European hemp industry 2002: Cultivation, processing and product lines

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The data presented in the following are based on up-to-date market surveys conducted by the "European Industrial Hemp Association (EIHA)" between November 2001 and May 2002 as well as in the summer of 2003.
Within the European Union (EU), presently about 10 companies are engaged in the primary processing of hemp, plus another 5 to 10 such companies in Eastern Europe. While the traditional processing line, based on water retting and long fibre separation, also allowing for the production of spinnable fibre qualities, prevails in Eastern Europe, in the EU solely field retting and whole fibre processing are practised.
The leading primary hemp processors in Europe, most of them EIHA members, provided the survey basis for the following data on cultivation, production and product lines. These companies are:

Survey 2002	**Survey 2003**	**EIHA member**
AGRO-Dienst (DE)	AGRO-Dienst (DE)	yes
BaFa (DE)	BaFa (DE)	yes
Hemcore (UK)	Hemcore (UK)	yes
HempFlax (NL)	HempFlax (NL)	yes
Hempron (NL)	taken over by HempFlax (NL)	no (2002)
LCDA (FR)	LCDA (FR)	yes
Vernaro (DE)	taken over by HempFlax (NL)	no (2002)

The above-mentioned companies represent a market share of 80 to 90% in terms of hemp fibres produced in the EU, constituting a well representative basis for market information.

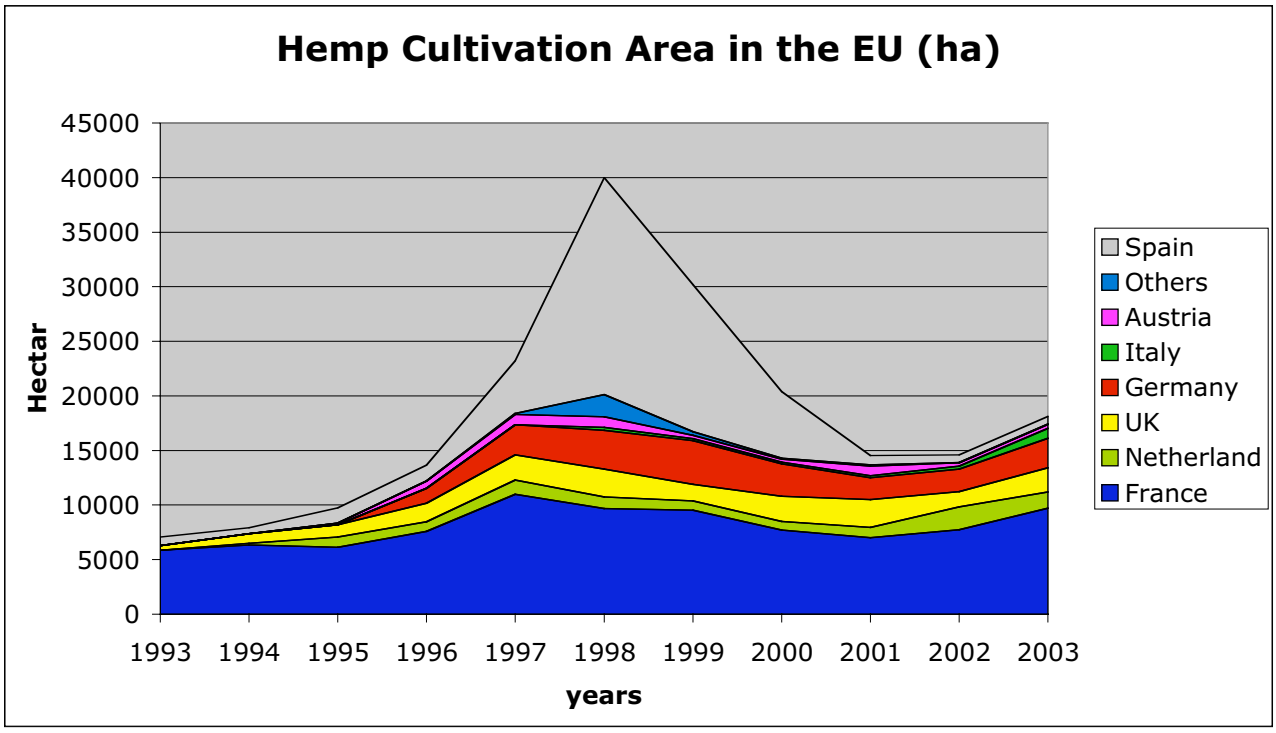
Cultivation & demand

In 2001 the companies listed in the chart had a total contract area of about 10,120 ha under hemp cultivation (= 70% of the total area under hemp cultivation in the EU), in 2002 there were about 10,380 ha (= 71% of the total area under hemp cultivation in the EU). In the current year (2003), the area under hemp cultivation in the EU has considerably increased (see diagram below).

