



Production Trends and Perspectives of Industrial Hemp in Missouri and the United States



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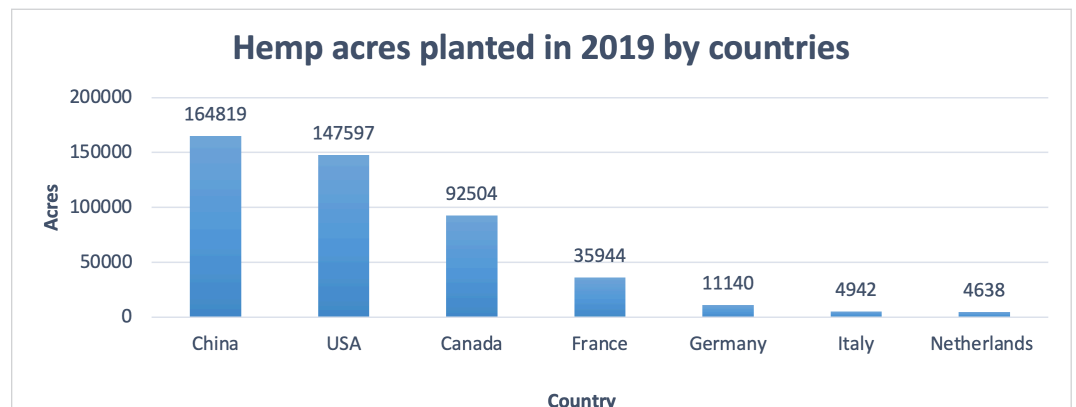
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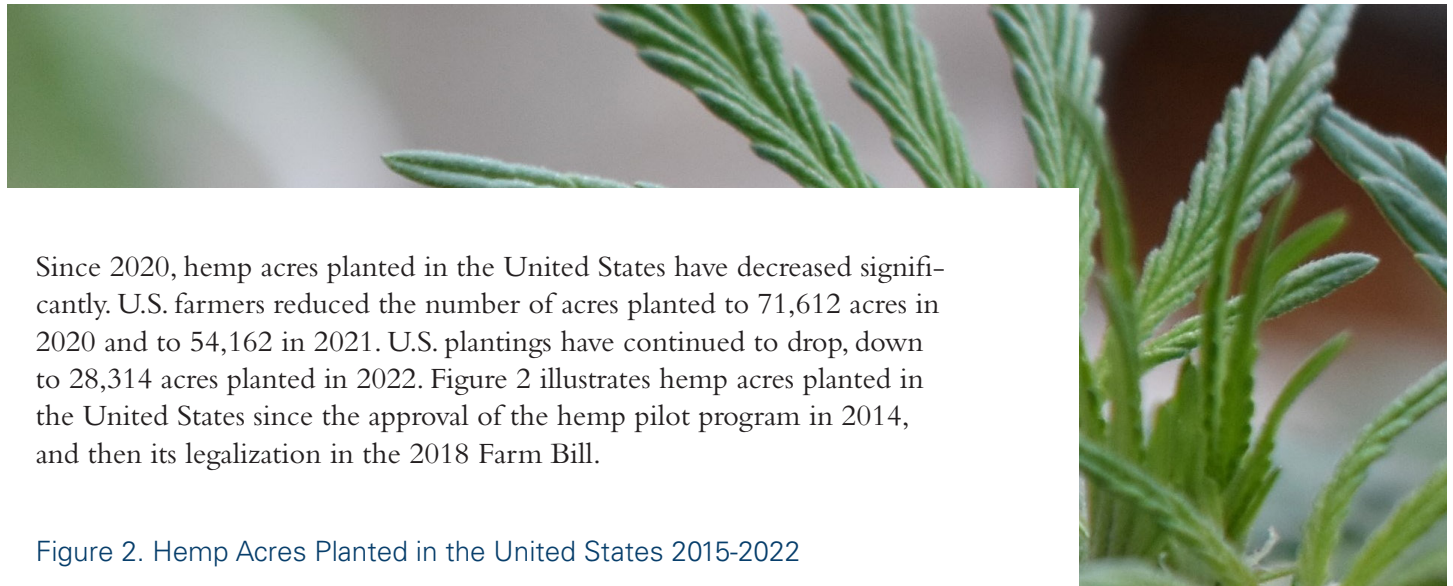
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Hemp production in the United States has been legal since the farm bill of 2018. Globally, the countries that planted the most hemp acres in 2019 were China, the United States and Canada. Very few countries in the European Union planted significant numbers of acres. The U.S. Department of Agriculture (USDA) Foreign Agricultural Service estimated that in 2019, China planted 164,819 acres of hemp and more than 50% of those acres were allocated to hemp fiber; another sizable percentage was used to harvest seed. The estimated market value of China’s industrial hemp in 2019 — primarily fiber and seed products — was \$1.7 billion USD. In 2019, the U.S. planted 147,597 acres and Canada planted 92,504 acres, harvesting a variety of hemp products. Figure 1 shows the number of hemp acres planted in 2019 in the top producing countries.

