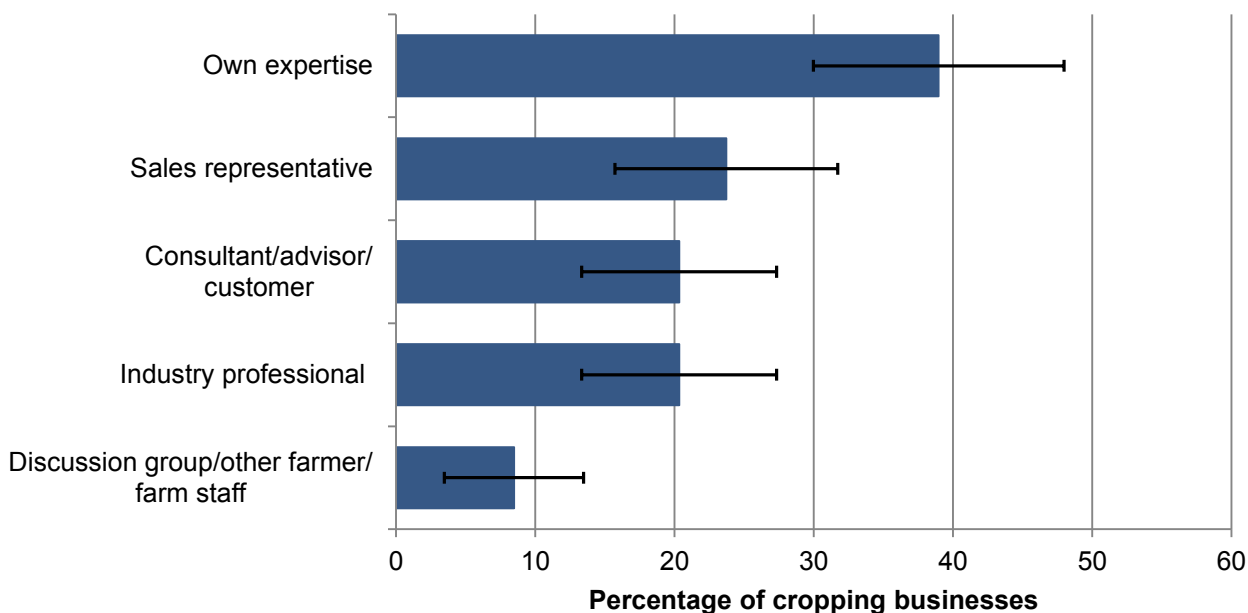


Source: Farm Business Survey.

(a) Based on responses from 118 cropping businesses that had introduced a new practice/innovation in 2014. More than one source could be selected.

Of those that had introduced a new/innovative practice, 39% (Figure 7) had used their own technical expertise to introduce the innovation(s); for 24% the expertise came from sales representatives.

**Figure 7: Technical expertise used<sup>(a)</sup>, England 2013/14**



Source: Farm Business Survey.

(a) Based on responses from 118 farm businesses that were innovating. More than one area of expertise could be selected.

## Survey details

### Survey content and methodology

The FBS is an annual survey providing information on the financial position and physical and economic performance of farm businesses in England. The sample of around 1,900 farm businesses covers all regions of England and all types of farming with the data being collected by face to face interview with the farmer. Results are weighted to represent the whole population of farm businesses that have at least 25,000 Euros of standard output<sup>8</sup> as recorded in the annual June Survey of Agriculture and Horticulture. In 2013 there were just over 58,000 farm businesses meeting this criteria.

For further information about the Farm Business Survey please see:

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey>

For the 2013/14 FBS, a sub-sample of 363 cropping farmers were asked questions about future intentions for their business in November 2014. Participation was voluntary and restricted to specific robust types (specialist cereals, general cropping, horticulture and mixed). Those farms that participated in the farmer intentions survey had similar characteristics to those farms in the main FBS in terms of farm type, farm size and geographical location. Full details of the characteristics of responding farms can be found at Annex B.

