

hemp trillion-dollar cash crop



history

BILLION- DOLLAR CROP

Hemp was called 'Billion Dollar Crop' in 1938 by Popular Mechanics. It was the first time a cash crop had ever had the business potential to exceed a billion dollars. It is a mystery to me why this renewable resource is still being ignored. I am going to reveal the history of plant, how it can be used and how I see the resource will have a positive impact on landscape architecture in the future. Let's see if we can't make it a trillion dollar crop and save the environment at the same time. Hemp has been utilized for thousands of years. The oldest known records of hemp date back as far as

...8,000 years ago

where they farmed hemp in Persia. Use of the plant and farming spread across the world. Farming hemp in North America, Egypt, and China began 5,000 years ago. Trading of hemp was not only how the product spread but it was also an excellent way to spread knowledge of the sustainable resource that could grow just about anywhere.

According to state archives, in the United States hemp was the first crop to be grown in many of the states. Hemp was grown at an astonishing rate, with stated producing up to 40,000 tons of hemp a year, making it the largest cash crop in the United States until the 20th Century.

Many of the things we are familiar with today were originally constructed from hemp. The King James Bible, maps, charts, Betsy Ross's flag, the first drafts of the Declaration of Independence even the...

even the Constitution was made from hemp.



war on drugs

It seems as though the main reason why hemp is being neglected is because of the negative connotation with the substance referred to as 'Marijuana'. Growing hemp was never illegal until the late 1930's when William Randolph Hearst saw the plant as a threat to his corporate profit. In fact it used to be illegal to refuse to grow the valued cash crop. From 1961 until the early 1990's you were even allowed to pay your taxes with hemp.


It was illegal not to grow hemp.

For thousands of years, 90% of all ships' sails and rope were made from hemp. In fact, the word 'canvas' is Dutch for hemp. The army and the navy also harnessed the strength of the fibers in order to make their ropes. There is even a 14 minute film from the United States Department of Agriculture's 1942 encouraging and instructing 'patriotic American farmers' to grow 350,000 acres of hemp each year for the war effort.

'...The Navy's rapidly dwindling reserves. When that is gone, American hemp will go on duty again; hemp for mooring ships; hemp for tow lines; hemp for tackle and gear; hemp for countless naval uses both on ship and shore. Just as in the days when Old Ironsides sailed the seas victorious with her hempen shrouds and hempen sails.

...Hemp for victory!'

Then in September of 1937, hemp became illegal. Congress banned hemp because it was said to be the most violence-causing drug known. Because of William Randolph Hearst and his 'yellow journalism' hemp was becoming the new enemy. Films like 'Reefer Madness' inaccurately portrayed hemp as being a violent and deadly substance. The uses of hemp began to disappear and Hearst and DuPont began to run a monopoly on paper, oil, and medicine.



GROW
HEMP
FOR THE
WAR

today



Many countries still embrace hemp as a sustainable building material and they are generally better off by doing so. Australia, Canada, China, England, France, Germany, India, Japan, and Russia are just a few of the world's largest growers and manufacturers of hemp today.

The above image is Adnams Brewery, Britain's Greenest warehouse. This marvel of a building was designed by Aukett Fitzroy Robinson and designed built using lime hemp blocks. Hemp actually absorbs CO₂ as it grows, while the lime mortar and lime render absorbs carbon dioxide as it sets. Therefore this building uses less than one fourth the carbon dioxide as a building of similar size using traditional construction methods.

It is becoming increasingly popular to practice sustainability in design and other countries are exploring the use of hemp as a building material. Lime and hemp block is just one way that this resource can be used. Hempcrete is another interesting form of replacing concrete. Hemp walls are 7 times stronger than concrete walls, half as light, and three times as elastic, which means that these buildings will bend, but not break. Because of their superior strength and flexibility, hemp walls are resistant to stress-induced cracking and breaking. Even earthquakes and other natural disasters cannot break or crack these structures. Yet another building material that hemp can substitute for is wood. Hemp can be made into wood-like building materials that are stronger than wood and can be manufactured cheaper than wood from trees. Even a seemingly sturdy and reliable material such as steel is no match for the incredible fibers of hemp. In 1941 Henry Ford and Popular Mechanics discovered that hemp is seven times stronger than steel.

seven times stronger than steel



The image to the left is a Lotus 'Eco Elise' and it is constructed largely out of hemp. Everything from the door panels to the body of the car itself is made up of the lightweight heavy duty material. It is a stylish way to introduce this renewable resource into the design and manufacture of automobiles. Although Lotus can't take all the credit; Ford created the green car in the 1941 that was constructed almost entirely of hemp and ran on hemp seed.

