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COMMISSION OF THE EUROPEAN COMMUNITIES

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**REPORT FROM THE COMMISSION TO THE COUNCIL**

**on the dried fodder sector**

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### 1. INTRODUCTION

According to Article 184(1) of Council Regulation (EC) No 1234/2007 (which took over the obligation provided for in Article 23 of Regulation (EC) No 1786/2003 on the common organisation of the market in dried fodder), the Commission shall, before 30 September 2008, on the basis of an evaluation of the common market organisation for dried fodder, present a report to the Council on this sector. The report shall deal in particular with the development of areas of leguminous and other green fodder, the production of dried fodder and the savings of fossil fuels achieved, and shall be accompanied, if needed, by appropriate proposals.

For this report, the Commission took into account an external evaluation report on the dried fodder sector<sup>1</sup>.

### 2. DESCRIPTION OF THE SUPPORT SCHEME

#### 2.1. Background

Council Regulation (EEC) No 1067/74 established the common market organisation (CMO) for dried fodder from 1 April 1974, with the aim of increasing the domestic supply of protein-rich animal feed. A uniform level of aid was introduced, with the marketing year starting on 1 April and ending on 31 March each year. To qualify for aid the dried fodder produced had to meet quality standards as regards moisture and protein content.

Following a review in 1978, Council Regulation (EEC) No 1117/78 was adopted. In this regulation, a guide price was set to guarantee producers a fair return. As sun-dried fodder was also subject to competition from animal feed from third countries, an aid was introduced for sun-dried fodder but at a lower level than dehydrated fodder.

Production rose steadily throughout the 1980s. This resulted in increases in total expenditure which could not be controlled, as no limit had been placed on the quantities for which aid would be paid. So, in 1995, in order to limit costs and influence the levels of EU production Council Regulation (EC) No 603/95 was adopted. A Maximum Guaranteed Quantity (MGQ) of 4 412 400 tonnes for dehydrated and 443 500 tonnes for sun-dried fodder was introduced.

Further adaptations to the scheme were made by the reform of 2003, as laid down in Council Regulation (EC) No 1786/2003.

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<sup>1</sup> "Etude d'évaluation des mesures communautaires dans le secteur des fourrages séchés", ANDI, COGEA, Univ. Lleida, DACS, September 2007  
[http://ec.europa.eu/agriculture/eval/reports/fourrage/index\\_fr.htm](http://ec.europa.eu/agriculture/eval/reports/fourrage/index_fr.htm)

## **2.2. Current support scheme**

Since 1 April 2008 the current CMO for dried fodder is set out in Council Regulation (EC) No 1234/2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation). Regulation (EC) No 1234/2007 has taken over the former Council Regulation (EC) No 1786/2003 which established CMO for dried fodder following 2003 reform and was implemented as from 2005. Aid of €33 per tonne for both dehydrated and sun-dried fodder is granted to processors. To control expenditure, a MGQ of 4 960 723 tonnes per marketing year for dehydrated and/or sun-dried fodder is imposed, divided among the Member States. If the MGQ is exceeded, aid for the Member State(s) concerned is reduced as a function of the excess.

In order to be eligible, the dried fodder must satisfy quality criteria as to its moisture and protein content.

Following the 2003 reform the annual budget for the dried fodder processing aid was reduced to EUR 163 million [ $\text{€}33 \times 4.96$  million tonnes (MGQ)], from its pre-reform level of around EUR 300 million. Actual expenditure amounted to EUR 152 million in the 2005/2006 marketing year and EUR 143 million in the 2006/2007 marketing year. This under-use of the budget can be attributed to the reduction of aid to €33/t, which led to a lower quantity being produced.

As from 2005, EUR 133 million of the processing aid budget for dried fodder was decoupled and integrated into the Single Payment Scheme, with entitlements awarded to growers, proportionate to their supply of fodder to processors during the 2000–2002 reference period.

With an average market value of €10 per tonne, the EU's production of 4.5 million tonnes has a total market value of €495 million. The level of aid (EUR 143 million in 2006/2007) represents about 30% of the value of the marketed production (EUR 495 million).

