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Industrial Hemp: Canada Exports, United States Imports

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**INDUSTRIAL HEMP:
CANADA EXPORTS, UNITED STATES IMPORTS**

*Courtney N. Moran, LL.M.**

There are 35 industrial western countries that permit the growing of hemp. We have taken a careful look at this in the North American Industrial Hemp Council. We cannot find one that has had a problem in distinguishing industrial hemp from marijuana. Canada, our next door neighbor, with this policy now for a decade plus, doesn't have a problem distinguishing industrial hemp from marijuana.

- R. James Woolsey, Former Director of the CIA¹

Hemp is grown in other countries. Countries such as China and Thailand, and the country closest to us that is most often mentioned in discussion, Canada, reports no injuries in marijuana whatsoever, in the production of industrial hemp. None.

- James Comer, Kentucky Commissioner of Agriculture²

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I. INTRODUCTION

Human beings around the world have cultivated and used industrial hemp for thousands of years. Unlike its cousin marijuana, which is grown to yield a high delta 9 - tetrahydrocannabinol (“THC”) content in its flowers, industrial hemp is a low-THC variety of *Cannabis sativa* L. (“*C. sativa*”), which is an agricultural commodity that is grown to process the seeds, fiber, and stalk into a variety of commercial products.³ Some countries have never outlawed

1. Ky. Dep’t of Agric., *Former Director of the CIA – R. James Woolsey Speaks on Senate Bill 50*, YOUTUBE (Feb. 11, 2013), http://www.youtube.com/watch?v=0pL3gdWW04A&list=PLgGfXJrJK_-YsakAMxEWNdgxZ6LJ0Kxf5.

2. Ky. Dep’t of Agric., *Senate Bill 50 Hearing – Commissioner Comer and Senator Dan Seum*, YOUTUBE (Feb. 11, 2013), <http://www.youtube.com/watch?v=VV4X47RYzCk>.

production of industrial hemp, while others have banned production.⁴ Approximately thirty countries currently permit farmers to cultivate industrial hemp as an agricultural commodity.⁵

In Canada, farmers cultivated industrial hemp until the enactment of the Opium and Narcotic Drug Act, which ended commercial production of industrial hemp in Canada in 1938.⁶ In the early 1990s, the Canadian Government issued research licenses for industrial hemp.⁷ The research convinced the Canadian Government to legalize and license commercial industrial hemp production.⁸ The Canadian Industrial Hemp Regulations came into effect on March 12, 1998.⁹ Canada has effectively regulated hemp cultivation and shown that hemp and marijuana are distinguishable.¹⁰ Today, Canada exports industrial hemp and industrial hemp products to countries around the world, including to the United States.¹¹

In the U.S., farmers cultivated industrial hemp throughout the country until the enactment of the 1937 Marihuana Tax Act.¹² Since 1937, the U.S. Government has strictly regulated *C. sativa*, and today it is still illegal under federal law to cultivate industrial hemp for commercial purposes without a Drug Enforcement Administration

3. RENÉE JOHNSON, CONG. RESEARCH SERV., RL32725, HEMP AS AN AGRICULTURAL COMMODITY 1 (2013), available at <http://www.fas.org/sgp/crs/misc/RL32725.pdf>, archived at <http://perma.cc/WHE9-DGT7>.

4. *See id.*

5. *Id.* at 9.

6. THE AGRICOLA GROUP, AGRIC. AND AGRI-FOOD CANADA, NATIONAL INDUSTRIAL HEMP STRATEGY 16 (2008), available at http://www.votehemp.com/PDF/National_Industrial_Hemp_Strategy_Final_Complete2.pdf, archived at <http://perma.cc/F4ZP-ZY7Q>.

7. *Id.*

8. *About Hemp and Canada's Hemp Industry, Frequently Asked Questions*, HEALTH CANADA, <http://www.hc-sc.gc.ca/hc-ps/substancontrol/hemp-chanvre/about-apropos/faq/index-eng.php> (last updated Nov. 30, 2012), archived at <http://perma.cc/Q2UR-CU76>.

9. *Id.*

10. *Id.*

11. *Industrial Hemp Statistics*, AGRIC. AND AGRI-FOOD CANADA, <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1174495716187&lang=eng> (last visited Sept. 18, 2014), archived at <http://perma.cc/LGN8-4VGV>.

12. *See* JOHNSON, *supra* note 3, at 12.

(“DEA”) registration.¹³ The DEA claims that it is difficult to distinguish hemp and marijuana and that it will be difficult to effectively regulate hemp cultivation.¹⁴ As a result, the DEA continues to enforce the federal prohibition on industrial hemp cultivation.¹⁵ The U.S. is the only industrialized nation that prohibits the cultivation of industrial hemp.¹⁶ However, the U.S. imports industrial hemp and industrial hemp products from countries all over the world.¹⁷ Ironically, the U.S. is the largest importer of hemp products in the world.¹⁸ Despite the federal prohibition on industrial hemp cultivation, retail sales of industrial hemp products in the U.S. total more than half a billion dollars annually.¹⁹ Activists throughout the U.S. are currently urging the U.S. Government to end the prohibition on cultivating industrial hemp.²⁰ Since 1999, several states have taken action and legalized the cultivation of industrial hemp.²¹ Since March 2014, at least twelve states have legalized some form of industrial hemp cultivation.²²

13. *Id.* at 13.

14. Angel Reyes, *Kentucky Senate Committee Passes Hemp Bill*, YOUTUBE (Feb. 16, 2013), <http://www.youtube.com/watch?v=iG8PpCwG7eI>.

15. See JOHNSON, *supra* note 3, at 1; see also, U.S. DEP'T. OF JUSTICE, DRUG ENFORCEMENT ADMIN, THE DEA POSITION ON MARIJUANA 1 (2013) (Investigations and prosecutions of violations of state and federal law will continue), available at http://www.justice.gov/dea/docs/marijuana_position_2011.pdf, archived at <http://perma.cc/Q4A7-S7RP>.

16. *See id.*

17. *Id.* at 6.

18. LINDA BOOKER, HEMP FARMING IN AMERICA: BRINGING IT HOME (2014).

19. Lauren Stansbury, *2013 Annual Retail Sales for Hemp Products Exceeds \$581 Million*, THEHIA.ORG (Feb. 28, 2014), [http://www.thehia.org/PR/2014-02-28-hia_\\$581_million_annual_sales.html](http://www.thehia.org/PR/2014-02-28-hia_$581_million_annual_sales.html), archived at <http://perma.cc/PF4K-MARF>.

20. Nikki Schwab, *Dennis Kucinich Surprises Hemp Activists on Capitol Hill: They spent the day lobbying staffers, hoping to get industrial hemp no longer treated like a drug*, U.S. NEWS & WORLD REPORT (Sept. 23, 2014), <http://www.usnews.com/news/blogs/washington-whispers/2014/09/23/dennis-kucinich-surprises-hemp-activists-on-capitol-hill>, archived at <http://perma.cc/RW5C-G8TL>.

21. *State Industrial Hemp Legislation*, VOTEHEMP.COM, <http://www.votehemp.com/state.html#2014> (last visited Aug. 27, 2014), archived at <http://perma.cc/N7EL-SPVG>.

22. *Id.*

This article will make a comparative analysis of Canadian and U.S. industrial hemp laws, focusing on the history and current state of the laws, Canada's exportation, and U.S. importation of industrial hemp. Section two describes what industrial hemp is and how it is used. Section three explores Canadian law and government support for the cultivation of industrial hemp. Section four looks at how U.S. law around industrial hemp has changed and how states are taking action to end the prohibition of industrial hemp cultivation in the U.S. This article concludes that the U.S. should affirmatively remove industrial hemp from the Controlled Substances Act ("CSA") and end the prohibition on the cultivation of industrial hemp.

II. WHAT IS INDUSTRIAL HEMP AND WHAT ARE ITS USES?

Industrial hemp is an environmentally friendly crop that can replenish soil and grows well in rotation with other crops.²³ It is an agricultural variety of *C. sativa* that is produced into a variety of commercial products, unlike marijuana which is grown to produce the psychoactive drug THC.²⁴ Industrial hemp products fall within nine commercial submarkets: agriculture, textiles, recycling, automotive, furniture, food/nutrition/beverages, paper, construction materials, and personal care.²⁵

A. *Industrial Hemp is Distinct from Marijuana*

Cannabis sativa L. is the Latin name for the industrial hemp plant.²⁶ *C. sativa* is a member of the Cannabaceae family.²⁷ The hemp plant is distinct from the marijuana plant, another variety of *C.*

23. U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, STATE STUDY FINDINGS (2000) (citing Kraenzel et. al.), available at http://www.ers.usda.gov/media/328238/ages001ek_1_.pdf, archived at <http://perma.cc/R8FE-TKP4>.

24. DARYL T. EHRENSING, FEASIBILITY OF INDUSTRIAL HEMP PRODUCTION IN THE UNITED STATES PACIFIC NORTHWEST (1998), available at <https://catalog.extension.oregonstate.edu/sb681>, archived at <https://perma.cc/3GP7-LHRQ>.

25. JOHNSON, *supra* note 3, at 4.

26. See EHRENSING, *supra* note 24 at 1.

27. See JOHNSON, *supra* note 3, at 2 n.7.

sativa.²⁸ Scientists have identified fixed genetic differences between marijuana and non-psychoactive hemp.²⁹ Typically, marijuana contains THC concentrations of 3 to 15 percent or higher on a dry-weight basis.³⁰ Industrial hemp, on the other hand, typically contains less than one percent THC.³¹ Canadian regulations, the U.S. Agricultural Act of 2014, and some state legislation in the U.S. limit THC concentration in industrial hemp to 0.3 percent.³² THC is the main cannabinoid found in *C. sativa* that has a psychotropic effect.³³

C. sativa contains at least sixty cannabinoids.³⁴ Cannabinoids are terpenophenolic substances, or plant metabolites, that accumulate mainly in the glandular trichomes, or hairs on the flowers, of the plant.³⁵ THC and cannabidiol (“CBD”) are the most abundant cannabinoids.³⁶ The difference between *C. sativa* classified as industrial hemp (low-THC) and as marijuana (high-THC) is the cannabinoid profile, or the ratio of THC and CBD.³⁷ Hemp has a low THC:CBD ratio compared to marijuana.³⁸ High-CBD or low-THC

28. *Id.* at 1.

29. Shannon L. Datwyler & George D. Weiblen, *Genetic Variation in Hemp and Marijuana (Cannabis sativa L.) According to Amplified Fragment Length Polymorphisms*, 51 J. FORENSIC SCI. 371, 371 (2006).

30. U.S. DEP’T OF AGRIC., ECON. RESEARCH SERV., INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, IDENTIFICATION: INDUSTRIAL HEMP OR MARIJUANA? 2 (2000), available at http://www.ers.usda.gov/media/328202/ages001eb_1_.pdf, archived at <http://perma.cc/82RP-BLKN>.

31. *Id.*; see also JOHNSON, *supra* note 3, at 1-2.

32. HEALTH CANADA, *supra* note 8; Agricultural Act of 2014, H.R. 2642, 113th Cong. § 7606 (2014) (enacted), available at <https://www.congress.gov/bill/113th-congress/house-bill/2642> (last visited Mar. 3, 2015), archived at <https://perma.cc/8QXP-T7LX>; see, e.g., MONT. CODE ANN. § 80-18-102 (2001); N.D. CENT. CODE § 4-41-03 (2007); OR. REV. STAT. § 571.300(5)(a) (2011); VT. STAT. ANN. tit. 6, § 562(3) (2008).

33. Etienne P. M. de Meijer et. al., *The Inheritance of Chemical Phenotype in Cannabis sativa L.*, 163 GENETICS 335, 335 (2003).

34. *Id.*

35. *Id.*; see also Karl W. Hillig & Paul G. Mahlberg, *A Chemotaxonomic Analysis of Cannabinoid Variation in Cannabis (Cannabaceae)*, 91(6) AM. J. OF BOTANY 966, 966 (2004).

36. *Id.*

37. Datwyler & Weiblen, *supra* note 29, at 371.

38. *Id.*; see also, Hillig & Mahlberg, *supra* note 35, at 967 ([Scientists have] recognized two chemotypes: a THC/CBD ratio >1.0 characteristic of “drug-type” plants, and a THC/CBD ratio <1.0 characteristic of “fiber-type” plants).

C. sativa cultivars (hemp) will produce similarly high-CBD or low-THC cultivars when self-pollinated, whereas high-THC *C. sativa* strains (marijuana) will produce similarly high-THC strains when self-pollinated.³⁹ If a high-CBD or low-THC cultivar (hemp) is cross-pollinated with a high-THC strain (marijuana), the progeny plant's cannabinoid profile would depend on the plant's specific genetic background, but would result in a mixed CBD-THC content.⁴⁰ If this heterozygous progeny (one parent high-CBD (hemp) cultivar and one parent high-THC (marijuana) strain) was self-pollinated, the balance of THC to CBD would remain fixed.⁴¹ Industrial hemp and marijuana are distinct varieties of *C. sativa*, and each "individual plant invariably belongs to its distinct chemical group throughout its life cycle."⁴²

B. *Characteristics of the Industrial Hemp Plant*

The industrial hemp plant is dioecious, meaning there are male and female flowers on separate plants.⁴³ Hemp is a wind-pollinated

39. de Meijer et. al., *supra* note 33, at 339 (If the clone originally used to produce the S2 was of a pure CBD or THC chemotype, this chemotype is preserved throughout all the subsequent inbred generations, although the absolute amount of the dominant cannabinoid still shows considerable variation, as demonstrated by the standard deviations found); *see also id.* at 336; Yotoriyama et al. (1980) analyzed the F2 from F1 hybrids containing both CBD and THC in similar amounts and found segregation of the chemotypes with pure CBD, mixed CBD-THC, and pure THC profiles in a 1:2:1 ratio. The subsequent generations of the pure CBD plants were further investigated and they showed a fixed CBD chemotype.

40. *Id.* at 344. When two homozygous parents are crossed, one with a certain isoform of CBD synthase, the other with a certain isoform of THC synthase, the CBD/THC ratio in the F1's will depend on the balance between the efficiencies of the two synthases and will remain fixed in any further heterozygous descendant obtained through self-fertilization. *Id.*

41. *Id.*

42. *Id.* at 336; *see also id.* at 344 (Some heritable factor seems to affect the balance between CBD and THC synthase in their competition to convert the CBG precursor); Hillig & Mahlberg, *supra* note 35, at 967.

43. U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, PLANT CHARACTERISTICS AND GROWING REQUIREMENTS (Jan. 4, 2000), *available at* http://www.ers.usda.gov/media/328210/ages001ed_1_.pdf, *archived at* <http://perma.cc/Q3TR-PRJL>.

plant.⁴⁴ Industrial hemp is tall and leafy, with a strong fibrous stalk.⁴⁵ The interior of the hemp stalk contains woody fibers called hurds, while the exterior portion of the stalk contains long bast fibers.⁴⁶ Hemp seeds are smooth and about one eighth to one fourth of an inch long.⁴⁷ Cultivators plant hemp densely to discourage branching and flowering.⁴⁸ The growing season, from seed to harvest, ranges from 70 to 140 days depending on the purpose, cultivar or variety, and climate conditions.⁴⁹ The crop usually reaches between 6 and 15 feet in height.⁵⁰

Industrial hemp grows well as a rotational crop.⁵¹ Hemp requires few, if any, fertilizers and pesticides.⁵² Hemp also does not require the use of herbicides because after the initial growth phase, hemp quickly overshadows the soil and thereby suppresses weed growth.⁵³ Similarly, hemp can rebuild and condition soils “by replacing organic matter and providing aeration through its extensive root system.”⁵⁴ Industrial hemp is one of the most environmentally friendly crops.⁵⁵

44. JOHNSON, *supra* note 3, at 2.

45. HEALTH CANADA, *supra* note 8.

46. JOHNSON, *supra* note 3, at 4.

47. *Id.*

48. *Id.* at 3 (The cultivation of industrial hemp is unlike the cultivation of marijuana. Marijuana growers encourage branching and flowering of marijuana plants).

49. *Id.*

50. *Id.*

51. Anndrea Hermann, Or. State Univ. Industrial Hemp Course WSE 266, *Lecture 8: Hemp Agronomy* (Apr. 2013) (Hemp is good in rotation with soybeans, potatoes, perennial grasses, legumes, and barley).

52. Moxley et. al., *Efficient Sugar Release By the Cellulose Solvent-Based Lignocellulose Fractionation Technology and Enzymatic Cellulose Hydrolysis*, 56 J. AGRIC. FOOD CHEM. 7885, 7885 (2008).

53. Thomas Prade, *Industrial Hemp (Cannabis sativa L.) - a High-Yielding Energy Crop 24* (2011) (unpublished Ph.D. thesis, Swedish University of Agricultural Sciences-Alnarp) (on file with author).