In 2001 the area under cultivation was insufficient to meet the demand for industrial hemp fibres. The balance was supplied by the processing of hemp stalks and pre-decorticated fibres from previous years, which had been stockpiled due to insufficient demand in previous years. For the first time, the supply from present-year cultivation was exceeded by demand. It was due to the increasing establishment of hemp as an industrial fibre, relatively high flax fibre prices and the simultaneously decreasing EU subsidies which make hemp cultivation less attractive for farmers.

The companies mentioned started the year 2002 with largely depleted fibre stocks. Demand and supply from present-year cultivation came into balance again in 2002. The considerable extension of the area under cultivation in 2003 shows the further increasing demand for industrial hemp fibres – and also that even under more difficult economic conditions, farmers could be found.

The average yield of dry hemp stalks by the companies mentioned was about 6 t/ha in the cultivation years 2001 and 2002.



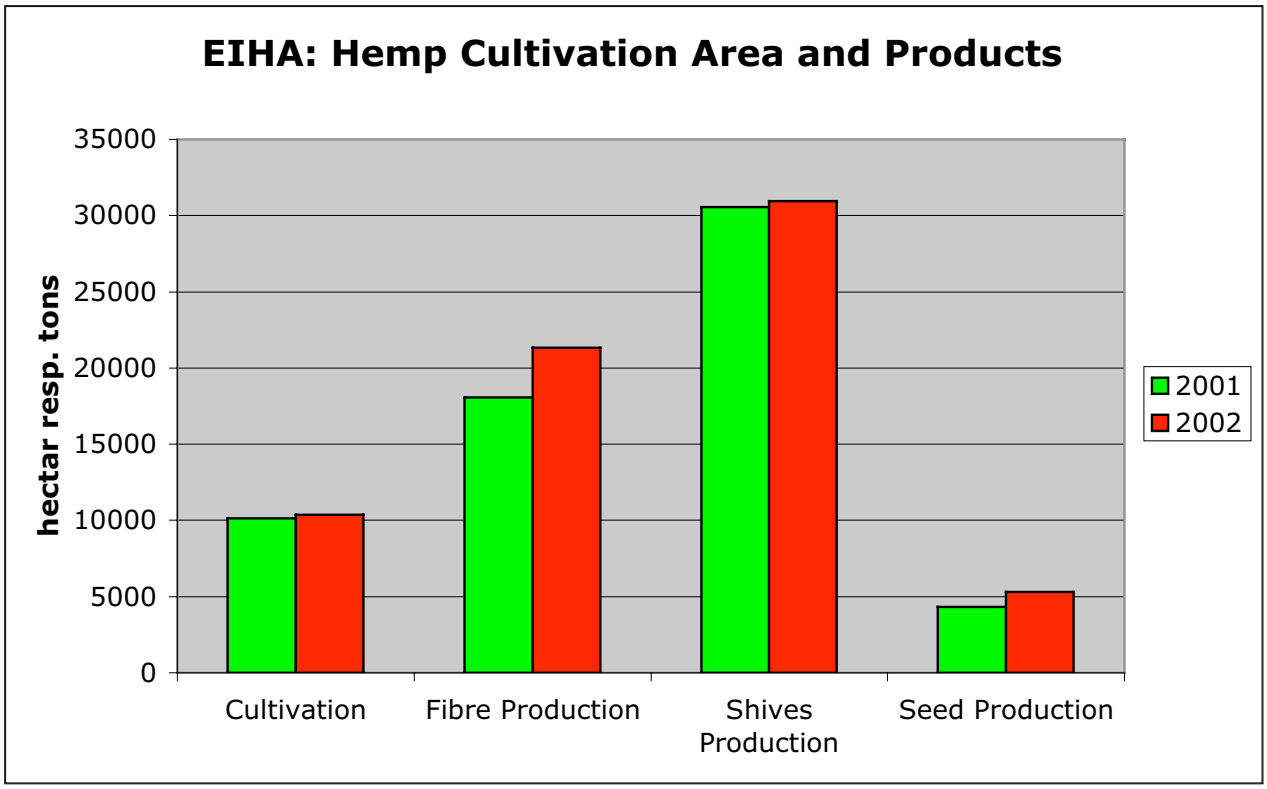
Source: EU, German Federal Ministry of Consumer Protection, Food and Agriculture 2003

Note: The areas under cultivation were dyed light-gray for Spain, as these were not about real fibre production. The received subsidies have already been payed back.

