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Report Name: Industrial Hemp in France

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Report Highlights:

France is the third largest industrial hemp producer in the world and the top producer in Europe. The French hemp production and processing industry is heavily regulated with national and European Union laws and regulations. France's hemp industry is experiencing significant growth driven by the development of new products and recent legal decisions regarding CBD.

I. SECTION I: HEMP

- 1. Hemp in France Background
- 2. Regulatory framework
- 3. Hemp production
- 4. Opportunities and Challenges

II. SECTION II: CBD

- 1. French CBD market
- 2. Trade regulation updates

III. ANNEX

- 1. Cannabis regulatory framework
- 2. Industry contacts

I. SECTION I: Hemp

1. Hemp in France – Background

Hemp production has a long history in France and was traditionally cultivated to obtain fibers, becoming an important source of canvas and ropes for national naval services and for commercial boats as far back as the 1700s.

With the twentieth century development of the petrochemical industry, synthetic alternatives to natural fibers, and increased imports of cotton, hemp production became almost non-existent Europe. However, France maintained limited production, dropping from 176,000 hectares (434,905 acres) in 1860 to 700 (1,730 acres) hectares in 1960. Unlike most of its European neighbors, it never outlawed hemp production. Created in 1932, the French National Federation of Hemp Producers is one of the oldest French agricultural organizations.

After several years of minimal production, the paper industry of the 1970s revived the hemp sector in France. With the high cost of specialized equipment to handle hemp fiber, producers-initiated research and development work to find other uses for the product. In 2021, the following applications shape the industry:

- food, based on the North American model and the growing interest for dietetics and alternative protein sources;
- plastic composites, with hemp as a substitute for mineral or fossil fibers; and
- construction materials, with hemp as a key player in sustainability and green alternatives to traditional inputs.

In 2020, about 1,300 French producers cultivated 17,900 hectares (44,232 acres) that supplied six hemp cooperatives; those cooperatives produced 100,000 tons of defibered straw and 17,000 tons of seeds per year. Currently, France is the third biggest producer in the world and the top producer in Europe. Over half of the land dedicated to hemp production in Europe is in France.

The eastern French region, Grand Est, is the primary French hemp producer. It is historically the central basin for the development of hemp and consequently a breeding ground for innovation in this field. Created in 1973, the agricultural cooperative of first transformation "la Chanvrière" now represents more than 50 percent of the French production of hemp with 450 cooperative farmers.

Sown in April/May and harvested between the end of August and October, hemp does not require a phytosanitary treatment. It is resistant to drought and adapts to all types of soil. It is a good crop to plant before wheat as it leaves a clean and loose soil and helps maintain its biodiversity.

Chanvrières – Hemp cooperatives

A «chanvrière» is a cooperative of hemp producers and they are focused on the processing, transformation side of the plant. Grouped within the UTC (the Union of Hemp Processors), they are currently six chanvrières in France; the first one opened in 1973 and the newest one was inaugurated in 2017. Most producers are under contract with the chanvrières. These contracts run for 3 to 5 years with quality specifications.



French stakeholders – Source: Interchanvre, Plan filière de l'interprofession

2. Regulatory framework

Under French law, there is a distinction between industrial hemp and cannabis, also called recreational hemp. However, apart from their tetrahydrocannabinol (THC) content, the psychoactive molecule of cannabis, nothing distinguishes these two plants which belong to the same species: cannabis sativa L.

France and EU regulations harmonized in 2004. Cannabis sativa L. plants can be cultivated and commercially exploited if the plant contains less than 0.2 percent THC. The variety of hemp has to be on the official EU species list and authorized by the French government, following order R. 5132-86, article 1, from September 30, 2019. The finished product must be characterized by its absence of THC.

During the August harvest, the THC level is controlled in sample crops representing 30 percent of the cultivated areas and selected at random.

French hemp is exclusively grown for industrial purposes. Only fibers and seeds can be used; flowers and blossoms are destroyed as industrial waste, despite the inconsistency with European regulations.

In case of control, the labels issued by an approved production company will have to justify the variety and the weight of the seed packages. In France, <u>HempIt</u> is the agricultural cooperative in charge of in producing and marketing industrial hemp seeds.

3. Hemp production

The French catalog has 9 varieties of hemp also registered in the European catalog, which has 49 varieties.