54. U.S. DEP'T OF AGRIC., *STATE STUDY FINDINGS*, *supra* note 23.

55. Moxley et. al., *supra* note 52, at 7885.

C. *How is Industrial Hemp Used?*

Cultivators can grow industrial hemp as a seed, fiber, or dual-purpose crop.⁵⁶ Hemp yields range for different climates, soil conditions, plant varieties, plant population, and timing of harvest.⁵⁷ An estimate for average yields from one acre in Canada is between 600 and 800 pounds of grain and 5,300 pounds of straw.⁵⁸ A processor can press a yield of 700 pounds of grain into approximately 530 pounds of meal and 50 gallons of oil.⁵⁹ A yield of 5,300 pounds of straw can yield approximately 1,300 pounds of fiber.⁶⁰

Manufacturers can process industrial hemp into more than 25,000 products.⁶¹ Examples of products produced from hemp stalk or hemp fiber are construction materials (e.g., insulation, fiberboard and hempcrete), animal bedding, paper, rope, furniture, textiles (e.g., carpets and upholstery), clothing, and ethanol.⁶² In addition, producers can use hemp seeds for food and beverages, in personal care items (e.g., soaps, shampoos, conditioners, lotions, and lip balm), and as biodiesel.⁶³

Industrial hemp is a viable agricultural commodity grown in over thirty industrialized nations.⁶⁴ Canada has focused its cultivation of industrial hemp on seed production.⁶⁵ As a result, Canada has become one of the largest exporters of industrial hemp seed in the world.⁶⁶

56. JOHNSON, *supra* note 3, at 4.

57. Emmanuel Anum Laate, *Industrial Hemp Production in Canada*, ALBERTA AGRIC. AND RURAL DEV., [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/econ9631](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/econ9631) (last updated July 9, 2012), archived at <http://perma.cc/N4NT-WHX8>.

58. *Id.*

59. JOHNSON, *supra* note 3, at 3.

60. Laate, *supra* note 57.

61. JOHNSON, *supra* note 3, at 4.

62. *Id.* at 5.

63. *Id.*

64. *Id.* at 1.

65. *Id.* at 6.

66. *See id.* at 6, 10.

III. CANADA

Although Canada outlawed industrial hemp cultivation for almost sixty years, research studies in the 1990s led to the re-legalization of industrial hemp cultivation in Canada.⁶⁷ Today, industrial hemp is not only cultivated throughout Canada, but the Canadian Government now supports and invests in the industrial hemp industry.⁶⁸

A. History

Farmers cultivated industrial hemp in Canada until 1938.⁶⁹ As part of the “international battle against the abuse of THC and other controlled substances,” Canada prohibited hemp production in 1938 under the Opium and Narcotic Drug Act.⁷⁰ During World War II, prohibition was relaxed to provide fiber for the war effort.⁷¹ Following the war, hemp production was again prohibited.⁷² However, since 1961, Health Canada has allowed limited production of industrial hemp for scientific research purposes.⁷³

B. Research Resulted in Changing Policy

As a potential source for new jobs, specifically in the agricultural and industrial sectors, and with a need to develop an alternative source of fiber, there was an increased interest in the cultivation of industrial hemp in the 1980s and 1990s.⁷⁴ In 1994, Health Canada granted research licenses to determine the viability of commercial industrial hemp production in Canada.⁷⁵ The research showed that industrial hemp could successfully be grown as a separate and distinct crop from marijuana.⁷⁶ As a result of the research findings

67. *Id.* at 10.

68. *See* Latte, *supra* note 57.

69. HEALTH CANADA, *supra* note 8.

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.*

75. Latte, *supra* note 57; *see also* *Hemp is Federally Regulated*, CANADIAN HEMP TRADE ALLIANCE, <http://www.hemptrade.ca/> (last visited July 23, 2014), archived at <http://perma.cc/LFY5-PBXP>.

76. HEALTH CANADA, *supra* note 8.

and a growing demand, Health Canada authorized agricultural and industrial sectors to grow and exploit industrial hemp for commercial production on March 12, 1998.⁷⁷ Health Canada issued the first license to cultivate industrial hemp for commercial production in May 1998.⁷⁸

C. 1998 Industrial Hemp Regulation Program

Health Canada issues licenses and regulates industrial hemp production in Canada. Anyone engaged in the “cultivation, distribution, importation, exportation, and processing of industrial hemp” is subject to licensing, permitting, and authorizations by Health Canada.⁷⁹ Licenses are valid for one calendar year and expire on December 31 immediately following the issuance of the license or the authorization, unless otherwise specified.⁸⁰ License holders must reapply each year.⁸¹ Licenses are for crops of four hectares (ten acres) or more for fiber or grain and not less than one hectare for seed.⁸² For plant breeding, there is no minimum plot size.⁸³ In addition to holding a license, an importer or exporter is required to hold an import or export permit for each shipment of industrial hemp.⁸⁴ Permits are valid for three months.⁸⁵

Applicants for a license must send in a detailed application, with original signatures on all documents, which includes: original criminal record check(s); for those cultivating, Global Positioning System coordinates; appropriate schedules with the industrial hemp license application; and all supporting documents from the Canadian Seed Growers’ Association or Canadian Food Inspection Agency, if required.⁸⁶ If an applicant submits an application with false or

77. *Id.*; see also Laate, *supra* note 57.

78. Laate, *supra* note 57.

79. HEALTH CANADA, *supra* note 8.

80. *Id.*

81. *Id.*

82. Laate, *supra* note 57; see also Industrial Hemp Regulations, SOR/98-156(9)(2) (Can.), available at <http://laws-lois.justice.gc.ca/eng/regulations/SOR-98-156/FullText.html>, archived at <http://perma.cc/9RWS-PDNB>.

83. *Id.*

84. SOR/98-156(5)(2).

85. HEALTH CANADA, *supra* note 8.

86. *Id.*; see also, SOR/98-156(8).

misleading information or with false or falsified documents, Health Canada will not issue a license or will revoke a license that was already issued.⁸⁷ Health Canada will deny applications and revoke licenses if the applicant has a criminal record in any country that includes a designated drug offense in the past ten years.⁸⁸ Health Canada will also deny applications if in the previous five years the applicant had a license revoked under the Controlled Drugs and Substances Act.⁸⁹ In addition, Health Canada can revoke an authorization or license “where it is necessary to protect the security, safety or health of the public, if the Minister has reasonable grounds to believe” that the license or authorization holder has failed to comply with any condition of the license or authorization or any provision of the Regulations.⁹⁰

Anyone who holds a license to cultivate industrial hemp in Canada shall not cultivate it in any public place usually frequented by persons under eighteen years of age or within one kilometer of any school grounds.⁹¹ As a security measure, every license and authorization holder shall keep the industrial hemp that they store either on premises to which only authorized persons have access or in a locked container or a locked location.⁹² License holders are required to keep detailed records, such as the quantity, form, and variety of the industrial hemp cultivated, imported, purchased, or sold.⁹³

Health Canada regulates the “importation, production, processing, possession, sale, transportation, delivery and offering for sale of industrial hemp.”⁹⁴ The leaves and flowering parts of all industrial hemp grown, processed, and sold in Canada must have 0.3 percent or less THC concentration.⁹⁵ This 0.3 percent concentration limit serves as a threshold determination between industrial hemp and

87. SOR/98-156(9)(2)(e).

88. SOR/98-156(9)(2)(g), (13)(2)(b).

89. SOR/98-156(9)(2)(f), (13)(2)(b).

90. SOR/98-156(13)(3).

91. SOR/98-156(36).

92. SOR/98-156(37).

93. SOR/98-156(38).

94. Laate, *supra* note 57.

95. HEALTH CANADA, *supra* note 8.

marijuana.⁹⁶ There is a maximum level of 10 parts per million for THC residues in products derived from hemp grain.⁹⁷

To confirm the THC concentration in a hemp crop is less than 0.3 percent, anyone who holds a license to cultivate industrial hemp shall have samples of the industrial hemp collected and tested at a competent laboratory using procedures set out in the Industrial Hemp Technical Manual.⁹⁸ Within 15 days after testing, the results of the laboratory test and the name of the approved cultivar tested shall be submitted to the Minister.⁹⁹ Any license holder who is required to have the THC concentration of their hemp crop tested, or is required to maintain records of the testing, shall keep a representative sample of the industrial hemp tested for a minimum of two years.¹⁰⁰ The Industrial Hemp Regulations specify that, “in the case of the wholesale sale of a derivative, the package containing the derivative is labeled, ‘Contains 10 µg/g THC or less — Contient au plus 10 µg/g de THC.’”¹⁰¹ In the case of importation or exportation, the Regulations require that, “the shipment is accompanied by a certificate from a competent laboratory in the country of origin of the derivative or product that sets out the concentration of THC in the samples.”¹⁰²

Health Canada only allows cultivation of commercial industrial hemp from certified seed varieties.¹⁰³ Health Canada provides a list of approved cultivars.¹⁰⁴ These approved cultivars are tested and certified to have less than 0.3 percent THC concentration.¹⁰⁵ Under the licensed program, there have been no violations of the THC concentration limit.¹⁰⁶ In Canada, licensed industrial hemp producers have effectively cultivated industrial hemp separately and distinct

96. Laate, *supra* note 57.

97. *Id.*

98. SOR/98-156(16)(1)(a),(b).

99. SOR/98-156(16)(2).

100. SOR/98-156(33).

101. SOR/98-156(3)(1)(d).

102. SOR/98-156(3)(1)(c).

103. Laate, *supra* note 57; *see also*, SOR/98-156(39).

104. *Id.*

105. HEALTH CANADA, *supra* note 8.

106. Telephone Interview with Rebecca Ng, Industrial Hemp Section Officer, Health Canada, (Sept. 30, 2014).

from marijuana.¹⁰⁷ Health Canada has no reported violations of marijuana being cultivated by a licensed industrial hemp producer.¹⁰⁸

D. Yields, Value, and Products

1. Yields

Annual production yields have increased extensively since Canada began issuing industrial hemp cultivation licenses. During the first year of licensing in 1998, Health Canada issued about 241 licenses.¹⁰⁹ These 241 licensees grew approximately 2,400 hectares (5,927 acres) of industrial hemp.¹¹⁰ (See Appendix A).¹¹¹ By 1999, the number of licenses more than doubled to 545.¹¹² In 1999, approximately 14,205 hectares (35,086 acres) of industrial hemp were grown.¹¹³ In the early 2000s, there was a decline in production due to breach of contract issues with a California company, Consolidated Growers and Processors Inc.¹¹⁴ The breach of contract left hemp producers with a large surplus of hemp seed and fiber, which did not all get sold, and the hemp producers had to absorb the losses.¹¹⁵ By 2005, approximately 9,725 hectares (24,021 acres) of industrial hemp were grown.¹¹⁶ In 2011, farmers cultivated 15,720 hectares (38,828 acres) of industrial hemp in Canada.¹¹⁷ Over 80 percent of the acres were cultivated for seed production in 2011.¹¹⁸ In 2013, Health Canada licensed 66,671 acres for industrial hemp

107. *See id.*

108. *Id.*

109. Laate, *supra* note 57.

110. *Id.*

111. *Id.*; *see infra* APPENDIX A.

112. *Id.*

113. *Id.*

114. *Id.* Consolidated Growers and Processors Inc. (“CGP”) had contracted approximately 40 percent of the total industrial hemp licensed in Canada in 1999. CGP went into receivership after failing to meet its contractual obligations. The hemp seed and fiber surplus was stored in warehouses awaiting a bankruptcy settlement.

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

cultivation.¹¹⁹ The Prairie Provinces (Alberta, Saskatchewan and Manitoba) have led Canada in hemp production area.¹²⁰

2. Value

Hemp seed market information is not readily available.¹²¹ In Alberta, the sales price for hemp seed was approximately 90 cents to \$1.00 per pound in 2011.¹²² A yield estimate for hemp seed is approximately 1,100 pounds per acre (500 kg per acre).¹²³ Approximately 15,513 tons of hemp seed were produced in 2011.¹²⁴ This estimate translates into a gross revenue between \$30.75 million and \$34.17 million (\$990 to \$1,100 per acre).¹²⁵

3. Products

Canadian companies produce a wide variety of products from industrial hemp. Some examples of products made from hemp seeds produced in Canada are “snack foods, hemp meal and flour, edible oil, shampoo and conditioners, moisturizers, commercial oil paints, beer, and aromatherapy and cosmetic products” as well as pastas, salad dressings, and frozen desserts.¹²⁶ Examples of products from hemp fibers include hemp pellets, animal bedding, and insulation.¹²⁷ Canadian farmers and producers are reporting good growth and have had success due to industrial hemp’s many nutritional benefits.¹²⁸ Approximately one third of Canadian hemp seed production is certified organic.¹²⁹

119. CANADIAN HEMP TRADE ALLIANCE, *supra* note 75.

120. Laate, *supra* note 57.

121. *Id.*

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.*

E. Exports

Canada exports industrial hemp in the form of fiber, hemp seeds, oil, and oil-cake.¹³⁰ An application for a permit to export industrial hemp shall include “a statement certifying that the package and the contents do not contravene any known requirement of the laws of the country to which the industrial hemp is or is about to be consigned, or any country of transit or transshipment.”¹³¹ Health Canada will revoke a permit to export if the Minister has reasonable grounds to believe that the contents of a shipment of industrial hemp contravene any requirement of the laws of the country to which the shipment will be exported, or any country of transit or transshipment.¹³² An exporter shall provide to the Minister, within 20 days after exportation, a declaration that includes: the exporter’s name, license number and permit number, the date of exportation, and the quantity of industrial hemp exported.¹³³

From 2007 to 2010, Agriculture and Agri-Food Canada reported that exports to Canada’s top ten hemp markets increased by 200.7 percent.¹³⁴ In 2007, 59 percent of Canada’s industrial hemp exports went to the U.S.¹³⁵ From 2007 to 2010, exports to the U.S. increased by 170.2 percent.¹³⁶ In 2010, Canada exported more than \$10 million worth of hemp seed and hemp products.¹³⁷ Again, most exports went to the U.S.¹³⁸ (See Appendix B).¹³⁹

130. *Id.*

131. SOR/98-156(26)(1)(g).

132. SOR/98-156(30)(d).

133. SOR/98-156(29).

134. *Canadian Hemp*, AGRIC. AND AGRI-FOOD CANADA, <http://www.marquecanadabrand.agr.gc.ca/fact-fiche/4687-eng.htm> (last visited Apr. 13, 2013), archived at <http://perma.cc/YZ4D-5934> (Canada’s top ten hemp markets, in order beginning with the largest market: United States, United Kingdom, India, Ireland, Netherlands, Germany, Japan, Belgium, Italy, and New Zealand).

135. *Industrial Hemp Statistics*, AGRIC. AND AGRI-FOOD CANADA, *supra* note 11.

136. *Canadian Hemp*, AGRIC. AND AGRI-FOOD CANADA, *supra* note 134.

137. Laate, *supra* note 57.

138. *Id.*

139. *Industrial Hemp Statistics*, AGRIC. AND AGRI-FOOD CANADA, *supra* note 11; *Canadian Hemp*, AGRIC. AND AGRI-FOOD CANADA, *supra* note 134.

F. Growing Market and Government Support

The processing of hemp is steadily increasing and since 2008 hemp cultivation in Canada has also been increasing.¹⁴⁰ Many small businesses that develop new hemp products and that market hemp products for sale are starting up.¹⁴¹ The Canadian Government shows its support through investments in the industry. In 2010, the Canadian Government announced an investment of \$728,000 to increase production capacity in the hemp industry and to “make new inroads into the U.S. market.”¹⁴² In November 2011, through the AgriMarketing Program, the Canadian Government announced an investment of more than \$55,000 to the Canadian Hemp Trade Alliance.¹⁴³ This investment was “to promote the high quality of Canadian hemp to international markets.”¹⁴⁴

Canada has seen the true potential of industrial hemp cultivation. The Canadian Government supports industrial hemp cultivation.¹⁴⁵ Canadian farmers are profiting from their cultivation of hemp.¹⁴⁶ The U.S. Government should look to Canada’s successful industrial hemp regulatory framework as a guideline for ending the prohibition of industrial hemp cultivation in the U.S.

IV. UNITED STATES

The U.S. has a long history embedded with the cultivation and use of industrial hemp. It was not until the early 1900s that public opinion regarding industrial hemp became negative.¹⁴⁷ Currently, the U.S. Government has a strict prohibition on the cultivation of industrial hemp, granting cultivation registrations in only rare circumstances.¹⁴⁸ Most recently, the DEA has issued registrations for

140. See Laate, *supra* note 57.

141. *Id.*

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.*

147. See *Busted: America’s War on Marijuana, Marijuana Timeline*, FRONTLINE, PBS, <http://www.pbs.org/wgbh/pages/frontline/shows/dope/etc/cron.html> (last visited Aug. 27, 2014), archived at <http://perma.cc/3CB7-Z7ZC>.

