

In **1916**,
the **U.S. Government**
predicted that
by **1940** **no more trees**
would be **cut down**
because **hemp** would
produce all paper.
1 acre of **hemp** equals
4.1 acres of **trees.**

hemp

teensturninggreen.org

*a toolkit for students across the country
to become informed about Hemp*

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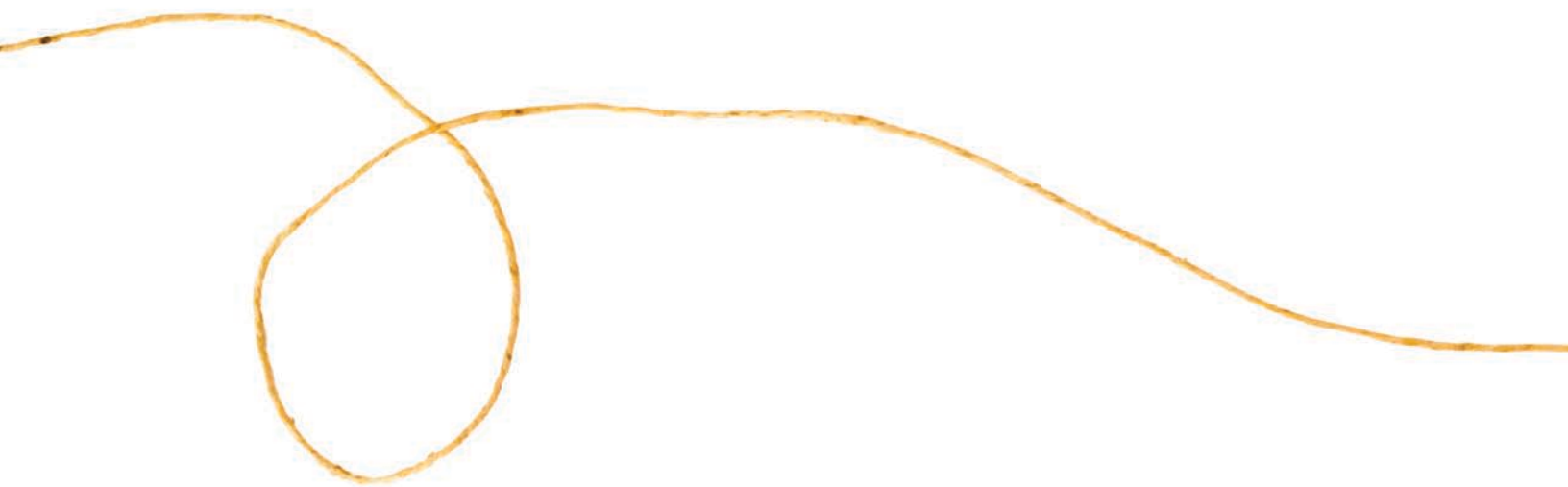
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Until the **1820s**,
hemp was used for
80% of **all textiles**,
fabrics, clothes, **linen**,
bed **sheets**, etc.



About

Who

Students and Teens Turning Green are working on a new initiative to create a more sustainable future.

What

The Hemp Project: A campus based campaign to inform and mobilize students around the legalization of industrial hemp, the most versatile crop in the world.

