

**Annexe 14 du rapport d'évaluation**

EUROPEAN COMMISSION  
DG AGRICULTURE

Evaluation of the Impact of the  
Set-aside Measures in the  
United Kingdom:

*Regional Level Report  
Eastern region of England*

September 2001

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## **1 REGIONAL CONTEXT**

### **1.1 OVERVIEW OF AGRICULTURAL PRODUCTION IN THE REGION**

The study area is situated in the Eastern Region of England. The Eastern Region is an administrative region for devolved government in the UK. The case studies were undertaken in two counties located in the Eastern Region - Norfolk and Suffolk. Regional statistics were collected mainly from the Department for Environment, Food and Rural Affairs (DEFRA), formerly the Ministry of Agriculture, Fisheries and Food (MAFF).

#### *Note on data*

The quantitative data for this report was sourced from primarily the following locations:

- DEFRA Regional Service Centre (Cambridge, England)
- DEFRA National Statistics Service (York, England)
- DEFRA's on-line Economics and Statistics Directorate (<http://www.defra.gov.uk/esg/econfrm.htm>), and also including
- The Home Grown Cereals Authority
- The National Farmers Union.

Unfortunately, problems are attached to the DEFRA data. We found that some of the same production statistics (such as production of wheat) had different values in the national and regional sources. For this reason, data from the national statistics service (NSS) was preferred, as it seemed more robust. However, the NSS could not provide the same level of detail on set-aside (simply given an overall hectare figure) and therefore the regional data was used to analyse set-aside. Also, no regional data could be obtained (on repeated requests) from the regional service centre for 1993. This has implications, for example, for analysing set-aside for 1993, since no separate set-aside figure or breakdown was available from the NSS or any other source.

This has limited the robustness of the analysis to a certain extent. However, a thorough and proper analysis of the situation, using the data and information available, was carried out for this report.

#### **1.1.1 Altitude and climate**

The region is low lying with generally lower rainfall and higher mean annual temperatures than any other region in the UK.

**Table 1: Climate characteristics for the Eastern Region**

<b>Average annual rainfall</b>	<b>Rainfall / year</b>	<b>Average annual temperature</b>	<b>Number of daily sunshine hours</b>
550 mm pa	100 days > 1mm rain per year	Jan 4°C July 17°C	4.5 hrs/day annual mean

Source: The Met Office

#### **1.1.2 Population**

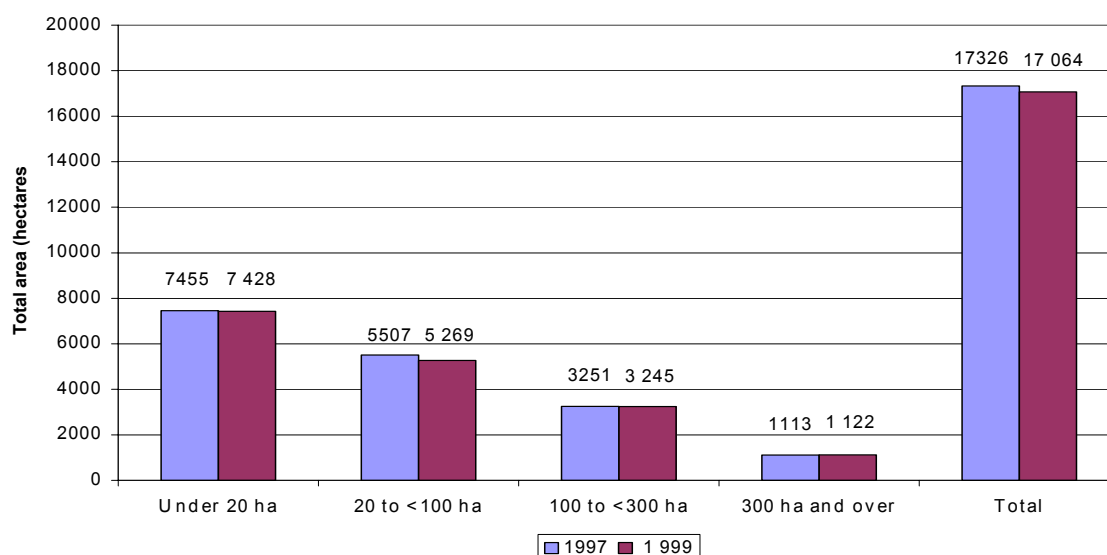
The total agricultural labour force for the Eastern Region in 2000 was 50,080 people employed on 16,925 holdings.<sup>1</sup>

(1) <sup>1</sup> Source: DEFRA Economics and Statistics Service website.

### 1.1.3 Number, Size and Type of holdings

Figure 1 depicts the number of farm holdings in the Eastern Region banded by size. These statistics were taken from the 1999 Ministry of Agriculture census (this is an annual census and the 2000 census figures available did not contain the same level of detail). Unfortunately no historical data for previous years was forthcoming from DEFRA.

**Figure 1: No of farm holdings in Eastern Region categorised by size in 1997 and 1999**



Source: DEFRA on-line Economics and Statistics service

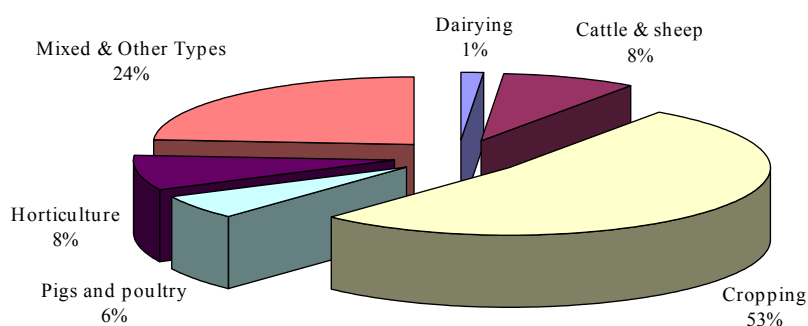
[http://www.defra.gov.uk/esg/work\\_html/publications/cs/census/digest/current/xls/countries/tab\\_east\\_england\\_reg.xls](http://www.defra.gov.uk/esg/work_html/publications/cs/census/digest/current/xls/countries/tab_east_england_reg.xls)

This represents a total of 1,460,005 hectares of agricultural land, as below:

<i><b>Holding size</b></i>	<i><b>Total area hectares</b></i>	<i><b>area as % of total</b></i>
Under 20 ha	48 494	3.3
20 to <100 ha	265 973	18.2
100 to <300 ha	563 022	38.6
300 ha and over	582 516	39.9
<b>TOTAL</b>	<b>1 460 005</b>	<b>100</b>

(Source: DEFRA on-line Economics and Statistics  
[http://www.defra.gov.uk/esg/work\\_html/publications/cs/census/digest/current/xls/countries/tab\\_east\\_england\\_reg.xls](http://www.defra.gov.uk/esg/work_html/publications/cs/census/digest/current/xls/countries/tab_east_england_reg.xls))

Figure 2 illustrates the type of holdings (by percentage of the total) present in the Eastern Region in 1999.



**Figure 2: Type of holdings in East Anglia Region (1999)**

Source: DEFRA on-line Economics and Statistics

[http://www.defra.gov.uk/esg/work\\_htm/publications/cs/census/digest/current/xls/countries/tab\\_east\\_england\\_reg.xls](http://www.defra.gov.uk/esg/work_htm/publications/cs/census/digest/current/xls/countries/tab_east_england_reg.xls)

#### 1.1.4 Main Crop shares for the Eastern Region

Data from the 2000 DEFRA annual agricultural census detail that total agricultural area (excluding common rough grazing) totalled 1,449,279 hectares. Total Arable Land (crops, bare fallow and grasses under 5 years old) accounts for 1,080,465 hectares on 16,925 holdings.

	Cereals	Oil seeds	Protein crops	Linseed	Bare Fallow*	Total set-aside
Eastern Region (hectares)	723,792	65,857	60,311	11,342	5,321	118,218
as a %age of Total Arable Land	67%	6.1%	5.6%	1%	0.4%	n/a**
as a %age of Total Agricultural Area	49.9%	4.5%	4.2%	0.8%	0.5%	8.2%

\* Bare Fallow is defined by DEFRA as arable land left uncultivated, which is not part of the set-aside regulation.

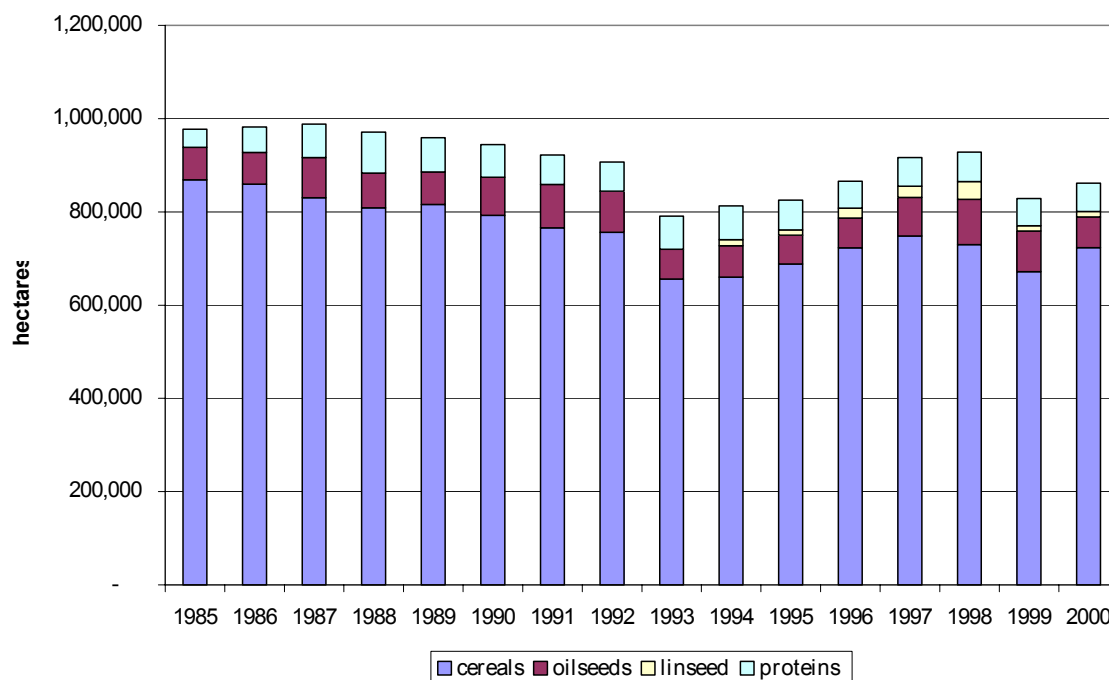
\*\* This is not applicable since DEFRA does not include set-aside in their calculations of Total Arable Land (Total Arable Land equals Tillage and grasses under 5 years old).

#### 1.1.5 Role of COLP over the period 1985-1999 <sup>1</sup>

Figure 3 illustrates the total surface area (in hectares) under COLP in the Eastern Region.

**Figure 3: Total surface area (in hectares) under Cereals, Oilseeds, Linseed and Proteins between for 1985 to 2000 in the Eastern Region.**

(2) <sup>1</sup> COLP refers to Cereals Oilseeds Linseed and Protein Crops which are eligible for AAPS. Linseed was added to the AAPS in the UK in 1994.



