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Agriculture Committee
February 06, 2018

[LB1133]

The Committee on Agriculture met at 2:00 p.m. on Tuesday, February 6, 2018, in Room 2102 of the State Capitol, Lincoln, Nebraska, for the purpose of conducting a public hearing on LB1133. Senators present: Lydia Brasch, Chairperson; Carol Blood, Vice Chairperson; Joni Albrecht; Steve Halloran; Bob Krist; John Lowe; and Theresa Thibodeau. Senators absent: Ernie Chambers.

SENATOR BRASCH: Good afternoon and welcome to the Agriculture Committee. I am Senator Lydia Brasch, the Chairwoman for Agriculture. And before we begin the committee agenda today, I have a few things I would like to let you know. It's a full room here today, so we will be using the light...we will be using the light that sits right in front of the testifier's chair. A green light means you have four minutes. The yellow light means you have a minute left. And the red light is you are all done. What we are asking today...how many are here to testify? Very good. And what we've done is we have reserved the front row for testifiers. So, if you are planning on testifying please come to the front row when a chair is empty and then move to the back if you are staying for the hearing. People are concerned about the weather, we've had some email in and we'd like to get through the hearing today so everyone can start their safe drive back to their homes. But we would ask that when you're done testifying please move to another seat. If you are going to testify, please come to the front. The Vice Chair is Senator Blood, and she is in another hearing today, but she will be joining us soon. And I also want to introduce other members of the committee. And also, my...to the right is Rick Leonard, the research analyst for the committee. To the left is Courtney McClellan, and she is the committee clerk. We have been keeping Joe Gruber very busy today, and he is our page. And he is a student from Omaha and attends classes at UNL. We will be hearing LB1133 today. And I'll ask the senators to self-introduce their selves. Senator Chambers will not be with us this afternoon. Senator Lowe. [LB1133]

SENATOR LOWE: Senator John Lowe, District 37; the south half of Buffalo County, and Kearney, Gibbon and Shelton. [LB1133]

SENATOR KRIST: Bob Krist, District 10; Omaha and Bennington. [LB1133]

SENATOR ALBRECHT: Hi...excuse me. Joni Albrecht from District 17, which encompasses Thurston, Wayne, and Dakota Counties. [LB1133]

SENATOR HALLORAN: Good afternoon. Steve Halloran, senator representing District 33; Adams County, parts of Hall County. [LB1133]

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SENATOR THIBODEAU: Good afternoon. Theresa Thibodeau representing District 6; Omaha. [LB1133]

SENATOR BRASCH: Thank you. I also want to remind everyone that if you are using an electronic device today, whether it's a phone, please turn it on silent or vibrate. I also ask that you are respectful of everyone in this room and take your phone calls and any conversations that you may have outside the doors, there, this afternoon. I ask that there are no outbursts of support or nonsupport today, that we will try to conduct this hearing in a most kind and respectful manner. I also wanted to mention that if you are testifying, that you are going to need to have a testifier sheet filled out and...I'm trying to follow notes...please fill out the green sheet before you come up to testify. I don't know if everyone has their green sheet, but they're located on the table outside the door of the hearing room. And please indicate your name and your contact information and whether you're testifying in support, opposition, or neutral on the bill. And please let us know if you are here as an individual or if you're representing a position of an organization. When you do come forward to testify and you've given your green sheet to the page, please first state and spell your name for the benefit of the transcribers. And, again, remind them that you're testifying on the behalf of an organization or as yourself. If you have any handouts please also gesture the page, who will take any copies and distribute them to the committee. We are asking that ten copies of any handouts be made available. Again, you have five minutes. We will use the light, here. And you may not ask any questions of the committee, and the committee may ask questions of you following the testimony. But we will be asking the questions on this end. And with that, first I want to welcome the introducer, Senator Wayne, to the LB1133. Welcome, Senator Wayne. [LB1133]

SENATOR WAYNE: (Exhibits 1-5) Thank you, Chairwoman Brasch and members of the Ag Committee. My name is Justin Wayne, J-u-s-t-i-n W-a-y-n-e, and I represent Legislative District 13, which comprises of north Omaha and northeast Douglas County. Before I start with my testimony, I want to make sure the committee knows that I have an amendment that was passed out that clarifies some languages. It does not substantially change anything, but this is what I caught. As I know, committee counsel will probably catch additional ones. So, I was trying to make his job a little easier by correcting some of the errors. So, I just wanted to make sure the committee was aware of that. Before I begin here today, I want to make a paramount to...I think it is paramount to establish that hemp is not marijuana. Hemp cannot get you high. Hemp is not a mind-altering drug. As I will discuss here in a little bit, the tradition...there is a tradition of hemp product...production in this country and the crop uses it for numerous reasons and are profitable. Hemp has been incorrectly stigmatized. Federal guidelines mandate that THC levels in industrial hemp fall below 0.3 threshold to be in compliance. And for your reference, that is the weakest forms of marijuana you can find. Which is why it is not considered marijuana and why the federal government, through the farm bill, has allowed universities and pilot programs to start throughout the states. Nebraska and United States have a long history of hemp production. At

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first...when the first permanent English settlement arose in Jamestown, hemp was recorded as being their first crop. And, in fact, a century and a half later, George Washington and Thomas Jefferson and John Adams all grew hemp. And in fact, in many colonies hemp was required, if you owned land, to be produced on your farm. Hemp is first recorded being grown in Nebraska just after the Civil War. By 1910, the crop was being grown all throughout the state. And in fact, we were one of the highest per-acres in the country of hemp due to our soils. By World War II, after Japan has ravaged the hemp...world's hemp providers in southeast Asia, the production in the United States, and particularly Nebraska, skyrocketed. Hemp can be used for fabrics, yarn, rope, paper, insulation materials, drywall, animal bedding, industrial oils, body care, and the list goes on. According to the 2015 Congressional Study, the global market of hemp is over 25,000 products and still growing. One of the questions from last year was: show me some actual dollars. I believe Senator Halloran asked me that last year. So, what I passed out was a report from Quebec...Canadian, and also the U.S. market. And Forbes recently published an article, which I'll send out, that says the hemp market in the next two to three years will be over a billion dollars. So, over 30 nations currently allow for the production of hemp and producing over 400 million pounds per year. This bill expands upon the 2014 legislation that was passed in Nebraska that allows growth of hemp within the state's research facilities. We already knew that this plant wasn't dangerous, but now it's time to open up for the market and for pilot programs beyond just the university. We have experts, farmers, scientists, industrialists, and centuries of historical records to show that hemp is safe and it's easy to make money. And we can go in to details, if you want to, about the different parts of the plant and why they can make so much money, because it's unlike...it's almost like corn in the sense that it could be derived in so many different things. This bill is important because of our current situation in our ag economy and the need for innovative market. LB1133 is loosely modified off of similar language that was also called the "Adopt Industrial Hemp Act" in Kentucky. And this year I toyed so hard with changing the name to the "Alternative Crop Act," because, maybe, it would have a favorable face. But I believe in calling things what they are, and it's time for Nebraska to allow hemp to grow. When the state legislators in Kentucky were faced with a decide to move from tobacco to a new industry and to figure out how to change their production from tobacco to a new industry in 2014, they moved to hemp. There were only 33 acres grown in Kentucky. Last year there were over 3,000 acres, and that is supposed to double within the next two years. In 2015, according to our fiscal analysts, there were over 500 jobs in the industrial hemp business. Last year we heard from places here in Nebraska, who use the stalks to produce different type of clothing. I don't know if they'll be here today, but that's just one job outside of Plattsmouth in Cass County who creates jobs. You'll also hear from Todd Thompson who has been contacted by numerous businesses who are looking to do things in the north Omaha area around light manufacturing regarding hemp. This is an economic boost for farmers, but for my district this is a job creator. Since the last time I talked to you about this issue, which was last year, many states jumped on the bandwagon of hemp. West Virginia, Montana, North Dakota, Indiana, Tennessee, Virginia, and North Carolina are all vamping up production of hemp, leaving us behind. We need to stop delaying and start

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introducing this alternative crop to our farmers to grow businesses. Every year, Americans and American businesses spend more and more on the byproducts of hemp. Last year, over several hundred million was spent on hemp products that were sold nationwide. According to the recent Forbes article, hemp is projected to be a billion dollar industry in the next two to three years. Even in Nebraska today, you can still walk in the stores and find hemp products. And you can find hemp dietary supplements. Although sometimes CBD is not considered legal, there are other plants that derive...other derivatives from hemp that are still legal and considered dietary supplements, sold right here in Nebraska today. We can buy it here, but we can't grow it here. That makes no sense. One of the most substantial changes that I introduced to this year's bill versus last year's bill--and after hearing the feedback from the people in the Third District, the Second District, and the First District, and some of you know that I did a statewide tour, this was one of the top issues that I brought up--was we need to treat hemp like a regular agricultural product. So, we removed the hemp commission and put it under the Department of Ag, where it belongs. This is a positive change that I've heard throughout the district and throughout the state when this bill was introduced. This issue has broad, broad support, as you see from the room. Both the Farmers Union and the Farmer Bureau supports this bill and they send a pretty clear and convincing evidence that our farmers need an alternative crop. But what's more important, and I think stunning, than the last time that I spoke to you all was: Wisconsin has now passed a hemp bill. Of which is considered one of the most conservative governors in the states signed that into law. I think if Scott Walker is willing to sign a law and say his farmers need help, we ought to be able to do the same. I keep being told when I was in the Third District: this is one of the worst ag economies. And I wrote down a quote; it's one of the worst ag economies in the last century. We need to allow our farmers to have an alternative crop, and this is one way we can do it. Chairwoman Brasch and members of this committee, please allow this debate to be had on the floor. This is too important of a policy issue to be held up in committee over political differences or differences of opinions between the AG's office. Let our lawmakers on the floor have a voice and discuss it and vote on it. With that, I appreciate your time. I'm open to any amendments, and I'm willing to work with the committee to get this to the floor for a positive discussion by our entire body. Thank you, Senator Brasch...Chairwoman Brasch. [LB1133]

SENATOR BRASCH: Thank you, Senator Wayne. Are there questions from the committee? Yes, Senator Krist. [LB1133]

SENATOR KRIST: I think you're aware, because I believe it was your bill where the Attorney General misstated and then came back and corrected themselves. Hemp is legal to possess in the state of Nebraska. And the oils...CBD oil if approved...if FDA approved is legal to be on the shelf. That issue we're still dealing with, but it is notable because I, too, had an opportunity to fly around the state for different reasons. And every place that I've been, it's been the question: what new revenue sources would you or would the Legislature like to bring to the table? And the two top things that I've talked about is industrial hemp and internet sales tax. And there's very broad

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support out there for industrial hemp. So, I thank you for bringing it, again. Thanks for letting me sign onto it this morning. And I agree with you, this is an issue that needs to be brought to the floor of the Legislature. [LB1133]

SENATOR WAYNE: May I just respond, because I forgot to read something into the record. Due to some snow issues, a person who wanted their letter to be in the record gave me a copy and I do want to put it into the record. Nebraska Screw Press, Robert Byrnes, B-y-r-n-e-s, from Lyons, Nebraska, sent a letter that I passed out to the committee. But...and I just wanted to make sure that was a part of the record. So, I do appreciate that. And to just add a quick comment, at the Rural Electric convention...dinner the other night, I sat with a group of rural...what I would deem rural, around Senator Hughes's district. And this was the talking point for approximately 45 minutes; that one persons had the farm family since 1880 and grew hemp up until World War II and couldn't grow it no more. And that was the best crop that they ever had on their farmland. And they're looking for it to be reintroduced. [LB1133]

SENATOR BRASCH: Are there any other questions of the committee? Seeing there are none...oh, yes. I apologize, Senator Lowe. [LB1133]

SENATOR LOWE: Thank you, Chairwoman Brasch, and Senator Wayne for bringing the bill. You keep stating that we need an alternative crop. Are there other alternative crops than corn and wheat and soybeans? I mean, are there other crops out there that farmers could grow other than hemp? [LB1133]

SENATOR WAYNE: There are possibly alternative crops and... [LB1133]

SENATOR LOWE: I mean, that is favorable to our soil? [LB1133]

SENATOR WAYNE: That, I don't know. But I do know that every time I talk to farmers this is brought up primarily because the history. We were one of the largest producers during the war when the government said grow hemp to provide our materials for our soldiers. Nebraska had the most per acre...most acres in the state...I mean, in the country, and primarily it's because of our soil. We have a resource here that we aren't tapping in to. So, I think it's the history. And the fact that I, probably, brought a bill that that's what they talked to me about. So, I don't get talked a lot to about beans, or nothing like that, so I apologize for that. [LB1133]

SENATOR LOWE: Thank you. [LB1133]

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SENATOR BRASCH: Any other questions of the committee? Seeing there are none, thank you, Senator Wayne. [LB1133]

SENATOR WAYNE: Thank you. [LB1133]

SENATOR BRASCH: And again, if you are going to testify, please move to a empty seat up front. After you testify, please allow that seat for someone that will be testifying. We'd like the first proponent, who's in favor of this bill to please come forward. Proponents who want to testify. And we do not allow crops... props...(laughing) props or crops, I meant to say. [LB1133]

JOSH EGLE: Okay, put my props away. [LB1133]

SENATOR BRASCH: That's a long-standing rule... [LB1133]

JOSH EGLE: Okay, sorry. [LB1133]

SENATOR BRASCH: ...I didn't spell out. But, welcome. Please state and spell your name. And the microphones are for the benefit of the transcribers... [LB1133]

JOSH EGLE: Okay. [LB1133]

SENATOR BRASCH: ...they are not meant to be amplifiers. So, we just ask that you speak into the mic. [LB1133]

JOSH EGLE: Sure. My name is Josh Egle, J-o-s-h E-g-l-e. I'm currently a hemp farmer in Colorado. I've been doing it for several years now. I'll also have hemp farms in Arkansas and Wyoming next year. I was one of the lobbyists for the bill, House Bill 230, that passed into law in Wyoming last year. And I fought hard for that bill, along with my mom, because our family homesteaded in western Nebraska and eastern Wyoming in 1880. And we've been farming and ranching there ever since. We have roughly 2,000 acres of farmland in Nebraska, and we'd like to get going on hemp. I grew up in Colorado and I've been in the industry for several years now. And I can attest to the fact that farmers are making money doing this, and they're making a lot of money. I can also attest to the fact that Nebraska could be one of the leaders of this industry in the entire country. I've flown all around the country talking to people about hemp, and the potential for Nebraska is better than almost any other state out there with the agricultural resources you guys have in place. I think that it's time to get going on it now. There's...you know, you could talk for days about the uses for hemp. The fact that you can create twice as much paper out of an acre of hemp as you can an acre of trees. You can create twice as much material