Looking at the breakdown of expenditure per Member State, aid is mainly used in Spain, France and Italy. These three Member States absorbed 86% of the 2006/2007 budget. Germany, the Netherlands, Denmark and the United Kingdom between them take up 10.5% of the budget. In the new Member States the dried fodder sector is small: in 2006 the EU-10 took up only 1.6% of the budget.

The complexity of the support scheme for dried fodder creates a considerable administrative burden for the public and private sectors in the Member States. Estimates of the financial costs for administration vary between Member States, from €0.63/t in France to €4.42/t in Italy.

## **2.3. Evolution of eligibility requirements**

From 1974 to 1999 the successive implementing rules of the Commission fixed temperature at the entry point of drier at 93°C.

Commission Regulation (EC) No 676/1999, amending Commission Regulation (EC) No 785/95 laying down detailed rules for the application of Council Regulation (EC) No 603/95 on the CMO in dried fodder, introduced a minimum temperature of 350° C at the entry point of the drier, to guarantee the industrial character of the products. This high temperature requirement constituted an effective technical barrier (and a barrier for new

processors). It also slowed down the development of pre-hay techniques and the use of biomass to fuel driers.

Following the 2003 reform Commission Regulation (EC) No 382/2005 laying down detailed rules for the application of Council Regulation (EC) No 1786/2003 reduced the minimum temperature of driers to 250° C to encourage less energy-intensive methods and to boost the use of less wet green fodder. The lower temperature has led to an increase in the use of pre-hay techniques and enabled the use of biomass, whose calorific power could not attain 350°.

Recently, in order to widen the scope for new commercial applications and facilitate the development of more efficient and environmentally-sound manufacturing methods, Commission Regulation (EC) No 382/2005, as amended by Regulation (EC) No 1388/2007, removed the technical requirements for driers in respect of the dehydration of fresh fodder (air temperature at the entry point, residence time and bed depth of each layer).

### **3. STRUCTURE OF THE DRIED FODDER SECTOR**

#### **3.1. Surface**

In the EU, green fodder represents approximately half the quantity of all animal feed consumed. It is either grazed directly or derived by cutting and conserving permanent or temporary grassland and pasture and annual or multi-annual crops (lucerne, clover, maize for silage, etc.).

In the eight main producing countries (Spain, France, Italy, the Netherlands, Denmark, the Czech Republic, United Kingdom and Germany), which account for 96% of the Maximum Guaranteed Quantity, the area under contract for dried fodder in the 2005/2006 marketing year was 430 400 ha, or only 1% of the EU's total green fodder area. Of this, 80% or 344 400 hectares are planted with lucerne (specifically in France, Spain and Italy), and 86 000 hectares are grassland (mainly in Germany, Denmark and the Netherlands). This represents, respectively, 24% of the EU's total lucerne area and 0.24% of the total grassland area.

Although reliable data on the area under contract for production of dried fodder is not available for recent years, it is estimated that this area decreased to around 415 000 ha in 2007/08 (a reduction of 3,5% compared to 2005/06). In contrast, the total area of lucerne (leguminous fodder) in the EU has remained constant, whereas total grassland area in 2006/07 has increased by 2%, compared to 2005/06.

#### **3.2. Production**

The three major producers (France, Spain and Italy) are responsible for 85% of EU-27 production supported by the CMO. Two thirds of EU production is concentrated in three particular areas of these Member States: Champagne-Ardenne (80% of French production), Aragon and Catalonia (75% of Spanish production), and Emilia Romagna and Venezia (75% of Italian production). For these main producing countries the area under contract for dried fodder in the 2005/2006 marketing year was chiefly planted with lucerne (98% in France, 97% in Spain and 75% in Italy). In the northern countries, on the other hand, the area under contract for dried fodder is mainly made up of grassland (93% in Germany, 80% in Denmark and 64% in the Netherlands). At EU level, 80% of the area under contract for dried fodder is planted with lucerne.

In the eight main producing countries<sup>2</sup>, around 60 000 farmers grow green fodder under contract for processing aid. There are also 300 processing plants, one third of which are in Spain.

Direct employment in the processing sector in the EU-27 is estimated at 3 000 FTE (full-time equivalents) and indirect employment at 1 500 FTE.