- Uso 31
- Férimon
- Fédora 17
- Félina 32
- Santhica 27
- Epsilon 68
- Futura 75
- Fibror 79
- Dioïca 88

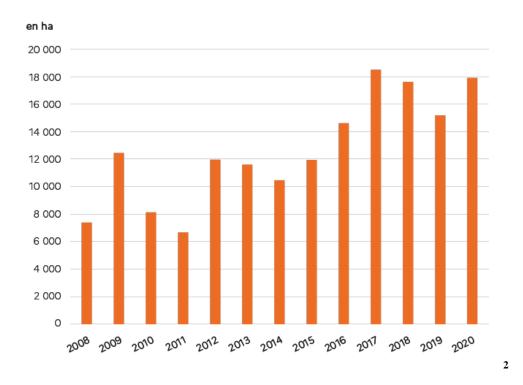
The National Federation of Hemp Producers, FNPC, has ownership the breeds, and controls almost all the varieties used in Europe. The multiplication and the marketing of the seeds is carried out by a specialized cooperative, the Coopérative Centrale Des Producteurs De Semences De Chanvre, CCPSC. The objective of the federation is to provide the best seed and variety to address the current market demands. Adjustments include fiber rate, size of hempseeds, oleic composition and protein content. This had made France a prime supplier of hemp seed in the world, and emerging hemp-growing countries, such as Japan, Canada, New Zealand, and Australia purchase a significant amount of their seed from France. Forty percent of France's seed production is exported.

Farmers pay a contribution of two euros per hectare per year (equivalent to approximately six US dollars per acre per year) to the FNPC. The CCPSC pays royalties on the varieties to this federation. The creation of a new variety costs about one million euros (1.2 million US dollars) and requires eight years to develop in average. The FNPC has been investing 80, 000 euros (92,000 US dollars)¹ a year in research and development between 2018 and 2020 in order to better understand the plant through genotyping.

Hemp is well suited to crop rotation as a first crop as it has been shown to increase the production of the next crop, most often a cereal. Harvest occurs most often from mid-September. Generally, producers do not harvest the hempseed, just harvesting the straw, in round or parallel-piped bales.

¹ Euro to US Dollar conversion - Updated Aug 2, 2021 - 1 USD = 0.841239 EUR

Area



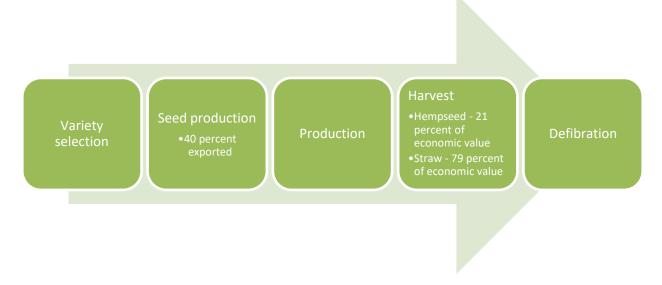
Evolution of the cultivated hemp surfaces – Source: FranceAgrimer, Fiche Filière Chanvre

Hemp acreage has been growing because of growth in the traditional markets for the product and the emergence of new ones, such as mixes with plastic and construction using hemp wool and concrete. About seven percent of land cultivating hemp is organic, a little more than 1,000 hectares (2,471 acres). France has tripled its hemp cultivation surface in thirty years. Following current trends, hemp production could cover 25,000-30,000 hectares (61,776-74,132 acres) in ten years

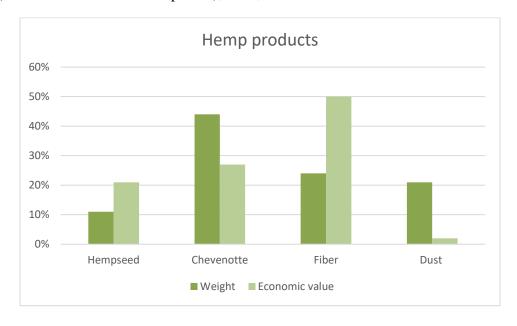
² 1 Ha= 2.47 Ac

Products

After mechanical harvesting and defibration, in general the whole plant is used.