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for clothing out of an acre of hemp as you can an acre of cotton, and use half the water and a fraction of the pesticides in doing it. Hemp is not just good for the farmers, it's good for the environment and it's good for the economy. You know, it's like I said, you can talk for days and days about the good side of hemp. And as I've gone around the country talking to people after I tell them everything I know about hemp, no one can say anything bad about it. So, I think it's time for Nebraska to get on board. You know, the train is leaving the station. People are making money in Colorado, they're making money in Oregon, they're making money in Kentucky. And the sooner states get on board, that's where the infrastructure for processing plants and ancillary jobs comes in. So, I think Nebraska needs to be one of the leaders in this industry because it already grows here. It grows well, I've toured the state. I went out with Professor Jenkins a couple years ago. He's at University of Nebraska-Kearney. He showed me it grows wild; it grows 10, 15 feet tall. So, I think it's time for Nebraska to take advantage of what, you know, we know it already grows well here. And the fact that you guys already have landraces growing here that have been growing for 80 years and adapting to the climate and doing their natural biology and getting stronger and better puts you guys in a better place than some of these other states who haven't had hemp growing. And they're bringing outside hems that aren't...outside hemp varieties that aren't used to their climate and their varieties. So you guys, you know Nebraska, could get on board right away and be one of the leaders in the industry. I'm of the opinion that it's going to be a trillion-dollar industry within the next 20 years. You know, Henry Ford used to make car doors out of it. He created his first engines to run off hemp fuel. There was an article, I think, in...I can't remember off the top of my head, but back in 1930s...they were touting hemp as a billion-dollar industry back in the 30s. I met with a guy who's high up in the army. He's working with a company out of Colorado to develop hemp for Kevlar vests and protection for our troops because you can make products that are stronger and more resistant to bullets than you can out of Kevlar. So they're using it for all kinds of things. And the sooner we get going on it, the sooner some of these other jobs will come in for producing all these different products, you know. You can go into Walmart right now and buy a bottle of hemp seed for \$15. I'm friends with the head of the National Hemp Association, Michael Bowman, who's working on the Hemp for Victory program in Washington to get hemp legal federally. And it's not going to be a question of whether you're going to be able to grow hemp in Nebraska, because it's my opinion that the federal government is going to legalize it sooner than later. This bill is all about getting farmers in Nebraska on board the train before it completely leaves the station. There's tons of opportunities. And yeah, that's it. Thank you. [LB1133]

SENATOR BRASCH: Thank you, and we'll ask the committee if they have any questions.
[LB1133]

JOSH EGLE: Okay. [LB1133]

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SENATOR BRASCH: Are there any questions from the committee? Yes, Senator Albrecht. [LB1133]

SENATOR ALBRECHT: Thank you, Chairwoman Brasch. And thank you for your testimony. [LB1133]

JOSH EGLE: Yes. [LB1133]

SENATOR ALBRECHT: Tell me about the crop. Is it only, like, you put it in one time a year? Do you...can you get more than one crop out of... [LB1133]

JOSH EGLE: Yeah, if you're growing for fiber you can get two crops a year out of it. If you're growing for seed or cannabinoid production you're going to get one crop. It's the most genetically diverse crop in the world, so it grows everywhere. You know, it grows all over the world. They found it in tombs in Egypt. You know, it's been growing in India for 5,000 years. It's been...it grows all over the world. That's the amazing thing about hemp is that it's...you know, it's put here for a reason. It's put here for us to use. And it's adaptable to climates. The fiber production is probably a couple, three, four years away from being profitable because the production facilities aren't there yet. [LB1133]

SENATOR ALBRECHT: What's the growing season in Nebraska, when would it be? [LB1133]

JOSH EGLE: June, June to early October. [LB1133]

SENATOR ALBRECHT: June to October? [LB1133]

JOSH EGLE: Yeah, first of June. I grew up in Colorado, we have a farm in Wyoming and Nebraska, right on the border. So I'm not...you know, I'm just getting in to farming. But...I forgot where I was going with that. But it's a crop that's easily adaptable to different environments and different climates. Can be grown anywhere and thrive, really. One of the exciting things when I saw the hemp, because we dryland farm out there. And when I was going around Nebraska, it just grows wild without irrigation. So, that's something exciting to me, is the genetics here in Nebraska could be adaptable to dryland farming instead of having to use irrigation. [LB1133]

SENATOR ALBRECHT: Thank you. [LB1133]

SENATOR BRASCH: Any other questions from the committee? Yes, Senator Lowe. [LB1133]

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SENATOR LOWE: You state that there hasn't been any opposition to the farmers growing the hemp. And you say you're in Colorado, starting into Wyoming and Arkansas? [LB1133]

JOSH EGLE: Yes. [LB1133]

SENATOR LOWE: I know around my house, in my area, I have cedar trees and pine trees. And I have hemp growing naturally underneath those because of the birds. [LB1133]

JOSH EGLE: Um-hum. [LB1133]

SENATOR LOWE: Are the local farmers around that area, are they finding it a battle to keep the hemp out of their corn or their wheat or their...whatever else they're growing in that area because of the birds? Or is it controllable by... [LB1133]

JOSH EGLE: Yeah, I'm not...you know, most of the farms in Colorado are small. And right now I'm focusing on the cannabinoid production, in which we grow only female plants. So there's no pollination, seed production going on when you grow that variety of hemp. What we want to get in to on our farm, because we're a wheat farm, is the production of seed. And that would be something we'd find out. So, I can't answer that question right now. [LB1133]

SENATOR LOWE: All right. Thank you. [LB1133]

SENATOR BRASCH: Any other questions from the committee? Seeing there are none, thank you for coming all the way from Colorado. [LB1133]

JOSH EGLE: Yes. [LB1133]

SENATOR BRASCH: And safe travels back home. [LB1133]

JOSH EGLE: Thank you. [LB1133]

SENATOR BRASCH: Thank you. Again, if you've testified, please find a seat towards the back. And others, if you will testify, please come forward and sit towards the front. We'll allow a minute here for...welcome... [LB1133]

ALLAN JENKINS: Good afternoon. [LB1133]

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SENATOR BRASCH: ...please state and spell your name. [LB1133]

ALLAN JENKINS: (Exhibit 6) Allan Jenkins, A-l-l-a-n J-e-n-k-i-n-s. I thank you for this opportunity to testify in support of LB1133. I'm an economics professor at UNK, currently my 31st year. I am speaking today as a private citizen, I am not speaking as a representative of the university. My support for LB1133 stems from the substantial economic benefits which will accrue to the state of Nebraska and its citizens if we become leaders in the development of industrial hemp. Nebraska actually has a very long history with hemp. The homestead settlers brought hemp seed to Nebraska because they understood the usefulness of the plant. Enough hemp was grown in the eastern third of the state that Fremont had a hemp processing plant that opened about 20 years after statehood. During World War II, American farmers were encouraged to grow hemp as part of the Hemp for Victory program, needed because the war had stopped the flow of rough fibers from Asia. The ubiquitous "ditch weed," all of those millions of plants that you drive past as you travel from your home to Lincoln, are the descendants of those Hemp for Victory plants that were last purposefully cultivated in 1944. The growing conditions in Nebraska are so conducive to hemp production that the plants have prospered without any help for 70 years. Agriculture is the backbone of Nebraska's economy, with ag production accounting for more than a quarter of gross state product. As each of you well know, the ag sector is now facing a set of significant headwinds. As a January 2018, Kansas City Fed report stated: "A persistent downturn in the state's agricultural economy, however, has weighed on the state's headline indicator of economic output despite broad gains elsewhere. Through the second quarter, Nebraska's gross state product fell 0.47 percent compared with the previous year, in contrast to accelerating growth at the national level. The downturn in agriculture as been a significant driver of the recent divergence between the United States and Nebraska. In fact, through the first half of 2017, gross state product attributed to agriculture declined almost 15 percent from the same period a year ago." Of course, we all know how that sluggishness in the ag sector is impacting the state budget. The latest Net Farm Income report from UNL's Institute for Agriculture and Natural Resources found that "the average net return per acre for irrigated corn was \$95.49 per acre for the high one-third, and -\$77.72 for the low one-third" of producers. The average corn price used for that report was \$3.50 per bushel. On Friday, February 2, the Kearney corn price was \$3.33 per bushel. While multi-year forecasts of crop prices are always problematic, there is no reason to think that corn prices will rise substantially in the near future. Hemp provides a profitable alternative crop. The Canadians have been growing industrial hemp since 1998. There was considerable fluctuation in acreage planted between 1998 and 2008, but since 2008 total acreage has increased each year. According to data provided in a report from the Alberta Department of Agriculture and Forestry; in 2014, 108,000 acres of hemp were grown in Canada. Twenty different hemp varieties are now grown in Canada. The highest seed yield recorded in Canada to date topped 2,000 acres...pardon me, 2,000 pounds per acre, with an average yield between 600 to 800 pounds per acre, but rising. An acre will also produce an average of 5,300 pounds of straw, which can be transformed into about 1,300 pounds of fiber. A

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second report from the Alberta Department of Agriculture and Forestry found that in 2015 commercial producers had a gross margin of \$826 per acre of irrigated land and a \$479 per acre of dryland production. Gross margin is the difference between gross returns and total cash costs. The major driver for Canadian hemp production is the growing demand for hemp seed and hemp oil for the nutritional supplement market. In the natural health products market, the beneficiary fatty oil and high protein content of hemp seed has established it as a valuable commodity. Hemp seeds have a unique fatty acid profile, three to one ratio of omega-6 to omega-3 essential fatty acids. The seed contains about 35 percent oil and 25 percent crude protein. Both seeds and oil are used for human and pet food. Recent studies commissioned by the Canadian Hemp Trade Alliance have shown that hens will produce omega-3 eggs when fed with seed or meal. On Saturday, I purchased two dozen omega-3 eggs from a grocery store in Kearney. Their normal selling price was \$3.99 per dozen, more than \$1 above the normal price of normal eggs. In addition to humans eating seeds, all game birds love hemp seed. I have known hemp my whole life; it grew naturally on my grandparents' farm in northern Oklahoma. They knew you couldn't get high from hemp, so did not aggressively cut it like they did thistle and other weeds. We knew the hemp patch was the best place to shoot a few doves in the evening. Or, to be completely truthful, we knew the hemp patch was the best place to shoot at a few doves, since we missed 80 percent of the time. In addition to the value of the hemp seed, the other parts of the plant are now the focus of intense product development. New paper, textile, and building products are being created out of hemp stalks. Hemp biofuel potential is being researched. Hemp-derived CBDs are now being evaluated in literally hundreds of medical studies. A quick internet search will return multiple studies about the rapid growth of the hemp industry and the tremendous inflow of money into the development of new products. A few examples from just last week include: January 29, 2018, the New York Times had an article about the development of hemp products for building material; January 29, Channel 8 in Las Vegas had a story about the first CBD oil retail...retail chain opening; and on January 31, the Indianapolis Star had a story about the Indiana House voting unanimously to allow Hoosier farmers to grow hemp. In conclusion then, I would encourage all students (sic--senators) to consider the economic potential of hemp and its benefits for the Nebraska economy. There's great evidence out there. In 1938, Popular Mechanics magazine referred to hemp as the next billion dollar crop. It was off a little bit in its timing, but will prove correct in the next year or so. As most...as true of most things in life; education is the key, economics is the driver. Hemp is not marijuana. You cannot get high from hemp, but you might get rich. Thank you. [LB1133]

SENATOR BRASCH: Thank you, Dr. Jenkins. Do you speak as fast as you can read? (Laughter) [LB1133]

ALLAN JENKINS: (Laughing) No... [LB1133]

SENATOR BRASCH: That was pretty quick. [LB1133]

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ALLAN JENKINS: ...I'm a southern boy. I'm from Oklahoma originally so I have more of that... [LB1133]

SENATOR BRASCH: Well, I wanted to make sure... [LB1133]

ALLAN JENKINS: ...more of that Baptist preachers cadence in front of the class. [LB1133]

SENATOR BRASCH: Well, you need to take a breath once in awhile... [LB1133]

ALLAN JENKINS: I know... [LB1133]

SENATOR BRASCH: ...we don't want you passing out. [LB1133]

ALLAN JENKINS: ...I knew I had a lot to say there and I saw that light there, you know, so. [LB1133]

SENATOR BRASCH: All right. Thank you for your testimony. [LB1133]

ALLAN JENKINS: Yeah. [LB1133]

SENATOR BRASCH: Questions from the committee? Senator Albrecht. [LB1133]

SENATOR ALBRECHT: Thank you, Chairman Brasch. Thank you for being here and for your testimony. Is hemp a crop that you can alternate with other...like corn or soy? [LB1133]

ALLAN JENKINS: Yes, yes you can. Actually, I make a reference in the handout to Purdue University. And Purdue University decided about ten years ago to become interested in hemp. So, a lot of the ag research now directed toward hemp is coming out of Purdue University. And they see some advantages. For example, from the research from Purdue University, corn nematodes are actually suppressed if you plant hemp in a field. So, in those places where corn nematodes are a problem, a hemp rotation is actually advantageous. [LB1133]

SENATOR ALBRECHT: Would it hurt livestock at all if they were to... [LB1133]

ALLAN JENKINS: No and, in fact, livestock tastes for hemp is sort of interesting because I know at my grandparents' farm when the plants were young there was a fair amount of just

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casual grazing by the cattle. But it will not hurt them. The hemp fiber itself...there's two different fibers. There's an outside, long, very strong fiber. That's what's used to make the ropes. And then there's an inside, more pulpy fiber and animals kind of like the insides more than the outsides. The outsides tough for them to chew, so. [LB1133]

SENATOR ALBRECHT: Thank you. [LB1133]

SENATOR BRASCH: Yes, Senator Krist. [LB1133]

SENATOR KRIST: There's a lot of talk about the cattle-feeding supplement with hemp. Do you know about that? [LB1133]

ALLAN JENKINS: Well, once again, there would be other people who would be more experts in that. But it's 25 percent protein. And so, on this planet, protein is valuable. And so...and in fact a lot of performance bars are now hemp-based because, once again, because of that high-protein content of the seeds. [LB1133]

SENATOR BRASCH: Very good. Any other questions? Senator Lowe. [LB1133]

SENATOR LOWE: Thank you, Senator...Chairwoman, and Allan. [LB1133]

ALLAN JENKINS: That's all right. [LB1133]

SENATOR LOWE: I'm sorry, we've... [LB1133]

ALLAN JENKINS: We've known each other a long, long time. [LB1133]

SENATOR LOWE: A long time, he was my next door neighbor. And we hunted doves quite a bit. [LB1133]

ALLAN JENKINS: Yeah, I don't remember hitting that many, but we did shoot. [LB1133]

SENATOR LOWE: Excuse me. (Laughter) Thank you for correcting me. You quoted the figures from Canada. How much is that hemp up there growing for the cannabinoid oil? [LB1133]

ALLAN JENKINS: Once again, it's interesting because... [LB1133]

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SENATOR LOWE: Because, like, that would not be legal in Nebraska right now. [LB1133]

ALLAN JENKINS: ...the industry is so new that, once again, the Canadians have mostly made their money off of hemp seed. The newer CBD, the high-CBD strains, that are now being developed actually almost...once again, hemp is an ancient plant. And so there's literally thousands of different variants of it. But the Canadians were not focused on high-CBD strains, they were focused on high-seed producing strains because that's where they were making most of their money, early on. So, the...once again, as far as the future of hemp; even if we don't produce the high-CBD strains, just the value of protein itself means that there will always be a market for hemp products. The world needs protein. [LB1133]

SENATOR LOWE: And I'll ask the same question I asked the last testifier; is it easy to control when it gets into other crops, because the birds are very prolific in distribution. [LB1133]

ALLAN JENKINS: Forget it. Again, all birds love hemp seeds. There's no place in Nebraska, now, that is not being impacted by naturally occurring hemp seeds that are being dropped by birds. So if we start cultivating, it makes no difference. Again, along the Platte River, you can't go 50 feet without running into a hemp plant. And if you think of the seed dispersal from that that's already occurring and all of the corn growers along the Platte Valley as you look at their corn crop as it matures...as it goes through the growing seasons, you don't see 15-foot tall hemp plants out there. And the naturally occurring hemp in the Platte Valley will get 12 to 15 feet tall. So, if we start to cultivate, it won't give the birds...it's not going to magically move seeds around. They're already being moved around by the billions. And so, our farming techniques already compensate for that. So, once again, you can't go anywhere in Nebraska without being close to a hemp plant. It grows on our campus wild. I mean, it grows in my back yard wild. And so, our farmers already have to account for hemp as a weed. [LB1133]