148. JOHNSON, *supra* note 3, at 13-14.

industrial hemp research.¹⁴⁹ Activists throughout the U.S. are urging the U.S. Government to end industrial hemp cultivation prohibition and to return to farmers the right to plant industrial hemp that they once had.¹⁵⁰

A. History

1. Pre-1937

Farmers have cultivated industrial hemp in the U.S. since its beginning. The first colonists cultivated hemp.¹⁵¹ The Puritans grew hemp at Jamestown to comply with their 1607 contract with the Virginia Company.¹⁵² The first law regarding industrial hemp in the U.S. was enacted in 1619 in Jamestown, Virginia, “‘ordering’ all farmers to ‘make tryal of’ [grow] Indian hemp seed.”¹⁵³ In 1637, the General Court at Hartford ordered all families in Connecticut to plant one teaspoonful of hemp seeds.¹⁵⁴ A similar order was in place in Massachusetts in 1639.¹⁵⁵ The Connecticut General Assembly repeated the order in 1640.¹⁵⁶ The Chesapeake Colonies also had similar orders.¹⁵⁷

George Washington and Thomas Jefferson were strong advocates for industrial hemp and both grew industrial hemp on their plantations.¹⁵⁸ George Washington instructed people to sow hemp everywhere and kept a log in his farm diary of his hemp cultivation.¹⁵⁹ Thomas Jefferson wrote on how to grow hemp, noting distinctions between growing for fiber and for seed.¹⁶⁰ The first two drafts of the parchment of the Declaration of Independence were

149. See Bruce Schreiner, *Hemp Homecoming: Rebirth sprouts in Kentucky*, ASSOCIATED PRESS (Aug. 16, 2014), <http://bigstory.ap.org/article/hemp-homecoming-rebirth-sprouts-kentucky>, archived at <http://perma.cc/L7K4-RCJ4>.

150. Schwab, *supra* note 20.

151. ROWAN ROBINSON, *THE GREAT BOOK OF HEMP* 125-26 (1996).

152. *Id.* at 126.

153. JACK HERER, *THE EMPEROR WEARS NO CLOTHES* 1 (1992).

154. ROBINSON, *supra* note 151, at 126.

155. *Id.*

156. *Id.*

157. HERER, *supra* 153, at 1.

158. ROBINSON, *supra* 151, at 129-30.

159. *Id.* at 130.

160. *Id.* at 132.

produced with hemp.¹⁶¹ The first flags of the U.S. were made from hemp fiber.¹⁶² The sails and rigging of the U.S.S. Constitution, “Old-Ironsides”, which was built in 1797 and never lost a battle, were made from hemp.¹⁶³ Widespread production of industrial hemp in the U.S. continued into the early 1900s.¹⁶⁴

The U.S. Department of Agriculture (“USDA”) produces yearly reports called Yearbooks. Several USDA Yearbooks from the late-1800s to early 1900s included articles on how to grow hemp, facts about hemp, and the profitability of growing hemp.¹⁶⁵ One example is a 1917 USDA Yearbook article, “The Seed Supply of the Nation-Hemp” by R.A. Oakley, Agronomist in Charge of Seed Distribution, Bureau of Plant Industry. The 1917 article focused on hemp seed production, namely Kentucky supplying the majority of seed sown in the U.S.¹⁶⁶ The article encouraged production of industrial hemp in the U.S. for seed, rather than importing seed.¹⁶⁷

Lyster Hoxie Dewey, a USDA botanist, studied hemp. One example of Dewey’s work is Bulletin 404, from 1916, titled “Hemp

161. *Id.* at 129.

162. PAUL M. GAHLINGER, *ILLEGAL DRUGS: A COMPLETE GUIDE TO THEIR HISTORY, CHEMISTRY, USE AND ABUSE* 30 (2001). On July 4, 2013, a U.S. flag made from industrial hemp grown in Colorado was flown over the U.S. Capitol. Nick Wing, *Hemp Flag To Be Flown At Capitol on July 4*, THE HUFFINGTON POST (July 2, 2013), http://www.huffingtonpost.com/2013/07/02/hemp-flag-capitol_n_3534602.html, archived at <http://perma.cc/DCJ7-3SMC>. This was one of the first times a hemp flag was flown over the Capitol dome since the 1930s. Emily Heil, *Hemp Flag to Fly High Over Capitol Building*, THE WASHINGTON POST, July 2, 2013, http://www.washingtonpost.com/blogs/in-the-loop/post/hemp-flag-to-fly-high-over-capitol-building/2013/07/02/ac69c120-e264-11e2-ae3f-339619eab080_blog.html, archived at <http://perma.cc/C633-7KW2>.

163. *Where’s the Hemp*, HEMPOLOGY.ORG, <http://hempology.org/JD’S%20ARTICLES/WTH.html> (last visited Aug. 27, 2014), archived at <http://perma.cc/PDN2-JERR>.

164. JOHNSON, *supra* note 3, at 12.

165. *See All Hemp History Articles Posted on Hempology.org*, HEMPOLOGY.ORG, <http://hempology.org/ALLARTICLES.html> (last visited Aug. 27, 2014), archived at <http://perma.cc/Q4EV-XLXE>.

166. *The Seed Supply of the Nation - Hemp*, HEMPOLOGY.ORG, <http://hempology.org/ALL%20HISTORY%20ARTICLES.HTML/1917HEMPSEEDSUPPLY.html> (last visited Aug. 27, 2014), archived at <http://perma.cc/4G49-MHBJ>.

167. *Id.*

Hurds As Paper-Making Material.”¹⁶⁸ Bulletin 404 discussed what hemp hurds are, hemp hurd yields, hemp hurd uses, the present supply, and costs.¹⁶⁹ USDA Bulletin 404 reported that hemp hurds can produce four times more paper pulp per acre than trees.¹⁷⁰

2. 1937

In the early 1900s, views surrounding *C. sativa* began to change. Industrial hemp became confused with marijuana. In 1913, California passed the first legislation prohibiting “hemp,” with the 1913 Poison Act.¹⁷¹ By 1931, 29 states had passed legislation outlawing marijuana or *C. sativa*.¹⁷²

In an effort to restrict production of marijuana, Congress passed the 1937 Marihuana Tax Act (“Tax Act”) (50 Stat. 551) placing all *C. sativa* under control of the U.S. Treasury Department.¹⁷³ Congress designed the Tax Act to permit legitimate industrial, medical, and scientific uses.¹⁷⁴ The Tax Act “applied to anyone who imports, manufactures, produces, compounds, sells, deals in, dispenses, prescribes, administers, or gives away marihuana.”¹⁷⁵ The Tax Act required all *C. sativa* growers to undergo registration and licensing with the Federal Government.¹⁷⁶ Through the purchase of a

168. *USDA Bulletin 404-Hemp Hurds as a Paper Making Material*, HEMPOLOGY.ORG, <http://www.hempology.org/img/BULLETIN%20404.pdf> (last visited Aug. 27, 2014), archived at <http://perma.cc/A85J-9GQS>.

169. *Id.*

170. *Id.* at 24.

171. Dale H. Gieringer, *The Origins of California's 1913 Cannabis Law*, CAL. NORML, <http://www.canorml.org/background/ca1913.html> (last updated May 2012), archived at <http://perma.cc/52N7-2UEM>.

172. *Busted: America's War on Marijuana, Marijuana Timeline*, *supra* note 147.

173. U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., *INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, HISTORY 3* (Jan. 2000), available at http://www.ers.usda.gov/media/328206/ages001ec_1_.pdf, archived at <http://perma.cc/ED42-L6AK>.

174. Christine A. Kolosov, *Evaluating the Public Interest: Regulation of Industrial Hemp Under the Controlled Substances Act*, 57 UCLA L. REV. 237, 245 (2009).

175. Tara Christine Brady, *The Argument For the Legalization of Industrial Hemp*, 13 SAN JOAQUIN AGRIC. L. REV. 85, 88-89 (2003).

176. *INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, HISTORY*, *supra* note 173.

marihuana stamp, the Act levied a one-dollar tax on activities dealing in *C. sativa*.¹⁷⁷ Under the Tax Act,

[a]ll producers of cannabis sativa and certain legitimate users (e.g., doctors) were subject to a small tax, (\$1 per year). . . but no tax was applied to transfers of the mature stalk of the plant, which is useful only for industrial use. . . and which was specifically excluded from the definition of “marijuana”.¹⁷⁸

Hemp farmers were subject to a tax of one dollar per year.¹⁷⁹ For a violation of the Tax Act, penalties were a maximum fine of \$2000 and/or up to five years imprisonment.¹⁸⁰

The definition of marihuana under the Tax Act exempted the parts of the *C. sativa* plant particularly used for industrial purposes:

[t]he term ‘marihuana’ means all parts of the plant *Cannabis sativa* L., whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds, or resin; *but shall not include the mature stalks of such plant, fiber produced from such stalks, oil or cake made from the seeds of such plant, any other compound, manufacture, salt, derivative, mixture, or preparation of such mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of such plant which is incapable of germination.*¹⁸¹

As portions of the plant used for industrial purposes were exempt, the registration and taxation requirements were not “to be applied to millers or other businesspeople who obtained stalks, seeds, and other

177. Brady, *supra* note 175, at 88.

178. *N.H. Hemp Council Inc. v. U.S.A. Drug Enforcement*, 203 F.3d 1, 7 (1st Cir. 1999).

179. Kolosov, *supra* note 174, at 245.

180. Brady, *supra* note 175, at 89.

181. Kolosov, *supra* note 174, at 245 (emphasis added).

derivatives from producers.”¹⁸² Nevertheless, the 1937 Marihuana Tax Act effectively limited expansion of the production of hemp.¹⁸³

3. World War II

Despite the 1937 Marihuana Tax Act, the USDA produced a film in 1942 to promote production of industrial hemp for the war effort, known as the “Hemp for Victory” Campaign.¹⁸⁴ The campaign was to provide for “‘products spun from American grown-hemp’.”¹⁸⁵ The “Hemp for Victory” film informs that the U.S. military used hemp fiber for

twine of various kinds for tying, winding armatures, and upholsterers work; rope for marine rigging and towing; for hay forks, derricks, and heavy duty tackle; light-duty fire hose; thread for shoes for millions of American soldiers; and parachute webbing for our paratroopers. As for the United States Navy, every battleship requires 34,000 feet of rope.¹⁸⁶

As a result of the campaign, 36,000 acres of hemp were planted in 1942.¹⁸⁷ Throughout the remainder of the war “thousands of farmers grew hundreds of thousands of acres of hemp for wartime needs.”¹⁸⁸ By the end of the war, the U.S. Government reasserted prohibition.¹⁸⁹ There was a total ban by 1958.¹⁹⁰

182. *Id.*

183. JOHNSON, *supra* note 3, at 12.

184. Brady, *supra* note 175, at 90.

185. JOHNSON, *supra* note 3, at 12.

186. U.S. Dep’t of Agric., *Hemp for Victory*, YOUTUBE (Aug. 15, 2010), <http://www.youtube.com/watch?v=W0xHCkOnn-A> (Originally created as a U.S. propaganda film in 1942).

187. Brady, *supra* note 175, at 90.

188. *Id.* (internal quotation marks omitted).

189. INDUSTRIAL HEMP IN THE UNITED STATES: STATUS AND MARKET POTENTIAL, HISTORY, *supra* note 173.

190. *Id.* The last commercial hemp crop in the U.S. was cultivated in 1957 by Matt Rens in Wisconsin. See also, Dennis Rens, *America’s Hemp King* (1995), <http://newheadnews.com/hemp/Rens.hempstory.Wis/> (last visited Aug. 19, 2014), archived at <http://perma.cc/Q9ZJ-DPCZ> (The processing of the last hemp crop was completed in 1958).

4. Controlled Substances Act and Post-1970

In 1970, Congress passed the CSA (21 U.S.C. §§ 801-904), providing a framework for listing and classifying controlled substances based on several criteria, such as potential for abuse and medical use. The DEA regulates the CSA. The CSA makes it unlawful, except as authorized by the Act, to “manufacture, distribute, or dispense” any controlled substance.¹⁹¹ Under the CSA, marihuana is a Schedule I controlled substance.¹⁹² Schedule I controlled substances are “drugs with no currently accepted medical use and a high potential for abuse.”¹⁹³ A registration must be obtained to manufacture a Schedule I controlled substance.¹⁹⁴

The CSA defines marihuana as follows:

The term “marihuana” means *all* parts of the plant *Cannabis sativa* L., whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds or resin. *Such term does not include the mature stalks of such plant, fiber produced from such stalks, oil or cake made from the seeds of such plant, any other compound, manufacture, salt, derivative, mixture, or preparation of such mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of such plant which is incapable of germination.*¹⁹⁵

This definition of marihuana is the same definition as in the 1937 Marihuana Tax Act. The definition does not distinguish between low and high THC concentration varieties, and therefore includes all varieties of the *C. sativa* plant.¹⁹⁶ Opponents to prohibition argue

191. Controlled Substances Act, 21 U.S.C. § 841(a)(1) (2012).

192. 21 C.F.R. § 1308.11(d)(23) (2014).

193. DRUG ENFORCEMENT ADMIN., *Drug Schedules-Schedule I*, <http://www.justice.gov/dea/druginfo/ds.shtml> (last visited Mar. 31, 2013), *archived at* <http://perma.cc/49H5-EY9W>.

194. *See* 21 U.S.C. §§ 822-823 (2012).

195. 21 U.S.C. § 802 (16) (2012) (emphasis added).

196. JOHNSON, *supra* note 3, at 13.

that the definition of marihuana under the CSA exempts industrial hemp, as the stalks, fibers, oil or cake, and seeds are not included within the definition.¹⁹⁷ The DEA disputes this interpretation.¹⁹⁸ The DEA argues that the CSA definition of marihuana “includes *all Cannabis sativa* L.”¹⁹⁹

Growing hemp is not illegal under the CSA, but requires prospective growers to obtain a registration from the DEA.²⁰⁰ Only a few registrations have ever been issued.²⁰¹ In 1999, the DEA issued one permit for research of the growth of one quarter-acre of industrial hemp in Hawaii.²⁰² The DEA required strict security measures, including a “chain link fence with razor blade barbed wire and a twenty-four hour infrared security system surrounding the industrial hemp plots.”²⁰³ This permit expired in 2003.²⁰⁴ Since 2002, George Weiblen, Ph.D., at the University of Minnesota has held a DEA permit for the study of cannabis genetics.²⁰⁵ In 2007, the DEA issued a permit for a research plot at North Dakota State University.²⁰⁶ On May 22, 2014, the DEA issued a registration to the Kentucky Department of Agriculture authorizing the importation of 250 pounds of industrial hemp seed to be used for research purposes.²⁰⁷ The

197. *Id.*

198. *Id.*

199. *Monson v. Drug Enforcement Admin.*, 589 F.3d 952, 957 (8th Cir. 2009) (emphasis in original).

200. 21 U.S.C. § 822-823 (2012).

201. *See* JOHNSON, *supra* note 3; *see also* U.S. DEP’T. OF JUSTICE, DRUG ENFORCEMENT ADMIN., *supra* note 15, at 5 (As of January 2013, [t]here are 125 researchers registered with DEA to perform studies with marijuana, marijuana extracts, and non-tetrahydrocannabinol marijuana derivatives that exist in the plant, such as cannabidiol and cannabitol.).

202. Kolosov, *supra* note 174, at 247.

203. Brady, *supra* note 175, at 91.

204. Kolosov, *supra* note 174, at 247.

205. George Weiblen, Ph.D., Or. State Univ. Industrial Hemp Course WSE 266, *Lecture 9: Cannabinoid Genetics* (Apr. 2013).

206. *Id.*

207. Phillip Smith, *DEA Backs Down; Kentucky Will Get Its Hemp Seeds*, STOPTHEDRUGWAR.ORG (May 23, 2014), http://stopthedrugwar.org/chronicle/2014/may/23/dea_backs_down_kentucky_will_get, archived at <http://perma.cc/3DW3-VU3X>; *see also* Bruce Schreiner, *Ky. Agriculture Officials Receive Hemp Shipment*, ASSOCIATED PRESS, May 23, 2014,

DEA granted a second registration to the Kentucky Department of Agriculture in July 2014 for a second shipment of imported industrial hemp seeds.²⁰⁸ On January 28, 2015, Harry Ako, Ph.D., at the University of Hawaii received a DEA import permit for the importation of industrial hemp seed for variety trial research.²⁰⁹

The DEA continues to assert strict regulatory control over industrial hemp, even though attitudes and laws surrounding industrial hemp throughout the U.S. continue to change to realize the value of industrial hemp as an agricultural commodity.

B. Present Day

Without a DEA registration, it is currently illegal to cultivate industrial hemp in the U.S.²¹⁰ Even if a cultivator has a state-issued license or permit, they still need to get a registration from the DEA to grow industrial hemp or have an established relationship with a state department of agriculture or an institution of higher education.²¹¹ If not, the cultivator may face federal charges or property confiscation.²¹² At this time, there are no active federal licenses allowing commercial cultivation of industrial hemp.²¹³ All commercial hemp products sold in the U.S. are imported or manufactured from imported hemp materials.²¹⁴

<http://www.bigstory.ap.org/article/feds-release-hemp-seeds-kentucky-officials>, archived at <http://perma.cc/WF4S-FU69>.

208. See Bruce Schreiner, *Kentucky hemp crop grows with arrival of more seeds*, THE COURIER-JOURNAL, July 14, 2014, <http://www.courier-journal.com/story/news/local/2014/07/14/kentucky-hemp-crop-grows-arrival-seeds/12654439/>, archived at <http://perma.cc/KWL2-2HSC>.

