

CALIFORNIA LEGISLATURE

Informational Hearing

**Senate Committee on Agriculture
Senator Cathleen Galgiani, Chair**

GROWING HEMP IN CALIFORNIA: AN OVERVIEW

State Capitol, Sacramento

April 30, 2019

SENATOR CATHLEEN GALGIANI: We have our informational hearing this morning, followed by the business of the day. We actually have one bill before us that's on the consent calendar and, without any objection, if the secretary will please call the roll. Okay. We don't have a quorum; so we will wait until we have a quorum. The consent item is SB 787 by the Agriculture Committee, dealing with animal welfare.

So I think we can go ahead and go into the informational hearing this morning on industrial hemp. As always, if you have any comments that you would like to make or questions that you would like to ask, if you could fill out a card, please, with our sergeant, who's in the back.

As you know, the 2018 federal Farm Bill legalized the production of industrial hemp in the United States by removing it from the list of Schedule I controlled substances that are regulated under the Federal Controlled Substance Act and redefining it as an agricultural commodity. But even before the passage of the federal Farm Bill, California has begun the process of

legalizing the production of industrial hemp with the passage of the California Industrial Hemp Farming Act in 2013. The act became effective on January 1, 2017, upon the passage of Proposition 64 by the voters. As directed by these new laws, the California Department of Food and Agriculture established the Hemp Advisory Board to advise the secretary and make recommendations on all matters pertaining to industrial hemp.

Today, we have representatives from the California Department of Food and Agriculture, the California Hemp Council, and a grower to provide information and update the committee on the past, present, and future of growing industrial hemp in California. Our first panelists today are Rachael O'Brien, Deputy Secretary for Legislative Affairs, and Joshua Kress, Environmental Program Manager, with the California Department of Food and Agriculture. But first, I would like to ask my vice chair, Scott Wilk, if he would like to make any comments before the committee.

SENATOR SCOTT WILK: I would. Thank you, Madam Chair.

In your opening, you forgot our bill that we did that updated it post-Prop. 64 that put us in compliance. So we are an important link in that.

I'm very excited about this. I don't normally come to these kinds of hearings; but I'm at this hearing because this is going to, I think, revolutionize California agriculture. And actually, we're going back to our future.

Christopher Columbus, the sails of the Niña, the Pinta, the Santa Maria, all

made out of hemp; the caulking in the bottom of the boats, made out of hemp. Thomas Jefferson drafted the Declaration of Independence on hemp paper. Betsy Ross weaved the first American flag with hemp. So all we're doing is really going back to our future. I'm really excited about this. I'm interested to hear what our presenters are going to present.

SENATOR GALGIANI: Thank you very much. And with that, we will go ahead and call up our first panel. Please. Thank you.

MS. RACHAEL O'BRIEN: Good morning, Chair. Good morning, Vice Chair. Rachael O'Brien with the Department of Food and Agriculture. I am the deputy secretary of legislative affairs; and I just thought I'd give just a brief overview of the department. The Department of Food and Ag is statutorily charged to serve the citizens of California by promoting and protecting a safe, healthy food supply and enhancing local and global agricultural trade through efficient management, innovation, and sound science with a commitment to environmental stewardship. And we're really honored and pleased to be here today to talk about industrial hemp and the work that our department has been doing on that front. At this point, I'll turn it over to Joshua Kress, who can introduce himself and go into our presentation. Thank you.

MR. JOSHUA KRESS: Thank you. I'm Joshua Kress. I'm our branch chief for our Pest Exclusion Branch at CDFA; and within our branch, one of our many programs is industrial hemp. And so, I'll be providing kind of an

overview of the program; and I'll talk a little bit more about that as we go through.

So the first slide that we have here today is a slide that we recently presented to the State Board of Agriculture. It's simply a timeline of how we've gotten to where we are legislatively with regards to industrial hemp.

So in 2013, as you all are likely aware, we had the California Industrial Hemp Farming Act, SB 566, that was passed that established Division 24 of the Food and Agricultural Code. It also defined industrial hemp in the Health and Safety Code. However, it had a provision at the end of the bill and the end of the law that said that it shall not become operative unless authorized under federal law.

In 2014, there was the 2014 Farm Bill of the Federal Agricultural Act of 2014, which provided for pilot programs for industrial hemp and research to be conducted by colleges and universities and, specifically with regards to, as it's called, research on industrial hemp.

In 2016, the Adult Use of Marijuana Act, Prop. 64, amended Division 24 in the Food and Agricultural Code to remove the operative provision and to simply state that the law was effective as of January 1, 2017, and made some other minor changes throughout the law.

And then last year, we had two major changes. One that occurred here with SB 1409, which made some substantive changes to Division 24 of the

Food and Agricultural Code, including allowing the counties to establish their own fees; allowing CDFA to establish sampling and testing procedures; and then allowing CDFA to establish an agricultural pilot program, as authorized in the 2014 Farm Bill, and then requiring established agricultural research institutions, as defined in that law, to notify the county agricultural commissioners prior to planting. Shortly after that bill was signed, then the 2018 Farm Bill was passed, which included substantial provisions with regards to industrial hemp at the federal level. It removed hemp from the Controlled Substances Act. And I'm sure you'll be hearing more about this from Patrick later. It authorized states and tribes to regulate industrial hemp cultivation. It requires USDA to establish a national regulatory program and then also allows for the interstate movement of hemp and hemp products. And so, that's briefly how we got to where we are today.