SENATOR LOWE: And, one more question. If...can a person tell the difference between marijuana and hemp if it's in a field? If you have a field of hemp growing and somebody plants 20, 30, 40 marijuana plants? [LB1133]

ALLAN JENKINS: Hemp has a male and a female plant. And hemp...the pollen from a male hemp plant will contaminate a marijuana plant. So, if you go to Colorado...which I did as an academic exercise (laughter), I wanted to see how they grew marijuana. And they all grow inside, because, in fact, any exposure to hemp pollen messes up their marijuana. So, if you're opposed to marijuana you should actually encourage hemp production because the two do not peacefully coexist. Like in so much of nature, the female plant is better looking and stronger than the male. The males are kind of scrawny and they die quickly. But before they die, one male plant can pollinate an area five miles deep. And so, try going anywhere in Nebraska and finding

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yourself more than five miles away from some naturally-occurring hemp, so. And, actually, in Colorado, you know, there's battles, there's friction because the marijuana growers really don't like the hemp growers because of that pollen issue. So, and that's why, again, the marijuana growers...they don't have any use for male plants. They all use cuttings. So they get the female plant with exactly the characteristics they want, and then they make thousands of "replicants" of that one plant. They don't want a hemp plant within ten miles of their female marijuana plants. The other little thing, John, just by its physiology, hemp plants tend to be much taller than marijuana plants. So, in fact, if you drive past the field you could tell what...whether it's hemp or marijuana. [LB1133]

SENATOR LOWE: The last testifier also said that he was going into Colorado to grow hemp because he wanted to get the cannabidoil...the CBD counts up in his hemp. [LB1133]

ALLAN JENKINS: Right. [LB1133]

SENATOR LOWE: Could that happen with hemp in Nebraska? [LB1133]

ALLAN JENKINS: Well, I would think that any program...any program would require oversight and regulation. And so, anyone who was growing hemp in Nebraska is going to have to have a permit. And their crop, then, is going to have to be evaluated. And if, in fact, it turns out that people don't want high-CBD strains, don't make those seeds available. And then, if during the growing test, if the CBD level is higher than the allowed limit then that crop has to be destroyed. I mean...and so, we understand that there would be some oversights in the field. And so, you can't just willy-nilly go and grow anything you want. And like in...again, there'd be certified seed. And those seeds would be known, and the characteristics of those seeds would be known. Just like the Canadians are growing 20 different varieties. A couple of the Colorado growers that I've met, they have 40 different varieties of hemp that they are working with. So, we can find the chemical profile that best meets the needs of the Nebraska citizens, the needs of the industry, and also any concerns that law enforcement might have. There's all kinds of hemp out there. [LB1133]

SENATOR LOWE: Thank you. [LB1133]

ALLAN JENKINS: Yeah. [LB1133]

SENATOR BRASCH: Thank you. Senator Krist. [LB1133]

SENATOR KRIST: CBD oil is made from what? [LB1133]

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ALLAN JENKINS: You know, one of the producers is going to be in a better position to answer that. That's again, that's pressed out... [LB1133]

SENATOR KRIST: I'm starting this discussion because I want to talk about it, because you said CBD oils are not legal in Nebraska. If they're FDA approved, they're legal to be sold in Nebraska on a shelf. The industry that could create itself here is industrial hemp at a level where CBD oils can be produced. And that's still another industrial product that we could be putting out. So, we have to differentiate...sitting in the Judiciary Committee, I can tell you that that's fact and some of the folks out here will tell me, as well. We'll put that on testimony. CBD oils are derived from hemp, not from medical marijuana. [LB1133]

ALLAN JENKINS: Yeah. [LB1133]

SENATOR KRIST: Medical marijuana, in testing, creates medical marijuana. So the two... [LB1133]

ALLAN JENKINS: Right, right. [LB1133]

SENATOR KRIST: ...are completely different. And overseeing the crops and making sure that people know how not to contaminate one or the other--although I'm not advocating for the other right now because we don't have the UNMC study back yet. But it should be noted... [LB1133]

ALLAN JENKINS: Right. [LB1133]

SENATOR KRIST: CBD oils come from hemp... [LB1133]

ALLAN JENKINS: That's correct. That's correct. [LB1133]

SENATOR KRIST: ...and hemp is legal to have in Nebraska, therefore any FDA product that is CBD oil is legal to be sold in Nebraska. [LB1133]

ALLAN JENKINS: At the end of the day, you guys get to decide what you think the recipe is for success for the state of Nebraska. I mean, so, it's not an either/or proposition because there's all kinds of variants, you know. There's all sorts of strains of hemp that are available. [LB1133]

SENATOR KRIST: Thank you, Doctor. [LB1133]

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SENATOR BRASCH: Any other questions from the committee? Seeing... [LB1133]

ALLAN JENKINS: Can I say this was fun? Can I say this was fun and I... [LB1133]

SENATOR KRIST: You can lie. (Laughter) [LB1133]

ALLAN JENKINS: This was fun, I enjoyed it. And, you know... [LB1133]

SENATOR ALBRECHT: Stick around. (Laughter) [LB1133]

ALLAN JENKINS: ...I could have used another five minutes. (Laughter) [LB1133]

SENATOR BRASCH: No, we've got a room full of people who may wanna go home before the snow flies. [LB1133]

ALLAN JENKINS: And I understand that. Thank you. Thank you, so much. [LB1133]

SENATOR BRASCH: Thank you. Again, if you do plan on testifying please come forward to an empty seat. And allow room for testifiers so we can be moving forward. All right, welcome. Please state and spell your name. [LB1133]

REBECCA SCHWARZ: Rebecca Schwarz, R-e-b-e-c-c-a S-c-h-w-a-r-z. I farm with my parents in the Bertrand area. And I'm here today on behalf of the Nebraska Farm Bureau, testifying in support of Senator Wayne's LB1133. This bill would provide Nebraska the opportunity to become a leader in the development and commercialization of industrial hemp by allowing the Nebraska Department of Agriculture to license industrial hemp growers in conjunction with the University of Nebraska College of Agricultural Sciences and Natural Resources. As they've been discussing earlier, industrial hemp is a variety of Cannabis with very low levels of tetrahydrocannabinol, or THC, intended to be used for industrial purposes. At the Nebraska Farm Bureau, we support the production, processing, commercialization, and utilization of industrial hemp and believe the product should be regulated by the U.S. Department of Agriculture rather than the Drug Enforcement Agency. Section 7606 of the 2014 Farm Bill distinguishes industrial hemp as a unique product and authorizes institutions of higher education or state departments of agriculture to regulate and conduct hemp research and pilot programs in states which have legalized hemp cultivation. While the 2014 act did not remove industrial hemp from a list of controlled substances, LB1133 provides the Nebraska Director of Agriculture discretion as it relates to approving licenses for industrial hemp growers. The location and total acreage of all demonstration plots to be grown by license holders will also be approved by the

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director. While we believe this is a regulatory structure consistent with the intent of law makers when writing the 2014 Farm Bill, Farm Bureau continues to work to amend the Controlled Substance Act to exclude industrial hemp, eliminating uncertainty for states and growers. We believe there's a path forward to clarify liability and protect states, and provide guidance and reduce strain on law enforcement. And with enough states indicating a willingness and interest in moving forward with industrial hemp laws, federal leaders will take note. We're also hopeful, once implemented, the industrial hemp program outlined by Senator Wayne is mostly, if not entirely, self-funded. On behalf of the Farm Bureau, I'd like to thank Senator Wayne for his leadership on this issue and for bringing this bill before the committee. Given what we know about the opportunities offered by industrial hemp and the need for diversification in the agricultural community, we encourage this committee to advance LB1133. Thank you, I'd be happy to answer any questions. [LB1133]

SENATOR BRASCH: Thank you for your testimony. Before we take a question, we have three empty seats up front. If you are going testify, could you take a moment to move up front so we free some of the back seats? I believe the gentleman wanted to stay in the room and he was kind enough to move back, and then he left the room, so. There are two more empty seats up front if you are testifying. And you're welcome to stay, but let's just keep it towards the front if we're going to be on the...okay, any questions...oh, I wanted to also recognize Vice Chairwoman Senator Blood for joining the committee. Any questions from the committee? Seeing there are none, very well done. Very thorough, thank you. Welcome, please state and spell your name. [LB1133]

DON WESELY: Thank you, Madam Chairman. Members of the Agriculture Committee, my name is Don Wesely, D-o-n W-e-s-e-l-y. I'm here representing the Winnebago Tribe. And I thought it'd be kind of fun to come up following the Farm Bureau on the same side of an issue. We don't often do that, so. You're finding an issue that can bring people together in the state of Nebraska. Winnebago Tribe is actually very interested in the possibilities if this bill goes forward and actually applying for one of those research projects and hopefully getting into the production of hemp. We see that as a real economic development opportunity for our reservation, our tribal members. Currently, the unemployment rate on the Winnebago Reservation for Winnebago tribal members is 16 percent. That is actually down, as Ho-Chunk and other businesses have succeeded. They've reduced that unemployment rate. It's still 16 percent. It would be very advantageous to the tribe to have...they have the land, they have the workers. They would like the opportunity to take advantage of this legislation if it is passed, so we are here in support of the bill. And thank Senator Wayne for introducing it. [LB1133]

SENATOR BRASCH: Very good. Are there questions from the committee? Yes, Senator Blood. [LB1133]

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SENATOR BLOOD: Thank you, Chairperson Brasch. First I want to say that Ho-Chunk has done an exceptional job with the monies that they have brought in, and I'm so impressed by the work that they've done. So, the question that I would have would be; would they utilize some of those funds to also do some training for the beginning farmers in this area? Is that on the radar of what's...I know that's kind of putting the cart before the horse, but surely they have a plan. [LB1133]

DON WESELY: Well, actually, in addition to farming and producing hemp, they would be interested in plants that turn those into products. They can see that going forward so there'd be much more than just raising the crop and... [LB1133]

SENATOR BLOOD: Processing it. [LB1133]

DON WESELY: ...be converting it into products. And they're very interested in that opportunity if given the chance through this legislation, so. [LB1133]

SENATOR BLOOD: Haven't there been other reservations that have been participating in this process? [LB1133]

DON WESELY: I'm not familiar with that. [LB1133]

SENATOR BLOOD: I think so. [LB1133]

DON WESELY: Certainly not in Nebraska. The only thing I'm familiar with is in Kentucky. They've had a very big success there. And we've watched that and thought; boy, wouldn't that be great in Nebraska? We all know ditch weed grows like crazy here. I mean, it'd be easy to raise that in Nebraska. And then turning it in to actual...I mean, it's not enough just to produce it. Let's turn it...let's have factories, let's have jobs and factories. [LB1133]

SENATOR BLOOD: But with hemp, it's about the stalk... [LB1133]

DON WESELY: Yeah. [LB1133]

SENATOR BLOOD: ...right? [LB1133]

DON WESELY: Yeah. [LB1133]

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SENATOR BLOOD: And not the buds. [LB1133]

DON WESELY: No. [LB1133]

SENATOR BLOOD: So I don't know if we want to use ditch weed as the example. [LB1133]

DON WESELY: (Laughing) No...I know, well...anyway, we know marijuana plants and hemp grow well in Nebraska. And there is a way to distinguish between the two and not have a problem. [LB1133]

SENATOR BLOOD: Thank you. [LB1133]

DON WESELY: Um-hum. [LB1133]

SENATOR BRASCH: I did want to add here; our research analyst and I were visiting. You mentioned Kentucky, and the Web page of the Kentucky Department of Agricultural Industrial Hemp Program has a following disclosure on their Web page: that participants "should understand that at the present time it is likely that they may suffer a loss on the industrial hemp crop. Limited production knowledge combined with an uncertain federal regulatory environment and unstable pricing creates significant risk for the participant.." And I was wondering...they have concerns and you're saying they're successful. Can you explain your position on that? [LB1133]

DON WESELY: Well, from the hearing last year, I remember that they've had a number of farmers that produced a lot of product. I think in certain... [LB1133]

SENATOR BRASCH: They've changed their bill since last year, too, Senator, so. [LB1133]

DON WESELY: But the problem is going to be, honestly, I mean frankly, is the...we can take action here, but the feds really control this situation. And we need them to cooperate with us. So there is uncertainty and there is risk, that is true. [LB1133]

SENATOR BRASCH: And that is one of the concerns that other states have expressed, too, is the uncertainty that does remain. But Kentucky is very clear to their growers that there is risk and potential loss, as well. [LB1133]

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DON WESELY: At the same time, the old saying is no risk, no reward. And sometimes you have to take risks. [LB1133]

SENATOR BRASCH: Very good. Any other questions of the committee? Seeing there are none... [LB1133]

DON WESELY: Thank you. [LB1133]

SENATOR BRASCH: ...thank you for coming forward. Again, please come forward. And please don't be shy. If you're in the front row...I'm following a format we used in the Revenue Department...Revenue Committee, excuse me. And it works really well when people come forward and the seats move around. And then that way we can have a good flow of information. Welcome, good to see you again and thank you for testifying. Please say your name and spell it for the transcriber. [LB1133]

ANDREW BISH: Yes, thank you, Senator. My name is Andrew Bish, A-n-d-r-e-w B-i-s-h. I'm representing myself, as a citizen of Nebraska. I'm also representing the companies in which I work for and employ people. As a citizen, I've seen the value that this has brought to my life as a consumer. As an employer, I see the opportunities that we have in the state of Nebraska. I've watched purchasing consistently go down in the Agricultural Committee...agricultural community. And when you look at what we do as a manufacturer of agricultural supplies, this is happening across the state. This is not isolated to me. Corn prices are not going to solve this. The bean prices are not going to grow up...go up. We're not going to see the problem go away by doing nothing. However, if we could expand our economy so that we can bring hemp in to the fold, we can normalize the prices of the corn and the beans in a way that we haven't been able to do before. When Senator Lowe speaks about whether other crops are able to come in to Nebraska, there's nothing keeping any crops out of Nebraska, except hemp. And the reason the other crops don't come in is because of the historical profitability that we've had from corn and beans that's no longer. Farmers are now forced to make a choice, and the choices that they have are very limited with what we can grow here. So, there are many opportunities, there's not a lot of profitable opportunities, which I think is important. We're also talking about a state of affairs in the Legislature right now with a \$1 billion shortfall. We need to do something. Doing more taxes in one area to take away less tax...make less taxes on property taxes, it's just spreading it around. I've got a grandfather that owns thousands of acres and buys a lot of land in Missouri because he doesn't like to pay taxes. But, you know, at the end of the day, he wants to keep his money in Nebraska. And it's not just property taxes that are affecting that, it's some of the other things that we're restricted on doing. As an employer, I've been able to go out and see all of...many of the states that are growing hemp. I've been in Colorado, I've been in Kentucky, I've been in Tennessee. I've worked with programs like Middle Tennessee State University and their

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animal feed program. I'm on the Colorado Task Force for animal feed. I'm working hard at trying to understand what needs to be done to further this industry, and a lot of it has to do with providing the right type of plant so that we can build the right type of machines so that we can minimize the cost of production of this and get this out to the masses. We're not going to do it in states like Kentucky and Tennessee, there's not enough acres. It's states like Nebraska and Iowa and Kansas that are going to make the difference when we talk about hemp and making it available. And when we concern ourselves with the fact that there might not be any jobs...if you look at a 2013 University of Kentucky article that cited a Canadian's opinion; "no more than 25 direct jobs would be created", he said, "if a manufacturing facility opened up in the state of Kentucky." But if you look in January, Kentucky announced that they are opening a processing facility and they're going to have 271 jobs. Those are 271 jobs that aren't in Nebraska, that's the concern that I have. I do business outside of Nebraska. I've seen over 90 percent of my business go to other states. It's time to bring that business back home. It's time to bring employees back to Nebraska. It's time to bring industry back to Nebraska. We can't build enough ethanol plants to sustain the amount of people that live in Nebraska. We have to do something different. And when you look at the downside of hemp, I can't find it. I can't find it, and I challenged people to find it for me. Maybe there's a little bit in streams, maybe birds are carrying it into inconvenient places. But if a human being consumed a field of hemp, he might have too much protein, he might have some extra amino acids. He might be healthier. That would be the downside to having too much hemp is we might all be healthier. [LB1133]

