

# Farm Business Survey

## 2011/2012

### Crop Production in England



Ben Lang



## CROP PRODUCTION IN ENGLAND 2011/2012

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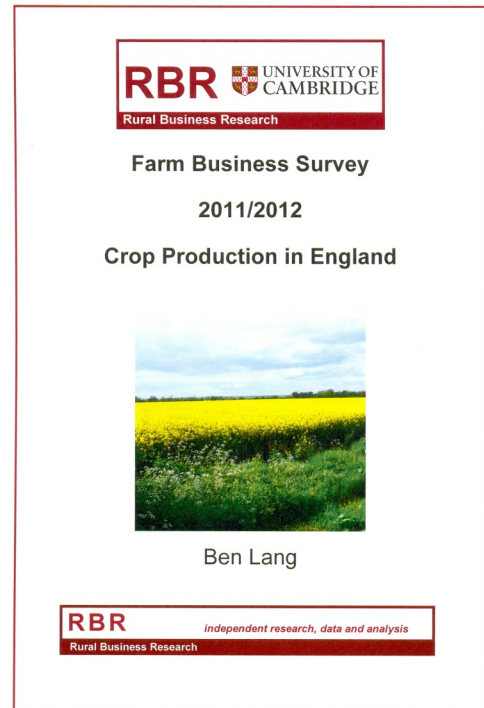
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## Crop Production in England 2011/2012

The full printed version of the report is now available and comprises:

- Overview of profitability, assets and liabilities
- Arable farm performance: agriculture
- Agri-environment, diversification, single payment
- Crop enterprise performance
- Crop and Input Prices
- Exploring the 'Yield Plateau' in Winter Wheat



Appendix 1 Agricultural output and costs comparison for by farm type, district, size and performance (39 tables)

Appendix 2 Gross margin results for comparison by farm type, district, size and performance (94 tables)

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## Foreword to the Seventh Series

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After months of negotiations Europe's leaders and finance ministers have finally agreed a finance package for the EU for the period up to 2020. To many people and businesses this may be of minor interest to their daily lives, but to those engaged in agriculture and horticulture such news carries more weight. Crucially, there are many farm businesses which rely heavily on the Single Farm Payment (SFP). Of course, not all sectors are equally reliant upon the SFP, in particular those in the pig, poultry and horticultural sectors for which the SFP is often a minor or non-existent revenue source. However, as Europe's leaders have now agreed the budget deal, the focus now turns to looking for clarity over the future of the Common Agricultural Policy (CAP). As noted in the foreword to the Sixth series of these reports, the only realistic direction of the value of the SFP is downwards; focusing upon the market, reducing business inefficiencies and dealing with risk and volatility are key areas for business development and growth.

Having witnessed one of the wettest summers on record during 2012, many businesses have observed first-hand the extreme production and price volatility that can result from operating within the natural environment. While the 2011 cropping and production year, upon which the results presented in this series are based, represented a more benign agricultural and horticultural environment, the variation in business and enterprise performance remains a strong feature of the analyses we present. Set against an environment of increased volatility, farmers and growers need to be aware of the strengths and weaknesses of their business and of their comparative position within their particular sector; having the data to undertake this analysis is therefore a key business requirement.

*Rural Business Research's (RBR)* series of enterprise and farm type reports based upon independent analysis from the Defra-funded Farm Business Survey (FBS) for England is now in its seventh series. It has, over a short space of time, become increasingly recognised as a key independent information source for businesses, business advisors and government to turn to for their data needs. In business standing still often equates to moving backwards as those around you grow and develop. In the competitive sectors in which agriculture and horticulture operates, knowledge and information remain key business tools for success.

As our series of reports has grown in popularity, I thank all the farmers and growers who take part in the FBS research programme which allows us to produce these valued information sources. I trust that the independent data produced within these reports continues to offer value to all the reports' readers.

**Dr Paul Wilson**

Chief Executive Officer, Rural Business Research  
Spring 2013

[www.ruralbusinessresearch.co.uk](http://www.ruralbusinessresearch.co.uk)

### ACKNOWLEDGEMENTS

Rural Business Research is very grateful to the farmers who have voluntarily provided records and information on which the FBS and this report are based.

Rural Business Research staff across England collected farm data. At the Rural Business Unit, Richard Dexter and Mark Reader designed the reporting system and Joy Meyrick and Stephen Horsley contributed to production of the report.

The data on which this report is based were originally collected in the Farm Business Survey and are Crown Copyright. The Farm Business Survey is collected on behalf of and financed by the Department for Environment, Food and Rural Affairs.

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Crop Production in England presents results for the 325 Cereals farms and 163 General Cropping farms that participated in the Farm Business Survey (FBS) in England. It relates to the 2011 harvest year. In addition, we present gross margins representing farms of all types. The year was dominated by drought conditions and resulting variable crop yields at a time of high crop prices. Energy and commodity driven variable and fixed cost increases summed to nine and three per cent respectively on Cereals and General Cropping farms, but again varied considerably between farms. Labour costs were unchanged but rents increased in the year. Agri environment scheme participation, diversification and the single payment provided continuity of income in a year of price volatility. Farms enjoyed strengthened balance sheets in the course of the year; the net worth of Cereals and General Cropping farms increased by nine and eight per cent to £9,435 per hectare and £8,631 respectively.

Combinable crop performance was dominated by higher prices which translated into higher gross margins despite sharp increases in fertiliser costs. For the first time, the winter oilseed rape gross margin exceeded that of winter wheat. Due mainly to higher prices for oilseed rape, Cereals farms enjoyed an improved Farm Business Income (FBI) of £499 per hectare. Crop output was generally higher in counties and Joint Character Areas (JCAs) with moisture retentive soils and located in the East Midlands and North of England; Lincolnshire achieved the highest contribution of FBI from agriculture but Cereals farms in Hampshire performed least well.

The winter wheat gross margin of £922 was little changed as the three per cent rise in crop price to £156 per tonne was lost, through an 11 per cent increase in seed cost and a 15 per cent increase in fertiliser cost. Average yields were unchanged on 2010 at 8.4 tonnes per hectare but with variation between farms and a new UK commercial wheat yield record was achieved by a Lincolnshire farmer on Grade 1 silt. The average value of straw increased by eight per cent. Areas of England conventionally important for wheat production, such as the East of England, produced especially low yields, but favourable yields were grown in counties less well known for wheat production; the highest county yield, of 9.4 tonnes per hectare, was in Buckinghamshire and the highest gross margin, of £1,187 per hectare was achieved in Somerset. Favourable margins were achieved in Kent, Leicestershire, Lincolnshire and Shropshire where good autumn establishment, the cold dry spring and long grain fill contributed to good yields. In Essex, wheat crops on light land died in the drought of spring 2011, but some heavier land still produced reasonable yields. There were also important variations in prices; the lowest prices were received in the East of England. Wheat prices varied from £147 per tonne in Norfolk to £165 per tonne in Northamptonshire.

The improved winter barley gross margin of £674 per hectare was achieved through a higher price but again, there was considerable regional variation in the performance of winter barley from a gross margin of £891 per hectare in Devon to £374 per hectare in Suffolk.

Oilseed rape achieved the highest combinable crop gross margin at £1,080 per hectare. This was achieved through a 21 percent increase in crop price in combination with a record yield of 4.0 tonnes per hectare that exceeded the five year average by 16 per cent. Farmers responded to the favourable price of oilseed rape with a ten per cent increase in area. The best performing oilseed rape crops were found in North Yorkshire where yields of 4.6 tonnes per hectare gave gross margins averaging £1,316 per hectare. The highest crop price, of £391 per tonne was received in Northumberland, contrasting with £347 per tonne in Leicestershire. The crops of Cambridgeshire were the lowest yielding at 3.6 tonnes per hectare and the lowest gross margin was the £915 per hectare in Oxfordshire.

Pea crops performed very well in terms of yield, quality and price, with the result that the gross margin increased by 47 per cent to £827 per hectare, but pea and bean areas declined by 26 and 28 per cent respectively.

Constrained by the poor performance of the potato crop, the FBI of General Cropping farms reduced to £414 per hectare. The sugar beet price was unchanged, but higher yields ensured improved performance of this crop. However, potato production was unprofitable for most producers due to oversupply and poor crop quality; all variable costs increased and the resulting gross margin was £2,474 per hectare, and 59 per cent of the five year average, despite repeating the performance of the crop in terms of yield, price and margin in 2009.

**Ben Lang**

# 1 Overview of Profitability, Assets and Liabilities

## 1.0 The Whole Farm

Crop Production in England presents results at the farm business level for 325 Cereals farms and 163 General Cropping farms that participated in the Farm Business Survey (FBS) in England. In addition, we present gross margins representing farms of all types. We start our analysis of arable farming in 2011/2012, the 2011 harvest year, with a look at the whole business. The year was dominated by drought conditions and resulting variable crop yields at a time of high crop prices. Due mainly to higher prices for oilseed rape, Cereals farms enjoyed an improved Farm Business Income (FBI) of £499 per hectare and net farm income of £412 per hectare. Constrained by the poor performance of the potato crop, the FBI of General Cropping farms reduced to £414 per hectare and net farm income of £331 per hectare. Due to wide variations in yield, there was considerable variation in the financial performance of farms.

This first Chapter reports performance of the whole farm business, Chapters 2,3 and 4 provide detail about agriculture, non agriculture and crop gross margins.

## 1.1 Farm Business Income

The tables below provide profit and loss accounts for Cereals and General Cropping farms.

Cereals Farms - Farm Business Income

	2010	2011
Number of farms	312	325
Area of farm	187	199
Crop output	929	1,044
Livestock output	32	41
Agri-environment	41	41
Other output	180	195
Single Payment	215	209
<b>Total Output</b>	<b>1,396</b>	<b>1,531</b>
Variable costs	404	448
Fixed costs	550	594
<b>Total costs</b>	<b>953</b>	<b>1,042</b>
Profit on sale of assets	10	10
<b>Farm Business Income</b>	<b>453</b>	<b>499</b>
Less labour	14	13
Add interest	22	20
Less rental costs	92	94
<b>Net Farm Income</b>	<b>370</b>	<b>412</b>

General Cropping Farms - Farm Business Income

	2010	2011
Number of farms	162	163
Area of farm	223	244
Crop output	1,487	1,419
Livestock output	40	51
Agri-environment	44	44
Other output	153	159
Single Payment	207	209
<b>Total Output</b>	<b>1,931</b>	<b>1,884</b>
Variable costs	636	651
Fixed costs	800	826
<b>Total costs</b>	<b>1,436</b>	<b>1,476</b>
Profit on sale of assets	6	7
<b>Farm Business Income</b>	<b>501</b>	<b>414</b>
Less labour	16	12
Add interest	27	24
Less rental costs	99	96
<b>Net Farm Income</b>	<b>414</b>	<b>331</b>

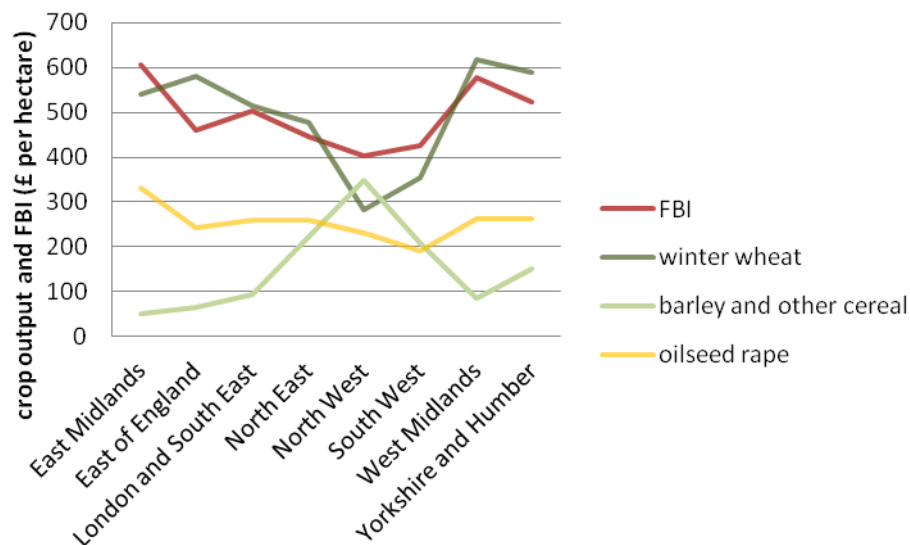
## 1 Overview of Profitability, Assets and Liabilities

The driver of arable profitability continues to be the yield and price of agricultural production. Drought conditions gave rise to considerable variation in yield and quality with the result that performance varied between farm businesses. Our classification of farm businesses is based on cropping and stocking, so livestock activity necessarily comprises a small share of agricultural activity but the measured output from livestock enterprises was 28 per cent higher on both farm types due to greater stocking as well as improved livestock prices. Whilst agri-environment output was unchanged, other output, from diversification and contracting, increased.

Energy and commodity driven variable and fixed cost increases summed to nine and three per cent respectively on Cereals and General Cropping farms, but again varied considerably between farms.

Figure 1.1 shows the FBI of Cereals farms across regions in England, alongside output from crops. This shows the importance of oilseed rape and wheat output in achieving higher FBI.

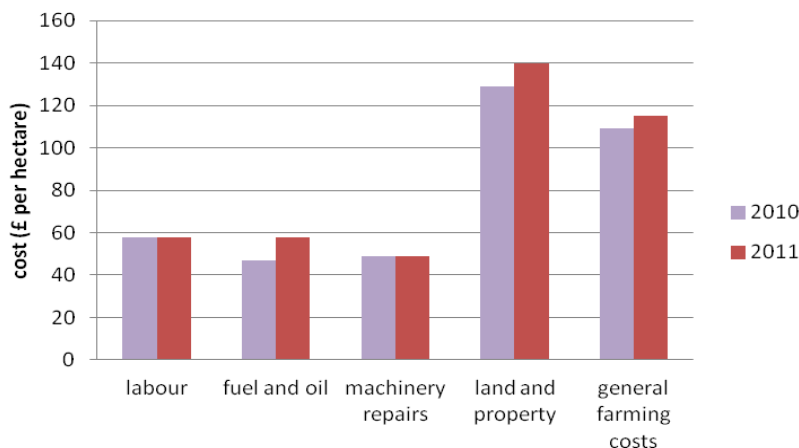
Figure 1.1 Cereals Farms, Crop Output and FBI per hectare by Region



### Fixed Costs

Fixed costs on Cereals farms averaged £594 per hectare (£550 in 2010); the increase was due mainly to higher energy costs. The details are set out in Figure 1.2.

Figure 1.2 Cereals Farms, Fixed Costs 2010/2011 and 2011/2012



# 1 Overview of Profitability, Assets and Liabilities

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Labour costs were unchanged as the 2.4 per cent increase in Agricultural Wages Board labour rates was mitigated by a reduction in regular labour. Although machinery depreciation and repair costs were unchanged, we recorded a substantial increase in fuel costs to £58 per hectare (£47 per hectare in 2010). Higher rents resulted in greater occupancy costs and utility bills also increased.

Fixed costs on General Cropping farms are typically specific to cropping, but similar cost increases were observed.

## Rent

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Some 735 thousand hectares of land on Cereals and General Cropping farms were rented on Full Agricultural Tenancies (FATs), and a further 482 thousand hectares of land were rented on Farm Business Tenancy (FBT) arrangements in 2011<sup>1</sup>. Within FAT arrangements, average rents paid were £171 per hectare on Cereals farms (£166 per hectare in 2010) and £192 per hectare on General Cropping farms (unchanged on the previous year). FBT rents averaged £192 per hectare on Cereals farms, some nine per cent higher than the previous year's £179 per hectare. On General Cropping farms, which typically occupy land of high quality, FBT rent averaged £309 per hectare in 2011, and 24 per cent higher than the £249 per hectare paid in 2010. A rule of thumb for rental tenders is 'wheat price (£ per tonne) x 1.85 = rent (£ per hectare)', but prices tendered in 2011 and 2012 were typically higher than this<sup>2</sup>.

The Crown Estate "introduced a new type of lease to mitigate the effects of market price volatility<sup>3</sup>. Known as the Farm Business Tenancy (variable) agreement – or FBT(v) – the lease creates a direct link between rental and commodity prices. It has been tested on our Gopsall, Billingborough and Romney Marsh estates. Prospective tenants were invited to bid in a conventional manner, but also encouraged to submit offers comprising a base rent plus a variable element linked to market prices. This approach has been widely applauded by tenants, their representative bodies and the industry alike. During 2012/13 we will build on the success of FBT(v) and will offer it on an increasing number of tenancies."

## 1.2 Assets and Liabilities

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Balance sheets for Cereals and General Cropping farms are shown in the tables below.