So after the changes that were made via Prop. 64 in 2016 and '17, CDFA established the Industrial Hemp Program. It was established within the Plant Health and Pest Prevention Services Division and is overseen by that division's Nursery, Seed and Cotton Program. Cultivation of industrial hemp is generally subject to the laws and regulations of other agricultural commodities except that Division 24 also requires registration of cultivation sites with the county agricultural commissioner and testing of each crop for THC content. The reason it's placed within the Nursery, Seed and Cotton Program is that it is in

some ways similar to other programs that are already overseen there -- for instance, Nursery Licensing, Seed Registration -- where people have to get licensed or registered in order to sell nursery products or seeds. We collect fees, manage an advisory board, and things of that nature. Currently, this program has two full-time staff members and is in the process of hiring a few more -- which I'll address in a minute -- and our projected expenditures for the current fiscal year are \$319,412, but that includes an encumbrance of \$55,000 for planned county contracts as we get going with registration.

So in 2017-18. . . I'll go back a little bit from where we first started. The most important thing that we've done -- which I'll, again, talk a little bit about in a second -- is that we proposed to adopt Section 4900 in Title 3 of the California Code of Regulations that would establish a registration fee. We also adopted two other regulations, Section 4920 and 4921, which establish an amendment to the approved list of seed cultivars that are listed in the Food and Agricultural Code and then also establishes a procedure to make further changes as the department looks to make changes to the list of varieties that may be grown in California.

In 2018, we hired a senior environmental scientist; and we also submitted a budget change proposal for up to six total positions, starting in Fiscal Year '19-20.

We established the Industrial Hemp Advisory Board in June of 2017. At this point, the board has held 10 board meetings and one task-force meeting. We've had during that time two midterm vacancies that we've had to fill. The terms for board members are three years; so in 2020, we'll be having a new opening there and potential turnover for the board. We've developed and presented application templates.

In addition to the work that we're doing in California, we do work with our partners in other states nationwide. We've done that through the National Industrial Hemp Regulatory Conference that was set up, I believe, in 2016 or so. It was initially led by the state of Kentucky but at this point is a collaborative effort among all states to try to harmonize and communicate regarding the complexities of trying to regulate industrial hemp in the U.S. So our staff were able to attend in 2018 and are planning to attend again in 2019 to continue that harmonization and collaboration.

We've developed a range of public outreach materials on our website, including an extensive frequently asked questions section. And then of course, we have continuous responses to public inquiries and coordination with other agencies with regards to industrial hemp. We do get frequent inquiries from the public regarding this topic.

SENATOR GALGIANI: A moment for a question, please. Senator Wilk.

SENATOR WILK: Thank you, Madam Chair. So I wanted to know what the status was regarding the budget change proposals, because if they've already been presented, great; if they haven't been presented, I would be interested in 1) submitting a letter and 2) testifying if I'm available.

MS. O'BRIEN: Yes, I can take that. Senator Wilk, thank you for the question. Yes, both houses have heard our BCP in the budget subcommittee; and I believe that the Senate will be picking that up this Thursday in one of their close-out meetings.

SENATOR WILK: Okay, great.

MS. O'BRIEN: We greatly appreciate any support from this committee. Thank you.

SENATOR GALGIANI: Thank you.

MR. KRESS: So moving on to what we've done so far in 2019 and what we're looking to accomplish: So first off, the regulation that we proposed for the registration fee, Section 4900, was approved just last week and is effective and in place as of April 25th. So we are currently working with the county agricultural commissioners to implement registration statewide, including establishing a memorandum of understanding with the County Agricultural Commissioners and Sealers Association, establishing scopes of work and contracts with each of the counties, providing training. And so our staff have been working on that extensively, especially over the last few days since that

was passed. We are anticipating that a press release should be out soon and that those applications, when they're available, will be available on our website. So the application will be obtained through CDFA; but as is specified in the law, the registration actually will be made with the local county agricultural commissioners, and so we are coordinating that effort with the county agricultural commissioners. And I'd probably have more staff here today, but they're busy on the phone with the counties and with others trying to get all that rolled out and answer questions and things of that nature.

Further activities for this year: So we will be promulgating additional regulations in order to address a few outstanding topics, most importantly is sampling and testing. As I mentioned, Senate Bill 1409 allows for the department to establish sampling and testing regulations to be flexible and be able to put into place something that's going to work for California growers and commissioners that are going to be enforcing these rules. So we are going to be working on getting those regulations out and proposed as soon as possible, so that way we can get guidelines in place for the current crop season, and so that way growers can receive the testing services that they're going to require.

We'll also be working on regulations in accordance with SB 1409 for an agricultural pilot program, and then we'll also explore additional regulations with regards to established agricultural research institutions and further

specify how their interactions are dealt with with the county agricultural commissioners.

Further requests of BCP: We will also be looking to hire additional program staff. Currently, as I mentioned, we have two staff members that are hired. Essentially, we are borrowing a couple of positions. We are looking to borrow a couple more but hopefully receiving the positions that we requested. And so we're trying to ramp up our staffing a little bit to be able to better serve the county agricultural commissioners as they administer this program and this law. We'll, of course, continue to collaborate with the county agricultural commissioners. As we are rolling out a new program, we run into all sorts of new and unexpected incidents; and so we try to maintain, at least as much as possible, an open line of communication with our county partners in trying to administer this and be consistent statewide.

Our staff do plan to attend the 2019 National Industrial Hemp Regulatory Conference, which I believe is in either June or July in Minnesota. We are still reviewing and working with our partners in other states and at the federal level with regards to the 2018 Farm Bill and how the department will be implementing those requirements and submitting our state plan once regulations are available.

And then, we will also continue to develop additional outreach materials. As I mentioned, we get lots and lots of questions. And as we start to be able to

develop more and more answers, we can try to get more outreach materials out there to the public and to the counties to provide them with further guidance and further information on how to administer and follow this law.