When

Starting in January, 2014

Where

Campuses across the country

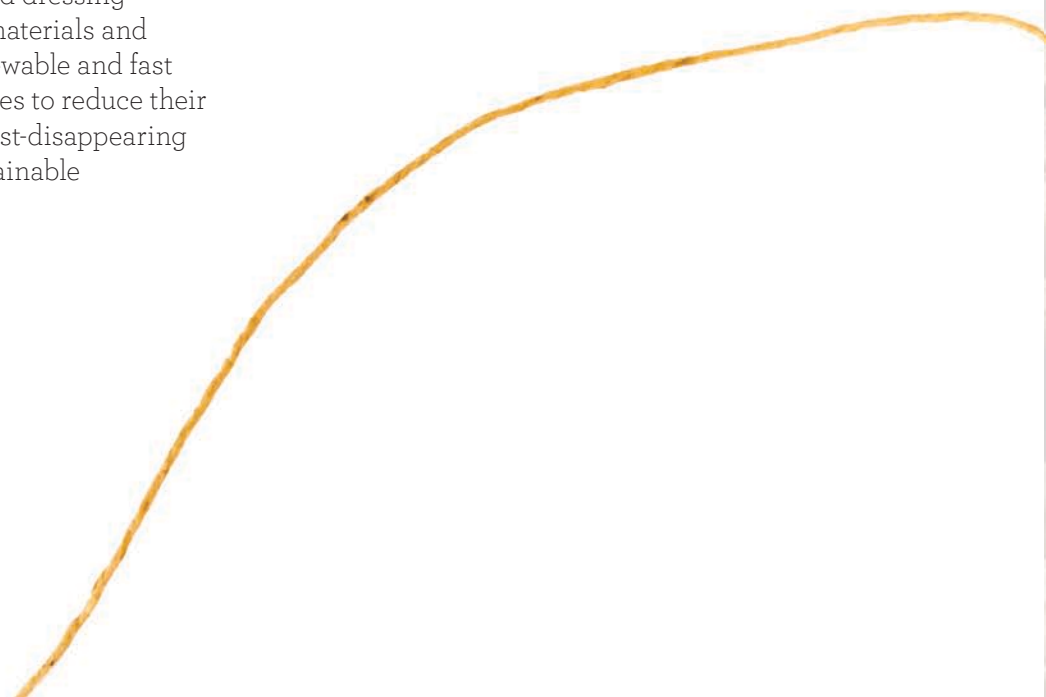
Why

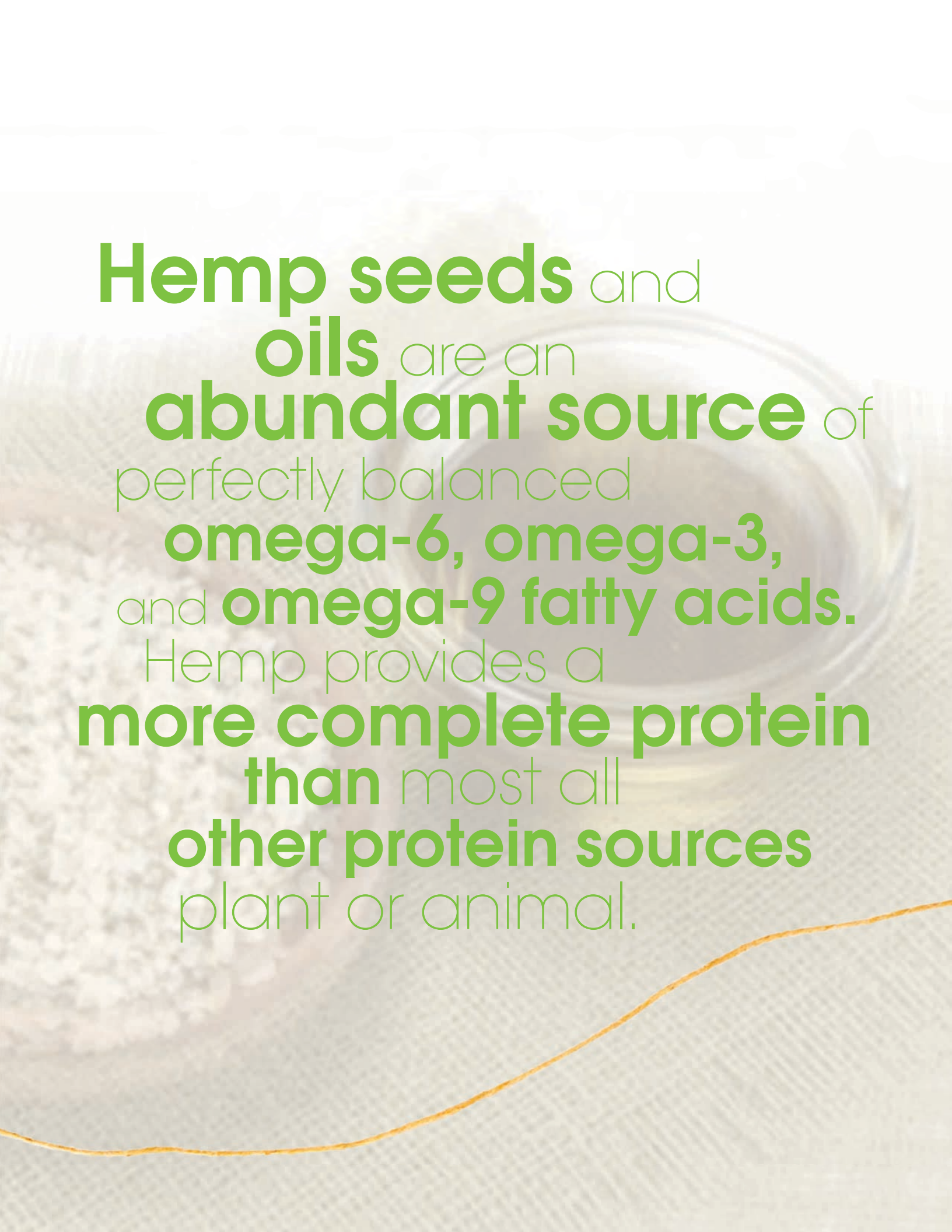
The quick and easy growth of hemp can be used effectively for products from salad dressing to fuel, paper, textiles, building materials and many other things. Hemp is renewable and fast growing, allowing major industries to reduce their dependence on nonrenewable, fast-disappearing resources and move toward sustainable

production. Industrial hemp is a non-psychoactive plant with low environmental impact grown in thirty other nations but currently the majority of U.S. farmers are prohibited from this economic opportunity. If we dedicated 6% of America's land to growing hemp, it would be enough to fuel the whole country!

How

Utilizing a toolkit, resource boards, and the screening of the new documentary Bringing it Home, students can learn about the value of this wonder crop to sustaining our planet.



A glass of light-colored oil, likely hemp seed oil, sits on a textured, light-colored surface. The background is softly blurred, showing a pattern of small, repeating motifs. A decorative orange wavy line runs across the bottom of the image.

Hemp seeds and
oils are an
abundant source of
perfectly balanced
omega-6, omega-3,
and **omega-9 fatty acids.**
Hemp provides a
more complete protein
than most all
other protein sources
plant or animal.

Introduction to Hemp

What is Hemp?

Industrial hemp is the oilseed and fiber varieties of *Cannabis sativa* L., intended for agricultural and industrial purposes. Despite popular belief, hemp is a non-drug variation of *cannabis sativa*. Believe it or not, hemp is considered to be the most useful plant known to mankind; ‘*cannabis sativa*’ translates to ‘useful hemp’.

Hemp is incredibly versatile because it can be grown for either seed or fiber content and its byproducts. From the seed, producers are able to yield milk, oil, and other food products. Hemp fiber is a great source for producing paper and clothing.

Hemp History

Hemp has been grown for at least the last 12,000 years for fiber (textiles and paper) and food. It has been effectively prohibited in the United States since the 1950s. As one of the oldest cultivated fiber plants, tracing back to 8000 BC in China and the Middle East. Hemp has a history of being extremely versatile and useful in the production of thousands of products all over the world.

In 8000 BC, Hemp was woven into fabric and grown in popularity over time on a global scale to eventually provide over 80% of all textiles and fabrics, including over 50% of the fabric called linen. From 1000 B.C. to 1883 A.D, Hemp was

the world’s largest agricultural crop, providing materials to support civilization’s most important industries, including fiber for fabric and rope, lamp oil for lighting, paper, medicine and food for both humans and domesticated animals.

Fun Facts about Hemp in America’s History:

- George Washington and Thomas Jefferson both grew hemp.
- Ben Franklin owned a mill that made hemp paper.
- Jefferson drafted the Declaration of Independence on hemp paper.
- When US sources of “Manila hemp” (not true hemp) was cut off by the Japanese in WWII, the US Army and US Department of Agriculture promoted the “Hemp for Victory” campaign to grow hemp in the US.
- Because of its importance for sails (the word “cannass” is rooted in “*cannabis*”) and rope for ships, hemp was a required crop in the American colonies.

Introduction to Hemp continued

Why is Hemp Illegal?

Due to difficulties harvesting it in large quantities, hemp fell out of favor as a profitable crop in the late 1800's, until an automated harvester was developed in the 1930s. In the intervening years, industries were developed to take over hemp's role in production: oil was drilled from the ground, trees were used for paper and new sources of cloth were developed. Many of the companies involved now had a vested interest in making hemp illegal.

The law was the result of political pressure by the forestry industry and the Dupont Corporation, which had just patented oil and coal-based plastics production. Big businesses, with plenty of dollars and influence, have suppressed the truth from the people because they are only looking to continue to make a profit. The truth is if hemp were utilized for its vast array of commercial products, it would create an industrial boom! The large companies have conspired to spread misinformation about hemp that, if the plant were legally grown in the US, would ruin their companies because of its versatility and high quality products. Specifically petroleum, cotton, lumber and paper companies are threatened by the potential success that hemp has. In order to keep their business high, they funded 'yellow journalism' in the late 1920s and 1930s.

Yellow journalism is journalism where stories with catchy headlines are put into the mainstream media to get attention, yet these stories are not well researched or backed up, just used simply to create public opinion. Many newspapers were pumping stories emphasizing the horrors and dangers of marijuana and considered it directly related to hemp. The "menace" of marijuana made headlines everywhere. Readers learned that it was responsible for everything from car accidents to losing morality and it wasn't long before public opinion started to shape and hemp was made illegal along with marijuana.

What is the Difference Between Hemp & Marijuana?

Marijuana and hemp are different varieties of the same species of plant, *Cannabis sativa* L. While marijuana has a potency range of 3% to 20% by dry weight of THC, industrial hemp is generally defined as having under 0.5%. The THC levels in Industrial Hemp are so low that no one could get high from smoking it. Moreover, hemp contains a relatively high percentage of another cannabinoid, CBD, which actually blocks the marijuana high.



Introduction to Hemp continued

Why Should Hemp Be Legalized?

Hemp can be quickly and easily grown making it an effective alternative for fuel, paper, cloth and many other things. Hemp is renewable and fast growing, allowing major industries to reduce their dependence on nonrenewable, fast-disappearing resources and move toward sustainable production. In addition, industrial hemp will allow small farmers another opportunity to succeed in America.