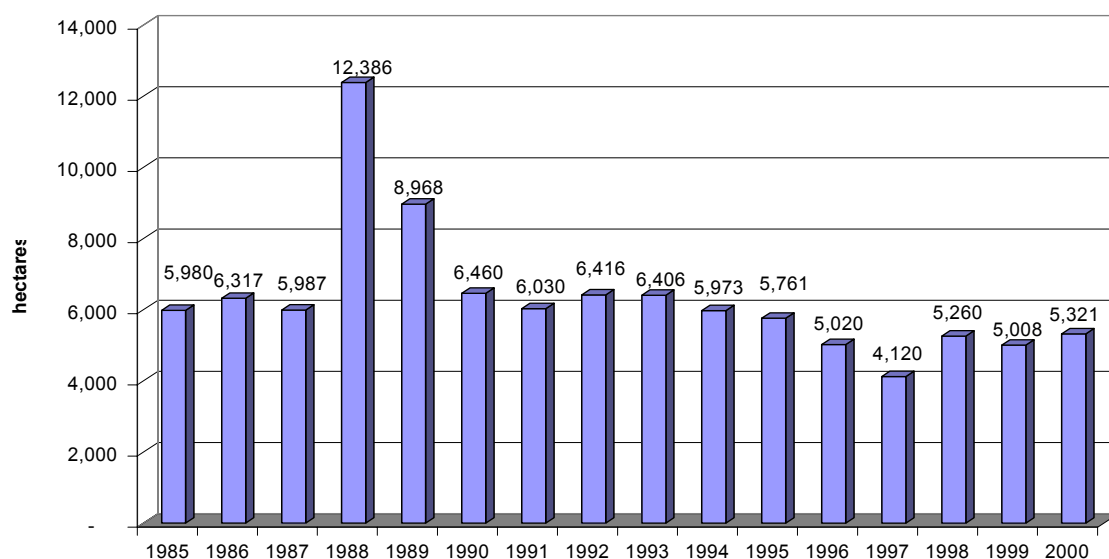
Source: DEFRA on-line Economics and Statistics service

As Figure 3 shows, cereal crops predominate in the Eastern Region. Indeed in 2000, the Eastern Region grew the largest hectareage of cereals - double the average of most other regions in the UK.

#### 1.1.6 Bare Fallow

As the following Figure 4 shows, set-aside has not greatly affected the amount of bare fallow present in the Eastern Region.

**Figure 4: Surface Area under Bare Fallow (hectares) in the Eastern Region**



Source: DEFRA National Service Centre

## 1.2 CONTEXT OF THE IMPLEMENTATION OF SET-ASIDE

### 1.2.1 Data on implementation

**Table 2: Characteristics of the Eastern Region Regionalisation plan**

Season	Types of set-aside	Rate	Major management rules and rule changes
1992-3	No distinctions	15%	Green cover required in most cases until 1 May Cover by natural vegetation, sown cover or unharvestable crop mixture Cultivation and cutting allowed after 1 May
1993-4	Rotational (RSA) and Non Rotational (NRSA)	15% 18%	Non residual herbicides allowed without permission from 15 April on RSA Cultivation and cutting still allowed after 1 May, remaining cover to be destroyed by 31 August NRSA to be cut at least once a year, though 2m strip can be left next to hedge or woodland cutting required between 15 July and 15 August to 10cm or less; cuttings not removed
1994-5	Rotational flexible Guaranteed Voluntary Additional Voluntary	12% 15%	Up to 10% of NRSA cover can be left uncut each year, each such area to be cut the next year Ban on clover, lucerne and sainfoin on guaranteed set-aside
1995-6	Rotational flexible Guaranteed Voluntary Additional voluntary	10% 10%	Land in certain agri-environment and farm woodland schemes can count towards set-aside requirement New guaranteed set-aside restricted to countryside access agreements and short rotation coppice
1996-7	Obligatory (=both rotational and non- rotational) Guaranteed Voluntary Additional Voluntary	5%	Cultivation allowed only after 1 July Cutting not allowed if cover already sprayed
1997	Obligatory Guaranteed Voluntary Additional Voluntary	5%	New rules on spraying/cutting and cultivation and lucrative use of set-aside. Extension to the list of crops that can be sown after 15 <sup>th</sup> July for harvest after following 15 <sup>th</sup> Jan. New restrictions on eligibility for new guaranteed set-aside agreements
1998	Obligatory Guaranteed Voluntary Additional Voluntary	5%	New rules for non food crops grown on set-aside land. Eligibility of land that can be set-aside changed. Pigs allowed onto set-aside land from 1 <sup>st</sup> Sept providing there is no financial or other return.
1999	Obligatory Guaranteed Voluntary Additional Voluntary	10%	Extension of Guaranteed set-aside to Jan 2000. Two year ownership rule removed. Farmers able to leave Guaranteed set-aside without penalty after 31 <sup>st</sup> August in the final year of the agreement and can sow crops on that land from 15 <sup>th</sup> July for harvest after the following Jan. Farmers can set-aside more than 50% of the area claimed for biomass production.
2000	Obligatory Voluntary Additional Voluntary	10%	Transfer of set-aside between farmers no longer permitted. New rules for farmers with set-aside in more than one yield region.
2001	Obligatory Voluntary Additional Voluntary Multiannual set-aside	10%	Rules changed to allow any AAPS eligible land to be set-aside. Multiannual set-aside introduced so that farmers can protect themselves against any decrease in the set-aside payment by setting aside land for 5 years

Source: Agronomic and Environmental Evaluation of Set-aside under EC Arable Areas Payment Scheme, Firbank et al, ITE, 1998 and MAFF

\*The dividing line between compulsory and voluntary set-aside in England is 15.5 ha which, based on average yields is equivalent to production of 92 tonnes cereals pa.

**Table 3: Information on Set-Aside in the Eastern Region (no regional data available at this level of detail before 1995)**

	1995	1996	1997	1998	1999	2000
Obligatory set aside rate	15%	12%	10%	5%	5%	10%
Number of applications (main scheme)	n/a	7,136	7,154	7,058	7,183	n/a
Total Set-aside (ha), including voluntary (both scheme)	135,981*	126,361	84,954	84,694	150,824	143,193
SCOLP** (ha) both schemes	948,809	971,867	979,546	992,962	996,078	975,053
SCOLP (ha) Main Scheme	922,904	948,474	958,097	973,708	980,139	957,926
SCOLP (ha) Simplified Scheme	25,905	23,393	21,449	19,254	15,939	17,127
Real rate of set-aside (both schemes) (set-aside/SCOLP both schemes)	14.33%	13%	8.64%	8.53%	15.14%	12.18%
Rate of set-aside in Main Scheme (set-aside/SCOLP main scheme)	14.7%+	13.32%	8.83%+	8.70%	15.39%	12.27%
Non-food set aside	24,736	16,551	7,957	8,838	29,988	21,036

n/a = not available

\* no voluntary set-aside

\*\* Set-aside (obligatory and voluntary), Cereals, Oilseeds, Linseeds and Proteins (SCOLP). Linseed was introduced into the UK Arable Area Payments Scheme in 1994.

+ From the regional data available, the rate of set-aside in the main scheme appears to be under the obligatory set-aside rate. This may be due to inaccuracies in data collection, or due to land-based or other penalties being applied, meaning that the obligatory rate was not reached.

Source: DEFRA Regional Service Centre, Cambridge

The payment rates for AAPS crops in the England regional base area<sup>1</sup> are detailed in Table 4. Table 5 details the base area rates used to calculate the original AAPS and set-aside payments. (In the UK, there are no differences in payments for crops grown on irrigated/non-irrigated land.)

**Table 4: Base of regionalisation plan in Eastern Region (Payments per hectare in Euros)**

For harvest year	Cereals	Oilseeds	Proteins	Linseed	Set-Aside/Voluntary	Add Vol. Set-aside*	Supplement for durum wheat	Guaranteed set-aside entered into during the period 1996-99
1993	148.25	421.67	385.46	504.05	266.85	-	-	-
1994	207.55	392.53	385.45	515.91	338.01	237.20	-	-
1995	320.07	543.12	462.31	619.04	405.41	284.49	-	-
1996	320.06	565.75	462.31	619.04	405.41	284.49	-	-
1997	320.06	565.75	462.31	619.04	405.41	284.49	-	-
1998	320.06	528.30	462.31	619.04	405.41	284.49	-	-
1999	320.06	565.75	462.31	619.04	405.41	284.49	138.90	-
2000	345.57	490.93	427.03	519.85	345.57	-	138.90	405.41
2001	371.07	434.65	427.03	445.46	371.07	-	138.90	-

1993 payments are based on green rate of 1 ECU = £0.948645; 1994 payments are based on green rate of 1 ECU = £0.932453

<sup>1</sup> As explained in the UK National Set-Aside report, the UK is divided into 4 regional base areas, of which England forms 1. There are sub-divisions within the England base area for maize and other crops.



1995 payments are based on green rate of 1 ECU = £0.840977; 1996 payments are based on green rate of 1 ECU = £0.833821  
 1997 payments are based on green rate of 1 ECU = £0.803724

\*Additional voluntary set-aside is land that has been in the Five Year Set-aside scheme (FYSS) land and subsequently set-aside continuously under the AAPS since leaving the FYSS. Additional voluntary set-aside no longer exists as a separate option. However land which was previously set-aside under the old FYSS, and which has continued in set-aside under the AAPS since, will be allowed to continue in set-aside even where this exceeds 50% of the claimed area.

Source: DEFRA National Statistics Service

**Table 5: Yields and Base areas used to calculate AAPS and set-aside payments**

UK Regional Yields and Base Areas (I)							
	Cereal (t/ha)			Oilseeds (t/ha)			
	for harvest '93	for harvest '94	'95 onwards	for harvest '93	for harvest '94	'95 onwards	'00 onwards
England	5.93	5.93	5.89	3.08	3.08	3.08	6.006

	Total base area (000 ha)		Other COP Base Areas (000 ha)	Maize Base Areas (000 ha)
	for harvest '93	'95 onwards		
England	3786	3794.6	3761.4	33.226

(i) Used to calculate per hectare APPS and Set-aside

(ii) Average COP (Cereals, Oilseeds and Proteins) area for 1989-91 inclusive plus Set-aside in those years under 1 and 5 year scheme

(iii) Base areas were combined for Scottish LFA and non-LFA areas for harvest 2000 to 551,600 ha

(iv) Multiplied by 1.95, the EU cereal/oilseed yield coefficient, used to convert the oilseed payments from 2000/01

### Introduction

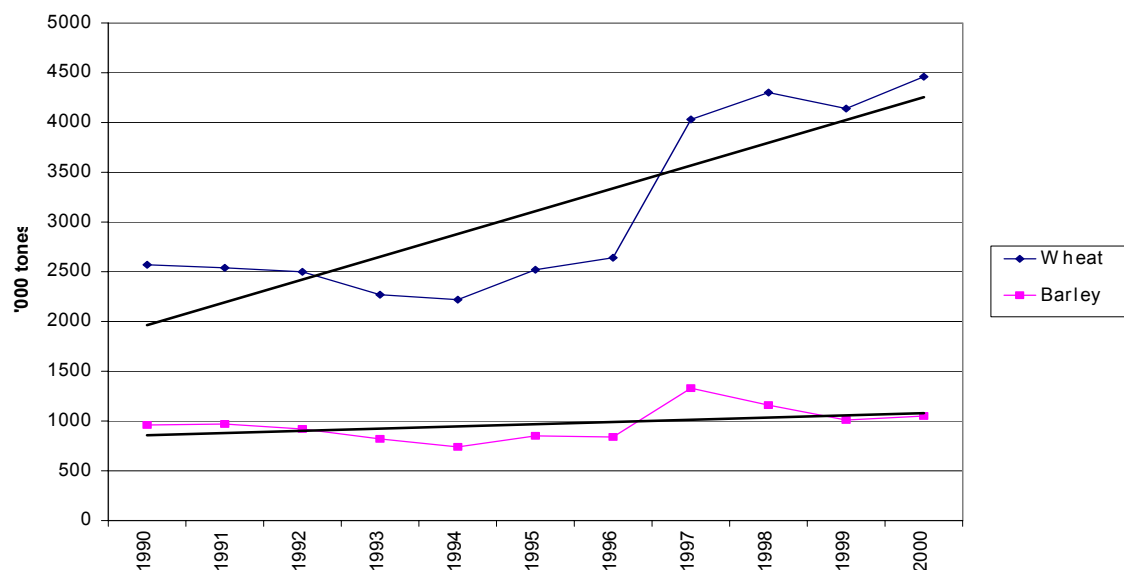
For this series of questions the quantitative analysis is undertaken at European level, however this section summarises the qualitative analysis emerging from the regional case study.

