

HEMP

**By: Max
Craft and
Luke
Teague**



History

- Earliest plant cultivated for textile fibers.
- Archaeologist date is back to 8,000 B.C.
- The Chinese have been cultivating it for paper products for over 7,000 years.
- Hemp has been grown in America since the English colonized it for things like sails and rope.



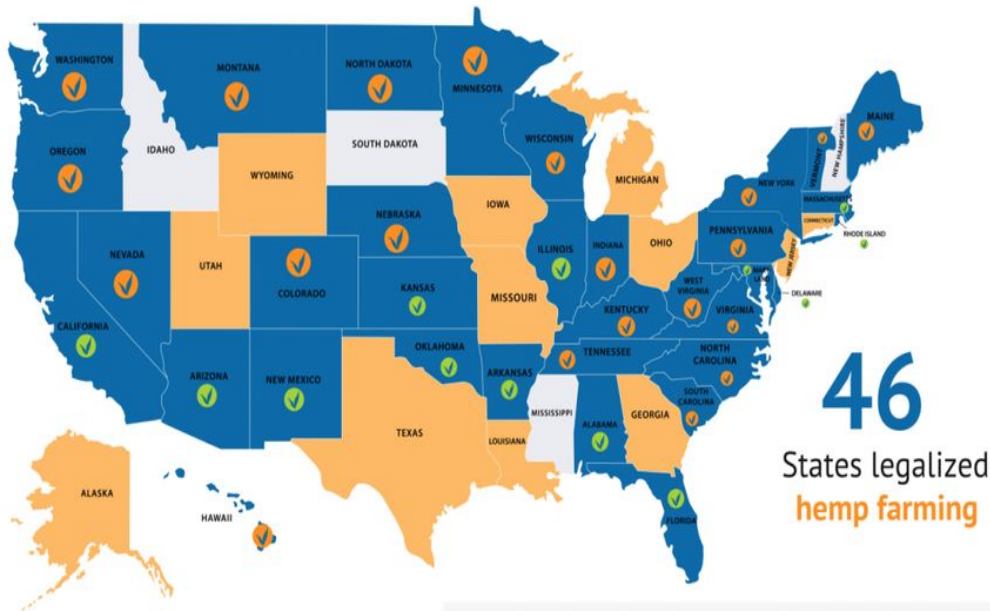
Hemp in America

- Hemp has been around since America was colonized.
- In 1937 The Marijuana Tax Act placed a tax on all cannabis sales (including hemp), heavily discouraging production of hemp.
- In 1970 hemp was classified as a Schedule one drug.
- In 2015 The Industrial Hemp Farming Act was passed allowing hemp to be produced nationwide for the first time in 35 years.





2019 U.S. Hemp License Report



511,442

Acres of hemp licensed nationally



34

States licensed hemp cultivation



16,877

State growers licenses issued



Leading Hemp Exporters Around the World

The Netherlands	\$4.48 Million
France	\$1.82 Million
The United States	\$1.47 Million
Germany	\$780,000
Romania	\$655,000



