

European hemp industry 2001: Cultivation, processing, and product lines

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The data presented here are based on market surveys conducted by the “European Industrial Hemp Association (EIHA)” between November 2001 and May 2002. In the European Union (EU), presently about 15 to 20 companies are engaged in the primary processing of hemp, in addition to 5 to 10 such companies in Eastern Europe. While the traditional processing line, including water retting and long fibre separation, which allows production of spinnable fibre, prevails in Eastern Europe, in the EU solely field retting and whole fibre processing are practised.

The seven leading primary hemp processors in Europe, most of them EIHA members, provided the data for the following survey on cultivation, production and product lines. These companies are Hemcore (UK), HempFlax (The Netherlands), Hempron (The Netherlands), LCDA (France), AGRO-Dienst (Germany), BaFa (Germany) and Vernaro (Germany); together, they represent a market share of 72 to 90 % in terms of fibre produced in the EU (see below) and constitute a representative basis for market information.

Cultivation and demand

In 2001 the seven companies had a total contract area of about 10,120 ha under hemp cultivation. However, this area 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. All seven companies started the year 2002 with largely or completely depleted fibre stocks.

The exceedance of supply from present-year cultivation by demand represents a new situation to for the industry. It is due to the increasing establishment of hemp as an industrial fibre and the simultaneously decreasing EU subsidies.

In 2002 the seven companies intend to considerably increase their combined contract area to more than 14,000 ha (+ 40 %). While the demand for these amounts exists, it is questionable whether enough farmers can be found to grow hemp under the current (and future) economic conditions.

The average yield of dry hemp stalks on land contracted by the seven companies in 2001 was 6.2 t/ha.

Production

The amount of EU-produced hemp fibres has continuously increased in recent years. Fibre production in 2001 is estimated at between 20,000 to 25,000 tonnes (t), compared to an estimated global production of 70,000 t. Combined, the seven interviewed companies have produced more than 18,000 t of hemp fibres in 2001, which represents 72 to 90 % of total EU production. In addition, more than 30,000 t of hurds and more than 4,300 t of hemp seeds were produced by these seven companies as value-added by-products.

Markets and product lines

Fibres

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

Specialty pulp for cigarette papers and technical applications

With a share of 70-80% of total fibres, this traditional application still represents the by far largest market for hemp fibres. In absolute terms, the demand by this market has been constant or slightly decreasing, while its relative share has decreased noticeable from more than 95% only 5 years ago. Without any significant technical progress and/or the development of new markets, little dynamic development of this application 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 2001, the amount of hemp fibres used in this sector amounted to a respectable 17% – compared to less than 1% in 1996. The automotive demand for hemp fibres has also been increasing in absolute numbers since 1996 with high growth rates, such as 90% from 1999 to 2000. 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 28,300 t of natural fibres were used in the European automotive industry in 2000, of which 20,000 t were flax, 3,700 t jute and kenaf, and 3,500 t hemp (1).

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. Contrary to initial concerns the EU end-of-life vehicle directive will presumably have no negative effect on the use of natural fibres in automobiles. For example, the German implementation of this directive appears to be neutral relative to the use of natural fibres, regardless of whether the parts are subsequently incinerated or recycled.

Construction sector (insulation mats)

About 6,5% of the EU hemp fibres are used in this application. Market participants expect a further increase in absolute and relative numbers. 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, new impulses for the use of natural fibre-based insulation mats are being expected in 2002 and 2003, caused by a government supported market introduction program.

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 in 2001 was approximately 40,000 t. The most important product lines are:

Animal bedding

Approx. 92% of the hemp hurds are used as animal bedding, 95 % of which as horse bedding and only 5% are used for other animals, mainly for poultry. The use of hurds for bedding of small animals, which has been professionally marketed only recently, will increase over the next years. Hemp hurds do sell in the animal bedding sector 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 8% of hurds 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.

Hemp seeds

An estimated total of 5,000 to 7,000 t/year of hemp seeds are produced in the EU, predominantly in its southern regions. The most important markets are:

Animal feed

About 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

The remaining 5% are used in the production of foods in the form of whole grains, as hulled hemp seeds and as hemp oil. The food sector represents a currently small niche market with an above average growth rate.

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