#### ***411 Have obligatory and voluntary set-aside measures contributed in a significant manner to managing arable crop production levels? In particular what have been their contribution to reducing cereals surpluses (and other crops) in the region?***

The main points with relation to the situation in the Eastern Region are detailed below.

Figures 3 (above) and 5 (below) show that the initial introduction of the reforms led to a reduction in the production areas and levels of wheat and barley in the Eastern Region (a fall of 11% in wheat production between 1992 and 1994; a fall of 19.5% in barley production between 1992 and 1994). However, between 1995 and 2000 there has been a steep increase in the production of wheat (with the 2000 figure just over double the 1994 figure), whilst barley production has shown an increase of 42% over the same period, 1994-2000.

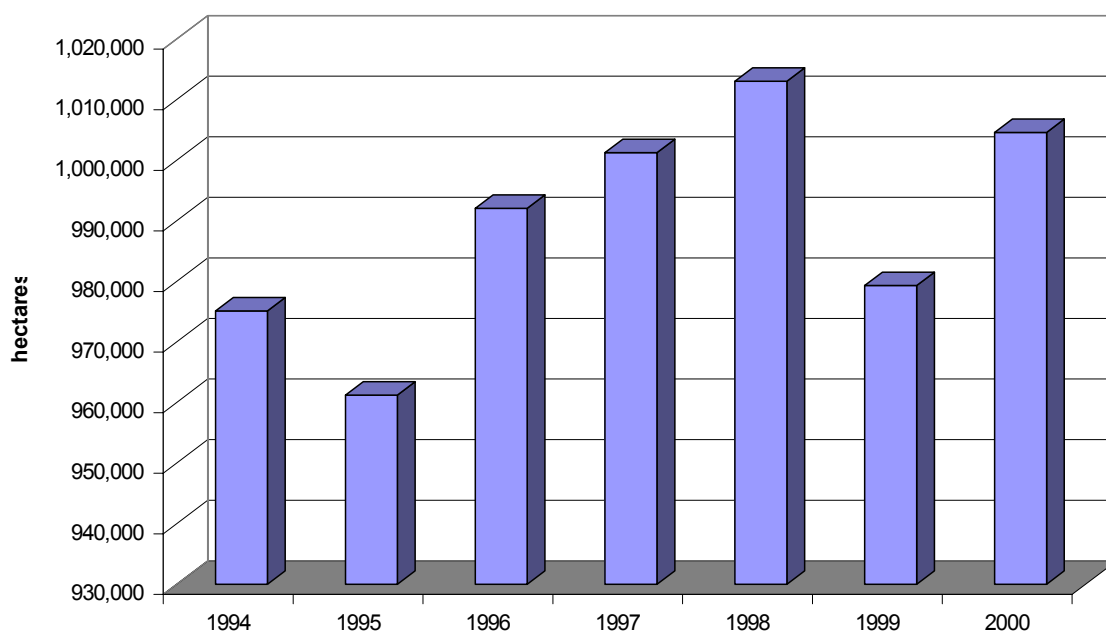
**Figure 5: Evolution of production of wheat, barley ('000 tonnes) in the Eastern Region**



Source: DEFRA on-line Economics and Statistics service

Interestingly the surface area (in hectares) under Set-aside, Cereals, Oilseeds, Linseeds and Protein crops (SCOLP) increased from 975,130 in 1994 to 1,004,594 in 2000, reflecting an increase in this period of only 3% on the 1994 figure (Figure 6). (In 1999, the SCOLP figure reflects a downturn in the hectareage of winter barley.) As Figure 3 showed, the cultivated area of COLP in 1998 was only slightly greater than the 1992 figure, and in 1999 and 2000 was less. This is a significant slippage.

**Figure 6: Development of SCOLP in ha from 1994 to 2000 in Eastern Region (hectares) (no separate Eastern Region data available for 1993).**



Source: DEFRA Regional Service Centre and National Statistics Service

Therefore, although the overall area under COLP production appears to have fallen since 1992, the underlying trend in rising yields, as shown later in Figure 9, could explain increasing production levels and imply that set-aside has not been effective in meeting its production related objectives in the Eastern Region.

This indicates that the removal of productive land under obligatory set-aside appears to have had a minimal effect on crop production levels in the Eastern Region, supported by the analysis of the survey where it was seen that a high proportion of farmers are placing their set-aside on marginal land. Of the farmers interviewed, 70% have fixed set-aside and a further 10% have 100% fixed set-aside. Of those with fixed set-aside, nearly three quarters (73.3%) have located it on their most marginal land (sloping, poor soils, distant or very small fields) with the rest along water courses or around field margins.

The survey of farmers showed that for the 63.3% of farmers who have changed their activities to maintain overall farm incomes, the patterns for doing so are not clear. However, in most cases, changes in rotational cropping activities were not attributable to the introduction of set-aside (and its maintenance in recent years at 10%), but rather to market prices for key crops. About half of the 63.3% had increased their production of COP crops (oil crops (15.8%), cereals (31.6%) and protein crops (15.8%)) while others reduced COP production (oil crops (21.1%), cereals (57.9%) and protein crops (31.6%)). No information on the net impact on production levels of COP crops was available.

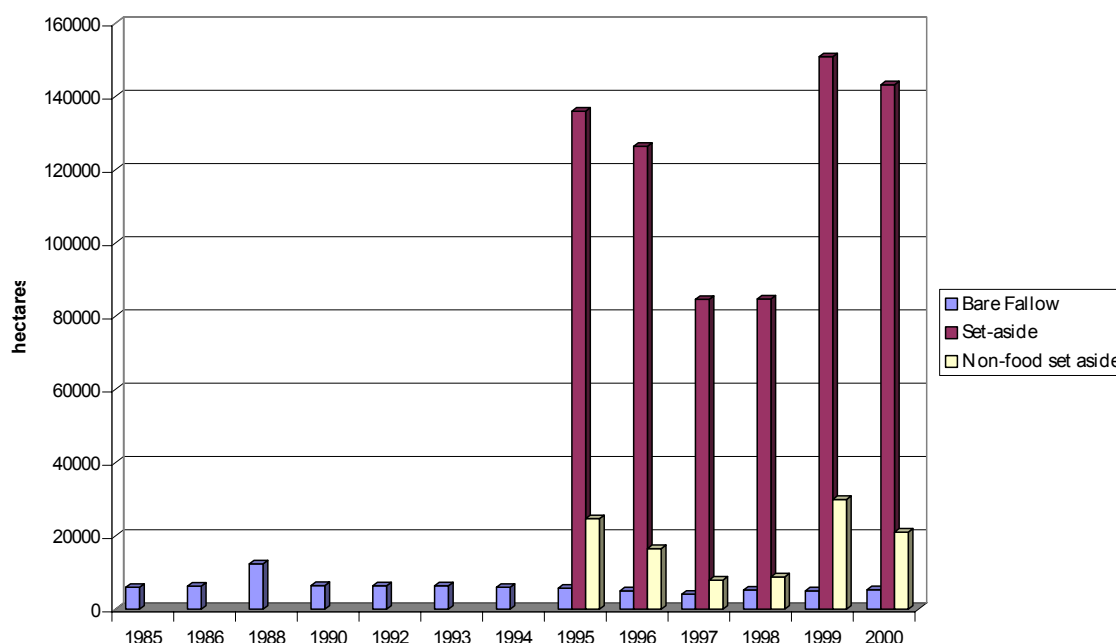
**412 To what extent has the level of remuneration for voluntary set-aside reinforced the effectiveness of the set-aside measure? Estimate the area of voluntary set-aside which would otherwise have been unproductive in the absence of set-aside?**

As with the previous question, it is not easy to distinguish the impacts of voluntary from obligatory set-aside. This impact must therefore be analysed by other means at the European level.

In response to the second part of the question, in the Eastern Region, since 1992 the area of bare fallow has remained very similar to pre-1992 levels. The average hectareage from 1985-1992 was

6695 ha; from 1992-1999, it was 5349 ha. In 2000, the surface area which was bare fallow in the Eastern Region was 5,321 hectares which equals 0.5% of the total agricultural area. Only 10% of respondents reported having fallow land prior to the set-aside obligation and the major reason for this was membership of an agri-environment scheme involving semi-natural wet grasslands or heathland. Figure 7 shows the hectareage of bare fallow against total set-aside (obligatory and voluntary) and non-food set-aside.

**Figure 7: Development of bare fallow, set-aside and industrial set-aside (including voluntary set-aside) (No separate data available for Eastern Region 1993 to 1994 for set-aside)**



Source: DEFRA Regional Service Centre and National Statistics Service

Although the survey showed that 45% of respondents have always had some level of voluntary set-aside since 1992, this is typically only 1 or 2% on top of the obligatory amount. The main reason given for having voluntary set-aside does not relate to the level of remuneration received, but rather to the view that it is sensible to have a “buffer zone” of voluntary set-aside, to avoid any potential disqualification due to differences in the calculation of set-aside hectareage between the farmers and DEFRA. However, the level of remuneration for voluntary set-aside can be seen to be an influential factor in years, such as 2000-01, where bad weather prevents farmers cultivating their land. Due to high rainfall and sodden ground, farmers were unable to carry out their full planting programme on all their land. Therefore for ease and in order to recoup some of this shortfall of income due to less hectareage planted, farmers put more land into voluntary set-aside.

For those who have voluntary set-aside, their reasons include:

- precaution in case of error of calculation etc - 37.5%
- economic reasons - 12.5% (particularly for a couple of farmers in the process of organic conversion)
- and other 75% which was mainly weather.

For those that do not usually have voluntary set-aside, the overwhelming reasons appear to be economic and an emotional dislike of leaving the land unproductive.

## *Large Scale Voluntary Set-aside*

**Table 6: Data on Voluntary Set-aside in the Eastern Region**

	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Obligatory set-aside	135,981	108,705	65,294	65,965	121,141	118,774
Voluntary set-aside	0	17,656	19,299	18,729	29,684	24,420
TOTAL real set-aside (comp and voluntary)	135,981	126,361	84,594	84,694	150,824	143,194
Voluntary as a %age of Total set-aside	0%	14%	23%	22%	20%	17%

Source: DEFRA Regional Service Centre, Cambridge

Table 6 illustrates that since 1994, voluntary set-aside significantly accounts, on average, for 20% of the total set-aside hectareage. This table is directly based on a series of tables of data presented to the Consultant by the regional DEFRA office in Cambridge. The obligatory set-aside figure is calculated by the addition of:

- Flexible set-aside hectareage, and
- Guaranteed set-aside hectareage.