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<sup>1</sup> Farm Rents 2011/12, Defra

<sup>2</sup> Farmers Weekly 15 June 2012

<sup>3</sup> The Crown Estate, Annual Report and Accounts 2012

# 1 Overview of Profitability, Assets and Liabilities

Cereals Farms Balance Sheet (£/ha)

	Opening 2011	Closing 2011
Number of farms	325	325
Area of farm	190	190
Assets		
Land and buildings	7,346	8,011
Machinery	634	703
SPS Entitlement	251	275
Other fixed assets	30	37
Current assets	1,161	1,254
Liabilities	731	845
Net Worth	8,690	9,435

General Cropping Farms Balance Sheet (£/ha)

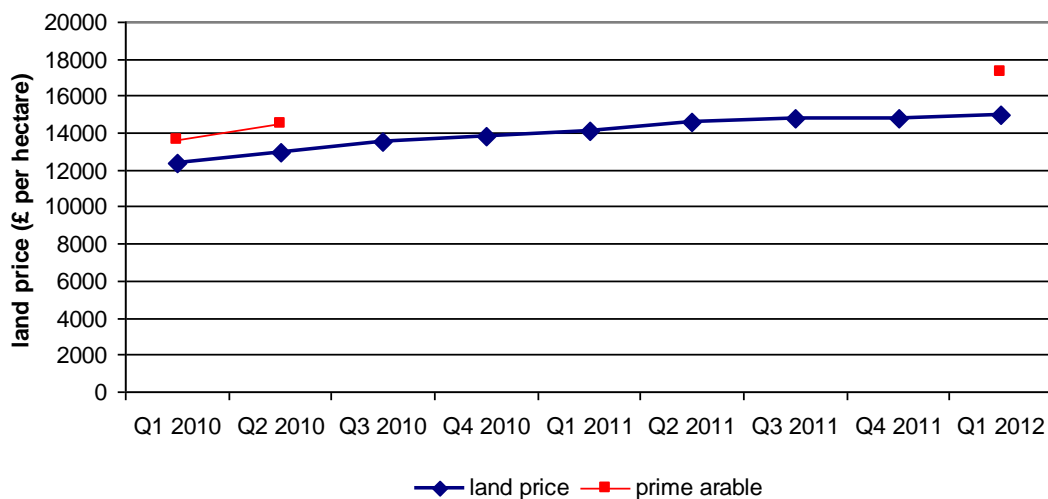
	Opening 2011	Closing 2011
Number of farms	163	163
Area of farm	244	244
Assets		
Land and buildings	6,841	7,408
Machinery	713	760
SPS Entitlement	253	273
Other fixed assets	70	78
Current assets	1,178	1,184
Liabilities	1,025	1,071
Net Worth	8,028	8,631

On average, Cereals and General Cropping farms enjoyed strengthened balance sheets in the course of the year with higher valued assets of all types, along with higher liabilities. The net worth of Cereals and General Cropping farms increased by nine and eight per cent to £9,435 per hectare and £8,631 respectively.

## Land

Figure 1.3 shows increasing arable land values in 2010 to April 2012.

Figure 1.3 Price of Grade 3 Arable Land in England 2010 /2012



Source: Savills Research

# 1 Overview of Profitability, Assets and Liabilities

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Throughout 2011, land prices continued to increase; grade 3 arable land in England increased in value by six per cent to an average of £14,950 per hectare<sup>1</sup>. It was arable land that was most in demand and good quality land in the Eastern Counties led this growth. In an exceptional development, a single lot of 23.47 hectares of Grade 1 silt land near Boston, Lincolnshire achieved a record sale price of £44,614 per hectare in a sale in October 2011<sup>2</sup>. This was believed to be a record price for bare land, albeit for land that is regularly double cropped.

Higher land prices are believed to be the main reason for increased supply of land in 2011; some 9,160 hectares were advertised in the year to April 2011 compared to 7,200 hectares in the previous year<sup>3</sup>. The increase in supply was greatest in the East and South East with increases of land marketed of 42 and 35 per cent respectively<sup>4</sup>. Some 16 per cent of sales related to debt, the highest proportion since 2006<sup>5</sup>. Private investors, institutions and overseas owners were all net sellers of agricultural land in 2011; Danish owners represented five per cent of sellers overall and ten per cent of sellers in the East of England. Farmers, expanding their farming activities, were net buyers of land accounting for 54 per cent of all purchasers in the East of England.

Recent improved financial performance of arable farming has created the opportunity to invest in infrastructure on the farm. Grain storage, both on-farm investment and investment in grain cooperatives, has been a priority for many farmers. And in the context of successive dry growing seasons, the construction of winter storage reservoirs has been attractive.

## Single Payment Entitlement

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Trade in flat rate single payment entitlement gave an average price of £250 per hectare for the 2011 season, rising to £275 late in the season<sup>6</sup>. These market valuations are consistent with our independently calculated estimates prepared for the FBS.

## Machinery

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Favourable trading conditions on arable farms have permitted reinvestment in farm businesses, further encouraged by the reduction in the HMRC's Annual Investment Allowance (AIA) from £100,000 in 2011/2012 to £25,000 from April 2012<sup>7</sup>.

Machinery values, as valued in the FBS increased by 11 and seven per cent on Cereals and General Cropping farms as arable farmers made investments exceeding depreciation.

Across all farm types, UK tractor sales increased by four per cent to 97,429 in the year to March 2012. Arable and livestock farms shared in this investment following favourable livestock performance in the year<sup>8</sup>.

Figure 1.4 shows the machinery purchasing practice of Cereals and General Cropping farmers and Figure 1.5 shows the resulting closing values of machinery, in each case by type of machine.

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<sup>1</sup> The value of grade 3 arable land, Savills Research, 16 May 2012

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 31 October 2011

<sup>3</sup> Farmers Weekly, 15 April 2011

<sup>4</sup> Supply and values of UK farmland, Savills Research, 15 March 2012

<sup>5</sup> Buyers and sellers of agricultural land, Savills Research, 15 March 2012

<sup>6</sup> Farmers Weekly, 26 August 2011

<sup>7</sup> Farmers Weekly, 9 March 2012

<sup>8</sup> Agricultural Engineers Association, [www.aea.uk.com](http://www.aea.uk.com)

# 1 Overview of Profitability, Assets and Liabilities

Figure 1.4 Machinery Expenditure on Cereals and General Cropping Farms 2010/2011 and 2011/2012

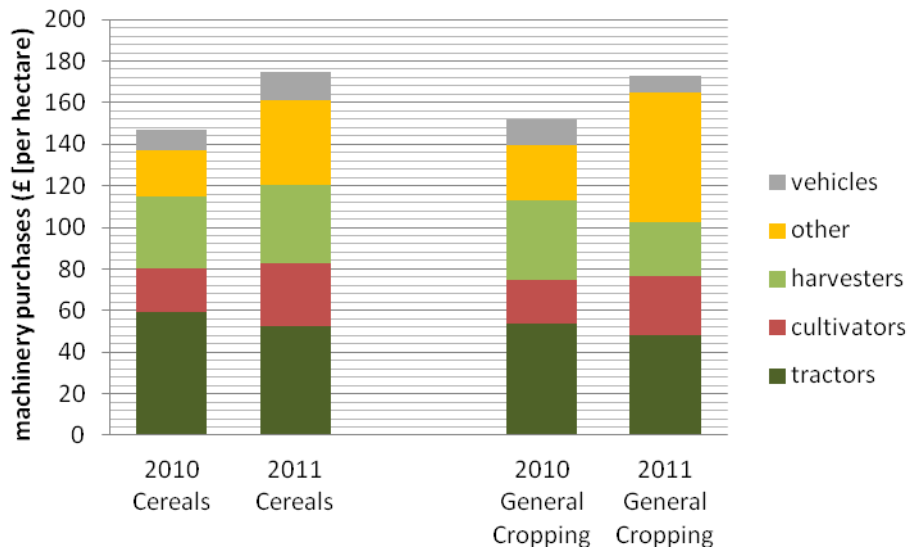
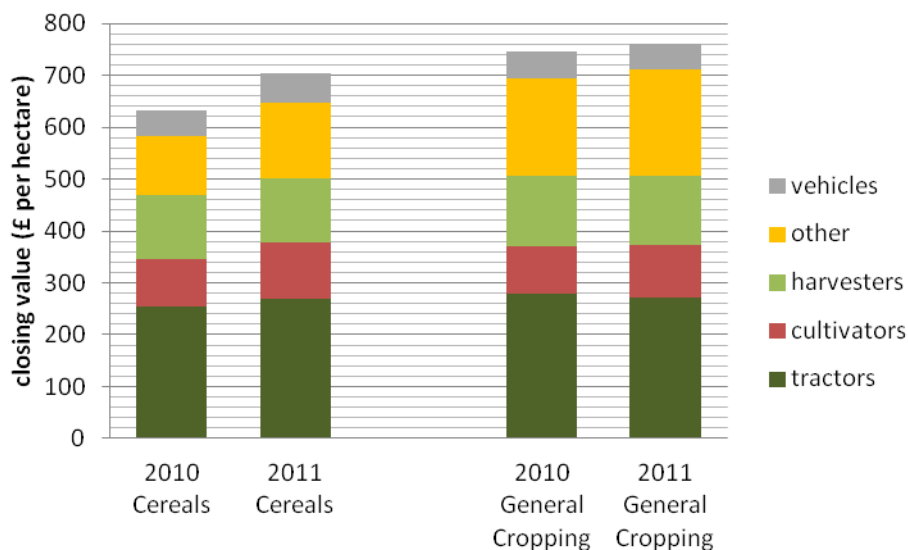


Figure 1.5 Closing Valuation of Machinery on Cereals and General Cropping Farms 2010/2011 and 2011/2012



Following a period of investment in combines, tractors and crop establishment machinery, we have seen considerable recent investment in crop sprayers and long life machines such as grain trailers, suggesting that funds were available for long term strategic investment as well as for necessary urgent replacement.

## Liabilities

According to the Bank of England, total lending to agriculture increased by six per cent to £12.4 billion in the year to March 2012<sup>1</sup>. Borrowing on Cereals farms increased by 16 per cent to £845 per hectare in the year, whilst on General Cropping farms, the increase in borrowing was less than one per cent to £1,071 per hectare. Banks typically asked farms that

<sup>1</sup> Bank of England, [www.bankofengland.co.uk](http://www.bankofengland.co.uk), accessed 20 November 2012

# 1 Overview of Profitability, Assets and Liabilities

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run large overdrafts to transfer their borrowing onto staged loans allow a more formalised approach to borrowing.

We observe a very variable situation depending on the balance sheet strength and profit record of the individual business. Banks have continued to lend willingly to owner occupiers with strong balance sheets, and have not increased lending rates to these businesses.

Tenants with a more challenged balance sheet have found it difficult to raise additional finance. Where finance has been advanced or even just reviewed, rates over base seem generally increased with some very significant loan arrangement fees or renewal fees charged. In order to secure finance, some businesses have avoided issues with their bank by taking on additional hire purchase, or by paying for working capital, such as fertiliser, later by agreement (usually at a higher price).

## 2 Arable Farm Performance: Agriculture

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### 2.0 The Cost Centre Approach

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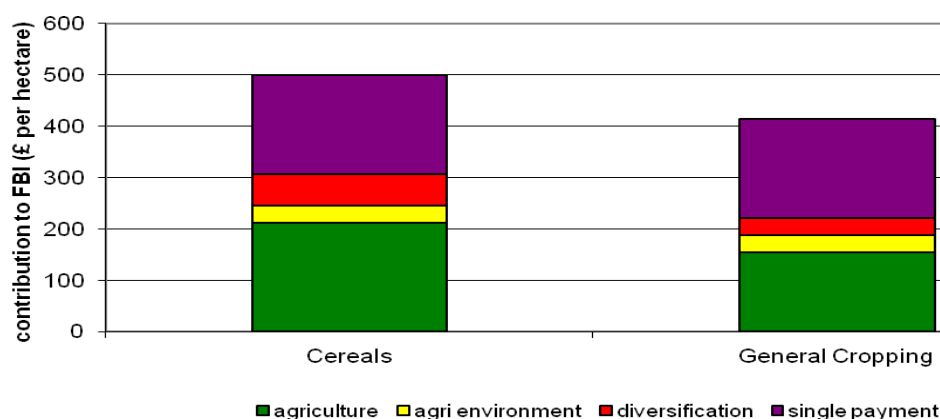
The results presented in this Chapter relate solely to the activity of **agriculture**. The outputs, costs and FBI attributable to this activity can be summed with that from agri environment scheme participation, diversification outside agriculture and the Single Payment scheme to give results for the whole farm business. Whilst output and variable costs can be readily split between these four Cost Centres; some element of estimation is needed in order to share labour, machinery, property and overhead costs. Within the FBS, this is carried out on a consistent basis using an agreed approach<sup>1</sup>.

### 2.1 Agriculture, Agri-environment, Diversification and Single Payment

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Figure 2.1 shows the share of Farm Business Income (FBI) to each of the four cost centres on Cereals farms and General Cropping farms respectively.

Figure 2.1 Contribution to Farm Business Income by Cost Centre on Cereals and General Cropping Farms



### 2.2 Cropping and Crop Areas

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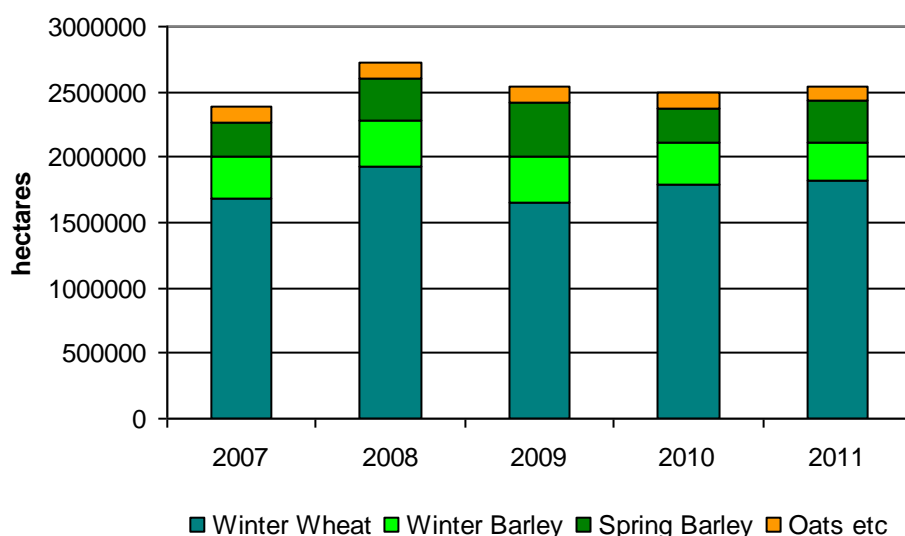
Figures 2.2, 2.3 and 2.4 summarise the cropping with cereals, break crops and root and horticultural crops respectively.

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<sup>1</sup> Appendix 2 (Item VI) Farm Accounts in England 2008 /2009 Defra statistics

## 2 Arable Farm Performance: Agriculture

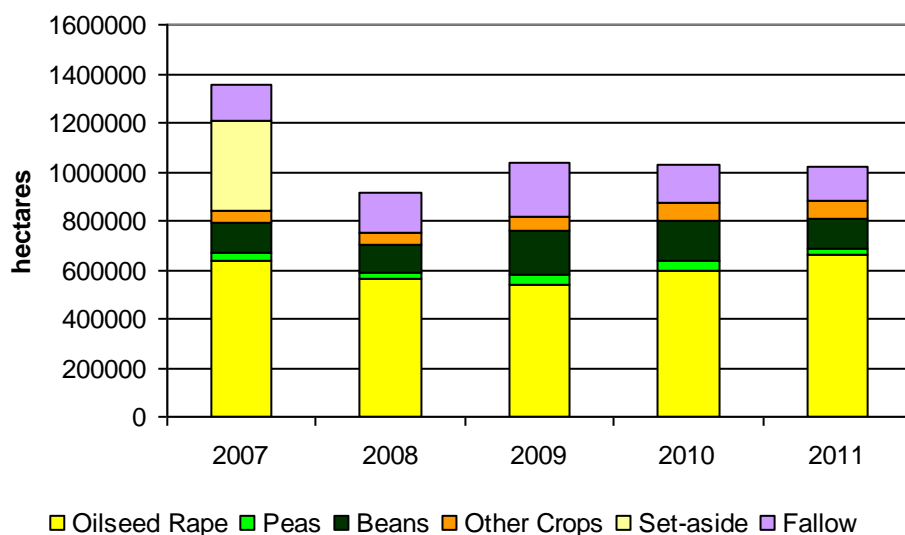
Figure 2.2 Cereal Crop Area, 2007 to 2011



Source: Defra June Survey 2011

The winter wheat area in England was 1.82 million hectares, up 1.5 per cent on 2010. Of this, 75,000 hectares was used for ethanol production<sup>1</sup>. Driven by the prospect of improved premiums for malting, the overall barley area rose by nearly five per cent to 614,000 hectares with an increase in winter barley relative to the spring crop. The long term decline in oat production continued and only 80,000 hectares were drilled.

