

Industrial Hemp Program Study Committee

Monday, November 21, 2016

12:30 p.m.

Room 103

PANEL #2

Introduction

HEARTLAND HEMP COMPANY

Heartland Hemp Company

The re-emergence and re-introduction of industrial hemp cultivation is a positive step for Iowa. It encourages economic and agricultural development in Iowa, and projects Iowa as a leader in this emerging and exciting market. As the hemp industry grows in the United States, Iowa has the unique opportunity to be the leader of this industry and direct its development and future.

1) There is historical precedent of industrial hemp in Iowa

- During World War II, northern Iowa farmers on the home front were major contributors to the war effort by growing 48,000 acres of hemp on their farms in 1943 (source: Iowa Agricultural Extension Service and USDA).
- The hemp grown from these “war crops” was used to manufacture textiles, rope, hygiene products and other materials for the Allied forces.
- Jamestown colonists originally were required by law to grow hemp, and were even permitted to pay their taxes with harvested hemp.

2) Hemp yields more per acre than corn in regards to harvest size and price per acre

- Hemp stalk can yield 16,000 pounds of biomass per acre on average, compared to corn, which yields 8,500 pounds per acre on average. This equals 640 gallons of hemp-based ethanol per acre, compared to 340 gallons of corn-based ethanol per acre (cellulosic).
- Hemp can earn on average \$2,500 per acre for seed-only harvest, compared to corn, which earns \$800 per acre. In addition to being used for manufacturing, seeds can also be used as livestock feed.

3) Hemp has a variety of uses, and recreational use is not one of them

- Hemp cannot be grown or used as a recreational substance.
- Hemp is used to create textiles, rope, paper, biomass fuel, oils for biodiesel, and hygiene products such as shampoo, soap and lotion.
- Hemp seed is one of the most efficient sources of protein and is currently sold as seeds, protein powders, and vegetable oil.
- Significant advances in bioplastics have catapulted hemp into a preferred raw material for major car manufacturers like BMW and Dodge, who are using it for door panels.

4) Hemp crops are easy to maintain and are good for the Iowa soil

- Hemp crops are low-maintenance; they are drought-resilient and require few to no pesticides.
- **Hemp has a deep tap root of up to nine feet deep**, which makes it ideal for soil aeration.
- **Hemp harvesting processes use the same seeding and harvesting equipment that is used for corn and soy production. John Deere’s W660 combine is used in Europe to harvest industrial hemp.**

5) Hemp represents a growing industry, and Iowa is losing this opportunity

- Hemp products represent a \$620 million market in the US, making **our country the largest consumer of hemp products in the world, yet none is grown here.**
- Canadian licensed hemp acreage has increased from less than 20,000 in 2009 to over 100,000 in 2015 in direct response to growing US demand.

Hemp In America

Hemp Saves George H.W. Bush

Five years after industrial hemp was outlawed in 1937, it was promptly re-introduced for the World War II effort in 1942. So, when the young pilot George Bush bailed out of his burning airplane after a battle over the Pacific, little did he know:

- Parts of his aircraft engine were lubricated with hempseed oil;
- 100% of his life-saving parachute webbing was made from U.S. grown industrial hemp;
- Virtually all the rigging and ropes of the ship that pulled him in were made of industrial hemp;
- The fire hoses on the ship (as were those in the schools he had attended) were woven from industrial hemp; and,
- Finally, as young George Bush stood safely on the deck, his shoes' durable stitching, was of industrial hemp



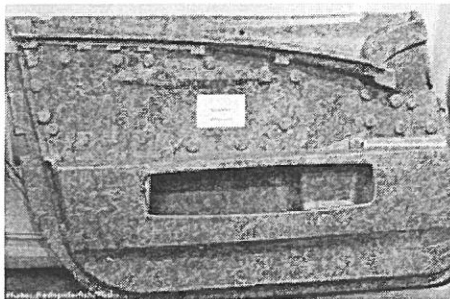
BMW Uses Hemp

"The BMW i3, a new all-electric car which debuted on Monday, weights just 2,700 pounds, 800 pounds less than the Nissan Leaf and the Chevy Volt. BMW achieved this by using a variety of low-weight materials --including plenty of hemp in the interior -- to maximize fuel efficiency and driving range.

Weight is essential, reports TruthonPot.com, because the i3 depends on a 22-kilowatt lithium-ion battery for fuel; the battery is so heavy it contributes about 20 percent of the vehicle's mass. Like many BMWs before it, the i3 features door panels made of hemp; mixed with plastic, hemp helps lower the weight of each panel by about 10 percent.

Hemp fibers, left exposed, also form a design element of the car's interior, reports Bloomberg. Designer Benoit Jacob says the use of natural materials like hemp and kenaf (a plant in the hibiscus family) makes the i3's interior feel like "a small loft on wheels." -

--Source: evworld.com

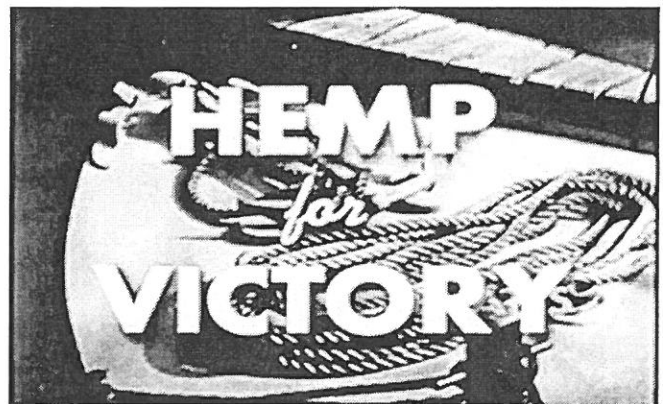
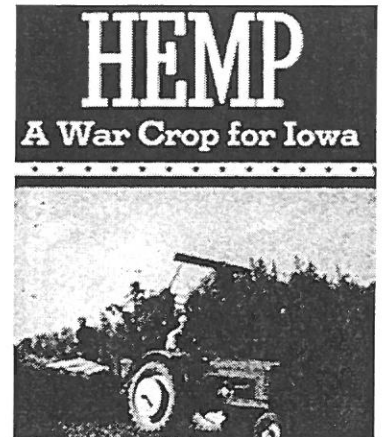


"Hemp for Victory!"

When the Philippines fell to Japanese forces in 1942, the Department of Agriculture and the U.S. Army urged farmers to grow hemp fiber cultivars.

Tax stamps for cultivation of fiber hemp were issued to farmers. Without any change in the Marijuana Tax Act, 400,000 acres (1,600 km²) were cultivated with hemp between 1942 and 1945.

The last commercial hemp fields were planted in Wisconsin in 1957. This national campaign was dubbed "Hemp for Victory!" and included information bulletins such "Hemp: A War Crop for Iowa."



Canada: Staying Ahead of US and Iowa Farmers

CyLab International has finalized plans to construct a \$32 million factory, where hemp fiber will be processed into various products, including construction materials, animal bedding and biofuel. The Alberta, Canada location will employ 70 people.

This plant is a copy of a plant currently operating in China which CyLab uses to process hemp for global markets, primarily the United States. By moving to Canada, CyLab hopes to decrease transportation costs and, ultimately, lower prices.

By continuing to prohibit this plant, we are denying strong manufacturing jobs from coming to Iowa, and instead sending them to our neighbors up north.