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Annexe 22 du rapport d'évaluation

# **Evaluation of the Impacts of the Community Measures on Land Set aside**

## **Case Study Schleswig-Holstein**

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## 1 Regional Context

### 1.1 Natural Conditions for Agriculture

#### 1.1.1 General Information

Schleswig-Holstein (SH) is located in the very north of Germany. With a size of 15.800 km<sup>2</sup> the Land comprises 4.4 % of the German surface and 3.4 % of the population (see table 1):

**Table 1:** Surface and Population in Schleswig-Holstein and Germany <sup>1</sup>

Indicator	Schleswig-Holstein		Germany	
		%		%
Surface (1000 km <sup>2</sup> )	15.8	4.4	357	100
Population 1999 (Mill Inh.)	2.76	3.4	82.2	100
Population density 1999 (Inh./km <sup>2</sup> )	176	77	230	100
Increase of population 1992 – 98 (1000 Inh.)	117.5	7	1762.5	100

#### 1.1.2 Natural Conditions in the Nature Regions <sup>2</sup>

On account of its natural varieties, Schleswig-Holstein is subdivided into four main nature-regions with overall 22 sub-regions. These nature regions comprise rather homogeneous areas with regard to soil, climate and vegetation (see figure 1).

The soils in these regions come up from sandy soils in the west to high yield loamy soils in the east. Commercial farming mainly exists in the eastern half of the Land, along the Baltic Sea coast and especially on the island of Fehmarn. In these sites, the best soils are located. On the other hand, in the western part of SH, along the North Sea coast, forage growing becomes more importance. Large bog and headland areas can hardly be cultivated. Soils of lower quality partly were reafforested within the frame of land consolidation measures and taken from production.

Due to the coastal location, no larger topographic elevations exist. The altitude varies between a few metres below sea level to about 200 m over sea level.

#### 1.1.3 Climatic Conditions <sup>3</sup>

The climate in the coastal areas of northern Germany is determined by maritime influences with often changing weather and high rainfalls. The winters are mild with predominantly north-west winds. To the south and east the climate becomes more and more continental.

In 1999 for the region of Kiel (capital of SH) the following data were recorded:

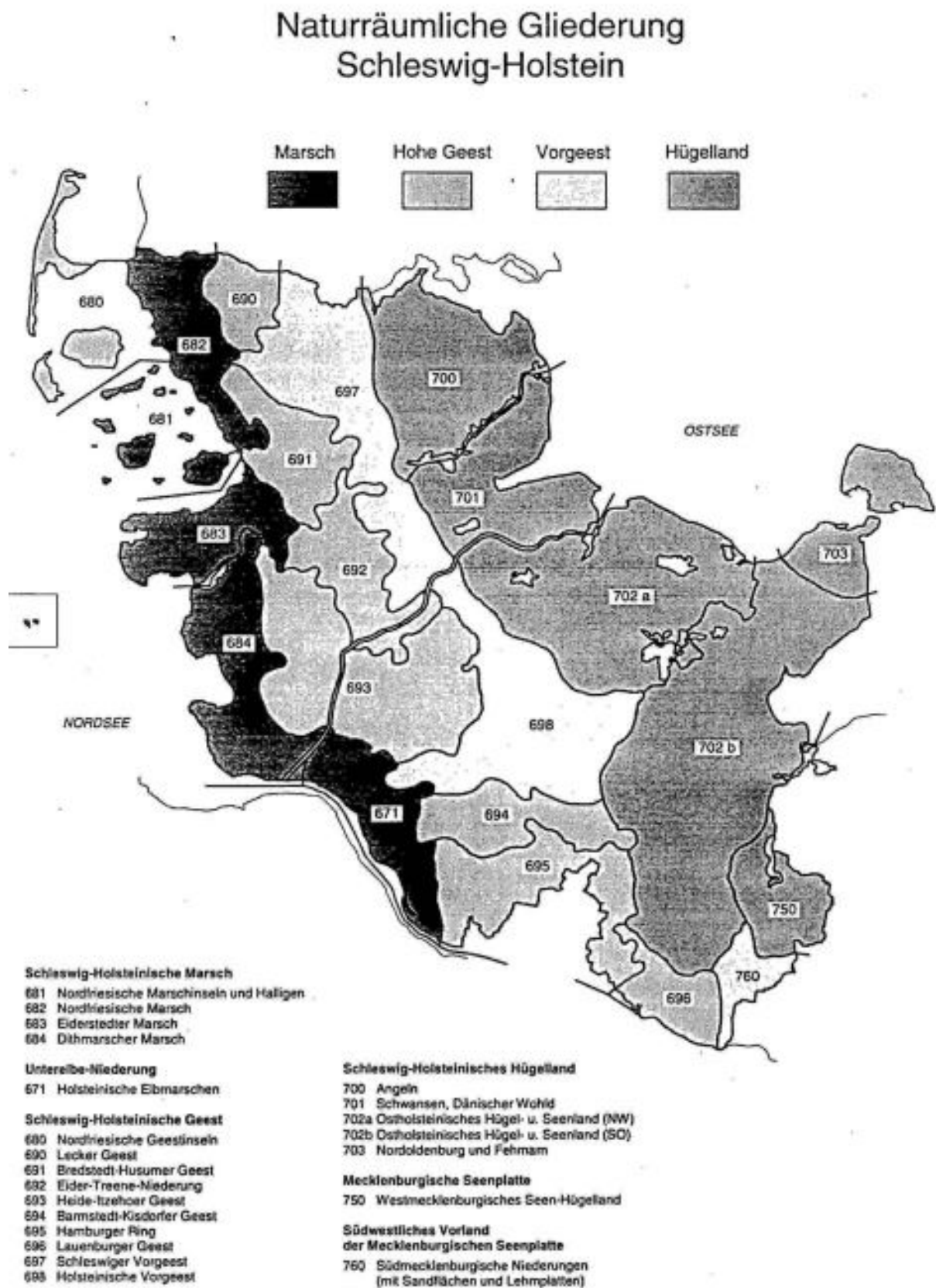
- Average air temperature: 9.5 ° C
- Rainfall: 811 mm
- Frost days: 57
- Duration of sunshine: 1724 hours .

<sup>1</sup> See Statistisches Bundesamt: Bevölkerungsstruktur und Wirtschaftskraft der Bundesländer, volume 2000.

<sup>2</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000.

<sup>3</sup> See [www.schleswig-holstein.de](http://www.schleswig-holstein.de), May 2000.

**Figure 1:** Nature Regions of Schleswig-Holstein <sup>4</sup>



<sup>4</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, part II, p. 3.

## 1.2 Population

In 1999 about 2.76 mill. inhabitants were counted in SH. Since 1980 the population has increased only insignificantly at about 151.000 inhabitants (+ 0.5%). This increase is mainly caused by the German reunification. The population density appears with 175 inhabitants per km<sup>2</sup> (1999) about one fourth below the German average.

About half of the population lives in rural areas on 78 % of the total surface. There, the population density amounts to merely 109 inhabitants per km<sup>2</sup>. Especially in the northern part of the Land the population is quite low. Here, agriculture is of relatively higher importance than in the south.

The distribution of population by age corresponds to the national mean:<sup>5</sup>

- 16 % less than 15 years,
- 68 % of 15 to 65 years,
- 16 % more than 65 years.

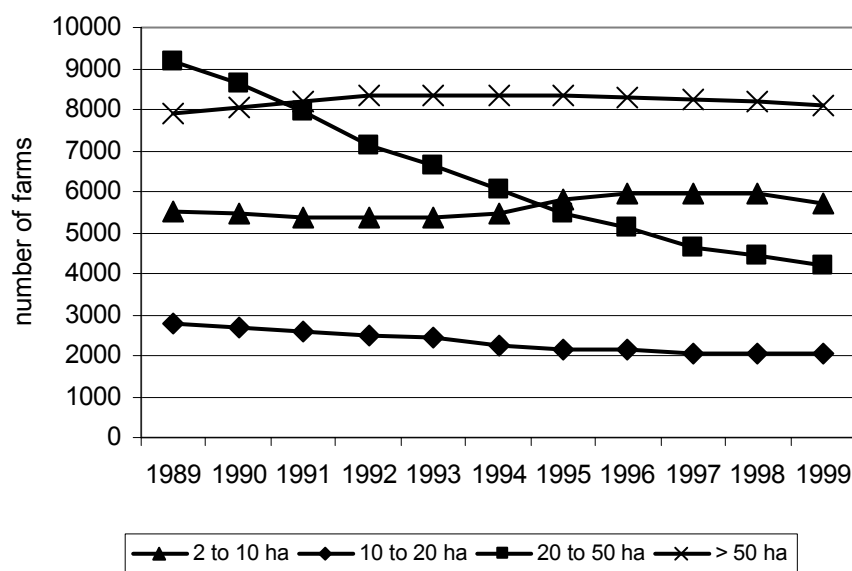
## 2 Structure and Potential of the Agricultural Sector in Schleswig-Holstein<sup>6</sup>

### 2.1 Farm Structure

73 % of the surface of SH belongs to the agriculture area. In addition to the utilized agricultural area (UAA, 66.7 %), non-cultivated areas like bogs, heath or fallow land (independent from set aside programmes) are also included (in total 6.3 %).

In 1999 the UAA was cultivated by overall 23.750 farms. The average farm size was at 52 ha UAA (national average: 39.9 ha). 40 % of the UAA is grassland.

**Figure 2:** Number of Farms by Size Classes in Schleswig-Holstein 1989 – 1999 <sup>7</sup>



<sup>5</sup> See Statistisches Bundesamt: Bevölkerungsstruktur und Wirtschaftskraft der Bundesländer, Ausgabe 2000; own calculations.

<sup>6</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000.