209. Telephone interview with Harry Ako, Ph.D., Univ. of Haw., (Apr. 3, 2015). See also, Michelle Van Hessen, *University of Hawaii Receives Industrial Hemp Seed Import Permit*, HAWAII REPORTER, Jan. 28, 2015, <http://www.hawaiiireporter.com/university-of-hawaii-receives-industrial-hemp-seed-import-permit>, archived at <http://perma.cc/VZ6D-QQSH>.

210. 21 U.S.C. § 802 (16) (2012).

211. See JOHNSON, *supra* note 3, at 13; see also Agricultural Act of 2014, H.R. 2642, 113th Cong. § 7606 (2014) (enacted). However, industrial hemp was cultivated in Colorado in the summer of 2013 without a DEA permit. JOHNSON, *supra* note 3, at 14.

212. *Id.*; JOHNSON, *supra* note 3, at 14.

213. *Id.*

214. *Id.*

1. The U.S. Courts and the DEA

i. Ninth Circuit: Non-Psychoactive Hemp Products With Naturally-occurring THC Are Not Regulated Under the CSA

On October 9, 2001, the DEA issued an “Interpretive Rule” which stated that, “all products containing any amount of THC are Schedule I controlled substances.”²¹⁵ Manufacturers, distributors, and other sellers of hemp seed, hemp oil, and hemp seed oilcake appealed the issuance of the regulation.²¹⁶ This regulation would have banned the possession and sale of these manufacturers’, distributors’, and sellers’ products.²¹⁷ In *Hemp Industries Ass’n. v. Drug Enforcement Admin.*, 333 F.3d 1082 (9th Cir. 2003) (“*Hemp I*”), the Ninth Circuit concluded that, “THC naturally-occurring within non-psychoactive hemp products did not fall under the DEA’s regulation” and abstained from considering the merits of the case until DEA issued Final Rules.²¹⁸

The DEA proposed two rules, also on October 9, 2001, that became final when published in the Federal Register on March 21, 2003.²¹⁹ Final Rule DEA-205F amended 21 C.F.R. § 1308.11(d)(27) to include natural THC, along with synthetic THC, within the THC listing in Schedule I. Final Rule DEA-206F exempted from control non-psychoactive hemp products that contain trace amounts of THC that are not intended to enter the human body.²²⁰

On February 6, 2004, the Ninth Circuit issued its opinion in *Hemp Industries Ass’n. v. Drug Enforcement Admin.*, 357 F.3d 1012 (9th Cir. 2004) (“*Hemp II*”). Considering the merits of the case, the Ninth Circuit concluded that “under the *Chevron* standards . . . Congress did not regulate non-psychoactive hemp in Schedule I.”²²¹ The court then looked to whether the DEA followed appropriate procedures to schedule non-psychoactive hemp as a controlled

215. Interpretation and Clarification of Listing of “Tetrahydrocannabinols” in Schedule I, 66 Fed. Reg. 51530 (Oct. 9, 2001).

216. *Hemp Industries Ass’n. v. Drug Enforcement Admin.*, 357 F.3d 1012, 1014 (9th Cir. 2004).

217. *Id.*

218. *Id.*

219. *Id.*

220. *Id.*

221. *Id.* at 1015.

substance.²²² The Ninth Circuit held that “[t]he DEA’s action is not a mere classification of its THC regulations; it improperly renders naturally-occurring non-psychoactive hemp illegal for the first time.”²²³ The court noted, “[w]e find unambiguous Congress’ intent with regard to the regulation of non-psychoactive hemp.”²²⁴ The Ninth Circuit concluded that the DEA “cannot regulate *naturally-occurring* THC *not* contained within or derived from marijuana-i.e., non-psychoactive hemp products-because non-psychoactive hemp is not included in Schedule I.”²²⁵ When the DEA did not appeal the decision to the U.S. Supreme Court by the September 28, 2004 deadline, industrial hemp activists saw this as a victory.²²⁶

ii. Hemp Cultivation, Without a Federal Registration, is Prohibited Under Federal Law

a. First Circuit

In *N.H. Hemp Council Inc. v. U.S.A. Drug Enforcement*, 203 F.3d 1 (1st Cir., 1999), Representative Derek Owen brought suit against the DEA Administrator seeking a declaration that Congress had not criminalized the growth of non-psychoactive *C. sativa* (industrial hemp) in defining marijuana under the CSA.²²⁷ Owen had co-sponsored a bill to legalize and regulate the cultivation of industrial hemp.²²⁸ Among many witnesses that testified on Owen’s bill before a New Hampshire house subcommittee, a representative of the DEA testified that absent federal licensing, the DEA views the cultivation of *C. sativa* as the manufacture of marijuana and is illegal under

222. *Id.*

223. *Id.* at 1017.

224. *Id.* at 1018.

225. *Id.* (emphasis in original).

226. *DEA Hemp Food Rules*, VOTEHEMP.COM, http://www.votehemp.com/legal_cases_DEA.html (last visited Apr. 11, 2013), archived at <http://perma.cc/36WJ-RWZC>; see also *Hemp Food Final Victory*, VOTEHEMP.COM, http://www.votehemp.com/PR/9-28-04_Final_Victory.html (last visited Apr. 11, 2013), archived at <http://perma.cc/E9MH-YGZF>.

227. *N.H. Hemp Council Inc. v. U.S.A. Drug Enforcement*, 203 F.3d 1, 3 (1st Cir., 1999); see also *id.* at 4 (Owen also sought an injunction to prevent the DEA from prosecuting hemp producers).

228. *Id.*

federal law.²²⁹ Owen's bill was defeated on a close vote in the house committee.²³⁰

Owen filed suit against the DEA Administrator.²³¹ The district court determined that Owen did not have standing, but also determined that the federal definition of marijuana does include *C. sativa* plants, even if grown solely for the production of industrial products.²³² Owen appealed.²³³

On appeal, the First Circuit looked at the issues of standing and statutory interpretation.²³⁴ The First Circuit held that on a literal reading of the definition of marijuana under the CSA, industrial hemp is within the statute's ban and the statute does not distinguish among varieties of *C. sativa*.²³⁵ The court concluded, "we find no indication that Congress in 1970 gave any thought to how its new statutory scheme would affect [industrial] production."²³⁶

The First Circuit holding made clear that industrial hemp cultivation is prohibited under the CSA, absent federal registration.²³⁷ The Eighth Circuit has similarly concluded that the growth of *all* varieties of *C. sativa*, including industrial hemp, is prohibited under the CSA absent compliance with the registration requirement.²³⁸

b. Eighth Circuit

In 2007, North Dakota issued the first industrial hemp cultivation license to Representative David Monson. The North Dakota Commissioner of Agriculture ("Commissioner") also granted Wayne Hauge an industrial hemp cultivation permit. The DEA previously denied a request by the Commissioner to waive the CSA registration

229. *Id.*

230. *Id.*

231. *Id.*

232. *Id.* at 4.

233. *Id.*

234. *Id.* at 4-6.

235. *Id.* at 6.

236. *Id.* at 7; *see also id.* at 8 ([W]here cannabis sativa plants are grown for industrial use, the statute's coverage is supported alike by literal language, enforcement concerns and the broad application of the definition under the 1937 tax statute).

237. *Id.* at 8.

238. *Monson v. Drug Enforcement Admin.*, 589 F.3d 952, 957 (8th Cir. 2009).

requirement for North Dakota farmers.²³⁹ In February 2007, the Commissioner submitted applications to the DEA “for registration on behalf of Monson and Hauge for their proposed industrial hemp cultivation.”²⁴⁰ The Commissioner sought DEA action on the applications by April 1, 2007, but the DEA responded that the deadline was unrealistic.²⁴¹ The North Dakota Legislative Assembly subsequently amended the state statute, “eliminating the DEA-registration requirement.”²⁴²

Rather than beginning cultivation immediately, Monson and Hauge filed a lawsuit in the District of North Dakota, *Monson v. Drug Enforcement Admin.*, 522 F.Supp.2d 1188 (D. ND 2007), “seeking a declaration that the CSA does not apply to persons seeking to cultivate industrial hemp pursuant to North Dakota law.”²⁴³ Monson and Hauge argued that pursuant to the licenses they obtained from the Commissioner, the CSA did not apply to their planned cultivation of *C. sativa*.²⁴⁴ The District Court dismissed their case, by granting the DEA and Department of Justice’s (“DOJ”) motion to dismiss.²⁴⁵ Monson and Hauge appealed.²⁴⁶

In *Monson v. Drug Enforcement Admin.*, 589 F.3d 952 (8th Cir. 2009), the Eighth Circuit concluded that, “[u]nder the CSA, marijuana is defined to include *all Cannabis sativa* L. plants, regardless of THC concentration . . . [t]he CSA likewise makes no distinction between cannabis grown for drug use and that grown for industrial use.”²⁴⁷ The court continued, “the language of the CSA unambiguously bans the growing of marijuana, regardless of its use’ . . . ‘the CSA regulates the farming of hemp.’”²⁴⁸ In footnote 4, the Eighth Circuit noted, “the statutory definition of marijuana excludes certain parts of the *Cannabis sativa* L. plant not relevant to

239. *Id.* at 957.

240. *Id.*

241. *Id.*

242. *Id.*

243. *Id.*; see *Monson v. Drug Enforcement Admin.*, 522 F. Supp. 2d 1188 (2007).

244. *Monson v. Drug Enforcement Admin.*, 589 F.3d 952, 957 (8th Cir. 2009).

245. *Id.* at 956, 962.

246. *Id.* at 955.

247. *Id.* at 961 (emphasis in original).

248. *Id.* at 962 (citing *U.S. v. White Plume*, 447 F.3d 1067, 1072-73 (8th Cir. 2006)).

this discussion.”²⁴⁹ The court further stated that, “we found ‘no evidence that Congress intended otherwise’ than to ban the growth of *all* varieties of the *Cannabis sativa* L. plant absent compliance with the registration requirements of the CSA.”²⁵⁰ The Eighth Circuit affirmed the conclusions of the District Court that, “industrial hemp as defined by the North Dakota statute is marijuana for purposes of the CSA.”²⁵¹

The courts have been consistent in upholding the DEA’s interpretation of the definition of marijuana under the CSA.²⁵² Industrial hemp cultivation is prohibited under federal law, absent a federal registration.²⁵³

As it stands, non-psychoactive hemp products that contain naturally-occurring THC are not included in Schedule I.²⁵⁴ However, the classification of *all C. sativa* as marijuana in Schedule I under the CSA bans the growth of all varieties of *C. sativa*, including industrial hemp, absent compliance with the CSA registration requirement.²⁵⁵ The DEA continues to enforce strict compliance with the registration requirement.

iii. Position of the DEA and Law Enforcement

One main reason the DEA and law enforcement are opposed to hemp cultivation is because they claim hemp and marijuana are difficult to distinguish, and that it will be difficult to regulate effectively.²⁵⁶ Rodney Brewer, Kentucky State Police Commissioner, testifying in opposition to Senate Bill 50, "AN ACT relating to industrial hemp", stated his opposition is “because of the similarities between hemp and marijuana. They are identical in

249. *Id.* at 961 n.4.

250. *Id.* at 962 (emphasis in original) (citing *White Plume*, 447 F.3d at 1072).

251. *Id.* at 962.

252. *See N.H. Hemp Council Inc. v. U.S.A. Drug Enforcement*, 203 F.3d 1, 6 (1st Cir. 1999); *see also Monson v. Drug Enforcement Admin.*, 589 F.3d 952, 957 (8th Cir. 2009).

253. 21 U.S.C. § 802 (16) (2012).

254. *See Hemp Industries Ass’n. v. Drug Enforcement Admin.*, 357 F.3d 1012, 1019 (9th Cir. 2004).

255. *See N.H. Hemp Council Inc.*, 203 F.3d at 6; *see also Monson*, 589 F.3d at 962.

256. *Reyes*, *supra* note 14.

appearance when it comes to the naked eye.”²⁵⁷ However, *C. sativa* is wind pollinated and can cross-pollinate easily.²⁵⁸ Marijuana growers cultivating for THC content in their crop would not want hemp located anywhere near their marijuana operation.²⁵⁹ The marijuana grower would risk cross-pollination.²⁶⁰ R. James Woolsey, former CIA Director and member of North American Industrial Hemp Council, responded, “[t]he marijuana growers are about the last people who want industrial hemp.”²⁶¹ Cross-pollination between marijuana and hemp could result in a seeded marijuana crop significantly reducing the value of the marijuana and could also reduce the THC content of the next generation marijuana crop.²⁶² In addition, with state licensing and permitting programs, law enforcement would know where and who is cultivating industrial hemp.²⁶³ Thus, it would be extremely difficult for a marijuana grower to pass off his operation as an industrial hemp operation. If authorities suspected marijuana was being grown, they could easily verify compliance with the grower’s license and permit.

The DEA remains firm on their position that industrial hemp is regulated as a Schedule I controlled substance under the CSA. Despite DEA’s position, legislation continues to be passed and signed into law on both the state and federal levels recognizing industrial hemp as an agricultural commodity.

2. Executive Orders

On June 3, 1994, President Bill Clinton signed Executive Order 12919, National Defense Industrial Resources Preparedness, which addressed national defense industrial resource policies and programs

257. *Id.*

258. JOHNSON, *supra* note 3, at 2.

259. Reyes, *supra* note 14.

260. *Id.*

261. *Id.*

262. Or. State Legis., Joint Comm. on Implementing Measure 91 (Feb. 23, 2015) (Environmental, Land Use, and Siting Issues - Informational Meeting), available at http://oregon.granicus.com/MediaPlayer.php?clip_id=8296, archived at <http://perma.cc/C8ZP-37PG>.

263. *E.g.*, OR. REV. STAT. § 571.305(3) (2013).

under the Defense Production Act of 1950.²⁶⁴ Under the general provisions of Executive Order 12919, hemp was listed as a food resource, among other specifically listed foods.²⁶⁵ The food resources section, 901(e), specifically states, “[f]ood resources’ also means . . . hemp . . . but does not mean any such material after it loses its identity as an agricultural commodity or agricultural product.”²⁶⁶

On March 16, 2012, President Barak Obama signed Executive Order 13603, National Defense Resources Preparedness, which also addressed national defense resource policies and programs under the Defense Production Act of 1950 and amended part of President Clinton’s National Defense Industrial Resources Preparedness Order.²⁶⁷ Again, hemp was listed as a food resource.²⁶⁸ The language remained the same, “[f]ood resources’ also means . . . hemp . . . but does not mean any such material after it loses its identity as an agricultural commodity or agricultural product.”²⁶⁹

These executive orders do not affect the federal status of industrial hemp in the U.S. The last section of both Executive Order 12919 and Executive Order 13603 states that the Order is not intended to create any right or benefit enforceable at law by a party against the U.S.²⁷⁰

Regardless of the lack of effect on federal legal status, it is important to note that through these executive orders Presidents Clinton and Obama have recognized the use of hemp as a food source and agricultural commodity. Legislation on both the federal and state levels continues to recognize the agricultural potential of industrial hemp.

3. Agency Action

On August 29, 2013, the DOJ issued a memo (“Cole Memo”) providing prosecutorial guidance for states that legalized the

264. Exec. Order No. 12,919 National Defense Industrial Resources Preparedness, 59 Fed. Reg. 29,525 (June 3, 1994).

265. Exec. Order No. 12,919 (901)(e), 59 Fed. Reg. 29,532.

266. *Id.*

267. Exec. Order No. 13,603, 77 Fed. Reg. 16,651 (Mar. 16, 2012).

268. Exec. Order No. 13,603 (801)(e), 77 Fed. Reg. 16658.

269. *Id.*

270. Exec. Order No. 12,919 (905), 59 Fed. Reg. at 29534; 59 Fed. Exec. Order No. 13,603 (804)(c), 77 Fed. Reg. at 16660.

possession of marijuana.²⁷¹ The Cole Memo outlines eight enforcement priorities as guidance for federal prosecutors to follow for enforcement of the CSA against marijuana-related conduct in states that have legalized the possession of marijuana.²⁷² States such as Colorado, Kentucky, and Oregon interpreted the Cole Memo to also allow production of industrial hemp in states that legalized industrial hemp cultivation.²⁷³

271. Memorandum from James M. Cole, U.S. Dep't of Justice, to all U.S. Attorneys (Aug. 29, 2013), available at <http://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf>, archived at <http://perma.cc/E7JJ-PQYD> (guidance regarding marijuana enforcement); see Noelle Crombie, *Federal Marijuana Decision Clears Way for Oregon Hemp Production, Advocates Say*, THE OREGONIAN, Sept. 13, 2013, http://www.oregonlive.com/politics/index.ssf/2013/09/federal_marijuana_decision_cle.html, archived at <http://perma.cc/V25Y-ZUHZ>.