Colorado Representative Jared Polis, a co-author of a House amendment to the FARRM bill said that legalizing hemp “is a no-brainer.” Industrial hemp is an important agricultural product,” he added. “It’s perfectly legal, but currently we require that it be imported from other countries.

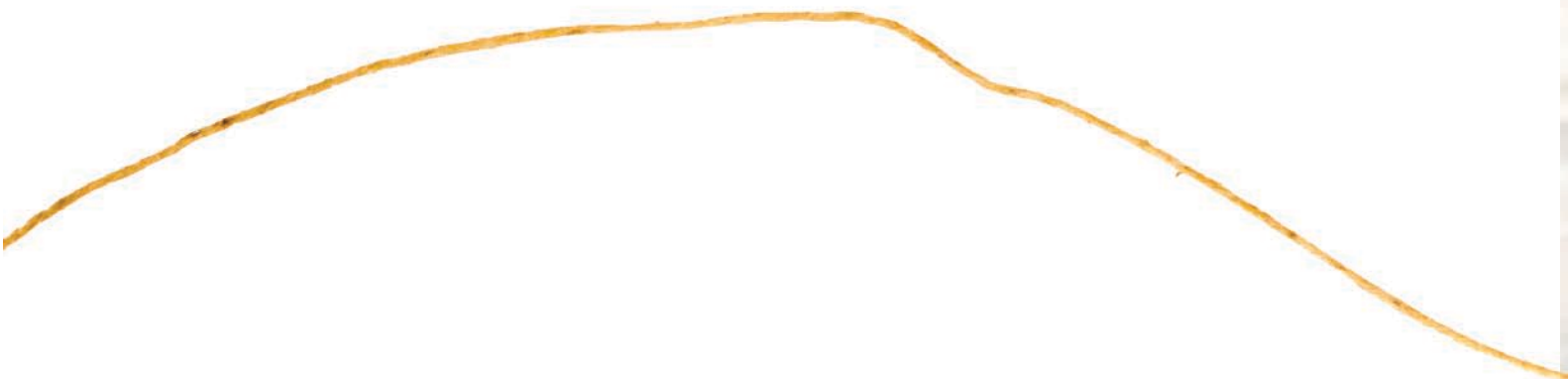
The bill allows colleges and universities to grow and cultivate industrial hemp for academic and agricultural research purposes in states where industrial hemp growth and cultivation is already legal. George Washington and Thomas Jefferson grew hemp. The first American flag was made of hemp. And today, U.S. retailers sell over \$300 million worth of goods containing hemp -- but all of that hemp is imported, since farmers can't grow it here. Resource: votehemp.com

Hemp and Global Warming

One way to counter the effects of global warming is growing hemp – on a global scale. The hemp plant can convert huge amounts of CO₂, more than most plants. Not only does it remove the CO₂ from the air, it also deposits the CO₂ into the soil, enriching it and causing it to be more fertile. Hemp is one of the very few crops that does NOT deplete the soil after it is grown and harvested.

Countries Producing Industrial Hemp

The world-leading producer of hemp is China, with smaller production in Europe, Chile and North Korea. Over thirty countries produce industrial hemp, including Australia, Austria, Canada, Chile, China, Denmark, Egypt, Finland, France, Germany, Great Britain, Hungary, India, Italy, Japan, Korea, Netherlands, New Zealand, Poland, Portugal, Romania, Russia, Slovenia, Spain, Sweden, Switzerland, Thailand, Turkey and Ukraine.



Hemp is
naturally resistant,
thus **avoiding**
the need for **pesticides**
and **herbicides.**

It naturally leaves a
weed-free field for
for **successive crops.**



Myths + Truths

Myths about Hemp Debunked

In the United States many statements with little scientific support have been propagating myths about the relationship between hemp and marijuana. The following report written by Dr. David West, an applied plant geneticist and advisor to the emerging Industrial Hemp industry, examines in detail ten of the most pervasive of these myths.

Myth: United States law has always treated hemp and marijuana the same.

Truth: The history of federal drug laws clearly shows that at one time the U.S. government understood and accepted the distinction between hemp and marijuana.

Myth: Smoking Industrial Hemp gets a person high.

Truth: The THC levels in Industrial Hemp are so low that no one could get high from smoking it. Fun Fact: Hemp contains a high percentage of another cannabinoid, CBD, which actually blocks the marijuana high. Hemp, it turns out, is not only not marijuana; it could be called “anti-marijuana.”

Myth: Even though THC levels are low in hemp, the THC can be extracted and concentrated to produce a powerful drug.

Truth: Extracting THC from Industrial Hemp and further refining it to eliminate CBD would actually be an expensive, hazardous, and time-consuming process. It is extremely unlikely that anyone would ever attempt it, rather than simply obtaining high-THC marijuana instead.

Myth: Industrial Hemp fields would be used to hide marijuana plants.

Truth: Industrial Hemp is grown quite differently from marijuana. Moreover, it is harvested at a different time than marijuana. Finally, cross-pollination between hemp plants and marijuana plants would significantly reduce the potency of the marijuana plant.

Myth: Legalizing hemp while continuing the prohibition on marijuana would burden local police forces.

Truth: In countries where hemp is grown as an agricultural crop, the police have experienced no such burdens.

Myth: Feral hemp must be eradicated because it can be sold as marijuana.

Truth: Feral hemp, or ditchweed, is a remnant of the Industrial Hemp once grown on more than 400,000 acres by U.S. farmers. It contains extremely low levels of THC, as low as .05 percent. It has no drug value, but does offer important environmental benefits such as nesting habitats for birds. About 99 percent of the “marijuana” being eradicated by the federal government-at great public expense-is this harmless ditchweed. Might it be that the drug enforcement agencies want to convince us that ditchweed is hemp in order to protect their large eradication budgets?

Myths+Truths continued

Myths about Hemp Debunked

Myth: Those who want to legalize Industrial Hemp are actually seeking a backdoor way to legalize marijuana.

Truth: It is true that many of the first hemp stores were started by Industrial Hemp advocates who were also in favor of legalizing marijuana. However, as the hemp industry has matured, it has come to be dominated by those who see hemp as the agricultural and industrial crop that it is, and see hemp legalization as a different issue than marijuana legalization. In any case, should we oppose a very good idea simply because some of those who support it also support other ideas with which we disagree?

Myth: Hemp oil is a source of THC.

Truth: Hemp oil is an increasingly popular product, used for an expanding variety of purposes. The washed Industrial Hemp seed contains no THC at all and thus, no one can get high from using Industrial Hemp oil.

Myth: Legalizing Industrial Hemp would send the wrong message to children.

Truth: It is the current refusal of the drug enforcement agencies to distinguish between an agricultural crop and a drug crop that is sending the wrong message to children.


Myth: Industrial Hemp is not economically viable, and should therefore be outlawed.

Truth: The market for Industrial Hemp products is growing rapidly. But even if it were not, when has a crop ever been outlawed simply because government agencies thought it would be unprofitable to grow?

*Adapted from: naihc.org



Properly produced
hemp plastics are
100 percent
biodegradable
and can **replace**
all current
petroleum based
plastics.



