

# Journal of **INDUSTRIAL** **HEMP™**

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### PEER-REVIEWED PAPERS

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Oleg V. Grigoriev	

Hempseed oil was dispensed in an open clinical trial involving in- and outpatients, for the treatment of chronic Ear, Nose and Throat disorders (external otitis, laryngitis, pharyngitis, sinusitis, tonsillitis), acute external otitis, and one case of trauma, for a total of 117 cases. The application of hempseed oil made it possible to reduce the period of treatment of all mentioned cases by eight days (9%), compared with standard treatments. The results allowed us to consider hempseed oil as an effective means for treating ENT disorders as well as injuries resulting from traumas or burns.

**KEYWORDS.** ENT disorders, hempseed oil, polyunsaturated fatty acids, antioxidants, lipids peroxidization

## Hemp Support: Evolution in EU Regulation Valerie L. Vantreese

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The European Union holds a place of distinction amongst the industrialized world as measured by its long-term support of the flax and hemp fiber sectors. More recently, EU fiber support has resulted from successful lobbying efforts by groups in France, Belgium and the Netherlands, and by the emergence of new technical applications for flax and hemp fibers. Relative to many other industrialized countries, the EU appears committed to green policies that hold promise of both environmental and social benevolence. However, EU hemp fiber support has encountered difficulties including subsidy chasing (as a result of hemp fiber aid rates higher than that of other row crops), expanded plantings thwarted by low yields, and disputable concerns over illicit marijuana production. After 30 years of hemp aid, fiber support levels have been cut while processing aid has been temporarily granted to bolster progressive industrial applications of short fibers. However, concerns persist that EU agricultural policy continues to favor the traditional textile fiber sector. A close look at the evolution in EU hemp regulation may provide valuable lessons for other countries contemplating commercial hemp production.

**KEYWORDS.** Agricultural policy, European Union, hemp fiber, regulation, subsidy, support

## Plant Population Effects on Fibre Hemp Morphology and Production Stefano Amaducci Marco Errani Gianpietro Venturi

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This paper reports on a 4-year study into the effect of plant density on the morphology and production of fibre hemp. At high density ( $180\text{-}270 \text{ plants m}^{-2}$ ), strong competition for light early in the growing season promoted internode extension (primary growth) and inhibited increase of stem diameter (secondary growth). In relating plant density to fibre hemp production it can therefore be said that a high plant population favours a high yield of long bast fibres for the textile industry. Demands only for high total yield can however be satisfied by targeting  $30\text{-}45 \text{ plants m}^{-2}$ . This is further supported by results of self-thinning, showing plant loss in 1999 was negligible at low density ( $30\text{-}90 \text{ plants m}^{-2}$ ), while at high density ( $180$  and  $270 \text{ plants m}^{-2}$ ) 50% and 60% of the initial stand was lost, respectively. In view of this result, and because of the fact that no significant morphological difference was found between  $180$  and  $270 \text{ plants m}^{-2}$ , it is also worth to note that when growing for long bast fibres  $180 \text{ plants m}^{-2}$  should be chosen instead of  $270$  in order to save seed costs.

**KEYWORDS.** Cannabis sativa L., plant population, plant morphology, fibre quality

## OTHER CONTRIBUTIONS

- Why Has the Hemp Revolution Bypassed the United States? 61  
David Morris

Despite an upwelling of support by industry and farmers, not a single acre of industrial hemp has been harvested in the United States. Why? The answer is that while in other countries the road to hemp legalization goes through agricultural, or health or food agencies, in the United States there is only one road to approval—through the Drug Enforcement Administration (DEA). And for the DEA, the cultivation of hemp subverts and even contradicts its mission.

**KEYWORDS.** Hemp legalization, industrial hemp movement, marijuana, war on drugs

- Interview: Professor Gianpietro Venturi 67  
Stefano Amaducci

Professor Gianpietro Venturi of the University of Bologna, has been involved in hemp research in Italy since his student days in 1960, and still is very active in the current Italian hemp renaissance. He was interviewed in April 2002 by Stefano Amaducci, a member of the latest generation of Italian hemp researchers.

- Hemp (*Cannabis sativa L.*) Cultivation in North-Central Turkey 73  
Justin S. Tiret

This paper summarizes the history of hemp (*Cannabis sativa L.*) cultivation and traditional use in the north-central region of Turkey, and investigates the cultivation and processing techniques currently being used to produce hemp bast fiber and hemp seed. Hemp bast fibers are used by the Turks for making paper, hand-made rope, and machine processed twine and rope. The hurd is used locally for kindling. The flowers are used for compost and the seeds are used for human food and bird feed. The use of hemp in recent years has declined significantly. The cultural and economic reasons for the reduced cultivation and use of hemp are discussed.

**KEYWORDS.** Kendir, Anatolia, Gordion, Kastamonu, Gumushacikoy, traditional cultivation and processing methods

- The Hawaii Industrial Hemp Project 83  
Dave West

Initially, the Hawaii Industrial Hemp Project was largely a vehicle for making manifest to the world the requirements which face anyone wishing to research cannabis, regardless of the THC level, in the US. The project complied with the federal statutes which specify that the researcher must erect a fence 10 ft high with barbed-wire and a security system. We did that. Thus we have the bi-focal nature of the undertaking: an event in the context of State regulation with heated political and social facets attractive to media; and an attempt to evaluate cannabis germplasm in an island environment at 20 degrees North latitude.

**KEYWORDDS.** Agronomy, drug laws, germplasm, industrial hemp

## **Canada: Hemp Industry-In-Progress 1998-2002**

**Arthur Hanks**

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Canada allowed the cultivation and processing of industrial hemp in 1998. This decision was seen as a political dream: "win win" for everyone. There was very little opposition to the idea of industrial hemp: the biggest obstacle was government foot-dragging on the issue. Great expectations were raised then. Now 5 years in, many of these expectations have not been met and the cautious have been vindicated. The growth of the hemp sector has been modest and hemp has proven not to be immune to the struggles typical of any new industry.

**KEYWORDS.** Canada, fibre processing, hemp surface, markets, regulations

## **European Hemp Industry 2001: Cultivation, Processing, and Product Lines**

**Michael Karus**

**95**

The results on hemp cultivation, production and product lines presented here are based on market surveys conducted by the European Industrial Hemp Association (EIHA). The results are provided by the six leading primary hemp processors in Europe, all of them EIHA members. Together, they represent a market share of 70 to 90% in terms of fiber produced in the EU and constitute a representative basis for market information.

**KEYWORDS.** Fiber, hemp surfaces, hurds, markets, product lines, seed

## **THE WIDE WILD WORLD OF HEMP**

### **Hemp News You Can Use**

**John E. Dvorak**

**101**

This is the first in a series of columns that will list some of what I consider to be the most important Industrial Hemp websites. For people interested in hemp, these websites will allow them to learn much more than they can through the mainstream media. Late breaking news, political action updates, new product information, hemp history and cultivation, harvesting and processing research & development advances are just some of the areas covered in detail by these sites. Future columns will include in-depth reviews of particularly good websites.

**KEYWORDS.** Hemp associations, news resources, websites

## **HEMP PRODUCTION NOTES**

### **Hemp Production in France**

**Hayo M. G. van der Werf**

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This is the first in a series of "Hemp production notes," presenting an overview of hemp production techniques for a specific region or country. This paper reviews the entire production sequence of hemp in France, from the beginning (soil requirement, fertilization, sowing) to the end (harvesting techniques, yield levels).

**KEYWORDS.** Fertilization, harvesting, sowing, THC regulations