SENATOR GALGIANI: Okay, thank you. Senator Wilk.

SENATOR WILK: I have a comment this time. So I appreciate all your efforts in terms of having open communications with ag commissioners. In one of my counties, we had a commissioner that clearly didn't understand what was going on; and you guys did a phenomenal job, within about 48 hours getting it all handled. I really appreciate you guys' efforts on that. So thank you.

MR. KRESS: Thank you.

SENATOR GALGIANI: Well, that's good to hear. Thank you.

MR. KRESS: So outside of Division 24, we do have a few other regulatory concerns with regards to industrial hemp cultivation. As I mentioned earlier, the other laws and rules that apply to other agricultural commodities do apply to industrial hemp as well. So we have concerns, and we are keeping an eye out for these particular issues.

New pests and diseases found on hemp and cannabis. As this is a relatively new-again crop, the research is just now beginning on hemp and cannabis as far as what pests and diseases will affect cannabis plants. And so we are maintaining, again, communication with both our internal scientists as

well as with the University of California and trying to keep an eye on those things. And that's something that we expect will progress greatly over the next year, two years, five years, et cetera.

In order to sell hemp nursery stock, a license to sell nursery stock is required in addition to the other industrial hemp registration requirements. We are currently evaluating the application of California Seed Law to the sale of industrial hemp and the sale and movement of industrial hemp seeds. We believe that it will apply; but we, likely, need to pursue regulations in order to fully apply the California Seed Law. It is currently addressed in the Federal Seed Act; so there is precedence there and should be, hopefully, a simple change. But that is something that we'll be working on this year.

We have received broad interest in organic certification. And we are actively trying to work with our State Organic Program on trying to address the questions and concerns that they're receiving and trying to coordinate with them with regards to organic certification and assist any way we can.

There is also interest in the sale of hemp and hemp products at certified farmers' markets. And that's something that's being investigated further by our Inspections Services Division.

And then there are certainly other provisions in the Food and Agricultural Code that may have potential impacts with regards to industrial

hemp, and so we're continuing to evaluate. And as I mentioned, we find new and interesting situations almost every day.

SENATOR GALGIANI: I have a question. So are there licensees that currently do have licenses to sell nursery stock?

MR. KRESS: I'm not aware of any. This is something that's relatively new. With the changes in the federal farm bill, that kind of opens things up a bit more for defining hemp as an agricultural commodity. In the past, we used to receive a lot of applications for cannabis growers, especially back before Prop. 64; but I'm not aware of what our nurseries are currently growing. I know I've heard personally from some of our existing nurseries that are interested in moving into industrial hemp, so I anticipate that there will be some; but I don't know if we currently have any.

SENATOR GALGIANI: Okay. Thank you. Senator Caballero.

SENATOR ANNA M. CABALLERO: Thank you very much, Madam Chair. I have a question in regard to the framework that you're talking about. We have the opportunity to grow hemp and to really focus on it because the federal government has defined it as an agricultural product. Is that kind of the base from which we then move off of?

MR. KRESS: California has its own industrial hemp laws that our growers are required to follow. So we certainly are working with, collaborating with our federal partners to try to implement the provisions of federal law that

absolutely impacts the interstate movement of hemp. And so that is something we're actively working on. However, as I mentioned, we have had an industrial hemp law in place in California for many years now. So we're working on administering our own law and certainly working with our collaborators to try to do what we can to harmonize and collaborate with our federal partners and try to apply federal law as well in making sure that our growers are protected and aware of the other requirements that may be applied to them.

SENATOR CABALLERO: Well, that may answer the question. We're setting up this big framework that looks like it may mirror what's happening with marijuana, but hemp's a really different product. I just want to caution us. Either it's an agricultural product and we can set up some frameworks that don't require overregulation or else we'll set up this whole framework where you've got to get a license to do anything. And I just worry about that because I think that. . . Hemp is different than marijuana, certainly. It's got some real practical applications that may allow us to use it in ways that weren't initially designed for hemp, right? If it uses less water, how much less water? If it cleans the soil, it may have some application for agriculture in that regard. And if it can be manufactured into products that are useful and that can replace plastics, for example, there may be a huge market for hemp. And we would be in a pretty unique position in that regard. So I just want to make sure that before we go down this road where we're licensing the seeds, licensing

the plant, licensing the properties that are growing it that we look at a framework that gives us a little bit more flexibility than marijuana. Marijuana, obviously, is a different subject; and we need to have that licensing. But I'm just not sure in this instance. So just put that out there.

MS. O'BRIEN: Yeah, if I could address that. Thank you for the comments and laying out some of the complicated structures that we're working through. Currently, hemp is in Food and Ag Code. Therefore, it is an agricultural commodity and is treated as such, just like the rest of the 400 commodities that are grown as agricultural commodities in the state of California. And what state law has currently directed us to do is to set up a registration program for hemp. We do not issue a license. Registration does take place at the local level, down with the county agricultural commissioners. I think what Josh was referring to in terms of nurseries, they do have to get certain licenses to be able to sell product; but it is currently not the intention of the department nor are we statutorily required to do any licensing for hemp cultivators. Different from cannabis -- cannabis was established in the Business and Professions Code as an agricultural product, you know, very defined, separate, and different. And that's how we've been approaching it, from that kind of lens. And in terms of laying out the framework, currently we're not statutorily directed to mirror what cannabis has done; and so we plan to stick with that path, yeah.

MR. KRESS: That's about all that I've got. So the last couple slides here, I just simply have our contact information. So for this program, we have set up a general email inbox to try to streamline and simplify the ability of the public to get ahold of us. We do have a website, which has recently been updated to mirror the rest of CDFA's, that has copies of our law, our regulations. And in the very near future, if it's not up already, we'll also have a copy of our application, as well as additional outreach and information for consumers, for growers, for the counties as well to try to navigate their way through this law.

