MINUTES
Industrial Hemp Program Study Committee

November 21, 2016

MEMBERS PRESENT

Senator Kevin Kinney, Co-chairperson
Senator William A. Dotzler, Jr.
Senator Tim L. Kapucian
Representative Lee Hein, Co-chairperson
Representative Bruce Bearinger
Representative Mike Sexton

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I. Procedural Business

Call to Order. The meeting of the Industrial Hemp Program Study Committee was called to order by temporary Co-chairperson Kinney at 12:33 p.m., Monday, November 21, 2016, in Room 103 of the State Capitol.

Election of Permanent Co-chairpersons. Members of the committee unanimously elected temporary co-chairpersons Senator Kinney and Representative Hein as permanent co-chairpersons.

Adoption of Rules. Members of the committee unanimously adopted the proposed procedural rules.

II. Panel #1 — Background and Perspectives from State Officials

Iowa Department of Agriculture and Land Stewardship. Ms. Robin Pruisner, State Entomologist and Entomology and Plant Science Bureau Chief, Department of Agriculture and Land Stewardship (DALS), emphasized that DALS is neither for nor against an industrial hemp program in Iowa, but is instead focused on how to correctly implement such a program should the General Assembly decide to authorize one. Ms. Pruisner summarized the industrial hemp program authorization language in section 7606 of the federal Agricultural Act of 2014 (H.R. 2642, Pub. L. No. 113-79). The Act gives regulatory exemptions from drug-related federal laws to institutions of higher learning and state departments of agriculture, allowing the growth, cultivation, and marketing of industrial hemp under an agricultural pilot program or other agricultural or academic research if the program or research is authorized under the laws of the state. In other states, private individuals grow, cultivate, and market industrial hemp as agents or contractors of an institution of higher learning or their state department of agriculture.

According to Ms. Pruisner, the term “industrial hemp” refers to the plant Cannabis sativa L. with a delta-9 tetrahydrocannabinol (THC) concentration of not more than 0.3 percent recovered on a dry weight basis. The term “marijuana” refers to the same plant species with a higher THC level. Though there are nearly 500 identifiable chemical constituents known to exist in the plant, THC and cannabidiol (CBD) are the most prevalent. The ratio of THC and CBD in a plant is affected by genetics, seed set, flower maturity, harvest date, and environment. Industrial hemp can be harvested for its CBD oil, for its fiber, or for grain and seed.

Ms. Pruisner reviewed certain considerations for starting an industrial hemp program based on the experiences of other states, including but not limited to the following:

1. The seed supply can be highly variable in quality and THC level.
2. There may not be sufficient quantities of seed available in the United States.
3. International seed imported under a Drug Enforcement Administration (DEA) permit may not receive sufficiently rigorous certification from a foreign exporter.
4. Research may be necessary to identify the best seed sources.
5. Seed certification is a difficult process requiring training and visual inspections.
6. Wind pollination can occur between 3 and 30 miles from the plant.
7. The THC levels in native cannabis growing in ditches across Iowa is unknown and may affect the THC levels of industrial hemp crops.
8. There may be a relatively large loss of seed during the harvest of industrial hemp.
9. Eligibility for participation in federal farm programs for other crops while growing industrial hemp is unclear.

10. Industrial hemp is not a specifically listed crop on any pesticide label, although Colorado has identified 269 pesticide products that may be effectively used on industrial hemp.

Ms. Pruisner noted that when applying for a DEA import permit, it may take up to six months after registration to receive the industrial hemp seed. In Colorado, each grower must apply for his or her own import permit. In Minnesota, the state applied for a single permit, and uses the permit to distribute seed to each grower. Upon importing industrial hemp seed, the United States Department of Agriculture inspects the seeds for plant pests, and may deny entry or require treatment of the seeds before entry.

Iowa State University. Ms. Angie Rieck-Hinz, Iowa State University (ISU) Extension Field Agronomist, speaking on behalf of Dr. John D. Lawrence, Associate Dean of Extension Programs and Outreach and Director of Extension Agriculture and Natural Resources, ISU Department of Agriculture and Life Sciences, stated that ISU is also neither for nor against an industrial hemp program in Iowa. However, she noted that she is not aware of any ISU researchers that are currently interested in performing research regarding industrial hemp production. She discussed various concerns about the production of industrial hemp in Iowa, including the lack of infrastructure for growing and securing industrial hemp, the lack of farmers versed in relevant agronomic practices, and the difference in climate between Iowa and Colorado or Kentucky, where industrial hemp is currently produced. She also noted that the growth of industrial hemp would not address Iowa's current water quality issues, including nitrate concerns.