Henry Ford on hemp

“Why use up the forests which were centuries in the making and the mines which required ages to lay down, if we can get the equivalent of forest and mineral products in the annual growth of the fields?”
[page 8 of the Rotarian Magazine September 1933]



Ford recognized the utility of the hemp plant. He constructed a car of resin stiffened hemp fiber, and even ran the car on ethanol made from hemp. Ford knew that hemp could produce vast economic resources if widely cultivated.



Kestrel electric car
fabricated from industrial hemp

Health Benefits

1. Healthy Cholesterol Levels

- Hemp is naturally cholesterol free and contains the optimal ratio of the polyunsaturated essential fatty acids, Omega 3 and 6 - hemp oil contains 57% linoleic (LA) and 19% linolenic (LNA) acids.
- Hemp oil also contains a beneficial type of omega-6 called GLA (gamma-linolenic acid) that is absent from the fats we normally eat, making hemp the only edible source of this essential fatty acid.

2. Heart Health

- The presence of omega-3 essential fatty acids contributes to improved heart health, circulation and reduced inflammation. Studies have shown that this helps control blood pressure and aids in the prevention of many diseases.
- Hemp seeds are one of the few plant sources for omega-3 essential fatty acids.

3. Controlled Blood Sugar


- The protein, essential fatty acids and fiber found in hemp collaborate to slow digestion, which prevents blood sugar spikes.
- Hemp contains 16 grams of protein per 1 oz serving! (There is only 6 grams of protein in meat per 1 oz serving)

4. Digestive Health

- Hemp promotes efficient digestive systems and regularity.

- Hemp is an incredible source of easily digestible protein and can help reduce problems of the digestive system.

5. Optimal Health

- Hemp contains all 21 key amino acids including the 9 essential amino acids (EAAs) our bodies cannot produce responsible for improving muscle control, mental function, and ongoing maintenance of the body's cells, muscles, tissues and organs.
 - 44% of hemp seed is made up of edible oils that boast the perfect ratio of Omega -3 and Omega -6 essential fatty acids. These essential fatty acids, specifically Omega-6, contribute to proper skin and hair growth, help maintain bone health, regulate the metabolism and improve brain function.
 - Hemp seeds are rich in disease-fighting, plant-based phytonutrients, anti-aging antioxidants such as tocopherols (vitamin E), and provide a rich array of minerals including potassium, magnesium, iron, zinc, calcium, phosphorus and microelements such as strontium, thorium, arsenic and chromium.
 - Hemp foods have been proven to increase and sustain energy in our bodies.
 - Hemp contains 16 grams of protein per 1 oz serving! (There are only 6 grams of protein in meat per 1 oz serving)
 - There are currently no known allergies to hemp, making it a perfect food for people with or without food allergies, food intolerances or digestive issues.
- 



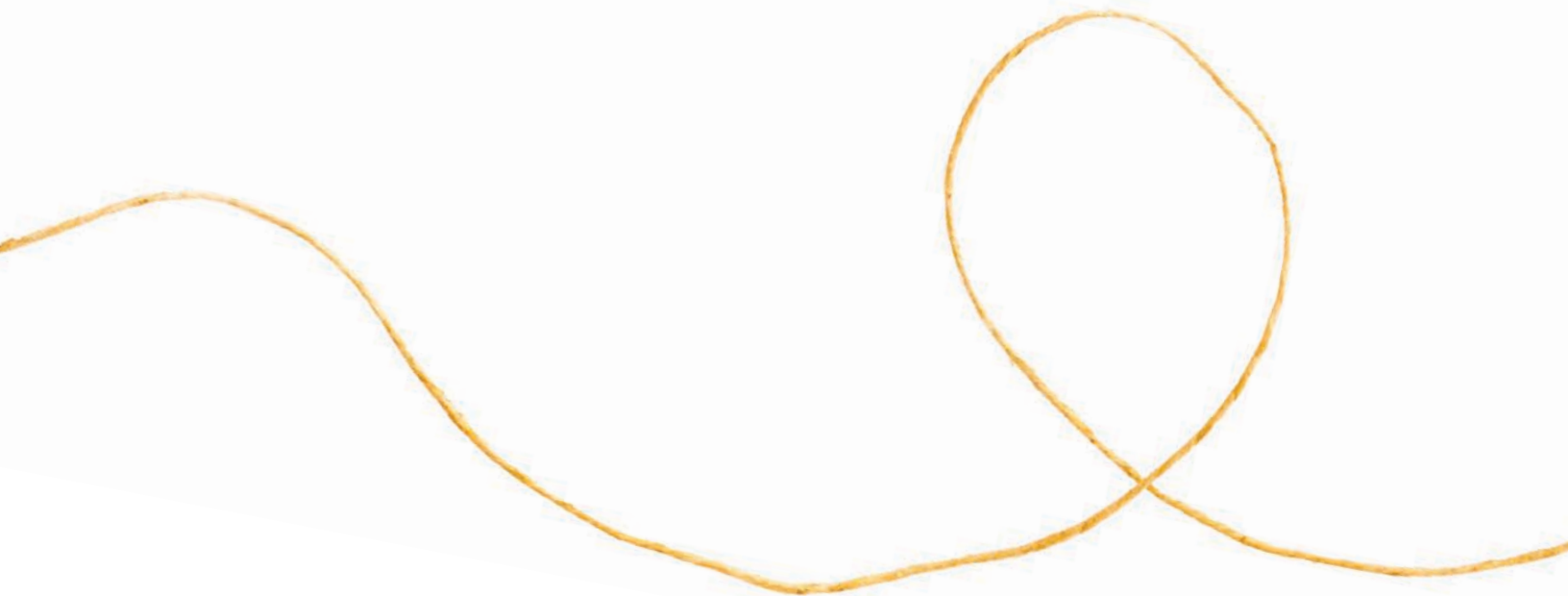
Hemp seed

is referred to as
one of **nature's**
most
perfect foods



Ways to Incorporate Hemp into your Diet

1. Sprinkle **hemp hearts (raw shelled hemp seeds)** onto oatmeal, cereal, soups, salads, desserts, smoothies, side dishes, main dishes and even on top of non-dairy ice cream!
2. Enjoy a splash of **hemp milk** in your oatmeal, smoothie, tea, coffee or next bowl of cereal! It can be used to make homemade hemp ice cream or as a non-dairy milk substitute for various recipes. Of course you can always enjoy a tall glass of hemp milk on its own!
3. Toss a scoop of **hemp protein powder** into a pre- or post-workout shake, a smoothie or mixed into a glass of hemp milk for a healthy boost of protein and fiber.
4. Use **hemp seed oil** as a simple topping for salad, as a base for more complex salad dressings and vinaigrettes, or as a finisher for vegetables, breads and other dishes. Note: Hemp oil should only be used as a finisher, should be kept refrigerated and should never be heated.
5. Spread **hemp butter** on fruit, vegetables, rice cakes, crackers or bread. Use it to make delicious salad dressings, spreads, dips, sauces, marinades and even smoothies!



A background image showing a microscopic view of hemp fibers, with a prominent orange fiber running horizontally across the lower half of the frame. The fibers are light-colored and have a complex, woven structure.