Figure 2.3 Break Crop Area, 2007 to 2011



Source: Defra June Survey 2011

The response of farmers to the favourable price of oilseed rape area was to increase their area planted by ten per cent in area to 660,000 hectares. This followed a 12 per cent increase in 2010. Some 8,000 hectares were grown for biodiesel production<sup>1</sup>. In relative terms, pea and bean production may have appeared to be less competitive, and the areas of these crops declined by 26 and 28 per cent respectively to 119 thousand hectares and 29 thousand hectares. Among other crops the linseed area was 36,000 hectares (44,000

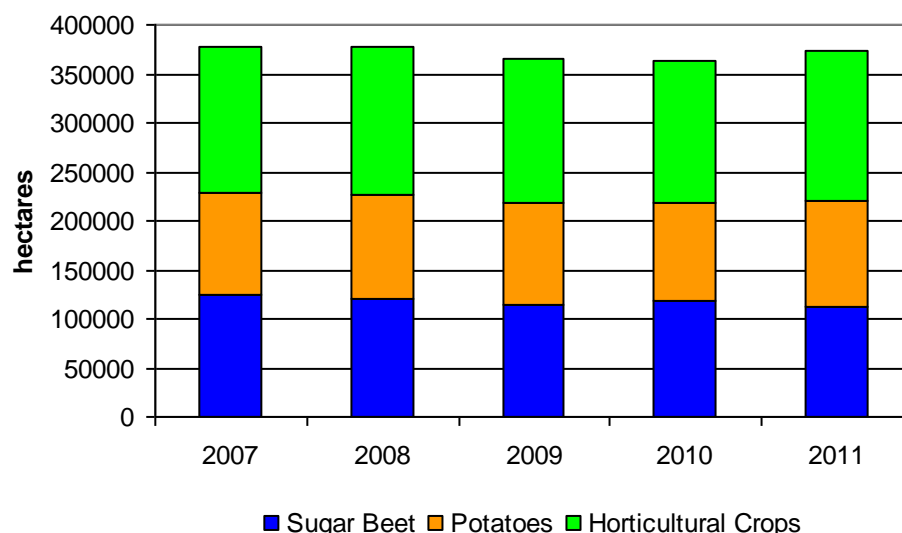
<sup>1</sup> Area of Crops Grown for Bioenergy in England and the UK: 2008 – 2011, Defra, [www.defra.gov.uk](http://www.defra.gov.uk)

## 2 Arable Farm Performance: Agriculture

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hectares in 2010 and 28,000 hectares in 2009). The areas of short rotation coppice and *Miscanthus* were 3,000 and 8,000 hectares respectively. Despite contrary intentions of the Campaign for the Farmed Environment, uncropped land reduced by seven per cent to 139,000 hectares.

Figure 2.4 Sugar Beet, Potato and Horticultural Crop Area, 2007 to 2011



Source: Defra June Survey 2011

The areas of sugar beet, potatoes and horticultural crops were lower than in 2007. Relative to the area grown in 2010, the sugar beet area reduced by over four per cent, to 113,000 hectares. The area of potatoes increased by eight per cent in what turned out to be a year of over supply. The area of horticultural crops increased by five per cent.

### 2.3 Cereals Farms Performance

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In a dry year that gave considerable variation in performance between farms, the average contribution to Farm Business Income (FBI) from agriculture was £213 per hectare, representing a 29 per cent increase on the previous year.

Due mainly to the higher prices of combinable crops, output increased by 13 per cent to £1,181 per hectare. Reflecting the increased fertiliser price, higher variable costs of £359 per hectare resulted in a gross margin of £822 per hectare.

Overall, fixed costs increased by 11 per cent to £619 per hectare, but whilst labour, repairs, and interest were little changed on the previous year, there were sharp increases in the energy related costs of fuel (up 22 per cent) and utilities (up 15 per cent). Rents paid increased by 17 per cent reflecting changes in profitability over several years and contract costs were up 25 per cent after a number of years of restraint.

#### Cereals Farms - Tenure

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As in previous years, the differences in farm performance according to tenure extended beyond rent and property costs. Both rented and mixed tenure farms averaged around 217 hectares, and were about 60 per cent larger than the owner occupied farms. The mixed tenure farms were more intensive with the highest agricultural output whilst also carrying the

## 2 Arable Farm Performance: Agriculture

highest fixed and variable costs. Conversely, the owner occupied farms had the lowest output and costs.

### Cereals Farms – County and Joint Character Area (JCA)

Crop output was generally higher in counties and Joint Character Areas (JCAs) with moisture retentive soils and located in the East Midlands and North of England.

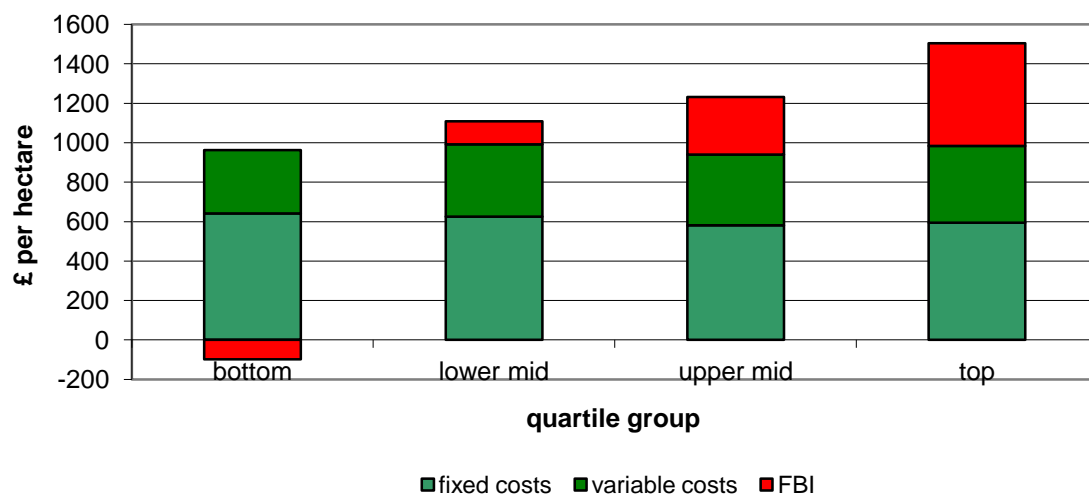
In the county analysis, Lincolnshire achieved the highest contribution of FBI from agriculture at £396 per hectare, due mainly to the high agricultural output of £1,422 per hectare as costs were in line with the national average. Northumberland achieved above average output but also carried the highest variable and fixed costs, due in part to the involvement of these farms in livestock production.

Cereals farms in Hampshire performed least well with an FBI from agriculture of -£30 per hectare with a regime of low crop output and low variable costs.

### Cereals Farms – Performance Group

Figure 2.5 shows quartile groups of agricultural FBI performance on Cereals farms.

Figure 2.5 FBI Performance, Cereals Farms, 2011/2012



There was considerable variation in performance between the top quartile (FBI from agriculture of £520 per hectare) and the bottom quartile (FBI of -£99 per hectare). The main difference in performance was due to crop output, although the top quartile farms, which grew the highest share of wheat, oilseed rape, sugar beet and beans in the rotation, also carried the highest variable costs. When measuring performance by FBI, owner occupied farms (with the lowest charge) are more likely to appear in the top quartile. However, if rent is disregarded, fixed costs were similar between farms of all types. The top quartile farms tended to have higher depreciation charges and lower labour and contract costs suggesting a more mechanised and self reliant approach to production.

## 2 Arable Farm Performance: Agriculture

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### 2.4 General Cropping Farms Performance

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The contribution of agriculture to FBI on General Cropping farms reduced, by 36 per cent, to £154 per hectare. Despite the improved performance of combinable crops, the very poor performance of the potato crop resulted in a three per cent reduction in output, although the impact varied according to the farm's exposure to this crop.

In common with Cereals farms, higher energy costs are immediately apparent in the farm account with increases in variable costs, fuel and utilities (including electricity) of four, eight and nine per cent respectively.

#### General Cropping Farms - Tenure

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The General Cropping farms showed different production characteristics according to their tenure. The mixed tenure grouping included some of the largest farms, averaging 293 hectares and grew the largest area of potatoes (on six per cent of their farm area). These typically intensive businesses generated an FBI from agriculture of £207 per hectare. The tenanted farms were of intermediate size and intensity. The owner occupied farms were less involved with sugar beet production and consequently the least intensive businesses.

#### General Cropping Farms – County

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Care is needed with interpretation of the disaggregated results for General Cropping farms because cropping (including with sugar beet and potatoes) is quite specific to individual farms and potato production costs vary according to the intended market.

The most profitable General Cropping farms were found in Lincolnshire. The contribution of agriculture to FBI was £198 per hectare on farms that grew potatoes and sugar beet on six and eight per cent of their land respectively. These intensive farms operated a high output regime with above average fixed costs. Output was highest on farms in Kent, but they also carried the highest fixed costs.

The lowest contribution of agriculture to FBI was on the Norfolk farms growing potatoes and sugar beet on three and thirteen per cent of their farm respectively. Their FBI was £66 per hectare from a low output low cost regime.

#### General Cropping Farms – Performance Group

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The top quartile group of farms cropped large areas of their farm with wheat (29 per cent), oilseed rape (ten per cent) and potatoes (eight per cent). They grew high value crops at high cost, with above average expenditure on machinery and water although with lower expenditure contract.

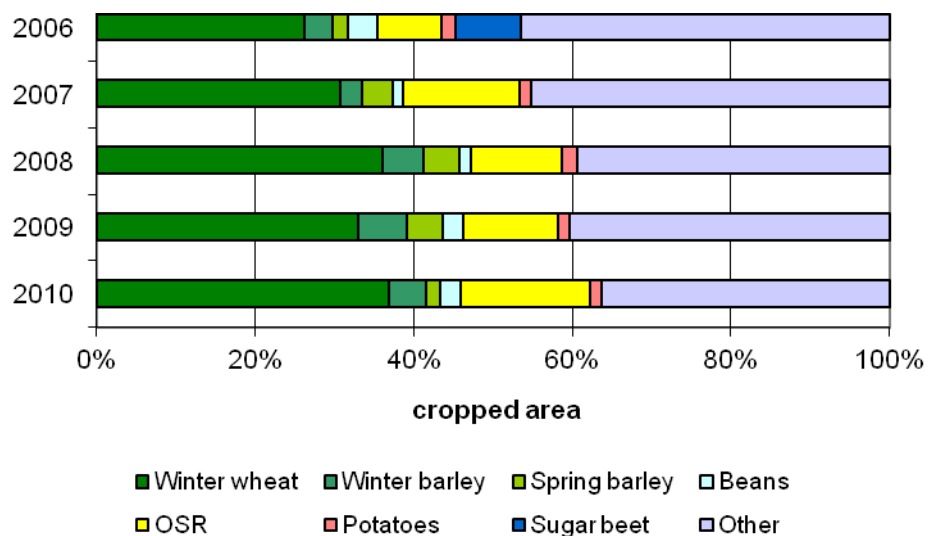
#### Beet Discontinuers

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Some 31 farms that ceased sugar beet production after the 2006 harvest remain in the FBS. We have continued to track the performance of these farms, which no longer have the opportunity to grow sugar beet. The cropping of these farms, which typically derive ten per cent of the output from livestock production, is shown in figure 2.7.

## 2 Arable Farm Performance: Agriculture

Figure 2.7 Cropping on Farms Ceasing Sugar Beet Production After the 2006 Harvest



The farms have continued to expand their cropped area and, in common with most Cereals farms, now grow more wheat and sugar beet than in previous years.



### 3 Agri-environment, Diversification, Single Payment

#### 3.0 The Cost Centre Approach

The results presented in this Chapter relate to the non-agricultural activities of the farm business: i.e. **agri environment scheme participation, diversification outside agriculture and the Single Payment scheme**. The outputs, costs and FBI attributable to these activities can be summed with that from agriculture (already covered up a separate chapter) to give results for the whole farm business. Whilst output and variable costs can be readily split between cost centres, some element of estimation is needed in order to share labour, machinery, property and overhead costs. Within the FBS, this is carried out on a consistent basis using an agreed approach<sup>1</sup>.

#### 3.1 Agri-environment

The table below shows the output, costs and therefore the share of FBI (Farm Business Income) attributable to agri-environment activity. In 2011/12, after deduction of direct scheme costs, agri-environment activity - contributed about £33 per hectare to FBI (equivalent to 7 per cent of FBI) on Cereals farms and £35 per hectare to FBI (8 per cent) of FBI) on General Cropping farms. Output and costs were almost unchanged at the aggregate level.

Agri-environment Output and Costs, Cereals and General Cropping Farms, 2010 /2011 and 2011 /2012

Cereals	Cereals		General Cropping	
	£ per hectare			
	2010/11	2011/12	2010/11	2011/12
Agri environment	41	41	44	44
Costs	8	8	9	10
FBI (Single Payment)	33	33	36	35
FBI	453	499	501	414

At individual farm level, the greatest changes related to expiring 'legacy' agri-environment schemes such as Countryside Stewardship Scheme (CSS), Environmentally Sensitive Areas (ESA), and their potential transition to Higher Level Stewardship (HLS). From June 2011, agri-environment payments were changed to an annual cycle in which payments were made each autumn and spring<sup>2</sup>.

At 30 March 2012, there were 41,822 Entry Level Stewardship (ELS) agreements (40,713 at 7 March 2010) across farms of all types in England, occupying 5.7 million hectares (5.5 million hectares in 2010)<sup>3 4</sup>.

At the year end, there were 20,793 CSS, ESA and HLS agreements of which 9068 were HLS compared to 21,562 at March 2011. The reduction occurred as fewer new HLS schemes were commissioned as CSS and ESA expired ahead of the eventual end of these legacy schemes in 2013. The higher level schemes occupied 1.4 million hectares at the start and end of the year.

<sup>1</sup> Appendix 2 (Item VI) Farm Accounts in England 2008 /2009 Defra statistics

<sup>2</sup> Defra News Release, 16 November 2010

<sup>3</sup> LMUpdate, Natural England, April 2012

<sup>4</sup> Environmental Stewardship Update, Issue 14 , Natural England, March 2011

### 3 Agri-environment, Diversification, Single Payment

The counties with the greatest percentage of land within agreements were those with National Parks (Northumberland, Cumbria and North Yorkshire). However, some predominantly arable counties were significant participants in agri-environment schemes including Lincolnshire (59.8 per cent of county in agreement at November 2012), Shropshire (59.3 per cent), Norfolk (58.5 per cent), Northamptonshire (55.0 per cent), Suffolk (53.7 per cent), Cambridgeshire (52.9 per cent) and Leicestershire (52.1 per cent)<sup>1</sup>. Other counties with arable production had lower rates of participation in agri-environment schemes including Kent (36.9 per cent of county in agreement) and Hertfordshire (37.7 per cent).

Uncertainty about the land use conditions that CAP reform will pose has led some producers to postpone commitment to agri-environment schemes. The fear was that the CAP requirements may be additional to those of ongoing agri-environment scheme commitments and therefore may create an excessive burden on producers.

#### 3.1 Diversification

The table below shows details the output and sources of diversification on Cereal and General Cropping farms, together with the costs incurred.

Diversification Output and Costs, Cereals and General Cropping Farms, 2010/2011 and 2011/2012

Cereals	Cereals		General Cropping	
	£ per hectare			
	2010/11	2011/12	2010/11	2011/12
Output	97	100	65	71
Of which:				
Rental	6	76	51	46
Recreation	8	9	6	6
Food processing and retailers	5	4	4	6
Tourism	2	5	0	4
Other	5	7	5	10
Costs	38	39	31	38
FBI (Diversification)	58	61	34	33
FBI	453	499	501	414

In general terms, output from diversification was highest close to the capital and lowest in the more rural Yorkshire and Humber region. These differences were mainly attributable to differing rental opportunities. In London and the South East, output from diversification was £176 and £147 respectively on Cereals and General Cropping farms respectively. In Yorkshire and Humber, output reached £44 and £26 per hectare respectively.

In 2011/12, diversification output increased overall on both farm types, but in a static or declining rental market, it was from recreation, food processing and retailing and tourism that the growth was achieved. Higher costs left the contribution of diversification activity to FBI almost unchanged at £61 per hectare (equivalent to 12 per cent of FBI) on Cereals farms and £33 per hectare (8 per cent of FBI) on General Cropping farms.

<sup>1</sup> Natural England, [www.naturalengland.org.uk](http://www.naturalengland.org.uk)

### 3 Agri-environment, Diversification, Single Payment

#### 3.2 Single Payment

In the 2011 Single Payment year, the flat rate element of the payment had risen to contribute 90 per cent and the historic element correspondingly reduced to just 10 per cent. Combined EU and UK modulation remained at 19 per cent. The exchange rate used for converting single payment from euros to sterling at 30 September 2011 was one euro to £0.86665 and about 0.7 percent higher than in 2010. The resulting flat rate payment was about £203.53 after modulation. In its final year, the protein premium was about £38.71 after modulation. In our report this protein premium is included within the gross margin calculation.