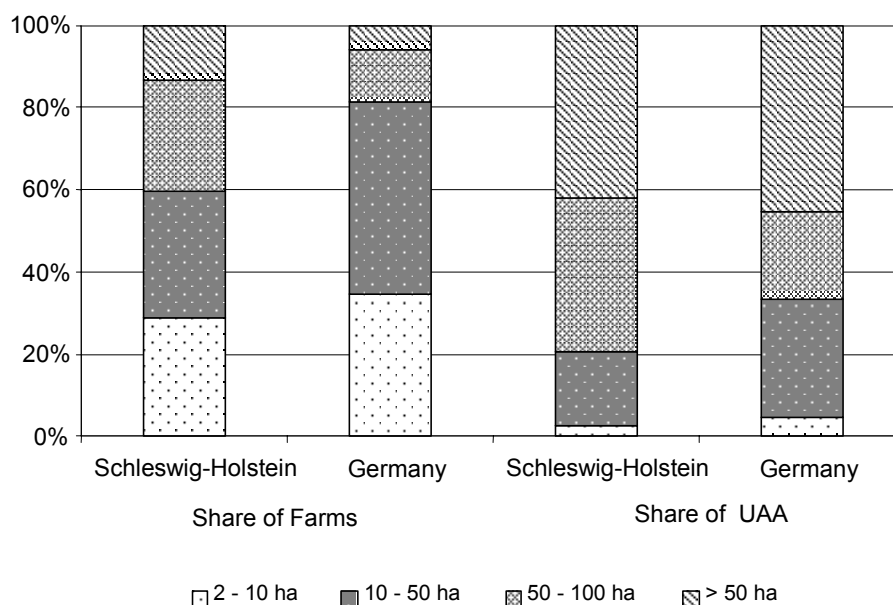
<sup>7</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000; own calculations.

Since 1988 the number of farms has decreased by approx. 2 % per year. In this case, the structural change shows a very particular picture:

- The number of small farms below 10 ha has increased because larger full-time farms have scaled down and continued as part-time farms; due to the appraisal of the agricultural authorities, numerous farms remain running as hobby-farms due to the area based subsidies.
- The number of middle sized farms (20 to 50 ha) has decreased most strongly, as in those size categories the farm often cannot provide a sufficient farm income. At the same time those farms only have limited possibilities for an expansion.

In Schleswig-Holstein the growth limit of the farms (the farm size from which on the number of farms increases) is currently at 75 ha. It has dropped – against the general trend - because former full-time farms are often carried on as smaller part-time farms. In total, the share of farms cultivating more than 100 ha UAA is substantially above the national average (13 % compared to 6 %). Those larger farms cultivate altogether 42 % of the entire UAA.

**Figure 3:** Farms and Utilized Agricultural Area by Size Classes in Schleswig-Holstein 1999 <sup>7</sup>

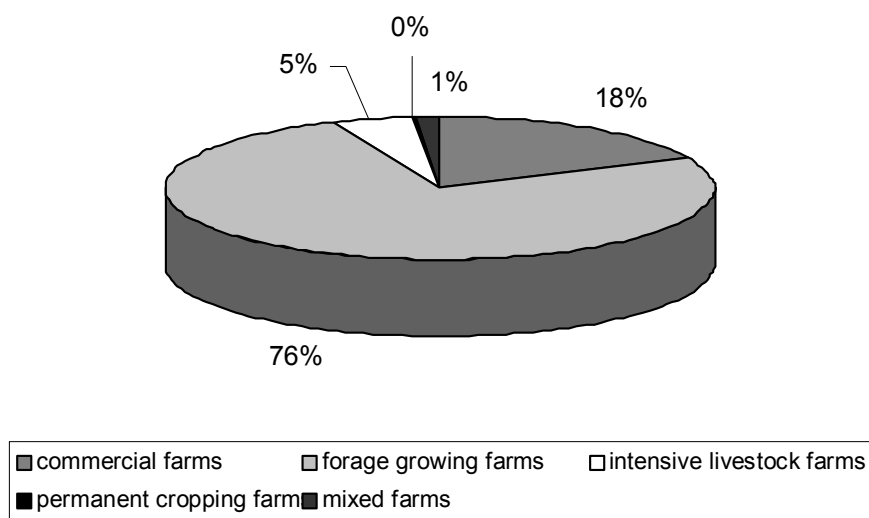


In 1999 about 53 % of the farms in Schleswig-Holstein were managed as full-time farms. This is the highest proportion of all German countries. The average farm size in the full-time farms is about 71 ha and in the part-time farms at about 11 ha. Only little differences exist between both farm types regarding the structure of land use.

Three quarters of the farms are counted as forage growing farms (see figure 4). This share is almost twice as high as the national average. It has increased continuously during the last decade (see table 2).

The share of commercial crop farms is with 18 % relatively low (national: 24.4 %); these enterprises, however, are mainly larger farms (88 ha UAA/farm) with a share of 34 % of the entire UAA. The share of the commercial farms of the total farm number decreases continuously while their share in the entire UAA remains relatively constant.

**Figure 4:** Farms by Farming Systems in Schleswig-Holstein 1999 <sup>8</sup>



The shifting in the proportions mentioned above demonstrates that

- the competitiveness of forage growing with dairy farming has relatively increased, although predominantly small to middle sized farms are running in this sphere;
- the commercial farming is competitive on larger farms only.

**Table 2:** Share of Forage Growing and Commercial Farms in Schleswig-Holstein 1991 – 1997 <sup>9</sup>

		1991	1993	1995	1997
Forage growing					
- share of farms	%	71.1	71.7	72.7	75.6
- share of UAA	%	61.2	62.0	61.1	60.0
Commercial farming					
- share of farms	%	21.8	19.4	19.5	17.8
- share of UAA	%	34.7	31.5	32.4	34.1

## 2.2 Man Power in Agriculture

In 1997 approx. 40.000 persons were occupied in agriculture in total. Due to the greater importance of full-time farming

- about half of these people were fully employed in agriculture,
- a considerable high proportion of farm labour was carried out by hired labourers (approx. 5.000 persons out of 40.000 in total).

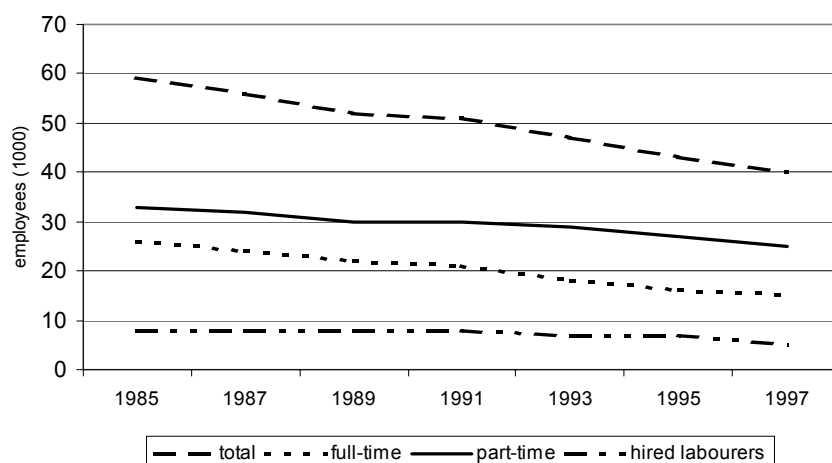
The share of the agricultural employees (compared to the entire employees) decreased from 4.7 % (1990) to 3.6 % (1998). The age structure of the farm managers gives a relatively favourable picture; on average they are younger than their professional colleagues on the national average.

<sup>8</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, part II, p. 25.

<sup>9</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 1994, 1996, 1998, 2000; own calculations.



**Figure 5:** Development of Employees in Agriculture in Schleswig-Holstein 1985 – 1997 <sup>10</sup>



### 2.3 Land Utilization

As a result of the small share of forests in Schleswig-Holstein, 73 % of the entire area consist of agricultural area. The extent of water areas is, due to the proximity to the sea, by far higher than in the national mean. In 1999, 66.7 % of the surface was utilized agriculturally (UAA), 40 % of which were cultivated as arable land. In 1999 approx. 7.7 % of the total arable area were set aside – compared with 10 % of the German average. <sup>11</sup>

Analysing the development of the areas cultivated with COP-crops, different adaptation steps can be recognized (see figure 6):

- Firstly the cereal areas decreased since 1989, because numerous farms participated in the five-year voluntary land set aside scheme and expanded simultaneously the cultivation of rape (outside of the set aside areas).
- A second decline of grain cultivation followed when the obligatory land set aside was introduced in 1992. For crop rotation reasons, the reduction of grain cultivation was accompanied by a reduction of rape areas.
- Since 1995/96, the cereal production was expanded again according to the improved profitability of grain production. By this way the possibility for an expansion of oilseeds and protein plants was provided, too.

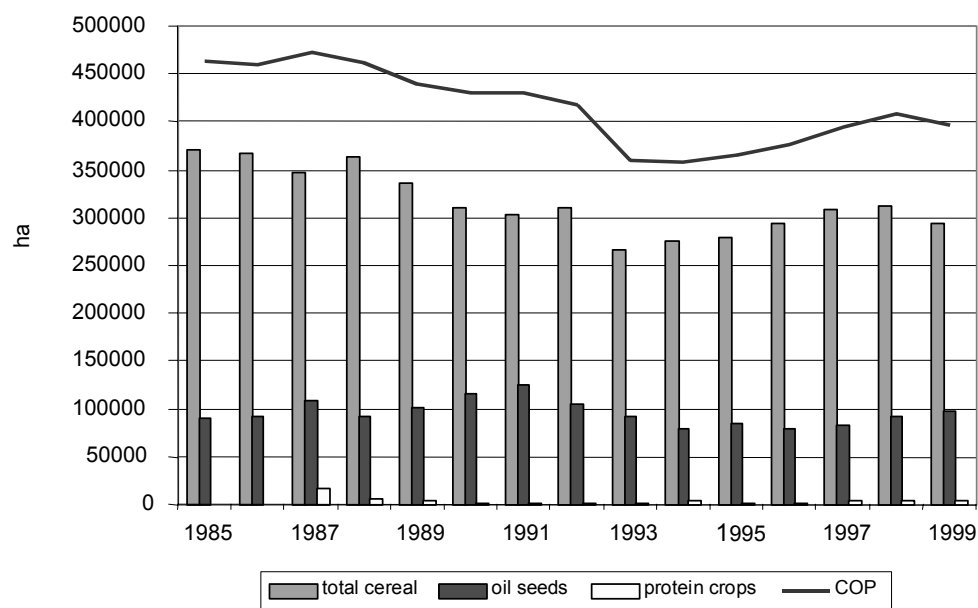
Compared to the average land use structure in the 80s, the extent of the COP-area<sup>12</sup> has been reduced in the 90s. That above all occurred after introduction of the obligatory land set aside (1992). Although the extent of COP-areas slightly increased since 1993, the former extent could not be touched again (see figure 6).

<sup>10</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, part II, p. 113 (no data available for years later than 1997); own calculations.

<sup>11</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, part II, p. 53, own calculations.

<sup>12</sup> COP: total cereal + protein crops + oil seeds without silage maize and set aside.