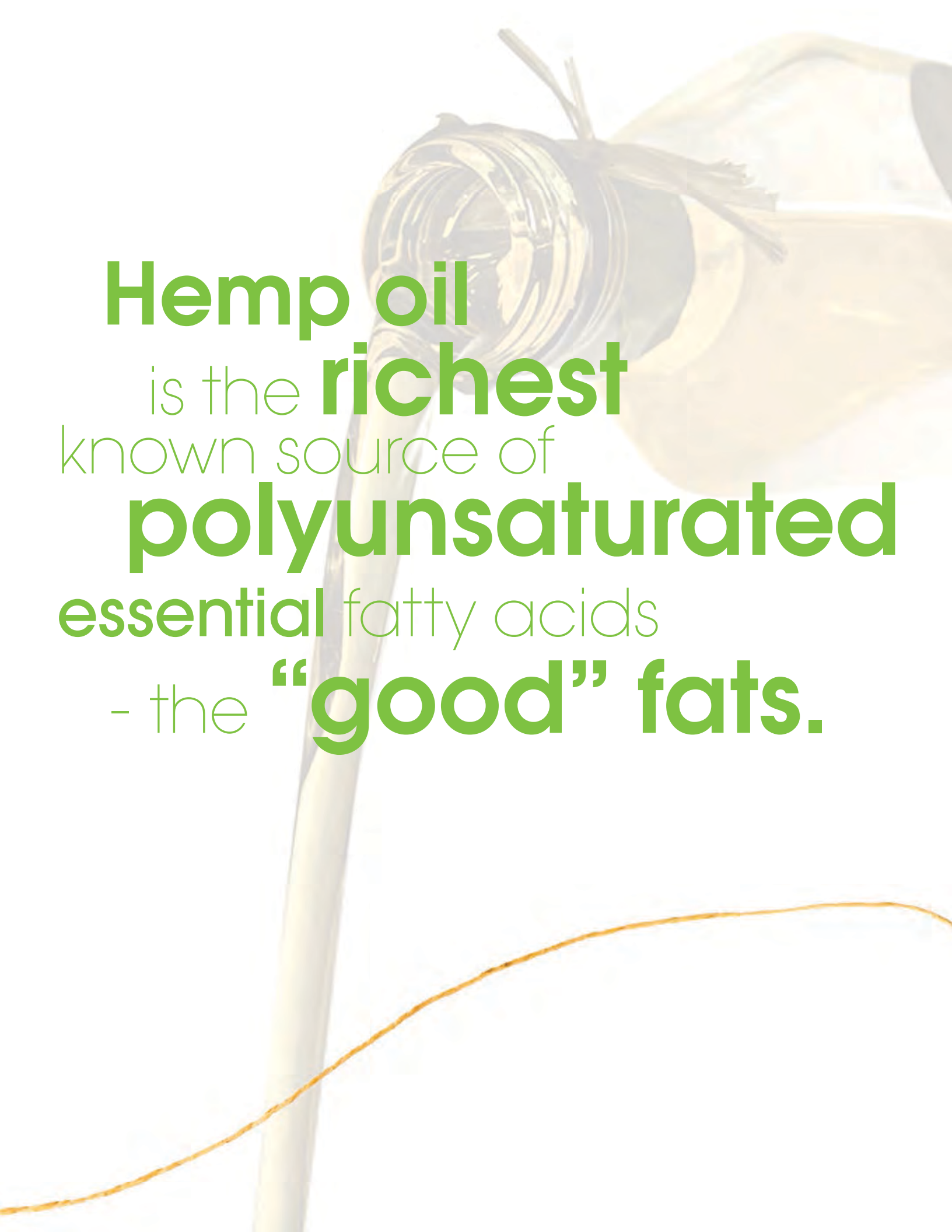
Hemp

has been
effectively **prohibited**
in the **United States**
since the **1950s**

Why Hemp Should be Legalized

- 1. Agriculture:** Hemp successfully grows without any need for pesticides and is easily cultivated. By revitalizing the soil it grows in, both by aerating the soil and depositing carbon dioxide into it, hemp assists in naturally renewing farm fields while killing weeds in the process. Crops that follow in the soil hemp grew in will grow more successfully than if hemp had not been used, making hemp ideal for crop rotation.
- 2. Economy:** The United States is the only country with a ban on industrial hemp farming with over 30 countries permitting its production, and China as the world's largest producer with nearly 80 percent of global tonnage. This means that the only way to legally access hemp products is through imports from these foreign countries, causing our US farmers (and our economy) to miss out on the financial benefits and profits of its production.
- 3. Versatility:** From food to body care to fuel to clothing, Hemp has been dubbed the most versatile crop. With this characteristic, Hemp has proved to be a solution for several issues, from environmental to economical. Did you know that when using the same amount of land, hemp can produce 250% more fiber than cotton and 600% more fiber than flax?
- 4. Sustainability:** Paper, eco health products, textiles, construction, biodegradable plastics and biofuels – all represent green initiatives that can be solved by industrial hemp. It has even been labeled as the “perfect building material” thanks to its non-toxic, non-flammable, mold and mildew resistant and cash positive qualities. In addition, hemp is carbon-negative, storing carbon dioxide and releasing oxygen.
- 5. Employment:** With an ongoing recession, including unemployment near 10%, we need a solution. U.S. retail sales of hemp-based products surpassed \$400 million in 2010 and economists predict its decriminalization could save us \$7 billion a year. This would result in jobs brought back to unemployed Americans if hemp production were domesticated within US borders.





Hemp oil
is the **richest**
known source of
polyunsaturated
essential fatty acids
- the **“good” fats.**

Uses for Hemp

- 1. Nutritious Food:** Hemp seeds can be used to make protein powder, oil, milk, and butter. It is one of the best sources of vegetable protein. They are rich in vitamins and minerals, and are also the only edible seeds with gamma-linolenic acid (GLA), which is an essential fatty acid. In fact, its essential fatty acid ratio is absolutely perfect for our bodies.
- 2. Body Care:** Hemp seed oil is perfectly suited for hair and skin because of its natural fat lipids.
- 3. Clothes:** Compared to cotton, hemp has more strength, durability, softness, absorbency, UV protection, and warmth. Hemp cloth won't grow mildew or rot when wet like cotton fiber. Cotton uses up to 40% of all agricultural pesticides while hemp uses no pesticides and crowds out weeds without herbicides. Cotton requires 50% more water to grow and hemp still grows twice as fast.
- 4. Paper:** There is no tree or plant on Earth capable of producing as much paper per acre as hemp. Hemp paper is naturally acid-free, requiring no toxic bleaching chemicals and lasting hundreds of years longer than paper made from trees because hemp is stronger and can be recycled many more times. Harvesting hemp doesn't destroy the natural habitats of thousands of distinct animal and plant species like paper does and also stops the deforestation of our country, producing stronger, more environmentally sound paper for less than 1/3 of the price of wood pulp paper.
- 5. Oil:** Hemp oil can be made into non-toxic and long lasting paints, varnishes, lubricants, and sealants.