“Originally all set-aside was to be Rotational which meant land could only be entered into set-aside in one year out of six. For the 1994 harvest year Non-Rotational was introduced and farmers opting for Non-Rotational expected to leave the same land in set-aside for five years. For the 1995 harvest year the term “Flexible” was introduced. The Flexible option encompassed both rotational and non-rotational set-aside allowing set-aside to be left in the same place or moved as required. This flexibility was at the expense of an extra 3% over the six year rotation rate in the UK and Denmark (an extra 5% in other Member States). For 1996, a single rate for both options was set of 10%, i.e. no differential over the rotational rate. For 1997, the distinction between flexible and rotational set-aside has been abolished and there is now an Obligatory set-aside option. Obligatory set-aside may be left in the same place or moved from year to year. Different fields or parcels of land within fields can be treated differently, as long as the basic set-aside percentage is met. This rate has been set at 5% for 1997 and 1998. If the Council of the EU fail to agree a rate the default rate (which was agreed in 1996) applies. This now stands at 17.5%.”<sup>1</sup>

Guaranteed set-aside was an option whereby producers undertook to set-aside the same land for five years in return for a guaranteed payment rate for those five years. It was offered for the first time in harvest year 1995. Farmers can no longer enter into a new guaranteed set-aside agreement as the option is closed, however existing agreements will continue to be subject to the rules and conditions of the original agreement.

The voluntary set-aside figures are taken directly from the data supplied by Regional DEFRA.

Across the Eastern Region the authorities, in general, have not seen a long term trend towards higher uptake of voluntary set-aside. The main reasons given are that the remuneration does not appear to be comparable to cropping the land, unless the farm business is downsizing or restructuring or, as seen in 2001, bad weather prevents the normal cropping practice to take place. There is also an emotive reason, with many farmers not wishing to see any more of their land lying

<sup>1</sup> Extracted from “Economic Evaluation of the Arable Area Payments Scheme” by Andersons Farm Business Consultants and Department of Agriculture and Food, University of Reading (1997).

“unproductive” than is obligatory.

However, it appears that restructuring is becoming increasingly common due to a declining profitability of production. The National Farmers Union Regional office noted that the situation where smaller farmers are growing 50% cereals, are setting-aside 50% of land and are getting part-time jobs off the farm is increasingly evident. In these cases, more land is being voluntarily set-aside in an attempt to keep the economics simple. The data available from DEFRA shows that between 1996 and 1999 surface area under voluntary set-aside in the Eastern Region increased from 17,656 to 29,684 (an increase of 68% on the 1995/96 figure).

As mentioned, variations in weather also influence the level of voluntary set-aside. Over 65% reported that bad weather and an inability to get on the land to prepare it for a commercial crop, was a main motivation behind voluntary set-aside. Nonetheless, the upper limit on voluntary set-aside was not considered a constraint by farmers.

#### ***413 To what extent has set-aside been important in the development of non food crop production in the area?***

There are no available statistics on industrial COLP crops prior to the introduction of set-aside.

As Table 7 shows, between 1995-2000, the average hectareage of obligatory set-aside land under non-food crop production in the Eastern Region was 17%, peaking at 25% in 1999.

According to DEFRA statistics and agricultural advisers, the main non-food crop grown on set-aside in the Eastern Region is industrial oil seed rape (Table 8 summarises the use of set-aside for non-food use, within the two counties of the Eastern Region where the survey took place.) Energy crops - such as short rotation coppice and miscanthus - do not appear to be grown in any significant quantities in the Eastern Region. However, very recently there appears to have been more interest from farmers in finding about short rotation coppicing, since a commercial biomass generator has been set up in the region.

***Table 7: Evolution of area of non food set-aside in the Eastern Region (not including voluntary set-aside)***

	1995	1996	1997	1998	1999	2000
<b>TOTAL non food set-aside</b>	24,736	16,551	7,957	8,838	29,990	21,040
<b>TOTAL obligatory set-aside</b>	135,981	108,705	65,294	65,965	121,141	118,774
<i>Non food as a %age of total set-aside</i>	18%	15%	12%	13%	25%	18%

Source: DEFRA Regional Service Centre, Cambridge

***Table 8: Non food uses of set-aside, 1999, ha***

	Total	Camomile	SRC	Linseed	Medic- inal plants	Oilseed rape	Rapeseed (farm saved)	Sugar beet
Norfolk	29,155	27.47	6.33	205.56	2.94	2,750.48	466.52	2.07
Suffolk	24,327	0	13.83	244.27	0	5,104.05	903.75	0

Source: RSC Cambridge, AAPS Set-aside Report

20% of respondents in the survey had industrial crops on their set-aside. Many farmers reported

that they had tried non-food set-aside crops at some time in the past, many growing linseed. 29% of farmers who do not currently have industrial set-aside have tried it at least once, but many have given up or those still with non food crops have reduced the area due to bad weather for the 2000/1 season, difficulties of cultivation (particularly for linseed and flax) and because, with falling profitability, industrial crops are not seen as having any of the offsetting advantages (labour saving or environmental benefits) of grass cover crops.

During the farmers' survey some 225 ha of non food set-aside were identified of which

- oilseed rape (OSR) 88%
- short rotation coppice (SRC) 13%

However, the overall opinion is that the economic margins for industrial OSR are becoming unprofitable and this was cited by 37.5% of those growing industrial crops. However, all of those with industrial crops on set-aside also reported that there were agronomic reasons for growing it, namely:

- fears about grass and weed build up;
- a dislike of seeing productive land not being used in cultivation.

Whether or not there will be an increase in the growth/production of SRC or miscanthus on set-aside land will depend more heavily upon fiscal policy than economics. It is thought that some investment in infrastructure is needed by government and it is not yet clear whether woody biomass will be one of the growth areas in the governments targets for renewable energy.

Therefore, one can conclude that set-aside has been relatively important in the development of non-food crop production in the Eastern Region. However this is mainly limited to the production of industrial oilseed rape. The opportunity that set-aside provides to grow other non-food crops such as linseed, short rotation coppice and miscanthus is being restricted by other factors in the Eastern Region including: clash with other harvesting times, lack of local markets, lack of government incentives.

#### ***421 Is the budgetary cost of the measure justified in terms of its desired effects?***

This question has only been addressed by Oréade-Brèche at European Community level.

***422 Is the impact of set-aside on farm incomes of large farmers sufficient for them to modify their choice of crops in order to better respond to market demand?***

In this analysis, we consider “large farmers” to be those with farms of 200 ha or greater, who together account for 50% of cereals production in the region. In practice this analysis is then based on 60% of the sample.

For each large farmer interviewed, we have analysed whether any modifications have been made in cropping patterns and whether they have been sustained for at least the following two years. The choice of crops is assumed to be better oriented to the market where:

- there has been a shift from previous cropping patterns
- production levels are lower than previously but there has been an improvement in product quality
- they have led to a more market based strategy.

*Overview of responses*

*The impact of set-aside payments is difficult to disassociate from other CAP price support payments. Thus 100% of large farmers reported that set-aside and AAPS payments in general are indispensable to their incomes but 53% report that it has not been sufficient to support their previous income levels and likewise 53% report that the current system does not suit them.*

*However it is fair to say that the impact of set-aside is not sufficient (either at the current level at which farmers must take land out or payments that they receive) for large farmers to modify their choice of crops in order to better respond to market demand.*

*The impact of set-aside on the choice of crops or rotation systems is perceptible but difficult to characterise as no clear patterns emerge. Most large farmers have responded with a change in their relative production of different crops but this reflects CAP in general not just set-aside. While there has been some shift from COP crops, particularly to organic production, there has been little diversification out of agriculture altogether since this is the major cereal producing area in England.*

*Of the 63% of farmers who had changed their choice of crops or activities to maintain farm incomes:*

- 32% had increased their production of cereal crops; 58% had reduced their production;
- 16% had increased their production of oilseeds; 21% had reduced their oilseed production;
- 16% had increased their production of proteins, whilst 32% had reduced this production;
- and only 10% had diversified outside arable crops.

*Evolution of Production*

DEFRA statistics (as detailed in Figure 5) showed that wheat production in the Eastern Region had doubled between 1994 and 2000. However survey results show that the resounding majority of farmers (95%) believe that there has been no change in the area given to traditional crops or in production levels. An explanation for this evident disparity might be that the sample survey was not significant enough on this issue.



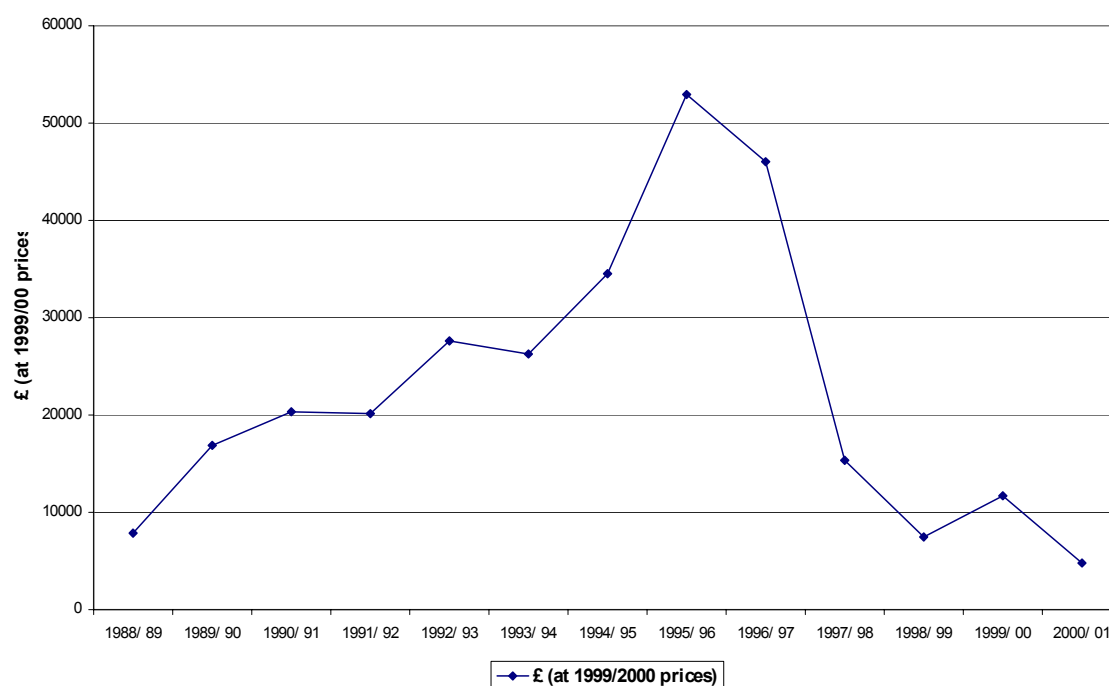
**Table 9: Trends in crop choices related to set-aside in the Eastern Region Survey**

Category	Fall in area given to traditional crops	No change in area given to traditional crops or production levels	Increase in area given to traditional crops
% of farmers	0 %	95 %	5 %

The primary factor influencing which crops farmers choose to grow remains profit margins. Although crop rotations have not remained static, this reflects changes in prices and profitability of crops, rather than the introduction of set-aside. However, whether or not solely due to set-aside, 30% of the respondents had reduced their cereal production, or oil crop production while one respondent had increased cereals and organic fruit production at the expense of field beans. 10% had diversified into non COP crops (e.g. hemp) while 25% had diversified into non farm activities such as converting farm buildings.