So, again, our staff do receive regular questions from the public; and I do want to acknowledge that we do appreciate the assistance that we get, not just from the rest of the other programs within our own agency but also from other agencies as well, to try to navigate some of these other issues. Division 24 of the Food and Agricultural Code addresses cultivation; however, we have questions on anything involving hemp, not just on the cultivation practices. And so we do appreciate the assistance that we get from our partners elsewhere in the state. And that's all that I have.

SENATOR GALGIANI: Thank you very much. Thank you to both of you for your presentations. Do we have any final questions from members? No? Okay. Well, thank you very much. I hope you'll join us for the remainder of the hearing.

Our second panel is dealing with grower perspective on industrial hemp. We have Taylor Roschen, Director of Commodities and Land Use, from the California Farm Bureau Federation, as well as David Roberti, owner of Roberti Ranch.

And if we could just take one moment; I believe we have a quorum. If the secretary could please call the roll.

COMMITTEE SECRETARY: Senators Galgiani.

SENATOR GALGIANI: Here.

COMMITTEE SECRETARY: Galgiani here. Wilk.

SENATOR WILK: Present.

COMMITTEE SECRETARY: Wilk present. Caballero.

SENATOR CABALLERO: Here.

COMMITTEE SECRETARY: Caballero here. Glazer.

SENATOR GALGIANI: And we have a quorum now, so we will go ahead and hear SB 787. It is actually on consent, so. . .

SENATOR WILK: So I move consent.

SENATOR GALGIANI: We have a motion on the consent calendar. Will the secretary please call the roll.

COMMITTEE SECRETARY: On the consent calendar, the motion is do pass to consent. Senators Galgiani.

SENATOR GALGIANI: Aye.

COMMITTEE SECRETARY: Galgiani, aye. Wilk.

SENATOR WILK: Aye.

COMMITTEE SECRETARY: Wilk, aye. Caballero.

SENATOR CABALLERO: Aye.

COMMITTEE SECRETARY: Caballero, aye. Glazer.

SENATOR GALGIANI: Okay, we'll go ahead and keep the roll open for that. And if our panelists would go ahead and proceed. I thank you very much for being here.

MS. TAYLOR ROSCHEN: Thank you very much, Madam Chair and members. Taylor Roschen with the California Farm Bureau. We just want to start by saying thank you so much for convening this informational hearing. We know it has been a tremendous change in the last four years with industrial hemp policy here in California and federally. And any opportunity we can offer to our California farmers to be able to continue to be innovative and take advantage of a new agricultural commodity, we're very appreciative of that opportunity. So we'd like to thank Senator Wilk for his bill, as well.

I have with me Dave Roberti. He is a third-generation rancher and alfalfa grower from Plumas, Sierra counties; and so I'm going to let him lead as the grower expert on this panel.

SENATOR GALGIANI: Okay, thank you. Mr. Roberti, thank you.

MR. DAVID ROBERTI: That sounds a little intimidating to be the “grower expert,” you know. But thank you very much for allowing me to come today and address you from the perspective of a farmer. When I met up with Taylor this morning, I said, “I didn’t ask you about dress code. Could I have just worn my old, you know, coveralls, or what?” And she says, “No, you’re fine.” But anyway, so I’m a little out of place with my jacket on.

I am pleased to be able to talk to you about the importance that I see hemp becoming for California farmers. As Taylor mentioned, I am a third-generation farmer. I’m here today with my wife, and my daughter is in the audience; and she represents that fourth generation that wants to stay on the farm. But agriculture, as probably many of you know, goes through some real cycles and hard times; and part of those times are hitting now for some sections of agriculture. And to be able to continue on farming, changes need to be made sometimes. I’ll get a little more specific about our own personal situation in just a moment.

Currently, we have three generations working on our family farm. We grow about 1,500 acres of alfalfa under pivot irrigation and also run about 500 beef cattle on our operation. Our operation started in 1922 with my grandparents, and it’s been in our family ever since, and it’s completely family-owned and operated. We live in a little bit of some, what a lot of people really consider beautiful country, and it is, but it’s some pretty harsh country, too.

So we're up in the Sierras just north of Truckee, California about 35 miles, elevation of 5,000 foot, a beautiful valley; but it creates its own challenges because of our climate -- a very short growing season and a cold season. So we can get frost any day of the year; and yes, I've even seen snow on the Fourth of July, believe it or not.

Last year, we had made a decision, our family, to really take a big jump of faith and out of our comfort zone and to try planting some hemp. The main reason for our decision-making was because we're looking for an alternative crop. In our situation, growing alfalfa, where most of our market goes to the dairies in the Modesto-Turlock area -- and the dairy market has really been hurting in the last several years, a lot of dairies going out of business. Well, that's affecting our, going to affect our market at some point, too. And we decided it's time to start looking for another alternative. Unfortunately, due to our climate, avocados don't work, tomatoes don't work, almost nothing can stand the cold weather that we have -- and then we ran across hemp. And last year, we did plant some under the program with the University of Nevada out of Reno and Dr. Glenn Miller, who was. . . They were excited about it when we approached them about doing research for us because northeastern California and northwestern Nevada have very similar climates -- dry, low precipitation, on the east side of the Sierras, and kind of cold country -- because we're just

about 40 minutes from Reno. And he was excited that he could just have a short drive to come do the research with his students.