Hemp produces more biomass than any plant that can be grown in the U.S. This biomass can be converted to fuel in the form of clean-burning alcohol, or no-sulphur man-made coal. Hemp has more potential as a clean and renewable energy source than any crop on earth. Potentially we could be designing for a cleaner future that would actually cost less.

tomorrow

In the future, hemp will return to the powerful resource that it once was. Combined with the technology that we now possess the possibilities are endless. Soon there will be a shift in design that will bring architecture and landscape architecture together in a way that will allow buildings and landscapes to blend together as one in a way never thought possible.

Materials will be drastically less expensive, therefore the need for designers will be at an alltime high. The fact that materials for projects can be locally grown will eliminate the need to ship long distances and that energy will then be saved.

...going green will never be the same

This will give a whole new meaning to sustainability. Today many people find it too expensive to be sustainable and use renewable resources. In the future however, by making it not only affordable but less expensive than traditional ways you ensure that the world is a healthier place. Every home will be more efficient and and businesses will not only save money on the costs of maintaining their building but the employees will demand less money if themselves due to lower cost of living.

There would also be an opportunity for millions of new jobs that would be needed. I mentioned the need for more architects and landscape architects, but there would need to be more contractors and skilled laborers. Car manufacturing would increase as would the need for more roads and road maintance. Hempcrete would ba an excelent way to create permiabile pavings and solve the stormwater and flooding issue once and for all.

Overall we need to prepare for what the future has in store. There will be many changes that will occur but when they do the world as a whole will finally become sustainable.



In 1935 116 million pounds of hemp seed was used make paints and varnish.

Canada has been growing industrial hemp since 1998. Today seed shops are all over CA.

Industrial hemp has a THC content of between 0.05% and 1%. Marijuana has a THC content of 3% to 20%.

Hemp seed oil is the highest source of omega-3 and 6 fatty acids. Which help control cholesterol, arterial blockage and the immune system.



There are enough nutrients that you can survive off eating hemp seeds and drinking water alone.

Trees must grow
**20 to 50
years**

after planting before they
can be harvested for
commercial use

**Substituting hemp for trees
would save forests and wildlife
habitats. It would also reduce
soil erosion which would
also reduce pollution of
lakes and streams**

deforestation

sustainability

4 months

after it is planted hemp grows
10 to 20 feet tall and is ready
to be harvested.

Many countries still embrace hemp as a sustainable building material and they are generally better off by doing so. Australia, Canada, China, England, France, Germany, India, Japan, and Russia are just a few of the world's largest growers and manufacturers of hemp today.

The above image is Adnams Brewery, Britain's Greenest warehouse. This marvel of a building was designed by Aukett Fitzroy Robinson and designed built using lime hemp blocks. Hemp actually absorbs CO₂ as it grows, while the lime mortar and lime render absorbs carbon dioxide as it sets. Therefore this building uses less than one fourth the carbon dioxide as a building of similar size using traditional construction methods.

It is becoming increasingly popular to practice sustainability in design and other countries are exploring the use of hemp as a building material. Lime and hemp block is just one way that this resource can be used. Hempcrete is another interesting form of replacing concrete. Hemp walls are 7 times stronger than concrete walls, half as light, and three times as elastic, which means that these buildings will bend, but not break. Because of their superior strength and flexibility, hemp walls are resistant to stress-induced cracking and breaking. Even earthquakes and other natural disasters cannot break or crack these structures. Yet another building material that hemp can substitute for is wood. Hemp can be made into wood-like building materials that are stronger than wood and can be manufactured cheaper than wood from trees. Even a seemingly sturdy and reliable material such as steel is no match for the incredible fibers of hemp. In 1941 Henry Ford and Popular Mechanics discovered that hemp is seven times stronger than steel.



http://fabricarchitecturemag.com/articles/0508_f4_brewer.html
http://www.puredelighthemp.com.au/Hemp_BuildingMaterials.html