

HEMP is Hip, Hot and Happening

So Why Are
American Farmers
Being Left Out?

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merican farmers are prohibited by law from growing a low-input, sustainable crop common in Europe and Canada with tremendous economic potential: industrial hemp.

Hemp cannot be commercially grown in the United States because it is erroneously confounded with marijuana. In fact, industrial hemp and marijuana are different breeds of *Cannabis sativa*, just as Chihuahuas and St. Bernards are different breeds of *Canis familiaris*. Smoking large amounts of hemp flowers can produce a headache but not a high, or as Ruth Shamai of Ruth's Hemp Foods says, "I've personally stood in a burning field of hemp, and if you wanted a buzz you'd have to drink a beer."

COURTESY OF HEMPOLOGY, ORG

Cutting Hemp by Hand U.S. Dept. of Agriculture 1901 Yearbook (above), Modern harvesting of Canadian hemp (right).

Most Western countries distinguish industrial hemp from marijuana on the basis of THC (the chief intoxicant in marijuana) content and permit the growing of non-psychoactive low-THC hemp for fiber and seed. Straightforward European Union and Canadian regulations prevent attempts to camouflage marijuana in hemp fields and limit THC levels in hemp flowers to 0.2 percent and 0.3 percent, respectively; THC levels in marijuana flowers are generally between 3 percent and 15 percent.

But the U.S. Drug Enforcement Administration (DEA) lumps low-THC hemp with marijuana. As a result, although the United States permits trade in nonviable hemp seed, oil, and fiber, it is the only major industrialized nation that prohibits the growing and processing of hemp.

It is time to clear up the misunderstanding, change the law, and clear the way for ecologically sustainable, economically viable opportunities for American farmers and businesses.

Why Industrial Hemp?

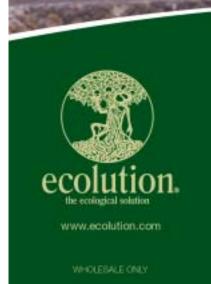
Notoriety obscures the history and value of hemp. Hemp has a long history in America, from the first plantings in Jamestown, where growing hemp was *mandatory*, to the hemp sails of 19th-century clipper ships and the hemp canvas covers of pioneer wagons, to World War II's massive "Hemp for Victory" program. Hemp is a major part of humanity's agricultural and commercial heritage, having been used extensively for millennia in cultures around the world.

Hemp seed was known long ago for its

healthy protein and rich oil. The stalk's outer fiber was used for clothing, canvas, and rope, and textile rags were recycled into paper pulp. The Declaration of

Independence was drafted on hemp paper, and the finest Bibles are still printed on hemp-based paper. The woody core fiber of hemp stalks was used for construction and fuel. In the early 20th century, hemp-derived cellulose was promoted as an affordable and renewable raw material for plastics; Henry Ford even built a prototype car from biocomposite materials, using agricultural fiber such as hemp.

Beginning with the passage of the "Marihuana Tax Act" of 1937 and continuing after the World War II "Hemp for Victory" program, misplaced fears that industrial hemp is marijuana and harassment by law enforcement discouraged farmers from growing hemp. The last crop was grown in



Wisconsin in 1958, and the Controlled Substances Act (CSA) of 1970 formally prohibited cultivation.

Today, driven by entrepreneurial spirit and the desire to build a new industry for a new age, hemp has reemerged. A diverse but increasingly unified and politically influential group of interests supports the commercial growing of hemp, including farmers, businesses, nutritionists, activists, and green consumers.

Hemp is not a panacea for the world's social, economic, and environmental woes—no single crop can do that. But with focused and sustained research and development, hemp could spur dramatic change. Renewable, fast-growing hemp could allow major industries to reduce their dependence on nonrenewable, fast-disappearing resources and move toward sustainable production.