### **3.3. Place of dried fodder in the feed industry**

The 4 439 000 tonnes of dried fodder eligible for EU support in the 2007/2008 marketing year is equivalent to about 700 000 tonnes of crude protein and represents about 1% of the total crude protein consumed by EU livestock.

About 30% of the dried fodder is used by the compound feed industry and the remaining 70% is consumed directly by animals. It is estimated that half the direct consumption is in the form of pellets, the other half as long bales.

An estimated 20% of dried fodder demand results from its specific quality (e.g. for the dairy and rabbit sectors), whereas the remaining 80% serves as a source of protein and fibre and could be substituted by other protein and fibre sources. Consequently, dried fodder needs to be offered at a competitive price compared with other protein sources, such as soybean, sunflower and rapeseed meal.

### **3.4. Drying Technology (dehydration / sun-dried fodder)**

Two types of procedure for drying green fodder benefit from aid under the common market organisation (CMO): dehydration and sun-drying.

#### *3.4.1. Dehydrated fodder*

Dehydration, a high-temperature drying process, is the dominant industrial method used by undertakings supported by the CMO. The technique consists of injecting air at 250–900°C into a drier through which green fodder passes. The hot air ensures very rapid drying, which makes it possible to preserve the protein, energy value and colour of the fodder.

The initial humidity rate of plants can vary widely, depending on pre-treatment techniques after harvest and according to region: it can be lower than 40%, if fodder remains on the ground for a few hours after cutting (Spain, Italy), and can reach more than 75% in the northern regions of Europe where such pre-drying is not possible on account of weather conditions (Denmark, Sweden).

Before the 2003 reform, eligible dehydrated fodder was limited to a Maximum Guaranteed Quantity per marketing year of 4 517 223 tonnes.

Production trends at national level are very divergent: Spain and Italy have seen a strong increase in dehydrated fodder while other Member States like France, the Netherlands and Germany have seen a decrease.

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<sup>2</sup> Spain, France, Italy, Germany, the Netherlands, Denmark, United Kingdom and Czech Republic.

### 3.4.2. Sun-dried fodder

Fodder has traditionally been sun-dried on the field. The hay created in this way is then conditioned and stored. In order to be eligible for aid, sun-dried fodder must be milled in a processing plant. This technique has not been an alternative to dehydration because of an alleged loss of quality in the finished product: lower protein rate (loss of leaf on the field), lower vitamin and mineral content and poorer sanitary quality due to lower drying temperature.

Before the 2003 reform, eligible sun-dried fodder was limited to a Maximum Guaranteed Quantity (MGQ) per marketing year of 443 500 tonnes. Only five Member States benefited from the Guaranteed National Quantity (GNQ) for sun-dried fodder. Italy and Spain are the only Member States that still have a significant level of production. The other Member States have a low level of production (France and Portugal) or have now ceased production altogether (Greece).

## 4. IMPACT OF PROCESSING AID

### 4.1. Impact on production

The evolution of dried fodder production in the EU-15 shows a progressive increase of 2% per year in the period 1995–2005. As a result of the 2003 reform, implemented in 2005, the eligible production of dehydrated fodder in the EU fell by about 17% in the 2005/2006 marketing year and by some 23% in the 2006/2007 marketing year, relative to the 2004/2005 marketing year (see Annex).

In 2006/2007 and 2007/2008 dried fodder production stabilised at about 4.45 million tonnes, of which 3.9 million tonnes is dehydrated and 0.55 million tonnes sun-dried.

The 2003 reform has not resulted in a significant switch from dehydrated to sun-dried production.

### 4.2. Impact on farmers

An improvement in income was identified as a result of the 2003 reform, because part of the former processing aid was transformed into a decoupled payment to farmers. But as regards profitability, the gross margin of green fodder fell, due to a reduction in the producers' selling price in the 2005/2006 marketing year compared with the 2004/2005 marketing year.

However, it is very difficult to establish average figures that accurately reflect the profitability of green fodder, because of the variety of production and marketing systems used.

With regard to farm management, the evaluation also shows that farmers increasingly outsource sowing and harvesting and other production activities to the processing industry. It is worth noting that the *AND International* evaluation shows that crops following lucerne in rotations profit from its positive agronomic characteristics, which leads to these crops achieving higher returns.