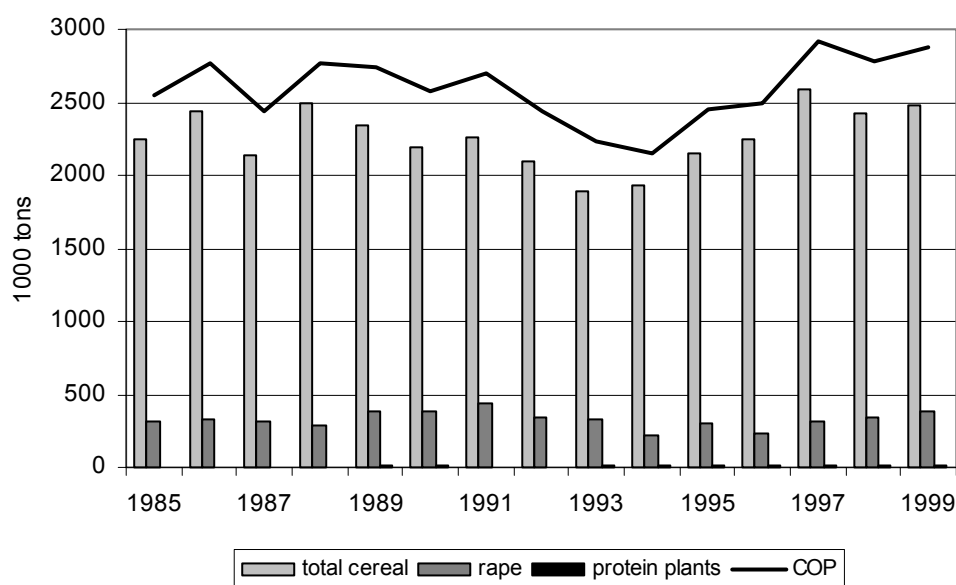
**Figure 6:** Cultivated Area of COP-Crops and COP-Area in total in Schleswig-Holstein 1985 – 1999 <sup>13</sup>



## 2.4 Yields and Outputs in Crop Production<sup>14</sup>

Since 1994 the production of COP-crops has clearly increased (see figure 7). The growth was amplified less by the enlargement of the cultivated area (see figure 6) than by yield gains.

**Figure 7:** Production of COP-Crops in Schleswig-Holstein 1985-1999 <sup>15</sup>



Since the 80s the yields of cereals have risen continuously. Actually they have exceeded with 84.3 dt/ha the national average at about 26 %. A direct impact of land set aside on the yield development could not be recognized.

<sup>13</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, different volumes.

<sup>14</sup> Information given about the level of yields and outputs also include the production of non-food-crops.

<sup>15</sup> See ZMP-Bilanz Getreide – Ölsaaten – Futtermittel 1989/90 – 1995 – 1999, Bonn, different volumes.

### 3 Realization of Land Set aside in Schleswig-Holstein

#### 3.1 Guidelines and Regulations

The main regulations of the set aside programme were nation wide applied homogeneously. On regional level differences result primarily in the amount of the set aside premia. A regionalization of the premium did not occur in Schleswig-Holstein.

Cultivation period: January 15<sup>th</sup> to August 31<sup>st</sup> (all years);  
 Set aside-rates: at least 5 to 15 % (EU-regulation); maximum 33 % of COP area;  
 Minimum size of plots: 0.3 ha; with Ø 20 meters (all years).

The regulation for the land planting, intercultivation and the possibilities of economical use were regulated nationally homogeneously (see national report). A transfer of set aside areas between farms was not offered from the regional authorities. The possibility of applying for the extraordinary set aside was not used.

**Table 3:** Realizations of the Land Set aside-Programme in Schleswig-Holstein <sup>16</sup>

		1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
Set aside-rate (obligatory)	%	15%	15%	12%	10%	5%	5%	10%
Real Set aside area in total	ha	61946	74223	73769	61356	41677	41567	60130
Number of applications for premia (COP)	No	7304	7479	7328	7547	7669	7928	8117
Premium-carrying COP-area in total	ha	472051	485752	489236	494398	501327	510134	517515
- thereof premium-carrying COP-area (professional scheme)	ha	408016	427432	433340	444389	457297	470326	482110
- thereof Premium-carrying COP-area (simplified scheme)	ha	64035	58320	55896	50009	44030	39808	35405
Set aside-rate (real) (set aside/ total COP-area)	%	13.1%	15.3%	15.1%	12.4%	8.3%	8.1%	11.6%
Set aside-rate (profess. scheme) (set aside/ profess. scheme COP-area)	%	15.2%	17.4%	17.0%	13.8%	9.1%	8.8%	12.5%
Set aside land in total	ha	61946	74223	73769				
- thereof rotational set aside area	ha	61946	45343	31294				
Set aside area in total (other than extraordinary)	ha	61946	74223	73769	61356	6.81	41677	6.81
- thereof obligatory set aside area	ha	61946	74223	73769	46890	6.81	30342	6.81
- thereof voluntary set aside area	ha				14466	6.81	11335	6.81
- thereof set aside area without premia	ha				24	6.81	49	6.81
- thereof non-food production	ha	6504	5798	17512	10944	6.81	4432	6.81
Five-year set aside area (R.2328/91)	ha	5786	6039	6010	1884	6.81		
Extraordinary set aside	ha							

<sup>16</sup> See Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft: Internal statistics regarding the implementation of land set aside in Germany, (not published) May 2001. See EU DG Agriculture and Agreste/ONIC/ONIOL (information given by Oréade-Brèche).

### 3.2 Compensatory payments in Schleswig-Holstein

**Table 4:** Compensatory Payments for COP-Crops <sup>17</sup>

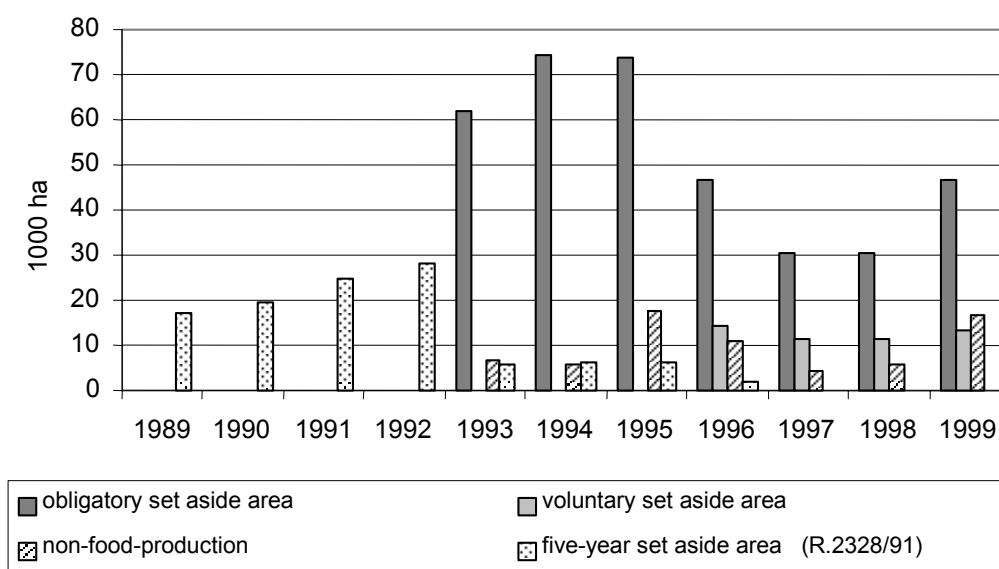
	Cereals		Set aside	Protein plants	Oilseeds	
Year	Average yield (dt/ha)	Compensation premia (€/ha)	Compens. Premia (€/ha)	Compens. Pre- mia (€/ha)	Average yield (dt/ha)	Compensation premia (€/ha)
1993	68.1	205	369	467	33.8	619
1994	68.1	287	467	533	33.8	619
1995	68.1	369	467	533	33.8	619
1996	68.1	369	467	533	33.8	619
1997	68.1	369	467	533	33.8	619
1998	68.1	369	467	533	33.8	619
1999	68.1	369	467	533	33.8	619

### 3.3 Type and Amount of Land Set aside in Schleswig-Holstein

In Schleswig-Holstein, 66.7% of the surface are used agriculturally. In the past numerous plots with marginal productivity were taken out of production. This happened already before the obligatory set aside scheme was introduced. A considerable part of those areas got reafforested.

When the five-year voluntary land set aside programme was offered in 1988, between 17.000 and 28.000 ha UAA were taken out of production (see figure 8). After introduction of the obligatory set aside in 1992, these areas have mostly remained fallow – even after the end of the five-year set aside-contract.

**Figure 8:** Development of Set aside Areas in Schleswig-Holstein 1989 - 1999 <sup>18</sup>



In 1999, 11.6 % of the COP-area (60.130 out of 517.515 ha) were set aside in total. This share amounted to 12.5 % in those farms which were obliged to set areas aside (see table 3). This rate was clearly above the minimum rate, particularly since a considerable number of farms applied for the simplified scheme.

<sup>17</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, different volumes.

<sup>18</sup> See table 3.

## 4 Central Evaluation Questions

### Elements of Answer for Question 411 to 413

#### Questions Concerning Effectiveness

**Q 4.1.1:** Did compulsory set aside and voluntary set aside measures contribute significantly to the arable crop supply control? What is their contribution to the reduction of cereal surpluses?

**Synthetic Answer:**

*Between 1992 and 1999 approx. 12 % of the COP-area were set aside annually on average (59.240 ha). Thereof 25 % were set aside voluntarily.*

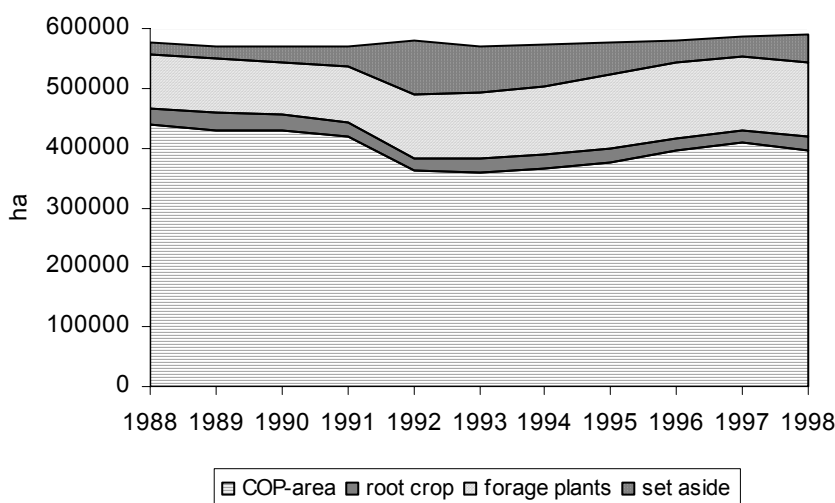
*On account of the set aside programme, the extent of areas cultivated with grain was reduced by 17.000 ha. Nevertheless, the production increased by 18 % until 1999. Reasons for this were the use of more productive crops, a better selection of sites and the rise of the mean yields.*

*Without set aside, the grain output would have increased by approx. 234.000 tons per year (about 11% of the average total grain production). 25 % of this was prevented on account of voluntary set aside.*

#### **Details of the Answer:**

Until 1991 the share of the COP-area<sup>19</sup> amounted rather constantly to somewhat less than 80 % of the arable area. This part dropped clearly by the introduction of land set aside and increased just slowly afterwards again. The share of the set aside area varied in reverse proportionally to the COP-area. The area cultivated with other crops (forage growing, root plants) remained relatively unchanged (see figure 9).