#### *Impact on income levels*

Although all of the large farmers surveyed responded that AAPS payments were too important for them to consider opting out of set-aside, only around half found that set-aside payments maintained their previous levels of farm income. Figure 8 shows that since set-aside has been implemented, cereal farm incomes in the UK increased until 1995/96, peaking at almost double the income figure in 1992/93. Since 1995/96 there has been a steep downward trend in net farm incomes reflecting, inter alia, declining market prices for cereals, and the strength of the £ sterling. It could be inferred from Figure 8 that incomes from cereals are currently declining more quickly than set-aside payments can maintain. Hence it can be seen firstly why farmers regard to AAPS payments as too important for them to consider opting out of set-aside, and secondly, why only half found that their incomes have been maintained.

**Figure 8: Net Farm Income for UK Cereal Farms**

### *Relation to previous production levels/patterns*

Only one large farmer reported changing the rotation system as a result of set-aside by introducing linseed instead of a second cereal in a four year rotation system.

### *Improving the Quality of Produce*

90% of the large farmers reported having improved the quality of their products through joining quality assurance schemes and or crop traceability schemes. This reflects a high membership of such schemes throughout the Eastern Region with the majority of farmers joining the quality/traceability assurance scheme called the Assured Combinable Crops Scheme. However, their reasons for joining this scheme have little to do with the existence of set-aside; rather they reflect the requirements of end users (processors, supermarkets and ultimately, consumers) for agricultural produce to meet higher standards for quality, traceability and a guarantee that GMO seeds have not been used.

### *Market Led Responses*

The majority of cereal farmers are still involved in long supply chains through wholesalers and supermarkets and, due to the nature of their crops, have little direct interaction with the market. They are therefore primarily focused on the requirements of these middlemen which, as noted above, have been primarily responsible for the introduction of crop assurance schemes. As can be seen from the following table, while large farmers have made some changes, most have remained focused on their current COP production.

The statistics below summarise farmers overall reaction to the introduction of set-aside in terms of cropping activities.

- 63% farmers responded that they had changed their choice of crops or activities to maintain their previous farm income levels since 1992. Of these
  - 32% had increased their production of cereal crops, whilst 58% had reduced their production of cereals;
  - 16% had increased their production of oilseeds, whilst 21% had reduced this production;
  - 16% had increased their production of proteins, whilst 32% had reduced this production;
  - 10% had diversified outside arable crops
  - 10% had introduced non farm diversification;
- 37% of farmers responded that they hadn't changed their choice of crops or activities to maintain their previous farm income levels since 1992.

### ***431 Has the existence of set-aside led to a sound crop rotation? What are the alternative crops on the parcels where set-aside has taken place?***

Set-aside, when used within the existing cropping pattern, can in theory lead to an improvement in the agronomic rotation on the land. Fixed set-aside is located on the same piece of land each year and therefore does not have any impact on the rotation system. It is therefore important to identify the extent of rotational set-aside and how this has changed previous crop rotation patterns.

*In our sample, rotational set-aside accounted for 56.5% of the total, but with only 20% of farmers practising rotational set-aside on all of their land.*

*70% of farmers are putting their land into a combination of rotational and fixed set-aside.*

*Overall we estimate that in 43% of cases, the effect of set-aside has been neutral and in 16.7% negative. In the remaining cases (40%), set-aside has had a positive effect.*

*These figures appear to tally with 55% of the sample of farmers reporting that agronomic reasons were the first or second reason behind their choice of crop, in comparison to 93% who cited profitability as important.*

*20 % of farmers have chosen to grown non-food crops on their set-aside (88% of those growing industrial oilseed rape). Of those who do not grow non-food crops, 70% allow natural regeneration on their set-aside; 33% sow plants for agronomic aims; 33% sow plants for other aims, such as wild bird cover; and only 10% have bare set-aside.*

The cases where it has been positive are where a set-aside break crop replaces a second cereal crop in the rotation or where it has been used as part of the organic conversion scheme. Positive benefits for organic farmers were also noted by one of the regional stakeholders, who claimed that set-aside is proving a useful mechanism for existing organic farmers to farm more productively, as they use it as a fertility builder and for weed control. The result is that productivity can be seen to increase in following years. The cases where set-aside has been neutral are where farmers were already using a break crop in a rotation, and this has not fundamentally changed as a result of set-aside.

Reasons why the positive effects of set-aside have not been visibly greater may include that:

- many farmers have got a high percentage of fixed set-aside, having taken out their marginal/worst land;
- a previous leguminous break crop (such as field peas or field beans which are not allowed under set-aside) has been replaced by OSR or linseed (grown on set-aside) in a rotation, rather than natural regeneration which is less profitable;
- some larger farmers have acquired new land to accommodate set-aside and this has not therefore changed their rotation.

Those who have opted for rotational set-aside reported the following reasons:

- agronomic reasons including a fit with their existing rotation system and the need for break crops on heavy clay soils
- for weed control
- as an opportunity to introduce industrial crops into the rotation
- as a fallow after cereals with the expectation that the following wheat crop would have higher yields.

**Table 10: Effect of set-aside on the rotation system in the Eastern Region case study**

Type of effect of set-aside on the rotation system	Effect of set-aside negative for a good rotation	Effect of set-aside neutral for a good rotation	Effect of set-aside positive
Classification of farms according to the dominant effect	17%	43%	40%

The survey of farmers showed among the 20% of respondents who grow non-food crops, 88% grow oilseed rape and 12% grow wood biomass (such as short rotation coppice) for energy.

Of those who do not grow non-food crops, 70% have opted for natural regeneration on their set-aside land, 33% have sown crops for agronomic aims, 33% have sown crops for other purposes, and only 10% have retained bare fallow on their set-aside. The main types of crops sown for “other purposes” were organic crops (where set-aside being used as part of the organic conversion scheme) and wild bird cover (for example, where farmers undertake shooting on their land).

#### **432 Has the location of set-aside plots in the holding led to better agricultural practices?**

Better agricultural practices within the framework of set-aside are defined as net gains in both agronomic and economic factors. This largely depends on whether the location of parcels of set-aside on the farm favours better cultivation practices.

#### *Overview*

*The survey shows that the location of set-aside parcels on the surveyed land generally appears to have had some effect in terms of encouraging better cultivation practices. Over 73% have chosen to locate fixed set-aside on the poorest, least productive land. At the economic level the most marginal land has been put into fixed set-aside (poor soils, sloping, distant, in the shade of woodlands and squaring off of fields). This appears to show that, for fixed set-aside, the majority of farmers have gone for a strategy of minimising losses. From the agronomic point of view in about 40% of cases there has been no change with an overall improvement in another half. Factors associated with environmental management are dealt with in Questions 44.*

**Table 11 : Location of set-aside parcels in the Eastern Region Case Study**

<i>Reason for Location</i>	<i>% of respondents</i>
Rotational set-aside	50
fixed alongside water courses	30
<b>At least one of the following five responses (small, distant, infertile, sloping, low yields)</b>	<b>73.3</b>
fixed - field sizes too small	23.3
fixed - distant from other fields	3.3
fixed - infertile, non-irrigated	53.3
fixed - sloping fields	10
fixed - low yielding fields	33.3

The explanations respondents gave for location of set-aside include:

- some have included 20m strips in the shape of woodlands
- many have taken the opportunity to square off fields
- some have used fixed set-aside for conservation, to enhance woodland or to provide gamebird cover.

**Table 12: Classification of surveyed farmers according to the economic and agronomic impacts of the location of set-aside on their farms**

Category	Gain	Neutral	Loss
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Economic	41%	56%	3%
Agronomic	17%	83%	0 %

While it is clear that this matrix is very subjective in nature it is nonetheless possible to draw some overall conclusions as summarised for the interviewed farmers in Table 12 above.

From this analysis it is clear that:

- based on the fact that most farmers have located set-aside on their poorest land, the effect on their agronomic performance is largely neutral in relation to the pre-set-aside position. Nevertheless in a few cases (16.7%) positive impacts have been noted and this appears to be mainly farmers introducing a cover crop into a rotational system who detect an increase in yield in the following cereal (mainly wheat) crop.
- whilst for 56% of respondents the location of set-aside has not precipitated any economic advantages, for 41% it has. This is supported by the evidence that 40% of set aside is located on very bad land, and by a voluntary set-aside rate which is not negligible (particularly in years where bad weather is a factor). A number of farmers, when asked whether they wanted to mention any other issues, were also keen to highlight that they would not like to see set-aside abolished, because it is proving to be a useful management tool - both economically and agronomically.

#### ***433 Has the existence of set-aside led to an intensification of production on other parcels of land?***

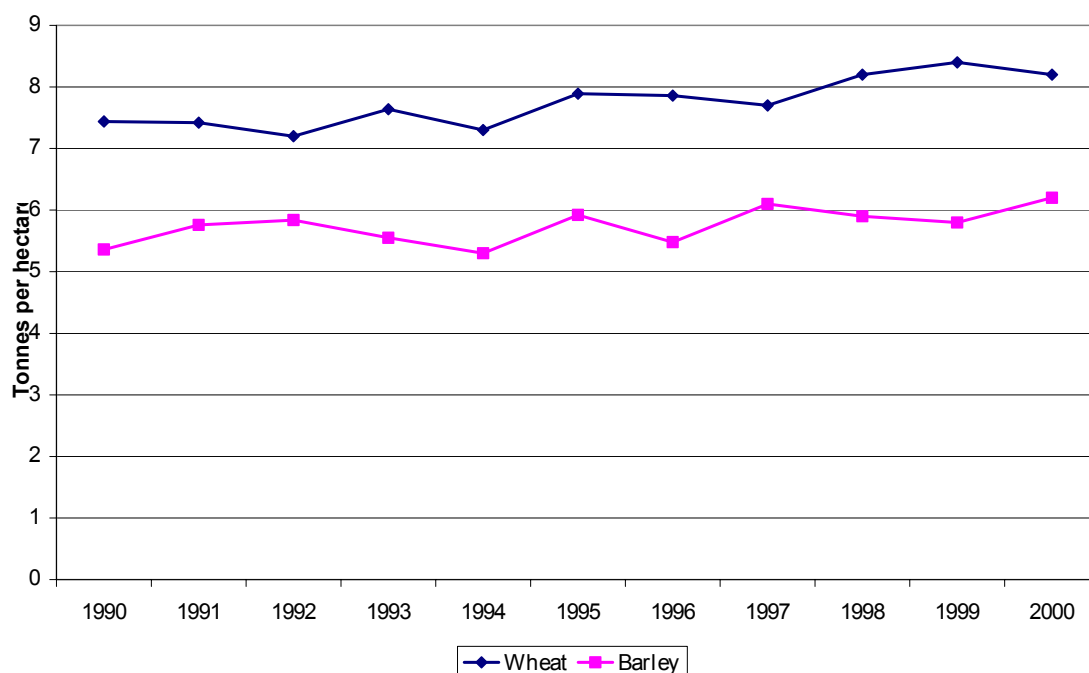
The aim is to assess whether intensification has been faster than it would otherwise have been without the existence of set-aside. This has been done by assessing the yield levels for arable land (outside of set-aside) for:

- surveyed farmers
- statistics for other farms in the region.