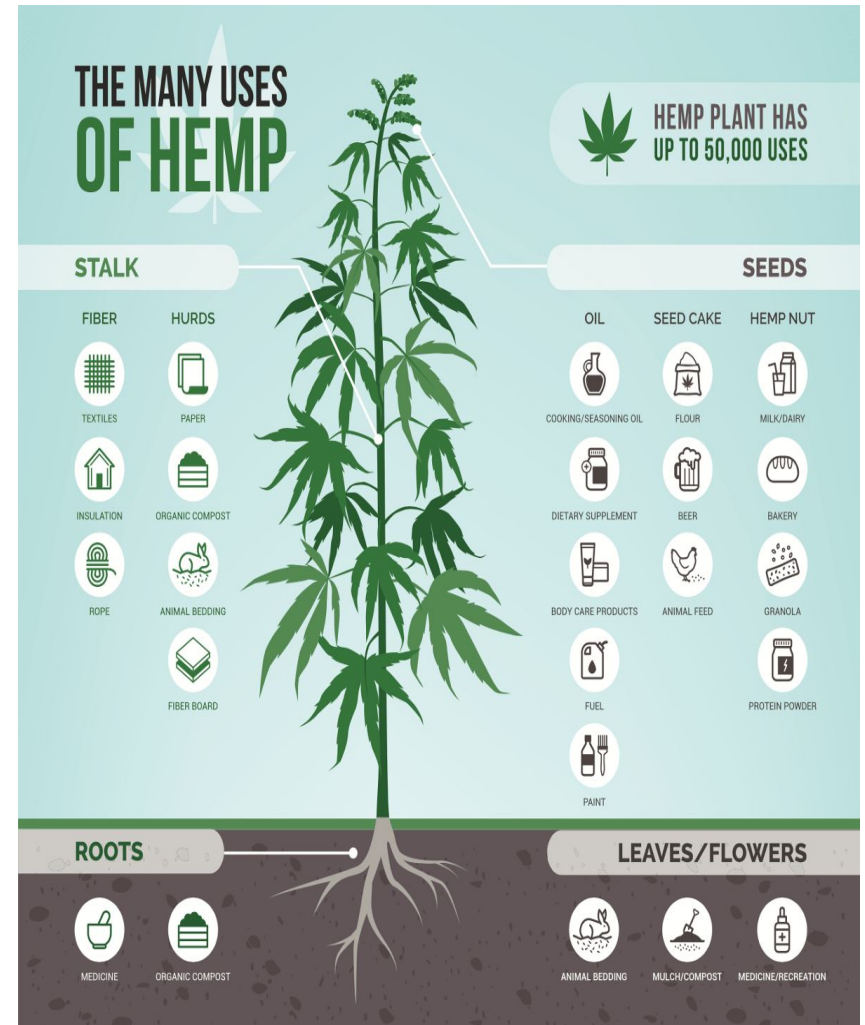
Leading Hemp Importers Around the World

Germany	\$4.27 Million
Switzerland	\$1.7 Million
The United States	\$757,000
The United Kingdom	\$581,000
Slovenia	\$568,000



What Can Hemp Be Used For?

Stalk	Seed
Clothing	Bioplastics
Paper	Biofuel
Insulation	Dietary Supplements
Rope	Beer
Packaging	Body Care Products
Medecine	Medecine

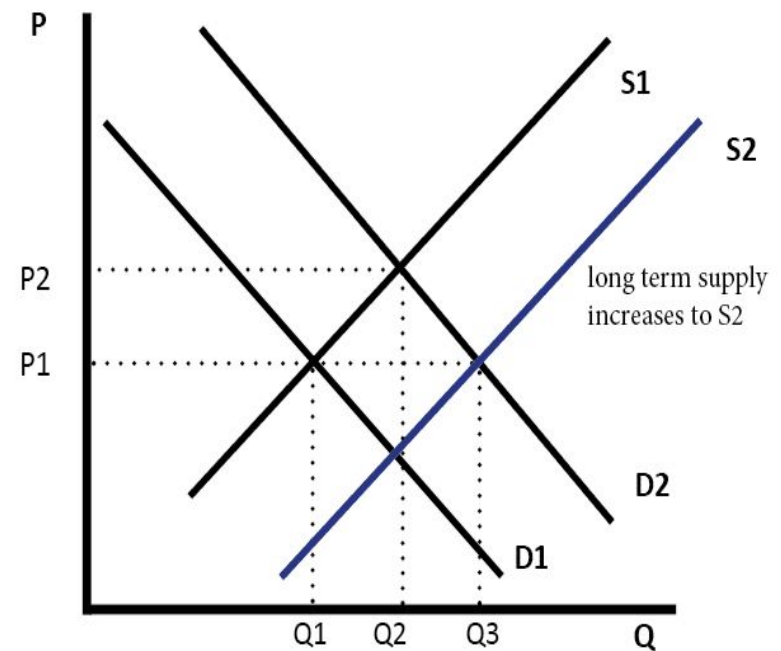


Drinking and Using Hemp Seed Oil In Iceland



Supply and Demand for Hemp

- With the legalization of hemp in America and other countries around the world, the supply of hemp is continually growing at a very fast rate.
- With that being said, the many uses that hemp has, especially its medical properties, the demand for hemp across the world is also increasing just as fast if not faster than the supply.