The table below shows the actual farm receipt of the combined flat rate and historic elements of single payment. In general terms, arable farmers experienced a five per cent reduction in their single payment equating to the change in exchange rate.

On Cereals farms in 2011/12, the single payment, net of costs, contributed £193 per hectare (equivalent to 39 per cent of FBI). On General cropping farms, single payment, net of costs contributed £209 per hectare, (equivalent to 46 per cent of FBI).

Arable Area Payment and Single Payment Scheme Output, Cereals and General Cropping Farms, 2010/2011 and 2011/12.

Cereals	Cereals		General Cropping	
	£ per hectare			
	2010/11	2011/12	2010/11	2011/12
Single Payment	215	209	207	209
Costs	17	14	16	14
FBI (Single Payment)	197	193	192	192
FBI	453	499	501	414

Among farmers receiving payment in euros, many opted to convert the payment into sterling as soon as it was received, reflecting concern that the euro would weaken<sup>1</sup>. In a climate of exchange rate volatility, about 20 per cent of HSBC customers had protected their Single Payment exchange risk in 2011<sup>2</sup>.

Farmers letting land on short term arrangements, typically for potato or vegetable production, were more likely to opt to use properly drafted cropping licences following increased scrutiny of these arrangements by the Rural Payments Agency.



<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 15 December 2011

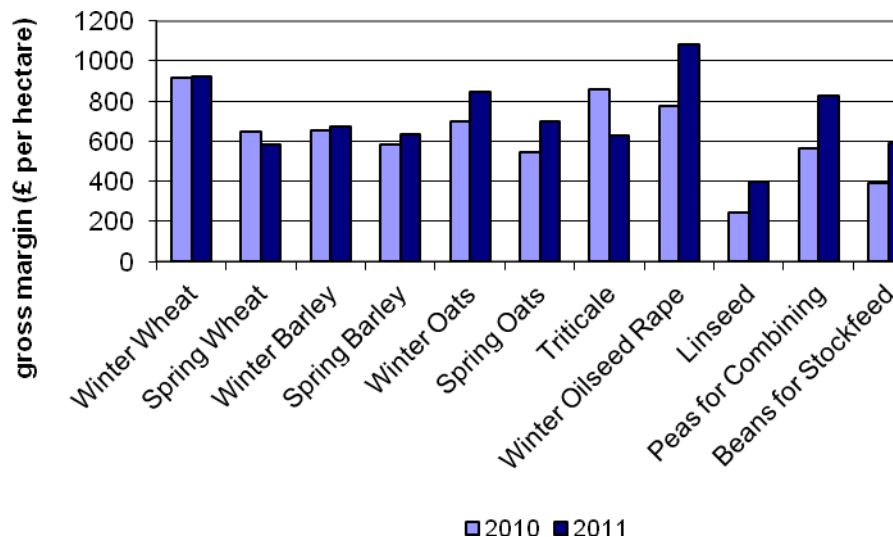
<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 29 September 2011

## 4 Crop Enterprise Performance

### 4.1 Crop Gross Margins

Figure 4.1 shows the gross margin performance of 'combinable' crops for the 2010 and 2011 harvest years.

Figure 4.1 Gross Margins of Arable Crops 2010 and 2011



Combinable crop performance was dominated by higher prices which translated into higher gross margins despite sharp increases in fertiliser costs. For the first time, the winter oilseed rape gross margin exceeded the winter wheat gross margin. The exceptions were that the spring wheat gross margin reduced and the price for triticale was also lower.

The sugar beet price was unchanged, but higher yields ensured improved performance of this crop. However, potato production was unprofitable for most producers due to oversupply and the consequential reduced ware potato price.

### 4.2 Winter Wheat

The winter wheat gross margin of £922 was little changed on the previous year's £916 per hectare. Whilst yield and crop protection expenditure was unchanged, the benefit of a three per cent rise in crop price to £156 per tonne was lost, through an 11 per cent increase in seed cost and a 15 per cent increase in fertiliser cost. As we explore below, the drought conditions differed in their impact on individual farm businesses.

#### Agronomy and Harvest

Autumn 2010 was characterised by good conditions for crop establishment as 19 per cent of the wheat crop was drilled before 20 September, the most favourable progress since 2007<sup>1</sup>. A further 28 per cent was drilled between 20 and 30 September, 19 per cent was drilled between 1 and 10 October and 24 per cent between 11 and 20 October. Very cold weather halted drilling in late November.

<sup>1</sup> Crop Monitor, [www.cropmonitor.co.uk](http://www.cropmonitor.co.uk)

## 4 Crop Enterprise Performance

As indicated in the table below, farmers opted to grow a reduced area of Group 2 wheat and more Group 4 crops, possibly with the intention of supplying feed grain and ethanol feedstock after the opening of the Ensus ethanol plant.

Wheat Share in Great Britain by NABIM Group: Area Drilled

	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Group 1	15	15	17	17	17
Group 2	19	17	19	15	11
Group 3	31	23	13	11	15
Group 4	28	37	47	51	54

Source: HGCA Grower Survey

Fertiliser use averaged 193 kilograms of nitrogen per hectare, 29 kilograms of phosphate and 33 kilograms of potash<sup>1</sup>. These application rates were very similar to 2010 and indicate that farmers did not reduce rates to take account of the dry conditions. Milling wheats received an average of 220 kilograms of nitrogen per hectare and non-milling wheats received an average of 184 kilograms of nitrogen per hectare. Average expenditure of £184 per hectare on fertiliser was 15 per cent higher than in 2010.

Overall expenditure on crop protection amounted to £158 per hectare and was effectively unchanged on 2010. Foliar disease severity was the second lowest since 2001<sup>2</sup>. *Septoria tritici* was the most severe of the foliar diseases. Use of SDHI fungicides on wheat increased by 24 per cent while use of fungicides of other groups all declined to some extent. In a year of below average *Gaeumannomyces graminis* (take all) infection, second wheats performed relatively well with a yield reduction of only ten per cent (30 per cent in 2010), based on performance in HGCA Recommended List trials<sup>3</sup>.

Some growers opted to irrigate their wheat crops<sup>4</sup>. However, there were too few observations of this practice to report from the Farm Business Survey.

### Yield

Amid fears of reduced yields in the drought conditions, growers were warned to keep buyers informed about their ability to meet contracted tonnages of grain<sup>5</sup>. At this time, about 25 to 30 per cent of the crop had been sold, although some farmers had sold a greater proportion of their crop.

Drought conditions turned out to have a localised effect as average yields were unchanged on 2010 at 8.4 tonnes per hectare but with variation between farms.

A new UK record for commercial wheat yield was reported; a Lincolnshire farmer grew a crop of Invicta yielding 14.3 tonnes per hectare on Grade 1 silt, beating the previous record of 13.99 tonnes per hectare set in Midlothian in 1981<sup>6</sup>.

<sup>1</sup> British Survey of Fertiliser Practice, Fertiliser Use on Farm Crops for Crop Year 2011, [www.defra.gov.uk](http://www.defra.gov.uk)

<sup>2</sup> Crop Monitor, [www.cropmonitor.co.uk](http://www.cropmonitor.co.uk)

<sup>3</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 20 October 2011

<sup>4</sup> Farmers Weekly, 20 May 2011

<sup>5</sup> Farmers Weekly, 20 May 2011

<sup>6</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 16 August 2011

## 4 Crop Enterprise Performance

### Quality

The table below shows that the 2011 wheat crops were of favourable quality, especially in terms of Group 1 milling protein, and relatively high specific weights for all groups.

Cereal Quality Survey. 2011

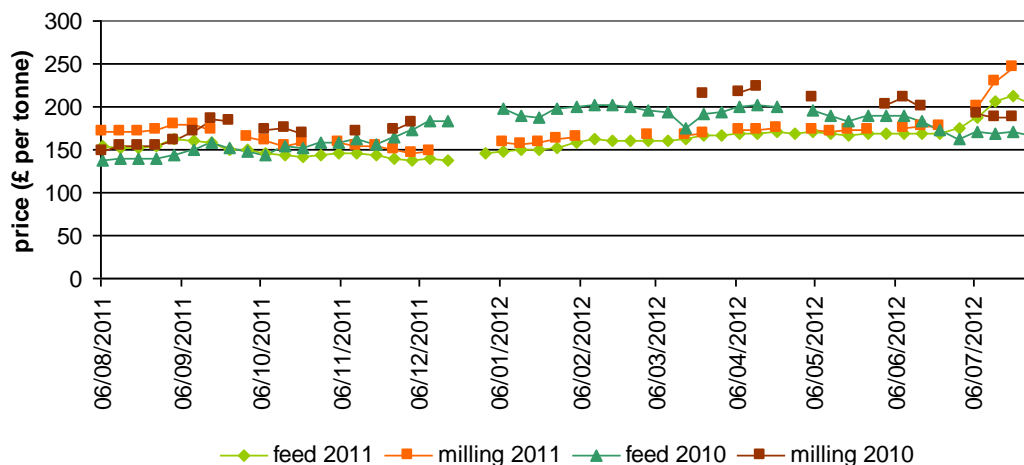
	Specific weight Kg/hl	Hagberg S	Protein %
Group 1	79.8	308	13.0
Group 2	79.4	304	12.6
Group 3	78.4	246	11.5
Group 4	77.7	230	11.1

Source: HGCA Cereal Quality Survey 2011

### Marketing

At the time of drilling in 2010, the November wheat price stood at £130 per tonne, but with uncertainty about the final price<sup>1</sup>. Rising prices in 2011 followed tight supply and demand due to reduced supply from Russia and Ukraine, increased demand in the US for maize for bioethanol<sup>2</sup>. The seasonal wheat price development is summarised in Figure 4.2.

Figure 4.2 Wheat Price 2010/2011 and 2011/2012



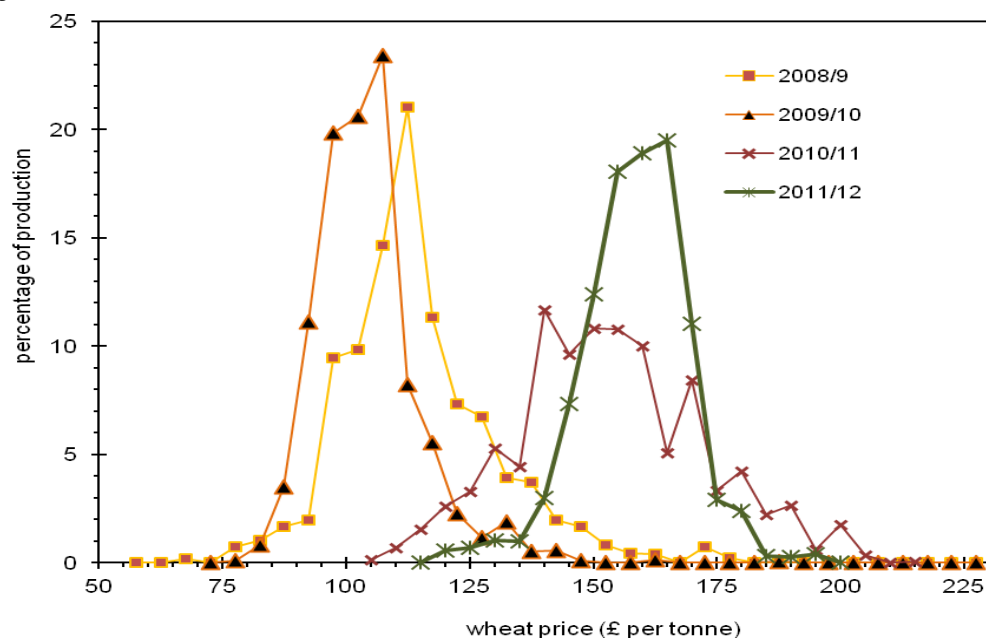
The average price achieved was £156 per tonne. The distribution of farm prices is presented in Figure 4.3.

<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 8 September 2010

<sup>2</sup> Viewpoint, Gleadell Agriculture Ltd, Spring 2011

## 4 Crop Enterprise Performance

Figure 4.3 Wheat Price Achieved



Approaching sixty per cent of farms sold their wheat crop for between £155 and £170 per tonne. The range of prices achieved was less wide than in 2010.

### Straw

In contrast to farmers in livestock producing regions, arable farmers in the East of England have often taken little account of the value of straw as a cash crop. Against the value of straw sold, there is a cost relating to the off-take of nutrients and the possibility of soil damage from lorries in the field or from delay to crop establishment if the crop is not removed promptly. During the 2011 harvest, it is apparent that the increasing straw price changed this attitude and farmers were able to make opportunistic sales. Those already contracted to sell straw into markets such as Ely Power Station had to accept a lower contracted price for their straw than was available on the open market. From £40 per tonne at harvest, the price of big square baled wheat straw rose to £62 per tonne in May 2012<sup>1</sup>.

In June 2011 in the context of reduced cereal yields, the National Pig Association (NPA) urged farmers to bale all available straw, including oilseed rape crops, to mitigate a possible shortage of straw for bedding<sup>2</sup>. They estimated that pig farmers use 350,000 tonnes of straw per year.

The average value of straw sold and used on the farm amounted to £57 per hectare, representing an eight per cent increase compared to 2010.

### Group 1 Milling Wheat Performance

As harvest commenced, and news of favourable milling quality emerged, milling premiums reduced from £22 per tonne to £15 per tonne in early August<sup>3</sup>.

<sup>1</sup> Defra, [www.defra.gov.uk](http://www.defra.gov.uk), 20 November 2012

<sup>2</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk), 17 June 2011

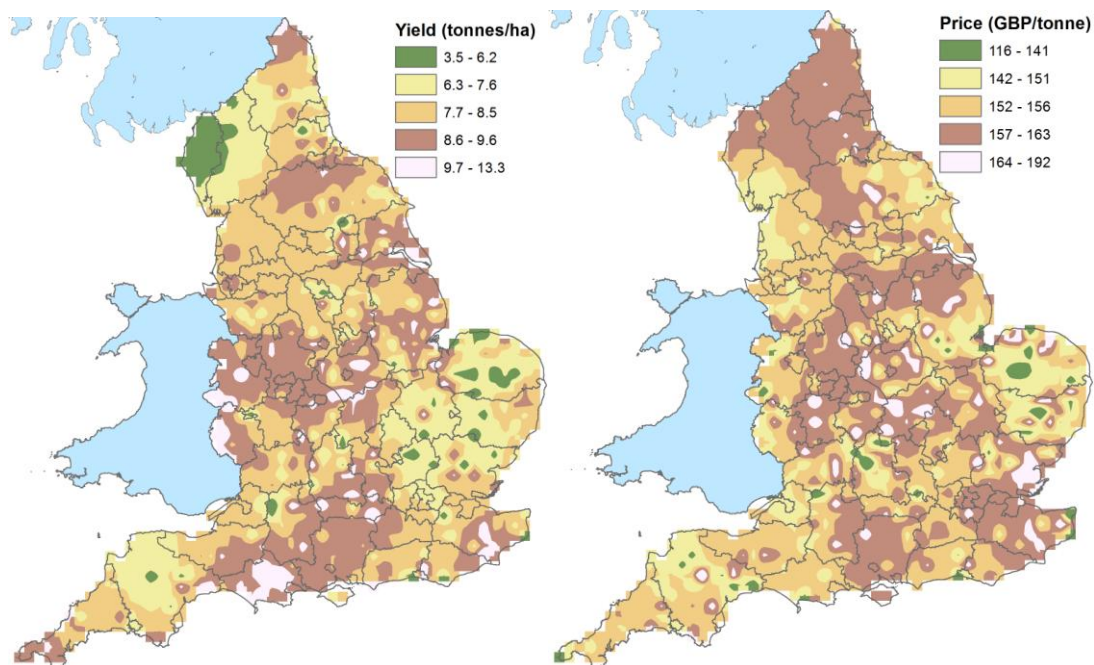
<sup>3</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 3 August 2011

## 4 Crop Enterprise Performance

### Performance by Natural England Joint Character Area and County

Map 4.1 provides an indication of the likely distribution of yields based on known yield data for FBS farms.

Map 4.1 Winter Wheat Yield and Price in England 2011



Areas of England conventionally important for wheat production, such as the East of England, produced especially low yields. For example, the yield in Hertfordshire averaged only 7.1 tonnes per hectare and this county had the lowest county gross margin of £709 per hectare. In contrast, favourable yields were grown in counties less well known for wheat production; the highest county yield, of 9.4 tonnes per hectare, was in Buckinghamshire and the highest gross margin, of £1,187 per hectare was achieved in Somerset. Favourable margins were achieved in Kent, Leicestershire, Lincolnshire and Shropshire where good autumn establishment, the cold dry spring and long grain fill contributed to good yields<sup>1</sup>. In Essex, wheat crops on light land died in the drought of spring 2011, but some heavier land still produced reasonable yields<sup>2</sup>. In Lincolnshire, the weather was described as exaggerating inherent problems in fields suggesting the importance of soil type<sup>3</sup>. The maps provide some background the county gross margin tables in Appendix 1.