The plant is transformed into four products in France: hempseed (called chènevis in French), the chenevotte (central "wood" of the hemp stalk), fiber, and dust.

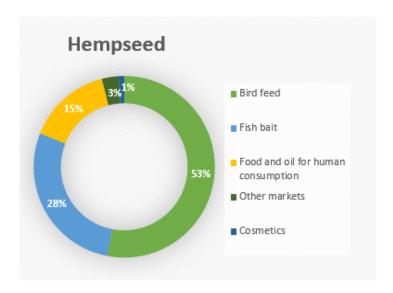


According to figures published in 2017 by French hemp producers and processors, 89 percent of the weight (79 percent of the economic value) of the annual production from hemp cultivation in France is for straw and the remaining eleven percent (21 percent in value) is hempseed.

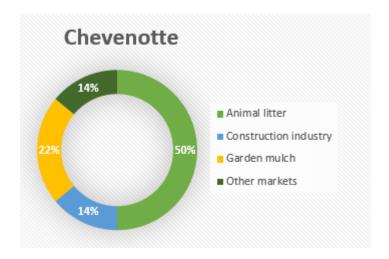
If the seeds are harvested for use it is done with a combine harvester, and then the straw is conditioned in cylindrical or parallelepiped bales that are stored under cover, generally at the producers' premises. Throughout the year, these bales are transported to the defibration workshop where the fibers and the chaff are separated.

At the end of the first transformation, the co-products can be used directly or undergo further transformation.

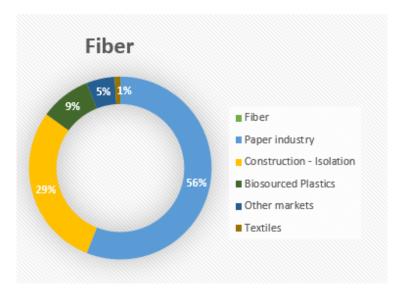
The seed can be used in animal feed, fish bait and food. The agricultural yield, under good conditions, is about one ton per hectare.



Traditionally considered as a by-product and mainly used for animal litter and gardening, **the chenvotte** has become valuable for the construction industry because of its high concentration of cellulose. Deriving value from the chenevotte is important for the profitability of the sector. After defibration, the yield is about three to four tons per hectare.



Hemp fiber is primarily used in paper and construction industries. At the end of the defibration process, fiber represents 30 to 35 percent of the weight of the straw initially transformed, i.e. a yield of approximately 2.5 tons per hectare.



Flowers are occasionally but rarely used by the pharmaceutical industry and are still banned for retail use. The dust is sometimes incorporated into feed for nutritional products.

The fiber from French hemp production represents more than 40 million euros (47.5 million US dollars) and 55 percent of its production is exported. French imports are negligible. About 45 percent of hemp processing is done in the region in which it was produced.

4. Opportunities and challenges

The French hemp industry including the development and selection of seed varieties to the final processing has significant growth potential. With little need for irrigation and chemical protection, it fit well into the current consumer demand for healthy food, support for the local economy and environmental protection.

Several sectors are driving hemp innovation and expansion. Greater use of hemp in textiles for clothing and hemp seed use in food are driving demand. One of the largest growth sectors for France is in the building sector, with uses such as hemp insulation and hemp concrete. The use of plant fibers is growing exponentially with an expected growth in demand of 300 percent over the next 25 years. The industry notes that hemp will be used in the construction of the Olympic village for the Paris 2024 games.

Innovations in hemp use are supported by the trade association <u>Construire en chanvre</u>. This includes projects in bioplastics, insulation and the replacement of glass fiber by hemp fiber in the automotive industry. French patents protect prefabricated hemp concrete.

According to industry reports, commercial construction of houses using hempcrete has taken place in France and in Canada (but to date nowhere else). In France, an estimated 200-300 homes have been built since 2000. The rate of construction is said to have increased 400 percent in the last ten years.

Table 16:EU hemp demand from hempcrete (tonnes)								
Source	2020	2025	2030	CAGR 1 (%)	CAGR 2 (%)			
France	1967	3234	4676	10.5	7.7			
The UK	0	44	131	-	24.6			
Total	1967	3278	4807	10.8	8.0			
Source: IHS Markit					© 2021 IHS Markit			

However, the sector is impeded by the lack of harvesting technology and the lack of investment by equipment manufacturers in for a more efficient harvest. In addition, to guarantee the quality of the seed, it must be dried at the end of the field, which requires investments in dryers or ventilated bins. Although there is no costs for usual major expenses, such as for herbicides, fungicides or insecticides, the hemp harvest requires a lot of time-consuming work and expensive specific equipment.