Uses for Hemp continued

- 6. Fuel:** Ethanol from hemp is the cleanest-burning liquid bio-alternative to gasoline. Since gasoline engines are a primary source of carbon monoxide and greenhouse gases, alternative fuels such as ethanol could help significantly with the air quality in the atmosphere. Hemp provides a sustainable, renewable, and natural alternative to toxic fossil fuels.
- 7. Cars:** European companies are making auto panels from hemp based composites that are biodegradable, half the weight of, more durable, and safer than fiberglass counterparts.
- 8. Plastics:** Hemp hurds and fiber have over 50% cellulose, which is the building block of making plastic. Biodegradable hemp plastics could reduce landfill waste without a downgrade in quality. Oil based plastics produce bi-products of sulfur and carbon monoxide and these are non-biodegradable. Hemp plastic is recyclable and can be manufactured to be 100% biodegradable. Hemp plastic can be five times stiffer and 2.5 times stronger than polypropylene (PP) plastic.
- 9. Homes:** Hempcrete homes are made from a mixture of hemp and lime. They are fire, water, and rodent proof, with excellent elasticity, strength and breathability. Houses built from hemp have been found to use less energy, create less waste and take less fuel to heat than conventionally constructed homes.
- 10. Feed:** Hemp meal provides all the essential protein that livestock require yet doesn't require any antibiotics to digest, unlike corn.



Hemp **requires**
little water and
no synthetic fertilizers.

It's a perfect
rotation crop
because it
boosts soil health.



Companies that Produce Hemp Products

- **Dr. Bronner's Magic "All-One!"** (Soaps)
- **Manitoba Harvest** (Food)
- **Nature's Path** (Food)
- **Navitas Naturals** (Food)
- **Eileen Fisher** (Clothing)
- **PrAna** (Clothing)
- **Nutiva** (Food)
- **Hippie Butter** (Food)
- **Patagonia** (Clothing)
- **Living Harvest** (Food)
- **Vega** (Nutrition)
- **Hemp Naturals Evolve** (Nutrition)
- **Earth Dog** (Pet Products)
- **Rawganique** (Clothing)
- **Hemp Basics**
- **Hemp & Company** (Clothing)
- **The Hempest** (Clothing)
- **Hemp Builders** (Construction)
- **Hemp Building** (Construction)
- **Global Hemp** (Distributor)





Cloth from hemp
is **more durable** and
allows **better ventilation**
than **cotton**.

Legalizing hemp would
decrease costs of
hemp fiber **imports**.

Bringing It Home

A Documentary about Industrial Hemp

Teens Turning Green invites students on campuses around the country to host a screening of a fantastic new documentary called Bringing it Home about industrial hemp and a greener future. We will send a DVD of the film for the first 10 schools who apply to screen it. As well we will send some product samples to each school from Dr. Bronner's that can be distributed to attendees.

The 10 screenings will be on a first come basis. Take a look at the film trailer and background information here. Please let us know if you are interested in hosting a screening at your school. If so, we will send you a form to fill out and then help you facilitate your event.

Application

- Log on and fill out an application here
- Identify a student leadership team to help develop and host the event

Event

What: TTG will provide the DVD of ***Bringing It Home***, a documentary by Linda Booker and Blaire Johnson.

About: Bringing It Home (52 minutes) tells the story of hemp's past, present and future through interviews with hemp business leaders and entrepreneurs from all over the globe, historical images and media clips, and footage filmed in the U.K, Spain, Washington D.C., California

and North Carolina. The documentary aims to magnify dialogue about hemp in order to facilitate America's transition to a more informed, sustainable, and healthy future.

Trailer: View the trailer [here](#)

Flyer: (see following pages)

Pre Screening Tasks:

- Date, campus venue and school permission for the screening
- Tables and tablecloths for event
- Speaker or panel following the film (TTG will help)
- Flyers to spread the word (TTG can provide and customize these with your school info for students to post and spread the word via social media)
- Invite students, campus and community leaders, faculty, professors and other staff.
- Video/Photos: Students on each campus will be asked to upload visuals from their events to TTG team and post on social media

Pre-Screening Sampling (some sampling provided by TTG, NonGMO popcorn, Dr. Bronner's Coconut Oil for popping, Hemp Hearts, tables etc provided by student leaders

Bringing It Home continued

Post Screening

- Dialogue/ panel with people who are helping to lead bring hemp into the mainstream
- Goody bags containing hemp product samples to take home

Next Steps - Take Action

- Organize team of interested students and
- Write to legislators to legalize hemp
- Work with dining services and retail stores on campus to buy hemp products
- Make a Video

Interview students on campus to discover how aware they are of hemp

Walk around the busiest place on campus with a video camera and ask the following questions:

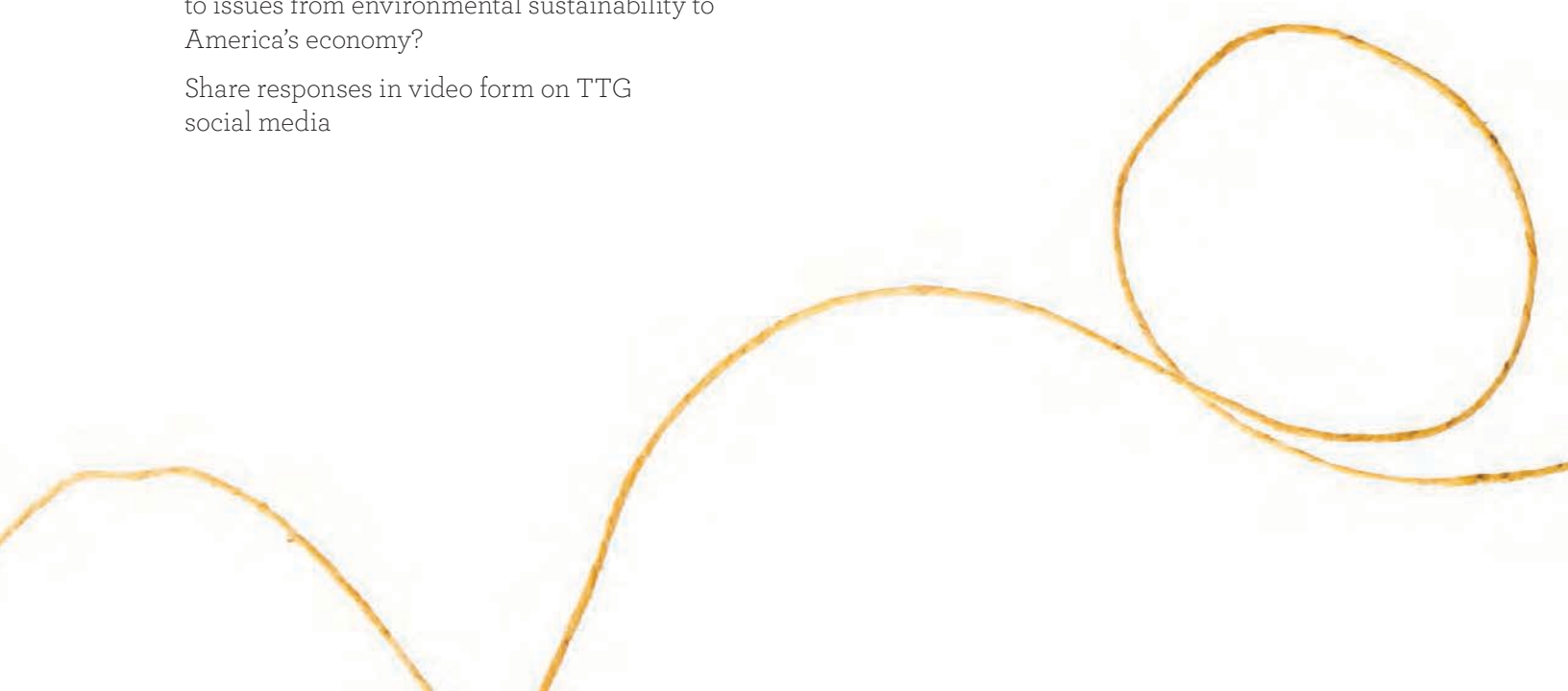
Do you know what Hemp is?