Drilling date is considered to have been critical to wheat performance; earlier established crops with good root development were observed to outperform later drilled crops<sup>4</sup>.

Yield performance appears to have reflected local differences in soil type and quality. This was picked up in the NFU 2011 Harvest Survey which indicated yield variability linked to soil type and capacity to hold water<sup>5</sup>. Later maturing crops receiving rain in June and July typically yielded well.

<sup>1</sup> Crops, 3 September 2011

<sup>2</sup> Crops, 3 September 2011

<sup>3</sup> Crops, 3 September 2011

<sup>4</sup> Farmers Weekly, 5 August 2011

<sup>5</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 14 September 2011

## 4 Crop Enterprise Performance

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There were concerns, prior to harvest, that drought conditions would lead to reduced crop yields. It turned out that growers have reported inconsistent winter cereal crop yields, both between and within farms. The most important factor seems to be the ability of soils to retain moisture at critical times of year. Soil types with some capacity to retain water appear to have sustained favourable crop yields, but yields have been much lower on sand and gravel-based soils. Because the FBS looks at the average results across the whole farm business, and because only aggregated results for a group of farms are published, the final published data will provide only an indication of the substantial variation that actually occurred.

There were also important variations in prices; the lowest prices were received in the East of England. Wheat prices varied from £147 per tonne in Norfolk to £165 per tonne in Northamptonshire.

### 4.3 Spring Wheat

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Spring wheat was the poorest performing cereal crop, with a gross margin of £582 per hectare (£647 per hectare in 2010). This average performance masks the varied conditions in which spring wheat is grown, often after late harvested root crops.

The poor performance was mainly to the low yield of 4.0 tonnes per hectare, which was five per cent lower than in 2010. The improved crop price and straw value left output almost unchanged on 2010 at £934 per hectare. However, with a 20 per cent increase in seed cost to £108 per hectare and 33 per cent increase in fertiliser price to £133 per hectare, the variable costs reached £353 per hectare.

### 4.4 Winter Barley

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The improved winter barley gross margin of £674 per hectare (£656 per hectare in 2010) was achieved through a higher price of £151 per hectare (£132 per hectare in 2010). The yield of 6.2 tonnes per hectare was eight per cent lower than the six year average of 6.7 tonnes per hectare.

The winter barley harvest started as early as late June for some farmers in South East England<sup>1</sup>. Winter barley quality was poor in England with average nitrogen ranging from 1.71 per cent in South West England to 1.9 per cent in Eastern England<sup>2</sup>. Gleadell Agriculture reported that less than one third of samples reached the 1.85% nitrogen threshold for malting use<sup>3</sup>. In East Anglia, malting barley quality was decimated on farms with yields as low as 1.5 tonnes per hectare and resulting concentration of nutrients into the grain<sup>4</sup>. Quality problems in East Anglia brought problems for local malting plants; Crisp Malting Group, near Fakenham had brought malting barley in from South west England to blend with locally produced high nitrogen crops<sup>5</sup>. The problem continued for the niche specialist market for Maris Otter by traditional brewers as good quality samples of this variety were also scarce.

The result of high nitrogen in the UK and disease in Scandinavia was a 200,000 tonne shortfall in malting barley production in Europe<sup>6</sup>. Export markets were available for much of the UK crop, despite its quality.

At harvest, malting barley with 1.65 per cent nitrogen traded for £230 per tonne. In December, the price of 1.84 per cent nitrogen malting barley was around £200 per tonne,

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<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 30 June 2011

<sup>2</sup> HGCA Cereal Quality Survey 2011

<sup>3</sup> Crops, 3 September 2011

<sup>4</sup> Crops, 3 September 2011

<sup>5</sup> Eastern Daily Press, [www.eadp.co.uk](http://www.eadp.co.uk), 15 October 2011

<sup>6</sup> Eastern Daily Press, [www.eadp.co.uk](http://www.eadp.co.uk), 7 January 2012

## 4 Crop Enterprise Performance

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representing a premium of around £60 per tonne<sup>1</sup>. Reduced supply from Denmark was a contributor to this situation and maltsters adjusted their requirements accepting barley of up to two per cent nitrogen.

From £65 per tonne at harvest, the price of big square baled barley straw rose to £69 per tonne in June 2012<sup>2</sup>.

The fertiliser spend increased by 14 per cent to £163 per hectare.

### Performance by Natural England Joint Character Area and County

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There was considerable regional variation in the performance of winter barley from a gross margin of £891 per hectare in Devon to £374 per hectare in Suffolk. Yields ranged from 7.6 tonnes per hectare in Wiltshire to 4.3 tonnes per hectare in Norfolk.

### 4.5 Spring Barley

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Spring barley proved to show some resilience in the drought conditions with a yield of 5.3 tonnes per hectare, unchanged on 2010. The gross margin of £635 per hectare represented a nine per cent increase on the previous year driven by the 11 per cent increase in crop price to £164 per hectare. Seed and fertiliser prices increased by 35 and 16 per cent respectively. Spring combinable crops often failed to develop roots that could access water and the result has been low yields. The resulting shortage of the highest quality spring malting barley forced maltsters to accept grain with higher nitrogen levels and some made arrangements to import some of their requirement from France. Spring barley crops, like the winter varieties carried high nitrogen levels. The nitrogen content of Tiplle ranged from 1.68 per cent in the South West to 1.88 per cent in Eastern England<sup>3</sup>.

### Performance by Natural England Joint Character Area and County

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The highest yielding crops, at 5.5 tonnes per hectare respectively were found in East Cumbria, the county with the highest on farm use of the crop. The second highest spring barley crops were grown in Cornwall at 5.4 tonnes per hectare and achieving the highest gross margin of £671 per hectare. At 4.1 tonnes per hectare, the lowest yields were grown in Norfolk and Suffolk, where the lowest gross margin of £345 per hectare was recorded.

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<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 8 December 2011

<sup>2</sup> Defra, [www.defra.gov.uk](http://www.defra.gov.uk), 20 November 2012

<sup>3</sup> HGCA Cereal Quality Survey 2011

## 4 Crop Enterprise Performance

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### 4.6 Winter Oats

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The winter oat gross margin of £845 per hectare increased by 21 per cent on 2010; this was due mainly to the 15 per cent increase in crop price. The average yield of 6.6 tonnes per hectare was little changed on 2010, but seed and fertiliser prices increased by 15 and 22 per cent respectively.

There has been a trend towards sales linking the oat price to that of wheat, making it easier to compare the profitability of the two crops.

### 4.7 Spring Oats

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Spring oats yielded favourably at 5.3 tonnes per hectare against a five year average of 5.4 tonnes per hectare. The 23 per cent increase in price to £174 per hectare was the main contributor to the £698 per hectare gross margin, itself 27 per cent higher than in 2010. Variable costs also increased; seeds by 66 per cent, fertiliser by 39 per cent and crop protection by 11 per cent.

### 4.8 Triticale

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The results for a small sample of only 13 growers show a reduced price of £142 per tonne (£150 per tonne in 2010), when triticale had the second highest gross margin after winter wheat. This apparent correction brought the gross margin of £628 per hectare close to that of competing crops such as spring barley. The yield of 5.2 tonnes per hectare was unchanged, but seed and fertiliser expenditure increased sharply.

### 4.9 Winter Oilseed Rape

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Oilseed rape achieved the highest combinable crop gross margin at £1,080 per hectare. This was achieved through a 21 percent increase in crop price in combination with a record yield of 4.0 tonnes per hectare that exceeded the five year average by 16 per cent.

In 2011 farmers took renewed interest in hybrid varieties in the UK at 32 per cent of the planted area (27 per cent in 2010 and 32 per cent in 2010)<sup>1 2</sup>. Expenditure on seed increased, by 14 per cent to £48 per hectare.

Good conditions for establishment in the autumn of 2010 allowed crops to develop a root system which exploited the dry spring conditions<sup>3</sup>. The cold winter brought pigeon problems from which most crops recovered well.

Fertiliser use on oilseed rape averaged 197 kilograms per hectare of nitrogen, 26 kilograms of phosphate and 27 kilograms per hectare of potash<sup>4</sup>. The lack of rain may have resulted in reduced uptake of nutrient by crops during the growing season. Fertiliser expenditure increased by 18 per cent to £167 per hectare.

Partly reflecting the increased value of the crop produced, oilseed rape crops received an average of three fungicide treatments and 2.3 insecticide treatments, the highest of either recorded<sup>5</sup>. A large and early invasion of pollen beetle was a problem in April<sup>1</sup>. *Verticillium* wilt

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<sup>1</sup> FarmBusiness.cc, farmbusiness.cc , 16 March 2011

<sup>2</sup> FarmBusiness.cc, farmbusiness.cc , 19 July 2010

<sup>3</sup> Crops, 3 September 2011

<sup>4</sup> British Survey of Fertiliser Practice, Fertiliser Use on Farm Crops for Crop Year 2011, [www.defra.gov.uk](http://www.defra.gov.uk)

<sup>5</sup> Crop Monitor, [www.cropmonitor.co.uk](http://www.cropmonitor.co.uk)

## 4 Crop Enterprise Performance

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was observed in 18 per cent of crops indicating that oilseed rape may have to be grown less frequently in rotations on some farms in the future. Oilseed rape crop protection expenditure increased by six per cent in comparison with 2010, to £167 per hectare.

HGCA highlighted the risks of growing oilseed rape too frequently in the rotation citing the risk from clubroot, *Sclerotinia* and *Verticillium* wilt<sup>2</sup>. Farmers could expect yield reductions of 25 per cent through growing oilseed rape every other year. In June 2012, there was further news of the risks of tight rotations with the identification of new oilseed rape diseases *Olpidium* and *Pyrenchaeta* in NIAB-TAG crop trials<sup>3</sup>.

From £368 per tonne in July, news of favourable yields reduced the price to £361 per tonne in early August<sup>4</sup>. Reports of poor quality soya crops in the US, and reduced plantings in Germany took base oilseed rape values to £364 per tonne in August 2011. Prices reached around £280 per tonne in December 2011<sup>5</sup>. In January 2011, the price was around £355 per tonne<sup>6</sup>. By April, prices had reached £390 per tonne following reduced production estimates from South America<sup>7</sup>. The average price achieved was £376 per tonne (£312 per tonne in 2010).

### Performance by Natural England Joint Character Area and County

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The best performing oilseed rape crops were found in North Yorkshire where yields of 4.6 tonnes per hectare gave gross margins averaging £1,316 per hectare. The highest crop price, of £391 per tonne was received in Northumberland, contrasting with £347 per tonne in Leicestershire. The crops of Cambridgeshire were the lowest yielding at 3.6 tonnes per hectare and the lowest gross margin was the £915 per hectare in Oxfordshire.

#### 4.10 Spring Oilseed Rape

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The results from a small sample of only 13 spring oilseed rape crops show a 21 per cent increase in gross margin to £417 per hectare. This was the result of a 20 per cent increase in price to £365 per tonne but after a five per cent reduction in yield to 1.9 tonnes per hectare.

Fertiliser costs increased by 11 per cent, but seed costs were nine per cent lower at £49 per hectare.

Some spring oilseed rape crops are established following a failure of a crop of winter oilseed rape and in conditions that are not ideal, so we observe considerable variation in crop performance between farms.

#### 4.11 Linseed

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Despite a 61 per cent increase in gross margin to £395 per hectare, linseed was the poorest performing arable crop. The crop yield increased by 13 per cent to 1.8 tonnes per hectare and the price by 12 per cent to £358 per tonne.

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<sup>1</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 29 April 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 30 January 2012

<sup>3</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 13 June 2012

<sup>4</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 3 August 2011

<sup>5</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 20 December 2011

<sup>6</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 26 January 2012

<sup>7</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 12 April 2012

## 4 Crop Enterprise Performance

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The seed price increased by eight per cent to £84 per hectare, but fertiliser expenditure was unchanged at £86 per hectare. Flea beetle was a problem in April<sup>1</sup>. Overall crop protection expenditure increased by five per cent to £84 per hectare.

### 4.12 Peas for Combining

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Pea crops performed very well in terms of yield, quality and price, with the result that the gross margin increased by 47 per cent to £827 per hectare. This is a crop known for annual variability in performance, but in 2011, the dry weather conditions favoured crop growth on many farms and produced crop of high quality. This in turn found a ready market, especially in the case of peas for human consumption.

In contrast to other crops, seed and fertiliser expenditure was lower in 2011 than in 2010.

Dry conditions reduced disease pressure although commercial trials still suggested an economic response from fungicide use<sup>2</sup>. The conditions favoured the development of insect pests including pea and bean weevil and aphids, making insecticide an important aspect of crop management. Crop protection expenditure increased by 19 per cent, possibly because growers intended to protect the quality of their crop in a year of favourable prices.

The impact of dry conditions on growing crops was most apparent in Essex, Kent and Norfolk in June 2011<sup>3</sup>. But marrowfats looked to be of good quality prior to harvest<sup>4</sup>. Yields were favourable, exceeding the five year average by 25 per cent.

Although the average price for peas was £256 per tonne, the price on individual farms varied according to the type of pea, its quality and the time of sale. In February 2011, contract prices for 2011 harvest marrowfat peas were around £260 per tonne<sup>5</sup>. April 2011, driven by higher commodity prices, the prices for the 2011 harvest were around £200 per tonne for feed peas and £260 for marrowfats<sup>6</sup>. At harvest, firm prices were reported for good quality large blue peas at £250 to £270 per tonne, with similar prices for marrowfats<sup>7</sup>.

Against a feed price of about £190 per tonne, blue peas achieved a premium of £40 to £50 per tonne and micronising peas a premium of £15 to £20 per tonne in September 2011<sup>8</sup>. By November, blue peas were worth £250 per tonne<sup>9</sup>.

Market shortages in February 2012 took the price of blue peas to £250 for samples of very good quality<sup>10</sup>. Despite ample supply, reduced stocks, and reduced production in France and Canada maintained feed pea prices at £189 per tonne in February 2012.

Peas and beans received the Single Payment protein supplement for the final time in 2011.

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<sup>1</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc) , 29 April 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk) , 25 November 2011

<sup>3</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk) , June 2011

<sup>4</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk) , July 2011

<sup>5</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk) , February 2011

<sup>6</sup> Farmers Weekly, 18 February 2011

<sup>7</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk) , 23 June 2011

<sup>8</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk) , September 2011

<sup>9</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk) , November 2011

<sup>10</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk) , 7 February 2012

## 4 Crop Enterprise Performance

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### 4.13 Beans Harvested Dry

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Bean yields vary annually, but in 2011 exceeded the five year average by 33 per cent to produce 4.0 tonnes per hectare. The crop price of £202 per tonne was five per cent higher than in 2010. The gross margin improved by 51 per cent to £590 per hectare.

Seed and fertiliser costs increased, by 27 and 16 per cent respectively. Despite disease and insect pressure during the year, crop protection costs were unchanged at £16 per hectare. *Botrytis fabae* (chocolate spot) developed earlier than usual appearing in April 2011<sup>1</sup>. Pea and bean weevil was also active in April. High levels of bruchid beetle damage were a problem in bean crops, and especially in the South East.

Prior to harvest, a fall in the wheat price was the driver for reduced bean price of £200 per tonne, from around £240 per tonne<sup>2</sup>. At harvest, feed bean traded at around £220 per tonne, there was only limited demand for feed beans at harvest<sup>3</sup>. Human consumption crops achieved prices of £205 to £210 per tonne in September 2011<sup>4</sup>. It was not until March 2012, that shortages of beans pushed prices for human consumption beans to over £300 per tonne; merchants were more tolerant about bruchid damage due to the demand for the crop<sup>5</sup>.

### 4.14 Sugar Beet

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The gross margin was £1,302 per hectare and 32 per cent higher than the five year average and represented a recovery in the fortunes of the crop after the frosts of the harvest in 2010/2011. The improved output of £2,099 per hectare was due to the 20 per cent increase in yield combined with the opportunity to receive the full price for all additional tonnage, although variable costs increased by 13 per cent as well.

#### Contract and Price

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The average price achieved, including bonuses, was £30 per clean tonne. The 2011 sugar beet price was £23.60 per tonne (a reduction on the £26 per tonne paid in 2010)<sup>6</sup>. Favourable market conditions for sugar and ethanol allowed British Sugar to agree to extend the price to all crop delivered and to pay Transport Allowance and Late Delivery Bonus on additional tonnage<sup>7</sup>. Growers delivering their full contract tonnage in 2011 were refunded 50 per cent of the cost of seed purchased<sup>8</sup>.