Production

The amount of EU-produced hemp fibres has continuously increased in recent years and should amount to more than 25,000 tonnes (t) per year for the year 2002 (world production is estimated at about 70,000 t). Combined, the companies mentioned have produced more than 18,000 t of hemp fibres in 2001 and more than 21,000 t in 2002, representing 80 to 90% of total EU production. About 31,000 t of hurds and more than 5,300 t of hemp seeds were produced by these seven companies as value-added by-products.

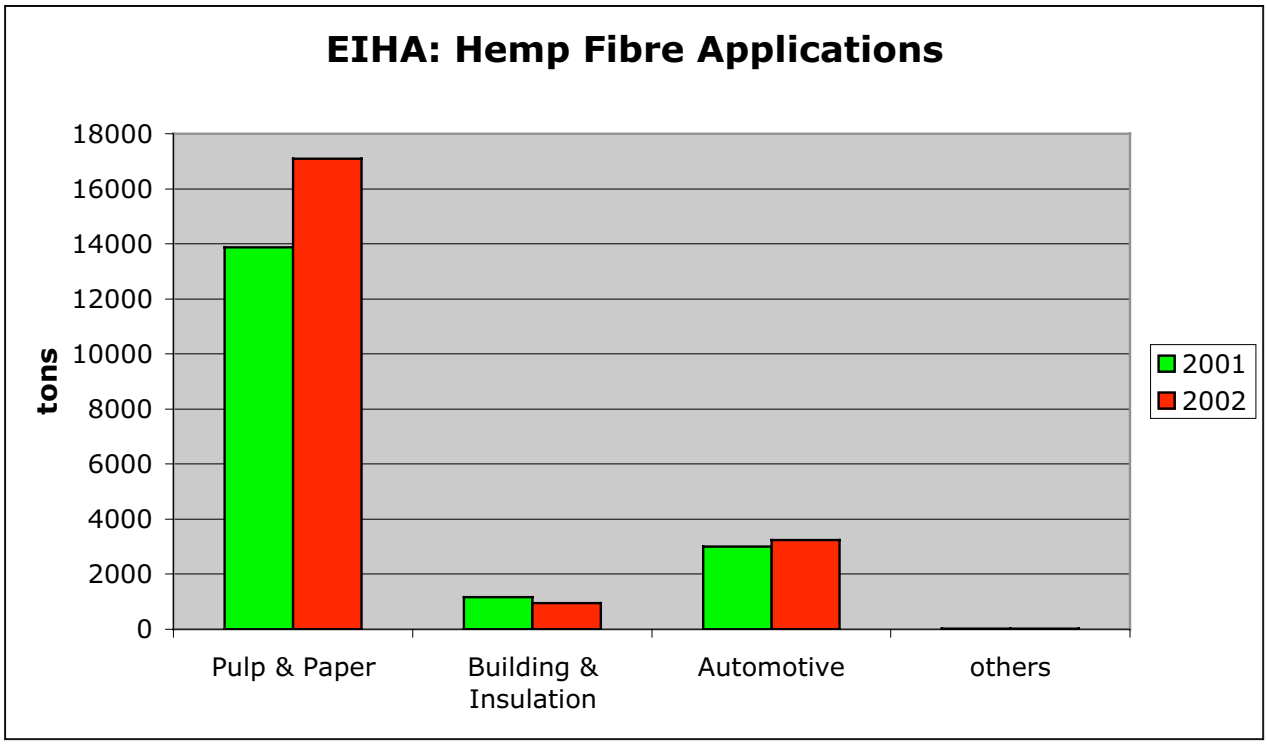
The following chart shows the cultivation areas and production amounts of the companies mentioned in the years 2001 and 2002.



Markets and product lines

Fibres

The most important markets for hemp fibres produced in the EU are listed in the following diagram:



Specialty pulp for cigarette papers and technical applications

With a share of 70 - 80% of the hemp fibre market, this traditional application still represents the by far most important product line. In absolute terms, demand has been largely constant, except for yearly fluctuation. However, its relative share has decreased noticeably (still 5 years ago, it was more than 95%). Without any significant technical progress and/or the development of new fields of application, little economic growth of this sector is to be expected. Only a small portion of hemp fibres used for pulping is traded in the open market, the majority enters process chains, integrated from raw material to end product. France continues to be the most important country for the use of hemp fibres in the specialty pulp sector.