So we looked at hemp. And last year we did plant some, and I would not call it a success at all. We learned a lot through our failures, and I think that's going to take place throughout with the farmers because it is a new crop. But through that learning, we learned that it is possible in our area. The hemp handled temperatures down into the mid-20s. It didn't like the 18 degrees four mornings in a row in the first week of September; and so then we decided it's time to harvest. But it does handle the cooler weather. And so I'm not convinced yet that it's going to work for us; but of the very, very few crops that can grow in there, I think this really has a potential.

The other part that really excites me is the potential of what this crop can do. And I'm not going to get into all the details that the Senator here was talking about, making plastics and fiberboards and everything; but it really is endless, I think, almost, what this plant can do. A lot of the hysteria and hype and everything right now is all based around CBD oils and different things like that; and I think that's great. But I think there's going to be a lot more, especially when we start getting to the processing of the fiber and the uses that are going to be able to take place there. I think that's where the real future is going to be.

Our research with the University of Nevada out of Reno dealt with five areas last year. And we're going to continue our research, hopefully; if things grow right, we're going to continue that for five years. We did not get into this research just to give us the license, so to speak, to grow hemp. We really want to do the research; and so we've got a five-year agreement with the University of Nevada, Reno.

The big one -- and they're all big -- but the water consumption is a big one, especially for our area. We are in a moderate zone as far as our water basin and the problems we can have there. We believe that the water consumption will be probably about a third of what alfalfa is.

Insect predation: We don't know. Do weevils cross over from alfalfa to hemp? And so we're studying that.

Plant spacing for optimal yield: There's a lot of discussion on how far apart you need to put the plants -- or do they, you know -- if you need to give them room to grow or do they do better closer together.

Plant varieties to fit our climate: It's like anything else; you have to have the right varieties to handle that; and so we're looking into that.

Optimal time to harvest: So that requires testing every four or five days once you get to that maturity point. So what is that optimal time to harvest to take advantage of the crop's best yield?

I think hemp has become and will become that crop that helps us find the viability for a lot of farmers, not just in our area and throughout northeastern California but all throughout the state -- that viability to stay in business. And I think that's really important because of so many sectors in agriculture that are struggling. We've been working with a tomato transplant company to see if they can -- and they think they can -- to see if they can modify their equipment to plant seeds of hemp, to start those plants, and then actually transplant them -- just like doing tomatoes. There are some differences there. The sizes of the plants are going to be different and a few different things; but in talking with this gentleman as he visited our place last week, he's excited about getting into this new venture also because what's taking place in the tomato industry -- that I didn't know -- is they're scaling back, too. They're going through a hard time. He lost over a thousand acres that they planted last year. And so he's really looking forward to being able to structure his business to help us out, to keep his employees employed, and to keep his business growing.

There are a lot of things and challenges ahead; but being a new crop, we expect that -- and we found that out last year. What's the best way to plant, using seeds or using clones? Weed and insect control is going to be a big one because there's no registered pesticides or herbicides available on hemp yet. As well as, the best way to harvest. That is one of the real questions that is

still out there. There are a lot of different ideas and modifications to equipment; but there is no one way yet to harvesting. In fact, a lot of it is still done by hand; and that's what we did last year. But the farmers will figure out a way; I've got no doubt about that. They're pretty good at inventing things and modifying things.

Processing plants are lagging behind a little bit; and that's expected because I can't expect somebody to go build a multi-million dollar processing plant before there's product. So it's a little bit of a Catch-22. So now there's a little bit of a time lag there to get things processed or where do you go with it? But I think over the next couple, three years that will all get evened out; and the processors will come.

But with the challenges with a new crop also comes opportunity, and I think that's where we really need to be looking forward at what those opportunities are. For us, the opportunity is, hopefully, providing a viable way for our operation to stay in business so our fourth generation, fifth generation, whatever, farmers of our family can stay on that land. Because you begin to worry about, okay, if the alfalfa market goes away, what do we do now, because we don't have a lot of options.

It's so seldom that a new crop comes along that you can really get excited about. I went to a hemp conference back in Denver a few weeks ago; and the guest speaker there was talking about the same thing. And he says, you know,

the last big crop this country has really seen that really changed things was the soybean, and that was 25 years ago. I think hemp -- and he thought so, too -- I think hemp has the ability to be way bigger than soybean crop in what we can do with it.

So anyway, I thank you for your time. I'll answer any kind of questions you might have for me. And when we get into the season, if somebody wants to come take a little tour, we'd love to invite you to come see our place.

SENATOR GALGIANI: Thank you very much. I did have a question. In terms of the weather, when we have late rains and your crop gets wet and then you have the sun coming, is there a chance for mold? And what does that do to your crop when you have late rains?

MR. ROBERTI: Yes, mildew can be a big problem for hemp. And I'm probably overstepping my bounds of knowledge here -- but there's a concept that hemp's going to just grow anywhere; and I don't believe that's going to be the case. Hemp does not like really hot weather. It just kind of shuts down and doesn't grow real well. Hemp doesn't like high humidity. So there are certain areas of the state that probably it's not going to work real well to be growing hemp. But the one thing you do want to try to control is that humidity. Unfortunately, if you do get some rains at the wrong time, it could cause you some problems; there's no doubt about that. Harvesting is going to be the real trick. There are several different ways now that they're looking at

harvesting. Some of them cut the hemp and then leave it on the ground for four or five days to dry; and they can come through with some equipment to try to separate the leaves and the buds from the stalk and stuff. That puts you in a danger zone, though, while it's sitting on the ground and trying to dry. There are other methods coming about, it seems like, that you can cut it and immediately haul it into processing while it's green, even. So all that's going to come with people figuring out how to do it. But yes, mildew can be a very big problem for hemp, yes.

SENATOR GALGIANI: Okay. And what about if you have an early freeze; what if a crop freezes?