SENATOR BRASCH: Very good, thank you. Any questions from the committee? Senator Albrecht. [LB1133]

SENATOR ALBRECHT: Thank you, Chairman Brasch. Thank you for your testimony, I appreciate it. You have been to different states, Mr. Bish. Can you tell me how do they harvest it, and where do they store it? And where do all these employees come in? [LB1133]

ANDREW BISH: Well, that's a very complex question. A lot of this is currently being hand harvested unless you get into the seed/fiber product that's currently being ran through combines. And then they're using headers and sickle bars to cut that. When we're talking about, like, the high-CBD plant, those are currently being cut down by hand with tree trimmers, saw blades...a lot of labor is going in to it; manual labor, hanging plants. And that's what we're looking to try to resolve for people because it is very expensive to produce right now, and that's keeping some of the prices of hemp high. So, there's a variety of answers to your question. And one of the challenges that I struggle with as a manufacturer is because we haven't standardized seed. One state might grow a plant that's 7 feet tall, and one state might grow a plant that's 15 feet tall. And the type of combine header combination that you're going to use in that needs to be different. [LB1133]

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SENATOR ALBRECHT: All right. [LB1133]

SENATOR BRASCH: Thank you, any other questions of the committee? Seeing there are none, if the next proponent would come forward and others move to the front as the seats empty. We'll give you a minute to sit down, and we have two chairs to fill up front, here. Pause just a second to let two people come up front that plan on testifying. Excellent, thank you for your cooperation today. That way we can keep moving so people can avoid bad weather if it is coming. Welcome, please state and spell your name for the record. [LB1133]

ARAVIND MENON: (Exhibit 7) Thank you, Senator Brasch. My name is Aravind Menon, that's A-r-a-v-i-n-d M-e-n-o-n. Thank you to the committee for this opportunity to testify in support of LB1133. I'm a physician by training. I'm currently a doctoral student in public health at Johns Hopkins University, Baltimore. I work as population health director at the Lexington Regional Health Center, Lexington, Nebraska. I am speaking today as a private citizen, not as a representative of the hospital or of Johns Hopkins University. My support for LB1133 focuses on the potential health benefits of cannabidiol, CBD, which have already been raised today as part of prior discussions. CBD is a non-psychoactive substance that is present in leaves of the Cannabis plant. While CBD may also be extracted from the leaves of the Cannabis indica plant, which is the most psychoactive cousin to hemp, it has different properties from tetrahydrocannabinol and it has no known abuse potential. In fact, in many ways, poetically speaking, CBD can be seen as the "anti-THC," or the "anti-marijuana," because essentially they are both very, very similar substances which have a difference in the last step. And so, there's a different synthase enzyme that converts a precursor into tetrahydrocannabinol, which is the psychoactive substance, or which converts it into CBD, which is the substance of interest that we are talking about right now. So, although they are very related, they are completely different in their effects as well as in the last step...before the decarboxylation. We have effective methods to both isolate and extract CBD in laboratory settings currently. As well as we have methods to design...as well we have design-specific delivery methods that would preferentially allow for CBD to be administered to a potential recipient. A comprehensive review released by the World Health Organization in November, 2017, declared that CBD poses no known public health harm to users who may ingest or inhale the compound, as also for persons who use it as a component of liniments or unguents for local application. Pharmaceutical research into the potential benefits of CBD has gone on for more than 30 years. In the last decade, researchers in multiple laboratories across the world have published promising results on the therapeutic effects of CBD in treating primarily neurodegenerative disorders, Alzheimer's disease, epileptic disease, and acute pain control in animal models. The most commonly seen neurodegenerative disorder that seems to respond really well to CBD use, both local as well as systemic CBD use, has been multiple sclerosis and the pain that's related to multiple sclerosis. But this is by no means a comprehensive list of diseases that might have a potential or that might respond to CBD therapeutically. However, as researchers have pointed out, the number of randomized, cross-

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matched and human subject studies that look at the therapeutic effects of CBD have been limited to less than 35. I use a reference, it's been given in the paper--a paper lasting back to 2012, and that's the last comprehensive literature review that I saw looking at PubMed sources. As I understand, the number of published studies that are cross...that are human subject studies and which are randomized and cross-matched have not dramatically risen from 35 from between the time from 2012 to 2018. Studies have shown clear potential for the application of CBD in management of diseases like multiple sclerosis and epilepsy, but we are often stymied by a lack of accurate evidence that looks at large randomized populations, even within a controlled setting. Although randomized and controlled trials have become more frequent in recent years, especially in other countries, we are still far from creating the kind of research base that would allow us to confidently offer therapeutic advice and treatment. And this, by and large, is my frustration with CBD: that anybody who does a Google search can find a whole bunch of information with funny graphics and Comic Sans MS writing talking about the "wonder drug" CBD. As a researcher and as a scientist, I would like to offer both my patients--as well as experts who are asking me for advice--information, and a p-value, and significance which has been tested at multiple levels and on human subjects. And because of the sort of gray area and lack of clarity both at the federal level and the state level, for us in Nebraska, about both cultivation as well as administration, we find that physicians as well as researchers are skittish about just wading into this area, and they just say; hey, let me just step back. The yawning gap in our understanding of CBD and the delay in identification of its potential therapeutic effects can be traced to all the attending anxieties of conducting research in pharmacobotany, from experimental protocol refinement to funding exigencies. But the legal status of CBD and the difficulty in access certainly adds an extra layer of complication to the scientific enquiry process. Furthermore, clinic-based studies of patient populations that are prescribed CBD promise to be biased because physicians seem reluctant to discuss the potential benefits of CBD with patients because of unfamiliarity with the subject and the lack of rigorously tested results. This reticence seems to impact both physicians in training as well as physicians who are more established and who have been practicing medicine for many years. The inability of researchers to study the properties of CBD and to potentially isolate therapeutic effects and modes of delivery seriously impacts physicians' ability to offer all possible management options to patients, especially those with severe neurodegenerative disorders and chronic neurological conditions. Initial studies point to clear biological plausibility and not-insignificant statistical consistency in experiments designed to test the effects of CBD on neurodegenerative disorders. But lifting the limits on cultivation of industrial hemp will greatly facilitate this process of inquiry. And perhaps one day we could perhaps look at dramatic breakthroughs where physicians as well as researchers can confidently mention studies that have been registered on PubMed and which have been funded by the NIH. Which could tell us...which could take us out of this gray area regarding the therapeutic effects of CBD. Thank you. [LB1133]

SENATOR BRASCH: Thank you for your testimony. Is it Mr. or Dr. Menon? [LB1133]

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ARAVIND MENON: Dr. Menon. [LB1133]

SENATOR BRASCH: Dr. Menon, thank you. And you're here as a private citizen? [LB1133]

ARAVIND MENON: Yes, ma'am. [LB1133]

SENATOR BRASCH: And you've traveled quite a ways... [LB1133]

ARAVIND MENON: Yes. [LB1133]

SENATOR BRASCH: ...to testify. I had to look quickly. Baltimore, Maryland is where your university is. [LB1133]

ARAVIND MENON: Yes, but I currently am a resident of Lexington, Nebraska. And so, it's just three hours away, and so... [LB1133]

SENATOR BRASCH: Well, very good. Well, welcome home. [LB1133]

ARAVIND MENON: Thank you, so much. [LB1133]

SENATOR BRASCH: The question I might ask is, so, CBD, the oil, does come from industrial hemp? [LB1133]

ARAVIND MENON: Yes. [LB1133]

SENATOR BRASCH: So that is why you're here on that behalf. And so...you are aware it's being studied here and we have legislation... [LB1133]

ARAVIND MENON: Yes. [LB1133]

SENATOR BRASCH: ...that is looking at controlled methods and we have test individuals. [LB1133]

ARAVIND MENON: Yes. [LB1133]

SENATOR BRASCH: And you're here to promote it? [LB1133]

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ARAVIND MENON: Yes. [LB1133]

SENATOR BRASCH: Well, I appreciate your traveling here. And, are you spending time in Nebraska while you're here, then? [LB1133]

ARAVIND MENON: Yes, I live here, so I... [LB1133]

SENATOR BRASCH: Oh, you do live here. [LB1133]

ARAVIND MENON: I live in Lexington, Nebraska. [LB1133]

SENATOR BRASCH: Oh, you live in... [LB1133]

ARAVIND MENON: Yes, uh-huh. [LB1133]

SENATOR BRASCH: ...but, you go to school virtually? [LB1133]

ARAVIND MENON: Yes, so how it works for us... [LB1133]

SENATOR BRASCH: Is that right? [LB1133]

ARAVIND MENON: Yes, we have two years of class, and then I'm writing my dissertation... [LB1133]

SENATOR BRASCH: Okay. I understand, I was trying to read your information. Have you communicated with UNO, or the med center here at all? [LB1133]

ARAVIND MENON: Yes, with UNMC with the School of Public Health. And I'm actually working with them on a couple of different projects in Lexington which is sort of dealing with population health and looking at large-scale movement of populations, but. [LB1133]

SENATOR BRASCH: Excellent. Well, thank you for your testimony. [LB1133]

ARAVIND MENON: Thank you, very much. [LB1133]

SENATOR BRASCH: Senator Krist has a question. [LB1133]

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SENATOR KRIST: Thank you, Chair. We had a testimony in another committee that I sit on, that the highest concentrations of the positive effect of CBD is actually on a baby that is nursing. Can you confirm that, or is that just... [LB1133]

ARAVIND MENON: So, I...again, I would not want to go out on a limb and I don't know the citation of which you are referring to. But, biologically, that makes a lot of plausibility both in terms of how the absorption happens within the body and about how it's just a lot more efficient in babies, especially in infants in the first year of life. And also about how concentration is so much more enhanced within breast milk. So a child...a baby that is exclusively breastfed, that is for the first six months of life ideally, should theoretically. Again, I don't know the citation, but should theoretically have higher concentrations. [LB1133]

SENATOR KRIST: And you're familiar with the studies that are being done at UNMC? [LB1133]

ARAVIND MENON: Regarding CBD, yes. But, again, which specific study was it, Senator, that you were... [LB1133]

SENATOR KRIST: I thought that when we passed that bill several years ago we would allow UNMC to both test the medical application of marijuana, that has THC involved and CBD oils. Is that correct? [LB1133]

ARAVIND MENON: Yes. [LB1133]

SENATOR KRIST: Okay. [LB1133]

ARAVIND MENON: One of the problems that we are though seeing with CBD research and with large-scale CBD research is that they necessarily have to be laboratory-based or animal-based research. Typically when we look at the effect of natural substances on, sort of, therapeutic responses, we both want to have a clinic-based population. So we want to have people who are exposed to it as a matter of cause. All people who can reasonably be prescribed this because it's sort of behavior that you require a physician to work through with you. What's happened in Nebraska is that we are currently able to conduct research under extremely controlled circumstances. And realistically, it really doesn't translate into human subject research because most clinicians as well as a lot of researchers are understandably just wary of wading into this area. And so, what we essentially do have is animal models, mouse models; we do have a lot of good, really positive results coming out. But within human models, specifically population-based studies, it's almost impossible to find CBD. It needs...it's kind of a Catch-22 situation in which

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physicians tend to be reluctant to prescribe it, and as a result, less number of people seem to be not using it to manage a specific condition, and so. [LB1133]

SENATOR KRIST: But it is true that there are both capsule and liquid forms of THC that are being used and approved by the FDA at present. [LB1133]

ARAVIND MENON: Um-hum. [LB1133]

SENATOR KRIST: So, obviously we've done some testing and research in the THC-concentrated drugs. What you're suggesting, I think, I don't want to put words in your mouth, but the actual testing in a clinical situation of CBD oils... [LB1133]

ARAVIND MENON: Um-hum. [LB1133]

SENATOR KRIST: ... have not been tested. [LB1133]

ARAVIND MENON: No, and from the studies that you see in the U.S., it's still a media that's largely lacking. It seems to be that within most models, especially for a lot of long-term chronic pain, there's a lot of mouse model studies that seem to be coming out. But looking at population-based studies, those kind of numbers we really are not seeing. My guess is that a similar study set up in Nebraska would find it difficult to make up sample sizes. [LB1133]

SENATOR KRIST: Maybe that's a piece of legislation someone should carry next year. Thank you, Doctor. [LB1133]

ARAVIND MENON: Thank you, Senator. [LB1133]

SENATOR BRASCH: We have another question: Senator Halloran. [LB1133]

SENATOR HALLORAN: Thank you, Madam Chair. I've got a friend, Doctor, that suffers from epilepsy. And you pretty much answered that there's not been a lot of human research. But, from the animal research...she's gone through every medicine known to man to end with some limited results from the medicine to calm the epilepsy. But her body becomes tolerant to the medicine. From your animal studies, is there any knowledge about whether or not the animals become tolerant to CBD after a period of time? [LB1133]

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ARAVIND MENON: So, what I do know is that I have not heard of any tolerance to CBD. My guess, also, would be that traditional methods of...so, the way CBD acts...at least the way we hypothesize that CBD seems to act on neural tissue in response specifically to epilepsy seems to be very different from, say, valproic acid or any of the standard anti-epileptics that we do use. The receptor pathway is different. The entire pathway itself is different. My guess is that this...that the CBD pathway, from what we have seen, seems to be less...seems to respond less to, sort of, problems of resistance, so to speak. Like reduced response. Again, I'm giving you, like, a theoretical concept. This is what seems to make sense. [LB1133]

SENATOR HALLORAN: Sure. [LB1133]

ARAVIND MENON: I don't have the numbers to base this, and I think this is precisely the problem that we face. [LB1133]

SENATOR HALLORAN: I appreciate it. Thank you. [LB1133]

ARAVIND MENON: Thank you, Senator. [LB1133]

SENATOR BRASCH: Very good. Any other questions of the committee? And Lexington is also a distance. Closer than Baltimore, but thank you for coming out today. [LB1133]

ARAVIND MENON: (Laughing) Thank you, Senator Brasch. Thank you, so much. [LB1133]

SENATOR BRASCH: We have no other questions. [LB1133]

ARAVIND MENON: Thank you, so much. [LB1133]

SENATOR BRASCH: Thank you. Now, if the next proponent would please come forward. Anyone else who intends to testify, please help us and move to a front seat so we can move the committee hearing along. We appreciate your being here today, welcome. We will wait one more minute, anyone else going up front? Going, going, gone, no? Okay. All right, welcome. Please state and spell your name for the transcriber. [LB1133]

DEBORAH PALM-EGLE: (Exhibit 8-10) My name is Deborah, D-e-b-o-r-a-h, and my last name is Palm-Egle, P-a-l-m-E-g-l-e. And I am the mother of Joshua Egle, who you saw here earlier, the first person. I wanted to come because I own 2,000 acres in Banner County. And about 1,500 acres in Wyoming. And I know that I've called several of your offices and talked to