If yes, please share your ideas.

Do you think Hemp should be legalized?

Did you know that Hemp could be the answer to issues from environmental sustainability to America's economy?

Share responses in video form on TTG social media



If **we** dedicated
6% of **America's** land
to **growing**
hemp,
it would be
enough to **fuel**
the **whole**
country!



Hemp, healthy houses, and a greener future



© 2013 By the Brook Productions. All rights reserved.



A father's search to find the healthiest building materials leads him to the completion of the nation's first hemp house. Hemp with lime is a non-toxic and energy-efficient building material; it is also resistant to mildew, fire and pests. The drawback—**industrial hemp is currently illegal to farm in the U.S.A.** Industrial hemp is a non-psychoactive plant that is grown in 31 other countries. Hemp can be used to make thousands of sustainable products, and it offers solutions for global warming, nutrition, poverty and deforestation. **BRINGING IT HOME** tells the story of hemp: past, present and future and a global industry that includes textiles, building materials, food products, bio-plastics, auto parts and more.

Documentary 52 min. www.bringingithomemovie.com



Film Support From



Flyer Design: Lesley Landis Designs

DOCUMENTARY FILM SCREENING

Date @ 0:00 PM

Venue/Location

Address with Zip Code

EVENT URL

More event details / hosted by

"Bringing It Home," ... is humorous, educational, and at times, infuriating. The infuriating part has nothing to do with the film itself, but what Booker and Johnson are documenting.

- Cliff Bellamy, The Herald-Sun

“Hemp is considered to be the most useful plant”

What is Hemp?

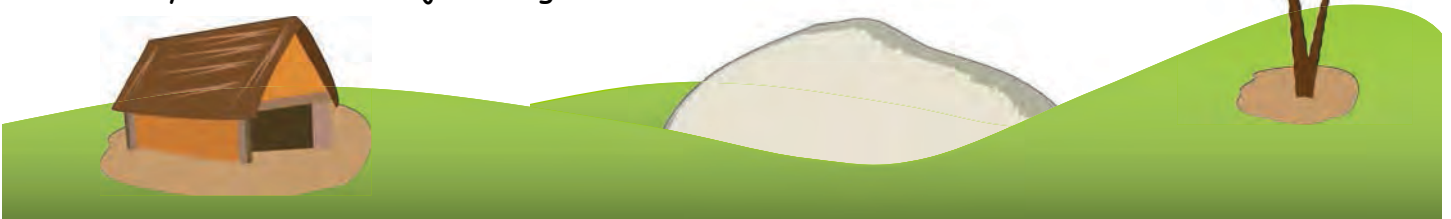
- Industrial hemp is the oilseed and fiber varieties of *Cannabis sativa* L., intended for agricultural and industrial use.
- Hemp is a non-drug variation of *cannabis sativa*; 'cannabis sativa' translates to 'useful hemp'.
- Both its seeds and fibers are useful: its seeds yield milk, oil, and other food products while its fiber creates paper and clothing.
- It could replace many environmentally destructive products.
- It can be turned into plastics and made into petroleum without producing sulphur, reducing CO₂ in the atmosphere. Until 1883, 75 - 90% of all paper in the world was made from hemp.

Why is Hemp Illegal?

- Politics. To protect their own companies, big businesses worked in the twentieth century to spread misinformation, discouraging the production of hemp
- Petroleum, cotton, lumber, and paper companies could be threatened by the potential industrial boom of hemp plants, so they began to spread rumors of the danger of hemp and marijuana, using 'yellow journalism' in the 1920s and 1930s to place poorly-researched stories into the media in order to confuse the public.
- These articles claimed that marijuana - and hemp - were responsible for car accidents and the loss of morality, turning public opinion against the use of hemp and resulting in the prohibition of marijuana and harmless hemp plants.

What is the Difference between Hemp and Marijuana?

- Marijuana and hemp are different varieties of the same species of plant, *Cannabis sativa* L.
- Hemp does not get you high!
- While marijuana has a potency range of 3% to 20% by dry weight of THC, industrial hemp is generally defined as having under 0.5%.
- The THC levels in Industrial Hemp are so low that a high from smoking it is nearly impossible, and it contains a relatively high percentage of another cannabinoid, CBD, that actually blocks the marijuana high.





Hemp Seeds

Uses of Hemp

- Food: Hemp is one of the best sources of vegetable protein.
- Feed: Hemp meal provides all essential protein that livestock require; unlike corn, it doesn't require any antibiotics to digest.
- Body Care: Hemp seed oil's natural fat lipids make it perfect for hair and skin.
- Oil: Hemp oil can be made into non-toxic and long lasting paints, varnishes, lubricants, and sealants.
- Paper: The hemp plant not only produces more paper per acre than any other tree or plant, but is also naturally acid-free, eliminating the need for toxic bleaching. It is also stronger and longer-lasting than traditional paper, allowing it to be recycled more times and costing 1/3 the price of wood pulp paper. Harvesting hemp would mitigate deforestation and the destruction of biodiversity and habitats.
- Fuel: Ethanol from hemp is the cleanest-burning liquid bio-alternative to gasoline. The replacement of gasoline with hemp ethanol may improve atmospheric air quality, and provide a sustainable and renewable alternative to toxic fossil fuels.

"The law requires industrial hemp to be imported from other countries. Basically, it's taking jobs away from American producers."

—Representative Jared Polis D-Colorado, a proposer of the House amendment

To Learn More:

Vote Hemp @ <http://www.votehemp.com>

Truth About Hemp @ <http://www.truthaboutthemp.org>

Sources:

<http://www.votehemp.com>

<http://www.votehemp.com/faqs.html>

<http://www.alternet.org/economy/why-legalizing-hemp-matters-my-family>

http://www.huffingtonpost.com/2013/06/20/hemp-amendment_n_3472967.html

<http://www.collective-evolution.com/2012/12/05/how-hemp-became-illegal-the-marijuana-link/>

<http://www.lewrockwell.com/2010/07/doug-yurchey/the-marijuana-conspiracy-the-reason-hemp-is-illegal/>