Hemp Production

- \$4-\$7 per clone
- Seed is much cheaper but much less guarantee on outcome
- Selectively bred just as other crops
- Very sensitive to day length
- Matures as days get shorter in fall
- Grows well in areas where corn yields high
- Requires high fertilization for high fiber



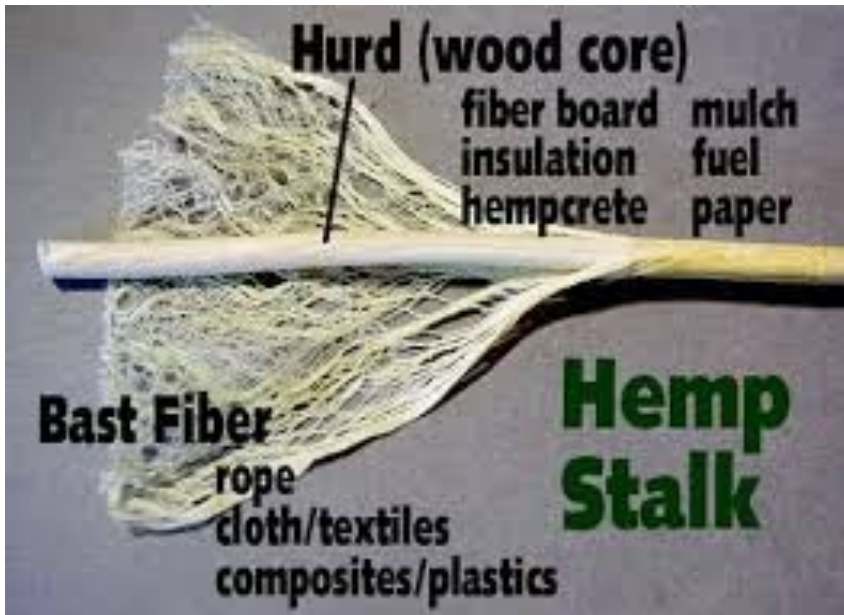
Production Continued

Varieties:

- Most common: BaOx
- Suver Haze -T1
- Cherry Wine -Midwest

Fertilization

- Load soil with nutrients before planting, most common as litter and potash
- Some growers top-dressed or fertigated midseason.



Hemp Pests

- Corn earworm
 - Most threatening
- Other foliage feeding caterpillars
- Wireworms
- Fusarium rot
- Canker disease
 - Both can cause serious loss
- Bytrosis and Southern blight

*No pesticides are available as of 2019 for use on Hemp.

*Biological control agents are available



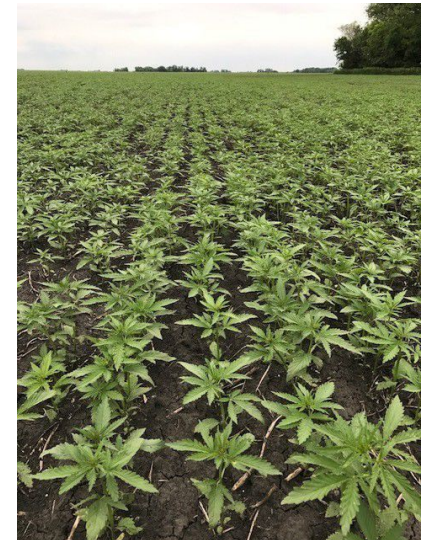
Harvesting Hemp

- Harvesting and processing differ for what it has been grown for
- Can be dual purpose, harvested for seeds and leave stalks behind to harvest for fiber
- Mechanical harvesting is available
- Majority of NC growers hand harvest the whole plant, few to none use mechanical prototypes.
 - Most NC growers harvest for smokability and CBD extraction



Regulations

- Interstate transportation is permitted
- States can administer hemp programs, state plans have to be submitted to USDA for approval
 - Licensing requirements
 - A way to track what land hemp is produced on
 - THC testing methods
 - Disposal plans for high THC levels
- All Labs must be registered with DEA