### **4.3. Impact on processors**

The supply of raw material to the industry depends on processors being able to offer producers a price for the raw product that gives a competitive gross margin in comparison with other crops (cereals and oilseeds). Considering the market price levels of the final product, as well as processing costs, competitive prices for the raw material (lucerne, grass) are highly dependent on Community aid.

The competitive position of dried fodder *vis-à-vis* other types of protein sources depends largely on energy costs. Consequently, the situation differs substantially between the northern regions of the EU, where processors face high drying costs, and the southern regions, where lucerne can be pre-dried in the sun to reduce drying costs.

Taking into account the importance of aid in the industry's total receipts, most processors, mainly in the northern regions, would close down and the related employment would be lost if the scheme were to be abolished.

### **4.4. Impact on the environment**

#### *4.4.1. Soil and water*

Lucerne is particularly appreciated in rotations to avoid the monoculture of cereals and is considered more positive for the environment than alternative crops (mainly maize, and to a lesser extent wheat), because of its benefits for soil, water, biodiversity and landscape.

Lucerne improves soil structure, develops a deep root system, is a multi-annual land cover, suffocates weeds, limits eluviations and reduces pesticide use. The capacity of leguminous crops to fix nitrogen from the air results in lower use of nitrogen fertilizer. Soil losses from erosion are much less than for maize.

Green fodder captures water more efficiently than alternative crops; there is less run-off from rain and the soil has a better water retention capacity. As a consequence of low inputs and permanent cover, lucerne has a positive effect on water quality. In the event of irrigation, lucerne needs 17% more water per year than maize, but this requirement is distributed over the year more equally, which avoids summer peaks.

Multi-annual implantation, reduction of monoculture and diversification of habitats are all regarded as positive for biodiversity and landscape.

#### *4.4.2. Fossil fuel consumption*

The quantity of fossil fuel used for drying fodder is considerable. The CMO allows high energy consumption by the industry, mainly from the combustion of fossil fuels, which results in heavy greenhouse gas emissions.

For the 2004/2005 marketing year, which is the last marketing year before the application of the 2003 reform, energy consumption by processors in the eight main producing countries represented approximately 526 000 tep (tonnes equivalent petroleum) – 90% from fossil fuels.

From the 2005/2006 marketing year, there has been a fall in the production of dehydrated fodder and, therefore, a fall in fuel consumption. From the 2004/2005 to the 2006/2007



marketing year, this reduction is estimated at more than 127 000 tep, of which fossil fuels account for 114 500 tep.

Energy consumption (8 main countries)						
Member State	2004/2005 <sup>(1)</sup>		2005/2006 <sup>(1)</sup>		2006/2007 <sup>(2)</sup>	
	Dried fodder (million t)	tep	Dried fodder (million t)	tep	Dried fodder (million t)	tep
Germany	0,327	84 086	0,272	68 648	0,239	54 186
Denmark	0,143	31 324	0,097	21 248	0,077	11 928
Spain	2,166	90 766	1,793	62 755	1,793	60 440
France	1,175	195 833	1,163	193 833	1,004	205 669
Italy	0,779	64 175	0,500	41 310	0,418	21 985
Netherlands	0,194	45 267	0,182	42 467	0,138	33 591
United Kingdom	0,047	9 182	0,048	9 383	0,041	7 655
Czech Republic	0,033	5 186	0,021	5 250	0,027	3 139
<b>Total</b>	<b>4,864</b>	<b>525 819</b>	<b>4,076</b>	<b>444 894</b>	<b>3,737</b>	<b>398 593</b>
<b>tep/t dried fodder</b>		<b>0,1081</b>		<b>0,1091</b>		<b>0,1067</b>

Source: <sup>(1)</sup> AND International, <sup>(2)</sup> DG AGRI.