#### *Overview of results*

*Only 7 % of farmers surveyed reported to have increased their yields on the rest of the farm as a result of introducing obligatory set-aside. The trends for increasing yields for cereals elsewhere in the Eastern Region for the period 1994–2000 confirm this and are not significantly stronger than for the period 1990-1993.*

#### ***Figure 9: Evolution of wheat and barley yields in the Eastern Region (tonnes per hectare)***



Source: DEFRA on-line Economics and Statistics service

Figure 9 shows that, although there has been an increase in yields of wheat and barley in the Eastern Region since 1992, the average yield over 1993-2000 for wheat (7.9 t/ha) and barley (5.78 t/ha) is only a slight increase on the 1990 figures: wheat (7.44 t/ha) and barley (5.36 t/ha).

#### **434 To what extent has the measure impacted on competition by changing the structure of farm holdings?**

It is very difficult to analyse the impacts of set-aside alone on competition in the sector, since so many other variables have changed over the period 1992 to 2000. It is however possible to look at changes in farm holding size on the one hand and adaptation of farmers to set-aside on the other hand.

By comparing the survey results on the one hand and DEFRA figures on average size of holdings on the other, it is possible to determine underlying trends in the size of holdings for the pre set-aside and post set-aside periods.

#### *Overview of results*

*Since the set-aside measure has been in place, the survey and other statistics show that there have been certain changes in the structure of farm holdings. In the Eastern Region, 50% of respondents have increased their farm size between 1992-1999 by an average of 125ha. Only 30% increased farm size between 1987-1992. Amongst the very large farmers surveyed (500ha or over), 67% had increased their farm size between 1992-99.*

*Land prices in the Eastern Region also rose quite dramatically between 1993 and 1999, with 1999 prices being almost double the 1993 figures.*

*However it is hard to isolate the role which the introduction of set-aside has played in contributing to these trends. It is evident that UK agriculture is going through a very deep and wide structural change caused by a number of factors (economic, political, social) of which set-aside is one.*

*Analysing farmers adaptation to set-aside, to determine set-aside's impact on competition shows that :*

- *40% of farmers reported initially having difficulties in managing their lands, although this was mainly related to agronomic issues, including weed control;*
- *43% have reduced their costs through reducing inputs*
- *36% have rebalanced their farm enterprise focusing on the most profitable crops while 20% report that they have diversified out of arable crops;*
- *only 10.5% (2 farmers) have diversified into non farming activities (such as conversion of farm buildings and letting out land and buildings).*

### *Size of Farm Holdings*

The 1997 AAPS survey of England and Wales (referred to in UK National Report) found no clear evidence of structural changes to the size of farms: 70% reported no change in farm sizes between 1992 and 1996, 9% reported a fall in size while 22% had grown. The study did find evidence of increasing rentals and land values for AAPS registered land between 1992 and 1996, particularly for short term rents (Figure 10 below shows the increase in land prices in the Eastern Region 1993-99) . However, the surveyed farmers did not attribute this solely to AAPS and reported that, if anything, AAPS had slowed down the rate of structural change in the sector, tending to fix pre-1992 production and land use patterns for the cereals sector.

However, contrary to this, the survey showed that in the Eastern Region, some 50% of survey respondents had increased the size of their farms between 1992 and 1999, while only 30% had during the period 1987-1992. The average size of enlargement for the 1992-1999 period was 125 ha. This difference between the national and regional situation might reflect the concentration of larger cereal farmers in the Eastern Region.

### *Very large farmers*

The survey demonstrates a degree of change in the size of farms and the underlying market for renting and buying land. Within the sample we found that 67% of very large farmers (500ha or over) had increased the size of their farms between 1992 and 1999, adding an estimated 1,100 ha to their previous lands through buying or renting additional land, to increase output or on which to locate set-aside. Several farmers in the survey were also responsible for managing more than one farm of this size.

This growth in holdings was in marked contrast to the earlier period (1987-1992) during which only 30% of farmers expanded their holdings, while half of the overall sample did so between 1992 and 1999. Half of the largest farmers (>500 Ha) actually doubled in size over the period. In contrast there was no growth in farm size for smaller farmers and two smaller farmers actually sold land or swapped their set-aside obligations with others.

However, those who have increased their size of holdings reported that this was not solely due to set-aside but reflected underlying structural changes in the sector. Other organisations interviewed during the survey reported an observable trend for smaller farmers to simplify their agricultural activities and spend up to 50% of their time on non farming income generation. This trend was not picked up in the survey but may become evident from the 2001 census of population data currently being processed in the UK.

### *Land prices*

Figure 10 below (land prices in Eastern Region) does show that land prices have risen quite steeply

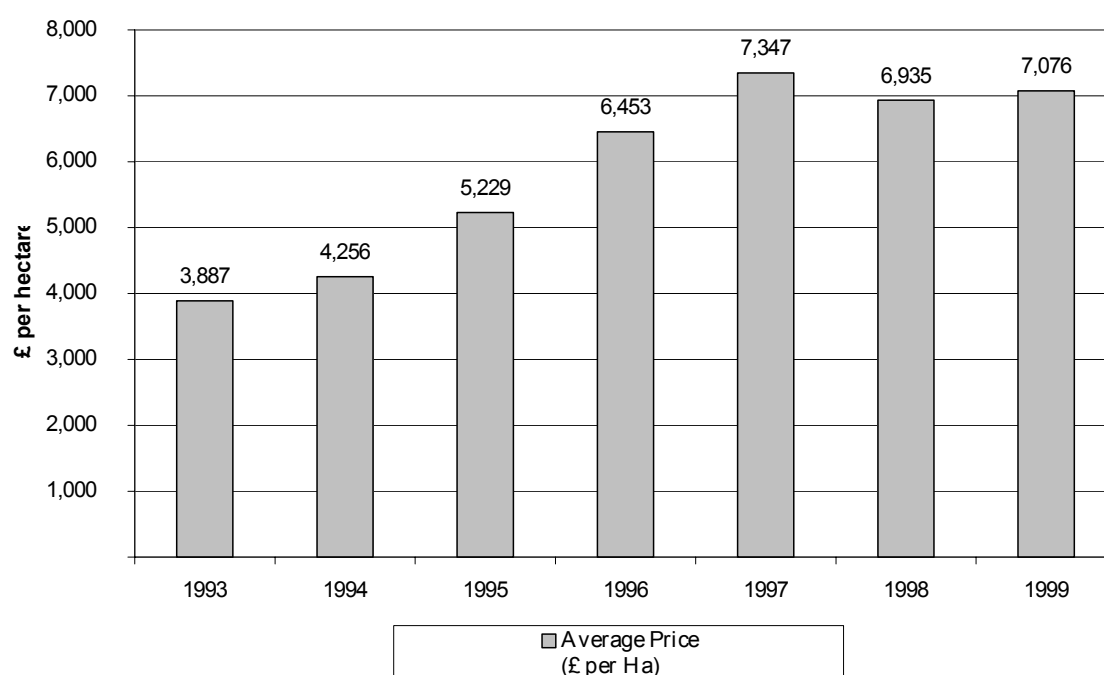
in the Eastern Region since 1993. However it is difficult to separate out what part set-aside has played in contributing to those rising prices, since there are a number of factors involved. Unfortunately no data was available on land prices in the Eastern Region pre-1993.

#### *A market in set-aside land*

More than half the sample (57%) felt that a market for IACS (AAPS) eligible land has developed. The cost of non IACS land (e.g. former orchards) was reported by some of the farmer respondents to be generally much lower. Several farmers felt that the rate of set-aside payment has effectively become the lowest rental price for registered land (ie. it has put a bottom in the rental market), but that the actual rate will depend on the agronomic history (previous cropping patterns) on the land. However, due to declining profitability in the last three years in the sector, only 10% of those trying to acquire additional land reported having experienced difficulties in doing so: only one respondent put this down to set-aside.

This trend towards increasing farm size has been observed elsewhere in the Eastern Region. One respondent mentioned anecdotally that the size of farms was growing, particularly in Norfolk, with the growth of agri-businesses and contract farming (due inter alia due to declining profitability of smaller farms). They have observed that a growing number of farmers who will contract or purchase a piece of land purely to use as set-aside. This is substantiated by reports from regional agricultural organisations (NFU, FWAG) and is thought to have significant management and environmental implications.

**Figure 10: Average Land Price in Eastern Region (1993-1999)**



#### *Adaptation to Set-aside*

The regional case study showed that the nature of adaptation to set-aside and therefore its ensuing effect on competitiveness varies over the Eastern Region. The main findings include the following:

- 40% of farmers reported initially having difficulties in managing their lands, although this was mainly related to agronomic issues, including weed control;
- 43% have reduced their costs through reducing inputs
- 36% have rebalanced their farm enterprise focusing on the most profitable crops while 20%



- report that they have diversified out of arable crops;
- only 10.5% (2 farmers) have diversified into non farming activities. (such as conversion of farm buildings and letting out land and buildings).

In such a survey we would not have expected to identify those who had moved out of agriculture altogether, although the National Farmers Union and others report that smaller farmers are increasingly taking off-farm jobs, and that their spouses in many cases already have off-farm jobs.

Again these responses must be contextualised within a climate of declining commodity prices and overall restructuring of the UK agricultural system.

**Introduction**

The results of the survey are intended to be read in the context of an extensive literature review on environmental impacts of set-aside carried out by Oréade-Brèche. The European Regulation delegates environmental management of set-aside lands to Member States, who interpret the texts and notify farmers of national requirements. In the UK the regulations are set at the UK level with no local variations. The UK provisions are dealt with in the national report.

Overall **national management rules** pertaining to the management of set-aside (soil, water, land) have been well established and implemented. Failure to comply with the rules results in a farmer's payment being reduced by £1 (EUR 1.6) for each 0.01 hectare on which the rules are infringed subject to a minimum of £100 (EUR 160). In the case of environmental features, the reduction is £100 (EUR 160) for each feature on which the requirement is breached. Our regional case study showed that 70% of farmers surveyed were "very aware" about the environmental management regulations on set (30% were "aware"). 97% of respondents applied the rules. In addition to the government advice centres, many UK farming organisations exist which provide an excellent resource base on any matters relating to the environmental management of set-aside. Our regional case study showed that farmers often use such organisations, which include the National Farmers Union and the Farming and Wildlife Advisory Group.

During the survey:

- 100% of farmers reported that they either knew the regulations and rules very well (70%) or well (30%)
- 97% of those aware of the regulations felt that they were implementing them.
- although not specifically asked, at least 70% of the sample appeared to consider that an explicit objective of set-aside was environmental improvement (about 20% replied that they thought this was the objective alongside reducing surpluses and maintaining farmers incomes).

Since this is a very broad area, the questions in the survey focus on management of soils, water courses, landscape and to a lesser extent biodiversity.

Management issues raised by stakeholders included:

- weed control problems (75% of those who had problems initially cited that weed control issues). Farmers had difficulty ridding their set-aside of grassweeds when trying to bring it back into cultivation;
- problems with maintaining mixed wild bird cover. To qualify as wild bird cover, farmers have to plant a mixed cover, but often one crop predominates, due to birds favouring the attributes of one crop, for example. This has, on occasions, led DEFRA to demand the farmer to pull up the crop and to replant, meaning extra time, effort and money.

Set-aside has had a positive effect in terms of environmental protection in certain areas of the Eastern Region, including the Norfolk Broads. During the 1970s and 1980s much of the Broads area was drained to be used for farming, even though much of this was marginal land. The introduction of set-aside (together with the Broads ESA) means that much of this was returned to non-productive land.

**Question 441 - Has set-aside had a significant positive impact on management of soils (erosion, fertility, soil structure, etc...)**

In this section, any major impacts on soil quality or erosion rates as a result of the location, cropping system and type of cover applied under set-aside have been analysed. No studies have been undertaken specifically on the effects of set-aside on soils in the Eastern Region.