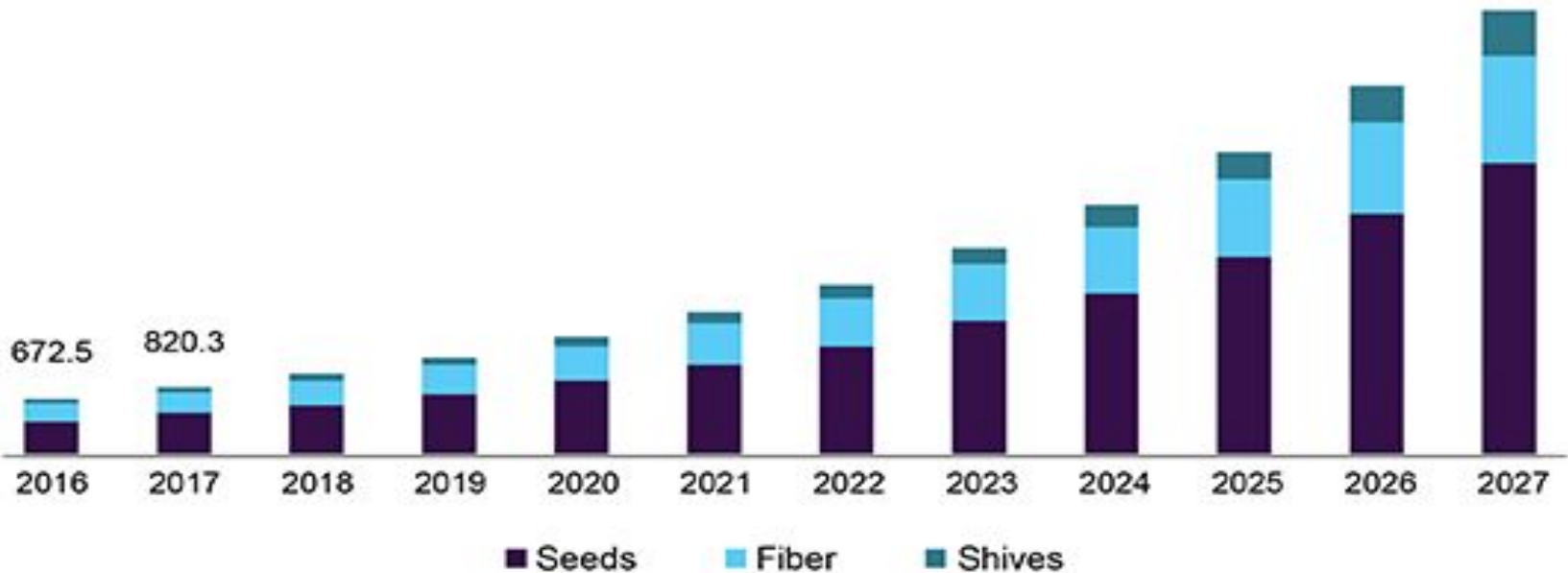
Current News

- Distinguishing between hemp and marijuana is impossible with sight or smell (burned or unburned).
 - Hard for law enforcement to tell the difference, no valid in-field-tests available
- March 26, 2020; 20 states decide to stick with 2014 pilot rules for 2020 hemp season, 12 states so far have USDA approval
- Farmers are looking to hemp as the cash-crop replacement for tobacco since demand for tobacco/tobacco products is decreasing.
 - There are still unknowns in hemp production and a very high risk investment that some are not willing to take.