The "tep/t dried fodder" ratio seems to have remained constant over the period from 2004/2005 to 2006/2007. This implies that per tonne of dried fodder no significant saving of energy as a result of improved technology was made. Also the lowering of the minimum drying temperature seems to have had no effect on energy consumption per tonne of dried fodder. The reduction of total fuel consumption is directly linked to the fall in production of dehydrated fodder. Spain and Italy show the best ratio, but they benefit from weather conditions. The Netherlands, Germany and France use more fuel per tonne of dried fodder owing to less favourable weather conditions. Finally, the UK and Denmark seem to use more sustainable technology to produce dried fodder.

#### 4.4.3. GreenHouse Gas (GHG) emissions

The drying industry's energy use has significant effects as regards consumption of fossil fuel resources and emissions of GHG. As well as the environmental impact of using non-renewable resources, various pollutant gases and dust are released by the combustion of these fuels. In the 2004/2005 marketing year, the overall quantity of GHG released as a result of the combustion of fossil fuels by dehydration undertakings in the EU amounted to 1 622 000 tonnes equivalent CO<sub>2</sub>.

The reduction in dried fodder production following the 2003 CMO reform has resulted in a saving of more than 80 000 tonnes of fuel. In the 2005/2006 marketing year this was equal to a reduction of about 250 000 te CO<sub>2</sub> GHG emissions, approximately 15% down on the total emissions in the previous marketing year.

#### 4.5. Impact on the animal feed market

Support for dried fodder has had a limited impact on EU production of protein for animal feed. In the 2005/2006 marketing year, it represented about 1% of the total crude protein consumed by EU livestock. One could remind that drying fodder is merely a means of preserving the protein content.

As only 25% of lucerne production is contracted for producing dried fodder, abolition of the scheme would not result in the complete disappearance of the crop.

Soybean meal remains the primary source of protein for the EU animal feed market, representing more than 60% of vegetable protein. Soybean meal has a higher protein content (between 40% and 45%) than the alternatives. For soybean meal, the EU depends mainly on imports: indeed, domestic soybean production represents only 2% of the EU consumption.

The second source of protein is rapeseed meal, which has a slightly lower protein content (between 30% and 35%) and which is essentially produced in Europe.

As 80% of the demand for dried fodder could be replaced by other sources of protein, mainly imported, the EU support scheme is not considered efficient.

#### 5. CONCLUDING REMARKS

	Current scheme advantages	Current scheme disadvantages
<b>Producer</b>	Competitive prices for raw material	Raw material price dependent on Community aid
<b>Industry</b>	Maintenance of employment (approximately 4 500 jobs) Aid = 22% of total receipts	The viability of most of the industry is dependent on EU support
<b>Consumer (livestock owner)</b>	Competitive prices for dried fodder	80% of the demand for dried fodder could be replaced by other protein sources
<b>Environment</b>	At farm level: positive effects on <ul style="list-style-type: none"> <li>– soil</li> <li>– quality of water</li> <li>– biodiversity.</li> </ul>	At global level: negative effects on <ul style="list-style-type: none"> <li>– fossil fuel net balance (526 000 tep/year in 2004/2005)</li> <li>– GHG emissions net balance (1 622 000 te CO<sub>2</sub> in 2004/2005).</li> </ul>

On the feed market, dried fodder is already of limited importance as a source of plant protein. Developments on the feed market, with increasing feed efficiency, slower growth in meat production and the availability of cheap protein-rich by-products from biofuel production further contribute to the marginalisation of dried fodder.

The profitability of the sector is strongly reliant on aid. The added value of the dried fodder sector represents 22% of total receipts, which roughly equals the EU aid budget.

As regards environmental concerns, fossil fuel consumption for producing dried fodder is considerable and results in substantial greenhouse gas emissions.

On 20 May 2008, the Commission adopted legislative proposals on the Health Check of the CAP [COM(2008) 306 final], envisaging among other things the full decoupling of aid for the dried fodder sector as from 1 April 2011 [Article 8(c) of the proposal for a Council Regulation on modifications to the common agricultural policy by amending Regulations (EC) No 320/2006, (EC) No 1234/2007, (EC) No 3/2008 and (EC) No [...] /2008]. As stated in its recital (15) *"the aid should be decoupled although a short transitional period of two years should be provided for to allow the sector to adjust"*.

Therefore, it is not necessary to accompany this report by any separate proposals.