II. <u>SECTION II : CBD</u>

The cannabidiol (CBD) market provides both opportunities and challenges for the hemp market, with many significant regulatory changes occurring in 2020 and 2021.

1. French CBD market

The French ban on CBD-based products, the non-psychotropic molecule of cannabis, was invalidated by the Court of Justice of the European Union in late 2020. The court concluded that CBD (cannabidiol) extracted from the Cannabis sativa plant does not constitute a "narcotic" because it does not appear to have a psychotropic effect and no harmful effect on human health on the basis of the available scientific data. This ruling is not specific to food and does not change the fact that CBD (Cannabis sativa or synthetic extract) is considered a novel food under Regulation (EU) 2015/2283. In addition, CBD can only be used in food with a specific authorization granted under Regulation (EU) 2015/2283.

In 2020, 11 percent of French people reported having used CBD products in a survey on consumption. These are finished products made from hemp flowers that have a THC content of less than 0.2 percent. These products contain some of the 80 active ingredients in hemp, including the non-psychotropic CBD. The market for CBD in France in 2020 was estimated at 131 million euros (156 million US dollars). This is largely in oils (74 million euros - 88 million US dollars), capsules (41 million euros - 49 million US dollars) and vaping (21 million euros - 25 million US dollars).

Region	2020	2025	2030	CAGR 1	CAGR 2
Medical	0	0	0	-	-
CBD oil	0	0	0	-	-
Retail	131	353	454	22	5
Oils+capsules	114	308	396	22	5
Oil	74	198	255	22	5
Capsule	41	110	141	22	5
FMCG	17	45	58	22	5
Edibles	4	10	13	22	5
Vaping	12	32	41	22	5
Cosmetics	1	3	4	22	5
TOTAL CBD	131	353	454	22	5

Figure 5: EU Retail CBD FMCG market value by MS 2020-2030 (€ million)



2. Trade regulation update

In a ruling released on June 23, 2021, the Cour de Cassation (highest court in the French judicial system, close equivalent to the US Supreme Court) confirmed the legality of the sale of CBD (cannabidiol) in France if it is legally produced in another member state of the European Union. After months of legal uncertainty, the ruling creates a more stable environment for stores selling CBD products that include food products including candies, oils, cosmetics, e-cigarettes, infusions, and flowers to smoke. Just since the ruling 400 CBD stores have opened in France has nearly 400 CBD shops to date according to the Professional Union of Hemp (SPC). Consumers must be 18 years old or older. Selling whole flowers and dried leaves is still prohibited.

 $^{\rm 3}$ Euro to US Dollar conversion - Updated Aug 2, 2021 - 1 USD = 0.841239 EUR

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For Aurélien Delecroix, president of the Hemp Union, which includes 200 producers, processors and distributors, "the decision of the Court of Cassation should allow the creation of a real CBD industry in France, while 90 percent of the products marketed are imported."

In a draft decree that was notified to Brussels in July 2021, France clarified its position and plans to officially authorize the sale of CBD products (oils, food products ...). The new regulation provides that "the authorization of cultivation, import, export and industrial and commercial use of hemp" is "extended to all parts of the plant", provided that it's THC content is less than 0.2 percent. But the text prohibits the sale of hemp flowers and leaves (even if they are THC-free), which can be smoked, justifying this ban by "reasons of public order and health". The services of the Prime Minister judge that smoking the leaves can be bad health-wise, and that to authorize their sale would complicate the fight against cannabis.

For CBD stores, such a limitation has been received negatively as hemp flowers and leaves are estimated to represent 60 percent to 70 percent of the market. With this decree banning the sale of leaves and flowers, competition will therefore intensify, and put pressure on margins. In addition to the CBD stores, some 5000 tobacco shops offered leaves, flowers or vaping liquid with CBD,

Opening up the CBD industry would represent considerable employment and profit opportunities for the French market. However, the ban on sale of French-produced leaves and flowers would be a development barrier to the CBD market for French producers. Furthermore, harvesting flowers would prevent from harvesting hempseeds, high value-added products. The industry is also concerned about the quality of the fiber since hemp will be harvested at flowering, i.e. in July, and not in September. Hemp varieties with the highest CBD content are also those that potentially contain the most THC. However, to be authorized to the culture in France, the varieties of hemp are subjected to a maximum rate of THC.