Automotive industry

In 2002, the market share of hemp fibres used in this sector amounted to about 15% – compared to less than 1% in 1996. The automotive demand for hemp fibres has been increasing also in absolute numbers since 1996, setting a record of 3,300 t in 2002.

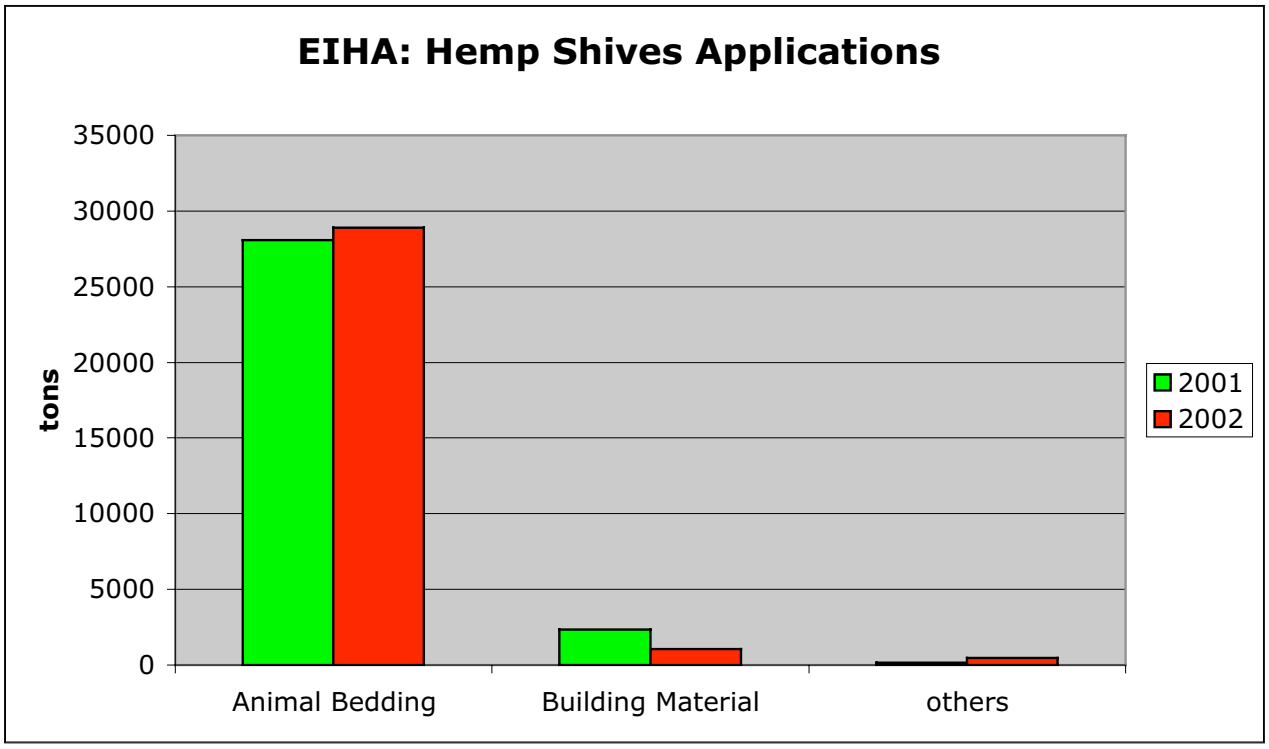
The use of thermoplastic and thermoset natural fibre press-moulded parts, e.g. as door panels or boot lining, has become standard for a large number of European models – typically 5 to 10 kg of natural fibres are used per vehicle. Approximately 25,000 t of natural fibres were used in the European automotive industry in 2002.
As a consequence of the establishment of new production techniques – particularly natural fibre PP injection moulding – this growth trend will continue in the coming years.
Also the EU end-of-life vehicle directive in its current form and interpretation will have no negative effect on the use of natural fibres in automobiles, as feared at first.

Construction sector (insulation mats)
In 2002, just under 5% of the EU hemp fibres were used in this application (2001: approx. 6.5%). Market participants expect a considerable increase in both absolute and relative numbers also for the years 2003 and 2004. In some countries the production of natural fibre-based insulation materials is just starting. Sales also depend on the general situation of the construction industry, which now shows inconsistent trends very inconsistently among EU countries. While the German construction industry faces a serious crisis, increasing construction activity is being observed in the UK. In Germany, a government supported market introduction program for natural fibre-based insulation mats has been started in 2003, causing noticeable sales impulses.