## ANNEX

### EVOLUTION OF ELIGIBLE DRIED FODDER PRODUCTION (tonnes)

Dehydrated	GNQ	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
BLEU	8 000	4 043	4 329	4252	2786	1 941	1 740	1 088	1 596	2 743	3 551	0	0
Denmark	334 000	270 695	206 784	224 637	266 204	186 339	168 062	147 136	147 337	124 316	142 690	91 580	76 862
Germany	421 000	342 663	300 088	307 729	320 637	333 899	356 535	334 324	348 011	250 821	327 449	274 287	239 365
Greece	32 000	46 288	30 026	38 345	46 195	51 550	43 637	51 160	57 833	48 823	49 611	49 475	34 668
Spain	1 224 000	1 261 548	1 413 616	1 571 256	1 667 746	1 769 309	1 954 585	1 812 214	1 882 314	2 058 269	2 165 614	1 793 801	1 792 986
France	1 455 000	1 307 201	1 090 997	1 263 874	1 346 364	1 303 912	1 224 880	1 166 802	1 093 974	1 193 269	1 175 125	1 156 929	1 003 591
Ireland	5 000	4 677	5 859	6 288	5 458	4 941	4 737	4 908	4 338	4 953	4 546	3 974	4 002
Italy	523 000	526 344	498 540	561 078	637 826	674 152	676 847	658 562	715 757	661 845	778 513	474 112	418 327
Netherlands	285 000	220 783	176 387	209 514	223 312	193 883	214 347	181 067	203 311	169 889	194 215	177 697	137 576
Austria	4 400	2 221	1 959	2 132	1 847	1 978	2 057	1 997	2 688	1 292	1 794	2 087	1 783
Portugal	5 000	800	1 936	3 555	2 507	935	2 209	3 691	104	43	263	0	0
Finland	3 000	1 785	1 325	1 056	1 209	495	572	518	635	964	527	463	124
Sweden	11 000	9 493	7 146	5 286	6 615	6 476	6 004	7 506	8 659	8 075	6 196	4 440	6 443
United Kingdom	102 000	71 810	78 902	83 572	81 378	69 527	63 309	50 035	48 377	45 262	47 232	48 936	40 616
<b>TOTAL EU-15</b>	<b>4 412 400</b>	<b>4 070 351</b>	<b>3 817 894</b>	<b>4 282 574</b>	<b>4 610 084</b>	<b>4 599 337</b>	<b>4 719 521</b>	<b>4 421 008</b>	<b>4 514 934</b>	<b>4 570 564</b>	<b>4 897 326</b>	<b>4 077 782</b>	<b>3 756 342</b>
Czech Republic	27 942										27	32 522	27 264
Lithuania	650										1	509	856
Hungary	49 593										57	49 724	36 405
Poland	13 538										5	4 715	4 168
Slovakia	13 100										3	3 026	2 512
<b>TOTAL EU-12</b>	<b>104 823</b>										<b>92</b>	<b>90 495</b>	<b>71 204</b>
<b>TOTAL EU-27</b>	<b>4 517 223</b>										<b>4 897 418</b>	<b>4 168 277</b>	<b>3 827 547</b>

Sun-dried	GNQ	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Greece	5 500	2 550	1 630	114	0	0	0	0	0	0	0	0	205
Spain	101 000	40 716	36 628	52 582	92 814	84 726	108 250	226 792	104 955	117 837	95 197	119 465	119 256
France	150 000	165 830	86 048	14 478	3 725	2 513	2 742	4 368	2 585	2 212	2 675	3 157	3 087
Italy	162 000	190 146	124 520	86 724	53 462	72 920	90 018	74 187	107 352	91 733	66 787	325 130	395 741
Portugal	25 000	3 144	3 996	2 526	1 365	1 622	1 555	565	934	1 784	1 742	2 441	1 717
<b>TOTAL EU-27</b>	<b>443 500</b>	<b>402 386</b>	<b>252 823</b>	<b>156 424</b>	<b>151 366</b>	<b>161 781</b>	<b>202 565</b>	<b>305 912</b>	<b>215 826</b>	<b>213 566</b>	<b>166 401</b>	<b>450 193</b>	<b>520 006</b>