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some of your pages, or the people who work for you. And they all had to double check to make sure that Banner County was actually a county in Nebraska. Which I found really interesting, so I'm going, whoa. But, what I wanted to talk about a little bit was to follow up with the Doctor. I've had multiple sclerosis since 1970...okay, 1980 I was diagnosed with MS. And I had actually gotten a lot worse and went downhill rather rapidly. At one time I was considered chronic...chronic MS. But, in 1986, a doctor said that; why don't you go ahead and try...and I'm not trying to support medical marijuana, I'm just giving you facts, okay? He said, why don't you try marijuana. There was a research study that was done in the 19...in the 1950s, in London. And most of the patients who used medical marijuana had a much easier course of the disease. Of course, medical marijuana was not legal back in 1986. It was very difficult for me to find it. I'm a conservative republican, my uncle was a state senator in Wyoming for years. It is not something that I would even know how to go about trying to find illegal marijuana. I was a flight attendant for United Airlines, and through some of those connections I tried some marijuana. But when it became legal in Denver, Colorado, I started growing it in my back yard, just because I wanted to make certain that what I was taking I knew what it was. It was completely organic and amazing. I have gotten so much better over the past ten years. I just went to a funeral in my small town of 118 people in Albin, Wyoming. And everybody came up to me and said; I cannot believe how well you're walking, Fifteen years ago you couldn't walk hardly at all. You were pretty crippled at that time. I just want to say it's been miraculous using medical marijuana. But, on top of that, I've been using CBD oil too instead now, for the last few years I've been using CBD oil instead of medical marijuana, or with it. And I've found that it's just shot up my ability to move and to function so much better than it was. Part of the problem with using...with marijuana and with hemp, industrial hemp; there is not going to be one pharmaceutical company who does anything about it because they cannot make a dime on it. I spent \$1.7 million dollars, or I was billed, my insurance was billed, \$1.7 million for 85 months of taking a drug called Tysabri. They really didn't know what it was, but they knew that it worked for MS. Well, that's...the side effects of that drug cause me for going from an absolutely amazing bone density to almost zero bone density. The side effects of that drug, even though they were not so visible, have been astronomical on me. I've broken my back twice. I've fallen and had two compressed fractures, and with MS you cannot get a fusion because it can't put you in a sedentary position for five or six weeks. So I have to deal with that pain, and all I can say is I thank God every day because I have an amazing body butter that I put, that is made out of CBD oil, on my back every single night. And if it wasn't for that oil, I don't think I would have been able to drive here the nine hours that it takes...well, it probably wasn't nine, it just felt like 15 (laughter). It was probably only seven or eight from Albin, Wyoming. But I don't think I could have done that. And I think what I wanted to show is that CBD oil, we may have heard of it, but I've never heard it before we had epilepsy, before Colorado passed the law to legalize marijuana. And the reason why they started to try to find different cultivars is because children were using medical marijuana for their epilepsy because that was just their last resort. Where else can you go? I have friends that have children with epilepsy and they had been on some of the most horrendous drugs that you can

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imagine. But they'll give them to you because the FDA approved them. I'm sorry. Once they start using their CBD oil, which wasn't actually approved at the time, it was miraculous for them. I have a friend whose 14 year-old son, who was a twin, has never taken a bite of food in his life. He's been fed through a tube. He can't move, he can't talk, he has no ability to do almost anything. He stays at home with his mother. But the strange thing about it, when he took some medical marijuana instead of...with his CBD, some CBD oil and some THC oil for the first time in his 14 years of life, he started making the motion of trying to chew. It changed his whole perspective. And now, he isn't eating, he's still having a feeding tube, but he's actually tasting food. And he's going through this process, and I consider that miraculous. I know that we all think that there's this horrible drug, it's a horrible thing, marijuana is terrible. But Cannabis is an amazing drug. Over 3,400 cultivars you can find from Cannabis. I can't imagine that Nebraska, with all of your ingenuity and all of your ability...think of all the 2,500, 2,600 types of jobs that could come out of this. Look at Colorado, look at how many jobs are in Colorado because of medical marijuana. Your population...not your population but your ability to attract companies to come here, I think your ability to create new jobs--which you haven't had in years--will be astronomically benefited because you brought CBD and industrial hemp in to Nebraska. So, all I want to do is make you realize that anything you can make with petroleum and with wood, you can make that with hemp. So imagine what we can do in Nebraska with those two things. So, thank you. Sorry, hate those buttons... [LB1133]

SENATOR BRASCH: Very good. That's okay. If you just wait one minute... [LB1133]

DEBORAH PALM-EGLE: Oh, that's right. [LB1133]

SENATOR BRASCH: ...and we'll see if we have any questions... [LB1133]

DEBORAH PALM-EGLE: Please do. [LB1133]

SENATOR BRASCH: ...from the committee. You're definitely very passionate, we appreciate that. And you've driven a ways, here. So, any questions from the committee? We do thank you for your drive, and safe travels back home. [LB1133]

DEBORAH PALM-EGLE: Thank you. [LB1133]

SENATOR BRASCH: Thank you. [LB1133]

DEBORAH PALM-EGLE: I hope it's not snowing too much. [LB1133]

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SENATOR BRASCH: I hope not either. [LB1133]

DEBORAH PALM-EGLE: But don't forget; I'm pushing for hemp, not pot. (Laughter) [LB1133]

SENATOR BRASCH: Okay. [LB1133]

DEBORAH PALM-EGLE: Keep that in mind. [LB1133]

SENATOR BRASCH: That's on the record now, so. Welcome, it's good to see you again, Michael. [LB1133]

MICHAEL D. WOLFE: The pleasure is mine. [LB1133]

SENATOR BRASCH: You need to spell and say your name for the committee. [LB1133]

MICHAEL D. WOLFE: (Exhibit 11) My real name is Mun Ga Ska. Nobody here would know how to spell that, so I'll tell you my English name: Michael D. Wolfe, M-i-c-h-a-e-l D, middle initial, Wolfe, W-o-l-f-e. We say "aho ka gay om ba tay ut ach" (phonetic), what I'm saying is "hello, my friends." You know, I haven't met you yet. You might be a brother or a sister that I haven't met yet. But, this is formalities we do for my people. And I said it the other...latter was "it's a good day to be here in front of you." I want to start off saying; wow, the testimonies of those before me is heartwarming. And I appreciate everybody and their research, time, and effort. I will start. Honorable Chairwoman Brasch and committee members, my name is Michael D. Wolfe, chairman of the Omaha Tribe. We're up in northeast Nebraska, Thurston County. Used to be called Blackbird County. Why they changed it, I don't know. But, that's another subject. Thank you for allowing me to speak in support of LB1133 for industrial hemp. I support...as well as the tribal members, there's 9,000 of us nation...worldwide. And we had a vote on this, and unanimously they approve of this. So, I speak for 9,000 other relatives as well as myself here. I support LB1133 because hemp is an economical supply alternative for all of our most-consumed commodities. All parts of the hemp plant can be utilized to make food, fuel, houses, medicine, paper, textiles, and more. Due to its wide array of uses and industrial applications, hemp is poised to rapidly generate a multi-billion dollar industry in the United States. Industrial hemp is a clean, environmentally safe and carbon-negative alternative to virtually all of the nonrenewable, toxic, and unsustainable resources we consume today. Hemp uses one-third less water than corn. Just as corn can be converted into clean-burning ethanol fuel, so can hemp because hemp produces more biomass than any other plant species, including corn. On an annual basis, one acre of hemp will produce as much fiber as two to three acres of cotton. Hemp fiber is stronger and softer than cotton, lasts twice as long, and will not mildew. Hemp is everywhere in

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Nebraska, it grows feral on our land. We had tests on our land...on our hemp, and tested out 0.0. And I've worked with the agriculture of the University of Nebraska, and they say all these people that purchase these seeds from Canada, their number one producer of this hemp, they're not environmentally friendly with the soil we have here in Nebraska. If it already grows here, why do we need to support Canada? Let's take care of our own. That's just personal opinion. Hemp is everywhere in Nebraska, and we know it as ditch weed, and yet we cannot use our own seed for research. We have to import it. LB1133 will open the door for industry after 75 years. No other natural resource offers the potential of hemp. Hemp is an unparalleled agricultural commodity with a diverse array of industrial applications. I urge the committee to support LB1133 so Nebraska and Nebraska's farmers can engage in farming this crop, as well as conducting quality research. With your support, Nebraska can move forward, nationally and globally benefiting both economically and environmentally from industrial hemp cultivation. For the record, I'd like to address; throughout history our people, the Omaha people, the first Nebraskans, I will be proudly here to say is we were farmers. We were not warriors, we were not fighters. We were farmers and hunters. And this agriculture, we have Omaha Nation's farm, and they're ready to transform the farming equipment into these things called decorticators.--you know, the cheap one's \$250,000--to cultivate this hemp. So, we're ready. We've got the tools, we've got the land, and we're even working with the University of Nebraska. So, with that in mind, we really hope that this thing passes because our reservation alone, we're 70 percent unemployed. If Lincoln was 70 percent unemployed, you would need national guards here to protect you. You know, all I'm asking is for a ray of hope, a light at the end of the tunnel that's not a train, and maybe devise a plan that can reduce 70 percent unemployment. I see the red light. [LB1133]

SENATOR BRASCH: Thank you, Mr. Wolfe, and we'll see if we have questions. We do: Senator Blood. [LB1133]

SENATOR BLOOD: Thank you, Chairperson Brasch. And thank you for your testimony. So, out of the 9,000 people in your tribe, can you tell me how many are actually in Nebraska? [LB1133]

MICHAEL D. WOLFE: In Nebraska? [LB1133]

SENATOR BLOOD: Um-hum. [LB1133]

MICHAEL D. WOLFE: On our reservation alone, which we have five small communities; Walthill, Macy, Rosalie, Bancroft, and one other. But, anyway, 4,000. [LB1133]

SENATOR BLOOD: Four thousand. And do you also have plans beyond just growing it? Are you thinking about processing it, or? [LB1133]

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MICHAEL D. WOLFE: Processing is our top priority. We don't want anything else. We want to process this and we have plans to build...from Colorado, hempcrete... [LB1133]

SENATOR BLOOD: Oh, yeah. [LB1133]

MICHAEL D. WOLFE: ...they're going to come and show us and build us a house. And we're 500 houses short on our reservations. Our families, in one household, we're putting five families in there. So, we're really depending on this. And hemp...hempcrete, it won't mildew, it won't...it's biodegradable. And it won't deteriorate like cement. [LB1133]

SENATOR BLOOD: I actually saw a sample of that when they had the display in the lower level...we call it "Middle Earth" in my office, it's whatever the level is called below the Rotunda, on the first floor. That was really interesting. So, are you aware of any other reservations that are doing this right now, across the United States? [LB1133]

MICHAEL D. WOLFE: No, no. [LB1133]

SENATOR BLOOD: Because I know that the Navajo were looking in to it in, like, Utah and Arizona and New Mexico. I saw that on PBS, so I was curious to figure out... [LB1133]

MICHAEL D. WOLFE: There's a few that's tried this, but they've gone wrong and involved medical marijuana. [LB1133]

SENATOR BLOOD: Um-hum. [LB1133]

MICHAEL D. WOLFE: We're doing a research study that we just want to involve hemp only. We'll worry about the others, let somebody else worry about that. We're looking at this as an economical development part and sustain a livelihood for those that are behind me, following me in my footsteps. You know, I'm not much. I'm a simple man, but I have a lot of youth following in behind me. Our reservation is 50 percent under 18, and if we're 70 percent unemployed because there's no people out there, no population, how can we sustain a clean and safe environment for our youth if we don't have no employment, or economical development? [LB1133]

SENATOR BLOOD: Valid points. Thank you. [LB1133]

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MICHAEL D. WOLFE: I love Blood, because years ago, when half our people split and ran from the wars, they went to Canada and now they're called Blood. [LB1133]

SENATOR BLOOD: Well, actually, I have Osage in my heritage. [LB1133]

MICHAEL D. WOLFE: Ah, a relative. (Laughter) [LB1133]

SENATOR BLOOD: That's from England, unfortunately. [LB1133]

MICHAEL D. WOLFE: We won't hold that against you. (Laughter) Any more questions? [LB1133]

SENATOR BRASCH: An other questions from the committee? Yes, Senator Lowe. [LB1133]

SENATOR LOWE: Thank you, Chairwoman. Thank you, Mr. Wolfe, for coming and testifying today. You say you are 70 percent unemployed... [LB1133]

MICHAEL D. WOLFE: Yes. [LB1133]

SENATOR LOWE: ...of 4,000 people here in Nebraska. Will this...by you doing the processing and everything else, how many will that employ? [LB1133]

MICHAEL D. WOLFE: Well, according to the agriculture, they can only...the research, we have to do the research first, and there's only going to be five. But we're involving the NICC college as well, where we want to partnership with the UNL medical team and offer classes up there. That'll bring students there, it'll bring more teachers, and more awareness of what this is about. And in the agricultural company here at the University of Nebraska also said...you had a question earlier about the looks. They're devising a method now, cross breeding, where it'll still be hemp but it won't look like marijuana. So we can differentiate both of them. But, it's baby steps. The start of something good here, like I heard one other; no gain, no prosper. You know, 70 percent, we're willing to try anything. And hemp, from all the research that I've done. It's not a multi-million or billion, it's the next trillion. It's gold, if we utilize this in the proper way. And why shouldn't Nebraska...Omaha's were first here, first Nebraskans. Neblaska (phonetic) is an Omaha word, it means "flat water." So, we've been here and we've been first in a lot of things, why can't Nebraska be first in this? I ain't no different than the Big Red football team, I want to be number one (laughter) again. And we have that opportunity if this bill should pass today, with your votes today. Thank you, very much. [LB1133]

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SENATOR BRASCH: Any other questions for Mr. Wolfe? [LB1133]

SENATOR ALBRECHT: Thank you for coming. [LB1133]

SENATOR BRASCH: Thank you for coming here today... [LB1133]

MICHAEL D. WOLFE: Good seeing you. [LB1133]

SENATOR BRASCH: ...good to see you again. [LB1133]

MICHAEL D. WOLFE: Thank you. [LB1133]

SENATOR BRASCH: Next proponent. Again, if you are going to testify it would be very helpful if you'll move up front now, and then we can get you to the...how many more are testifying today? If you could raise your hands. If you can raise your hands, it means you can move to a front row, too. You're mobile. Okay, and then how many are proponents today, because I think after this we're going to...opponents, excuse me, opponents. I think we're going to do one more proponent, take a pause, we're going to switch to the opponent, and then go back to proponents. And then that way, those who have waited a long time can be relieved and move forward. So, please state and spell your name, and welcome. [LB1133]

SUSAN WATSON: Thank you. My name is Susan Watson, it's S-u-s-a-n W-a-t-s-o-n. One quick... [LB1133]

SENATOR BRASCH: And are you testifying for yourself or an organization? [LB1133]

SUSAN WATSON: I'm testifying as myself, I'm supporting this bill. [LB1133]

SENATOR BRASCH: Okay, yes, very good. [LB1133]

SUSAN WATSON: (Exhibit 12) One quick note, on a personal level, that I wanted to state is that I personally am supporting this for...one of the reasons is in support of CBD oil. I do have muscular sclerosis, I was only...even though the symptoms started about 12 years ago, I was only diagnosed a year ago. And my medication costs over \$6,000 a month. And it is only to prevent the symptoms from getting worse, it does nothing to alleviate the symptoms I do have. But it would be nice to be able to try CBD oil to see how it is. It's supposed to be very effective for people with MS. But, that's just a side note, so I wanted to let you know that. But I did want to