MR. ROBERTI: We don't know that yet. But from what I've studied so far and read, is hemp, even as a seedling plant, can handle frost pretty well. What we're going to do this year -- because we can still get frost up to, oh, the end of May and into the first part of June -- we're figuring on planting about the first of June. We are going to plant in rows, basically, with plastic down; and that'll help with some radiant heat from the soil for those seedling plants. And we think that's going to help us a little bit in case we do get a really cold night. And using drip irrigation. And so there are things that we can alter a little bit to help with that. But, yes, frost is a real concern for us.

The one thing that has been a real struggle for us, because it's also a very-high-investment crop right at this point, very high -- yeah, you can spend

\$12-15,000 an acre very easily to get it in. So one of things that really concerned us was, as of right now, there is no crop insurance available for something like that, for frost, for rain, for hail; and so it makes us cringe a little bit. My wife, she has been hounding a couple different insurance companies; and we've finally found one that will give us some crop insurance in the sense of an event insurance -- if we get a massive hailstorm or something like that -- that they will cover it. But that's the only insurance company we've been able to dig up. So that gives us a little bit of relief to know that our investment is protected to some extent.

SENATOR GALGIANI: Any other questions? Senator Wilk.

SENATOR WILK: Sure, why not. Where'd you get your seeds from?

MR. ROBERTI: Seeds are coming from two different places: some coming out of Colorado this year and some others are coming out of Nevada. We're going to do 20 acres is all we're doing this year; and we're going to do four different varieties there. We worked with a gentleman last year out of Fallon, Nevada that they've been growing for about the last three years. Their field is just, like, beautiful. And he's kind of guided me in a direction of the variety as far as the most frost-resistant and hardy plant. So we're trying four different varieties there to see how they do.

SENATOR WILK: And then, obviously, at this point, you need to figure out what grows best in your microclimate before you can figure out. . . And

then you were going to find people to buy it after that, right? Because right now you're just kind of beta testing, right?

MR. ROBERTI: Yes, we are beta testing right now. So I would love -- and it'll take years of course to develop seed -- and that's way beyond my skill set -- but I would love to develop seed that fits our climate area, you know. If we can find something that can handle frost down to 15 degrees, boy, you could sell it all day long, you know, across the northeastern part of the state. So that's kind of a long-range goal. Right now is, all right, let's see if there's something available right now that can grow that we won't lose our investment on and, hopefully, start transitioning from some alfalfa. We're certainly not planning on going all the way out but transitioning to see if it'll work, yeah.

SENATOR WILK: Well, I appreciate your vision; and I share it. And I appreciate the fact that you're willing to take an entrepreneurial risk. I believe it's going to pay dividends for you; so I'm very excited about that.

If anybody else in this room is interested, we are having a ceremony at 11:00 a.m. in my district in the Antelope Valley on Friday, May 17th where we are going to be doing our first planting. My understanding is Forbes Magazine is going to be there; and New York Times is going to be there. CalEPA Director Jared Blumenfeld's going to be there. Now, he has to come because I announced it; so now he's locked in. And if you're interested, get back to me;

and I will make sure you get an invite to attend because I think it's very monumental. And you are on the vanguard, sir, so congrats.

MR. ROBERTI: Thank you very much, appreciate it.

SENATOR GALGIANI: That's great. I do have a question. So is industrial hemp an annual or a perennial?

MR. ROBERTI: It's an annual.

SENATOR GALGIANI: It is an annual, oh.

MR. ROBERTI: It is an annual, and you need to plant every year. And I don't want to take up all your time, so you can tell me to be quiet at any point. So to give you a . . . This year, because right now seed is . . . For the next year or two, seed is probably the place to be, to be selling. Most seed's ranging about \$1.00 to \$2.00 per seed. Originally, we were going to try to just plant clones this year because one of the problems you have planting seed, you end up with some males. And males will end up pollinating the crop and really reducing your quality of the crop, unless you're trying to raise for seed. So we were going to go with clones this year; and then all of a sudden, clones went from \$4.00 or \$5.00 per plant to about \$8.00 a plant. Aha! And we're planting about 2,000 plants per acre; and it's kind of like, I can't do that. But seed is virtually sold out at this point; and I'm sure when California says the gates are open that it's going to be sold out in a day, if they can find any, yes.

SENATOR GALGIANI: Okay, any other questions? Senator Caballero.

SENATOR CABALLERO: Thank you very much. So you testified that hemp is a high-investment crop. Is that because of the seed?

MR. ROBERTI: Yes, mostly because of the seed costs -- and the labor, too. Until mechanical harvesting, especially, is available, labor costs are just huge because a lot of it is just done by hand right now. But I think over the next year or two that's going to start to get figured out. There are different methods coming around. Every day I hear some guy invented something else to try. But labor costs are very high also.

SENATOR CABALLERO: Right, and then those seeds. I don't know anything about how you plant them or how they grow. Are they hotheaded, and then you plant the plants; or is it, you can do it any way? I mean, frankly, in the Salinas Valley, which is where I'm from, they used to plant lettuce with seeds; and now those seeds don't show up anywhere. You hothead them; you bring in the small plants. They're planted by tractor that just automatically puts them in the ground. It's amazing. And so I'm wondering what the application is in terms of hemp?

MR. ROBERTI: Most of the hemp now is being transplanted, and just like you said, with the mechanical machines. So they'll start the seeds in the hotheades; and usually three, four weeks of growth, and then they'll start transplanting. But we did try last year some direct seeding into the field; and it worked okay. There's some technology coming that's just incredible, to where

they're taking tissue cultures from plants -- and it's just microscopic almost, and they can encapsulate [sic] them -- and then you use that as your seed. So you don't have to grow those in a hothouse; and you can plant them direct. But as of right now, most of the hemp is being planted as starter plants and then being transplanted.