272. *Id.*

273. *Id.*; see Noelle Crombie, *Federal Marijuana Decision Clears Way for Oregon Hemp Production*, *supra* note 271; see also Noelle Crombie, *Industrial Hemp in Oregon: State Officials Drafting Rules for Hemp Production*, THE OREGONIAN, Nov. 5, 2013, http://www.oregonlive.com/politics/index.ssf/2013/11/industrial_hemp_in_oregon_stat.html, archived at <http://perma.cc/7QR3-YZ3H>; Noelle Crombie, *Industrial Hemp: Colorado Drafts Regulations for Production*, THE OREGONIAN, Nov. 7, 2013, http://www.oregonlive.com/politics/index.ssf/2013/11/industrial_hemp_colorado_draft.html, archived at <http://perma.cc/4YBD-VWD5>; Letter from Amanda Marshall, U.S. Attorney, U.S. Dep't of Justice to Earl Blumenauer, U.S. Representative (Nov. 8, 2013) (on file with author) (regarding the Department of Justice's position on industrial hemp and the August 29, 2013 Cole Memo).

4. Congressional Action²⁷⁴

274. In January 2015, companion Senate and House bills for the Industrial Hemp Farming Act of 2015 were introduced with bipartisan support. On January 8, 2015, Senator Ron Wyden (D-OR) introduced S. 134 with co-sponsors Jeff Merkley (D-OR), Rand Paul (R-KY) and Senate Majority Leader Mitch McConnell (R-KY). The language of S. 134 is identical to the language of S. 359 introduced in 2013. On January 26, 2015, Representative Thomas Massie (R-KY) reintroduced the Industrial Hemp Farming Act, H.R. 525, with 47 co-sponsors. The language of H.R. 525 is identical to the language of H.R. 525 introduced in 2013. The companion bills introduced in 2013 (H.R. 525 and S.359) and the 2015 companion bills (S. 134 and H.R. 525) contain identical language under Section 2, which excludes industrial hemp from the Controlled Substances Act definition of “marihuana”:

SEC. 2. EXCLUSION OF INDUSTRIAL HEMP FROM DEFINITION OF MARIHUANA.

Section 102 of the Controlled Substances Act (21 U.S.C. 802) is amended—

(1) in paragraph (16)—

(A) by striking “(16) The” and inserting “(16)(A) The”; and

(B) by adding at the end the following:

“(B) The term ‘marihuana’ does not include industrial hemp.”; and

(2) by adding at the end the following:

“(57) The term ‘industrial hemp’ means the plant *Cannabis sativa* L. and any part of such plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.”

See Industrial Hemp Farming Act of 2015, S. 134, 114th Cong. (2015), *available at* <https://www.congress.gov/bill/114th-congress/senate-bill/134/all-info#related-bills>, *archived at* <https://perma.cc/MFV2-VWX9>; Industrial Hemp Farming Act of 2015, H.R. 525, 114th Cong. (2015), *available at* <https://www.congress.gov/bill/114th-congress/house-bill/525>, *archived at* <https://perma.cc/XN7H-Y2LK>; Industrial Hemp Farming Act of 2013, H.R. 525, 113th Cong. (2013); Industrial Hemp Farming Act of 2013, S. 359, 113th Cong. (2013).

Similar Industrial Hemp Farming Act bills, which were unsuccessful, were introduced into the U.S. House of Representatives in 2005 (H.R. 3037), 2007 (H.R. 1009), 2009 (H.R. 1866), and 2011 (H.R. 1831); *see* H.R. 3037, 109th Cong. (2005); H.R. 1009, 110th Cong. (2007), *available at* [http://thomas.loc.gov/cgi-bin/query/z?c110:H.R.1009::110th Cong., archived at http://perma.cc/64JZ-CXCW](http://thomas.loc.gov/cgi-bin/query/z?c110:H.R.1009::110th+Cong.,+archived+at+http://perma.cc/64JZ-CXCW); H.R. 1866, 111th Cong. (2009); H.R. 1831, 112th Cong. (2011).

i. Agricultural Act of 2014

On February 4, 2014, the U.S. Congress approved the Agricultural Act of 2014 (H.R. 2642).²⁷⁵ Section 7606 of the Agricultural Act authorizes research of industrial hemp by institutions of higher education and state Departments of Agriculture in states that have legalized the cultivation or research of industrial hemp.²⁷⁶ President Obama signed the Agricultural Act of 2014 into law on February 7, 2014.²⁷⁷

Section 7606 specifically provides:

(a) In General- Notwithstanding the Controlled Substances Act (21 U.S.C. 801 et seq.), the Safe and Drug-Free Schools and Communities Act (20 U.S.C. 7101 et seq.), chapter 81 of title 41, United States Code, or any other Federal law, *an institution of higher education* (as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001)) *or a State department of agriculture may grow or cultivate industrial hemp if--*

- (1) *the industrial hemp is grown or cultivated for purposes of research conducted under an agricultural pilot program or other agricultural or academic research; and*
- (2) *the growing or cultivating of industrial hemp is allowed under the laws of the State in which such institution of higher education or State department of agriculture is located and such research occurs.*

(b) Definitions- In this section:

- (1) **AGRICULTURAL PILOT PROGRAM-**
The term 'agricultural pilot program' means a

Two bills introduced into the U.S. Senate in 2012 (S. AMDT. 2220 and S. 3501) were also unsuccessful. *See* S. AMDT. 2220, 112th Cong. (2012); S. 3501, 112th Cong. (2012).

275. Agricultural Act of 2014, Pub. L. 113-79, 128 Stat. 649 (2014).

276. H.R. REP. NO. 113-333; 7 U.S.C. § 5940 (2014).

277. Pub. L. 113-79, 128 Stat. 649.

pilot program to study the growth, cultivation, or marketing of industrial hemp--

(A) in States that permit the growth or cultivation of industrial hemp under the laws of the State; and

(B) in a manner that--

(i) ensures that only institutions of higher education and State departments of agriculture are used to grow or cultivate industrial hemp;

(ii) requires that sites used for growing or cultivating industrial hemp in a State be certified by, and registered with, the State department of agriculture; and

(iii) authorizes State departments of agriculture to promulgate regulations to carry out the pilot program in the States in accordance with the purposes of this section.

(2) INDUSTRIAL HEMP- The term *'industrial hemp'* means the plant *Cannabis sativa L.* and any part of such plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.

(3) STATE DEPARTMENT OF AGRICULTURE- The term *'State department of agriculture'* means the agency, commission,

or department of a State government
responsible for agriculture within the State.²⁷⁸

The inclusion of Section 7606 in the Agricultural Act of 2014 was a landmark step forward for the industrial hemp movement in the U.S.

ii. Consolidated and Further Continuing Appropriations Act of 2015

On December 16, 2014, President Obama signed into law the Consolidated and Further Continuing Appropriations Act of 2015, becoming Public Law No: 113-235.²⁷⁹ Section 539 of the Consolidated and Further Continuing Appropriations Act addresses industrial hemp research.²⁸⁰ Section 539 reads,

None of the funds made available by this Act may be used in contravention of section 7606 (“Legitimacy of Industrial Hemp Research”) of the Agricultural Act of 2014 (Public Law 113-79) by the Department of Justice or the Drug Enforcement Administration.²⁸¹

Section 539 provides industrial hemp researchers protection from federal prosecution throughout 2015 for the cultivation of industrial hemp for research purposes conducted in states that have authorized such research in accordance with Section 7606 of the Agricultural Act of 2014.²⁸²

The Acts approved by Congress relating to industrial hemp during the 2014 legislative session reflects the will of the numerous states that have passed legislation authorizing some form of industrial hemp cultivation.

278. 7 U.S.C. § 5940 (emphasis added).

279. H.R. 83, 113th Cong. (2013), available at <https://www.congress.gov/bill/113th-congress/house-bill/83/related-bills>, archived at <https://perma.cc/VQN3-QY97>.

280. *Id.*

281. *Id.* at § 539.

282. *Id.*

5. State Action

Despite the federal prohibition of industrial hemp commercial cultivation, several states have taken action by passing bills and resolutions related to industrial hemp. In 1999, North Dakota became the first state to legalize the cultivation of industrial hemp.²⁸³ Montana²⁸⁴ and West Virginia²⁸⁵ legalized the cultivation of industrial hemp in 2002. In 2008, Vermont²⁸⁶ and in 2009, Maine²⁸⁷

283. An Act to Authorize the Production of Industrial Hemp, N.D. CENT. CODE, §§ 4-41-01-03 (1999).

284. An Act Authorizing the Production of Industrial Hemp as an Agricultural Crop, MONT. CODE ANN. §§ 80-18-101-111 (2001). Note:

- (1) It is an affirmative defense to a prosecution for the possession or cultivation of marijuana under 45-9-102, 45-9-103, and 45-9-110 that:
 - (b) the defendant had valid applicable controlled substances registrations from the United States department of justice, drug enforcement administration; and
 - (c) the defendant fully complied with all of the conditions of the controlled substances registration.

MONT. CODE ANN. § 80-18-811 (1) (b)-(c) (2001).

285. Industrial Hemp Development Act, W.VA. CODE §§ 19-12E-1-9 (2002). Note:

- (d) Prior to issuing a license under the provisions of this article, the commissioner shall determine that the applicant has complied with all applicable requirements of the United States department of justice, drug enforcement administration for the production, distribution and sale of industrial hemp.

W. VA. CODE § 19-12E-5 (2014). On March 21, 2014 West Virginia Governor Tomblin approved house bill 3011, which removes §19-12E-5(d), which required applicants to meet federal requirements for the production, distribution and sale of industrial hemp. H.B. 3011, 81st Leg., 1st Sess. (W.Va. 2014) (“Removing the provision that requires an applicant to meet federal requirements concerning the production, distribution and sale of industrial hemp prior to being licensed”).

286. An Act Relating to Industrial Hemp, VT. STAT. ANN. tit. 6, §§ 561-566 (2008).

287. An Act to Promote Industrial Hemp, ME. REV. STAT. ANN. tit. 7, § 2231 (2009). Note:

and Oregon²⁸⁸ legalized the cultivation of industrial hemp. In 2012, Colorado removed barriers to the production of industrial hemp.²⁸⁹ In 2013, Kentucky²⁹⁰ and California²⁹¹ also legalized the cultivation of industrial hemp. In 2014, the following states legalized the cultivation and production of industrial hemp: Indiana on March 26,²⁹² Tennessee on May 14,²⁹³ and South Carolina on June 2.²⁹⁴ However, as discussed above, a grower still needs to obtain a registration from the DEA to commercially grow industrial hemp, or

A license may not be issued under this section unless:

A. The United States Congress excludes industrial hemp from the definition of “marihuana” for the purpose of the Controlled Substances Act, 21 United States Code, Section 802(16); or

B. The United States Department of Justice, Drug Enforcement Administration takes affirmative steps towards issuing a permit under 21 United States Code, Chapter 13, Subchapter 1, Part C to a person holding a license issued by a state to grow industrial hemp.

ME. REV. STAT. ANN. tit. 7, § 2231(8) (2009).

288. Industrial Hemp Growers and Handlers, OR. REV. STAT. §§ 571.300-571.315 (2011).

289. COLO. CONST. art. 18 § 16, (2014), *available at* http://tornado.state.co.us/gov_dir/leg_dir/olls/constitution.htm#ARTICLE_XVIII_Section_16., *archived at* <http://perma.cc/5B29-5QX2>.

290. An Act Relating to Industrial Hemp, KY. REV. STAT. ANN. §§ 260.850-260.869 (2013). The Kentucky House and Senate approved SB 50 on March 26, 2013. On April 7, 2013, Kentucky Governor Steve Beshear allowed SB 50 to become law in Kentucky without his signature. S.B. 50, 2013 Reg. Sess. (Ky. 2013), *available at* <http://www.lrc.ky.gov/record/13rs/sb50.htm>, *archived at* <http://perma.cc/ET22-KDY2>.

291. Industrial Hemp, CAL. FOOD & AGRIC. CODE §§ 81000-81010 (2013). *See* S.B. 566, 2013-2014 Leg. Sess. (Cal. 2013), *available at* http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB566, *archived at* <http://perma.cc/B5Z9-PRZJ>.

292. S.B. 357, 118th Gen. Assem., 2014 Sess. (Ind. 2014), *available at* <http://iga.in.gov/legislative/2014/bills/senate/357/#>, *archived at* <http://perma.cc/DH45-H7HF>.

293. H.B. 2445, 108th Gen. Assem. (Tenn. 2014), *available at* <http://wapp.capitol.tn.gov/apps/BillInfo/Default.aspx?BillNumber=%20HB2445&GA=108>, *archived at* <http://perma.cc/2UT6-N2G8>.

294. S.B. 839, Gen. Assem., 120th Sess. (S.C. 2014), *available at* http://www.scstatehouse.gov/sess120_2013-2014/bills/839.htm, *archived at* <http://perma.cc/342G-HUZ6>.

have an established relationship through a Memorandum of Understanding with an institution of higher education or the state Department of Agriculture to conduct research, even if the grower has a state-issued permit or license, or may face federal prosecution.²⁹⁵

Even with the passage of the Agricultural Act of 2014, the DEA still requires industrial hemp researchers to obtain a DEA registration.²⁹⁶ As discussed above, the Agricultural Act of 2014 allows for institutions of higher education and state Departments of Agriculture to conduct industrial hemp research in states that have passed legislation allowing for the cultivation or research of industrial hemp.²⁹⁷ Several of the states that have legalized industrial hemp cultivation have also passed bills specifically allowing for research of industrial hemp, including Colorado,²⁹⁸ Kentucky,²⁹⁹ and North Dakota.³⁰⁰ On March 20, 2014, Utah legalized industrial hemp research by the Utah Department of Agriculture and department-certified higher education institutions.³⁰¹ On April 2, 2014, Nebraska legalized the cultivation of industrial hemp for research purposes by the Nebraska Department of Agriculture or postsecondary

295. See, Letter from Joseph T. Rannazzisi, Deputy Assistant Adm'r, OFFICE OF DIVERSION CONTROL, DRUG ENFORCEMENT ADMIN., to Luke Morgan, Counsel for KY. DEP'T OF AGRIC., (Aug. 13, 2014) (on file with author).

296. Mark Vanderhoff, *DEA agrees to expedite permit for Kentucky to import hemp seeds*, WLKY.COM (May 13, 2014), <http://www.wlky.com/news/customs-dea-wont-release-hemp-seed-to-kentucky/25952630>, archived at <http://perma.cc/ZY9J-N8PE>; see Paresh Dave, *After DEA approves hemp seed import, Kentucky plants a landmark crop*, LOS ANGELES TIMES (May 27, 2014), <http://www.latimes.com/nation/nationnow/la-na-nn-kentucky-hemp-dea-20140527-story.html>, archived at <http://perma.cc/U8TZ-3WG2>.

297. H.R. REP. NO. 113-333, *supra* note 276.

298. Industrial Hemp Remediation Pilot Program, COLO. REV. STAT. ANN. §§ 25-18.7-101-25-18.7-105 (2012).

299. An Act Relating to Industrial Hemp, KY REV. STAT. ANN. §§ 260.850-260.869 (2001).

300. N.D. CODE § 7-14-02-01 (2007); see also Federal Hemp Seed Collection, N.D. CENT. CODE, §§ 4-41-01-4-41-03 (1999). Another North Dakota hemp measure, Sale of Industrial Hemp Seed, N.D. CENT. CODE § 4-41-03 (2007).

301. H.B. 105, State Leg., 2014 Gen. Sess. (Utah 2014), available at <http://le.utah.gov/~2014/bills/static/HB0105.html>, archived at <http://perma.cc/N9U9-M7U3>.

institutions.³⁰² On April 30, 2014, Hawaii Governor Neil Abercrombie signed an industrial hemp bill that legalizes research of industrial hemp at the University of Hawaii for two years.³⁰³ On July 29, 2014, Delaware legalized industrial hemp research by the Delaware Department of Agriculture or a certified higher education institution.³⁰⁴ On August 26, 2014, Illinois legalized industrial hemp research by the Illinois Department of Agriculture and any authorized institution of higher learning.³⁰⁵ On December 17, 2014, New York authorized the development of up to ten industrial hemp agricultural pilot programs conducted by the New York Department of Agriculture and Markets and/or any qualified institution of higher education in the state of New York.³⁰⁶ On January 15, 2015, Michigan legalized the cultivation of industrial hemp for purposes of research conducted under an agricultural pilot program or other research project by the Michigan Department of Agriculture and

302. Legis. B. 1001, 103rd Leg., (Neb. 2014), *available at* http://nebraskalegislature.gov/bills/view_bill.php?DocumentID=22180, *archived at* <http://perma.cc/LKZ2-8W5K>.

303. S.B. 2175, 27th Leg. (Haw. 2014), *available at* http://www.capitol.hawaii.gov/session2014/bills/SB2175_HD2_.pdf, *archived at* <http://perma.cc/LF86-JETM>. *See* Melvin Givens, *Hawaii Governor Signs Industrial Hemp Bill*, KITV.COM, Apr. 30, 2014, <http://www.kitv.com/news/hawaii-governor-signs-industrial-hemp-bill/25750468>, *archived at* <http://perma.cc/C7LC-HNB2>; *see also* Russel Ruderman, *Governor Signs Bill Authorizing Industrial Hemp Research Program*, HAWAII STATE SENATOR RUSSEL RUDERMAN (May 8, 2014), <http://russellruderman.com/governor-signs-bill-authorizing-industrial-hemp-research-program.htm>, *archived at* <http://perma.cc/GG7S-CYPY>.