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tell you about some information I've gathered that I think is very important. The National Farmers Union has updated its 2013 farm policy regarding hemp to urge the President, Attorney General, and Congress to, quote, direct the DEA to reclassify industrial hemp as a non-controlled substance and adopt a policy to allow American farmers to grow industrial hemp under state law without affecting eligibility for USDA benefits, unquote. Also, the National Association of State Departments of Agriculture, quote, supports revisions to the federal rules and regulations authorizing commercial production of industrial hemp, unquote. Also, quote, urges Congress to statutorily distinguish between industrial hemp and marijuana and to direct the DEA to revise its policies to allow the USDA to establish a regulatory program that allows the development of domestic industrial hemp production by American farmers and manufacturers, unquote. In addition, in 2014, the American Farm Bureau Federation endorsed a policy to support, quote, production, processing, commercialization, and utilization of industrial hemp, unquote. And passed a policy resolution to oppose, quote, classification of industrial hemp as a controlled substance, unquote. Also, the National Grange voted in 2009 to support, quote, research, production, processing and marketing of industrial hemp as a viable agricultural activity, unquote. Regional farmers' organizations have also policy...also have policies regarding hemp. One example is the North Dakota Farmers Union. As a part of its federal agricultural policy recommendation has urged congress to legalize the production of industrial hemp. The Rocky Mountain Federation...the Rocky Mountain Farmers Union, I'm sorry, has urged Congress and the USDA to recommit and fully fund research into alternative crops and uses for crops which does include industrial hemp. Also, they support the decoupling of industrial hemp from the definition of marijuana under the Controlled Substances Act. The U.S. market for hemp-based products has a highly dedicated and growing demand base, as indicated by recent U.S. market and import data for hemp products and ingredients, as well as market trends for some natural foods and body care products. Given the existence of these small-scale but extremely profitable niche markets for a wide array of industrial and consumer products, commercial hemp industry in the United States could provide opportunities as an economically viable alternative crop for some U.S. growers. And I've also seen, which I didn't put in my testimony, that it could be considered one of the best rotating crops for people who grow corn and soybean. And that's my testimony. [LB1133]

SENATOR BRASCH: Thank you, very much. Are there any questions of the committee? Seeing there are none, we've heard nine proponents. And I would like to hear more proponents, but at this point I'm going to switch over to opponents, and then we'll go back to proponents. And there's no questions from the committee. Thank you for coming forward today. [LB1133]

SUSAN WATSON: Thank you. [LB1133]

SENATOR BRASCH: Appreciate your time here. Please come forward. And we do have empty seats, it really is helpful for those who are waiting if you would move up and sit in one of the

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front seats. There's even a reserved sign there. It doesn't have your name on it, but says reserved. Okay, I guess no one wants to move up, so. Thank you, welcome. You are an opponent? Please spell and state your name. [LB1133]

STEVE WELLMAN: (Exhibit 13) Sure. Thank you, Chairwoman Brasch. I'm Steve Wellman, S-t-e-v-e W-e-l-l-m-a-n, the director of the Nebraska Department of Agriculture. So the Department of Ag is responsible for implementation of the current hemp pilot program and would be responsible for the administration and enforcement of the Industrial Hemp Act under LB1133. The department is opposed to LB1133 and is providing this testimony to express our concerns with the potential adoption of the Industrial Hemp Act. The 2014 Farm Bill, Section 7606, allows industrial hemp to be grown or cultivated by an institution of higher education or a state department of agriculture as part of an agricultural pilot program. Industrial hemp is defined in this section as the plant *Cannabis sativa L.* and any part of such a plant, whether growing or not, with a THC concentration of not more than 0.3 percent on a dry weight basis. This section created an exemption to the federal Controlled Substances Act that very specifically only includes research done by universities and departments of agriculture. In Nebraska, Section 2-5701 was adopted by LB1001 in the year 2014. From that bill, the department adopted regulations entitled Industrial Hemp Regulations. These regs provide for registration, reporting requirements, and monitoring of a postsecondary institution growing or cultivating industrial hemp in the state. Currently under these regulations, the University of Nebraska is registered to conduct industrial hemp research. LB1133 would create an industrial hemp program within the department for licensing growers and assisting those growers in marketing their industrial hemp. The bill would establish other responsibilities for the Department of Agriculture, including the licensing, inspection, sampling, laboratory testing, enforcement and assistance with marketing. The program would have significant start-up costs. The department estimates expenditures would exceed \$950,000 over the first two fiscal years. The program would require the department to employ more than five new full-time employees. The bill would provide for license fees to offset some of these costs, but such license fees cannot be collected until after the program has been created and in operation. The department estimates the revenue from fees generated over the first two years would be about \$286,000. The program of licensing industrial hemp growers that would be established goes beyond the scope of research. Extending beyond the exemption allowed by the farm bill could lead to violation of federal law. Marijuana, as defined in the federal Controlled Substances Act includes all *Cannabis sativa L.* plants, regardless of THC concentration. THC is the chemical responsible for most of marijuana's psychoactive effects. Therefore, because the Controlled Substances Act includes all *Cannabis* plants, industrial hemp is considered to be a Schedule I controlled substance under the CSA. Congress has not expressly exempted industrial hemp from the definition of marijuana under this act. And without such exemption, there remains potential serious conflicts between industrial hemp laws and the Controlled Substances Act. The department's responsibilities under this bill to sample and test industrial hemp create liability and legal concerns because as a part of their required

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responsibilities, employees could be in possession of a controlled substance. The department is always interested...the department is always interested in helping Nebraska farmers diversify, and it's been talked about a lot. Our concerns are...through this bill, our concerns...from what I stated earlier. But I do want to be clear that we see opportunities here if we can alleviate some of the problems and concerns that I've stated earlier. It was previously mentioned that the National Association of State Departments of Agriculture recently urged Congress to address the numerous issues. And we were at that meeting about a week ago. And they urged Congress to address numerous issues hindering the success of industrial hemp pilot programs including removal industrial hemp from the definition of marijuana. So, a resolution of the federal laws is necessary for a commercial industrial hemp industry to be implemented in Nebraska which would not be hindered by federal drug laws. That concludes my testimony. [LB1133]

SENATOR BRASCH: Very good, thank you. Questions from the committee? Yes, Senator Krist. [LB1133]

SENATOR KRIST: Several...thank you for coming today. Didn't you just sign a letter asking them to loosen up these restrictions so you could look at industrial hemp? [LB1133]

STEVE WELLMAN: Did I sign a letter? Not that I'm aware of. [LB1133]

SENATOR KRIST: Okay. Urging the federal government to clarify hemp business, how can the department be against it? It's kind of a catch-22, if in this third paragraph you say specifically, only includes research done by the universities and by the Department of Agriculture. [LB1133]

STEVE WELLMAN: Correct. [LB1133]

SENATOR KRIST: So, if we're going to grow another crop, wouldn't that be research that's done by the Department of Agriculture to develop that new business? [LB1133]

STEVE WELLMAN: In our view, this bill goes beyond the research aspect because it does go out and license it beyond the university system. [LB1133]

SENATOR KRIST: What if the university system is involved with this expansion, in terms of trying to grow another cash crop in Nebraska? Would you be against that? [LB1133]

STEVE WELLMAN: Well, we still have the concerns from the start-up costs and the implementation and the current budget situation that we have here to deal with as far as expanding the requirements of the Department of Ag. [LB1133]

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SENATOR KRIST: Okay, so let's go down to that. Why would you not create...or why would you not collect licensing fees at the front end to offset the requirements for the department? If someone is going to actually be recognized to grow in their field, they're going to have to be certified, they're going to have to have a license to do so. And they're going to have to pay. And the last hearing we had in here, last year, they were more than willing to pay their fair share of licensing fees because of the advancement of the crop. So, when you say you're going to have to do something on the front end, no one's going to grow this crop until they have a license to grow it. They would be foolish to do that. So, I don't understand that part of it, per se. [LB1133]

STEVE WELLMAN: So, there will be ramp-up work to be put in place, and what the licensing amounts to, who gets licensed, how you're going to approve those licenses, and work through the research and there are other requirements behind who qualifies. And their records, their criminal records if there are any, that need to be looked at. So, all that stuff needs to be set up and in place before you can take any fees for the registration for the licenses that you're going to issue later on. [LB1133]

SENATOR KRIST: So, once again, that would be research that the department of agriculture would do to put a new cash crop in to place. Under the provisions that we passed several years ago as exemptions, your, Department of Agriculture, is able to run those kinds of research tests. As is the university under the scope of the university. So, I'd ask you to look at that. The last question I have for you is, how is Wisconsin doing what they're doing? [LB1133]

STEVE WELLMAN: I don't know that I can answer Wisconsin and what they're actually doing there. When we were at the National Association of State Directors of Agriculture, we had some discussions with other states and the directors of their departments. And it was quite clear that their message to us was do not underestimate the cost of the oversight for programs such as this. [LB1133]

SENATOR KRIST: Okay. Thanks. [LB1133]

SENATOR BRASCH: Yes, Senator Albrecht. [LB1133]

SENATOR ALBRECHT: Thank you, Chairman Brasch. Thank you for being here today and your testimony. But, Director Wellman, are you aware at this time...is the university doing any trial or pilot programs with the hemp crop right now? [LB1133]

STEVE WELLMAN: They have some on their facilities, yes. [LB1133]

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SENATOR ALBRECHT: And so, they came to you and talked to you about those fiscal note that you're talking about, when they put this bill together? [LB1133]

STEVE WELLMAN: The university? No, this fiscal note was developed by the Department of Agriculture. And then I think the State Patrol has a fiscal note for this also, for their portion of it. And then it was worked through the budget office, also, to confirm the information that the departments submitted as potential costs of implementation. [LB1133]

SENATOR ALBRECHT: So, at this time, hemp, the plant is illegal because it falls in to the same category as the marijuana plant? [LB1133]

STEVE WELLMAN: It's classified as the same under the Controlled Substances Act. The 2014 Farm Bill does allow for research by the university or the Department of Agriculture, specifically because of that CSA, the Controlled Substance Act, does not define it any differently than other marijuana. [LB1133]

SENATOR ALBRECHT: Thank you. [LB1133]

SENATOR BRASCH: Any other questions from the committee? Yes, Senator Lowe. [LB1133]

SENATOR LOWE: Thank you, Chairwoman. Thank you, Director. When does the farm bill lapse? [LB1133]

STEVE WELLMAN: The farm bill expires this year and they're working on writing a new bill. It's possible...I mean, it's been over 20 years, I think, since a farm bill has been written on time without some type of extension or threat of expiration. So, the legislation that's in place now does have a deadline to expire. [LB1133]

SENATOR LOWE: Okay. And is there much heart into looking in to the hemp part of the farm bill, do you know? [LB1133]

STEVE WELLMAN: I don't know that I can answer that. [LB1133]

SENATOR LOWE: Okay. All right, thank you. [LB1133]

SENATOR BRASCH: Any other questions from the committee? Seeing there are none, thank you for your... [LB1133]

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STEVE WELLMAN: Thank you. [LB1133]

SENATOR BRASCH: ...testimony today. Any other opponents? Is there anyone here in the neutral? We have somebody coming forward, all right. Welcome, and you're here as an opponent or neutral? [LB1133]

GREGORY C. LAUBY: I'm here as an opponent. [LB1133]

SENATOR BRASCH: An opponent? [LB1133]

GREGORY C. LAUBY: Yes. [LB1133]

SENATOR BRASCH: Okay. [LB1133]

GREGORY C. LAUBY: If you will give me a minute, I have some materials to pass out. You want ten, as I recall? [LB1133]

SENATOR BRASCH: And your green sheet is filled out yet, or? [LB1133]

GREGORY C. LAUBY: Yes, it is. [LB1133]

SENATOR BRASCH: Okay. Again, thank you, everyone, for your patience. If you are going to testify, if you'd move to the front of the room into one of the reserved seats, that is very helpful. And I know you all want to be good, helpful individuals here. That's the Nebraska way. And there's other states here too, so pardon me for that. [LB1133]

GREGORY C. LAUBY: Chairman, I apologize for this delay. [LB1133]

SENATOR BRASCH: Please state and spell your name for the... [LB1133]

GREGORY C. LAUBY: (Exhibits 14-17) Yes my name is Gregory C. Lauby, G-r-e-g-o-r-y C. L-a-u-b-y, and I'm here as an individual. I'm having passed out a number of materials. I had a prepared statement written. Unfortunately, my printer broke down right as I was going out the door today to get here. And so, I'm going to have to speak, I'm afraid, extemporaneously. And I hope that you will forgive me if I'm not as smooth as I hoped to be. I'm testifying against this bill, not because I disagree with any of the supporting information or the benefits that people have attested to about industrial hemp. I'm opposed to this bill because it's too little, too late.

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And it creates a bureaucracy that will prohibit any substantial hemp production, or growth, by a family farm in this state until it's repealed or until the present administration changes. I don't think I have to tell you what the crisis in the rural sector is. You heard an eloquent description of what's going on on the reservations. And I think, from the reports I hear, it's much the same on the Pine Ridge Reservation just across the road in South Dakota where they would love to be able to work out some kind of way of crossing the border into the Whiteclay area, and not for alcohol, but to maybe lease ground to grow industrial hemp on so that they could build their buildings out of hempcrete. One of the national experts, Alex White Plume, is right across the border on the Pine Ridge Reservation. And has tried, for years, to be able to construct those structures on the reservation. So, the need is urgent. Family farms and ranches are facing bankruptcy, either formal or informal. They're suffering from the high costs of production as well as the property taxes that cannot seemingly be relieved and low grain and commodity prices at the markets. And those are things that essentially, aside from property taxes, that this Legislature probably is unable to control. But they could desperately use some kind of a ray of hope that, in the short term future, they might be able to grow a profitable crop. And I don't think there's any reason why hemp can't be that. And you heard, already, some of the potential for growth and market potential that this has. I started the materials that I'm handing out with a memorandum that really goes through most of what you've already heard, and so I'm not even going to talk about that. Underneath that is testimony that came on March 6, 2017 from Robert Mikos, a professor at Vanderbilt who specializes in constitutional law. And his particular niche is the interrelationship between federal law and the medical marijuana statutes that have been passed in the statute. And he assured the committee that Senator Garrett's bill at that time, with a possible exception of one or two minor provisions, was appropriate under federal constitutional law. And I hate to try to summarize and narrow down how finely he put it, and I hope you'll read through his testimony, but the upshot, as I took it anyway, was that the federal law does not compel the state to enforce its provisions. The state is free to back off and repeal its own provisions that seem to accomplish the same thing if they choose to allow their citizens to engage in conduct that might be prohibited under the federal law. That does not give immunity to the federal law. It simply says we're not enforcing it in our own state courts through our own law enforcement provisions, and it saves the states that cost. Now, other states, obviously, have gone on to establish extensive regulatory measurements about how, when those regulations are removed, conduct is going to be conducted relative to the Cannabis plant. But when we're talking about hemp, I'm not sure that that's necessary. I'm struggling to think why it has to be more regulated than corn or soybeans or alfalfa. It's less dangerous than rhubarb, or rat poison. And yet we don't have this huge structure that this bill offers that puts it all in to the Department of Agriculture to make almost unfettered decisions about how much licenses are going to cost, how many sites there are going to be, how many applicants they're going to approve, and how many acres they'll allow to be grown. Why do we need to expand almost \$1 million to enact that regulation? Now one reason might be the memorandum that the Attorney General put out that made all CBD and any product containing CBD a controlled substance. And now, you'll see where at least four