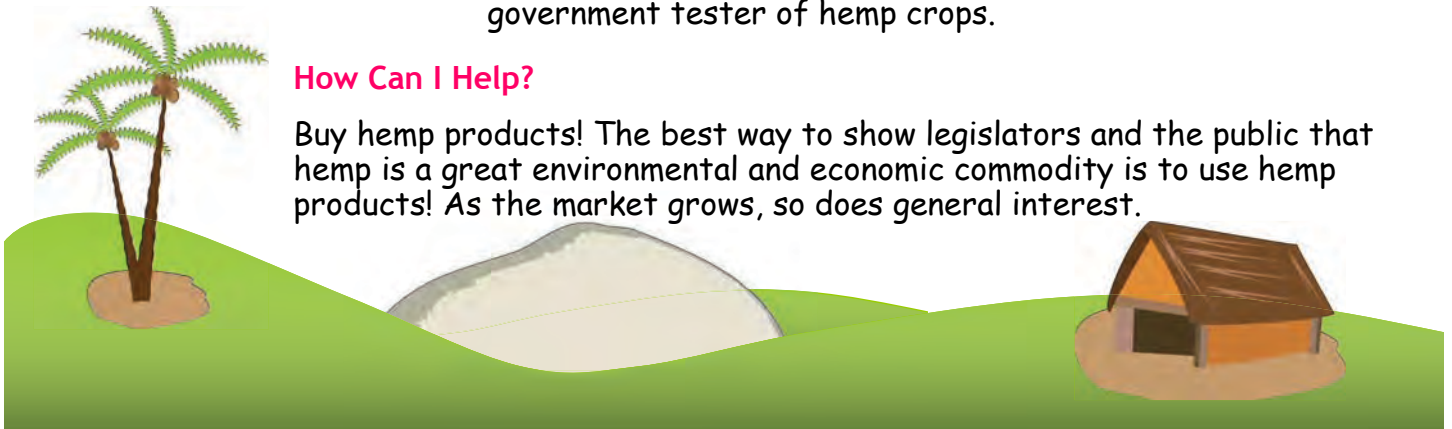
<http://www.serftosurf.com/hempfacts.htm>

Why Should Hemp be Legalized?

- Legalizing hemp would allow major industries to reduce their dependence on nonrenewable, fast-disappearing resources and move toward sustainable production.
- Because renewable and fast-growing hemp can be used effectively for fuel, paper, cloth and many other things, legalization would give small farmers another opportunity to succeed in America.
- Its prohibition because of its close association with marijuana is unfounded: in 15 years of hemp legality in Canada, there has not had a single problem with hemp used for psychoactive purposes, according to Andrea Hermann, a government tester of hemp crops.

How Can I Help?

Buy hemp products! The best way to show legislators and the public that hemp is a great environmental and economic commodity is to use hemp products! As the market grows, so does general interest.



Hemp: The most sustainable energy resource, banned

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Intro:

America has recently been confronted with an energy crisis due to the depletion of fossil fuel resources and great environmental concerns. Fossil fuels are being exploited at their maximum capacity while energy demand is expected to double during the next decade¹⁹ Energy crops must replace fossil fuels if America wants to secure energy without causing further detrimental effects on the Earth. This is why hemp, or Cannabis Sativa, has recently received a great deal of attention in the United States. Hemp is one of the oldest crops in the world and the single most productive, practical, and profitable biomass farm crop on Earth. It is sustainable, clean, environmental friendly and exhibits fuel properties within the range of American Standard for Testing Material all at a lower cost than the energy produced today. This powerful plant is the best resource for biodiesel, ethanol and methane, all which can be used as fuel for automobiles and everything else that releases harmful pollution into the air. The only problem is hemp remains to be banned in America.

The Process

The thermochemical process that converts organic material such as hemp into usable fuels is called Pyrolysis. This consists of applying high heat to organic matter, in the absence of air or in reduced air. Pyrolysis's most efficient method is biomass conversion, capable of eventually replacing non-renewable fossil fuel resources. Emphasis has centered around using waste products for this biomass conversion. However, all of the possible waste products combined cannot produce enough fuel to meet the needs of industry and the automobile until we include the hemp that can be grown on virtually all farms.⁴

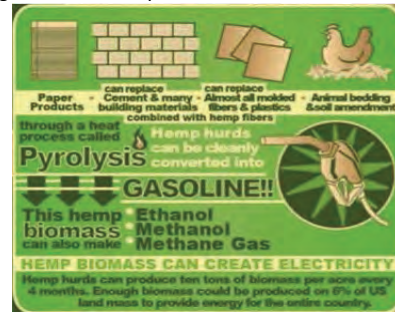
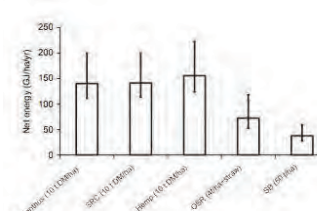


Figure 1- Pyrolysis Process

Hemp produces biomass methanol, ethanol, and biodiesel while adding oxygen to the atmosphere! Ethanol and methanol fuels produced from biomass provide higher octane than gasoline with less carbon monoxide. Carbon dioxide overdose in the atmosphere is a major problem we are facing, and hemp can significantly reduce this problem while fossil fuels add to it. It has been proven to grow sufficiently in all parts of America, thus being able to take over

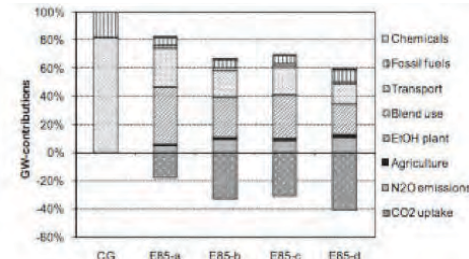
farmlands that are causing detrimental harm to the environment. Hemp biomass is free of sulfur and other contaminants, which is how it burns more cleanly. Using extractions from the biomass of hemp as car fuel would reduce the CO emissions by about 89 percent. With an output of 1000 gallons of methanol per acre of hemp⁷, this seems like switch worth investing in. Overall, hemp is a more efficient renewable bioenergy feedstock than the dominant annual energy crops and it being banned is problematic to the environment.



Hemp produces the highest net useful energy yield per hectare per year. Industrial hemp delivers a good final energy ratio, offering high useful energy yields while requiring low energy input for cultivation and processing.¹

What can be done?

Fight for the Right to Grow Hemp! Many people confuse hemp with marijuana, but in reality hemp does not contain enough THC to be used as a drug. If farmers in the United States were able to grow hemp, the unfair stigma directed toward the crop would dissipate. The battle to raise hemp in America has been ongoing for many years, and seven states have passed legislation to legally grow hemp commercially or for research purposes, with final approval from the federal government, which is not easy to receive. The fact is there is a demand for hemp and all its benefits, and there are people continuously trying to make its legalization happen. With more support being provided to such leaders, a change is in the future.⁵



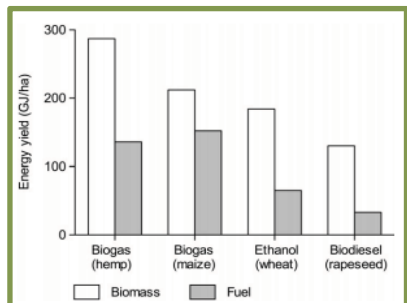
Contributions to global warming for conventional petroleum (CG) and ethanol-based fuels (E85), a fuel produced by hemp.



Possible bioenergy pathways based on hemp biomass²

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gross energy yields per hectare for biogas from hemp compared with other renewable transportation fuels.³