*Overview*

*The case study suggests that set-aside has changed agricultural practices and led to better soil management on nearly half (46.7%) of the farms visited and had no real impact on a further 40%. In only 13.3% of cases has the impact on soils actually been negative. 75% of farmers are also involved in agri-environment schemes but a relatively small percentage of these (17.4%) are involved in soil protection activities.*

**Table 13: Analysis of the practical effects of agricultural practices under set-aside on soil management <sup>1</sup>**

Type of behaviour	Mainly negative changes : Behaviour not leading to better soil management on set-aside land	No change : unchanged behaviour leading to no change in soil management to pre-set-aside situation	Mainly positive change: behaviour leading to improved soil management on set-aside land
Examples of types of practice linked to soil management allowing classification	<ul style="list-style-type: none"> <li>• bare set-aside or poor cover</li> <li>• Application of pesticides on non cultivated set-aside land</li> </ul>	<ul style="list-style-type: none"> <li>• Cultivation of set-aside land for non food use</li> <li>• Correct management of set-aside</li> <li>• Fixed set-aside in areas without erosion risk</li> </ul>	<ul style="list-style-type: none"> <li>• Sowing of plants enriching set-aside lands</li> <li>• no pesticide use</li> <li>• fixed set-aside on areas susceptible to erosion</li> <li>• long term planting (forestry)</li> <li>• farmer participating elsewhere in agri-environment measures to protect soils</li> </ul>
Classification of farm according to most common practices	13.3%	40%	46.7%

The analysis shows that set-aside has had some effect on soil management but that in 40% of cases it has resulted in no change. The following factors are worth highlighting:

- impacts have been positive where farmers have introduced a cover crop into their rotation in place of a cereal crop (but as noted above this has happened in relatively few cases).
- for the 43% of the total set-aside area which is fixed, particularly where this has been on sloping land (10% of the total) which might otherwise have been at risk of erosion
- on non cultivated set-aside, 70% of farmers have allowed natural colonisation while 46.7% have done so for other purposes (mainly game and wild bird cover ) which ensure winter cover and reduce erosion risks.

On the negative side, three farmers (10%) have some areas of bare cover.

**In terms of set-aside cover:**

don't have any non cultivated set-aside.	6.7%
bare set-aside	10%
natural regeneration	70%

<sup>1</sup> This matrix examines the impacts of set-aside in comparison to the impacts if the land had been cultivated

vegetation with agronomic aims	33.3%
vegetation for other purposes (such as wild bird cover for game birds)	33.3%
Other	10%

**In terms of set-aside management:**

removal of vegetation	0%
mowing of cover crop	83%
mechanical	0%
chemical spray	57%
other (including grazing horses)	18%

All respondents who mowed or sprayed their set-aside, all did so during the period allowed by DEFRA and most commonly in mid Summer – July and August.

The majority of respondents (79%) did have an idea of what the management of non-cultivated set-aside cost, although most were keen to admit that this cost was not important to them. Of the 79% who did know, the average was 32 EUR/hectare, although there was a wide divergence of costs given.

***Question 442 – Has set-aside had a significant impact on the improvement of water management (pollution, water resources management, flooding etc)***

Taking into account the management of water resources and inputs which might affect water quality as a result of implementation of set-aside we have assessed the impacts on water on the basis of Table 14.

Management practices are affected by the national regulations in relation to management prescriptions and the impacts of set-aside on water are reported in the European literature search and to a limited extent in the national report.

*Overview*

*The case study suggests that in the majority of cases – 60% - set-aside has not had any noticeable impact on improving water management. (In 40% of cases, set-aside has improved water management and the quality of water. No cases of negative impacts were identified.) In the UK, not a single case was found of farmers irrigating set-aside land with the implication that set-aside is not providing additional pressure on scarce ground water resources. The positive cases have mainly been where farmers have opted for fixed set-aside alongside water courses (30% of cases) or through a reduction in use of chemical sprays for the management of set-aside. While 57% of respondents use chemical sprays, 80% mow grass cover instead.*

In order to determine whether set-aside management is having positive or negative impacts on water quality, each farm was assessed according to the following matrix, which characterises the sample according to the overall impacts.

**Table 14: Analysis of the links between agricultural practices on set-aside and water management**

Type of behaviour	Mainly negative changes : Behaviour not leading to better water management on set-aside land	No change : unchanged behaviour leading to no change in water management to pre-set-aside situation	Mainly positive change: Behaviour leading to improved water management on set-aside land
Examples of types of practice linked to water management allowing classification (to be validated by interviewer according to dominant characteristics of farming in the region)	<ul style="list-style-type: none"> <li>• Application of pesticides or nitrates on uncultivated set-aside land</li> <li>• Irrigation of set-aside land</li> </ul>	<ul style="list-style-type: none"> <li>• Cultivation of set-aside land for non food use</li> <li>• Correct management of set-aside</li> </ul>	<ul style="list-style-type: none"> <li>• Fixed set-aside in humid zones and along water courses</li> <li>• Sowing of plants enriching soils on set-aside land</li> <li>• no irrigation of set-aside land</li> <li>• no usage of pesticides on set-aside land</li> <li>• farmer participating agri-environmental measures elsewhere to protect water</li> </ul>
Classification of farm according to most common practices (single category)	0%	60%	40%

This matrix examines the impacts of set-aside in comparison to the impacts if the land had been cultivated

Overall the impact has neutral (60%) or positive (40%). No instances of negative impacts were identified. The positive impact of set-aside is mainly due to the fact that:

- irrigation water is not used for set-aside lands;
- fixed set-aside has been located along water courses (30% of cases) reducing the chances of pesticide or herbicide drift or leaching of nitrates.
- in some areas the positive impacts on water courses may be quite marked ( e.g. 25% of respondents reported that fixed set-aside was concentrated in adjacent areas of different farms and anecdotal evidence suggests that in many cases this is along river valleys where the Ministry, nature conservation agencies and farm advisers have encouraged adjacent farmers to commit set-aside land alongside major rivers (e.g. the Suffolk river valleys).
- 34.8% of farmers interviewed were also involved in agri-environment schemes mainly aimed at water course protection.

In addition, although no detailed analysis of inputs for the management of set-aside land were undertaken in the survey, previous studies <sup>(1)</sup> suggest that lower levels of chemical herbicides and pesticides are being applied on rotational and fixed set-aside land for economic reasons. For instance the Cambridge study found that 95% of the farms with highest profits margins on set-aside land used no chemical sprays: 50% of these were involved in rotational set-aside. For those in the lowest quarter in terms of profit margins over 70% used sprays which on average cost more than £7.20/hectare (EUR 11.50/hectare).

Also of note is the fact that, on many of the farms surveyed, the land alongside watercourses has been taken out of production under agri-environmental schemes rather than under the set-aside regulation. This has usually been done under the Environmentally Sensitive Areas scheme (in the Eastern Region these include the Broads ESA, Suffolk River Valleys ESA, Breckland ESA) or the Countryside Stewardship scheme.

(1) Economics of Cereal Production, 1998/9, Cambridge University

***Question 443 – Has set-aside had a significant impact on the improvement of landscape management ?***

The notion of a significant improvement in the management of the countryside is difficult to assess objectively but has been addressed according to the following criteria.

Implementation of set-aside has not had a negative effect if:

- there is an absence of observable negative impacts on the countryside;

No detailed landscape impact studies have been carried out for the Eastern Region.

*Overview*

*Our analysis suggests that in all but one case (96.7%), set-aside has had no effect on the landscape in the Eastern Region. In a single case the overall impact on landscape is considered negative. 65% of respondents are also involved in agri-environment schemes with landscape enhancement objectives.*

In order to determine whether set-aside management is having negative or neutral impacts on the landscape, each farm was assessed according to the following matrix, which characterises the sample according to the overall impacts.

**Table 15: Analysis of the relationship between agricultural practices for fallow land and their impacts on the landscape<sup>1</sup>**

Type of behaviour	Usage of set-aside land with change of practices having a predominantly negative impact on the landscape	Usage of set-aside land practices having no effect on the landscape
Examples of types of practice linked to landscape	Bare set-aside; Poor management of set-aside; Strong concentration of set-aside lands in a single zone	Well managed set-aside Cultivated set-aside
Classification of farm according to most common practices	3.3%	96.7%

### *Detailed Analysis*

43% of the respondents reported that they had initially received comments about the abandoned nature of their set-aside fields and 73% reported that set-aside fields stand out in the landscape. However, for some this has been a positive factor in the flat landscape of the arable parts of the Eastern Region. In particular grassland (especially wild bird cover which combines a mixture of grasses and flowering weeds) is generally seen as visual relief to the monotony of the surrounding arable fields. Indeed, while 80% of the sample did not have their set-aside concentrated in one area, a few farmers reported that they had actively chosen to locate fixed set-aside close to farm buildings or adjacent to woodlands and along field courses where they were seen as actively enhancing the landscape. Not a single respondent reported that there were now concentrations of set-aside areas which appeared abandoned.

### ***Question 444 – Has set-aside had a significant impact on the conservation of biodiversity?***

This question is very difficult to evaluate without detailed field work since the baseline data against which to judge maintenance or enhancement of biodiversity is completely lacking. As a result biodiversity impacts of set-aside are mainly covered in the European level literature review and only qualitative comments are dealt with in this report.

The implementation of set-aside will have had a positive impact on biodiversity where this has been taken into account in the management prescriptions in national regulations.

*National management rules relating to biodiversity conservation on set-aside land are in place which have had environmental benefits - however the general conclusion from a number of different studies is that these rules could be improved and much better integrated with existing and future agri-environment schemes to maximise the potential biodiversity conservation benefits. Apart from the rules mentioned above (eg. requirement to establish a green cover and reduced use of herbicides), the rules relate to what farmers can rather than cannot do on set-aside. Two thirds of respondents in all recent studies on set-aside in the UK have perceived that it has environmental benefits.*

A number of studies which have been undertaken on the impacts of biodiversity in England are cited in the main literature review.

<sup>1</sup> This matrix examines the impacts of set-aside in comparison to the impacts if the land had been cultivated

*The farmers interviewed were in general aware of biodiversity and wildlife issues and included a number of keen environmentalists and one demonstration farmer. 10% cited environment as one of the priority criteria for selecting crops. 70% of those who reported unexpected benefits of set-aside were pleasantly surprised by the increase in wildlife, particularly birds. One farmer (3.3%) reported an increase in the number of vermin.*

*Overall 15% of respondents reported that they were surprised by how much set-aside has made them think about environmental management. However, about 30% of the sample reported that the current inflexibility of the rules (such as inflexibility over the width of strips) and the lack of integration with existing agri-environmental schemes has limited a farmer's ability to manage set-aside for greater biodiversity benefit.*

### *Detailed Analysis - Management Regimes*

The impacts on biodiversity largely reflect the type of cover chosen, the management regime (including how land is cleared and at what time) and the location of set-aside parcels.

In relation to the type of cover:

- 70% favour natural regeneration;
- 33.3% have planted grasses with an agronomic objective;
- 43.3% have selected grasses for other purposes (principally game and wild bird cover or conversion to organic);
- while 10% have bare set-aside.

According to other surveys undertaken in the UK, the use of bare cover seems unusual. 56.7% chose the type of cover on non cultivated land for mainly conservation (or hunting) reasons. Some farmers are putting set-aside land into organic conversion.

In relation to the mode of management:

- 83% mow grasses or plough in between July 15<sup>th</sup> and August 15<sup>th</sup>;
- 57% use chemical herbicides between the same dates.