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people up in Herman, on the 1st of December, were arrested for having a vape-combined convenience shop. And they're now facing felonies that carry 20 years maximum sentences. Unless they've been dismissed. And that news hasn't reached me, which I suppose is possible. But given the Attorney's General statement lately, that CBD was illegal, I don't know that that's a likely dismissal to have happen. I could go on, there's the World Health Study that analyzes CBD and worldwide studies were examined. They found nothing that discouraged its use. It wasn't addictive, it didn't lead to people getting, if you'll excuse my language rather than theirs, high. It was actually useful, especially useful, in cases of treating epilepsy and even had evidence that it was helpful in treating cases of addiction. And they found no social reason to keep it illegal. There's also a certificate that shows how CBD can be tested, at least one product, and what their standard testing is. And that that product comes from the mature stalks of the industrial hemp plant. And it is pure CBD, up to about 99 percent pure in that instance. And what they do with that is they then market it out to companies that are reducing it down and mixing it with some other kind of products safe for human use and selling it retail level. Then there's also an article from the Farm Journal about a North Dakota farmer who grew 300 hundred acres of hemp under the North Dakota program. He was licensed. He took the risk, I suppose, of federal prosecution. He says that he's going to make \$250 to \$350 an acre this year on seed alone. And he's going to store his fiber until a processing plant springs up close enough that he can justify the cost of transportation to it. And if seed goes back up to where it was this spring, he could double that profit. I think that sort of thing could solve a lot of problems. Other problems in this bill are that it ties certain definitions right in to the United States Code. I think certified seed and industrial hemp are both defined by reference to the United States Code. It requires DEA licenses. And this is at a time when there are bills pending in Congress that may remove industrial hemp from the controlled substance statute at the federal level. And if that happens, what would happen to these provisions in this? And does the Legislature really want to cede its Legislative authority to Congress and the DEA? I've got an alternative, if I may pass these around... [LB1133]

SENATOR BRASCH: And, sir, we have reached the red light. But the committee members might have questions, so far... [LB1133]

GREGORY C. LAUBY: Excuse me, I... [LB1133]

SENATOR BRASCH: ...but your reading handout... [LB1133]

GREGORY C. LAUBY: ...I got carried away, Madam Chair, and I apologize. [LB1133]

SENATOR BRASCH: We're glad to have you here, but we have other people as well. [LB1133]

GREGORY C. LAUBY: Certainly. [LB1133]

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SENATOR BRASCH: And so I will... [LB1133]

GREGORY C. LAUBY: Certainly. [LB1133]

SENATOR BRASCH: ...look at the handouts and see if there's any questions from the committee. Give them a minute so they can see the handouts, maybe that will have a...generate a question. Do you have any other handouts you'd like the committee to have? [LB1133]

GREGORY C. LAUBY: I think the clerk has admirably passed them around. And I know that they can't all be read here, but I hope that you have a little bit of time to glance at them. [LB1133]

SENATOR BRASCH: Are there any questions of the committee? I see there are none, so thank you for your time and testimony... [LB1133]

GREGORY C. LAUBY: Thank you for your attention and that of the committee's. [LB1133]

SENATOR BRASCH: ...as an opponent. Any more opponents? Anyone in the neutral? Neutral? Okay, we will ask neutral to come forward. Okay, neutral. And then we will return to proponents, today. I'm just trying to give those a chance that need to leave here the opportunity. Please state and spell your name. Welcome. [LB1133]

BILL HAWKINS: (Exhibits 18-20) Madam Chairman, Senators of the Ag Committee, I appreciate your time. My name is Bill Hawkins, B-i-l-l H-a-w-k-i-n-s. I represent the Nebraska Hemp Company. It's an organization that has been working on this issue in the State Capitol for numerous years. We've had our display tables, I hope you all had a chance to check. I didn't wear my hemp suit today. But, I'm an organic farmer. I have a farm outside of Lincoln that's over 35 years organic. I plan on starting a greenhouse and high tunnel hoop production facility this spring to grow, breed, and extract industrial hemp. This is an economic stimulus package for this state. I just listened to the state ag...new state Ag Director talk and, excuse me, but, whine about this industrial hemp program and the implementation of it. Right here is a Kentucky Ag hemp research pilot program. I printed this off for \$10. I will give this to him and volunteer my time to help implement this hemp program because it is so costly. Let me read the opening remarks from the Kentucky State Ag Director;... [LB1133]

SENATOR BRASCH: And you're in the neutral, is that correct? [LB1133]

BILL HAWKINS: Yes... [LB1133]

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SENATOR BRASCH: Okay. [LB1133]

BILL HAWKINS: ...because I do not believe this bill goes far enough and I will get to that. [LB1133]

SENATOR BRASCH: All right, very good. [LB1133]

BILL HAWKINS: Today, I'm proud to announce the department...Kentucky Department of Ag's release of our new industrial hemp research pilot program 2017 policy guide. I want to thank everybody for everything they have done and continue to do to make Kentucky's industrial research pilot program the success it is. One of the handouts I have for you is industrial hemp facility plan for Kentucky. It's a \$5 million facility. This is dated February 1, 2018, not coming to Nebraska. This is a \$3.2 million processing facility in the state of New York. Governor Cuomo in the state of New York is providing state funds for this research facility. At the end of the article he states that they are introducing a breeding program because they cannot rely on imported seed with this important industrial...industry that is coming. That is New York City. They started their hemp program in 2015 with 30 acres. Last year, they harvested 2,000 acres. That's New York, not the agricultural giant that Nebraska used to be. You've heard of corn. You've heard of \$2.90 a bushel, I think it hit a week or so ago. Hemp is a rotational soil-building crop. To direct a question from Senator Lowe, it won't replace, it will just add to as a rotational crop. Studies have shown that wheat will produce 25 percent better following an industrial hemp crop. You've heard of the nematode issue, it adds organic matter to the soil. So, we aren't looking at replacing corn and soybeans, we are just adding an alternative crop. I've worked with the Sustainable Ag Society in Nebraska for numerous years, there is no other alternative crop that can match the potential of industrial hemp. Our industrial hemp seed, those genetics...the other handout is a testimony from the original hemp bill, LB1001, that was introduced by Senator Wallman. We worked extensively with him. I'm the one that ran him down in the hall and said; Senator Wallman, we need an industrial hemp bill. That was three years ago. We are behind, and we are going to have a hard time catching up. This thing is from David West. He states the treasure trove of genetics we have in the state of Nebraska...other states eliminated their feral ditch weed, we chose not to. We have the genetics of the world here. All these patches are ready to go industrially. They have been tested for THC and they are below the stated Farm Bill designation that exempted industrial hemp as defined by 0.3 percent THC. There are testing facilities all over the country that can test the percentage of THC. As a company, we will bring in a testing facility and provide that testing at a nominal fee for farmers. Our original industrial hemp bill, if I may finish, with Senator Wallman, allowed for pilot programs with the state Ag Department. They chose to make rules and regulations even though testimony at their meeting wanted industrial...entrepreneurs, business people, and farmers to be able to take part in those pilot programs. They chose not to make those rules and regulations that way and only allowed the university. We don't even hardly have an acre of industrial hemp now. And it is beyond the

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research of it. So, I encourage this committee to prioritize this bill as one of the Ag Committee's bill, get this on the floor, get an emergency declaration so that Nebraska farmers could actually farm this crop this spring and researchers could harvest our genetics with Nebraska feral hemp. So I thank you for your time. And I would appreciate any questions you have. [LB1133]

SENATOR BRASCH: Any questions from the committee? Seeing there are none, thank you Mr. Hawkins. [LB1133]

BILL HAWKINS: Thank you, and I appreciate your time. [LB1133]

SENATOR BRASCH: Thank you. All right, I want to double check: any more neutrals? [LB1133]

MICHAEL McNIFF: I got a neutral. [LB1133]

SENATOR BRASCH: Okay, a neutral. And then we'll return to proponents, if there's no other neutrals. While we're getting some handouts, if you're going to testify, please come forward. There's many reserved testifier seats in the front. Are all the testifiers sitting in the front now? Please move forward. That will help. [LB1133]

MICHAEL McNIFF: I'm buying time to get my handouts out. [LB1133]

SENATOR BRASCH: We're doing handouts, so. [LB1133]

MICHAEL McNIFF: Okay. [LB1133]

SENATOR BRASCH: All right... [LB1133]

MICHAEL McNIFF: All right, so... [LB1133]

SENATOR BRASCH: Welcome, please state and spell your name. [LB1133]

MICHAEL McNIFF: (Exhibits 21-23) My name is Michael McNiff, M-c-N-i-f-f. I'm originally from Franklin, Nebraska. Still have a farm down there in the Republican River Valley, and after Don Stenberg took our water away, we were left with irrigatable land that (inaudible) irrigated, but we have dryland crops. And it used to be a great place to grow marijuana...I mean, it still would be...grow hemp at least. By the way, I have to acknowledge Senator Lowe and his family,

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when I was going to Kearney State College, your family employed me so I had a job; Lowe and Company and Bamfords. So, thank you. And your grandpa too. [LB1133]

SENATOR LOWE: Poured concrete, didn't you? [LB1133]

MICHAEL McNIFF: Yeah. So anyway, I'm here because...my main interest is because of the specialty crop that industrial hemp would bring. I got in to growing...I was going to start a hobby crop of grapes a few years ago, and I got in to walnuts and pecans instead. And by the way, the northern pecan was propagated at the University of Nebraska 40 years ago, and we've kept a database on it. And we have the best pecans in the country and the best database of walnuts, to your question about is there another alternative crops. So, I know this works. So, when...as I was looking at the bill, I was more interested in it because ten years ago I came to...my brother was real interested in it. We wanted to try to grow some industrial hemp in the Republican River Valley. So, who testified against it was the University of Nebraska and the State Patrol because the State Patrol said the dogs were smell the hemp and mess up their nose, and the University said they needed to do more research. And now I hear we can't do it because the Ag Department doesn't have any money and enough staffing. So, that's sort of like a buzz-kill for me today, but anyway. So, to your question, John, about controlling it; it's easily controlled. I think most of the places that do this start off small. I think the best point was made by Michael Wolfe about starting, taking baby steps. Most of the programs that are in place, as I researched it; in South Carolina they're licensing 20-acre plots. And their bill...one of the things I sent out to you, South Carolina's bill, it's so much simpler than what we're presenting. Not to take away from Senator Wayne's achievement and endeavors. But, after having worked with a citizen group to get legislation done in the 90s to license fire sprinkler contractors, I sort of saw the need to incorporate people from industry...the industry that was being regulated, the people that it served, and the government. And we were able to create legislation that had a zero cost to the government. So, I know it can be done in spite of what the Secretary of Agriculture says. So, I just think it's...the other thing I think that's interesting is we had testimony from the person here who brought forth the Kentucky's how-to-do manual, I gave you a copy of Kentucky's research study that was done in 1997. And although the figures are not exactly right, the science of it is really good. I mean, it could easily be updated. So, the states of Kentucky and South Carolina, I think, should be studied. As well as Canada, because what they do is they start with new seeds every year. And they know who's growing it, they license everybody. So it's really kind of...I don't see it being a big administrative problem for the state of Nebraska. I don't see it being a big scientific problem for the state of Nebraska. And I think Michael Wolfe's point that we have good seeds here in Nebraska, they can be easily tested. In terms of production; we've got production, we got the ability to distribute...there's four things involved here, we have them all. There's no reason not to...it's a great specialty crop. If you've got 20 acres, you can grow some hemp and still have a little crop, like walnut trees, for example, like I do. So, it could be a viable alternative crop as well as something to stimulate the economy. And by the way, I did...in my

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research, I read an article. There was lawyers that asked Jeff Sessions in a brief to distinguish...and he said that, in his brief, that he definitely distinguished hemp from medical...from marijuana. So, I think there will be a ruling coming up fairly soon. And I think that's why the states of South Carolina, Kentucky, and the 13 other...Wisconsin, are not afraid to move forward. So, that's what I'm seeing in the research I've done. So, I'd open it up for questions. [LB1133]

SENATOR BRASCH: Thank you, Mr. McNiff. Are there any questions from the committee? I have a question; are you here with any organization? [LB1133]

MICHAEL McNIFF: No, I belong to the Nebraska Nut Growers Organization, but I'm not here representing them or anything. I think a citizen group working with Senator Wayne could pound this out, leave the Ag Department out of it if they don't...you know, they obviously don't want to participate. We have not seen a single study from the Nebraska Ag Department or the University of Nebraska on this issue. Whereas the other states have been proactive in promoting it, we've had nothing but wet blanket politics in this state and I think it needs to end. [LB1133]

SENATOR BRASCH: Very good. Senator Krist. [LB1133]

SENATOR KRIST: It's not a question, it's a statement. In 2014, Senator Wallman did, when he developed that piece of legislation, was pressed to make sure that the university and ag both had the opportunity to do testing and research. And you're absolutely right, agriculture...Department of Agriculture has not been proactive in following through with that 2014 piece legislation that we passed. I was here when it happened. [LB1133]

MICHAEL McNIFF: There's nothing on their Web site about...they've done no research. They've done nothing. They don't embrace it, they almost...it's like they hate it. So, it's...you know, we can stand here and talk all day. I listened to the same thing ten years ago, and we're in the same spot. We have a saying in the nut grower organization; the best time to plant a tree is last year. You know? So, the best time to do this is we should have been doing it, you know, ten years ago. So... [LB1133]

SENATOR KRIST: Thank you. [LB1133]

MICHAEL McNIFF: ...we're not, but we should. [LB1133]

SENATOR BRASCH: Thank you for coming forward today. I don't see any more... [LB1133]

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MICHAEL McNIFF: Thank you. Really would like to have you look at that legislation from...that's really streamlined, really nice piece of work. Thank you. [LB1133]

SENATOR BRASCH: Very good, thank you. And I think Mr. Bish has tried to come forward several times, and he's a proponent. And I welcome you here, and... [LB1133]

JACOB BISH: Thank you for having me, Senators. [LB1133]

SENATOR BRASCH: Thank you. Please state and spell your name. [LB1133]

JACOB BISH: Yeah, so I'm Jacob Bish, J-a-c-o-b B-i-s-h. I'm representing myself, but I am a student here at the University of Nebraska-Lincoln. I study microbiology as my major and plant biology as my minor. And I'm in the College of Agricultural Sciences and Natural Resources. When I was choosing my major and which college to enter, one thing separated the College of Agricultural Sciences and Natural Resources apart from everything else; they said that I can go to any institution across the country and say that I graduated from CASNR and be treated with a degree of respect because the University of Nebraska are leaders in agricultural sciences. We do a lot of research in corn, in wheat, in sorghum. We have done some research in hemp. We have grown one acre over the past two years. And even just today, I went in to a green house and saw a dozen or so plants. So, we are doing some research, but I don't believe we're doing enough. I've heard statements today about reduction in corn nematodes when hemp is rotated with corn, and increased yields in wheat. I am sad that these studies did not come out of the University of Nebraska. The...this has demonstrated that we are not the leaders in agricultural sciences that we should be. We put a great foot forward with these other crops, but we are very nervous to move forward with hemp. And I think that is the wrong decision to be making, I think we should take a big stride forward to figure out questions that we don't even know how to ask yet. So, I am a proponent of this bill to get hemp into the hands of our farmers and our researchers in Nebraska. [LB1133]

SENATOR BRASCH: Very good. Thank you for your testimony. Are there any questions from the committee? I see one question: Senator Albrecht. [LB1133]

SENATOR ALBRECHT: Thank you, Madam Chair. So, Mr. Bish, is there any other reason that you are compelled to see hemp move forward. [LB1133]

JACOB BISH: I want to help Nebraska. I've grown up in Nebraska my entire life, and I've only taken resources away as a minor, really. I'm now becoming an adult where I can enter the economic zone and give back to Nebraska, and I think hemp is the way that I can do that the

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best. I think I can provide a lot of money back to Nebraska by pushing for hemp research.
[LB1133]

SENATOR ALBRECHT: Do you ever ask any of your professors why we aren't going forward with it? Do they give you any reasons? [LB1133]

JACOB BISH: Yes, I've talked to Professor Ishmael Dweikat, who is one of the researchers with the hemp. And it's really...he says the university is at a standstill because of the confusion between state and federal laws. So, they just don't know what to do, so they do nothing.
[LB1133]