**Figure 9:** Utilization of Agricultural Area in Schleswig-Holstein 1988 – 1999<sup>20</sup>



<sup>19</sup> In the following chapter the COP-area is defined as the area cultivated with grain, oilseeds and protein plants only. Not included are silage maize and the set aside areas.

<sup>20</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 1996 and 2000.

**Table 5:** Changes in Cultivation of Selected Crops in Schleswig-Holstein 1985 – 1999 <sup>21</sup>

	Changes 1985-1992			Changes 1992-1999		
	total		% per year	total		% per year
	1000 ha	%		1000 ha	%	
Wheat	29	20	3	-6	-3	0
Rye	-14	-28	-4	-8	-22	-3
Winter barley	-37	-33	-5	-10	-14	-2
Spring barley	-22	-67	-10	6	55	8
Oat	-19	-58	-8	-3	-20	-3
Grain maize (CCM)	0	-63	-9	0	-45	-6
Grain total	-61	-16	-2	-17	-5	-1
Potatoes	1	21	3	1	9	1
Sugar-beets	-1	-7	-1	-2	-9	-1
Rape	14	16	2	-8	-7	-1
Leguminous crops	1	223	32	3	219	31
COP-area in total	-46	-10	-1	-21	-5	-1

As mentioned above, the cultivation of several crops was already reduced in the 80s, most of all summer barley by 67 %, grain maize by 63 % and oat by 58 %. The cultivation of leguminosae, however, increased by more than 200 %. But in total, the share of arable area at the UAA decreased.

In the 90s, the modifications in cultivation became smaller in total. One reason for that must be seen in the fact that numerous marginal areas had already been taken out of production before 1992. The main development was influenced significantly by the introduction of the CAP-reform including the obligatory set aside programme (1993).

The extension of the set aside area up to 60.130 ha (1999) resulted primarily in a decrease of grain cultivation from 311.000 ha (1992) down to 294.000 ha (1999). The cultivation of rape which achieved its maximum in 1991 already, remained relatively constant at about 90.000 to 100.000 ha. Although the production of protein plants grew its share stayed below 1 % of the entire arable area in all years.

Irrespective the drop of the cultivated area (- 5 %), the physical grain output has raised by 18 % since the introduction of the obligatory set aside (see table 6). Reasons for that are:

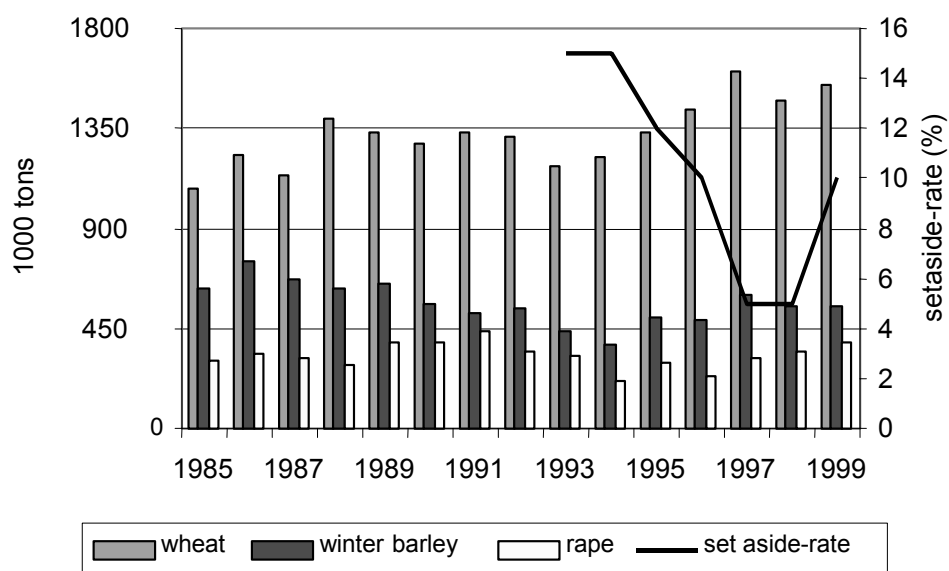
- Cultivation of more profitable crops, in particular winter wheat;
- Decrease of less profitable crops like oat, rye and spring barley;
- Rise of the average yields resulting from technical progresses.

In Schleswig-Holstein, the already high level and further raise of the average yields was favoured by the following factors:

- Higher share of winter grain (87 % vs. 63 % in Germany) that showed especially high increases in yields; (in total the average yields are by 26 % higher than in Germany).
- Reduction of the cultivation of grain on less productive sites;
- Larger and more specialized farms in commercial farming with relatively higher intensities of land use and higher yields per ha correspondingly (compared to the average of all farms in Schleswig-Holstein).

<sup>21</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, own calculations.

**Figure 10:** Production of Selected Crops in Schleswig-Holstein<sup>22</sup>



**Table 6:** Changes in Production Output of Selected Crops in Schleswig-Holstein 1985-1999<sup>23</sup>

	Changes 1985-1992			Changes 1992-1999		
	Total		% per year	Total		% per year
	1000 t	%		1000 t	%	
Wheat	231	21	3	231	18	3
Rye	-45	-21	-3	20	12	2
Winter barley	-93	-15	-2	13	2	0
Spring barley	-124	-84	-12	69	290	41
Oat	-123	-75	-11	16	40	6
Grain maize (CCM)	-3	-59	-8	-2	-100	-14
Grain total	-148	-7	-1	387	18	3
Potatoes	-24	-13	-2	66	43	6
Sugar-beets	-7	-1	0	22	3	0
Rape	35	11	2	39	11	2

Since 1992 the development of outputs has been influenced perceptibly by the obligatory set aside. Since numerous low-yield areas were already taken from production before, the set aside programme resulted in a decrease of productive areas. Therefore the reduction of grain production can be estimated on average at about 234.000 tons per year (approx. 168.000 t in the case of a 5 % set aside-rate, approx. 280.000 t in the case of 15 %). This estimation is based on the following assumptions:

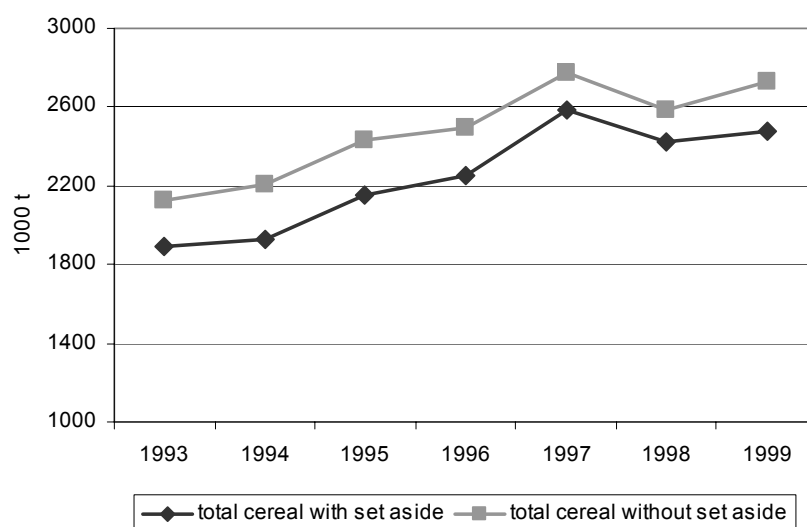
- for crop rotation reasons, a maximum of 75 % of the set aside areas could have been cultivated with grain;
- on average, the set aside areas achieved only approx. 75 % of the mean regional yield.<sup>24</sup>

<sup>22</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, different volumes.

<sup>23</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, different volumes; Statistisches Jahrbuch für die Bundesrepublik Deutschland, different volumes; own calculations.

<sup>24</sup> Estimation of the State Ministry for Rural Areas, Agriculture, Nutrition and Tourism Schleswig-Holstein.

**Figure 11:** Development Trend of Cereal Production with and without Land Set aside in Schleswig-Holstein<sup>25</sup>



**Q 4.1.2:** In what proportion did the remuneration of voluntary set aside strengthen the effectiveness of the set aside instrument? Estimate the share of the voluntary set aside areas which would have remained uncultivated in the event of absence of the measure.

**Synthetic Answer:**

*In Schleswig-Holstein approx. 2.6 % of the COP-area was set aside voluntarily since 1996. This associates with the existence of less productive areas and plots hardly to cultivate and has primarily economic reasons. However, to some extent larger areas than required got set aside - involuntarily - because of the larger size of single plots.*

*Without premia, only few marginal areas would have been taken out of production voluntarily in Schleswig-Holstein since 1992, as the majority of problematic areas had been taken out of production already before. Due to the voluntary set aside, the additional production of approx. 46.000 to 57.000 tons of grain per year was prevented.*

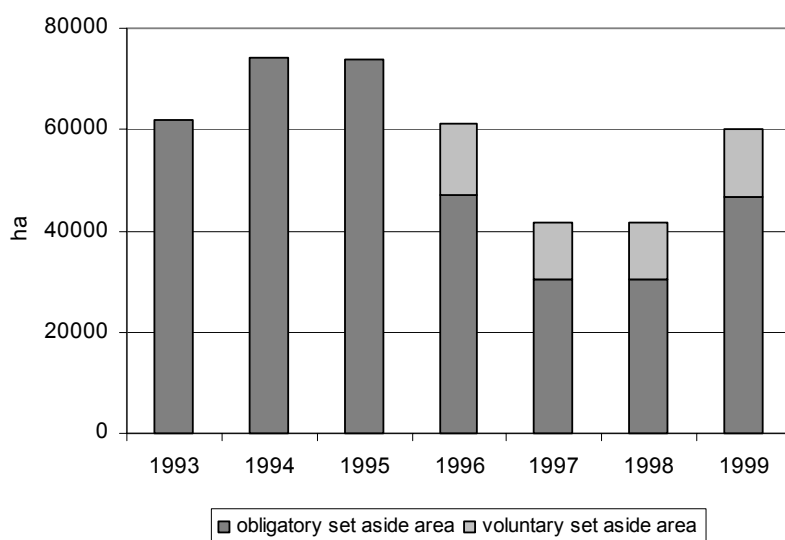
**Details of the Answer:**

In Schleswig-Holstein on average 11.6 % of the COP-area were set aside in 1999. Related to the farms applying the professional scheme, this share was 12.5%. Therefore, in the larger farms about 2.5% of their COP-area were set aside voluntarily in 1999 (see table 3).

