## Why hemp prduction should be legal in the us

Science, Biology



Uses of Hemp and its Potential Contributions to the United States Hemp is a crop that has been used for many things for many years. The fibers are used for things such as clothes, construction materials, paper, carpet, oil, food, cosmetics, food, and many other things. The hemp industry has been around for as long as ten thousand years. There was a piece of hemp fabric found from around eight thousand BC showing its importance to many civilizations throughout the years. Nowadays, hemp is an agricultural commodity in many nations. Canada is known to be one of the largest hemp growers in the world and use it for a large number of industries.

Some countries export hemp products all around the world and use it as a vital part of their economy. The United States is among the few countries that does not permit the production of hemp. The value of hemp has gone unrecognized for many years in the U. S. Out of the industrialized countries in the world, the U. S. is the only country to ban the growth of this crop. The legalization of hemp production in The United States would put many farmers back to work as well as create a very ecological and environmentally safe alternative to multiple harmful industries.

From when Europeans first came to North America till the Middle of the nineteenth century, hemp was grown all over. Its availability was useful for many families and companies. Hemp was also grown by two of our first presidents because of its versatility and efficient uses. The Declaration of independence was in fact, written on hemp paper. Hemp was actually a required crop in the Colonial times. It became a commodity and was an overall great use of land. The name "cannabis" comes from a variation of " canvas" because of hemps use in sails for boats.

Before cotton, hemp was very common in forms of fibers which could be used for twine, paper and many other things. Once people came out with cotton gins and other very efficient ways to harvest and make fabric out of cotton, hemp became a less competitive material. Also, imported materials began to take over the hemp industry. Throughout the 1930's, people realized the euphoric effects of the plant and began to isolate and genetically develop the leaves and flowers to get a plant that produced large amounts of the desired chemical. This plant is known asmarijuana.

This is when laws began to pass restricting restrictive laws that only allowed the industrial use of cannabis in the form of hemp. During World War Two, the federal government actually paid farmers and encouraged them to continue to grow hemp. Its availability was greatly taken advantage of during the war. Between the war and the late 1950's, other synthetic fibers for various materials were a competitive industry causing less and less hemp growth in the United States. Also, many efforts were made by the public to illegalize drugs. This contributed to the fade out of hemp use. Mass, 2009) The Controlled Substances Act was passed in 1970 making hemp illegal to cultivate without a permit. These permits were very difficult to get through the DEA. From this point on, all hemp products come from other countries or the hemp materials used to make things are also imported. Now days, about half of the states in the nation are pushing to legalize the industrial uses of hemp. They are conducting studies to consider the economic and environmental value of hemp. These states want to be able to grow hemp industrially based on state law.

They would like to be able to do so without a permit from the federal government. This would override the Controlled Substance Act unless they redefine hemp as not a controlled substance. Hemp cannot be hidden in fields. It is very tall and grown very close together for maximum stalk. Hemp fibers come from the stalk of the plant therefore leaves and flowers are of no use to hemp growers. Hemp is also harvested before the plant even begins to seed. This differs from marijuana in the sense that marijuana growers spread out their crop to maximize leaves and flowers.

Marijuana is usually grown for the seed and flower buds solely for the high. Hemp on the other hand is never grown forsmoking. The purpose of growing hemp is for the multitude of uses of the stalk fibers. When looking at hemp from an environmental standpoint, it is a very healthy crop for the earth. From planting all the way to using its products, hemp is a very environmentally friendly plant. As it grows, hemp fertilizes the soil through its complex and deep root systems as well as the top soil that comes from the shedding of leaves. The soil, the water and the air are not polluted during the growth of hemp.

Pesticides are rarely used giving clean water runoff. This differs from crops like cotton because when cotton is grown, the soil becomes nutrient deficient and the soil becomes less desirable. There have been farmers who claim hemp has steadily been grown in the same locations every year for nearly one hundred years. Many people are concerned about the use of trees for paper. Hemp would be a great alternative to this issue as well because the amount of pulp a farmer can get from hemp over a season is much more

than timber. Trees take many years to grow and hemp is replenished in a matter of months.

The process of turning hemp into paper uses much less contamination in the pressing and bleaching processes. Other interesting facts about hemp paper are described in Hemp: The New, Old Fiber Makes a Comeback for Clothes, Fabrics and Home Furnishings. "Hemp fiber paper resists decomposition and does not yellow with age when an acid-free process is used. The long fibers in hemp allow hemp paper to be recycled more times than wood-based paper. " (Mass, 2009) The rapid growth speed of hemp makes it one of the most efficient crops in the sense of yield per acre. Hemp can produce 250 percent more fiber than cotton and 600 percent more fiber than flax using the same amount of land" (Mass, 2009). In further comparison of hemp and cotton, the fibers that are obtained from hemp stalks and bark, include the very long bast fibers. These types of fibers are stronger and a better insulator. After the harvest, the goal is to make the crop into some sort of textile that can be distributed to other companies for various uses. This process is extensive for any crop however; the processes used in hemp cause significantly less damage to the earth than other materials such as cotton.

The process does use a large amount of water that will become more efficient in the future but compared to processes for other textiles, hemp is a better choice ecologically. Going into the uses for hemp, it is not destructive to theenvironmentwhich shows it is a great alternative to many other materials that share the same uses as hemp. Some of hemp's uses that are ecologically more efficient than others are; paper products, textiles, molded

plastics, body care products, construction, livestock feed and breeding, nutritional supplements, essential oils, medicines, food and many more. Small, 2002) With clothing, hemp is warmer than cotton and breathes better than cotton, leather and other materials widely used for clothing. "Hemp's fiber molecule has a shaft-like structure that allows it to: wick moisture off the body and dry quickly; allow the wearer to feel warmer when wet, even in cold conditions; keep the wearer cool, comfortable and fresh, even in very hot and/or humid conditions. " (Mass, 2009) One material made from hemp that is very versatile, is plastics.

John Wolodko, an advanced materials program leader gives his word on plastics, "This is traditionally made from fiberglass... Products made from biocomposites work as well as those made from conventional materials, with the advantages of being lighter and less expensive. The ability of environmentally friendly products to compete with non-renewable products like fiberglass makes for a competitive and promising future for the biocomposites industry. " (Edmonton, 2009) Plastic is used in so many things from lawn chairs to automobile body parts to toothbrushes.

This new process for plastics would be a fantastic alternative to the previous fiberglass methods. As an antibacterial fabric, hemp clothing is good for people with allergies to some chemicals that are included in the processes of other clothing materials. It also won't begin to smell bad as fast as other materials. A big positive quality of hemp is that it is completely biodegradable as well as very strong and resistant to the wear and tear of daily life. It is great for people who are outside in nature a lot due to these qualities.

Hemp can also be converted into a fuel in the form of pellets or liquid gas. This energy source, according to the U. S. Department of Energy, " requires the least specialized growing and processing procedures of all hemp products". Fuel and energy is a major concern in our country and hemp could contribute significantly to the problems we face. Countries such as Great Britain and Germany had hemp bans like the United States but have lifted those in the last 20 years. Farmers in Europe are subsidized for their hemp output by the EU.

Canada allows hemp production for commercial use and it is a large part of their economy. Hemp is a safe and environmentally friendly alternative to a wide variety of the United States industries and the legalization of hemp production on the commercial level would be a great addition to our country on an environmental and economic level.

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