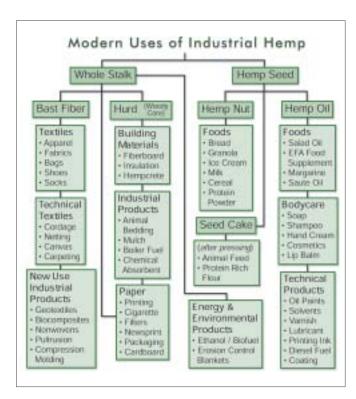
Hemp Textiles

Today's hemp-based fabrics are nothing like 18th-century canvas sailcloth (canvas derives from the Latin cannabis). Hemp fiber, blended with everything from Tencel to organic cotton, can be used to create textiles as different as terrycloth, flannel, and luxurious satin brocades. Hemp fiber offers greater durability and breathability than cotton, which accounts for 25 percent of the pesticides sprayed on the world's crops. Hemp-based textile products on the market include apparel and accessories such as T-shirts, pants, dresses, baby clothes, bathrobes, and shoes; housewares such as blankets, shower curtains, and rugs; and sundries such as hammocks and pet supplies.



More Trees Hemp Clothing Company offers high-end fashions, like this hand painted Hemp/Silk Skirt, as well as casual, yoga, and streetwear.





Technical Hemp Fiber and Core Products

The most successful emerging industrial use of hemp fiber is in the automobile industry. "Biocomposites" of nonwoven hemp matting and polypropylene or epoxy are pressed into parts such as door panels and luggage racks, replacing heavier and less safe fiberglass composites. European hemp fiber made into biocomposites by Flexform in Indiana has been used in more than a million cars and trucks in North America. Automotive applications alone are expected to push European hemp cultivation to over 100,000 acres by 2010. Emerging technology for injection molding of natural fibers is expected to accelerate growth of this sector. Hemp fiber is also used for insulation and horticultural growth mats, and hemp core is used in animal bedding, mortars, and horticultural mulch.

Hemp Paper

The low impact of the farming and processing of hemp stalks and the high strength, length and yield of the bast fibers make hemp, a traditional source of high-strength specialty paper, a favorite in today's ecologically aware market. Pulp made from hemp's bast fiber is superior to short-fiber wood, and is an ideal additive to strengthen recycled post-consumer waste (PCW) pulp, thus expanding PCW's use. Tough and durable, hemp content paper can be finished to a smooth-surfaced sheet with as good as or



66 European hemp fiber made into biocomposites by Flexform in Indiana has been used in more than a million cars and trucks in North America. 35

better print qualities than virgin wood-based paper. The markets for hemp content paper are growing, including not only high-quality PCW printer paper, but also ecological product packaging, brochures and promotional materials for progressive businesses.

Hemp Biofuels

Ethanol-ethyl alcohol, currently produced by fermenting cornstarch from kernels-is gradually replacing toxic Methyl Tertiary Butyl Ether (MTBE) in the United States as a high-octane, pollution-reducing gasoline additive. As a source for ethanol, corn kernels are economically viable only because of high federal subsidies. In the next two to five years, the energy-efficient production of ethanol from cellulosic biomass such as wheat and rice straw. hemp, flax, and corn stalks will become commercially viable. This process also generates much lower overall emissions of the greenhouse gas CO2, and because most automobile engines can run on 15:85 ethanol:gasoline blends without modification, ethanol will help nations worldwide meet their greenhouse gas reduction goals. Hemp grown for both seed and biomass has a stalk yield of up to 3.5 tons per acre, which would make it an economical source of cellulose for ethanol production. Farmers in the Midwest could welcome hemp as a profitable addition to their marginally profitable soybean and corn rotations.

