

# State of U.S. Hemp Production

## Hemp Legislation Overview

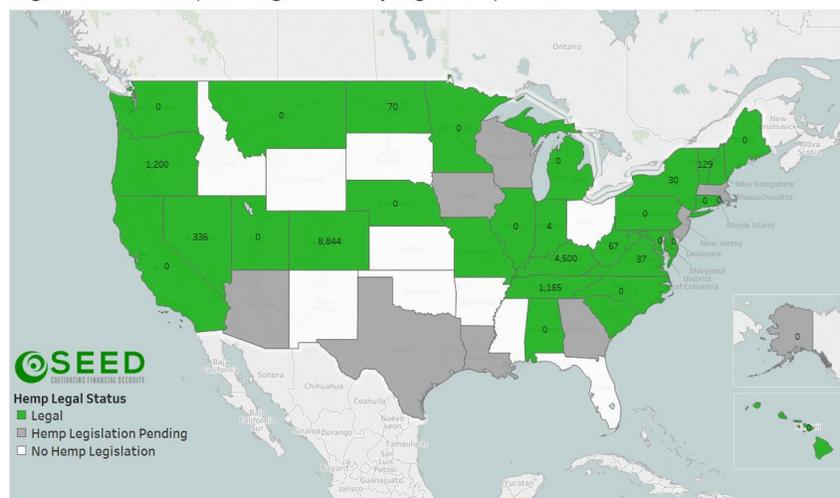
Many states have enacted laws to take advantage of section 7606 of the Agriculture Act of 2014 by establishing hemp production and research programs in various forms through legislation. As of 2 September 2016, 31 states have passed various forms of hemp legislations with legislation pending in another 9. These laws range in matter and scope. Some states, including notably Colorado, Tennessee, and Kentucky, have established hemp research and pilot programs that allow for the hemp cultivation and processing through licenses issued by the state departments of agriculture. Other states, including Indiana, Utah, and Michigan, allow cultivation only for research purposes through state university or secondary education institutes, with the sale and marketing of domestically grown hemp prohibited.

## Locating Hemp Production

Section 7606 of the Agriculture Act of 2014 requires detailed records of hemp production within states that have legalized cultivation. Hemp producers must be registered with state departments of agriculture or state universities and provide comprehensive data on acreage, variety, and even GPS coordinates of all hemp fields. This type of rigorous record keeping has allowed for the collection of precise data, tracking hemp acreage that is not found in other specialty crops in the United States.

The Seed research team utilized state freedom of information act<sup>1</sup> (FOIA) requests<sup>2</sup>, combined with interviews of state departments of agriculture<sup>3</sup>, to derive a precise figure for hemp acreage in 2016 of, 16,417 registered acres. Figure 1 gives a breakdown of the total registered acres in states where hemp is legal as well an overview of the legal status of hemp in each state.

Figure 1: U.S. Hemp Acreage 2016 - by legal hemp state



Acreage numbers for Colorado, Delaware, Hawaii, New York, North Dakota, Vermont, Virginia, Washington, and West Virginia, obtained through formal FOIA requests. Acreage numbers for Kentucky, Maine, Michigan, Montana, Nevada, Tennessee and Utah obtained through interviews with state departments of agriculture. All other states assumed to be zero as hemp programs have just been recently initiated

<sup>1</sup> Since 1967, the Freedom of Information Act (FOIA) has provided the public the right to request access to records from any federal agency. It is often described as the law that keeps citizens in the know about their government. Federal agencies are required to disclose any information requested under the FOIA unless it falls under one of nine exemptions which protect interests such as personal privacy, national security, and law enforcement.  
<sup>2</sup> Freedom of Information Act (FOIA) requests were submitted to state departments of agriculture requesting information regarding approved cultivators, approved processors, historical acreage figures, current acreage figures, and planted acreage figures. A total of twenty-five requests were submitted with responses from eighteen. Requests were submitted July 25, 2016.  
<sup>3</sup> Interviews of state departments of agriculture were used to supplement FOIA requests that failed to return any results. These interviews were conducted from August 1, 2016 to September 2, 2016 and consisted of questions involving the structure of the state's hemp program, the acquisition of seed, the presence of any hemp processors, both historical and current officially registered acreage, and beliefs on future growth.

In 2016, industrial hemp states registered a total of 16,417 acres, constituting a 144% increase over the 6,712 registered acres the previous year. However, while these registered numbers are precise by law, there is no certainty that these farmers will actually plant their full allotments of acres. In fact, many of these registered acres may go unplanted leading to a large discrepancy between officially registered acres and acres in production. Additionally, in several states like Indiana, Utah, or Nebraska, hemp cultivation is limited to university research projects and does not allow for the marketing or sale of the hemp being produced. While the number of acres that fall under this latter category are currently minuscule, this policy reduces the acres harvested for commercial use. It is difficult to estimate the percentage of planted acres to registered acres, a rough estimate can be achieved. While there is no consensus, conservative estimates place the planted acreage at around 50-66%<sup>4</sup> of the total registered acres. Applying the lower bound of this conservative estimate indicates that more than 8,000 acres were planted in 2016.