Other applications
Approx. 1% - they include agro- and geotextiles, mattresses, shoe lifts, fibres for animal nesting and many others. Traditional applications for hemp fibres, such as twine, textile yarns and fabrics do not play a role for EU-produced hemp fibre.

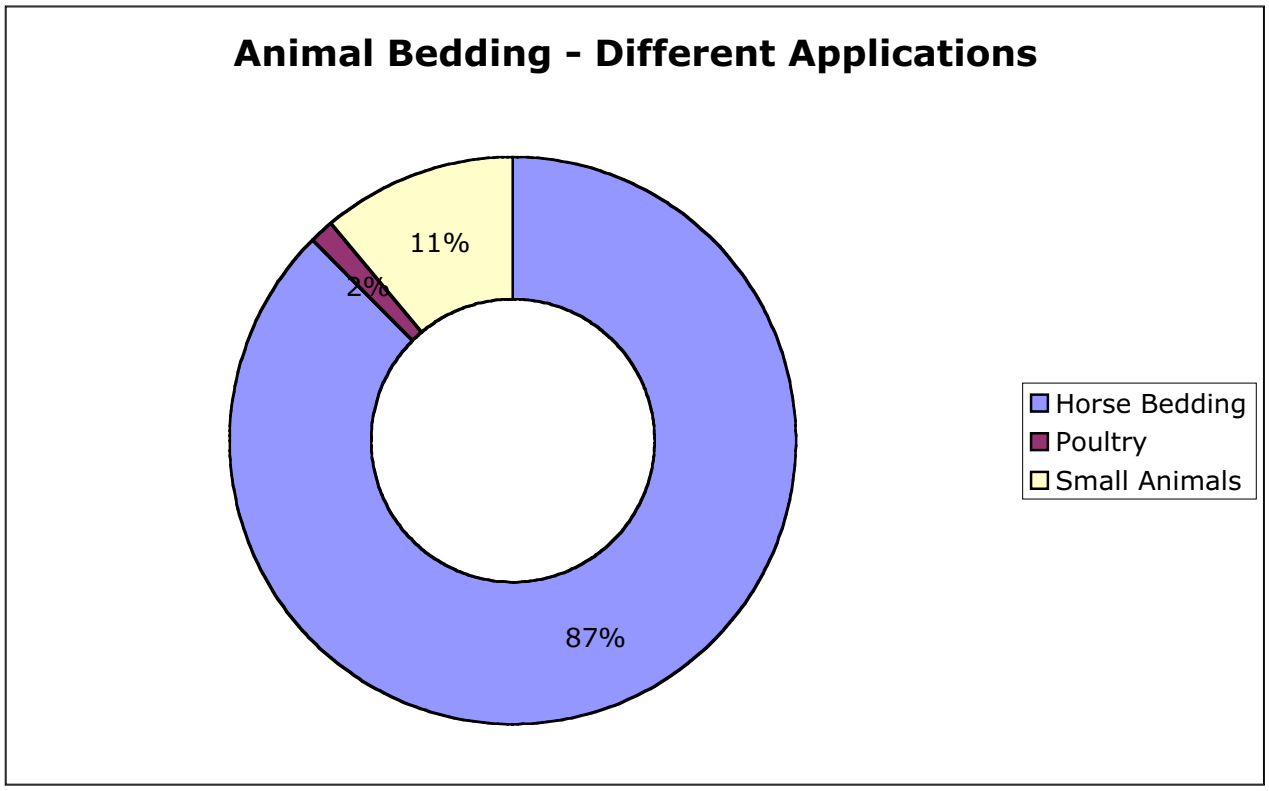
Hurds

During fibre separation, significant amounts of hurds are generated. Depending on the residual hurd content in the fibres, the hurds-to-fibre ratio varies from 1.5 to more than 2. The total EU production of hemp hurds was approximately 40,000 t. The most important product lines are:



Animal bedding

Approx. 95% of the hemp hurds are used as animal bedding, 87 % of which as horse bedding and only just under 13% are used for other animals. The use of hemp hurds became more and more established in the field of small animal beddings (11%), an application that has been professionally marketed only since 2001. Third comes the use as bedding for poultry farming (2%). See diagram on the next page.