Hemp Foods

Increasingly found on store shelves, shelled hemp seeds ("hemp nuts") and coldpressed oil have exceptional nutritional benefits and rich flavor. They are used in salad dressings, nutrition bars, flour, breads, cookies, granola, meatless burgers, nut

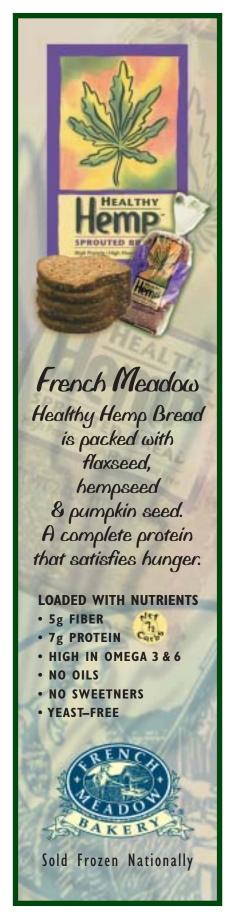


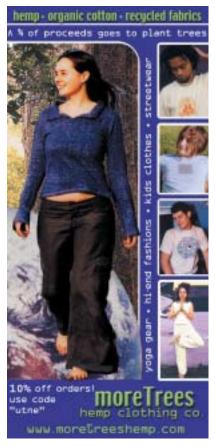
butter, protein powders, chips, pasta, coffee blends and frozen desserts. Virtually all hemp nut and oil in U.S. foods are imported from Canada.

An impressive 33 percent of the hemp nut is high-quality protein, providing all essential amino acids in a reasonable balance, making it an attractive component of a meat-free diet. Hemp also contains significant amounts of the vitamin E complex and trace minerals such as magnesium, iron, and manganese.

But hemp seeds are valued primarily for the exceptional fatty acid composition of their oil, which makes up 30 percent of the whole seed and 44 percent of the nut. Studies link many common ailments to an imbalance and deficiency of essential fatty acids (EFAs) in the typical Western diet: too much omega-6 and not enough omega-3. Consuming sufficient omega-3 in the right EFA ratio has impressive benefits, including: reducing cholesterol, reducing the risk of atherosclerosis and sudden cardiac death, reducing the need for insulin among diabetics, decreasing the symptoms of rheumatoid arthritis, promoting mood improvement in bipolar disorders, and optimizing development in infants.

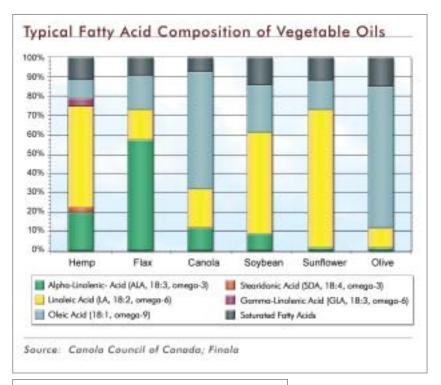
Hemp oil contains the most EFAs of any nut or seed oil, with the omega-3 and omega-6 EFAs occurring in the nutritionally optimal 1:3 ratio. As a bonus it offers the higher-potency omega derivatives GLA and SDA. Fish and fish oils are recommended because they provide the omega-3 derivatives SDA, DHA, and EPA. But concern over the contamination of fish by mercury and other environmental toxins has led the FDA to warn pregnant women and nursing mothers to restrict their fish intake.

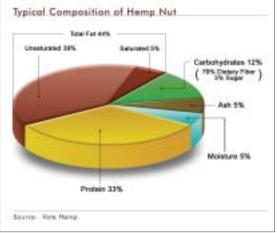












3 health benefits, contain significantly less omega-3 and in a lower ratio to omega-6 than hemp seed. Of the commodity vegetable oils, only flax seed contains more omega-3, but flax does not have hemp's optimal EFA balance. Because it is more easily digestible with a longer shelf life and a nutty natural flavor, hemp nut also offers a greater range of culinary options than flax

Hemp's omega profile means that using hemp nut and oil as a staple food is a good alternative to fish: One tablespoon of hemp oil in a shake, salad, soup, or sauce provides 3 grams of omega-3, more than the 2 grams per day recommended by the U.S. National Institutes of Health.

Virtually all common vegetable oils, such as soy, corn, sunflower, safflower and olive oil offer a much less desirable omega balance, i.e., not enough omega-3. Even walnuts, touted in recent media due to the FDA's qualified endorsement of their omega-

Hemp Body Care Products

Hemp oil's high and balanced EFA content also makes it an ideal ingredient in body care products. The EFAs soothe and restore skin in salves and creams and give excellent emolliency and smooth after-feel to lotions, lip balms, conditioners, shampoos, soaps, shaving products, and massage oils. Recent Canadian research shows that hemp oil has potential as a broad-spectrum ultraviolet skin protector.