Contract entitlement was available for lease at £3.50 to £4 per tonne in autumn 2010<sup>9</sup>.

#### Agronomy and Crop Development

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Net expenditure on seed, after refunds for full contract delivery, was £132 per hectare.

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<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 8 April 2011

<sup>2</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk), July 2011

<sup>3</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk), October 2011

<sup>4</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk), September 2011

<sup>5</sup> Pulse Market Update, [www.pepa.co.uk](http://www.pepa.co.uk), March 2012

<sup>6</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 29 June 2010

<sup>7</sup> British Sugar

<sup>8</sup> British Sugar, 1 October 2010

<sup>9</sup> DCFM, [www.dcfm.co.uk](http://www.dcfm.co.uk), accessed 7 November 2012

## 4 Crop Enterprise Performance

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Dry conditions allowed a greater proportion of growers to drill into good seedbeds in early March<sup>1</sup>. However, the lack of moisture also restricted the availability of nitrogen and other nutrients to the growing crop. Fertiliser expenditure increased by ten per cent to £206 per hectare.

Growers faced a 50 per cent increase in the price of staple residual herbicide metamitron due to reduced supply of its active ingredient<sup>2</sup>. Pre emergence herbicide treatments were generally effective, but residual activity was limited in the dry conditions that followed. In some fields, a split germination of the crop disrupted herbicide application (because the necessary dose of herbicide to control larger weeds was potentially damaging to later germinated sugar beet that had not developed the protective waxy coating needed to protect it from the herbicide).

Foliar disease levels were low, but in late July rust and powdery mildew necessitated spraying<sup>3</sup>. Some 65 per cent of the national crop received two fungicide treatments, most choosing a triazole and strobilurin mix<sup>4</sup>. Overall crop protection costs increased by four per cent to £177 per hectare.

Low rainfall during the growing season had suppressed the activity of insecticide seed treatments, applied to 92 per cent of the crop, and leaf miner and thrip damage resulted<sup>5</sup>. Beet cyst nematode, was present on 15 per cent of the 2011 beet area. AYPR type *Rhizomania* was found in 22 fields in Norfolk, Suffolk and Essex.

### Irrigation

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Anecdotal evidence suggests that more growers irrigated of sugar beet, however, there were too few observations to report from the Farm Business Survey. In some cases, this will have secured revenue that exceeded the cost of irrigation, and in other cases, the cost will not have been justified because the yield response was not sufficient to cover its cost.

### Harvest, Yield, Quality and Gross Margin Performance

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British Sugar agreed to open all factories by mid September in order to reduce the possibility of frost to unharvested crops at the end of the season, as experienced in 2010<sup>6</sup>. The early start to the 2011 sugar beet harvest was facilitated by the availability of crops with high root yields and high sugar levels. Dry lifting conditions caused difficulties with lifting in the early part of the campaign on some soil types. The average crop yield was 70 tonnes of clean beet per hectare. Sugar contents ranged between 18 and 19 per cent for much of the season, and the dry harvest conditions resulted in low dirt tares. Favourable progress was made with the harvest; by the end of 2011, 88 per cent of the contracted tonnage had been delivered, this was a significant improvement on the previous year when only 63 per cent had been delivered<sup>7</sup>.

New arrangements for 'whole beet delivery' were introduced to ensure fair treatment of crown tare. The voluntary haulage scheme, in which British Sugar arrange haulage for the crop, was extended to all factories and taken up by about ten per cent of growers<sup>8</sup>. Participating farmers received no haulage allowance but were not charged for haulage. Alongside this

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<sup>1</sup> British Sugar Beet Review, Summer 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 17 February 2011

<sup>3</sup> British Sugar Beet Review, Autumn 2011

<sup>4</sup> British Sugar Beet Review, Summer 2012

<sup>5</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 1 June 2011

<sup>6</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 20 June 2011

<sup>7</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 10 January 2012

<sup>8</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 6 December 2011

## 4 Crop Enterprise Performance

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arrangement, some growers opted for British Sugar to harvest and haul the crop for which a harvesting charge was levied.

The press reported exceptional yields of sugar beet on some farms; a Norfolk farmer is reported to have grown 142.0 tonnes of crop per hectare, which equated to an adjusted yield of 170.1 tonnes per hectare, albeit in a sample dig<sup>1</sup>.

### 4.15 Ware Potatoes

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Oversupply and poor crop quality were the drivers of the reduced potato price which averaged £114 per tonne, some 30 per cent lower than the £164 achieved in 2010. All variable costs increased, by 17 per cent overall. The resulting gross margin was £2,474 per hectare, and 59 per cent of the five year average, although repeating the performance of the crop in terms of yield, price and margin in 2009.

Some farmers concluded their potato harvest in mid October. At 41.0 tonnes per hectare, crop yield was seven per cent above the five year average, but this only contributed to over supply. At harvest, there was localised concern that there may be insufficient storage capacity to accommodate the larger harvest. Growers reported a high risk of bruising in dry lifting conditions, and higher incidence of tuber disease, particularly powdery scab and blackleg – thought to be a consequence of dry spring, wet summer and warm autumn.

From about £167 in June, the free market potato price fell to £105 per tonne in August reflecting an excess of supply relative to market requirements<sup>2</sup>. Dry conditions in September disrupted the potato harvest, and forced some producers to irrigate the crop prior to harvest<sup>3</sup>. In November, the average price was £104 per tonne<sup>4</sup>. Low prices persisted through the marketing season.

#### Irrigation

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It is likely that those irrigated crops that were subject to restrictions in water use, suffered reduced quality or potato yield.

Irrigated and not irrigated potato crops saw reduced gross margins of £3,126 and £2,227 per hectare respectively. In both cases, the price achieved reduced by 30 per cent, but the higher quality irrigated crop sold for £121 per tonne, compared to £111 per tonne for the non irrigated crop. Whilst the irrigated crop reduced in yield, there was an apparent increase in the yield of the non irrigated crop.

### 4.16 Vegetables

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#### Vining Peas

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Birds Eye had ceased their contract with Anglian Pea Growers in February 2010. In October 2010, Ardo UK negotiated to source peas, of around 14,800 tonnes from 3500 hectares, from the group in 2011<sup>5</sup>. Under the new arrangement, pea preparation was carried out at the

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<sup>1</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk), 29 October 2011

<sup>2</sup> Farmers Weekly, 5 August 2011

<sup>3</sup> Farmers Weekly, 23 September 2011

<sup>4</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 17 November 2011

<sup>5</sup> FarmBusiness.cc [farmbusiness.cc](http://farmbusiness.cc), 5 October 2010

## 4 Crop Enterprise Performance

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Norbert Dentressangle plant at Oulton Broad near Lowestoft, but the crop was packed in Charing in Kent. Some 150 farmers supply the group. The group invested in three harvesters ahead of the new contract<sup>1</sup>.

The vining pea harvest started 10 to 14 days early after drought and frost had reduced the yield of the crop, with yields predicted to have fallen by 20 per cent<sup>2</sup>. However, the quality of peas was generally good and yields improved by the middle of the season<sup>3</sup>.

### Brassicas

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Dry conditions caused growers to delay planting out young sprout plants due to lack of soil moisture, creating a risk of a break in the harvesting programme.

### Salad

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Drought conditions increased early season demand for salad, asparagus and soft fruit with harvest typically starting two to three weeks earlier than usual<sup>4</sup>.

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<sup>1</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk) , 14 June 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk) , 13 June 2011

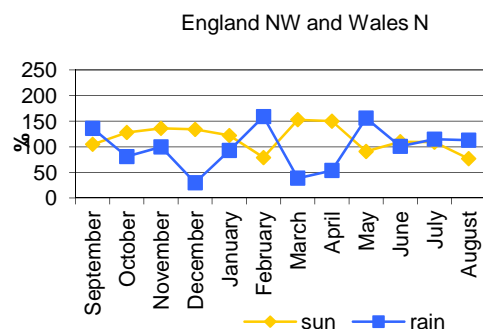
<sup>3</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk) , 16 July 2011

<sup>4</sup> Drought prospects for summer 2011, Environment Agency, June 2011

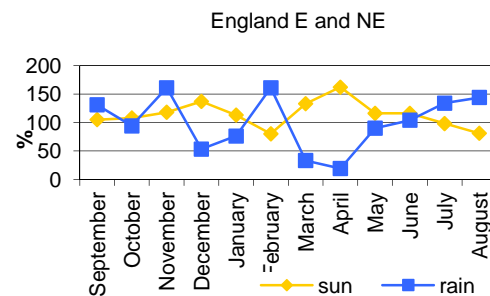
## 5 Crop and Input Prices

### 5.1 Weather and the 2011 Drought

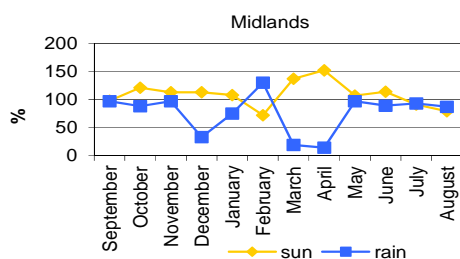
Weather 5.1 North West



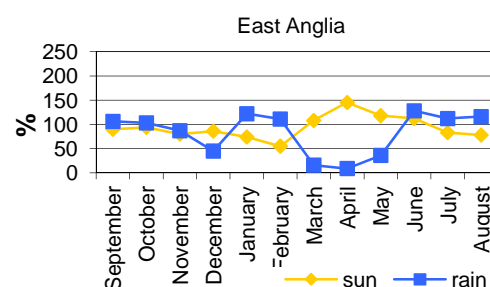
Weather 5.4 North East



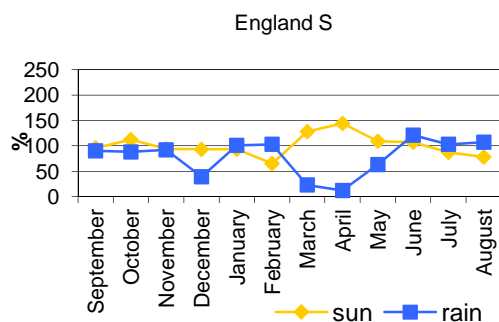
Weather 5.2 Midlands



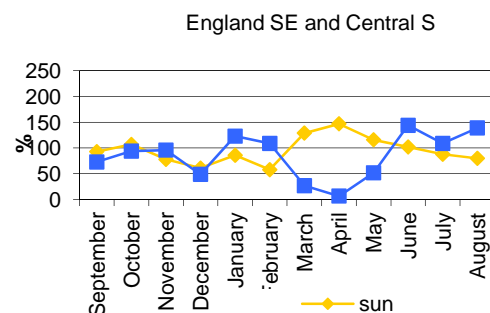
Weather 5.5 East of England



Weather 5.3 South West



Weather 5.6 South East



The spring drought defined the 2011 crop production season. Dry conditions gave rise to exceptional sunshine, with the East of England receiving 30 per cent more sunshine than average resulting in the warmest spring since the start of records in 1910. The drought followed the unusually cold and dry winter of 2010 /2011 which was characterised by the coldest December for 100 years<sup>1</sup>.

March 2011 was the driest for 60 years as only 13.3 millimetres of rainfall fell in England; 20 per cent of the long term average<sup>2</sup>. In April, soil moisture deficits typically exceeded 80 millimetres in the driest regions<sup>3</sup>. On light land, this is the threshold for onset of drought stress, whilst for medium soils, this would be 95 millimetres and for heavy soils from 110

<sup>1</sup> Met Office, [www.metoffice.co.uk](http://www.metoffice.co.uk)

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 5 April 2011

<sup>3</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 29 April 2011

## 5 Crop and Input Prices

millimetres. In East Anglia, just 28.1 millimetres of rain fell between March and May, whilst only 49.4 millimetres fell in south east, central and southern England in the same period.

On 16 May, after ten weeks without significant rainfall, drought crisis talks were carried out between Defra, the NFU, the Environment Agency, Natural England, Water UK and the UK Irrigation Association<sup>1</sup>. By this time, cereal crops were showing severe water distress with yellowing of leaves. At the end of the month, agronomists suggested that 85 per cent of cereal crops had been affected by drought, and 20 per cent of wheat and barley severely hit<sup>2</sup>. By this time, the East of England was facing its driest season for 101 years<sup>3</sup>.

A drought order was issued for Lincolnshire, Cambridgeshire, parts of Bedfordshire and Northamptonshire, and western Norfolk on 9 June 2011<sup>4</sup>. In these areas, 100 farmers were asked to cease irrigation and a further 200 farmers in Suffolk were warned that the Environment Agency may need to stop irrigation by the end of the month.

Rain fell in the summer, with the result that it was a wetter summer than 2010, but not as wet as the very wet years of 2007 to 2009. The autumn was a little drier and warmer than usual, but generally provided favourable conditions for the autumn cultivations and root harvesting.

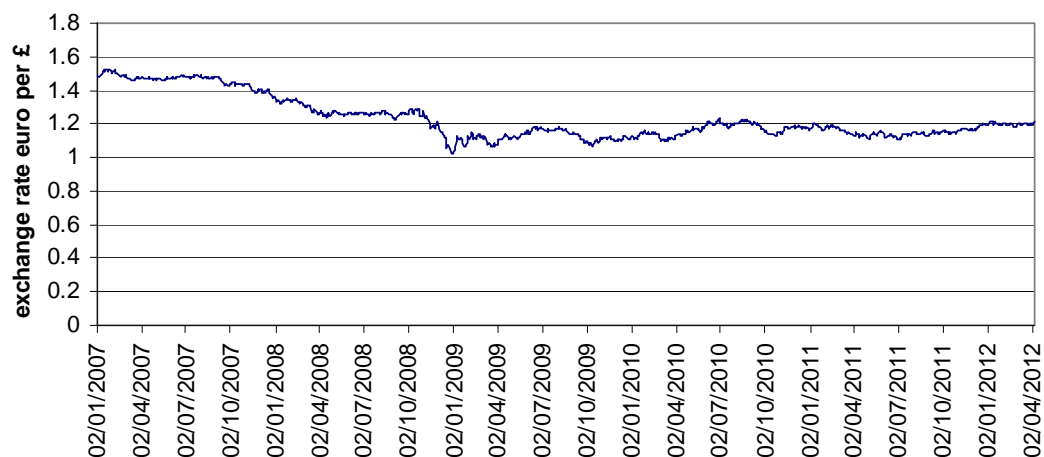
### 5.2 Economic Environment

#### Bank Lending /Global Credit Crisis and Exchange Rates

The economic environment was characterised by recession, austerity measures and serious concern about the economy of the eurozone. In December 2011, the possibilities were that one or more eurozone countries could default, countries could leave the eurozone or the single currency could collapse<sup>5</sup>.

Figure 5.1 shows the exchange rate between the euro and sterling.

Figure 5.1 Euro/Sterling Exchange Rate, 2007 to 2012



Source: Bank of England

<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 16 May 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 1 June 2011

<sup>3</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 6 June 2011

<sup>4</sup> Drought management briefing, Environment Agency, 9 June 2011

<sup>5</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 14 December 2011

## 5 Crop and Input Prices

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The year was characterised by a weakening euro. In early 2012, this signalled the possibility that the UK's agricultural commodities would be less competitive on the world market, but inputs would be more affordable<sup>1</sup>.

### Input Prices

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Fertiliser prices reduced in 2011 following significant worldwide investment in production capacity, but rose later in the year in response to demand for agricultural commodities<sup>2</sup>. Analysts at UBS ranked price drivers of all commodities in spring 2011, placing crude oil and the metal palladium highest, followed by phosphate and potash in third and fourth place<sup>3</sup>. From £210 per tonne in June 2010, the ammonium nitrate price rose to £260 per tonne in September and £295 in October, at the same time, urea cost around £220 per tonne, rising to £320 per tonne in October<sup>4 5 6</sup>. In September 2010, triple super phosphate (TSP) sold for £325 per tonne rising to £392 in October and muriate of potash (MOP) for £330 per tonne rising to £332 in October. In the spring, ammonium nitrate reached £350 per tonne and urea £340 per tonne, whilst TSP and MOP traded at £385 and £330 per tonne respectively<sup>7</sup>.

### 5.3 Business

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The year brought significant change among organisations trading global commodities:

- The Glencore Xstrata merger of two global commodities businesses, created Glencore International, a business with a combined world market value of £56 billion<sup>8</sup>.
- BOCM Pauls, which was formed in 1992 following the merger of BOCM Silcock and Pauls Agriculture, was taken over by Netherlands based ForFarmers Group<sup>9</sup>. The combined business became the largest animal feed supplier in Europe, marketing 8.8 million tonnes of which 1.9 million tonnes are in the UK. The UK management team was expected to retain a high degree of autonomy according to a company statement.
- Countrywide bought Heart of England Grain Co in August 2011, marking a return to crops marketing for the purchaser<sup>10</sup>.
- In February 2012, Gleadell Agriculture bought out the pea and bean seed company, Dunns (Long Sutton) Ltd<sup>11 12</sup>. The development recognised the synergy of Dunns' expertise in seeds and pulses to Gleadell as an international trader of pulses. Gleadell is owned by Toepfer and Invivo.