### Data analysis

The results from the FBS relate to farms which have a standard output of at least 25,000 Euros. Given the small sample size and the type of the questions that were asked within this survey, it would not be possible to draw conclusions about the full population based on this data. The results have therefore not been weighted.

### Accuracy and reliability of the results

We show 95% confidence intervals against the results. These show the range of values that may apply to the figures. They mean that we are 95% confident that this range contains the true value. They are calculated as the standard errors (se) multiplied by 1.96 to give the 95% confidence interval (95% CI). The standard errors only give an indication of the sampling error. They do not reflect any other sources of survey errors, such as non-response bias.

In order to generate the standard errors for this subset, a completely random sample has been assumed allowing for the finite population.

### Availability of results

This release contains headline results for each section. The full breakdown of results, by farm type, farm size, region, farm tenure, farmer's age, net worth and farm economic performance can be found at: <https://www.gov.uk/government/collections/farm-business-survey#documents>

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<sup>8</sup> For a definition of standard output please see the UK classification document here <https://www.gov.uk/farm-business-survey-technical-notes-and-guidance>

Defra statistical notices can be viewed on the Food and Farming Statistics pages on the Defra website at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics>. This site also shows details of future publications, with pre-announced dates.

### **Data Uses**

Data from the main FBS are provided to the EU as part of the Farm Accountancy Data Network (FADN). The data have been used to help inform policy decisions (e.g. Reform of Pillar 1 and Pillar 2 of the Common Agricultural Policy) and to help monitor and evaluate current policies relating to agriculture in England (and the EU). It is also widely used by the industry for benchmarking and informs wider research into the economic performance of the agricultural industry.

Information about farmers' aspirations and plans for the future is important in helping to assess where the industry is going, which, in turn, can help shape policy decisions. It is important, for example, in the context of structural change, CAP reform, food production issues and developments in the environmental footprint of farming. Basing decisions on past performance is good but factoring-in the likely shape of the sectors in future makes a much stronger basis for decision making, both from a farmer's perspective and that of government.

### **User engagement**

As part of our ongoing commitment to compliance with the Code of Practice for Official Statistics <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>, we wish to strengthen our engagement with users of these statistics and better understand the use made of them and the types of decisions that they inform. Consequently, we invite users to make themselves known, to advise us of the use they do, or might, make of these statistics, and what their wishes are in terms of engagement. Feedback on this notice and enquiries about these statistics are also welcome.

## Definitions

### Farm Type

Where reference is made to the *type of farm* in this document, this refers to the 'robust type', which is a standardised farm classification system.

### Farm Sizes

Farm sizes are based on the estimated labour requirements for the business, rather than its land area. The farm size bands used within the detailed results tables which accompany this publication are shown in the table below. Standard Labour Requirement (SLR) is defined as the theoretical number of workers required each year to run a business, based on its cropping and livestock activities.

<b>Farm size</b>	<b>Definition</b>
Small	less than 2 SLR
Medium	2 to less than 3 SLR
Large	3 or more SLR

### Farm Economic performance

*Economic performance* for each farm is measured as the ratio between economic output (mainly sales revenue) and inputs (costs). The inputs for this calculation include an adjustment for unpaid manual labour. The higher the ratio, the higher the economic efficiency and performance. The farms are then ranked and allocated to performance bands based on economic performance percentiles:

- **Low performance band** - farmers who took part in the farmer intentions survey and were in the bottom 25% of economic performers in this sample
- **Medium performance band** - farmers who took part in the farmer intentions survey and were in the middle 50% of performers in this sample
- **High performance band** - farmers who took part in the farmer intentions survey and were in the top 25% of performers in this sample.

### Net worth

Net worth represents the residual claim or interest of the owner in the business. It is the balance sheet value of assets available to the owner of the business after all other claims against these assets have been met.

### Innovation

The OECD definition for innovation has been used as a guide for this survey; this can be regarded as being changes in product(s) or the way they are produced through, for example, new machinery or changes in business practices. For this survey an innovation was not necessarily 'cutting edge', but was defined as being something new to the farm or the marketplace. This could be a single significant change or a series of smaller incremental changes that together constituted a significant change

### Major Change

For the purpose of this survey, "Major Change" is identified as an intention/aspiration / plan that will lead to a change in the land use of that business, the output generated from the business, the economic efficiency of the business, or the strategic direction/continuation of the business.