<sup>25</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein, different volumes, own calculations.



**Figure 12:** Development of Set aside Areas in Schleswig-Holstein 1988 - 1999 <sup>26</sup>



Out of the 30 interviewed farms, 19 (63 %) set more than the required 10 % aside:<sup>27</sup>

- in 17 farms (90 %) the set aside area comprised larger plots;
- 15 farmers (79 %) mentioned voluntary set aside as a precaution measure in order to avoid sanctions;
- 4 farmers (21 %) set areas aside voluntarily for economic reasons.

Out of the 19 farmers with voluntary set aside, 4 farmers practised this already before 1992 or at least for a longer time. In general, less profitable plots or those with cultivation handicaps were chosen for voluntary set aside. In those cases economic reasons dominated: decrease of labour input, improvement of crop rotation, saving costs of cultivation. However, the majority of the areas set aside voluntarily did not comprise marginal sites.

All the 30 interviewed farmers stressed that they

- would have set aside areas voluntarily only in very few individual cases (extremely marginal areas) without premia;
- do not wish to set aside more than a third of their arable area.

Without voluntary set aside, about 2.6 % of the COP-area (average since 1996) would have been cultivated for grain production additionally. In this case the cereal output of the region would have increased at approx. 46.000 - 57.000 t/year.<sup>28</sup>

**Q 4.1.3:** To what extent has the set aside instrument determined the non-food-production trend?

**Synthetic Answer:**

*The cultivation of non-food crops in Schleswig-Holstein contained approx. 16.300 ha (1999). Rape was produced on 94% of this area. The annual extension of cultivation depended on the extent of the set aside areas in total. Without set aside, food rape would have been cultivated, but hardly non-food rape.*

<sup>26</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, part II, p. 54

<sup>27</sup> Multiple responses.

<sup>28</sup> Assumption: Yields of the voluntarily set aside areas approx. 50 – 60 % of the average cereal yields.

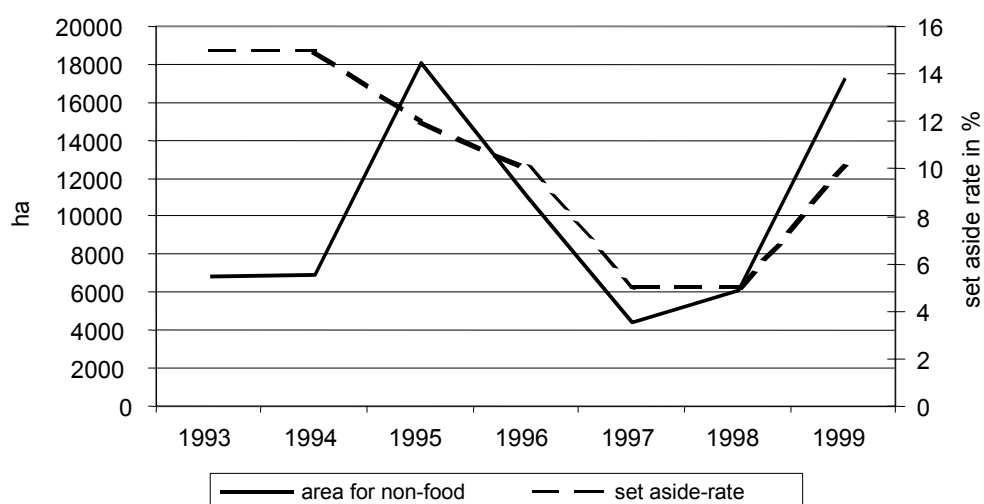
***17 out of the 30 interviewed farmers produced rape and oil flax on their set aside areas. The cultivation followed primarily economic reasons and favourable crop rotation effects.***

#### Details of the Answer:

In the year 1999, the total non-food production in Schleswig-Holstein comprised 16.300 ha. Rape was cultivated at a share of 94 % of that area. Sunflowers, bird rape and other "niche products" hardly played a role.

The non-food production developed along with the set aside-rate (cf. figure 13). However, the cultivation of rape was in total not expanded as in other Laenders; on the contrary: As the production of food rape was very common already before, the set aside measure initiated a relatively extensive substitution of food rape by non-food rape. As a result, areas on which food rape was cultivated previously could now be utilized for grain production.

**Figure 13:** Non-food Production Area and Set aside-Rate in Schleswig-Holstein 1993 - 1999 <sup>29</sup>



On account of the better natural conditions, rape was more frequently cultivated in the eastern than in the western part of the Land. In 1999 the yields of rape amounted with 39.7 dt/ha to about 7 dt above the national mean. This is a reference to the high profitability of the cultivation of rape in Schleswig-Holstein.

**Table 7:** Land Set Aside and Cultivation of Non-Food Crops in SH 1993 – 1999 (see table 3)

Year	Set aside-rate	Set aside Ha	Non-food crops	
	%		ha	% set aside area
1993	15	61946	6504	10.5
1994	15	74223	5798	7.8
1995	12	73769	17512	23.7
1996	10	61356	10944	17.8
1997	5	41677	4432	10.6
1998	5	41567	5909	14.2
1999	10	60130	16472	27.4

<sup>29</sup> See table 3.

**Out of the 30 interviewed farms**, 17 (57 %) cultivated non-food crops. On average this was managed on two thirds of the set aside area with the cultivation of rape (94 %) and oil flax (6 %). The average area used for non-food-production comprised 11.9 ha.

The following motives were mentioned for the production of non-food crops:

- Primarily the relatively high profitability (70 %), which above all in recent years increased as a result of higher producer prices;
- Secondly the favourable impacts of the non-food crops within crop rotation (59 %);
- In addition the advantages of supply contracts (1 farm) as well as lower costs for the maintenance of the plots (1 farm).

11 out of the 17 farmers with rape cultivation participated in the voluntary set aside. Four farmers started with rape production not until the introduction of the set aside programme.

The 13 farmers who decided against non-food production stated the following arguments:

- Too little profitability (70 %);
- Technical handicaps in production (e.g. too small plots, biological farming techniques).

Therefore, two farmers, who had cultivated rape previously, stopped production in the 90s.

#### **Elements of Answer for Question 422 to 444**

##### **Questions Concerning Efficiency**

**Q 4.2.2: Is the impact of compulsory set aside-rate and the payment level on the large producers' income likely to amend their crop choice so as to answer better the requests of the market?**

**Synthetic Answer:**

*In the 23 larger farms, farm size was expanded in 75 % during the set aside programme. 57 % of the larger farms enlarged their COP-production. The further optimization of crop ratios contributed to increasing farm profits since 1994, too. Specific reactions on modified market demands did not occur.*

*Income losses through declining prices and set aside immediately after 1992 could be balanced nominally by later increases of yields and cost savings to a large extent. Even after the introduction of set aside the average farm income was far above the national mean. Income level and farm expansion both demonstrate a rather high competitiveness of the larger farms.*

##### **Details of the Answer:**

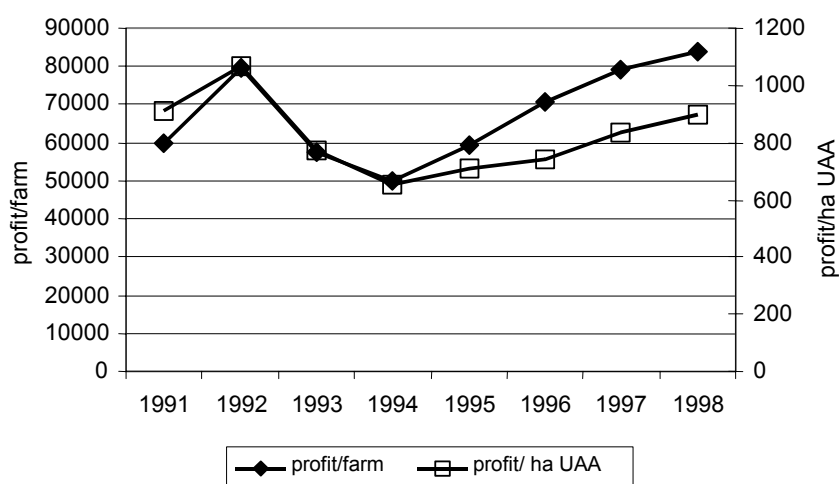
Actually, the number of farms below 75 ha UAA is decreasing, above 75 ha growing. Therefore the farms which cultivate at least 75 ha are counted among the "larger farms". In 1999, 25 % larger farms in Schleswig-Holstein cultivated about 61 % of the entire UAA. Out of the 30 interviewed farms 23 enterprises belonged to the larger farms.

14 out of the 23 farmers (with larger farms) estimated that their farm income has remained relatively constant since 1992. 9 farmers mentioned, their earnings would sink. On the whole, the opinion was expressed, that the premia did not compensate the income losses caused by the set aside scheme. This might be correct particular on sites with fair to good soil fertility.

Analysis of farm accounts demonstrate significant income losses immediately after the CAP-reform. This decline has turned since 1994 (see figure 14). However, considerable losses resulted during the 90s in real terms which primarily corresponded with the lowering prices for farm products. The high

level of rents may be seen as another argument (see figure 20), although rents did not rise after the introduction of compensation payments.

**Figure 14:** Development of Farm Profits (€, current prices) in ha (full-time commercial farms; farm account analysis)<sup>30</sup>



At the appraisal of the interviewed farmers, the set aside measure was of minor influence on the evolution of farm incomes. The farmers could use several options to meet the effects of set aside and reduced farm prices. The following adaptations were counted:

- 17 out of the 23 larger farms grew by about 47 ha on average since 1992; only in one case farm size was reduced;
- 14 out the 17 larger farms expanded grain cultivation, thereof 6 farmers rape cultivation, too;
- 2 farmers (9 %) expanded forage growing due to an enlarged animal husbandry.