Governor's Office of Drug Control Policy. Mr. Dale Woolery, Associate Director, Governor's Office of Drug Control Policy, stated that his office is also neither for nor against an industrial hemp program in Iowa. However, because the industrial hemp exemption is new, there are many unknown factors and issues related to the program. Mr. Woolery put forth questions he wished the committee to consider before implementing an industrial hemp program, including the following:

1. Would Iowa law need to mirror the limits set forth under federal law?
2. Can a person extract oil from an industrial hemp plant that has higher THC levels than the plant itself?
3. How would Iowa test the plants?
4. Would it be difficult for law enforcement to distinguish legal and illegal plants?
5. Would Iowa require permits, licenses, renewals, and background checks?
6. Would Iowa provide grow sites?
7. Would Iowa need an independent laboratory to identify acceptable plants?
8. Would Iowa be sending a mixed message to Iowa youth about the use of controlled substances?
9. Would industrial hemp normalize the use of marijuana?
10. What is the true market for industrial hemp in Iowa?
11. Are there lessons Iowa can learn from other states?

Questions and Discussion. In response to questions from the committee, Ms. Pruisner explained that the THC level in industrial hemp increases as the plant matures. Testing the THC level of a group of plants can be costly. In Colorado, that state's Department of Agriculture tests between 8 and 10 ounces of dried flowers immediately before harvest to determine whether the tested plants are within the allowable THC limit. The Colorado Department of Agriculture gives notice to farmers 10 days before testing. Farmers may use private laboratories throughout the growing season to monitor a plant's THC level. Some states use state moneys for testing.

Senator Kapucian noted that an industrial hemp research program in Iowa might duplicate research being performed in other states.

Senator Dotzler explained that pollen drift from legal industrial hemp plants would diminish the THC levels of nearby marijuana plants. He also noted that Iowa grew some of the highest quality industrial hemp in the world during World War II; it is adaptable and durable; it can be grown almost anywhere; and it can be used to manufacture a variety of products including rope and clothing.

III. Panel #2 — Perspectives from Industrial Hemp Producers

Introduction. Dr. Christopher Disbro, M.D., Heartland Hemp Company, Des Moines, discussed his experience speaking with farmers across Iowa. He stated that many of these farmers are excited about the opportunity to innovate and to build a new industry that has significant economic potential. Dr. Disbro introduced two farmers actively engaged in the production of industrial hemp: Mr. Mike Lewis, a farmer from Livingston, Kentucky, and Mr. Rick Trojan, a farmer from Denver, Colorado.

Logistics of Producing and Marketing Industrial Hemp. Mr. Lewis discussed his involvement in producing and marketing industrial hemp in Kentucky after the passage of Senate Bill 50, which authorized such activity. He explained that he must annually apply to the Kentucky Department of Agriculture for a private permit to grow industrial hemp. The application requires him to outline a specific process for producing industrial hemp, including identifying a seed source and registering each plot of land on which the industrial hemp will be grown. He imports hemp seed from an Italian distributor that he determines is reliable.

Mr. Lewis noted that he is diligent about privately testing his industrial hemp crop throughout the year to monitor its THC levels. The Kentucky Department of Agriculture tests the crop 10 days prior to harvest to ensure the level of THC is within the legal limit. Mr. Lewis is required to prepare and submit harvest, yield, and market reports related to his crop.

Mr. Lewis discussed the manner in which industrial hemp may be economically beneficial for rural communities. He noted that his small town had an unemployment rate of 34 percent. As a result of opening a textile mill to process hemp fibers for the clothing industry, seven new jobs at $22 per hour were created per shift at the mill, and eight ancillary jobs were created on Mr. Lewis's farm. With support from companies such as Patagonia and Converse, the mill has already received a backlog of orders.

Finally, Mr. Lewis stated that industrial hemp dramatically decreases the THC levels of nearby marijuana plants after cross-pollination.

Potential Revenue Streams, Products, and Developing Markets. Mr. Trojan discussed Iowa's potential for growing industrial hemp, noting Iowa's successful growth of the crop during World War II. He stated that waiting to enter the industrial hemp market could result in Iowa losing revenue, jobs, institutional knowledge, and other significant economic benefits. Industrial hemp is used to make foods, textiles, plastics, and chemicals, including products such as soap, paper, car door interiors, and ethanol. Through crop rotation, industrial hemp can increase corn production between 6 percent and 8 percent. Mr. Trojan grew 300 acres of industrial hemp for dietary supplements, and now grows 1,200 acres for dairy cow feed and seed. As a result, he has created 25 jobs and impacted approximately 125 other jobs. He characterized industrial hemp seed as a "superfood" because of its abundance of nutrition and amino acids.

Mr. Trojan explained that marijuana plants are exclusively female, and therefore cannot pollinate industrial hemp. Instead, the reverse is true; marijuana can be pollinated by industrial hemp which is not cultivated to produce buds. According to Mr. Trojan, the effect of industrial hemp production is to

decrease the THC levels of nearby marijuana plants after cross-pollination. The THC levels of industrial hemp are not affected by the production of cannabis used to produce marijuana. Departments of agriculture typically test the top three inches of the hemp flower prior to harvest. If the plant's THC level is over the legal limit, it is destroyed. He noted that marijuana and industrial hemp can be easily differentiated by law enforcement with training.