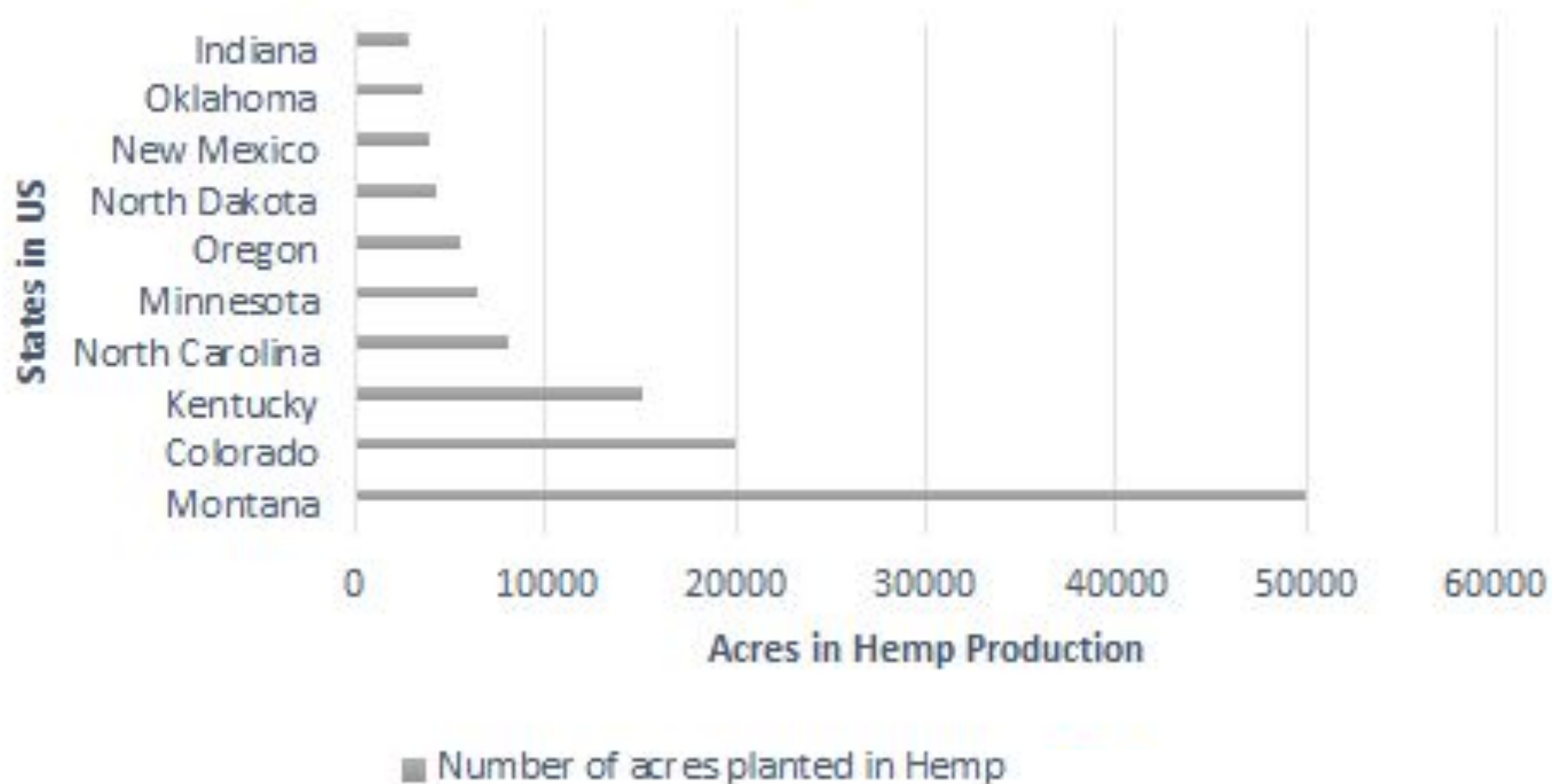


Market size of Hemp in the US

U.S. industrial hemp market size, by product, 2016 - 2027 (USD Million)



Top 10 States Hemp Production 2019



References

- <https://oec.world/en/profile/sitc/2652/>
- <https://ministryofhemp.com/hemp/history/>
- <https://www.foodbusinessnews.net/articles/13224-us-hemp-acres-more-than-triple>
- <https://www.forbes.com/sites/tomangell/2019/09/05/hemp-farming-quadrupled-in-the-u-s-this-year-new-report-shows/#428c1426487d>
- <https://medium.com/cbd-origin/so-what-is-hemp-everything-you-need-to-know-733b54162f88>
- https://www.ers.usda.gov/webdocs/publications/41740/15854_ages001ed_1_.pdf?v=0
- <https://www.ncagr.gov/hemp/FAQs.htm>
- <https://hemp.ces.ncsu.edu/2019/10/usds-releases-regulations-for-hemp-production-program/>
- <https://www.ams.usda.gov/rules-regulations/hemp/enforcement>
- <https://cdn-ext.agnet.tamu.edu/wp-content/uploads/2019/09/Hemp-Benchmark-Data-September-2019.pdf>
- <https://hempindustrydaily.com/southeast-harvest-preview-98-of-north-carolina-and-virginia-farmers-planted-hemp-for-cbd-production/>