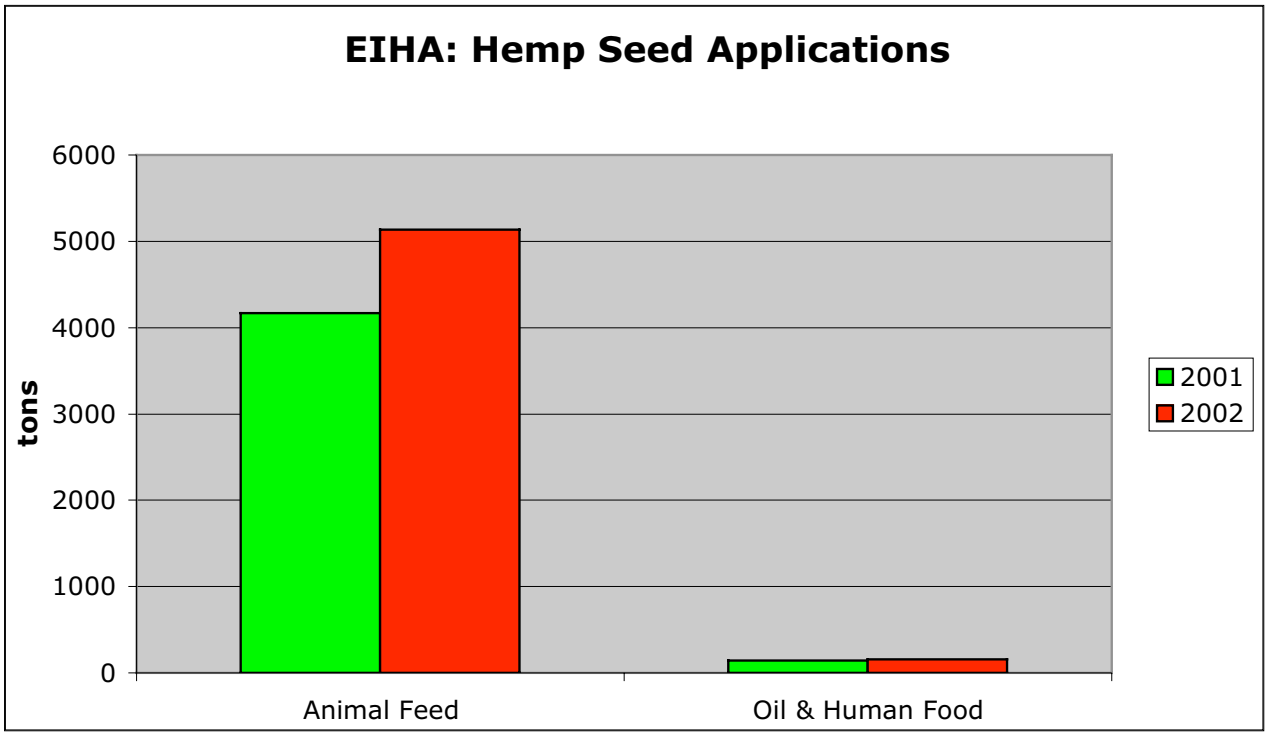
Hemp hurds do sell as animal bedding mainly because of their favourable properties: Good absorbency, easy handling and rapid composting after use. Overall, none of these markets indicate any short-term saturation.

Construction sector

Almost 5% of hemp hurds (2001: 8%) are used in the construction sector, as pour-in insulation, hurd board, or as additive to bricks or loam construction. This market also offers much undeveloped potential. The decrease from 2001 to 2002 was due to marketing problems which can be considered as overcome meanwhile. Hence, considerable growth rates are expected again for the year 2003.

Hemp seeds

An estimated total of just under 6,000 t/year of hemp seeds are produced in the EU, predominantly in its southern regions. 5,300 t were produced in 2002 by the hemp companies mentioned here.
The following diagram shows the most important sales markets:



Animal feed

More than 95% of the hemp seeds are sold for animal feed, mainly as bird seed, with smaller amounts used by anglers as bait. The attractiveness of this sector strongly depends on the dollar exchange rate and its impact on the competitiveness with imports from China.

Food & body care

The remaining just under 5% are used in the production of foods in the form of whole grains, as hulled hemp seeds and as hemp oil, smaller parts go into the body care and cosmetic sector as well. The sectors food and body care still represent very small niche markets with an above average growth. The expansion of this sectors mainly depends on adequate marketing activities, while the qualitative applicability of hemp seeds resp. oil is beyond all question.

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