**Table 8:** Development of COP-Production in the Larger Farms in Schleswig-Holstein (multiple responses)

	Expansion of COP-production	No significant change of COP-production	Expanded activities outside COP-production
Share of Farms (Total: 23 Farms)	61 %	35 %	9 %

**Table 9:** Development of Grain Cultivation Area in the Larger Farms in Schleswig-Holstein

	Reduction of grain Cultivation area	No significant change of grain cultivation area	Expansion of grain cultivation area
Share of Farms (total: 23 Farms)	4 %	35 %	61 %

According to the statement of the 23 farmers, the selection of crops was determined primarily by profitability, followed by agronomical aspects. Ecological arguments were mentioned in one farm only.

After introduction of set aside, the crop rotation was even more strictly orientated towards economic aspects; therefore, the share of particularly productive grain species further increased (winter wheat, winter barley); less productive crops (oat, summer barley) were pushed back. As a consequence, an increase in specialization of cultivation could be stated.

As a larger part of farmers cultivated rape before the set aside programme already, the substitution of Food rape by non-food rape (see Q. 4.1.3) offered the possibility to expand the grain cultivated area.

<sup>30</sup> See Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft: Agrarbericht der Bundesregierung, different volumes.

By this way the income losses through the cut of arable area could be reduced.

Not one of the 23 farm operators stated that the quality of farm products has been improved in a specific manner since 1992. Producing on a high quality level already no further efforts has been don, as the farmer did not expect an additional remuneration from the markets.

All in all it may be assumed that the disadvantages resulting from set aside of arable areas could be balanced with the economic advantages of the voluntary set aside (premia together with labour and cost savings), yield increases, further specialization and, not at least, by farm enlargement.

### **Questions Concerning Agronomical Practices**

**Q 4.3.1:** Did the existence of a remunerated set aside encourage good crop rotation and which were the alternative crops in the plots set aside?

**Synthetic Answer:**

*The interviewed farmers hardly modified their crop rotation after introduction of land set aside. Food rape was often replaced internally by non-food rape. The majority of the farmers aimed at a relatively high share of grain in crop rotation.*

*The effects of set aside on crop rotation were altogether neutral to positive. Since rape cultivation was not expanded in total, improvements in crop rotation resulted above all from the use of specific seeds aiming at the improvement of soil fertility or weed control.*

### **Details of the Answer:**

Most of the 30 interviewed farmers had already taken low productive areas from production before 1992 and made no further use of it. Therefore, today in 97 % of the cases rotational set aside dominates, however without clear modification of crop rotation:

- 90 % of the interviewed farmers kept crop rotation more or less unchanged, unless farm size development. According to the information of the farmers, the production of food rape was often replaced by the production of non-food rape on set aside plots; as a result, the share of rape within crop rotation changed only little.
- Three farmers (10 %) modified their crop rotation by expanding grain maize or restricting root plants for the benefit of rape and grain.

In total, according to appraisal of the interviewers positive effects on cultivation resulted in 47 % of the farms. In half of the cases the effects were estimated as neutral (see table 10).

**Table 10:** Modifications in Crop Rotations (estimated by the interviewers)

	Degradation of Crop rotation	Neutral effects on Crop rotation	Improvement of Crop rotation
Share of farms (total: 30 farms)	3.3 %	50 %	46,7 %

1999, approx. 27 % of the 30 farms cultivated their set aside area with non-food crops. A natural re-grazing was practised in another 33 % of the farms. With 40 % specific seeds for the improvement of soil fertility took the first place (e.g. phacelia, oil radish, mustard, clover compounds). According to statements of the Farm Account Service Schleswig-Holstein and the regional agricultural administration, the seed of preceding crops like the ones mentioned above provides an increment of the yield of

the following crop at approx. 6 to 8 dt/ha<sup>31</sup>. Not at least two farmers sowed specific seed compounds for game and bees.

With respect to these operations, the influence of land set aside on crop rotation therefore was estimated as neutral to positive by the interviewers.

In the management of the set aside areas the farmers obviously did not differentiate between obligatory and voluntary set aside, because serious differences in soil productivity were not reported.

**Q 4.3.2: Did the location of the plots set aside encourage better cultivation methods?**

**Synthetic Answer:**

*Since rotational set aside was predominant (96 %), only very few less productive areas were taken from production in the long-term. Because of this, positive effects on soil fertility were achieved through the extensive rotational set aside and the vast cultivation of soil improving plants.*

*Economic advantages resulting from positive crop rotation effects were partially compensated by negative effects arising from the necessity to take also average productive land out of production.*

*In total, cultivation was influenced mainly in a positive to neutral way.*

**Details of the Answer:**

96 % of the set aside area was managed in a rotational system. Only 4 % of the set aside area was set aside in a long term (fixed set aside). This concerned:

- small and low yield plots (1 farm),
- peripheral located or isolated plots (1 farm),
- marginal areas (1 farm).

From the interviewers, the economic and agronomical effects of set aside were estimated predominantly as neutral to positive in the 30 farms. In only 5 respectively 3 of these farms negative effects were found.

**Table 11:** Effects of Land Set aside on the Economic and Agronomical Balance of the interviewed Farms

Farms (in total: 30)	Disadvantage	Neutral	Advantage
Economic balance	16.7 %	36.7 %	46.7 %
Agronomical balance	13.3 %	33.3 %	53.3 %

The balances were above all influenced by the selection of the set aside areas and its integration into crop rotations. Since the majority of the farmers chose a rotational set aside and cultivated up to 96 % of the set aside areas with soil improving crops (including rape), the agronomical effects were predominantly positive.

Economic advantages can be explained mainly with positive crop rotation effects and the set aside of less productive plots; as result, the average profitability of the arable area raised. However, these advantages are limited in total, because relatively few marginal areas got set aside.

Since Schleswig-Holstein shows a high yield level, economic disadvantages were the result especially in the cases, when plots with an average or high productivity were set aside. This disadvantage could be balanced to a large extent by the profit increasing effect of set aside on the following crop.

<sup>31</sup> See: Landwirtschaftlicher Buchführungsverband Schleswig-Holstein, personal information (Dr. Wehr), June 2001.

Only in individual cases, a shortage of the forage area occurred as a result of set aside (and changed crop rotation). Modifications in farming techniques followed the general technical progress according to statements of the interviewed farmers. They were not sped up by land set aside.

**Table 12:** Selection of Areas for Set aside (30 Farmers interviewed, Multiple Responses)

	Rota- tional set aside	Fixed set aside								
		Along water courses	On small plots with cultivation handicaps	On pe- ripheral or isolated areas	On less productive and mar- ginal areas	On slope	On exten- sively cultivated fields or margins	Acquisi- tion of plots to be set aside	Transfer set aside obligation to another farm	Another reason (edge of the forest)
Answers (%)	97	0	10	3	10	0	3	0	0	0

Answers related to the entire period of the set aside programme (1992-99)

**Q 4.3.3:** Did the existence of the remunerated compulsory set aside cause production intensification in the other plots?

**Synthetic Answer:**

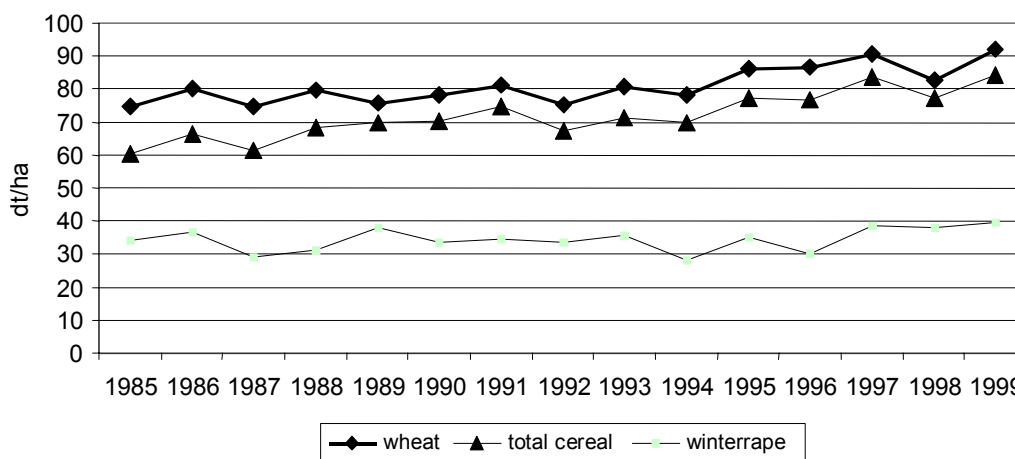
*Despite the reduction of the cultivated area, the output of the COP-crops rose. Reasons for it are increased average yields, the choice of more productive crops and farming techniques, and to some extent a higher intensity of cultivation, too.*

*However, the level of intensity was chosen independently of set aside. The intensity of cultivation followed primarily the modification of the general economic conditions and the agronomical “standards” in high productive commercial farms. Based on farm account results and national trends it might be true that plant protection input has increased in the course of set aside.*

**Details of the Answer:**

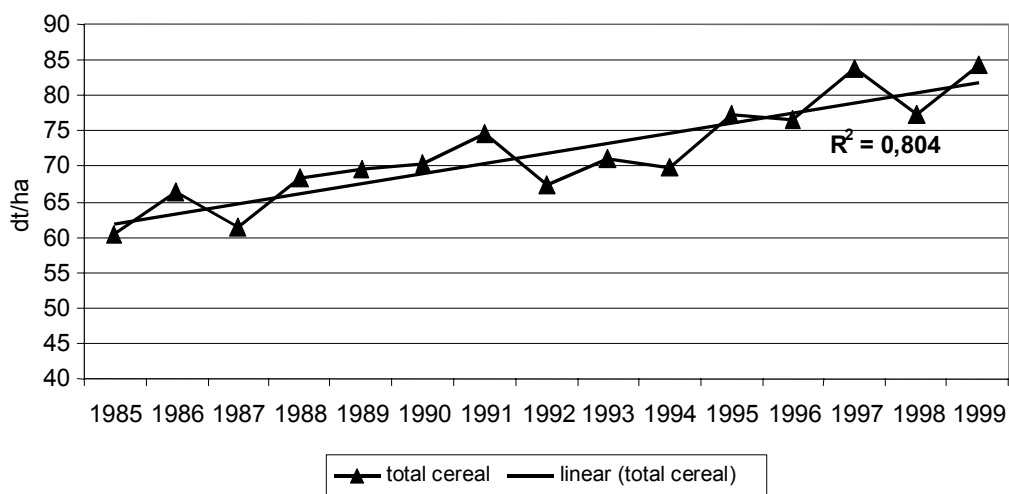
In the context of the set aside scheme, shifts within rape cultivation took place in Schleswig-Holstein (see Q. 4.2.2). Therefore, the decrease in size of the agriculturally usable area was less than the size of the corresponding size of set aside areas. The average yields further increased (see figures 15, 16) and the crop ratios shifted for the benefit of the more productive crops. Less intensive cultivated grain (e.g. oat, rye) was reduced.