304. H.B. 385, 147th Gen. Assem. (Del. 2014), *available at* <http://www.legis.delaware.gov/LIS/LIS147.NSF/vwLegislation/HB+385>, *archived at* <http://perma.cc/X34J-E78Q>.

305. H.B. 5085, 98th Gen. Assem. (Ill. 2014), *available at* <http://www.ilga.gov/legislation/billstatus.asp?DocNum=5085&GAID=12&GA=98&DocTypeID=HB&LegID=79824&SessionID=85>, *archived at* <http://perma.cc/WH98-5PJ7>.

306. A09140, 2013-2014 N.Y. State Assem. (N.Y. 2014), *available at* http://assembly.state.ny.us/leg/?default_fld=&bn=A09140&term=2013&Summary=Y&Actions=Y&Text=Y, *archived at* <http://perma.cc/58RE-9GX5> (“AN ACT to amend the agriculture and markets law, in relation to authorizing the growing of industrial hemp as part of an agricultural pilot program”).

Rural Development or any college or university.³⁰⁷ On March 16, 2015 Virginia legalized the cultivation of industrial hemp for research purposes by Virginia institutions of higher education and by individual participants in the industrial hemp research program directly managed by a public institution of higher education.³⁰⁸ In sum, the passage of Section 7606 of the Agricultural Act of 2014 has resulted in numerous states legalizing some form of industrial hemp research.

On July 14, 2014, Missouri Governor Nixon signed into law an emergency act passed by the Missouri General Assembly that authorizes the cultivation, production, and manufacture of industrial hemp for production of hemp extract for the treatment of persons suffering from intractable epilepsy.³⁰⁹ The Act only authorizes the Missouri Department of Health and Senior Services to issue two cultivation and production facility licenses at any one time.³¹⁰ The Missouri Department of Agriculture began accepting applications to

307. H.B. 5439, 97th Leg. (Mich. 2014), available at [http://www.legislature.mi.gov/\(S\(wkmo1i45afzrdn550xjhuc45\)\)/mileg.aspx?page=GetObject&objectname=2014-HB-5439](http://www.legislature.mi.gov/(S(wkmo1i45afzrdn550xjhuc45))/mileg.aspx?page=GetObject&objectname=2014-HB-5439), archived at <http://perma.cc/YDH5-LYDJ>; see also H.B. 5438, 97th Leg. (Mich. 2014), available at <http://www.legislature.mi.gov/documents/2013-2014/billenrolled/House/pdf/2014-HNB-5439.pdf>, archived at <http://perma.cc/ZG9V-7567> (“AN ACT to authorize the growing and cultivating of industrial hemp for research purposes; to authorize the receipt and expenditure of funding for research related to industrial hemp; and to prescribe the powers and duties of certain state agencies and officials and colleges and universities in this state”).

308. S. 955, Gen. Assem. of Va., 2015 Sess. (Va. 2015), available at <http://lis.virginia.gov/cgi-bin/legp604.exe?151+ful+CHAP0180>, archived at <http://perma.cc/Z2DX-ASE3>; H. 1277 (“An Act to amend and reenact §§ 3.2-801 and 54.1-3401 of the Code of Virginia and to amend the Code of Virginia by adding in Title 3.2 a chapter numbered 41.1, consisting of sections numbered 3.2-4112 through 3.2-4120, relating to industrial hemp production and manufacturing”); Gen. Assem. of Va., 2015 Sess. (Va. 2015), available at <http://lis.virginia.gov/cgi-bin/legp604.exe?151+ful+CHAP0158>, archived at <http://perma.cc/57V8-H9XE> (“An Act to amend and reenact §§ 3.2-801 and 54.1-3401 of the Code of Virginia and to amend the Code of Virginia by adding in Title 3.2 a chapter numbered 41.1, consisting of sections numbered 3.2-4112 through 3.2-4120, relating to industrial hemp production and manufacturing”).

309. H.B. 2238, 97th Gen. Assem. (Miss. 2014), available at <http://www.house.mo.gov/billsummary.aspx?bill=HB2238&year=2014>, archived at <http://perma.cc/6JXT-MXXC>.

310. MO. REV. STAT. § 261.265(3) (2014).

produce hemp extract on November 3, 2014.³¹¹ The Act specifically requires that, “[a]ll hemp waste from the production of hemp extract shall either be destroyed, recycled by the licensee at the hemp cultivation and production facility, or donated to the department or an institution of higher education for research purposes, and shall not be used for commercial purposes.”³¹² Therefore, the Act authorizes research of the industrial hemp waste by the Missouri Department of Health and Senior Services or an institution of higher education.³¹³

Several states throughout the U.S. have passed other measures relating to industrial hemp. In 2012, Colorado defined industrial hemp as any part of the cannabis plant with a THC concentration that does not exceed 0.3 percent on a dry weight basis, and declared that industrial hemp be regulated separately from all strains of cannabis with higher THC concentrations.³¹⁴ The following states have passed additional measures relating to industrial hemp: Arkansas, California, Hawaii, Illinois, Maryland, Minnesota, New Hampshire, New Mexico, North Carolina, and Virginia.³¹⁵ States continue to introduce into their legislatures bills and resolutions relating to industrial hemp.³¹⁶

311. Fred Bodimer, *Process to Produce Hemp Oil in Mo. for Medicinal Purposes has Begun*, CBS ST. LOUIS (Nov. 3, 2014), <http://stlouis.cbslocal.com/2014/11/03/process-to-produce-hemp-oil-in-mo-for-medicinal-purposes-has-begun/>, archived at <http://perma.cc/B5GF-3AJT>.

312. MO. REV. STAT. § 261.265(9) (2014).

313. *Id.*

314. COLO. CONST. art. 18 § 16 (1)(c), (2)(d). Washington defines marijuana as any part of the cannabis plant with a THC concentration greater than 0.3 percent, see WA REV. CODE ANN. § 69.50.101(t) (2013). The definition of marijuana in Washington,

does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt, derivative, mixture, or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of the plant which is incapable of germination.

Id.

315. JOHNSON, *supra* note 3, at 18-19.

316. As of August 27, 2014, 28 states and Puerto Rico have introduced or carried over industrial hemp legislation:

C. *State Response to the 2013 Cole Memo, the Agricultural Act of 2014, and 2014 Plantings*

Despite the requirement to have a registration from the DEA to cultivate industrial hemp for commercial purposes, several states, such as Colorado, Kentucky, and Oregon, have interpreted the Cole Memo to allow production of industrial hemp in states that legalized industrial hemp cultivation.³¹⁷ Colorado and Kentucky issued licenses to farmers and researchers, and licensees in both states planted industrial hemp in May 2014.³¹⁸ Vermont also registered farmers and allowed industrial hemp cultivation during the 2014 production season.³¹⁹

1. Colorado

Colorado removed barriers to production of industrial hemp with passage of Amendment 64, The Regulate Marijuana Like Alcohol Act of 2012.³²⁰ The 2012 constitutional amendment required that the Colorado General Assembly enact legislation no later than July 1, 2014 “governing the cultivation, processing and sale of industrial

Alabama, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois (carried over from 2013), Indiana, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire (carried over from 2013), New Jersey (carried over from 2013), and new bill introduction as well, New York, Oklahoma, South Carolina, South Dakota, Tennessee, Utah, Washington (two bills were carried over from 2013), West Virginia, and Wisconsin. The New Jersey bills from 2013 were passed in January of 2014, but were pocket vetoed by Governor Christie.

2014 *Legislative Session- U.S. State*, VOTEHEMP.COM, <http://www.votehemp.com/state.html#2014> (last visited Aug. 27, 2014), *archived at* <http://perma.cc/M7GC-CWTB>.

317. Letter from James R. Comer, Comm’r, KY. DEP’T OF AGRIC., to Michele M. Leonhart, Adm’r, DRUG ENFORCEMENT ADMIN. (Nov. 25, 2013), *available at* http://www.votehemp.com/PDF/KY_Hemp_ltr_to_DOJ.pdf, *archived at* <http://perma.cc/58NE-GNHR>.

318. See Luke Runyon, Harvest Public Media, *Now Appearing: Hemp, For First Time In Decades*, NETNEBRASKA.ORG (June 16, 2014), <http://netnebraska.org/article/news/921662/now-appearing-hemp-first-time-decades>, *archived at* <http://perma.cc/9NUS-N8VP>.

319. Telephone interview with Tim Schmalz, VT. AGENCY OF AGRIC., Plant Industry Section (Aug. 21, 2014).

320. COLO. CONST. art 18 § 16.

hemp.”³²¹ On May 28, 2013, Colorado created an Industrial Hemp Regulatory Program within the Colorado Department of Agriculture.³²²

Although rules were not yet in place, some report that as many as two dozen Colorado farmers planted hemp in the spring of 2013.³²³ One Colorado farmer, Ryan Loflin, planted 55 acres of industrial hemp in Baca County, Colorado during the summer of 2013.³²⁴ This crop was the first commercial harvest of industrial hemp in the U.S. in 56 years.³²⁵

Following issuance of the Cole Memo on August 29, 2013, the Colorado Department of Agriculture drafted and finalized rules for commercial cultivation and research and development of industrial hemp in Colorado.³²⁶ The rules provide application requirements, required reporting, how inspections and sampling will occur, waiver from inspections, and disciplinary sanctions and civil penalties for violations.³²⁷

Colorado began accepting registration applications from farmers and businesses for both commercial cultivation and research and

321. *Id.* at art. 18 § 16 (5)(j). In addition to the 2012 Constitutional Amendment, on June 4, 2012 Colorado Governor Hickenlooper signed into law a bill that established an industrial hemp remediation pilot program. H.B. 12-1099, 2nd Reg. Sess., 68th Gen. Assem. (Colo. 2012), available at http://www.leg.state.co.us/clics/clics2012a/csl.nsf/fsbillcont3/A4325B2C9277B3B387257981007F3BFF?open&file=1099_enr.pdf, archived at <http://perma.cc/7KC7-5439>. The pilot program was created to “determine how soils and water may be made more pristine and healthy by phytoremediation, removal of contaminants, and rejuvenation through the growth of industrial hemp.” COLO. REV. STAT. § 25-18.7-103(2)(a) (2012).

322. COLO. REV. STAT. §§ 35-61-101-109 (2013); S.B. 13-241, 1st Reg. Sess., 69th Gen. Assem. (Colo. 2013); see also *Summarized History for Bill Number Sb13-241*, COLO. GEN. ASSEM., <http://www.leg.state.co.us/CLICS/CLICS2013A/csl.nsf/BillFoldersAll?OpenFrameSet> (last visited June 9, 2014), archived at <http://perma.cc/L986-7DM9>.

323. DOUG FINE, HEMP BOUND 75 (2014).

324. Steve Raabe, *Colorado Farmer Harvests First U.S. Commercial Hemp Crop in 56 Years*, THE DENVER POST, Oct. 7, 2013, http://www.denverpost.com/breakingnews/ci_24259474/colorado-farmer-harvests-first-u-s-commercial-hemp, archived at <http://perma.cc/A8GE-SCPC>.

325. *Id.*

326. 8 COLO. CODE REGS. § 1203-23 (2014).

327. *Id.*

development of industrial hemp on March 1, 2014.³²⁸ Colorado has not faced any interference by the DEA.³²⁹ Registrants can apply for both indoor and outdoor industrial hemp cultivation.³³⁰ The Colorado Department of Agriculture registered 197 fields in 2014.³³¹ Colorado approved registrations for both individuals and businesses.³³² In 2014, only one institution of higher education, Colorado State University, registered with the Colorado Department of Agriculture to conduct research of industrial hemp.³³³ The 2014 application forms, for both commercial and research and development registrations, provided six clauses that applicants were required to initial.³³⁴ These clauses functionally served as a Memorandum of Understanding between the applicant and the

328. Yesenia Robles, *Adams County Hosts Hemp Information Session for Farmers*, THE DENVER POST, Apr. 7, 2014, http://www.denverpost.com/news/ci_25509291/adams-county-hosts-hemp-information-session-farmers, archived at <http://perma.cc/Q6S4-RJEA>.

329. Telephone Interview with Brian Allen, Colo. Dep't of Agric. (July 2, 2014).

330. *Id.*; see also COLO. DEP'T OF AGRIC., Commercial Industrial Hemp Registration Application, available at <http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%22Commercial+Industrial+Hemp+Registration+Application.pdf%22&blobheadervalue2=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1252013975147&ssbinary=true> (last visited Nov. 4, 2014), archived at <http://perma.cc/FWK9-942Y>; COLO. DEP'T OF AGRIC., Research and Development Industrial Hemp Registration Application, available at

<http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%22Research+%26+Development+Industrial+Hemp+Registration+Application.pdf%22&blobheadervalue2=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1252013975004&ssbinary=true> (last visited Nov. 4, 2014), archived at <http://perma.cc/384B-PU3F>.

331. *Id.*

332. *Id.*

333. *Id.*; see also Telephone Interview with Duane Sinning, Colo. Dep't of Agric. (Oct. 22, 2014) (The University of Colorado has also registered with the Colorado Department of Agriculture).

334. See COLO. DEP'T OF AGRIC., Commercial Industrial Hemp Registration Application, *supra* note 328; COLO. DEP'T OF AGRIC., Research and Development Industrial Hemp Registration Application, *supra* note 328.

Colorado Department of Agriculture providing that the applicant was serving as an extension of the Department for purposes of industrial hemp cultivation to maintain compliance with Section 7606 of the Agricultural Act of 2014.³³⁵

So far in 2015, there have been over 400 applications for registrations for both research and commercial cultivation.³³⁶ Revised regulations were issued on March 30, 2015 establishing a new registration process.³³⁷ The new regulations provide for only commercial cultivation registrations for individuals, but applicants may conduct research under these registrations.³³⁸ The Colorado Department of Agriculture will not be issuing Memorandums of Understanding to individual registrants as the Department is specifically authorizing registrations for commercial cultivation.³³⁹ In 2015, both Colorado State University and the University of Colorado are expected to conduct industrial hemp research with approved registrations.³⁴⁰

The Colorado Department of Agriculture has followed a “don’t ask, don’t tell” policy on where individual farmers procure seeds from.³⁴¹ The idea behind the “don’t ask, don’t tell” policy is that the Colorado Department of Agriculture does not ask farmers where they get their wheat or corn seed from, so why would they ask farmers where their industrial hemp seed is from.³⁴² Although the application form provides an area for the applicant to list the varieties that the farmer will plant in each field or building, the Department does not require that this area be completed.³⁴³ The Colorado Department of Agriculture has received criteria from the DEA that must be met for the Department to purchase and import seed into the state for research purposes.³⁴⁴ The Colorado Department of Agriculture met

335. Telephone interview with Brian Allen, *supra* note 327.

336. E-mail from Sharon Farr, Colo. Dep’t of Agric., Div. of Plant Industry, to author (Mar. 27, 2014 10:46am) (on file with author).

337. 8 COLO. CODE REGS. § 1203-23 (2015).

338. *Id.* at 1.2, 1.11.

339. Telephone interview with Duane Sinning, Colo. Dep’t of Agric. (Mar. 27, 2015).

340. *Id.*

341. Telephone interview with Brian Allen, *supra* note 327.

342. *Id.*

343. *Id.*

344. *Id.*

the criteria and is registered with the DEA, but has not purchased or imported any industrial hemp seed to date.³⁴⁵ The Colorado Department of Agriculture will not purchase or import seeds for individual registrants.³⁴⁶ However, the Colorado Department of Agriculture has applied for a DEA import permit to import viable industrial hemp seeds for Colorado State University and the University of Colorado to conduct research.³⁴⁷ Even by following this “don’t ask, don’t tell” policy on where individual farmers have procured seeds from, the Colorado Department of Agriculture has not had any interference by the DEA with the industrial hemp program in Colorado.³⁴⁸

Colorado has implemented a successful industrial hemp program authorizing cultivation for both commercial and research purposes without DEA interference. Although Kentucky faced initial interference by the DEA, Kentucky also implemented a successful industrial hemp research program.

2. Kentucky

On April 7, 2013, Kentucky enacted legislation that authorizes industrial hemp cultivation.³⁴⁹ Following issuance of the Cole Memo, the Kentucky Department of Agriculture began implementing Ky. Rev. Stat. §§ 260.850-260.869.³⁵⁰ Following the passage of the Agricultural Act of 2014, industrial hemp seeds were purchased by the Kentucky Industrial Hemp Commission from Italy that were certified with a THC concentration of not more than 0.3 percent, with the intention that the Kentucky Department of Agriculture would conduct industrial hemp research studies with Kentucky institutions of higher education in compliance with Section 7606.³⁵¹ At the time

345. *Id.*; see also Telephone interview with Duane Sinning, *supra* note 331.

346. Telephone interview with Duane Sinning, *supra* note 337.

347. *Id.*

348. Telephone interview with Brian Allen, *supra* note 327.

349. KY. REV. STAT. ANN. §§ 260.850-260.869 (2013).

350. Noelle Crombie, *Federal Marijuana Decision Clears Way for Oregon Hemp Production, Advocates Say*, THE OREGONIAN, Sept. 13, 2013, http://www.oregonlive.com/politics/index.ssf/2013/09/federal_marijuana_decision_cle.html, archived at <http://perma.cc/K98B-2DP6>.