**Colorado, Kentucky, and Tennessee** have been growing hemp since 2014 and comprise the majority of the registered hemp acreage in the United States. Colorado has seen hemp acreage grow significantly with 3,670 registered acres in 2015 and 8,859 in 2016, a 141% increase, and a total of 340 registered participants. Additionally, Colorado featured 1,231,093 ft<sup>2</sup> of registered indoor growing space. Kentucky has shown a similar increase with 1,742 registered acres in 2015 growing to 4,500 acres in 2016, a 158% increase, with 167 registered participants. With 1,200 registered acres in 2015 and 1,185 acres in 2016, Tennessee has not shown the same increase that Kentucky and Colorado have, but it still remains on the United States' leading hemp states in terms of registered acres.

One state that does stand out is **Oregon** with 1,200 registered acres<sup>5</sup>, compared to 20 acres in 2015. This marks a substantial increase and places Oregon in line with the other large hemp producing states. However, expectations from Oregon should be tempered. Colorado, Kentucky, and Tennessee have shown that it takes time to adapt foreign hemp cultivars to local climates and soils. While the Oregon acreage may be substantial, it will likely lag behind the other three industrial hemp states that have a head start in the creation of local cultivars.

**Nevada's** 336 registered acres also stand out. With legislation being implemented in late 2015, Nevada has shown surprising level of interest in its first year of legal cultivation. The Nevada Department of Agriculture reported 11 registered producers with 270 acres planted of the total registered spread mostly in the western half of the state.

**Vermont** has shown moderate growth in its hemp acreage with 24 registrants cultivating 129 registered acres in 2016, a 70% growth over 2015.

**Virginia** implemented an industrial hemp program in late 2015 and has issued 28 licenses for a total of 37 registered acres in approved location throughout Virginia in 2016. However, this acreage is marked purely for research purposes with three universities participating<sup>6</sup>. 2016 also marked the first year of cultivation for **West Virginia** as well. Total registered acreage in the state was 66.5 with approximately 10 of those acres in production from 8 registrants throughout the state.

Several hemp states, including **Utah, Michigan, Delaware, Illinois, and Indiana** require that any hemp cultivation take place under the umbrella of research and be conducted through a state university with the sale and market of locally produced hemp prohibited. However, this designation has stalled growth as currently there are no registered acres in several of these states despite substantial interest from private citizens. Similarly, **New York** has also limited hemp production to universities; however, one notable difference is that hemp produced on the 30 registered acre is available for commercial sale.

Other states, including **Washington** and **Minnesota** are currently in the process of developing rules and regulations to implement their recent hemp legislation with plans for growth in 2017.

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<sup>4</sup> Estimates obtained through interviews with officials at state departments of agriculture in hemp producing states.

<sup>5</sup> State officials estimate that half of officially registered acres in Oregon have been planted in 2016.

<sup>6</sup> James Madison University, Virginia Polytech Institute, and Virginia State University.

## Looking Forward

As hemp legislation changes across the country, the nature of hemp production will begin to shift. As more states pass legislation and ease restrictions, hemp production will begin to grow. One state that shows promise is **Montana**. With 34 applicants for the 2017 growing season, Montana is poised to take advantage of the recent legalization within the state. While other hemp states need to take time to adapt foreign cultivars to local climates, Montana's proximity to Canada and similar climate give it a unique advantage. Canada has been growing legal hemp since 1998 and has had time to create established cultivars that fit the climate. These cultivars should be able to easily take hold in Montana, giving the state a unique head start in the creation of a viable hemp industry<sup>7</sup>. **North Dakota** finds itself in a similar situation going forward. With easy access to Canadian cultivars and an established hemp program, North Dakota looks ready to take full advantage of U.S. hemp. However, current weather conditions have taken a significant toll on the 2016 crop with heavy rains destroying research plots at North Dakota State University.<sup>8</sup> **North Carolina** also poses as an interesting piece in the future of hemp. 2017 will mark its first growing season, but several important pieces of infrastructure have already been put into place, including several hemp associations and cooperatives as well as the country's largest hemp fiber processing facility.<sup>9</sup>

As the largest agricultural state, **California** could act as a significant player in the hemp industry. While industrial hemp legislation has technically passed within the state, its implementation is contingent on federal legalization. This restriction has limited the nation's largest agricultural player to an onlooker until federal law is changed.

## Conclusion

Industrial hemp cultivation in the United States is currently dominated by Colorado, Kentucky, and Tennessee as these states were the first to implement the appropriate industrial hemp legislation following the passage of the 2014 Farm Bill as well as the proper infrastructure. While these states seem poised to continue this trend, as state specific cultivars are developed and yields increase, other states like Oregon, Montana, and North Dakota appear ready to join them. Other states find themselves in various stages of establishing viable hemp industries with some more equipped to produce commercial hemp while others have limited their future growth through restrictive policies.

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<sup>7</sup> Legal restriction may slow Montana's growth as sale and marketing of hemp produced within the state has not been decided.

<sup>8</sup> Kutson, J. (2014, August 14). *Heavy summer rains devastate NDSU industrial hemp research plot*. Retrieved from The Bismarck Tribune: [http://bismarcktribune.com/news/state-and-regional/heavy-summer-rains-devastate-nds-u-industrial-hemp-research-plot/article\\_39772fae-f485-51c7-8be4-c6571e20046f.html](http://bismarcktribune.com/news/state-and-regional/heavy-summer-rains-devastate-nds-u-industrial-hemp-research-plot/article_39772fae-f485-51c7-8be4-c6571e20046f.html)

<sup>9</sup> Hemp, Inc (2016). *Hemp, Inc. Expected to Have 200,000 Pounds of LCMs in Inventory for Sale* [Press release]. Retrieved from <http://financialnewsmedia.com/profiles/hemp.html>