SENATOR CABALLERO: So then theoretically, at some point, if your operation is big enough, you could actually reproduce your own plants?

MR. ROBERTI: You could. One of the challenges that's going to come is, for example, if I'm trying to grow for a CBD oil, I want all female plants. I don't want to pollinate any. I don't want seeds; I don't want anything. Well, if my neighbor says I want to grow for seed, all of a sudden there's a cross-contamination there; and that pollination is going to affect me. And so there are going to be some real challenges, I think, to be worked out through some regulation, maybe creating some zones that are, you know, given some distance to protect those guys. So it just depends what you're looking to grow. But there's going to be challenges; we all know that. When you're starting to talk about a brand new crop here and trying to . . . Your comments earlier about the regulations -- yeah, as a farmer, I don't want any more regulations than I absolutely have to have; and yet, there's going to need to be some to be able to guide farmers and growers in the direction to be able to handle all this in a proper way. So, but yeah, there's going to be some bumps, yeah.

SENATOR CABALLERO: Well, I appreciate that. My intense interest is that, as you said, it's a new crop; but it's not clear, today, as we sit here what's going to happen with SGMA. And we have a lot of agriculture that's going to be impacted -- and it's not going to be a good impact -- so the more that we can find alternative crops, and the ability. . . I've been told -- and I've talked to scientists from Europe that have been growing hemp for a number of years -- that hemp has the ability to clean the soil. And what that means becomes really important. What's the science behind it? How can we use it and yet continue to farm?

MR. ROBERTI: Yes.

SENATOR CABALLERO: So I really appreciate your testimony and your forward-thinking on this and the risk that you and your family have taken because it's not easy to move into something that's totally different. But I think you are on the forefront of something. I'm excited about it -- because I go down to the health food store, and I bought hemp seed because I wanted to see. . . You know, it's the highest source of protein; and it costs a fortune. I mean, you couldn't live on hemp seeds by themselves; you'd be pretty skinny. But it's interesting to me because not only is it a commodity you can eat that has beneficial health value, but it also has these applications that are just so diverse that it's interesting. I want to see California be on the forefront. I want to see us normalize it as a crop, I guess is the way that I see it. And I do

appreciate there probably is going to need to be regulation given that you can cross-pollinate; and you don't want to be impacting your neighbor in a negative way. So I appreciate that. And we do it with certified organics, anyway; so I'm sure we can get to a place that everybody feels is a comfortable place.

MR. ROBERTI: There will be a way, yeah.

SENATOR CABALLERO: Thank you.

SENATOR GALGIANI: Thank you. And with that, if we have no further questions, thank you very, very much for your presentation.

MR. ROBERTI: Thank you very much for the opportunity.

SENATOR GALGIANI: And our third panel, dealing with the advocacy for growing industrial hemp, we have Eddie Bernacchi, director and legislative advocate for the California Hemp Council; as well as Patrick Goggin, general counsel for the California Hemp Council. Thank you.

MR. EDDIE BERNACCHI: Good morning, Madam Chair and members of the committee, Eddie Bernacchi on behalf of the California Hemp Council. The California Hemp Council is a coalition of hemp cultivators, manufacturers, and product producers who have come together to create a council to promote and protect the hemp industry from a legislative and regulatory perspective. And so it's very exciting that the industry is starting to formulate in a larger way to protect itself and promote itself in the state of California.

I want to start by thanking the committee for having this hearing today. It's very refreshing to see such interest in industrial hemp and how we can promote it here in California. You know, many of the committee members here have been critically involved in assisting California in positioning itself to benefit from the hemp industry; so I just wanted to say thank you and start off with that.

Hemp is a billion-dollar industry; and it's anticipated to double by the end of next year. And, you know, compared to some of our neighboring states, like Oregon, Colorado, and Montana, California has fallen behind the curve in taking advantage of the economic benefits the industry will provide from an agricultural standpoint. According to the U.S. Department of Agriculture, last year Oregon produced 78 hundred acres of hemp. Colorado produced 21,000 acres of hemp, and Montana produced 22,000 acres of hemp for commercial use. California officially produced zero, although we estimate that about 78 hundred acres of hemp was grown in California in 2018 by established agricultural research institutions. But you can see that we have a lot of work to do and ahead of us to get California where it should be, in its rightful place as the agricultural capital of this country.

The need to ensure California statutes are up to date and compatible with federal law is of critical importance. Senator Wilk is very aware of this, as he's been the author of the most recent efforts in this area. This year we're

sponsoring, with Senator Wilk as the author, SB 153. I believe the chair and Senator Caballero are both co-authors of that measure. You know, and that bill will update California's legislative framework so the Golden State can apply for an approved state plan under the 2018 Farm Bill and get hemp cultivation going here in the state on a large scale.

To that, I have with me today Mr. Patrick Goggin -- he's a chief legal counsel to the California Hemp Council -- to provide a quick overview of what it will take legislatively to get California's state plan up to the federal government and approved and update our structure. With that, I'm happy to answer any questions. Then I'll turn it over to Patrick to kind of guide you through that.

SENATOR GALGIANI: Thank you. Thank you very much. Mr. Goggin.

MR. PATRICK GOGGIN: Good morning, Chair, members of the committee. You know, I just want to say at the outset that today is monumental. The CHC, the California Hemp Council, continues the good work of Vote Hemp that Vote Hemp has led since 2005 with then-Assembly Member Leno and then-Senator Leno. And it's also monumental because we are on the cusp of registrations being available. And I want to thank and compliment the good work of CDFA and its resilience in the face of a lot of challenges that we've been working to overcome after 80 years of prohibiting an agricultural crop. It makes absolutely no sense. We've stigmatized it; we've put it in the camp of a drug. And now, we can say in 2019 that that story is over; and we're

transitioning. Two thousand nineteen is a transitional year where, by 2020, we are going to have full commercial-scale hemp being grown in this country for the first time since the '50s. And that is monumental.