**Figure 15:** Yields of Selected Crops in Schleswig-Holstein 1985 – 1999 <sup>32</sup>



<sup>32</sup> See ZMP-Bilanz Getreide – Ölsaaten – Futtermittel 1989/90 – 1995 – 1999, Bonn, several volumes; own calculations.

**Figure 16:** Development of Total Cereal Yield (dt/ha) in Schleswig-Holstein 1985 – 1999 <sup>31</sup>

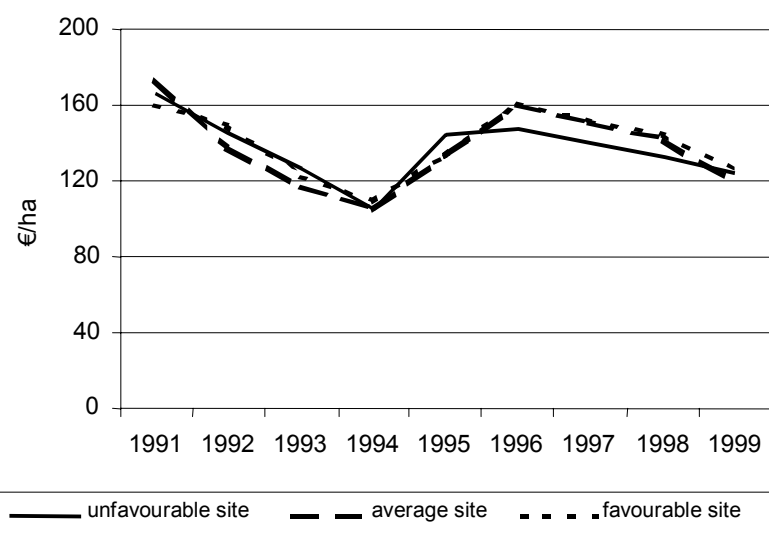


Although the more productive crops require relatively higher inputs of fertilizers and plant protection means, the intensity of cultivation on the remaining areas obviously increased not or only little.<sup>33</sup> Figures 17 and 18 show the development of real inputs in full-time commercial farms operating at different natural conditions. They demonstrate a significant reduction of those yield-increasing and stabilizing inputs immediately after the introduction of the set aside-programme.

This evolution can be explained with two influences:

- Reduced farm prices (changed relative prices);
- Set aside of about 25.000 to 35.000 ha arable area without non-food production and therefore with restricted application of yield increasing means.

**Figure 17:** Development of Fertilizer Input in Full-time Commercial Farms in Schleswig-Holstein (constant prices) <sup>34</sup>



Only in the last years the real input level of the time previous to the set aside programme was more or less matched again. Considering the extent of annually set aside areas without production (25.000 - 35.000 ha), the raise particular in the input of plant protection means indicates a slight increase in the

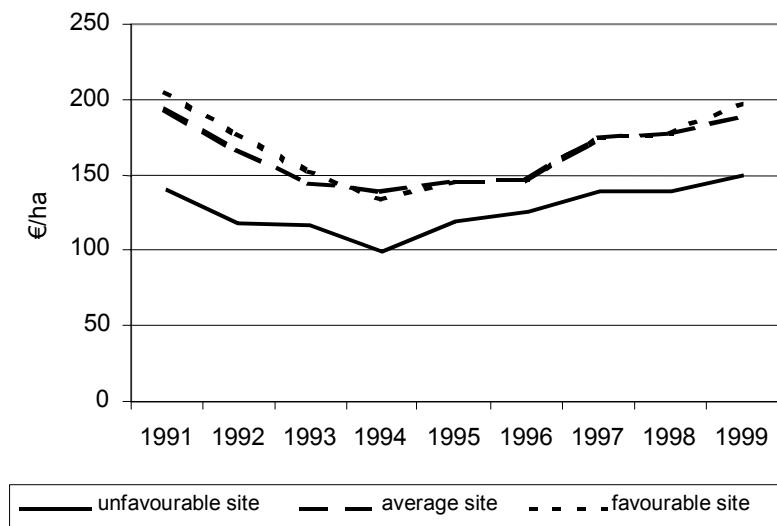
<sup>33</sup> This estimation is confirmed by national data demonstrating that the total input of fertilizers and plant protection means stayed rather constant on national level (see Annex).

<sup>34</sup> See: Landwirtschaftlicher Buchführungsdienst Schleswig-Holstein; Farm Account Analysis of Full-time Commercial Farms; own calculations.



intensity of cultivation on the remaining areas. However, as far as the intensity was increased, this trend was primarily a result of the modification of relative prices and the yield expectations. It would also have resulted probably without set aside.<sup>25</sup>

**Figure 18:** Development of Plant Protection Input in Full-time Commercial Farms in Schleswig-Holstein (constant prices)<sup>35</sup>



**Q 4.3.4:** To what extent has the existence of the compulsory set aside modified the farm competitiveness by an adaptation of the productive structures?

**Synthetic Answer:**

*In Schleswig-Holstein, the farm size growth was faster after the introduction of set aside than before. The size growth increased the demand for leased land. However, the rather high rents changed insignificantly because a sufficient extent of land for lease was obviously available. Nonetheless it can be assumed that without compensation payments the rents would have been lower and the growth of the larger farms would have been facilitated.*

*All in all, land set aside influenced the development of size and market potentials of the farms only slightly, although some farmers reported about problems with the acquisition of land.*

**Details of the Answer:**

#### **Development of farms:**

In Schleswig-Holstein the average farm size of the smaller farms (< 75 ha) decreased during the last decade (see paragraph 2.1), opposite to the development of the larger farms. It can be assumed that the larger farms could improve their competitiveness by renting or purchasing additional land, mainly from farms of the lower size groups, partly in the New German Laenders, too.

Out of the 30 interviewed farms,

- 3 farms (10 %) enlarged their farm land between 1987 to 1992 by 17.8 ha per farm;
- 20 farms expanded by 47.4 ha on average between 1992 and 1999.<sup>36</sup>

<sup>35</sup> See: Landwirtschaftlicher Buchführungsverband Schleswig-Holstein: Farm Account Analysis of Full-time Commercial Farms. The distinction of different natural conditions was made by the agricultural equivalent.

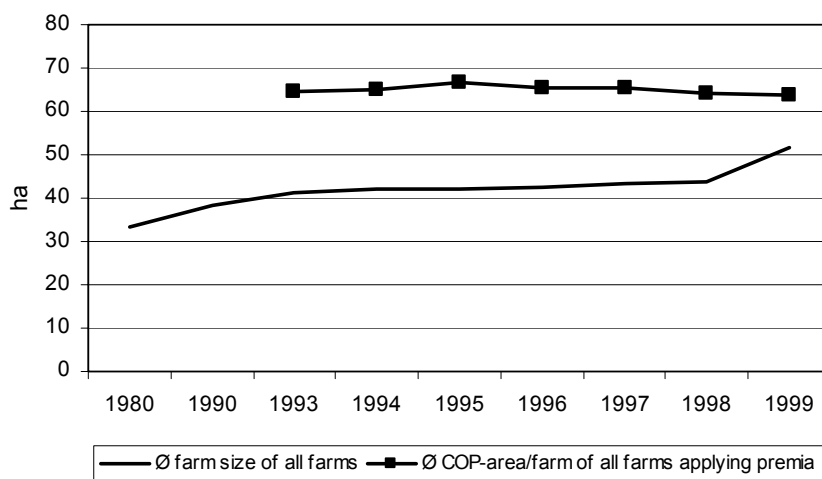
<sup>36</sup> One farm expanded extremely (+ 400 ha) by renting land in Mecklenburg-Vorpommern; this farm excluded, the average farm growth of the remaining 19 farms was approx. 27.4 ha.

A distinctive growth showed the 23 larger farms, of which 17 expanded by about 54 ha (up to 178 ha per farm).

The interviewed farmers explained the fast growth of their farms since 1992 with the general economic constraints after the CAP reform and with rather favourable conditions for renting land. On this account the competitiveness of the (larger) farms has not significantly be limited through the set aside measure. This can be assumed also for the smaller farms which mainly applied for the simplified scheme or were affected from the set aside measure only little.

Figure 19 shows for the entire region of Schleswig-Holstein that the development of COP-area in the (larger) farms applying for premia did not went parallel with the average growth in farm size of all farms. That indicates that on regional level farm enlargement to a considerable amount was not based on an expansion of COP-production.

**Figure 19:** Development of Average Farm Sizes of all Farms and of COP-Area of the Farms Applying Compensation Premia in Schleswig-Holstein <sup>37</sup>



### Market for Arable Land:

Irrespective from the general advantageous conditions for farm expansion, 14 out of the 30 interviewed farmers (47 %) reported about problems with the acquisition of additional land. 7 out of these (50 %) mentioned that set aside amplified this problem. However, a clear rise of rents was not to be recognized (see figure 20). 14 farmers in total were convinced that a particular market for premia-based areas has come up.

### Adaptation to set aside:<sup>38</sup>

In Schleswig-Holstein on-farm adaptations to set aside were hardly done. Only 4 out of the 30 interviewed farmers reacted directly to set aside according to own information

- 1 farmer purchased land
- 2 farmers rented additional land,
- 1 farmer replaced a less productive crop through silage maize and sugar beets,
- 4 farmers expanded forage growing due to the expansion of cattle;
- 1 farmer had to transfer slurry onto another farm to meet environmental regulations.

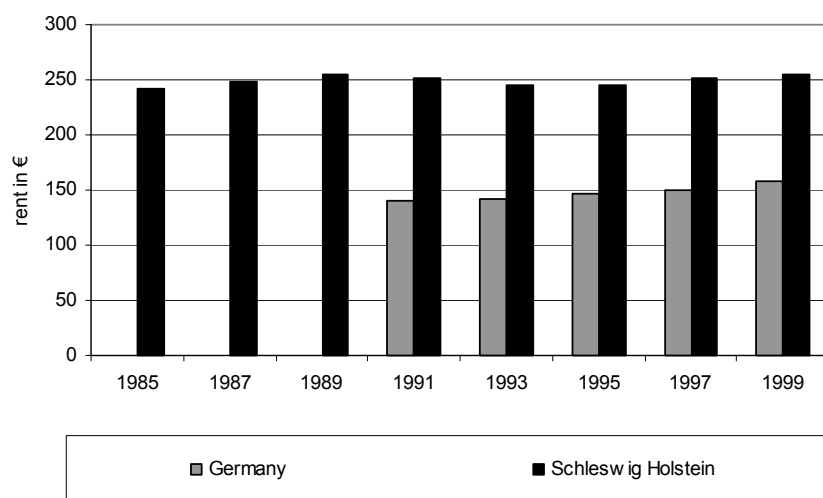
All in all, the set aside measure influenced the competitiveness of the interviewed farms not perceptibly. The comparably high profitability of farming particularly in the larger farms provided them rela-

<sup>37</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000; own calculations.