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<sup>1</sup> Farmers Weekly Interactive , [www.fwi.co.uk](http://www.fwi.co.uk) , 12 January 2012

<sup>2</sup> Focus on Gleadell, Gleadell Agriculture

<sup>3</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc) , 8 April 2011

<sup>4</sup> Farmers Weekly 18 June 2010

<sup>5</sup> Farmers Weekly Interactive , [www.fwi.co.uk](http://www.fwi.co.uk) , 20 September 2010

<sup>6</sup> Farmers Weekly 22 October 2010

<sup>7</sup> Farmers Weekly 18 March 2011

<sup>8</sup> Farmers Weekly Interactive , [www.fwi.co.uk](http://www.fwi.co.uk) , 9 February 2012

<sup>9</sup> BOCM Pauls, [www.bocmpauls.co.uk](http://www.bocmpauls.co.uk) , 29 March 2012

<sup>10</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk) , 1 August 2011

<sup>11</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc) , 10 February 2012

<sup>12</sup> Farmers Weekly Interactive , [www.fwi.co.uk](http://www.fwi.co.uk) , 11 November 2011

## 5 Crop and Input Prices

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- Smiths Flour Mills, with sites in Worksop, Langley will in Nottinghamshire and Holbeach in Lincolnshire, were purchased from their receivers in January 2012 by Northamptonshire based Whitworths Bros<sup>1 2</sup>.
- Canned foods specialist, Princes, acquired the canning operations of Premier Foods at Long Sutton and Wisbech, together with brands including Crosse and Blackwell, Farrows and Smedleys.

Consolidation and cooperation was a theme that continued among suppliers to arable producers, that included seed, fertiliser, crop protection, machinery and technical information:

- Through a strategic alliance from September 2011, Openfield's customers were supplied with crop protection products directly from Agrovista's depots<sup>3</sup>.
- Frontier expanded its agronomy services in Kent with the acquisition of TAP (The Agronomy Partnership), based in Wrotham<sup>4</sup>.
- Koch concluded its purchase of J & H Bunn, the compound fertiliser specialist in April 2011.
- Origin Enterprises, the Irish owner of Masstock Arable and Origin Fertilisers acquired UAP (United Agri Products) in March 2011. Later in the year, Origin took over the fertiliser subsidiary of Carrs Milling.
- Bayer Cropscience announced plans to sell its Norwich herbicide plant and surrounding land as a going concern<sup>5</sup>. The intended buyer was Aurelius AG of Munich, Germany<sup>6</sup>. In early 2012, it expanded its seed division into Europe by establishing a new facility in Belgium and by acquiring Raps Gbr in Germany<sup>7</sup>. Wheat breeding is to be conducted from a centre in Germany and new breeding stations in the Ukraine and France.
- In a global machinery deal, Norwegian cultivator manufacturer was sold to Kubota<sup>8</sup>.
- John Deere dealer P Tuckwell of North Suffolk took over Bedfordshire based J E Buckle Ltd<sup>9</sup>.
- Anglia Farmers, in a subsidiary called AF Land Services, took over Eastern Machinery Ring in April 2011<sup>10</sup>.
- Changes at the Biotechnology and Biological Sciences Research Council (BBSRC) were expected to result in the loss of up to 50 researchers at Rothamsted and Brooms Barn<sup>11</sup>. Near market research, including herbicide resistance, nematology, and anaerobic digestion were among the areas subject to reduced expenditure.
- The national body of Farming and Wildlife Advisory Group (FWAG) entered administration in November 2011, following loss of direct funding and reduced work

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<sup>1</sup> Farmers Weekly, 3 February 2012

<sup>2</sup> Worksop Guardian, [www.worksopguardian.co.uk](http://www.worksopguardian.co.uk)

<sup>3</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 6 September 2011

<sup>4</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 2 February 2012

<sup>5</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 5 April 2011

<sup>6</sup> FoodEast, [www.foodeast.com](http://www.foodeast.com), 5 April 2012

<sup>7</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 14 February 2012

<sup>8</sup> Farmers Weekly, 3 February 2012

<sup>9</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk), 3 March 2012

<sup>10</sup> Eastern Daily Press, [www.edp24.co.uk](http://www.edp24.co.uk), 9 April 2011

<sup>11</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 20 July 2011

## 5 Crop and Input Prices

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on applications for Higher Level Stewardship (HLS) schemes<sup>1</sup>. However, this was not the end for the brand, which continued in Norfolk as a not for profit company named Farm Conservation Limited<sup>2</sup>.

### 5.4 Infrastructure Initiatives

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#### Grain Storage and Shipping

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Camgrain now operates two stores in Cambridgeshire, one in Warwickshire and its new Advanced Processing Centre in Northamptonshire, two miles North of Kettering<sup>3</sup>. The combined stores have the capacity to handle 400,000 tonnes of grain, oilseeds and pulses each year. The Northamptonshire site had 55,000 tonnes of capacity for harvest 2012 with plans to expand this to 90,000 tonnes<sup>4</sup>.

Frontier invested £1.3 million in their Lowick storage site in Northumberland, principally increased the capacity of the store to deal with wet grain in a wet harvest<sup>5</sup>.

Refurbishment and investment was carried out at the port facility in Rye, East Sussex, including a dedicated grain store for use by Gleadell<sup>6</sup>.

### 5.5 Renewable Energy

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#### Bioethanol and Road Fuel

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Under the Renewable Transport Fuels Obligation, the UK faced a 2010 /2011 target of inclusion of four per cent of biofuel as a proportion of total fuel by volume. During the year, fuel suppliers achieved an inclusion rate of 3.6 per cent.

The Ensus plant on Teesside began production in the spring of 2010, but, faced with high prices for purchased cereal, the plant ceased production in mid May 2011<sup>7</sup>. Ensus blamed slow implementation of the Renewable Energy Directive, delays to the approval of voluntary sustainability schemes and a legislative loophole allowing cheap imports of bioethanol<sup>8</sup>. The expected date for reopening the plant was initially delayed, but later set for August 2012<sup>9</sup>. The plant will use one million tonnes of wheat per year when it reaches full capacity.

About 1,000 growers signed contracts to supply Vivergo with wheat, each committing to supply a minimum of 120 tonnes<sup>10</sup>. The plant is designed to use 1.1 million tonnes of wheat per year. The first deliveries of wheat were made to the plant in early April 2012<sup>11</sup>.

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<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 1 November 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 2 December 2011

<sup>3</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 20 March 2012

<sup>4</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 6 June 2011

<sup>5</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 12 July 2011

<sup>6</sup> FarmBusiness.cc, [farmbusiness.cc](http://farmbusiness.cc), 19 August 2011

<sup>7</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 13 May 2011

<sup>8</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 17 November 2011

<sup>9</sup> Farmers Weekly, 17 August 2012

<sup>10</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 17 June 2011

<sup>11</sup> Farmers Weekly, 13 April 2012

### Anaerobic Digestion Plant

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A survey of farm AD activity in 2011 revealed that there were about 35 operational on-farm anaerobic digestion (AD) plants in spring 2011<sup>1</sup>. A further 13 were under construction or had at least achieved planning permission while a further 20 at the planning stage. The main feedstock was municipal solid waste and food waste, amounting to 75 per cent. Energy crops accounted for five per cent of the feedstock and animal waste for six per cent.

### Willow, *Miscanthus* and Straw

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Within its power station site near Goole, Yorkshire, Drax has established a 28 hectare smart farm to grow *Miscanthus*, short rotation coppice and a range of cereal crops<sup>2</sup>. Drax also runs a straw pelleting plant capable of converting 100,000 tonnes of wheat and oilseed rape straw per year into pellets for co firing. Drax has the capability to generate 12.5 per cent of its electricity from co-firing (using 1.3 million tonnes of biomass) and now claims to be the cleanest and most efficient coal-fired power station in the UK<sup>3</sup>. In February 2012, Drax announced plans to invest £500 million in plant to burn more straw and wood feedstocks, but shelved plans to create a dedicated £2 billion biomass unit, partly due to the cost of transport of fuel to its inland site<sup>4</sup>.

The 38MW Elean power station, in Ely, Cambridgeshire, uses more than 200,000 tonnes of straw to generate 270GWh of electricity<sup>5</sup>. Some 80 per cent of the crop is sourced within 80 kilometres of the plant. In 2011, the plant used about 15,000 tonnes of *Miscanthus* straw.

### Solar

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In 2011, solar installations of less than 50 kilowatt of generation capacity were fitted to farm houses and farm buildings whilst a number of farmers opted to create free standing solar installations<sup>6</sup>. However, a number of intended developments were halted due to the reduction in feed in tariff for new installations of more than 50 kilowatt from 43.3 pence per kilowatt hour to 21 pence per kilowatt hour from April 2012.

## 5.6 Policy

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### Rural Economy Growth Review

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In November 2011, Defra launched the Rural Economy Growth Review<sup>7</sup>. This included initiatives such as

- consulting on the more flexible use of farm buildings
- improving rural broadband
- promoting tourism in rural areas
- supporting the upfront costs of developing renewables projects

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<sup>1</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 23 June 2011

<sup>2</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 9 May 2011

<sup>3</sup> Drax, [www.draxpoer.com](http://www.draxpoer.com), accessed 15 March 2012

<sup>4</sup> Financial Times, [www.ft.co](http://www.ft.co), 21 February 2012

<sup>5</sup> Farmers Weekly, 10 June 2011

<sup>6</sup> Farmers Weekly Interactive, [www.fwi.co.uk](http://www.fwi.co.uk), 6 July 2011

<sup>7</sup> Defra, [www.defra.gov.uk](http://www.defra.gov.uk)

## 5 Crop and Input Prices

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### Rural and Farming Networks

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In January 2012, Defra Secretary of State Jim Paice announced the formation of Rural and Farming Networks that will give rural business leaders 'a hotline to the heart of Government'<sup>1</sup>. They will 'identify and feed back local issues and concerns' 'in order to make policies more rural-friendly'. 'The networks will bring together people from rural communities, rural business and the food and farming industries'. By May 2012, there were 17 such networks<sup>2</sup>.

### Rural Development Programme for England (RDPE)

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From July 2011, responsibility for the Rural Development Programme for England (RDPE) was transferred from the Regional Development Agencies to Defra<sup>3</sup>.

The £20 million Farming and Forestry Improvement Scheme (FFIS), part of the RDPE, was launched by Defra in November 2011<sup>4</sup>. "The FFIS is part of the Rural Development Programme for England (RDPE) and is a scheme of support, developed to help farming, forestry and horticultural businesses in England to become more efficient at using resources. This scheme aims to help make your business more profitable and resilient whilst reducing the impact of farming on the environment<sup>5</sup>." The scheme permitted grants of between £2,500 and £25,000 for schemes that:

- save energy and reduce carbon emissions
- reduce dependence on artificial fertilisers
- Improve soil quality
- Improve animal health and welfare
- Save and recycle water
- Promote woodland management by processing timber more efficiently.

### Nature Improvement Areas (NIAs)

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Defra launched 12 Nature Improvement Areas in February 2012<sup>6</sup>. These designated areas were selected from 76 applications in a competitive bid for a share of £7.5 million from 2012 to 2015. Candidate NIAs typically exceed 10,000 hectares, include a variety of land uses, provide opportunities to enhance the ecology and link with existing landscape-scale initiatives<sup>7</sup>.

### Fruit and Vegetable Exceptional Aid Scheme

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Marketing of fresh produce, namely tomatoes, lettuce, endives, cucumber, sweet peppers and courgettes was disrupted by an outbreak of *E. coli* in Germany. The EU funded exceptional aid scheme was launched to compensate producers who withdrew wares from the market between 18 and 30 June 2011<sup>8</sup>. Payments averaging £25,372 were made to 22 separate claimants in October 2011.

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<sup>1</sup> Defra, [www.defra.gov.uk](http://www.defra.gov.uk), 4 January 2012

<sup>2</sup> Defra, [www.defra.gov.uk](http://www.defra.gov.uk), 8 May 2012

<sup>3</sup> EEDA, [www.eeda.org.uk](http://www.eeda.org.uk)

<sup>4</sup> Defra News Release, [www.defra.gov.uk](http://www.defra.gov.uk), 10 November 2011

<sup>5</sup> RDPE Network, [www.rdpenetwork.defra.gov.uk](http://www.rdpenetwork.defra.gov.uk)

<sup>6</sup> Defra News Release, [www.defra.gov.uk](http://www.defra.gov.uk), 27 February 2012

<sup>7</sup> Nature Improvement Areas Criteria, Natural England

<sup>8</sup> Rural Payments Agency, [www.rpa.gov.uk](http://www.rpa.gov.uk), July 2011

## 6 Exploring the ‘Yield Plateau’ in Winter Wheat

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### 6.1 Background to the Study

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This Chapter presents results from recent research carried out by NIAB TAG, SAC and the Rural Business Unit at the University of Cambridge into the apparent yield plateau in wheat. Commissioned by Defra and HGCA, the ‘Desk Study to Evaluate Contributory Causes of the Current “Yield Plateau” in Wheat and Oilseed Rape’ looked at agronomic factors that may be constraining wheat yield improvement.

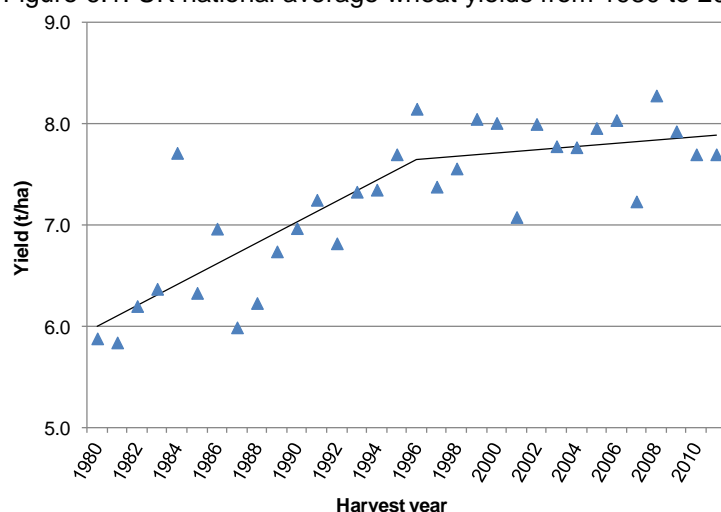
The results here are derived from the Farm Business Survey (FBS) unless marked otherwise. Yield data were available for about 800 farms per year for wheat, between 1987 and 2009. Expenditure on key inputs, plus labour, contract and machinery costs, were available for approximately 200 farms per year for wheat over the six year period from 2004 to 2009. These were used to identify differences in approach to crop husbandry between farms in the top and bottom yield quartiles for wheat, and relationships between cropped area, average yield and gross margins.

### 6.2 Yield Trends

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The period from the 1940s to the 1990s saw exceptional growth in wheat yields at a rate of around 0.1 tonnes per hectare per year as yields rose from 2.7 to 7.6 tonnes per hectare. This was the result of improvements in plant breeding and agronomy. The crop area doubled to two million hectares. More recently, farm wheat yield growth has stalled, and typically varies between seven and eight tonnes per hectare. From 1980 to 1996 national average wheat yields increased by an average of 0.105 tonnes per hectare per year, but since 1996 the UK trend shows only a 0.016 tonnes per hectare per year rise as shown in Figure 6.1.

Figure 6.1. UK national average wheat yields from 1980 to 2011.



### 6.3 Analysis of Yield Quartiles

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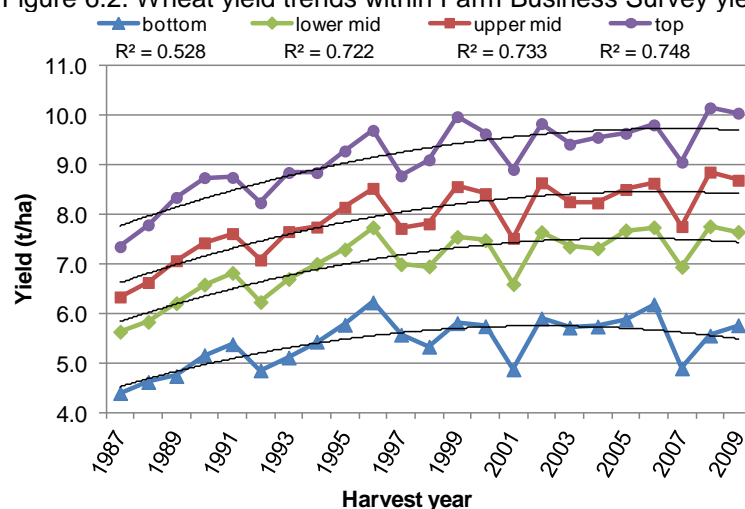
The study considered the relative performance of wheat production according to yield quartiles. There was a divergence in fortune for farms in the different quartiles, with the gap between the top and bottom 25 per cent rising from 3.0 tonnes per hectare in 1987 to 4.5 tonnes per hectare in 2009. Farms in the top yield quartile are growing twice the wheat area grown by farms in the bottom quartile, and are achieving the highest wheat gross margins.