What Can I Do?

Here are two simple ways to help hemp blossom in the marketplace: Buy hemp! Vote hemp!

Buy hemp! Hemp foods and body care products are carried by large chains such as Whole Foods, Wild Oats, and Trader Joe's and by thousands of smaller independent natural-food chains, stores, and co-ops, and even by some mainstream grocery stores. Outdoor retailers, ecological specialty stores, and some department stores carry hemp clothing. See the wide range of hemp products, and their makers, listed in the Hemp Industries Association's (HIA) Members Product Directory at http://www.hempindustries.org. Search for local retailers at http://www.hempstores.com.

Vote hemp! Be informed, talk to your state and national representatives, and tell your friends and family about the benefits of hemp for a sustainable economy and healthy environment. Fourteen states have passed legislation supporting industrial hemp. What's the status of your state? See http://www.votehemp.com/state_legis.html.

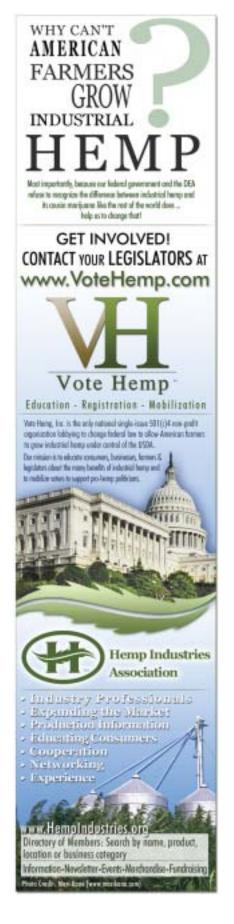
Activists are working to shift federal regulation of industrial hemp back to the Department of Agriculture and out of the hands of the DEA. Donations to support this effort can be made online at the Web site of Vote Hemp, the industry's lobbying group, where you can also find sample letters and easy ways to contact elected officials; see http://www.votehemp.com.

TestPledge, DEA and the Right to Eat Hemp Foods

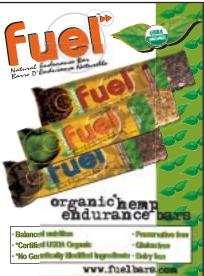
nder the Hemp Industries Association's (HIA) TestPledge program (www.testpledge.com), U.S. hemp food companies voluntarily observe trace THC limits in hemp nut and oil similar to those adopted by European nations and Canada. These conservative limits protect consumers from workplace drug-testing interference; they are based on a study, jointly commissioned by a Canadian governmental program and industry members, published in the *Journal of Analytical Toxicology* (Nov./Dec. 2001).

Nonetheless, fueled by drug war ideologues and hysteria, the DEA has attempted to ban hemp foods. Hemp food manufacturers and the HIA have won a series of legal battles, culminating earlier this year in the 9th U.S. Circuit Court of Appeals ruling that the DEA ignored Congress' specific exclusion of hemp fiber, seed, and oil in the Controlled Substances Act (CSA), exempting them from the DEA's control. The court viewed the trace amounts of THC in hemp seed as insignificant and irrelevant, just like the trace opiates in poppy seeds, which are similarly exempted from the CSA and which the DEA hypocritically ignores.

Fighting the DEA's attempted ban has cost hemp companies over \$200,000, but they are prepared to spend what it takes to fight any further appeal to the Supreme Court. "The public and the media should question the DEA's waste of tax dollars in trying to crush the legitimate hemp food industry," says Eric Steenstra, president of the hemp industry's lobbying organization, Vote Hemp. "A Bush administration appeal will fail and only further embarrass the DEA. Appealing the decision is a last-ditch effort to save face at the expense of taxpayers and limited law enforcement resources." Visit www.votehemp.com for up-to-date information.



















* Hemp Seed Oil * Hemp Seed Nut

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