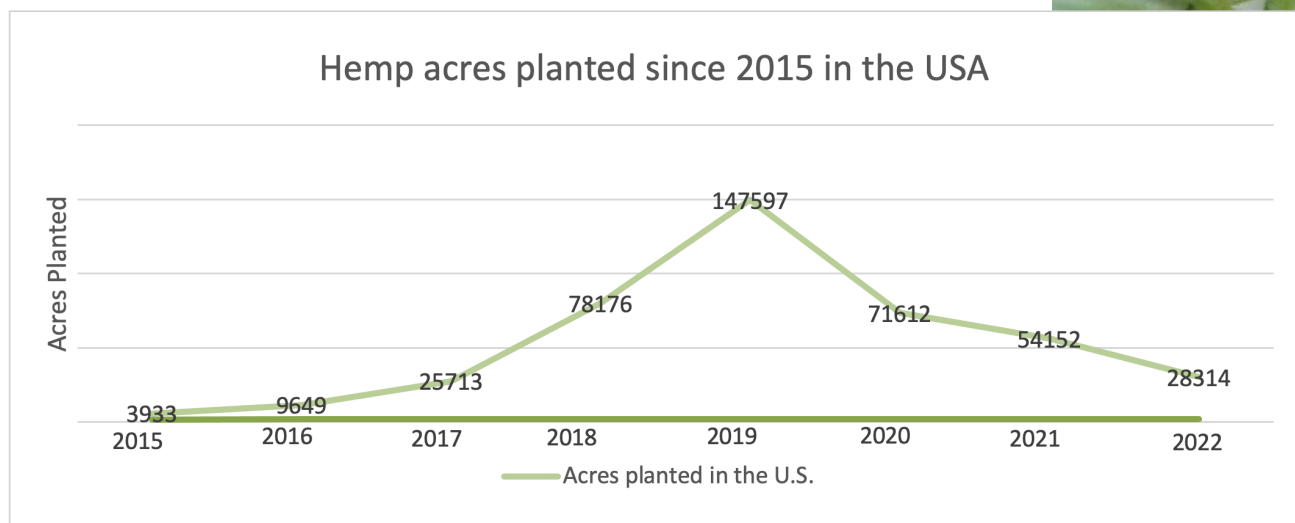
Figure 1. Hemp acres planted in 2019 by primary growing countries





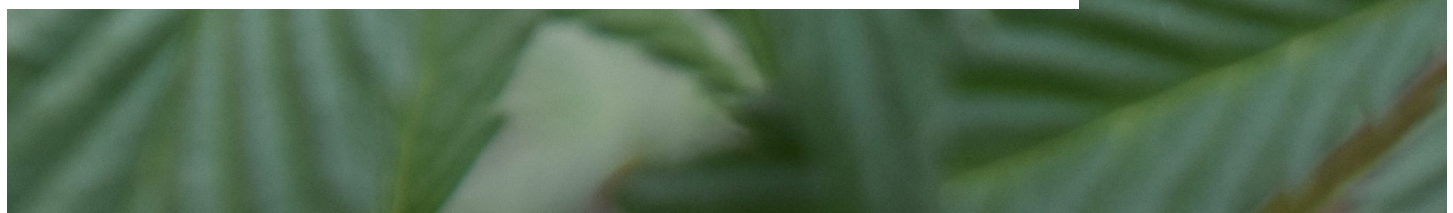
Since 2020, hemp acres planted in the United States have decreased significantly. U.S. farmers reduced the number of acres planted to 71,612 acres in 2020 and to 54,162 in 2021. U.S. plantings have continued to drop, down to 28,314 acres planted in 2022. Figure 2 illustrates hemp acres planted in the United States since the approval of the hemp pilot program in 2014, and then its legalization in the 2018 Farm Bill.