III. ANNEXES

- 1. Cannabis regulatory framework
- Cannabis as a Drug (Marijuana)

The <u>law n°70-1320</u> of <u>December 31, 1970</u>, defines the French drug policy. Possession or consumption of cannabis in a private or public place is strictly forbidden. The cultivation of cannabis for personal use including recreational and medical is prohibited. It is illegal to sell or buy cannabis seeds. (Note: in 2021, France began a medical study on the use of medical cannabis.)

In May 2021, a parliamentary report released on the regulation and impact of different uses of cannabis recommended legalizing and regulating cannabis to better protect French citizens. This report on cannabis was developed over a period of three months with input from hundreds of specialists including doctors, policemen, magistrates and researchers. This recommendation goes against the current policy of the French government and the recent statements of President Emmanuel Macron. In an interview given in April, the French president explained: "[...]Unlike those who advocate generalized

decriminalization, I think that drugs need a brake, not a publicity stunt. To say that hashish is innocent is more than a lie."

Cannabis consumption in France represents approximately 80 percent of all illegal drug consumption. Nearly 10 percent of the population between 14 and 64 years old uses cannabis at least once a year, nearly 3 percent use it on a daily basis. French 16 year olds are the leading consumers of cannabis in Europe. In a 2017 survey nearly half of French adults age 18 to 64 reported having used cannabis. That's nearly four times more than in the same survey from 1987.

Medicinal Cannabis

In March 2021 a medical cannabis experiment was launched by French Government Ministries, including the Ministry of Health at the University Hospital of Clermont-Ferrand. This experiment is designed to collect and analyze French data on the effectiveness and safety of therapeutic cannabis, and consider legalizing its future medical use in France. Three thousand patients will be monitored in 215 volunteer facilities selected by the French National Agency for the Safety of Medicines and Health Products (ANSM) in this study with results expected in September 2023. The use of therapeutic cannabis will be allowed in five clinical situations: neuropathic pain refractory to accessible treatments, certain forms of severe and drug-resistant epilepsy, intractable symptoms in oncology, as well as in pain management, such as pain related spasms from central nervous system diseases.

2. Industry contacts

The French hemp industry is organized around the <u>Interchanvre</u> trade association, in charge of promoting and developing the industry, and the technical institute <u>Terres Inovia</u>, a research institute carrying out applied research on oilseed plants and protein crops. Their works is financed by hemp farmers thanks to the compulsory voluntary contribution (CVO), paid at the time of the seed purchase (similar to a U.S. check-off program).

- <u>Construire en chanvre</u> <u>construire-en-chanvre@bbox.fr</u> Industry trade association for the hemp construction sector, promoting innovation, access to training and helping to facilitate a supportive regulatory framework.
- <u>Fibres Recherche Développement</u> <u>contact@f-r-d.fr</u> private innovation company and engineering platform for industrial projects, promoting the emergence and development of innovative applications for agricultural fibers.
- <u>InterChanvre</u> <u>contact@interchanvre.org</u> Hemp multiple group organization created in 2003 and made up of a college of producers (Fédération Nationale des Producteurs de Chanvre) and a college of processors (Union des Transformateurs de Chanvre). Its main role is to represent, promote and develop the industry.
- <u>Pôle Européen du Chanvre</u> <u>contact@pole-europeen-chanvre.eu</u> the European center for hemp territorial biorefinery, abbreviated as European Hemp Pole, brings together European partners to develop an innovative, sustainable and economic organization of the hemp sector.
- <u>Syndicat du Chanvre</u> <u>contact@syndicatduchanvre.org</u> Hemp industry union bringing together stakeholders in the hemp wellness, medical cannabis and textile sectors.
- <u>Terre Inovia contact@terresinovia.fr -</u> French agricultural research institute carrying out applied research on oilseed plants and protein crops.

Attachments:

No Attachments.