351. Telephone interview with Adam Watson, Ky. Dep’t of Agric. (July 1, 2014).

of purchase and import, the Kentucky Department of Agriculture had not submitted an application for a registration from the DEA or an import permit.³⁵² As a result, the DEA seized the seed, requiring the approval of a registration and an import permit before the DEA would release the seeds.³⁵³ Although a legal dispute between the Kentucky Department of Agriculture and the DEA, DOJ, U.S. Customs and Border Protection, and Attorney General Eric Holder ensued, the result was the granting of a DEA registration and an import permit to the Kentucky Department of Agriculture.³⁵⁴ The DEA expedited the approval of the registration and import permit so that Kentucky could plant industrial hemp for research purposes in May 2014.³⁵⁵

During 2014, a DEA registration and three import permits were issued to the Kentucky Department of Agriculture.³⁵⁶ The DEA issued the second permit within ten days.³⁵⁷ The imported hemp seeds were issued directly to the Kentucky Department of Agriculture.³⁵⁸ The DEA has been cooperative.³⁵⁹ The Kentucky Department of Agriculture and the DEA “finalized an agreement on a formal process for importing industrial hemp seed.”³⁶⁰ As a result, on August 16, 2014 the Kentucky Department of Agriculture

352. *Id.*

353. See Ryan Grim & Matt Ferner, *DEA Seizes Kentucky's Hemp Seeds Despite Congressional Legalization*, HUFFINGTON POST (May 13, 2014), http://www.huffingtonpost.com/2014/05/13/dea-seizes-kentuckys-hemp_n_5318098.html, archived at <http://perma.cc/873R-QFLT>.

354. See Vanderhoff, *supra* note 295.

355. See Janet Patton, *Kentucky Gets Permit to Import Hemp Seed, Which is Expected to be Released Friday Morning*, KENTUCKY.COM (May 22, 2013), <http://www.kentucky.com/2014/05/22/3254816/kentucky-gets-permit-to-import.html>, archived at <http://perma.cc/XT33-7SRW>.

356. Letter from Joseph Rannazzisi, Deputy Assistant Adm'r, Office of Diversion Control, to Luke Morgan, Counsel, Ky. Dep't. of Agric. (Aug. 13, 2014) (on file with author) (regarding importation of viable cannabis seeds, MoUs, and distribution of seed).

357. Telephone interview with Adam Watson, *supra* note 349.

358. *Id.*

359. *Id.*

360. *State Ag Department, Federal Gov't Reach Accord on Importation of Hemp Seeds*, THE LANE REPORT (Aug. 18, 2014), <http://www.lanereport.com/37435/2014/08/state-ag-department-federal-govt-reach-accord-on-importation-of-hemp-seeds/>, archived at <http://perma.cc/FY7Q-EQ2E>.

dismissed the lawsuit it filed against the DEA and the U.S. Government in May 2014.³⁶¹

The Kentucky Department of Agriculture distributed hemp seed to those institutions and individuals whose applications had been approved.³⁶² Kentucky successfully launched seven agricultural pilot programs with Kentucky institutions of higher education in 2014.³⁶³ The test plots cultivated in Kentucky “have shown the crop to be hardy and fast growing”, that hemp “will grow well in Kentucky” and “yields a lot per acre.”³⁶⁴

In addition to the pilot programs with Kentucky institutions of higher education, the Kentucky Department of Agriculture also established relationships with at least five private farmers to conduct industrial hemp research studies in 2014.³⁶⁵ Through a written Memorandum of Understanding, these private farmers acted as extensions of the Kentucky Department of Agriculture. Individual applicants were required to submit an application and background check.³⁶⁶ Although institutions of higher education and State departments of agriculture are the only two entities permitted to conduct industrial hemp research studies under Section 7606 of the Agricultural Act of 2014, by acting as extensions of the Kentucky Department of Agriculture under a Memorandum of Understanding, these private farmers were lawfully conducting industrial hemp research under Section 7606.

The Kentucky Department of Agriculture drafted regulations for the industrial hemp research agricultural pilot programs in Kentucky.³⁶⁷ These regulations provide who may apply, application requirements, production and handling requirements, reporting requirements, and the effect of noncompliance with the rules and

361. *Id.*

362. Telephone interview with Adam Watson, *supra* note 349.

363. *Id.*; see also *Industrial Hemp Program*, KY. DEP'T OF AGRIC., <http://www.kyagr.com/marketing/hemp-pilot.html> (last visited July 1, 2014), archived at <http://perma.cc/D3CK-UQ9A>; Schreiner, *Kentucky hemp crop grows with arrival of more seeds*, *supra* note 208.

364. Schreiner, *Hemp Homecoming: Rebirth Sprouts in Kentucky*, *supra* note 149.

365. Telephone interview with Adam Watson, *supra* note 349.

366. *Id.*

367. 302 Ky. Admin. Reg. 50:010.

prohibited activity. The Kentucky Department of Agriculture does not require any fee for pilot program applications.³⁶⁸

So far in 2015, the Kentucky Department of Agriculture has received over 100 applications from both cultivators and processors, including a few out of state processors.³⁶⁹ Memorandums of Understanding have been issued to individual research cultivators and to processors, including the out of state processors.³⁷⁰ The Kentucky Department of Agriculture applied for a DEA import permit the week of March 23, 2015 and remains optimistic that DEA will expedite the permit process and approve the permit in time to import viable industrial hemp seeds for the 2015 production season.³⁷¹ After the 2015 production season harvest, the Kentucky Department of Agriculture plans to allow some sales of the industrial hemp grown in the state to conduct market research pursuant to Section 7606.³⁷²

Kentucky has developed a successful industrial hemp research program. Like in Kentucky and Colorado, registrants in Vermont also cultivated industrial hemp during the 2014 production season and will cultivate again during the 2015 production season.

3. Vermont

Vermont legalized industrial hemp cultivation in 2008 with the passage of H. 267.³⁷³ However, this Act required federal authorization to become operative.³⁷⁴ On June 10, 2013, Governor Shumlin signed into law S.157/Act 84 which authorizes the

368. *Id.*

369. Telephone interview with Adam Watson, Ky. Dep't of Agric. (Mar. 27, 2015).

370. *Id.*

371. *Id.*

372. *Id.* See 7 U.S.C. § 5940(b)(1).

373. VT. STAT. ANN. tit. 6, §§ 561-566 (2008).

374. *Id.* at 561 (“The intent of this act is to establish policy and procedures for growing industrial hemp in Vermont so that farmers and other businesses in the Vermont agricultural industry can take advantage of this market opportunity when federal regulations permit.”).

cultivation and production of hemp in Vermont, without Federal Government authorization.³⁷⁵

Vermont began accepting registrations for industrial hemp cultivation in September 2013.³⁷⁶ Therefore, the Vermont Agency of Agriculture began accepting registrations before the enactment of the Agricultural Act of 2014, and was operating without federal guidance.³⁷⁷ In 2014, the Vermont Agency of Agriculture did not issue cultivation licenses, but collected information from farmers interested in cultivating hemp through a registration process.³⁷⁸ This same registration process is being used for the 2015 production season.³⁷⁹ The fee for registration is \$25.³⁸⁰ The registration form asks for the farm name and address, the farm manager's name and phone number, the field location, and the acreage the farmer intends to plant.³⁸¹ A background check is not required.³⁸² The registration form requires the farmer to certify the seeds obtained for planting do not exceed 0.3 percent THC concentration.³⁸³ It also provides three clauses for the registrant to initial stating that they are familiar with current federal law and acknowledge that cultivation and possession of hemp is "a violation of the Federal Controlled Substances Act."³⁸⁴ This registration does not create a Memorandum of Understanding between the farmers and the Vermont Agency of Agriculture.³⁸⁵ The

375. VT. AGENCY OF AGRIC., FOOD, AND MARKETS, *Frequently Asked Questions-Vermont Hemp Registry Program*, http://agriculture.vermont.gov/plant_pest/plant_weed/hemp/faqs (last visited Aug. 20, 2014), archived at <http://perma.cc/LA5G-22KQ>; see also S. 157, 2013-2014 Leg. Sess. (Vt. 2013), available at <http://legislature.vermont.gov/bill/status/2014/S.157>, archived at <http://perma.cc/M4JB-95J7>.

376. Telephone interview with Tim Schmalz, *supra* note 318.

377. *Id.*

378. *Id.*

379. Telephone interview with Tim Schmalz, VT. AGENCY OF AGRIC., Plant Industry Section (Mar. 31, 2015).

380. *Id.*

381. VT. AGENCY OF AGRIC., *Hemp Registration*, available at <http://agriculture.vermont.gov/sites/ag/files/PDF/Hemp%20Registry%20Form%20.pdf>, archived at <http://perma.cc/BWK7-65B6>.

382. Telephone interview with Tim Schmalz, *supra* note 318.

383. VT. AGENCY OF AGRIC., *supra* note 379.

384. *Id.*

385. Telephone interview with Tim Schmalz, *supra* note 318.

farmers are operating on their own.³⁸⁶ There has not been any interference by the DEA.³⁸⁷

Individual farmers and farmers operating as businesses have filed registrations.³⁸⁸ In 2014 fifteen registrations were filed.³⁸⁹ No institutions of higher education in Vermont conducted research trials in 2014.³⁹⁰ At this time, Vermont does not have a seed procurement policy.³⁹¹ In 2014, the Agency of Agriculture allowed farmers to obtain seeds however they could, as long as the farmer certified on the registration form that the seeds did not exceed 0.3 percent THC concentration.³⁹² The Agency of Agriculture believes that many farmers cultivated hemp in 2014 specifically to produce seed for the 2015 production season.³⁹³

So far in 2015, six registrations have been filed and the Vermont Agency of Agriculture expects to receive more.³⁹⁴ The University of Vermont has also filed a registration with the Agency of Agriculture.³⁹⁵ Individual registrants and the University of Vermont are working to get DEA registrations and import permits on their own, as the Vermont Agency of Agriculture does not have the resources to file for permits on behalf of the registrants.³⁹⁶ The Agency of Agriculture has reported that there seems to be cooperation with DEA so far to move the industrial hemp program in Vermont along.³⁹⁷

The procedures for authorizing and registering hemp cultivation in Vermont, Kentucky, and Colorado are models for other states to follow. Kentucky and Colorado are leading the U.S. in industrial hemp production for both research and commercial purposes. Vermont is cultivating hemp in a limited capacity.³⁹⁸ Overall, the

386. *Id.*

387. *Id.*

388. *Id.*

389. *Id.*

390. *Id.*

391. *Id.*

392. *Id.*; see also VT. AGENCY OF AGRIC., *supra* note 379.

393. *Id.*

394. Telephone interview with Tim Schmalz, *supra* note 377.

395. *Id.*

396. *Id.*

397. *Id.*

398. *Id.*

DEA has been cooperative with actions taken in Kentucky, Colorado, and Vermont.³⁹⁹ Other states, such as Oregon, have slowly developed rules in hopes of cultivating hemp during the 2015 production season.⁴⁰⁰

4. Oregon

The Oregon Legislature enacted legislation that was signed into law by Governor Kulongoski on August 4, 2009 authorizing “[i]ndustrial hemp production and possession, and commerce in industrial hemp commodities and products.”⁴⁰¹ Following issuance of the Cole Memo, the Oregon Department of Agriculture (“ODA”) began drafting rules for the cultivation of industrial hemp in compliance with Or. Rev. Stat. 571.300 to 571.315.⁴⁰² The ODA created an Industrial Hemp Rules Advisory Committee (“IHRAC”) comprised of eleven members that represent the ODA, the Oregon Department of Justice, the Oregon State Police, state politician offices, Oregon State University, the Oregon Farm Bureau, potential hemp farmers, potential hemp processors, and hemp handlers.⁴⁰³ The IHRAC met two times, once on December 17, 2013 and on January

399. *Id.*; Telephone interview with Brian Allen, *supra* note 327; Telephone interview with Adam Watson, *supra* note 349.

400. E-mail from Ronald Pence, Or. Dep’t of Agric., Commodity Inspection, to author (July 22, 2014 1:24pm) (on file with author).

401. OR. REV. STAT. § 571.305(1) (2013). Oregon legalized *C. sativa* on Nov. 4, 2014 with the passage of Measure 91. Section 80 of Measure 91 adds to OR. REV. STAT. § 571.315, “(5) The department may not revoke or refuse to issue or renew an industrial hemp license or an agricultural hemp seed production permit on the basis that industrial hemp production or possession, or commerce in industrial hemp commodities or products, is prohibited by federal law.” See, Noelle Crombie, *Recreational Marijuana Passes in Oregon: Oregon Election Results 2014*, THE OREGONIAN, Nov. 4, 2014, http://www.oregonlive.com/politics/index.ssf/2014/11/recreational_marijuana_passes.html#incart_maj-story-1, archived at <http://perma.cc/8YAM-VWMF>.

402. Noelle Crombie, *Industrial Hemp in Oregon: State Officials Drafting Rules for Hemp Production*, *supra* note 273.

403. Eric Mortenson, *11 Named to Oregon Hemp Committee*, CAPITAL PRESS, Dec. 14, 2013, <http://www.capitalpress.com/article/20131214/ARTICLE/131219932/1318#.U9K8lvldXF8>, archived at <http://perma.cc/G2ND-TMRY>.

16, 2014.⁴⁰⁴ Even with passage of the Agricultural Act of 2014 in February 2014, there were still delays in finalizing the rulemaking, including determining who would handle and “process the [hemp] plant from its raw state into useable products” and what the licensing fee would need to be to support the program.⁴⁰⁵ In addition, Oregon State University (“OSU”) was hesitant to conduct an industrial hemp research pilot program “out of fear that it could potentially jeopardize the federal funding OSU receives”, which also added to the delay in finalizing rules.⁴⁰⁶

On July 2, 2014, I submitted an application to the ODA on behalf of Rick Rutherford, an eastern Oregon farmer and a member of the IHRAC, for approval of an industrial hemp research license to conduct an agricultural pilot program in Oregon in compliance with Section 7606 of the Agricultural Act of 2014 and Or. Rev. Stat. §§ 571.300 to 571.315.⁴⁰⁷ The ODA denied the application because it was “currently in the process of writing regulations to implement Ore. Rev. Stat. §§ 571.300-571.315 and can only issue industrial hemp licenses or permits, as defined by statute, when that process is complete.”⁴⁰⁸ The ODA said it is unclear whether Section 7606 “gives the state explicit authority to implement a pilot research program that is not outlined in Or. Rev. Stat. 571.”⁴⁰⁹ However, the ODA said it would “work with legislators to amend the state statute during this next legislative session to include a pilot research

404. OR. DEP’T OF AGRIC., *ODA Commodity Inspection: Industrial Hemp in Oregon*, http://www.oregon.gov/ODA/CID/pages/ind_hemp.aspx (last visited July 25, 2014), archived at <http://perma.cc/G2ND-TMRY>.

405. Noelle Crombie, *Industrial Hemp in Oregon: Rules Won’t be Ready for Spring Planting*, THE OREGONIAN, Mar. 6, 2014, http://www.oregonlive.com/politics/index.ssf/2014/03/industrial_hemp_in_oregon_rule.html, archived at <http://perma.cc/QU7H-3NYC> (Current estimates for a licensing fee for a license from the Oregon Department of Agriculture is between \$5,000 to \$7,000 for a triennial license).

406. *Id.* Oregon State University is the state land-grant institution in Oregon. Letter from Katy Coba, Dir., Or. Dep’t of Agric., to Courtney N. Moran, LL.M. (July 17, 2014) (on file with author) (In response to an application for industrial hemp research agricultural pilot program on behalf of Rick Rutherford).

407. Courtney N. Moran, LL.M., *Application to Oregon Department of Agriculture on Behalf of Rick Rutherford for Industrial Hemp Research Agricultural Pilot Program* (July 2, 2014) (on file with author).

408. Coba, *supra* note 404.

409. *Id.*

program as outlined in Section 7606” if required to implement a pilot research program.⁴¹⁰

The ODA held a third IHRAC meeting on September 30, 2014.⁴¹¹ The IHRAC members and other attendees discussed licensing fees, draft rules, and edits necessary before the rules were put out for public comment.⁴¹² Draft rules went out for public comment on December 1, 2014.⁴¹³ The public comment period ended January 9, 2015.⁴¹⁴ The ODA finalized rules the last week of January 2015 and began accepting applications for the 2015 to 2017 production seasons on February 2, 2015.⁴¹⁵ As of the first week of April, 2015, seven industrial hemp licenses have been issued.⁴¹⁶ The ODA has applied for a DEA registration, but has not yet received approval from DEA.⁴¹⁷

410. *Id.*

411. E-mail from Ronald Pence, Or. Dep’t of Agric., Commodity Inspection, to author (Sept. 12, 2014 1:24pm) (on file with author).

412. Courtney N. Moran, LL.M., *IHRAC Meeting Notes* (Sept. 30, 2014) (on file with author).

413. OR. SEC’Y OF STATE, *Oregon Bulletin: December 1, 2014*, http://arcweb.sos.state.or.us/pages/rules/bulletin/1214_bulletin/1214_rulemaking_bulletin.html, archived at <http://perma.cc/A8WN-84JG>.