<sup>38</sup> The farmers were asked about their adaptations on the set aside measure only, excluding the effects of the entire CAP-reform. Therefore the answers differ from the presentation of the overall farm adaptations during the set aside period mentioned above.

tive advantages in the competition within the European Market. It was not to be recognized that the high competitiveness was dropped by set aside.

**Figure 20:** Development of Rents for Arable Areas (€/ha) in Schleswig-Holstein 1985-1999 <sup>39</sup>



### Questions Concerning Environmental Impacts

**Q 4.4.1:** Did the adoption of set aside have a significant impact on the improvement of soil management (erosion, fertility, structure, etc.)?

**Synthetic Answer:**

*The effects of set aside on soil cultivation were neutral to positive. The sowing of specific seeds for soil improvement and the slightly enlarged cultivation of rape showed positive effects. With regard to soil structure and fertility the high share of rotational set aside was an additional advantage.*

*Erosion problems on set aside areas were prevented by national regulations.*

### **Details of the Answer:**

At the appraisal of the interviewers, set aside caused positive effects on soil management in 27 % of the farms; in the majority of the cases its impacts were neutral.

**Table 13:** Effects of Set aside on Land Management in Schleswig-Holstein (estimated by the interviewers)

	Negative effects	Neutral effects	Positive effects
Share of farms (total: 30 farms)	10 %	63 %	27 %

Since set aside without vegetation cover was not allowed, and also irrigation of land was only applied in few individual cases,<sup>40</sup> erosion problems in the course of set aside did not occur in Schleswig-Holstein.

<sup>39</sup> See Ministerium für ländliche Räume, Landesplanung, Landwirtschaft und Tourismus des Landes Schleswig-Holstein: Agrarreport Schleswig-Holstein 2000, part II, p.31; Statistisches Jahrbuch für die Bundesrepublik Deutschland 1999.

<sup>40</sup> 1999 only 2 of the 30 farmers irrigated 9 ha UAA in total.

The quality of the soil could be improved by the high share of rotational set aside and the use of specific seed compounds. On the other hand, negative effects resulted from increased livestock densities per ha and narrowed crop rotations in (only) three farms.

Only two out of the 30 interviewed farms participated in agro-environmental programmes for grassland. Specific environmental measures for arable areas were not applied.

**Q 4.4.2: Did the adoption of set aside have a significant impact on the improvement of water management ?**

**Synthetic Answer:**

*Water protection was hardly affected by the set aside programme (neutral: 73 %). As far as an improvement of water protection was achieved (23 %), it is a result of national/regional regulations.*

**Details of the Answer:**

Comprehensive rules for water protection exist nationally. They must also be observed on set aside areas. Therefore, the effects of set aside on water quality were rather small. This is in particular true for areas with non-food-production.

According to the interviewed farms, in 73 % of the cases no effects between set aside and water quality respectively water management could be noticed by the interviewers. Not any of the 30 interviewed farmers participated in water-protection programmes. The improvement of water management, as indicated in table 14, corresponds mainly with the cultivation of soil improving plants.

**Table 14:** Effects of Set aside on Water Management in Schleswig-Holstein (estimated by the interviewers)

	Negative effects	Neutral effects	Positive effects
Share of farms (total: 30 farms)	3.3 %	73.3 %	23.3 %

An endangering of water quality is - above other influences - linked with the management and intensity of fertilizing and plant protection.<sup>41</sup> As explained in Q 433, a slight intensification of cultivation on the remaining areas might be assumed, whereas those means were not applied on set aside areas. Considering that

- yield increasing means today are applied more specifically and economically due to the changed price situation,<sup>42</sup>
  - plant-protection means have been improved under ecological aspects,
- on average no degradation of water quality resulted from the use of those inputs during the set aside programme.

The irrigation of set aside areas was not practised in Schleswig-Holstein. As far as the remaining areas were irrigated, its management was not modified by the set aside scheme.

<sup>41</sup> On national level, the real input of those yield-increasing means decreased significantly immediately after the CAP-reform (1992 – 1994). It raised again after 1994, but not up to the previous amount. See figures 21 and 22 in Annex 5.

<sup>42</sup> Information given from representatives of the regional agricultural administration and the farm account service of Schleswig-Holstein.

**Q. 4.4.3: Did the adoption of set aside have a significant impact on the improvement of landscape management?**

**Synthetic Answer:**

*The landscape was hardly modified negatively by the rotational set aside with non-food-production. Nevertheless 13 farmers expressed the opinion that the set aside areas provide a specific picture within the landscape. However, this was not estimated as a negative change. On average, 154 € per ha were spent for the maintenance of set aside areas without non-food production, at the estimation of the farmers.*

**Details of the Answer:**

According to appraisal of the interviewers, land set aside hardly had effects on the landscape (see table 15). The rotational set aside which is primarily applied (96 % of area) hardly leads to a perceptible change in the landscape. Just in one single enterprise a negative effect was noticed due to a non professional soil management (longer set aside without suitable soil management).

**Table 15:** Effects of Set aside on the Landscape (estimated by the interviewed Farmers)

	Negative effects	Neutral effects
Share of farms (total: 30 farms)	3.3 %	96.7%

10 % of the interviewed farmers noticed, that according to their own appraisal the condition of the set-aside areas changed slightly. 13 farmers believed, that the set aside areas can be distinguished from the surrounding areas. Out of these 12 farmers said that a particular subspace has been established due to set aside. In three cases the set aside areas were concentrated in a specific part of the farm.

To maintain the set aside areas, farmers applied different cultivation techniques: cultivation with non-food crops (between 10 and 27 %), sowing of specific seeds, natural regrazing; Correspondly, the maintenance expenses for the areas differed considerably, not at least depending on soil conditions (amount of growth). The non-food production excepted, 22 interviewed farmers estimated the cost for land planting and related intercultivation measures at about 154 €/ha on average, with a range from 25 €/ha (natural regrazing) up to 600 €/ha (specific seeds). It was not possible to verify these statements.

**Q. 4.4.4: Did the adoption of set aside have a significant impact on the bio-diversity maintenance?**

**Synthetic Answer:**

*From an agronomical point of view, negative effects on species diversity were not to be recognized. The rather late cultivation of the areas (without non-food crops) facilitated the evolution of fauna and flora in general. Higher ecological effects were hardly to achieve due to the large extent of rotational set aside.*

*Nevertheless, from an ecological point of view set aside in its present form is to be criticised. One of the main reasons is that the cultivation of plots during set aside lacks clear location oriented stipulations. The ecological effects of the set aside programme could still be improved by co-operation agreements between farmers and (indirect) users of set aside areas (hunters, beekeepers, environmental associations).*

### Details of the Answer:

The analysis of environmental impacts of set aside should distinguish between the appraisal of farmers and the appraisal of environmental associations and experts.

The farm managers almost found no effects. Provided that no non-food crops were cultivated, an increase in weed infestation was noticed (3 farms). The increase of plant parasites and crop diseases was classified as insignificant. In the end no negative modification in bio-diversity could be noticed. On the contrary, two of the interviewed farmers sowed specific seed compounds for the benefit of game and bees.

At the appraisal of the environmental administration, an improvement of bio-diversity could not be obtained, because farmers chose in their vast majority rotational set aside, and disturbed by cultivating these areas the development of bio-diversity. An improvement of bio-diversity can only be expected, if areas are taken from production at least for several years. Accordingly good experiences were made with a particular regional programme aiming at set aside of edges of existing biotops, water courses, humid areas, wood etc. for 5 years or with co-operations between hunters and beekeepers. Obviously the farmers acceptance of a long-term set aside for environmental purposes decreased, as they fear that those areas at the end of the programme can not be taken into production again because of regional nature conservation regulations.<sup>43</sup>

At their own appraisal, the interviewed farmers chose the following type of cultivation of their set aside areas (without non-food production):

- Land Planting :
  - 40 % sowed seeds for agronomical reasons ;
  - 7 % sowed seeds for other purposes (e.g. to the benefit of bees or game);
  - 33 % applied natural regrazing.
- Management of set aside areas (22 farms):
  - 100 % mowed the growth of the set aside plots.

The majority of operations on set aside areas were realized in July (see table 16). At the statements of the farmers, the first mowing was operated in July so as to respect particularly the breeding time of broodings on meadow and young mammals (e.g. deer, hares).

**Table 16:** Time of operation on set aside areas in Schleswig-Holstein (multiple responses)

	April	May	June	July	August	September	October
Number of Farms	0	0	0	15	3	2	0
Share of farms (total: 19)				79 %	16 %	10.5 %	

<sup>43</sup> See: Ministerium für Umwelt, Natur und Forsten des Landes Schleswig-Holstein, Ref. Naturschutz (Frau Jansson), June 2001 (personal information).

### **Element of Answers for Questions 451 to 452**

#### **Questions relating to the Complexity of Regulation and of its Setting in Place**

The following questions were answered in the German national report more in detail.

**Q. 4.5.1      What effects did numerous regulatory adaptations and the existence of numerous individual cases have on the effectiveness of the set aside instrument?**

**Q. 4.5.2      What effects did national or regional application legislations have on the effectiveness of the set aside instrument?**

57 % of the interviewed farmers stated that the actually realized set aside measure forms an essential part of the CAP. However, only 10 % of the farmers agreed generally with the Common Agricultural Policy. This proportion was slightly higher in the larger farms (14 %) than in the smaller ones (9 %).

As typical administrative problems were mentioned by the farmers:

- Measurement of the set aside plots (7 %);
- Starting time and end time of set aside (3 %);
- Laborious and/or complicated administrative procedures (17 %);
- Too late payments (13 %).

Asked about improvements of the set aside policy, the 30 farmers gave the following recommendations:

- Less bureaucracy;
- Abolition of minimum size for set aside areas and minimum yields for non-food-crops;
- More flexible administrative procedures;
- Set aside on a voluntary base only;
- Simplification of set aside controls;
- Amount of premia according to the size of plots;
- Standardization of data about seize of plots in land register and GPS-databases;
- Punctual/earlier payments;
- Solution for problems with the spread of liquid manure in farms with intensive animal husbandry;
- Prevention that the premia raise the rents.