What might be thought of as a single project or event could qualify for more than one of the types of major change response in the survey. For example a (suitably large) purchase of arable land would be recorded as both *“increase farmed area by at least 10%”* and *“start, end or change production by at least 10% on any specific agricultural enterprise”*.

### **Major investment**

The definition of ‘major investment’ is any investment that is planned / been started / intended and that is a central part of securing the medium term (3-5 years) strategic direction of the business.

In the context of this survey a major investment might be one that was:

- Above and beyond normal practice
- Does not happen every year
- Innovative/cutting edge technology
- Necessary to meet legislative requirements (e.g. slurry storage, enriched poultry cages)
- Part of a plan to upgrade or expand
- Not simply replacing like with like/old with new
- Farmer is treating it as a major investment

### **Added value enterprises**

These were defined as activities relating to processing (e.g. on-farm cheese production, packing, butchering, sausage making, vegetable box service) and retailing (selling direct to customers without further processing, e.g. straw, wood sales) of farm produce.

### **Other diversified enterprises**

These included tourism, renting out buildings, power generation, leisure enterprises and contracting.



## **Annex A: Detailed list of the new practices/innovations included within each category**

### **1. Crop and livestock husbandry**

#### *Crop husbandry techniques:*

- biological/integrated management for control of pests and weeds
- use of alternative fertilisers including organic and green manures
- use of cover crops
- minimum tillage

#### *Livestock husbandry:*

- use of sexed semen
- new vaccination programmes for calves and lambs
- introduction of livestock recording software
- purchase of high index sires

### **2. Precision farming**

- adoption of GPS and precision farming techniques
- use of drones to map blackgrass patches

### **3. Farm management practices**

#### *Business practice:*

- changes to selling/marketing strategy of crops and livestock
- expanding business via new rental/management agreements
- extending growing season by using poly tunnels for soft fruit
- starting a new livestock enterprise
- growing of new and novel crops (e.g. yacon)
- diversification into tourism facilities
- use of contractors/machinery sharing

#### *Staff/labour saving:*

- introduction of labour saving practices
- change from paid employment to agency staff
- switching to salaried staff

#### *Processing:*

- changes to processing and packing lines

### **4. Specialist equipment**

- purchase of specialist cultivators/drills
- use of machines for thinning crops/pruning trees/potting plants
- investment in spraying and harvesting equipment/ machinery
- investment in crop drying/storage facilities

### **5. Renewable energy and water management**

#### *Energy efficiency:*

- installation of biomass boiler for heating glasshouses and garden centre
- installation of wind turbines, solar panels and air source heat pumps

#### *Water management*

- installation of a biobed for, e.g. the filtering of dirty water
- recycling of parlour wash water for reuse

## Annex B: Characteristics of responders to the FBS (eligible farms<sup>9</sup>) and the Farmer Intentions Survey

Region	Farms in the FBS eligible for Farmer Intentions Survey	Farmer Intentions Survey sample
North East and Yorkshire & Humber	13%	13%
North West	6%	7%
East Midlands	15%	18%
West Midlands	8%	8%
East England	25%	21%
South East	17%	17%
South West	15%	15%
<b>All farms</b>	<b>100%</b>	<b>100%</b>

Farm Type	Farms in the FBS eligible for Farmer Intentions Survey	Farmer Intentions Survey sample
Cereals	39%	38%
General cropping	18%	20%
Mixed	22%	21%
Horticulture	21%	21%
<b>All farms</b>	<b>100%</b>	<b>100%</b>

Farm size	Farms in the FBS eligible for Farmer Intentions Survey	Farmer Intentions Survey sample
Small	42%	44%
Medium	15%	14%
Large	43%	42%
<b>All farms</b>	<b>100%</b>	<b>100%</b>

<sup>9</sup> Cereal, general cropping, horticulture and mixed farms