Of those who reported having problems in managing set-aside, 75% initially found weed control a problem. Now only 20% of farmers face management problems, but for these farmers in 50% of cases the persistence of pests and weeds such as black grass (*Irris* spp.) and thistle (*Carlina* spp.) (and how to control this without damaging more valued weeds) is still a problem.

### *Detailed Analysis - Biodiversity Impacts*

NGOs and farming organisations consulted during the study reported that set-aside has had a positive effect in terms of environmental protection in certain areas including the Norfolk Broads. During the 1970s and 1980s much of the Broads area was drained to be used for farming, even though much of this was marginal land. The introduction of set-aside (together with the Broads Environmentally Sensitive Area designation) means that much of this was returned to non-productive land.

Within the survey and completely unprompted, 40% of interviewed farmers reported that set-aside had had positive biodiversity benefits leading to increased populations of hares, deer, game birds especially partridges such as the grey partridge (*Perdix perdix*), skylarks (*Alauda arvensis*), red wing (*Turdus iliacus*), finches (family name *Fringillidea*), migratory birds, owls, such as the tawny



owl (*Strix aluco*) and barn owl (*Tyto alba*). This is a significant positive benefit since farmland bird populations have long been in decline in The Eastern Region and the population of skylarks (once a common bird) is one of the 14 headline indicators for UK Sustainable Development. However, the direct causal link to set-aside is difficult to disentangle from the effects of other agri-environment schemes. Three quarters of the 75% of respondents involved in agri-environment schemes were doing so to protect or enhance biodiversity.

At a more general level, 15% of respondents reported that they were surprised by how much set-aside has made them think about environmental management. However, about 30% of the sample reported that the current inflexibility of the rules has limited farmer's ability to manage set-aside for greater environmental benefit. The minimum size and width of set-aside parcels, the lack of flexibility in mowing regimes and the lack of ability to use selective herbicides to remove very specific weeds were all cited as limiting factors for biodiversity. Over a quarter of farmers surveyed volunteered that they would rather see a system of CAP without set-aside but with environmental cross compliance to ensure wider environmental benefits and a better fit with other agri-environment schemes.

To conclude, it firstly must be noted that a lack of baseline data makes this question very difficult to evaluate and draw foolproof conclusions on, at the regional level. What the survey has shown is that set-aside has had some positive impact on biodiversity, to the extent that management rules are in place which have prompted 40% of farmers surveyed to report increased populations of certain wildlife on set-aside land, or more realistically, a slower decrease of certain wildlife populations. However, the impact that set-aside has had on the conservation of biodiversity can be seen to be limited by the current management rules - in particular the current inflexibility of the rules and the lack of integration with existing agri-environment schemes (as noted by one-third of respondents).

## **Elements of responses to questions 451 to 452 related to the complexity of regulation and its implementation**

***451 - What effect have the numerous changes in the rules and regulations including different types of set-aside and the option to transfer obligations had on the effectiveness of the set-aside measure?***

Question addressed at the national and European Level.

***452 - What effect have the national or regional administrative rules for set-aside had on its effectiveness as an instrument?***

The survey showed that respondents have had some initial difficulties with the administrative aspects of set-aside but that these are relatively minor in terms of the detailed workings of the scheme.

While 100% of farmers find the scheme indispensable in maintaining current incomes, 53% reported that they are not happy with the scheme overall.

Some of these concerns related to the administration of the scheme.

- 10% had disagreements about calculations of small areas;
- 13.3% found the minimum sizes of parcels a problem since they are difficult to measure accurately and the penalties for making a mistake are high, and the overall percentage required is sometimes difficult to fit for farmers with smaller fields;
- 33.7% found the general level of bureaucracy burdensome; and
- 13.3% found lateness of announcement on rates an occasional problem.

However, farmers appear generally happy with the administration of payments.

In relation to the question of bureaucracy the issue most frequently raised was the apparent inflexibility of the scheme, to the detriment of the smaller farmer (with rules being seen in black or white) and the past lack of an appeals system. (An appeals system now exists, which allows a farmer to officially challenge a ruling made by DEFRA with regards to the management of his/her set-aside.)

However, there is also recognition on the part of farmers and their representative organisations interviewed during the study that some level of scrutiny is necessary in order to have an audit trail. While the derogation process was described as formal and time consuming, several respondents commented that DEFRA had been efficient and flexible when presented with a derogation from a farmer. It appears that a common complaint is the time taken to get a derogation from the Department. (One of the regional stakeholders (FWAG) noted that they, in fact, end up submitting many requests for derogations on behalf of farmers.) This was also mentioned as a factor which may be deterring people from being more environmentally imaginative with their set-aside, instead of pursuing easy options.

One unresolved issue remains disparities between farmers maps and DEFRA maps used to calculate AAPS figures. This has led to cases of farmers being taken to court. A number of farmers also reported that when the Ministry initially introduced electronic submission of forms, they had found the process almost impossible.

Many respondents felt that overall the set-aside regulation could be improved so that :

- it is more flexible to allow smaller farmers some leeway on the overall percentage, the minimum size of parcel (0.3 ha) and narrower set-aside strips around field headlands (currently 20 m and 10 m near water courses). Many farmers would like to see these minimum widths reduced to 6 m, as is the case with the Countryside Stewardship Agri-environmental scheme;
- there are fewer annual changes which are often minor but nonetheless time consuming;
- the electronic system is an effective replacement for the paper form filling;
- the derogation system could be made less formal and more straightforward;
- the regulation is much better integrated with national agri-environment schemes such as the Countryside Stewardship scheme in the UK.

From the regional case study of farmers in the Eastern Region, it can be concluded that set-aside measures have not directly contributed significantly to managing or changing arable crop production levels in the region. The economics of crops varieties, and commodity prices in particular, remain very much the governing factors determining what, and how much is produced in the Eastern Region.

However it should not be concluded that obligatory set-aside's influence on production levels has been negligible. Although it is difficult to isolate what influence it has had in the recent context of declining commodity prices and the overall restructuring of British agriculture, a few conclusions can be drawn. These include that the influence set-aside has had on production levels and crop choice does, in practice, depend on the size of holding and type of soils found on the holding. For example, the survey has clearly shown that for large farmers (those above 200 ha), set-aside levels and payments have not been sufficient to precipitate a change in cropping patterns. For farmers with less than 200 ha, the effect that set-aside has had/is having is less visible.

There has not been a notable uptake in voluntary set-aside in the study area to the extent that it reinforces the effectiveness of the set-aside regulation. Although it was discovered that many farmers do have some small percentage of land in voluntary set-aside, the reasons for this were to avoid potential penalties due to miscalculations of area, rather than for economic or agronomic reasons. What is also apparent is that many farmers are unwilling to put more land into "fallow" than is absolutely necessary - their wish is to farm their land, for it to be productive, rather than to see it being unproductive.

In 2000-01, the percentage of land which was voluntarily set-aside was notably higher, primarily due to the bad weather earlier this season, which prevented farmers carrying out their normal cropping practices. In this regard, set-aside has proved to be a useful safety net to guarantee a minimum income. This fact reflects the changing opinion of some farmers, from viewing set-aside as a necessary evil to being a management tool by which to guarantee a certain level of income.

Within the study area, there has been no notable uptake of industrial crops, apart from a certain degree of oil seed rape. The main reason for this is that many farmers have taken their worst, most marginal land out of production under obligatory set-aside (including land which has poor soils, is difficult to cultivate, for example). The economics of growing industrial crops on such land are not profitable. Problematic cultivation or overlapping harvest times are also cited as reasons for not growing industrial crops.

Although there have been changes in the cropping patterns and regimes in the Eastern Region since obligatory set-aside came into force, little direct causal link is evident between the two factors. Instead, changes in patterns reflect the market situation and the wider CAP situation, rather than specifically the impact of set-aside.

Set-aside's impact on crop rotations in the Eastern Region has been minimal. Although going against national trends, only one fifth of the farmers surveyed are practising rotational set-aside on all of their land. 70% are choosing to mix fixed with rotational. Of those who have introduced set-aside into the rotation, some have done so at the expense of a second cereal. Those with fixed set-aside are still choosing to use it to take out the worst, most marginal areas of their farm, where yields would have been lower. This is also reflected by the fact that some larger farmers surveyed have chosen to buy land specifically for the purpose of accommodating set-aside.

Set-aside can be seen to be contributing to better agricultural practices, mainly through the removal of marginal land from production on a longer term basis. This includes land with poor soils, along water courses, adjoining woodland and other features, and land prone to erosion.

In terms of management of the set-aside land, some farmers reported a problem with weed control at the introduction of set-aside but this is apparently less of a problem today.

### ***ENVIRONMENTAL CONSIDERATIONS***

The questions asked in the survey focused on the management of soils, water courses, landscape, and to a lesser extent, biodiversity. A matrix with set criteria was used to analyse whether the impact was mainly negative, positive or neutral on soil, water and landscape.

Overall, set-aside should be viewed as having many positive environmental benefits, particularly where agri-environmental schemes are also in place. Many farmers noted, completely unprompted, a marked increase in birds on land set-aside. Indeed many farmers acknowledged and commended the positive environmental benefits that set-aside is having, but expressed dissatisfaction over certain issues.

The impact of set-aside has led to better soil management on nearly 40% of farms surveyed (including soil quality, fertility and erosion rates) and has no real impact on a further 40%.

In terms of water management, the case study suggests that in 40% of cases set-aside has improved water management, whilst for the remainder, set-aside has had minimal effect. A point to note here is that water courses and adjoining land is the focus of a number of agri-environmental schemes in the region, particularly under the Environmentally Sensitive Areas scheme. This suggests that a proportion of land alongside water courses which might have been a target for set-aside has already been removed under the ESA scheme.

Improvements in landscape management is defined here as where the appropriate environmental regulations are in place and respected, and where there is an absence of observable negative impacts on the countryside. The case study showed that in all but one case, the impacts of set-aside are now positive. Visually, set-aside can provide a welcome relief to the large arable landscape of the Eastern Region, particularly where wild bird cover has been planted.

As noted above, many farmers noted the marked increase in wildlife on set-aside land (mostly fixed set-aside) and birds in particular, particularly grey partridge (*Perdix perdix*), skylark (*Alauda arvensis*), finches (family name *Fringillidea*), owls and migratory birds.

A number of issues were raised with relation to how the environmental management aspect of set-aside could be improved. One common issue raised was its current lack of coordination/meshing with the agri-environmental schemes. One common example of this raised, was that whilst set-aside rules insisted on a 20m wide strip around headlands (10m wide near watercourses) which for many farmers is fairly problematic, the Countryside Stewardship Scheme only insisted on a 6m strips. A common suggestion was that the set-aside rules should be brought in line and the minimum width reduced.

## ***ADMINISTRATIVE CONSIDERATIONS***

### ***Paperwork***

Although farmers noted some initial difficulties with the administrative aspects of set-aside and expressed their dislike of the amount of paperwork involved, overall the general opinion was that the paperwork could not be simplified much further. It was noted that the electronic AAPS form which DEFRA has set up was not working satisfactorily.

### ***Other administrative considerations***

Although farmers appear generally happy, the main disagreements farmers voiced in relation to set-aside were:

- disputes over calculations of small areas;
- dissatisfaction over the minimum sizes of parcels - they are difficult to measure accurately and the penalties for making a mistake are high, and the overall percentage required is sometimes difficult to fit for farmers with smaller fields;
- the general level of bureaucracy was burdensome; and
- the lateness of announcement on rates an occasional problem.