414. *Id.*

415. *See*, OR. DEP’T OF AGRIC., *Industrial Hemp*, <http://www.oregon.gov/ODA/PROGRAMS/MARKETACCESS/MACertification/Pages/Hemp.aspx>, archived at <http://perma.cc/D5R5-YZ9U>; *see also* Eric Mortenson, *State’s First Industrial Hemp License Goes to A Southern Oregon Man*, CAPITAL PRESS, Feb. 9, 2015, available at <http://www.capitalpress.com/Oregon/20150209/states-first-industrial-hemp-license-goes-to-a-southern-oregon-man>, archived at <http://perma.cc/VG7D-EFDT>.

416. OR. DEP’T OF AGRIC., *Search Active Seed Licenses*, http://oda.state.or.us/dbs/licenses/hitlist.lasso?&sql=6743b0d23abf4a612b6379b6763bd6428dfd8ebceebdf968d26f38e8729c65dca5deb9b8b184e1340c62e3ab674e8f4dec2febc21cbb51dd94324b53c29049b43796621f739b3dee5f152ecdff121d34cab5f212f2297aa056f17d7df51f51a76ab2bd340b87ef2fd46f8da635744af3f034bff75564a21e571ebe732cde7b0baefc3a28c2cd710261acd44732c8e32c3cd114c5300fee81887b703b643d8d9c89569946db6c40ec6c739b8100f47b47881ab56a29db53e97537d0dce317132d09ee1fac038838a85ef931e8936507f60&license_type=6007&-basic_system_title=Seed%20Licenses&-division=cid, archived at <http://perma.cc/2W7P-DYWA>.

417. E-mail from Lindsay Eng, Or. Dep’t of Agric., Market Access and Certification Programs, to author (Apr. 3, 2015 9:06pm) (on file with author).

Colorado, Kentucky, and Vermont have taken the lead by planting industrial hemp in 2014 and the DEA has been cooperative with their efforts. In 2015, pending issuance of DEA registrations and import permits for seed acquisition, other states such as North Dakota, West Virginia, Oregon, Utah, Indiana, Nebraska, and Tennessee will likely begin cultivating industrial hemp, at least for research purposes as authorized by Section 7606.⁴¹⁸ Harry Ako, Ph.D., at the University of Hawaii has received a DEA registration and import permit and received viable industrial hemp seeds from Australia and the European Union on April 2, 2015.⁴¹⁹ Dr. Ako planted these viable industrial hemp seeds to conduct variety trials the week of April 6, 2015.⁴²⁰ Until the prohibition of industrial hemp cultivation has ended, the U.S. will continue to import industrial hemp to meet market demands.

D. Importation

The U.S. imports industrial hemp from around the world.⁴²¹ China is currently the largest supplier of raw and processed hemp fiber.⁴²² Other leading suppliers of hemp fiber include India, Romania, Hungary, and other European countries.⁴²³ Canada is the largest

418. Telephone Interview with Rachel Seifert-Spilde, N.D. Dep't. of Agric., Export Certification (Mar. 31, 2015); Telephone Interview with Chris Ferro, W. Va. Dep't. of Agric., Chief of Staff (Apr. 15, 2015); Telephone Interview with Randy Black, Or. Dep't. of Agric, Regulatory Specialist (Apr. 3, 2015); Telephone Interview with Melissa Ure, Utah Dep't. of Agric. and Food, Policy Analyst (Mar. 31, 2015); Telephone Interview with Larry Nees, Office of Indiana State Chemist, Seed Program Administrator (Apr. 3, 2015); Telephone Interview with Mitch Coffin, Neb. Dep't. of Agric., Program Manager (Apr. 3, 2015); Telephone Interview with Annie Shultz, Tenn. Dep't of Agric. (Apr. 2, 2015).

419. Telephone interview with Harry Ako, Ph.D., *supra* note 209.

420. *Id.*

421. JOHNSON, *supra* note 3, at 10 (“[N]on-EU European countries with reported hemp production include Russia, Ukraine, and Switzerland. Other countries with active hemp grower and/or consumer markets are Australia, New Zealand, India, Japan, Korea, Turkey, Egypt, Chile, and Thailand.”).

422. *Id.* at 9.

423. *Id.* Other European Union producing countries include: France, Austria, Denmark, Finland, Germany, Italy, Netherlands, Poland, Portugal, Slovenia, and Spain. *Id.* at 9 n.36.

supplier of hempseed and oilcake.⁴²⁴ The United Kingdom and Switzerland also supply hempseed and oilcake to the U.S.⁴²⁵

An argument against hemp cultivation in the U.S. is that the U.S. already imports industrial hemp from around the world, from countries such as China and Canada. However, it is important for our farmers and industry to share in that market. We have an opportunity to bring jobs to the U.S. and we need to seize every opportunity.

The value of hemp-based products imported into the U.S. is difficult to accurately estimate.⁴²⁶ The U.S. International Trade Commission has compiled some data. (See Appendix C).⁴²⁷ In 1996, approximately 435 metric tons of woven hemp fabrics, 6 metric tons of hemp yarn, and 53 metric tons of raw, processed hemp were imported into the U.S.⁴²⁸ The 1996 imports were valued at \$1,416,000.⁴²⁹ By 2000, 654 metric tons of woven hemp fabrics, 60 metric tons of hemp yarn, and 620 metric tons of raw, processed hemp were imported into the U.S.⁴³⁰ Imports in 2000 were valued at \$2,538,000.⁴³¹ In 2008, 479 metric tons of woven hemp fabrics, 51 metric tons of hemp yarn, 44 metric tons of raw, processed hemp, 523 metric tons of hemp seeds, 98 metric tons of hemp oil and fractions, and 56 metric tons of hemp seed oilcake and other solids were imported into the U.S.⁴³² Imports in 2008 were valued at \$6,589,000.⁴³³ By 2011, 251 metric tons of woven hemp fabrics, 64 metric tons of hemp yarn, 16 metric tons of raw, processed hemp, 623 metric tons of hemp seeds, 137 metric tons of hemp oil and fractions, and 298 metric tons of hemp seed oilcake and other solids were imported into the U.S.⁴³⁴ Imports of industrial hemp into the U.S. in 2011 were valued at \$11,494,000.⁴³⁵

424. *Id.* at 10.

425. *Id.* at 9.

426. *Id.* at 6.

427. *Id.* at 8; *see infra* APPENDIX C.

428. *Id.*

429. *Id.*

430. *Id.*

431. *Id.*

432. *Id.*

433. *Id.*

434. *Id.*

435. *Id.*

Industry representatives estimate retail sales of industrial hemp products in the U.S. at more than \$581 million annually.⁴³⁶ Of that \$581 million, it is approximated that at least \$100 million accounts for the hemp clothing and textiles market, and at least \$184 million for hemp-based food, nutritional supplements, and body care products.⁴³⁷ The U.S. hemp retail market continues to increase.⁴³⁸ In 2011, retail sales increased 7.3 percent.⁴³⁹ In 2012, retail sales increased 16.5 percent.⁴⁴⁰ In 2013, retail sales increased 24 percent.⁴⁴¹

Looking at the retail sale value and the overall hemp market, some argue that the hemp market is too small. While the hemp market is not large, it is more than a half a billion-dollar industry and is growing rapidly. The market growth in Canada is a perfect example of hemp's agricultural potential, as are the increased retail sales in the U.S. The development of a hemp market in the U.S. can be a great opportunity for small businesses. There is also an available market for research and development of hemp products. The U.S. economy is seeking to grow and a new hemp industry would provide desperately needed jobs.

E. Future Recommended Action for the United States

The "U.S. market for hemp-based products has a highly dedicated and growing demand base."⁴⁴² U.S. farmers should be able to share in that market. I therefore join scholars, congressmen and congresswomen, and other observers and recommend that industrial hemp, or low-THC varieties of *C. sativa*, be affirmatively removed from the CSA Schedule and registration requirements. Overall, 2014 was a year of remarkable progress for the industrial hemp movement on both the state and federal levels. The issuance of the Cole Memo and the passage of the Agricultural Act of 2014 are landmark steps that led to the cultivation of industrial hemp in Colorado, Kentucky,

436. Stansbury, *supra* note 19.

437. *Id.*; see also JOHNSON, *supra* note 3, at 6.

438. *Id.*

439. *Id.*

440. *Id.*

441. *Id.*

442. JOHNSON, *supra* note 3, at 23.

and Vermont. The inclusion of Section 539 in the Consolidated and Further Continuing Appropriations Act of 2015 provides additional protection from federal prosecution for the cultivation of industrial hemp for research purposes during the 2015 production season. In 2015, there is potential for at least ten states to cultivate industrial hemp for research purposes. The next step is the removal of industrial hemp from the CSA.⁴⁴³ Removal of industrial hemp or low-THC varieties of *C. sativa* from the CSA would enable states that have industrial hemp cultivation legislation to issue licenses to farmers for the cultivation of industrial hemp, subject to state regulations, without the farmers risking federal prosecution, even for commercial cultivation. States should be allowed to regulate both research and commercial cultivation of industrial hemp within their state. If states decide to enact industrial hemp cultivation or research legislation, they should be allowed to regulate industrial hemp cultivation within the state without federal approval.

V. CONCLUSION

Since 1998, Canada has legalized the cultivation, production, possession, purchase, and sale of industrial hemp. Canada has a policy that is supported by the Federal Government, and it is a policy that is working. Through research, Canada has shown that industrial hemp can and will be cultivated separate and apart from marijuana. The industrial hemp industry in Canada is providing jobs, is profitable, and is expanding.

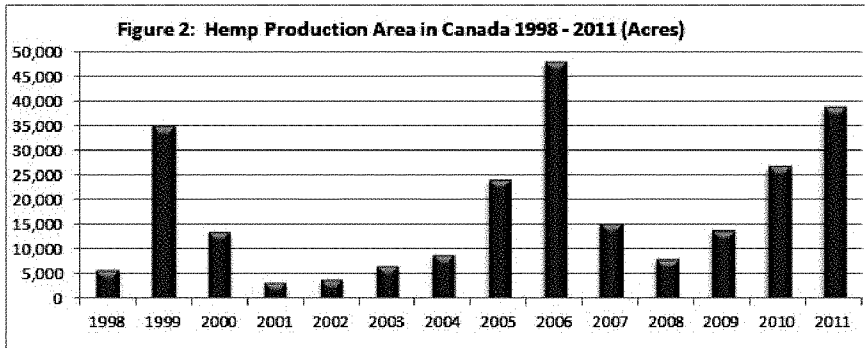
Canada and the U.S. have similar backgrounds regarding the history of the federal status of industrial hemp. Canada has ended its prohibition, while the U.S. is still enforcing its prohibition. However, the Agricultural Act of 2014 has provided for research of industrial hemp in the U.S. in states that have legislation authorizing cultivation or research of industrial hemp. Section 539 of the Consolidated and Further Continuing Appropriations Act of 2015 provides protection from DOJ and DEA interference with industrial hemp research conducted pursuant to Section 7606 of the Agricultural Act of 2014 during the 2015 production season. In addition, several states have taken action and legalized the cultivation

443. See 21 U.S.C. § 811(a)(2) (2012).

of industrial hemp within their states. While industry within the U.S. can import industrial hemp and industrial hemp products from around the world, it is still illegal to grow industrial hemp commercially without a federal, DEA registration. In 2014 several farmers cultivated industrial hemp for research purposes in Colorado and Kentucky in compliance with Section 7606 of the Agricultural Act of 2014. In 2015, farmers and researchers in at least ten states will likely cultivate industrial hemp for research purposes in compliance with Section 7606. I truly believe that the research conducted under Section 7606 will result in changed policy in the U.S. as it did in Canada in the 1990s.

There is a growing demand for industrial hemp within the U.S. and U.S. farmers should be able to meet that demand. As Canada has shown, growing hemp as distinct and separate from marijuana is feasible. Now is the time to open up the industrial hemp market to U.S. farmers. It's time to grow.⁴⁴⁴

444. *5th Annual Hemp History Week June 2-8, 2014*, HEMP HISTORY WEEK, <http://hemphistoryweek.com/> (last visited Aug. 27, 2014), archived at <http://perma.cc/7RVL-QHE4>.

APPENDIX A⁴⁴⁵

Source: Health Canada

Hemp Seeded Acreage in Canada, 1998 - 2011

Year	Canada	
	Hectares	Acres
1998	2,400	5,927
1999	14,205	35,086
2000	5,485	13,549
2001	1,316	3,251
2002	1,530	3,779
2003	2,733	6,750
2004	3,531	8,722
2005	9,725	24,021
2006	19,458	48,060
2007	6,132	15,146
2008	3,259	8,050
2009	5,602	13,837
2010	10,856	26,814
2011	15,720	38,828

Source: Health Canada

445. Laate, *supra* note 57.

APPENDIX B

Canada: Industrial Hemp Total Exports⁴⁴⁶		
Year	Exports	
	Quantity	Value
	(tonnes)	(Cdn\$)
1998	17	74,949
1999	187	164,183
2000	389	407,233
2001	212	238,774
2002	230	274,099
2003	134	201,821
2004	88	142,906
2005	124	188,940
2006	383	2,121,545
2007	876	3,454,149

Canada's Exports to All Countries (Quantity, KGM)⁴⁴⁷					
	2007	2008	2009	2010	Growth 2007-2010
Oil Cake (& other solid residues)	0	0	999,526	2,963,382	-
Hemp Seeds	699,567	1,030,729	683,512	818,375	17.00%
Hemp Oil	76,704	91,812	103,965	178,932	133.30%
True Hemp Fiber, Processed Not Spun	69,645	29,177	30,136	22,374	-67.90%
True Hemp Fiber, Raw or Retted	29,651	26,817	4,425	4,552	-84.60%

446. AGRIC. AND AGRI-FOOD CANADA, *Industrial Hemp Statistics*, *supra* note 11.

447. AGRIC. AND AGRI-FOOD CANADA, *Canadian Hemp*, *supra* note 134.

Canada's Exports to All Countries (\$CAD) ⁴⁴⁸					
	2007	2008	2009	2010	Growth 2007-2010
Hemp Seeds	2,656,276	3,625,804	4,408,474	6,294,072	137.00%
Oil Cake (& other solid residues)	0	0	2,758,817	2,957,333	-
Hemp Oil	695,870	756,341	864,072	1,107,886	59.20%
True Hemp Fiber, Processed Not Spun	57,342	44,463	55,233	21,826	-61.90%
True Hemp Fiber, Raw or Retted	44,661	24,677	6,632	5,627	-87.40%

448. *Id.*

APPENDIX C⁴⁴⁹

Table 1. Value and Quantity of U.S. Imports of Selected Hemp Products, 1996-2011

	units	1996	2000	2005	2007	2008	2009	2010	2011
Hemp Seeds (HS1207990220) ^a	\$1,000	—	—	271	2,350	3,111	3,320	5,154	6,054
Hemp Oil and Fractions (HS1515908010)	\$1,000	—	—	711	693	835	726	1,129	839
Hemp Seed Oilcake and Other Solids (HS 2306900130)	\$1,000	—	—	—	—	460	1,811	2,369	2,947
True Hemp, raw/ processed not spun (HS 5302)	\$1,000	100	525	101	88	57	52	33	41
True Hemp Yarn (HS 5308200000)	\$1,000	25	396	68	82	202	212	115	425
True Hemp Woven Fabrics (HS 5311004010)	\$1,000	1,291	1,617	923	1,579	1,924	751	1,024	1,188
Total		1,416	2,538	2,074	4,789	6,589	6,872	9,822	11,494
Hemp Seeds (HS 1207990220) ^a	metric ton	—	—	92	355	523	602	711	623
Hemp Oil and Fractions (HS 1515908010)	metric ton	—	—	114	99	98	92	134	137
Hemp Seed Oilcake and Other Solids (HS 2306900130)	metric ton	—	—	—	—	56	201	2239	298
True Hemp, raw/ processed not spun (HS 5302)	metric ton	53	620	121	102	44	36	28	16
True Hemp Yarn (HS 5308200000)	metric ton	6	60	8	9	51	45	22	64
Subtotal		59	680	335	565	772	976	1,134	1,138
True Hemp Woven Fabrics (HS5311004010)	m2 (1000)	435	654	248	411	479	167	268	251

Source: Compiled by CRS using data from the U.S. International Trade Commission (USITC), <http://dataweb.usitc.gov>. Data are by Harmonized System

449. Johnson, *supra* note 3, at 8.

(HS) code. Data shown as “—” indicate data are not available as breakout categories for some product subcategories were established only recently.

- a. Data for 2007-2011 were supplemented by reported Canadian export data for hemp seeds (HS 12079910, Hemp seeds, whether or not broken) as reported by Global Trade Atlas, <http://www.gtis.com/gta/>. Official U.S. trade data reported no imports during these years for these HS subcategories. The Canadian export data as reported by Global Trade Atlas also differ for hemp seed oilcake (15159020, Hemp oil and its fractions, whether or not refined but not chemically modified) but were not similarly substituted since other countries exported product to the United States