So I'm going to go through, really briefly, a few of the things that the 2018 Farm Bill does within its hemp production section -- and then what is California doing in anticipation of that to get its program further and statutes and regulations further developed to conform with the 2018 Farm Bill. So just to repeat a couple things: We are now going from research to full commercial-scale production. USDA, the U.S. Department of Agriculture, appropriately now has jurisdiction; the jurisdiction of the DEA has gone away. I am just truly happy today that I'm not being chased around the Capitol by John Lovell, love him as I do. It's a new day.

So the USDA has been tasked with promulgating regulations. They had an informational hearing themselves a month or so ago; and they think that later this year -- hopefully by the end of the year, hopefully maybe sometime in the fall -- that we're going to have regulations issued by the USDA that will enable them to approve state plans and to create a plan for states that don't submit state plans. And significantly, there are seven minimum requirements that the state bill needs to meet. And I'll just go through kind of quickly what those are.

Number one, it's a practice to track where hemp is being grown; and that's a significant thing that we've established in our statute through registration, not through licensing. There are some licensing requirements for things like the nurseries and whatnot; but it was important that this be a registration program, not a license program, to distinguish it from cannabis.

Second, there needs to be procedures for testing of crops to make sure that they comply with the THC limitations at 0.03 percent. And as part of that, there needs to be a consideration for post-decarboxylation or similarly reliable methods, which essentially means that THCA, the acidic version of THC, needs to be accounted for. And there's an equation for that.

Third, there needs to be a process for disposing of noncompliant crops, plants, and products.

Number four, there needs to be a procedure for complying with certain enforcement procedures, that are laid out in the Farm Bill, for violating the program. And something that we worked hard against; but ultimately, it was a compromise that was adopted, and that there's a limitation on folks who've been convicted of a felony for the prior 10 years, that they're not eligible.

Number five is that there needs to be annual inspections and random sampling performed by the Department of Food and Ag.

Number six, that there needs to be a timely submittal to the USDA by the CDFA of each permit's location and status -- whether it's active or inactive, it's been revoked, what have you.

And finally, the state needs to certify that it has the resources and capability to carry out the program.

Also included within the statute -- just a couple of points -- it does authorize crop insurance and the granting of USDA grants. There was some concern and is some concern on the crop insurance by folks like the Congressional Research Service to make sure that the proper standards are adopted so that the insurance carriers are not exploiting our farmers. And that's being worked through. All these issues are being worked through.

And significantly and importantly and was referred to earlier is that the bill prohibits states from stopping the transportation of hemp through their states. They can prohibit the production; but they cannot stop the transportation of hemp through their states. That's truly important. That's become a significant barrier and problem and challenge since the 2014 Farm bill, which authorizes commercial activity. It's limited and needs to be tied to research. But this patchwork quilt of state laws throughout the nation has created a challenge to move product around. And that's important that we honor and acknowledge that the federal government is creating a pathway throughout the nation for California hemp.

So until the state plans are approved, we stay and we remain under the 2014 Farm Bill as we transition to the full commercial scale. What we're doing in the meantime is working closely with the department to get regulations in place so that this pilot program can proceed in 2019 and get us to 2020 when we get beyond the pilot program. So SB 153 that everybody's familiar with is a largely technical bill working to conform to the 2018 Farm Bill and meet these minimum requirements. As well as, at some point -- I don't know where we're at with this -- but we need to also have a trigger and a mechanism for getting the hemp from the farm to the processing facility through handlers and brokers. And this will be a vehicle for that.

The other piece of legislation that's working through the legislature is AB 228, and that is principally working to both declare hemp extract and oils from the flowers not to be an adulterant. That's been a big concern and issue raised by the FDA. And we're here to say, and we've been here to say, that these products are safe. The World Health Organization has said that they're safe. It's a matter of how they are produced and that they need to be done in a way that employs good manufacturing practices, and the same type of thing and processes that all food manufacturers are held to account for. And let's just say this is a vegetable; and we need to be dealing with it as a vegetable -- regulating it as a vegetable, as a food and as a dietary supplement, as a topical and a cosmetic -- not as a drug. If someone wants to get into the

pharmaceutical application of this, then they can work with the FDA to do that. We, as an industry, are working closely with the FDA to move beyond its position on CBD derived from cannabis; and they are working with the industry and in Congress to create alternative pathways, recognize alternative pathways for these products in the nutraceutical space. But significantly, what AB 228 will do is give CDPH the authority it needs to make sure that our products are safe for our consumers.

So with that, I'll leave it to any questions that you may have. But again, we greatly appreciate this venue today to provide further information on hemp progress in the state and in the nation. Thank you.

SENATOR GALGIANI: Thank you very much. Do we have any questions? Okay, well, I appreciate your testimony very much. Do we have any questions from the audience or any comments?

Okay, with that, we have no more business before the committee today other than lifting the call on our consent calendar. Thank you very much for joining us today, and we'll look forward to having you at our next hearing. Thank you.

Okay, will the secretary please lift the call on the consent calendar.

COMMITTEE SECRETARY: On the consent calendar, the motion is do pass to consent. Senator Glazer.

SENATOR GLAZER: Aye.

COMMITTEE SECRETARY: Glazer, aye.

SENATOR GALGANI: Thank you very much. That concludes the business of our hearing.

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