The bottom 25 per cent appear to have reached a plateau in 2002 and gone into yield decline, this becomes less evident moving through the quartiles, with a suggestion that the

## 6 Exploring the 'Yield Plateau' in Winter Wheat

top 25 per cent have continued to increase slowly until 2007 (Figure 6.2). Examining the top and bottom quartiles it is evident that the gap between these two has increased, albeit erratically, by about 1.5 tonnes per hectare between 1987 and 2009.

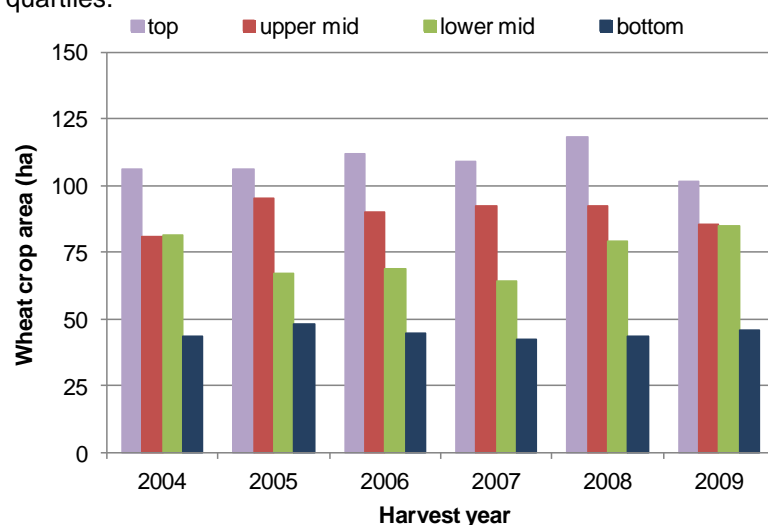
Figure 6.2. Wheat yield trends within Farm Business Survey yield quartiles



From 2004 to 2009 the top yield quartile group have grown the largest wheat area and the bottom yield quartile have grown the smallest wheat area, with the top yield quartile growing more than twice as much wheat as the bottom quartile (Figure 6.3). This may be because the latter farms are smaller, or because the wheat crop represents a smaller proportion of their farm enterprises. The relative areas for the top and bottom quartiles have changed very little over the period analysed. Farms in the top quartile for gross margin from 2004 to 2009 also achieved the highest mean yield.

As fields and farms have increased in size, and growers have sought to simplify their management through block cropping, there is a risk that the husbandry applied to individual fields may become less well matched to their specific needs. The results indicate that yield improvement is not necessarily compromised on farms that are growing a larger area of a crop, and that this may in part be due to greater investment in labour and machinery. 'Attention to detail', 'getting everything right' and 'continuing improvement' were articulated by practitioners as vital to achieving positive yield trends on individual farms.

Figure 6.3 Mean area of wheat grown by FBS top, upper & lower middle and bottom yield quartiles.

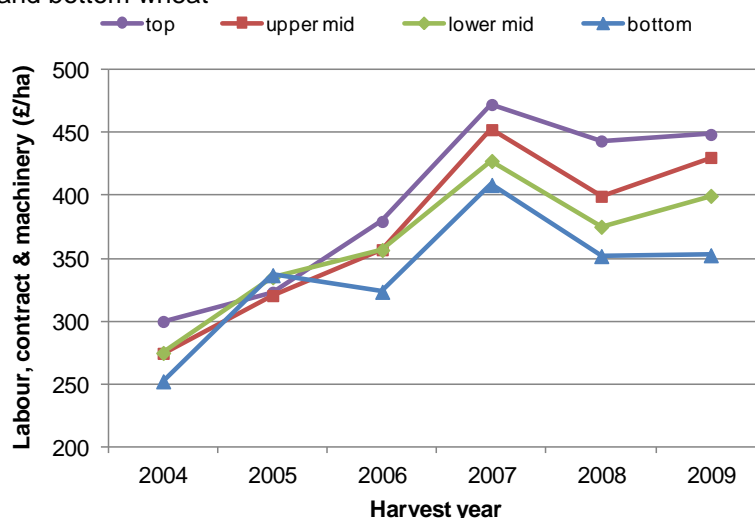


## 6 Exploring the 'Yield Plateau' in Winter Wheat

Between 2004 and 2009 wheat gross margins were highest for farms in the top yield quartile and lowest for farms in the bottom yield quartile. Differences were smallest in 2005 when wheat grain prices were at their lowest. There were no differences in average farm expenditure on wheat seed

Over the 2004-2009 period, labour, contract and machinery (rental, depreciation, repairs and fuel & oils) costs per hectare have generally been higher for farms in the top wheat yield quartile than for farms in the bottom yield quartile (Figure 6.4). In addition, since 2005, costs have increased more rapidly for those in the top yield quartile than those in the bottom yield quartile, with the difference increasing from £50 per hectare or less in 2004 and 2005 to £100 per hectare in 2008 and 2009. This could mean that farms in the top yield quartile are investing more in the production of the crop, and achieving better timeliness and field efficiency, although they may also have other enterprises that are influencing the requirement for labour and machinery.

Figure 6.4. Labour, contract and machinery spend by FBS top, upper middle, lower middle and bottom wheat

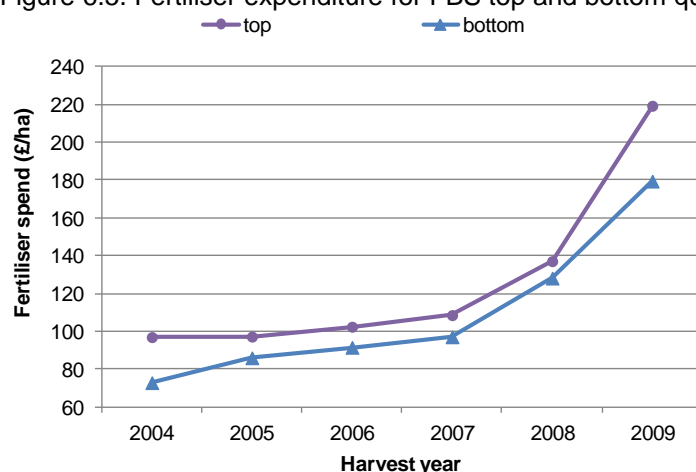


Deducting labour, contract and machinery costs from gross margins for each quartile, it is evident that farms in the top quartile for yield consistently have a positive margin, whereas those in the bottom quartile do not. However, the differences in margin between top and bottom yield quartiles are reduced by the differences between their labour and machinery costs.

Farms in the top wheat yield quartile are spending slightly more per hectare on fertiliser than farms in the bottom yield quartile (Figure 6.5), although the gap between the top and bottom quartiles has varied over the period analysed. However, farms in the top quartile for wheat gross margin are spending less on fertiliser than farms in the bottom quartile, although there was little difference in 2004 and 2007. This does not necessarily mean that farms in the top gross margin quartile have been using less fertiliser (they may have been buying it more competitively) or that farms in the top gross margin quartile have limited their yields (they may have had a lower fertiliser requirement).

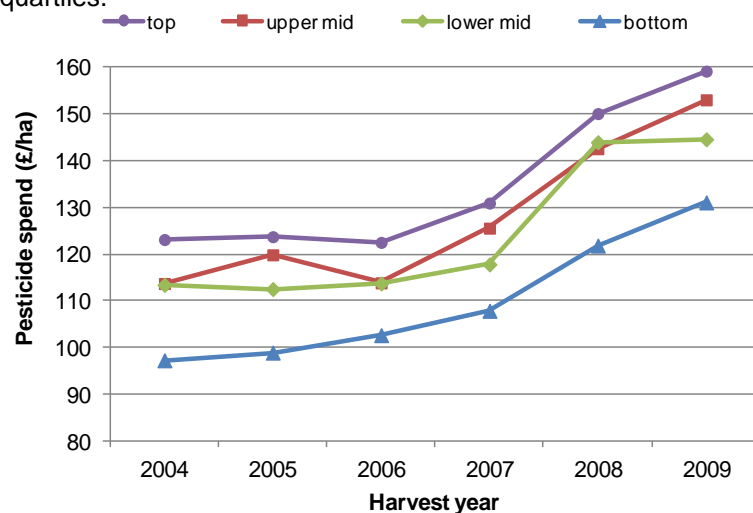
## 6 Exploring the 'Yield Plateau' in Winter Wheat

Figure 6.5. Fertiliser expenditure for FBS top and bottom quartiles for wheat yield.



Farms in the top wheat yield quartile are spending 20 to 25 per cent more per hectare on pesticides than farms in the bottom quartile (Figure 6.6). The gap between the top and bottom quartiles has remained similar over the period analysed. The picture is different when comparing quartiles by gross margin. Farms in the top gross margin quartile were spending less on pesticides than farms in the bottom quartile in 2004 and 2005, although since 2007 differences have been quite small. As observed for fertiliser, this does not necessarily mean that farms in the top gross margin quartile have been using fewer pesticides or that their yields were limited. However, it highlights that, prior to recent crop price improvements, the most appropriate level of investment in crop protection to optimise gross margin may have been less than that required to optimise yield.

Figure 6.6 Pesticide expenditure for FBS top, upper & lower middle and bottom wheat yield quartiles.



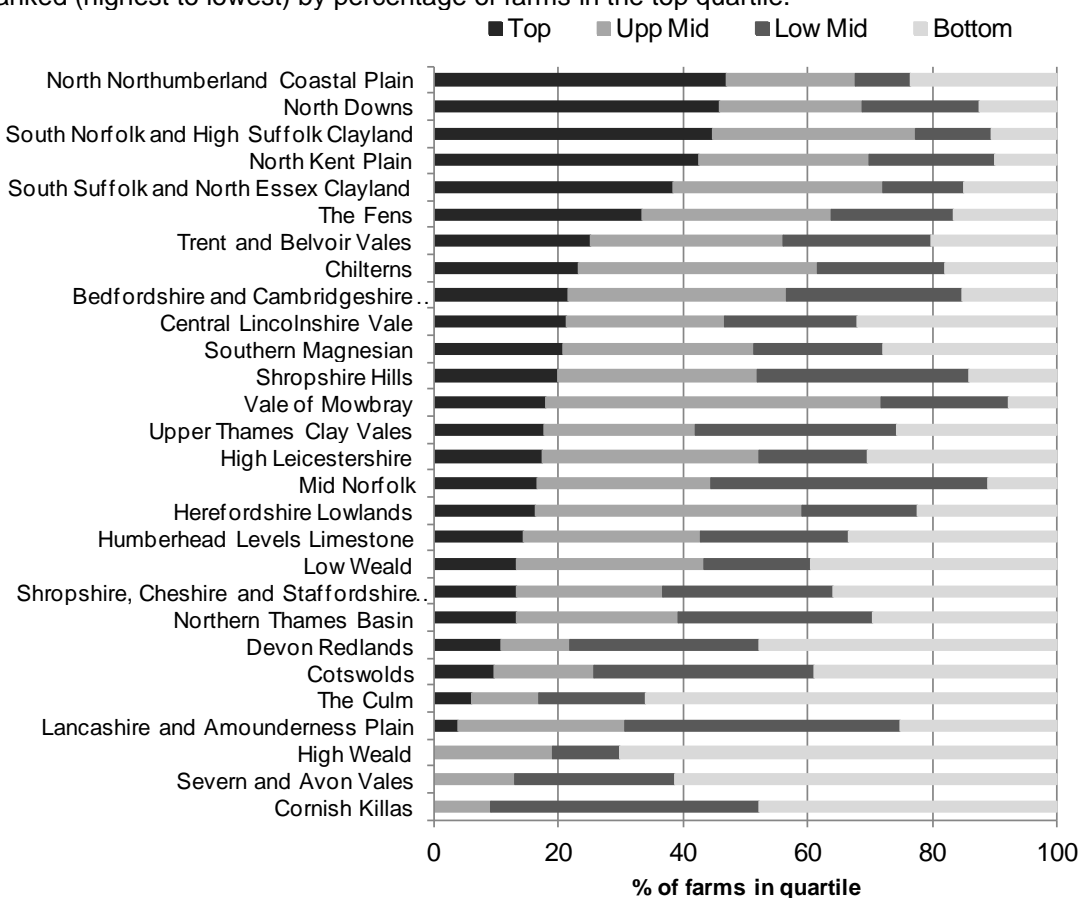
### 6.4 Analysis by JCA

In order to assess the potential to increase average wheat yields for each FBS yield quartile, it is useful to consider the influence of geographical, soil type or farm type differences. Natural England has defined a number of Joint Character Areas (JCAs) that have similar landscape character (<http://www.naturalengland.org.uk/publications/nca/default.aspx>). In many cases these also provide a reasonable division of geographical location (and therefore climate) and soil type, from which it is possible to make assumptions about the predominant farm types likely to be represented within each JCA.

## 6 Exploring the 'Yield Plateau' in Winter Wheat

Figure 6.7 shows the percentage of farms falling within each of the yield quartiles, for JCAs with at least 15 farms in at least one FBS yield quartile. The JCAs have been ranked (highest to lowest) in order of the percentage of farms falling within the top yield quartile. Not surprisingly, there are big differences between JCAs. Those with the highest percentage of farms within the top yield quartile include the fine loam, chalk and clay-with-flint soils in east Kent, the deep clayland soils in south Norfolk, Suffolk and north Essex, the Fen soils in Cambridgeshire and Lincolnshire and the heavy loam soils in north-east Northumberland. Farm types are mainly arable, either solely combinable or including roots, or in some cases with vegetable crops in the rotation. JCAs with the highest percentage of farms in the bottom yield quartile include parts of Devon and Cornwall, and areas within west Kent, East Sussex, Gloucestershire and Worcestershire, with soils that are typically variable in texture or depth, of low fertility or commonly prone to waterlogging or flooding. Many of these would be recognised as being more mixed farming areas, rather than predominately arable cropping.

Figure 6.7 Percentage of farms in the top, upper middle, lower middle and bottom FBS yield quartiles for wheat for joint character areas with at least 15 farms in at least one quartile, ranked (highest to lowest) by percentage of farms in the top quartile.



This analysis goes some way to explaining the differences seen between the FBS yield quartiles, for example why the average area of wheat grown by farms in the bottom quartile is much smaller than that grown by the top quartile. It may also help to explain the observed divergence in wheat yield trends – a combination of better soils and a stronger arable emphasis providing greater potential and imperative to increase yields for the top than the bottom yielding quartile. At the same time, many of the JCAs show a fairly equal distribution of farms between the four yield quartiles, so this suggests that there is still a range of performance for farms that are ostensibly similar in their geography/climate, soil type and farm type, and therefore scope for yield improvement.

**Reports in this series:**

Crop Production in England 2011/12  
Dairying Farming in England 2011/12  
Hill Farming in England 2011/12  
Horticulture Production in England 2011/12 (Horticultural Business Data)  
Lowland Grazing Livestock Production 2011/12  
Pig Production in England 2011/12  
Poultry Production in England 2011/12

Crop Production in England 2010/11  
Dairying Farming in England 2010/11  
Hill Farming in England 2010/11  
Horticulture Production in England 2010/11 (Horticultural Business Data)  
Lowland Grazing Livestock Production 2010/11  
Pig Production in England 2010/11  
Poultry Production in England 2010/11

Crop Production in England 2009/10  
Dairying Farming in England 2009/10  
Hill Farming in England 2009/10  
Horticulture Production in England 2009/10 (Horticultural Business Data)  
Lowland Grazing Livestock Production 2009/10  
Pig Production in England 2009/10  
Poultry Production in England 2009/10

Crop Production in England 2008/09  
Dairying Farming in England 2008/09  
Hill Farming in England 2008/09  
Horticulture Production in England 2008/09 (Horticultural Business Data)  
Lowland Grazing Livestock Production 2008/09  
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Poultry Production in England 2008/09

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**Other Farm Business Survey publications of interest to arable farmers:**

Farm Accounts in England, Defra  
<http://statistics.defra.gov.uk/esg/publications/fab/default.asp>

Farm Business Survey Government Office Region Reports, University of Cambridge  
<http://www.farmbusinesssurvey.co.uk/regional/>

FBS farm business benchmarking  
<http://www.farmbusinesssurvey.co.uk/benchmarking/>

For arable performance for the East of England up to 2004/2005 see the annual publication:  
Report on Farming in the Eastern Counties of England, Rural Business, Unit, Department of  
Land Economy, 19 Silver Street, Cambridge, CB3 9EP.



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