Figure 2. Hemp Acres Planted in the United States 2015-2022



Source: USDA National Hemp Report 2023

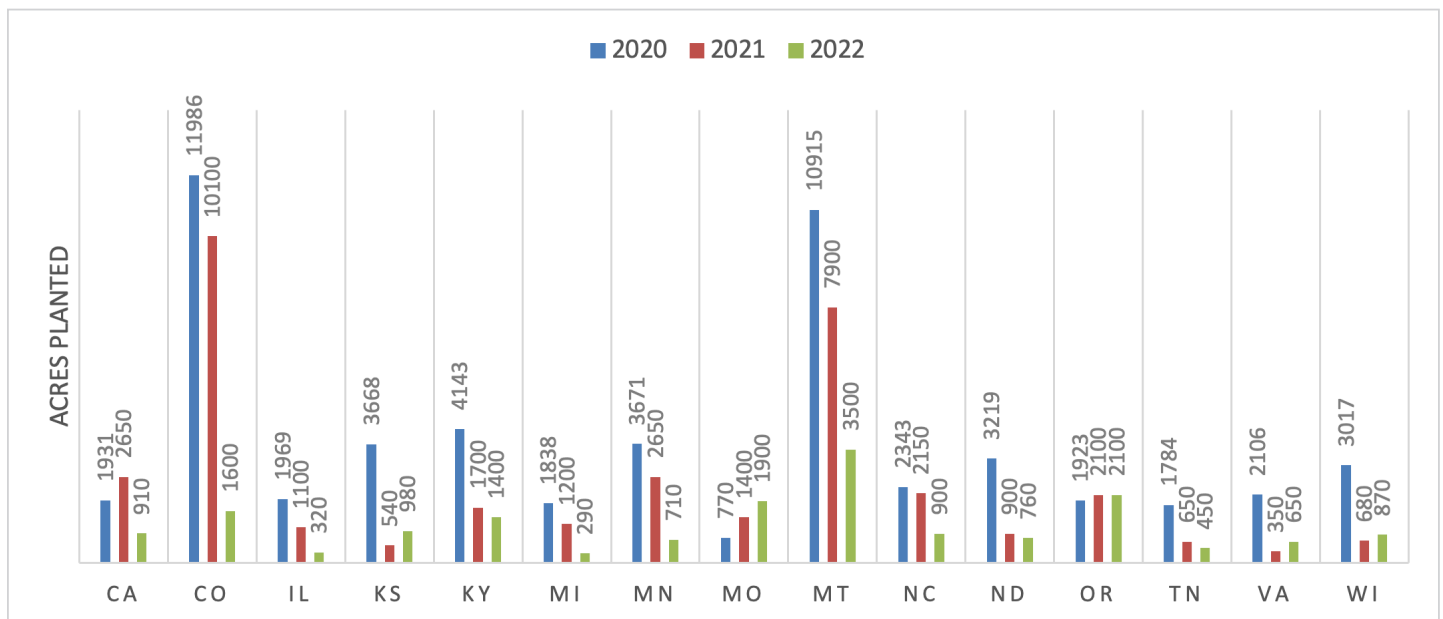
The data has been limited for analyzing the hemp supply and demand in the United States. In 2021, the USDA’s National Agricultural Statistics Service (USDA-NASS) created a hemp farmer survey to collect feedback for production and market analysis of the hemp industry in the United States. Early hemp market analysis showed growth and trends stemming from the private sector. The data offers information on industrial hemp market values and economic growth projections. For example, private consulting firms estimated a market hemp value of more than \$25.6 billion by 2028 in the United States. This market value might occur after legalization and efforts to raise awareness among potential hemp markets (Verified Market Research, The Hemp Business Journal, Research and Markets-2022).



According to the USDA’s Farm Service Agency (FSA), all 50 U.S. states planted hemp acreage in 2020. The states with the highest totals were Colorado (11,986 acres) and Montana (10,915 acres) with a combined total of

32.8%. In 2021, hemp acres planted dropped significantly to 54,152 acres in the country, including Colorado and Montana; by 2022, acres planted had collapsed to 28,314. (See Figure 3, below).

Figure 3. States with more than 1,000 hemp acres planted each year since 2020.



According to the FSA, Missouri is the only state that sustained a growth in acres planted. In 2020, Missouri registered 22,763 acres to grow hemp, but farmers only planted 770 acres. Contrary to the decrease in hemp acres planted in other states in 2021, the number of acres planted in Missouri increased to 1,400 acres in 2021 and to 1,900 in 2022 (USDA-NHR 2023). Market economic uncertainty, access to seed genetics, and lack of processing off-take partners in the hemp industry are some of the major factors that might keep farmers from planting their registered acres in Missouri. The small number of acres planted is an indicator that growing hemp in Missouri is a high-risk endeavor.

Hemp products are used in a variety of industries including construction, health, automotive, personal care, beauty, textile, pharmaceutical, animal bedding and others. The wide range of end use for hemp is expected to drive the growth of the industry and increase its market size. How-

ever, increasing its expected market value in the United States to \$25.6 billion by 2028 faces multiple challenges. In Missouri, the hemp industry continues to face challenges such as market development, access to processing facilities, a need for stable and reliable seed genetics, and lately, hemp cannabidiol (CBD) constraints to use as human food supplements and in the livestock industry (Tesfaye 2023). These factors could constrain the Missouri hemp industry in the upcoming years. Other factors that could significantly impact Missouri farmers’ economic success are related to hemp consumer preferences and uncertainty with production costs.

Despite these challenges, the Missouri hemp industry for fiber and grain is expected to continually grow as more farmers become comfortable with growing protocols, reliable seed genetics and predictable rates of return on their hemp investments.

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