Mr. Trojan confirmed that he is able to participate in federal agricultural programs for portions of his farm not used to produce industrial hemp.

Questions and Discussion. In response to questions from the committee, Mr. Lewis and Mr. Trojan discussed a variety of topics.

Mr. Lewis explained that, when producing industrial hemp for fiber, he primarily uses a vacuum seeder and wheat drill for planting, and a modified tea harvester for harvesting. When producing industrial hemp for grain, he primarily uses a corn planter for planting and a small combine with a modified head for harvesting. He mentioned that regular combines can be used in larger operations. He stated that industrial hemp can be harvested 45 to 120 days after planting, depending on the purpose for which the industrial hemp will be used. In addition, he does not use fertilizer on his industrial hemp, he simply rotates crops to retain organic matter. Mr. Trojan noted that he uses traditional corn planters and modified standard harvesters, and also does not use fertilizer. Mr. Lewis mentioned that the woody stalks can be square-baled for pulp or animal bedding, or left in the field to sequester a significant amount of carbon.

Mr. Lewis stated that the target income generated from an acre of industrial hemp is between $1,500 and $2,000, with a net income between $1,400 and $1,500. He emphasized his desire that the growth of industrial hemp should be scaled out to a multitude of small farms, rather than scaled up to fewer, larger farms. He noted that there is a significant amount of infrastructure investment needed to produce products from industrial hemp, but that Iowa already has the infrastructure necessary for large scale feed production. Mr. Trojan mentioned that a farmer should typically have access to a relevant processing plant within 200 miles of the crop field because industrial hemp is dense and burdensome to transport.

Mr. Trojan discussed his choice to produce industrial hemp for seed, mainly due to the large market for seed in Asia and the fact that the infrastructure to produce and transport seed was already in place. He explained that the United States imported $600 million in industrial hemp last year, making it the largest user of that crop in the world. He estimated that industrial hemp seed would be a $1.5 billion industry by 2020. Industrial hemp seeds have no THC and have desirable omega-3 fatty acids. The seeds can be shipped anywhere in the United States under current law, but are typically irradiated or heat-roasted to make them nonviable. Dr. Disbro clarified that medical products high in THC are typically extracts produced from the crop's flower, while oil produced from seeds has no THC.

Mr. Lewis noted that under the current regulations there is no limit to the amount of land that can be used for growing industrial hemp, so expansion is possible. Currently, there are 4,200 acres devoted to industrial hemp production in Kentucky. He suggested that a state should be cautious in expanding production to prevent a market collapse. He explained that it took Canada 10 years to expand to 1 million acres of production. Mr. Trojan recommended that farmers start by growing 300 acres of industrial hemp in order to learn the necessary processes, procedures, and lessons, and in order to make sure that the farmers receive a sufficient amount of income from the seed before expanding. He noted that North Carolina limits farmers to between 10 and 20 acres per year. He suggested that the government should rely on farmers to decide how many acres should be devoted to production, and farmers should have arranged a contract for marketing a crop before planting. Mr. Lewis suggested that regulators should make sure that farmers have a plan, and that they know what they are doing.

Mr. Lewis explained that potential problems with law enforcement can be minimized by being open and honest. He mentioned that he invites law enforcement officials to be present during the testing process.

Dr. Disbro explained the role of companies like Heartland Hemp is to educate farmers and the public, and to connect farmers with seed sources and industries in need of hemp.

Senator Dotzler explained that industrial hemp could have a real benefit for Iowa. Industrial hemp can be used in a wide range of products and has tremendous potential for innovation. It can be a major component of the clothing industry. Concerns about industrial hemp increasing the illegal drug trade are unfounded due to its plant type. He recommended industrial hemp as a viable product.

IV. Public Comments

Mr. Ethan Vorhes, Nashua, Iowa, stated that the industrial hemp market is expanding, that consumers want the product, and that real innovators will leave Iowa for other states in order to produce industrial hemp should Iowa choose not to adopt an industrial hemp program. Mr. Tom Duncan, Jefferson, Iowa, a fifth-generation farmer, advocated for the use of medical cannabis and the benefits medical patients would receive from using the product. Mr. Thomas Rothwell, West Des Moines, Iowa, reiterated that concerns expressed about industrial hemp are incorrect, and urged the General Assembly to remove industrial hemp and marijuana from the list of schedule I controlled substances.

V. Closing Remarks and Adjournment

Co-chairpersons Kinney and Hein thanked the members of the committee, the panel speakers, and the members of the public in attendance for their time and the information provided to the committee. The meeting was adjourned at 2:40 p.m.

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