

## Hemp Fibers and Fabrics

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from hemp fibers can be blended with other fibers to develop textiles for casual wear, bridal gowns and upholstery. The long fibers are naturally stronger and last longer than cotton.

Industrial hemp can be grown for fiber, seed or as a dual purpose crop. For the purposes of fiber and fabric, the part of the hemp plant used is the outer portion of the stalk. Hemp fibers are similar to flax, jute and sisal, as they are in the bast fiber category. Bast fibers are those which are obtained from the stems and leaves of plants. Industrial hemp grown for textile fiber is cultivated to grow tall, up to 15 feet, with few leaves and branches.

Hemp fiber and fabrics offers distinct advantages in comfort, and durability. Hemp as a fiber is recognized as beneficial for the economy and the environment. Hemp is among the oldest crops on the planet, going back more than 10,000 years.

Hemp is derived from the **Cannabis** family of plants. Just as there are different varieties within a species, for instance Pugs versus St. Bernard dogs, the same is true within the Cannabis family of plants. Most people are familiar with the type of Cannabis plants that used primarily for THC which has a psychoactive effect when consumed.

Hemp, also called “industrial hemp,” refers to cannabis varieties that are primarily grown as an agricultural crop (such as seeds and fiber, and byproducts such as oil, seed cake, hurds) and is characterized by plants that are low in the psychoactive chemical THC. THC levels for hemp used for fiber are generally **less than 1%**.

Hemp fibers are used in a wide range of product categories. Hemp can be used for fabrics and textiles, yarns, carpeting, and home furnishings. Yarn made



## Quick History Facts

- Presidents Washington and Jefferson both grew hemp on their farms.
- The U.S. Constitution was written on hemp paper and first U.S. flag sewn by Betsy Ross was made of hemp fabric.
- The first hemp crop in Kentucky was grown in 1775 near Clark's Run Creek in Danville, KY.
- Kentucky was the nation's leading hemp-producing state throughout the mid-19th century.
- Kentucky was the nation's leading hemp-producing state throughout the mid-19th century with peak production in 1850 at 40,000 tons worth approximately \$5,000,000.
- Hemp was completely banned in the United States by the Controlled Substances Act in 1937.
- In WWI and WWII the hemp industry increased in production to support the war effort.
- Kentucky's last hemp fiber processor Kentucky River Mill in Frankfort closed in 1952.
- Contained in the 2014 U.S. Farm Bill was a provision that hemp could be grown for research and development.

## Characteristics of Hemp Fibers

- Hemp is naturally moth resistant.
- Hemp clothing holds up well to washing and does not need dry cleaning.
- Hemp clothing is resistant to mold and mildew.
- Hemp clothing gets softer the more it is washed and worn.
- Hemp can also be combined with other fibers, cotton and silk for instance to create different types of fabrics. Cotton and even silk fibers are successfully blended with hemp fibers to create a variety of fabrics.



## References:

Johnson, Rene. (February, 2014) Hemp As An Agricultural Commodity. Congressional Research Service.

Talbott, "First Hemp Crop," *ExploreKYHistory*, accessed August 1, 2019, <https://explorekyhistory.ky.gov/items/show/108> factsheet