SENATOR ALBRECHT: Sometimes that is how it is. Thank you for coming today. [LB1133]

JACOB BISH: Yes, thank you for having me, Senators. [LB1133]

SENATOR BRASCH: No other questions from the committee. Thank you, very much, for your testimony. We are on proponents now. Please come forward. Welcome. [LB1133]

TODD THOMPSON: Thank you. Thank you for the opportunity to speak, Senators. [LB1133]

SENATOR BRASCH: Thank you. [LB1133]

TODD THOMPSON: My name is Todd Thompson, that's T-o-d-d T-h-o-m-p-s-o-n. I live in Omaha, Nebraska. The reason that I'm here today is that I am a proponent of the bill. My background is in business. I have helped marginalized communities find investment and build businesses. I've been talking to Justin for quite a while around the Cannabis industrial hemp areas. And I see a...it's a very unique opportunity in industrial hemp. I, personally, am in contact with several investors who have put money up already to find sites and to make investments into the north Omaha community in the areas of processing. They also are talking about vertically integrating, which is buying some localized farmland. I convinced them because I understand the background of hemp in Nebraska. I understand the genetic variety of hemp that we have in Nebraska that would allow us to do many, many different things. Part of my investment...I do have interest and concerns in Colorado in industrial hemp farm. And so, I see some of the underlying problems that can go along with my investors investing in this area. One of the main ones is you have to have the product local enough so that you don't drive the cost up. Right now, if we wanted to bring a truckload of hemp in, which is approximately an acre of hemp. It cost us 120 percent more to bring the hemp in than it does to actually buy the hemp right now. So, those cost drivers make it unrealistic to actually invest right now. But, with a bill like this, when we

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buy the land, build the plant, we would also need to buy quite a bit of excess capacity from the other farmers in the area. Which means we would be creating jobs. You know, with the original investment, our projection is 15 to 20 jobs. And those jobs would be living-wage jobs. When I say living-wage jobs, I'm saying \$15 to \$25 an hour is what we would be looking at in our original investment. So, what I wanted to do was come and put maybe a little bit different face on how it can affect some of these rural...because you would have the same dynamic in some smaller rural communities where you will want to have some kind of processing in those areas and bring investment in to those areas and create real capital and real jobs in those areas. And with that, I thank you for your time. [LB1133]

SENATOR BRASCH: Thank you. Any questions from the committee? Seeing there... [LB1133]

TODD THOMPSON: Thank you. [LB1133]

SENATOR BRASCH: ...are none, thank you for testifying today. We'll have our next proponent. Welcome, please state and spell your name. [LB1133]

FRANK SHOEMAKER: Madam Chair, my name is Frank Shoemaker, F-r-a-n-k S-h-o-e-m-a-k-e-r. It's nice to be here today. LB1133, the development of industrial hemp production and commercial markets for hemp products within Nebraska is important to its economic well-being. Although industrial hemp remains nominally in Schedule I of the federal and state Controlled Substance Acts, the federal Consolidated Appropriations Act of 2017 and the Agricultural Act of 2014 provide strong protections for the production and use of industrial hemp. The Appropriations Act prevents the Federal Department of Justice from expending funds to prosecute the use, possession, and sale of industrial hemp and precludes a use of federal funds to prohibit use and research of industrial hemp in accordance with the Agricultural Act of 2014. Section 7606 of the act holds; no federal funds appropriated through any bill may be used to block industrial hemp operations. Because Section 7606 does not sunset, as does the Appropriations Act, there is little risk the DOJ will prosecute participants in the hemp industry. The total retail value of industrial hemp products in the United States in 2016 was \$688 million dollars for food and body products, clothing, auto parts, building materials, and other products. Based on most recent production and price average, the estimated value of an acre of hemp is \$21,000 from the seeds, \$12,500 for the stalks, and profits of \$800 an acre. Re-legalizing the Cannabis plant presents an opportunity to support local, sustainable jobs producing value added products and demand in the global marketplace. Many young people can't find employment in rural Nebraska, and are forced to move where there is job security and the services a community offers. The greatest reason for job losses today is not some foreigner, it's technology. And those jobs lost to bigger, better tractors are not coming back. My father's generation built the schools, hospitals, churches, libraries, and airports in rural Nebraska. But now we see them dwindling

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away as farms get bigger and communities shrink. As these institutions and the jobs they bring end, so does the community. What I believe is that the head of the Department of Agriculture...let me back up, just a second. When the Attorney General said he was confused into believing that CBD products in the state were legal, and I think you talked about the confusion, somebody said, between the federal and the state. I believe that 7606 says that if the state has an industrial hemp bill, that the federal government...that 7606 prevents the federal government from using any of its resources to prosecute individuals taking advantage of those bills. So, what I'm suggesting is that the Attorney General and the Department of Agriculture may not be forthright in their...or fully telling you what really is in Section 7606. And I just want to make sure that if he's correct and we do have a conflict with the federal government, and there is possibility of problems, then I'm sure you won't do anything. But, if, as I believe, that we have a good, solid industrial hemp bill the 7606 prevents the federal government from impeding us and our farmers from taking advantage of this. Thank you. [LB1133]

SENATOR BRASCH: Thank you for your testimony. Any questions from the committee? Seeing there are none, thank you for testifying. Next proponent, please come forward. Welcome. [LB1133]

JUDY KING: How are you? [LB1133]

SENATOR BRASCH: Good. Good to see you again. [LB1133]

JUDY KING: Rest up after last night? [LB1133]

SENATOR BRASCH: It's all good. So, please state and spell your name and whether you're here on behalf of yourself or an organization. [LB1133]

JUDY KING: My name is Judy King, J-u-d-y K-i-n-g, and I'm here on behalf of myself and a few friends and a relative. And I'm a proponent for this bill. I have two friends that have MS and are very interested in the outcomes of the research on hemp. And I also have a relative that has chronic pain and also is very interested in the research on hemp. But I'm also coming at it from a water-protector's viewpoint. If we don't start reducing drawing water out of the aquifer, Nebraska will be a desert by the end of the century. We need to reduce growing corn and soy, both water-intensive plants. We can build a new growing economy for Nebraska by growing hemp and manufacturing the products. It will increase income and tax base to solve the state financial deficit. We are at a point where the water conservation is a crucial, and we need drought-resistant crops that are reliable and viable. Hemp can replace many products, including a source of ethanol. And that's all I have to say, so I'm going to make it quick today. Thank you. [LB1133]

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SENATOR BRASCH: Very good. Thank you. Wait one...we have to see if there's any questions from the committee. There may be a question or two. [LB1133]

JUDY KING: (Laughing) I doubt it. [LB1133]

SENATOR BRASCH: That was very thorough, no questions. Thank you for coming forward. Next proponent. Are there any others that follow Mr. Hansen here? If so, move forward. Thank you, Mr. Hansen. Good to see you. Please state and spell your name and if you're here on your behalf or an organization. [LB1133]

JOHN HANSEN: Madam Chairwoman, members of the committee, for the record my name is John Hansen, J-o-h-n H-a-n-s-e-n. I am the president of Nebraska Farmers Union, our state's third...I guess second, oldest general farm organization, and second largest general farm organization. So, I'm also our lobbyist. We have been working on this issue since before Shep's (phonetic) mother was a pup, so it's been a long time. And the public perception and, you know, the particulars have really changed. And so, when we were working with Senator Schrock originally, to do...to get to the point where we could separate out industrial hemp from marijuana so that we could pursue agricultural production and industrial utilization, you know, the community was really...it was a new idea. It was a very, you know, forward-thinking thing. It was, you know, and it played to very mixed audiences. And our friends in the, kind of, the social side really didn't differentiate between industrial hemp at all and marijuana with THC. And so they blurred those lines. And so, that effort stalled out because of that reason. And so, as we progress and as we move forward, I am really surprised, I guess...and pleasantly surprised with the very positive reaction that this issue gets now in mainline agriculture and the fact that Farm Bureau has joined our position. And the...Rebecca Schwarz did an excellent job and I thank her for her testimony. But their policy is really pretty much similar to ours. And so, there's...now, instead of talking about whether this is a good idea or not, or whether or not it's needed or not, or whether or not it has merit or not; we're divided over what is the best way to get there. And there's a lot of frustration with the amount of red tape that is involved in all of the different kinds of thought process and suggestions about how we move forward. And so, we are in support of this bill. But I would tell you that I know that this bill will play to a very mixed audience within my shop because they're afraid that you're walking in to a lot more red tape than really would be appropriate or necessary. And so, do we have potential? I think we have an enormous amount of potential. I've been working with the Oak Ridge Laboratory as a consultant going back to the mid-90s on how to cultivate and grow this product so that they could pursue research so that they could look at replacing tobacco with this. And they found a lot of good things, they found a lot of positive research. But they finally just said, you know, the axles were wrapped with way too many chains given the federal drug policies. And that they couldn't separate out this agricultural crop from that issue. And so they finally sort of gave up. But it wasn't because they didn't find a lot of good commercial uses and a lot of potential. And one of the ones we haven't really talked

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about much, and one of the reasons that we have been such an early supporter, was that we feel that it has the enormous amount of potential relative to cellulosic ethanol. And we thought, for some time, that as you looked at the southwest Nebraska and the reduced amount of water that was available through the Republican River Compact, that we were looking for different kinds of crops that you can grow that use a lot less water that were still commercially viable. And given the kind of productivity and the capacity of this particular crop relative to cellulosic ethanol, which is what they use primarily in Canada, I'm told, that that posed...we thought, a lot of opportunity instead of just saying; here, use less water. We could be saying; here, use less water, but here's also something you can do that still keeps your communities whole and pays your bills. So, thank the committee for it's time and it's patience. Thanks, Senator Justin Wayne, for bringing this bill forward. And this is a very interesting conversation and I wonder what the end result would be if we formed a broad-based, well-funded task force to figure out the best way to actually move this product forward to commercial production. And with that, I would end my comments and thank you for your attention. [LB1133]

SENATOR BRASCH: Thank you, Mr. Hansen. Any questions from the committee? Seeing there are none... [LB1133]

JOHN HANSEN: Thank you. [LB1133]

SENATOR BRASCH: ...thank you. And any other proponents, opponents, or neutral? Have we left anyone out today? I see no one coming forward. That will...oh, we will close with Senator Justin Wayne. Thank you. [LB1133]

SENATOR WAYNE: (Exhibit 24) Thank you, Chairwoman Brasch and Ag Committee. What is being passed out is the actual resolution that our department supported on January 30, 2018. And I just would add that it's interesting that the department is opponent in my bill, but if we were just to change the word "Congress" to "Nebraska," this would be the best bill of support...letter of support for my bill. And that's my point, is that they're not opposed to what we're talking about. It's an issue at the federal level. But the farm bill expires, according to...and Senator Lowe brought it up, this year. And the way that we have cycles here--short session, long session--if the 2018 Farm Bill passes in which there is strong belief that hemp, industrial hemp, will be legal, our farmers miss out on a terrific growing season. And what's also interesting is outside of industrial crop, the seed and the ability to use in livestock was brought up. Well, there's a couple of University of Mankato, I believe, or somewhere out of Canada, did a study that used 20 percent feed in their chickens. And they produced healthier eggs, especially with omega-3 fatty acids. What do we have developing in Nebraska? A chicken plant. It's a way that we can work with industry and private industry and our university to develop a study around healthier chickens. This also was done in Germany, where they found similar things with chicken and

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cattle. What do we have in Nebraska? A lot of cattle, and we have a great research facility. It's time to let private market and the private industry be able to get involved in this game and start making a difference for our farmers. What's also interesting for this committee is that the proponent...the opponents besides the Department of Ag, were opponents because there's too much regulation. They just want to be able to grow it and be a free market. Not against the concept, against the regulation. This is truly a bill that is needed. That we need to have a debate on in the floor. And I just want to give the Ag Committee the best example of why there are safeguards this year, more so than any other year. This bill has a fiscal note. Let's say this gets out of committee tonight--which I know it won't because the snow storm, not because you all won't vote for it. It gets on the floor. It won't get on the floor until maybe Friday, maybe the week after. Let's just say I persuade everybody and everybody votes for it. It still sits at the end of the bus until Appropriations is done to see if we can even fund it. We, as a body, still have to decide where budget cuts are going to happen and if this will still even be funded. So, it isn't like a typical bill where it just gets to the floor, and there's three rounds of debate. There's still three rounds of a debate, but there's a hold process in which we, as a body, get to second-guess whether this is a state priority this year or not. That safeguard, unlike any other year, allows this to be a very healthy and fruitful debate on the floor. And the only way it gets there is if this committee votes it out. So, I ask for your support. I ask that if, nonetheless, let the policy discussion happen on the floor. Not only because do the urban places like Omaha and Lincoln who can do processing plants, but even the small towns who are interested in processing plants deserve that conversation, but so do our farmers. The Farm Bureau, the Farm Union, almost every farmer agency I can think of has contacted my office saying, it's time for an alternative crop. It's time to at least have that discussion. And what better way than this year, when we have safeguards to make sure that, not only does it just pass, but we have to step back and check and say; we're in a budget deficit, is this a priority to fund for \$500,000 or \$400,000? That's an additional critical thinking step we have to incur on this bill that otherwise, in many other bills we don't have to do. I think that puts the onus on this body to have a critical conversation, but also on the floor to have a thoughtful debate. So, with that, I'll answer any questions. [LB1133]

SENATOR BRASCH: There's a question from Senator Krist. [LB1133]

SENATOR KRIST: You and I have talked off the mic. I support this bill, I signed onto this bill. We've heard from the Department of Agriculture and my response to that is: cut them out of the bill, because the fiscal note refers to the University of Nebraska. We can handle it because we're doing it right now and we can expand it. And then you've got the State Patrol. And without the requirements that you're putting on the permitting process, I think the bill stands a chance to get onto the floor even if it sits there and we have the discussion writing out the Department of Ag. If they don't want to play, let them go away. I mean, that's the way I feel about it. You're right, there is a quality control and a financial support at the end of this. We can't do one without...we can't put the bill without the A bill so that it has a safeguard. And if that Ag Bill looks like it's

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going to change, you might be able to salvage this bill at the end of this year with a miniscule cost going forward. And I would note that both the university and the Department of Ag references, in our own fiscal note, our Legislative fiscal note, which is the only one that we really have to look at, notes that better than one-third of those costs are cash funds. So they're not even coming out of General Funds. [LB1133]

SENATOR WAYNE: Correct. [LB1133]

SENATOR KRIST: So, I still think we should think about reducing the overhead, because that was the opposition to this bill: there's too much overhead, too much bureaucracy. And, again, if they don't want to play, they can go away. [LB1133]

SENATOR WAYNE: I am open to that. The only reason we have those in there, as Senator Krist knows, and the rest of the committee who I've talked to individually, is I was trying to alleviate some of the safe...put safeguards in the bill for those who continue to confuse marijuana and hemp. I know I can drive down the street and see the difference. If you talk to State Patrol, they can tell you they can see the difference: one grows up, one grows out, one is very leafy, one is not. However, that's why the Department of Ag, in the previous bill, last year had the commission on it. We were trying to put safeguards in. I think this is a truly an agricultural product. If that were to secure us getting this on the floor sooner than later, I will work on an amendment tonight. I'm in favor of it. Again, I was trying to put the safeguards in just to make sure that there was some type of oversight. I don't wish there was, but that was the reason I thought we might be able to get more support. [LB1133]

SENATOR BRASCH: (Exhibits 25-26) Any other comments for questions from the committee? Seeing there are none, there are two letters in support that are to be entered in to the record, they are in your notebooks: from Jean Flaherty representing herself, and Bill Grothe representing himself. Seeing there's no other questions, that concludes the hearing for tonight. Thank you, every one who came here and testified. [LB1133]